



Evaluation of the European Institute of Innovation and Technology (EIT)

Final Report

EUROPEAN COMMISSION

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***Evaluation of the European Institute of
Innovation and Technology (EIT)***
Final Report

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Luxembourg: Publications Office of the European Union, 2017

Print ISBN 978-92-79-68058-8 ISSN doi 10.2766/945203 NC-01-17-379-EN-N

PDF ISBN 978-92-79-68058-8 ISSN doi 10.2766/945203 NC-01-17-379-EN-N

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Abstract

Abstract (EN)

The European Institute of Innovation and Technology (EIT) was established in 2008 as a response to deep-seated concerns regarding the innovation performance of the EU. This interim evaluation of the EIT covered the period 2010-2015 and was conducted by a team led by ICF and Technopolis. The evaluation team analysed EIT performance data and conducted primary research consisting of stakeholder interviews at EIT and Knowledge and Innovation Community (KIC) level, surveys of KIC partners, graduates and business beneficiaries, an open public consultation, and case studies of specific features of the EIT model. The evaluation concluded that the EIT's model of innovation via knowledge triangle integration (KTI) remains valid, and found that the activities of the KICs are starting to bear fruit, in the form of innovations introduced to the market, innovative businesses created and accelerated, and graduates provided with entrepreneurial skills. The KICs have been effective in establishing and building networks of partners. The EIT adds value beyond national innovation support initiatives, and is coherent with and complements EU, national and regional innovation policy. The KICs have the potential to act as repositories of knowledge and good practice, and have built relationships with regional and national policy-makers.

Abstract (FR)

L'Institut européen d'innovation et de technologie (EIT) a été créé en 2008 pour répondre aux préoccupations profondes entourant la performance de l'innovation dans l'UE. Cette évaluation intérimaire de l'EIT couvre la période de 2010 à 2015 et a été menée par une équipe dirigée par ICF et Technopolis. L'équipe d'évaluation a analysé les données de performance de l'EIT et a mené des recherches primaires comprenant : des entretiens avec les parties prenantes au niveau de l'EIT et des communautés de la connaissance et de l'innovation (CCI), des enquêtes auprès des partenaires des CCI, et des diplômés et des entreprises bénéficiaires, une consultation publique ouverte et des études de cas portant sur les caractéristiques spécifiques du modèle EIT. L'évaluation a conclu que le modèle d'innovation de l'EIT, intitulé, « Knowledge Triangle Integration » (KTI), reste valide. Il a aussi été constaté que les activités des CCI commencent à porter leurs fruits, sous la forme d'innovations introduites sur le marché, d'entreprises innovantes créées et accélérées, et de diplômés ayant acquis des compétences entrepreneuriales. Les CCI ont été efficaces pour établir et créer des réseaux de partenaires. L'EIT ajoute de la valeur au-delà des initiatives nationales de soutien à l'innovation et est cohérent avec la politique d'innovation européenne, nationale et régionale. Les CCI ont le potentiel d'agir comme des dépôts de connaissances et de bonnes pratiques et ont établi des relations avec les décideurs régionaux et nationaux.

Abstrakt (DE)

Das Europäische Innovations- und Technologieinstitut (EIT) wurde 2008 als Reaktion auf tiefgreifende Sorgen hinsichtlich der Innovationsleistung der EU gegründet. Diese Interimevaluation des EIT erstreckt sich auf den Zeitraum 2010-2015. Sie wurde von einem von ICF und Technopolis geleiteten Team durchgeführt. Das Evaluationsteam hat die Leistungsdaten des EIT analysiert und Untersuchungen durchgeführt, die aus den folgenden Elementen bestand: Interviews mit Interessenträgern auf der Ebene des EIT und der Wissens- und Innovationsgemeinschaften (Knowledge and Innovation Communities, KICs), Befragungen von KIC-Partnern, Absolventen von EIT-Bildungsprogrammen und geförderten Unternehmen, einer öffentlichen Konsultation und Fallstudien zu spezifischen Merkmalen des EIT-Modells. Die Bewertung ergab, dass das Innovationsmodell des EIT – Innovation durch Integration des Wissensdreiecks

(Knowledge Triangle Integration (KTI)) – weiterhin Gültigkeit hat. Es wurde festgestellt, dass die Aktivitäten der KICs anfangen, Früchte zu tragen, was sich in auf dem Markt eingeführten Innovationen, der Gründung und des beschleunigten Wachstums innovativer Unternehmen und der Vermittlung unternehmerischer Fähigkeiten an Absolventen von Bildungsprogrammen äußert. Die KICs haben wirksam Partnernetzwerke gegründet und aufgebaut. Die Wertschöpfung des EIT bietet Mehrwert gegenüber nationalen Initiativen zur Unterstützung von Innovation. Es steht im Einklang mit innovationspolitischen Maßnahmen auf regionaler, nationaler und EU-Ebene und stellt eine Ergänzung dieser Maßnahmen dar. Die KICs verfügen über das Potenzial, als Wissensträger und best practice aufzutreten, und haben Beziehungen zu regionalen und nationalen Entscheidungsträgern aufgebaut.

List of acronyms and abbreviations

CEO	Chief Executive Officer
CLC	Co-Location Centre
COO	Chief Operating Officer
DG EAC	Directorate-General Education and Culture
ECA	European Court of Auditors
EFSI	European Fund for Strategic Investments
EIC	European Innovation Council
EIT RIS	EIT Regional Innovation Scheme
EIT	European Institute of Innovation and Technology
ERDF	European Regional Development Fund
ESIF	European Structural and Investment Fund
FTE	Full Time Equivalent
H2020	Horizon 2020
HEI	Higher Education Institution
HII	High Impact Initiative
HLG	High Level Group
IPR	Intellectual Property Right
JRC	Joint Research Centre
KAVA	KIC Added Value Activities
KCA	KIC Complementary Activities
KIC	Knowledge and Innovation Community
KPI	Key Performance Indicator
KTI	Knowledge Triangle Integration
MFF	Multiannual Financial Framework
MOOC	Massive Open Online Course
MoU	Memorandum of Understanding
OPC	Open Public Consultation
SIA	Strategic Innovation Agenda
SME	Small and Medium-sized Enterprise
SNA	Social Network Analysis
TRL	Technology Readiness Level

Executive summary (EN)

The European Institute of Innovation and Technology (EIT) was established in 2008 as a response to deep-seated concerns regarding the innovation performance of the EU. Although the EU performs strongly on measures of science and research, it appears to be less able to translate its research excellence into economic or social value (this phenomenon is widely referred to as “the European innovation paradox”). The EIT was designed to address some of the underlying weaknesses: a fragmented innovation system; lack of integration of European higher education into the wider innovation chain; and a low level of entrepreneurial activity. Against this backdrop, its overarching objective is “*to contribute to sustainable European economic growth and competitiveness by reinforcing the innovation capacity of the Member States and the EU by promoting and integrating higher education, research and innovation of the highest standards*”. The EIT seeks to achieve its mission through a geographically distributed network of thematically focussed Knowledge and Innovation Communities (KICs), which bring together higher education institutions, research organisations, industry and other stakeholders to create critical mass needed to stimulate innovation. The KICs are thematically aligned with the Horizon 2020 societal challenges. At the point at which the evaluation was carried out there were five KICs: EIT InnoEnergy, EIT Climate-KIC and EIT-Digital (which were established in 2010); and EIT Health and EIT Raw Materials (which were established in 2015).

In March 2016 DG Education and Culture (DG EAC) appointed an evaluation team led by ICF and Technopolis to undertake an interim evaluation of the EIT over the period 2011-2015¹. This independent evaluation is a requirement of the establishing Regulation of the EIT, and also fulfils the need for an independent review of the EIT as stipulated in the Horizon 2020 Regulation. The results of the evaluation were intended to inform policy decisions relating to any amendments to the EIT Regulation and the orientations of the subsequent Strategic Innovation Agenda for the EIT (covering the period 2021-2027).

Evaluation objectives and methodology

The objective of this evaluation was “*to assess the EIT’s work as identified in the EIT Regulation and Horizon 2020 Regulation, and in particular examine how the EIT fulfils its mission*”. Specifically, the evaluation was tasked with answering 40 evaluation questions, grouped around a set of evaluation topics: relevance, effectiveness, impacts, coherence, added value, efficiency, and the sustainability of the EIT. The EIT’s activities have been the subject of several other recent and parallel reviews, which included a comprehensive set of recommendations. We do not repeat these recommendations, but rather make reference where they align with the conclusions that the evaluation team has reached.

A mixed methods approach was employed by the evaluation team, encompassing quantitative and qualitative research. EIT and KIC performance and expenditure data were analysed. An extensive programme of primary research was undertaken, so as to ensure that the evidence base included inputs from a diverse range of stakeholders, including individuals and organisations that were responsible for delivery, had received support from the EIT, or had not been involved in the EIT at all. Primary research consisted of: stakeholder consultations at EIT and KIC level, including with individuals responsible for management and delivery; online surveys of KIC partners, graduates of EIT label programmes, and businesses that had received support via a KIC accelerator programme; an open public consultation (OPC), and in-depth case studies of specific features of KIC operations.

The relevance of the EIT’s objectives and model

¹ The evaluation has also considered evidence for 2010 and 2016, where available

The EIT's objective of supporting innovation through knowledge triangle integration (KTI) (the model) remains relevant and appropriate for tackling Europe's challenges. The original stated objectives of the EIT are supported by academic and policy literature which indicate that connected, networked approaches to innovation help to grow new communities and increase success in nurturing entrepreneurship and bringing innovation to market. Moreover, there is a strong rationale for tackling innovation and societal challenges at a European level, since the scale and urgency of major societal challenges demand collective efforts.

Conclusion: *the overarching logic for the EIT remains as valid now as when the initiative was first launched, and the model of driving innovation-led growth through KTI remains relevant.*

However, as the EIT has developed, and with its integration into Horizon 2020, additional goals have been added over time in a manner which is neither conducive to effectiveness nor to efficiency.

Recommendation #1: *The EIT should work with the European Commission to streamline the goals that the initiative is expected to achieve. These goals should be clearly articulated, measurable, and linked to an intervention logic for the EIT. Consensus should be built around these goals, which should then be communicated by the EIT/KICs to stakeholders to ensure a common understanding of the purpose, scope and expected impacts of the EIT.*

The relevance of the EIT model would be greatly enhanced by a clearer and common understanding of 'knowledge triangle integration', or KTI. The current way of implementing the model arguably makes KTI more of a brand or a general concept rather than a model. Whilst this ambiguity gives the EIT and the KICs scope to experiment and prioritise according to the specific challenges they face, it is harder to evaluate if and how the current varied interpretations of KTI are creating an impact. After nine years, the central concept of KTI is still being debated and investigated. The model of implementing KTI through co-location centres (geographically distributed network of innovation hubs), focused on excellence, remains broadly relevant.

Conclusion: *there is no clear and consistent understanding of the KTI model. Whilst these ambiguities have given the EIT leeway to experiment and adapt, the EIT and the KICs would benefit from a clearer and more consistent definition of KTI.*

The effectiveness with which the EIT model has been implemented

The results of the KICs

The three first wave KICs are starting to deliver a wide range of tangible results through their activities in the areas of innovation, entrepreneurship and education:

- Their accelerator activities have contributed to the creation of a cohort of around 230 innovative new start-ups over the period 2010-2015;
- Around 225 new products, services and processes that have been brought to the market using KIC grant and investment support;
- KIC innovation projects have generated around 775 knowledge transfers or adoptions;
- Around 820 individuals graduated from EIT-labelled Masters and PhD programmes.

Table ES1.1 summarises the performance of the three first-wave KICs against their core Key Performance Indicators (KPIs), over the period 2010-2015. Performance against targets has been somewhat mixed. Looking at the reasons for this performance picture,

it is apparent that KICs have been scaling-up their activities significantly in the past few years, and also redesigning / refreshing their 'offers', which has disrupted delivery.

Table ES1.1 Performance of the three first-wave KICs against core performance KPIs, 2010-2015. Green/red shading shows target achieved/not achieved

KPI	EIT Climate-KIC		EIT Digital		EIT InnoEnergy	
	Target	Achieved	Target	Achieved	Target	Achieved
# applicants per offered seat for education programmes (attractiveness)	0.48	7.24	3.92	3.27	2.48	4.55
# new graduates	193	222	235	220	414	379
# business ideas incubated	423	697	442	468	211	264
# start-ups/spin-offs created	199	120	67	48	44	76
# knowledge transfers/adoptions	194	246	361	388	31	142
# new/improved products/services/processes launched	168	141	90	52	32	31

Source: EIT

The KPIs shown in Table ES1.1 only provide a partial picture as they are output-focussed and do not capture the full breadth of the KICs' achievements. In addition to these core KPIs, the KICs also report against KIC-specific indicators, and their achievements against their annual plans are independently assessed.

Disaggregating the KICs' activities into a set of thematic KPIs (i.e. covering innovation, entrepreneurship and education) does not pick up the KTI activities that underpin the KIC model (which have been separately assessed by the evaluation team in the following paragraphs). There is a widely acknowledged² need for an improved system of KPIs that measures the impacts of the KICs, and demonstrates the aggregate effects of the EIT. Following the EIT's 2016 review of KPIs, changes to the KICs' reporting framework were introduced from 2017 onwards. These new KPIs are more impact-focussed, which will improve the consistency of KPI measurement, and the usefulness of the data.

Conclusion: *historically, the KPIs used by the KICs did not adequately measure performance, but from 2017 a more comprehensive set of indicators has been introduced which will allow for a better assessment to be made of the results of the KICs' activities.*

Knowledge triangle integration and the EIT

KTI is a core component of the KIC model. As such, all KICs are tackling KTI as a central element of their strategy and operation. Reflecting the discussion above about the ambiguity of what KTI means, there are variations in interpretation and implementation of the concept across KICs. In part, this is due to factors such as the maturity of the thematic area which a particular KIC is addressing (e.g. climate change, health where existing ecosystems for innovation actors to align are lacking). All of the current KICs have a strategy which is underpinned by their interpretations of KTI. The KICs have also been successful in involving all three actors of the knowledge triangle in their partnerships. Most KICs have gone beyond the 'classical' actors of the knowledge triangle to also involve other actors such as public authorities (e.g. EIT Climate-KIC) and civil society organisations (e.g. EIT Health). The activities of the KICs reflect KTI to varying degrees.

Conclusion: *KTI sits at the heart of KICs' delivery models, and whilst they have*

² In 2016 the European Court of Auditors (ECA) published a review of the EIT that called for the development of a more meaningful set of KPIs

interpreted the model differently, they have all been successful in involving a diverse set of partners and organisations from all sides of the knowledge triangle.

Looking across the KICs, each one has taken KTI into consideration in the design of the activity lines (innovation, entrepreneurship and education). However the approaches taken to KTI are not universally excellent at present. Education is arguably much stronger than business creation / start up support and innovation projects in capitalising on other aspects of the KICs' portfolio of activities. For example, the KIC curricula are being shaped by research and innovation, and industry has been involved in the design and delivery of education programmes. Integration also takes place at Co-Location Centre (CLC) level, and the experience of the different CLCs and partners has been exploited in the educational experiences offered. Moreover, some students have accessed accelerator programmes to launch their ideas. Within the research and innovation space we see start-ups that have been through accelerator programmes contributing to innovation projects, and partners working with start-ups. Again, some students have been involved in innovation projects. The focus on KTI is starting to bear fruit in the form of increased flows of knowledge and new types of co-operation between education institutions, research organisations and business and reduced fragmentation. Notwithstanding these achievements, there is scope to strengthen KTI at activity level both within the KICs and beyond, through communication and dissemination of 'what works', for example.

Conclusion: *KTI is evident throughout the KICs' activities, and we see examples of the creation and exploitation of linkages between the KICs' activity lines of innovation, entrepreneurship and education. There is scope for KTI to be further strengthened through communication and dissemination of good practice in implementation.*

The effectiveness of communications

The EIT has undertaken significant work on the effectiveness of its communication activities. This has led to well-documented strategies and activities, with associated indicators which have been met. Despite the overall activity and output targets being met, the evaluation results indicate a low level of awareness and knowledge of the EIT and its brand within the wider stakeholder community. The lack of cross-references to the EIT in other policy arenas may have hindered the take-up of the message to date. For KICs, the reputation of being associated with the EIT is not yet a significant motivation for involvement amongst partners. Opinions were mixed on the effectiveness with which KICs communicated their activities and achievements, both internally and externally. Although there is evidence KICs have taken a more consistent and thorough approach to communication and branding, they could do more to systematically disseminate the results of their support to start-ups and in supporting new products to reach the market.

Conclusion: *despite the communications activities undertaken by the EIT, there is limited brand awareness within the wider stakeholder community. Internal communications could be improved, with KIC partners calling for more information on what the KICs have achieved.*

The breadth of the KICs' activities and achievements makes effective communication particularly challenging, since messages must be targeted to specific sub-groups (e.g. the impacts of start-up support for entrepreneurs). There is recognition of the importance of communicating their purpose and achievements outside of their partner community. Whilst the KICs collect some data on the activities and outputs of various aspects of their communications activities, there are no data available about the extent of the 'reach' of KIC communication, or how well the KICs and what they do is known amongst key stakeholder communities. The case studies and messages about achievements that are available on the KIC websites are not written in a way that is

accessible to organisations and individuals who are not part of the KICs' 'milieu'. However communication budgets for KICs are relatively small.

Conclusion: *without data on the reach of KICs' communications it is hard to assess its effectiveness. Whilst the KICs do invest in communications, budgets are relatively small, and the breadth of their activities and audiences means they face a challenge in communicating effectively.*

Recommendation #2: *The EIT should revise its communication strategy with the objective of increasing stakeholder awareness and knowledge about the EIT and its results. The EIT should provide a coherent set of communication tools which can be flexibly used for different sets of target audiences to help the EIT and the KICs in internal and external communication and engagement. This includes better tracking of the effectiveness of communication and the measurement of the impact.*

The implementation of KIC delivery models

Some partners did not see the process of distributing grant and investment support to innovation projects as sufficiently transparent. Partners consulted for this evaluation suggested that the process of notifying everyone about upcoming calls for proposals was not sufficiently visible, that the process of evaluating proposals was opaque, and that feedback on proposals was inadequate given the effort that partners put in (and given that KICs are supposed to be inclusive networks).

Conclusion: *the process through which KICs distribute support to projects was not seen as sufficiently transparent by KIC partners.*

Recommendation #3: *The EIT should work with the KICs to improve the transparency of the process through which innovation projects are selected, and ensure that grant funding outcomes and decision rationales are transparently communicated to applicants and KIC partners more widely. The KICs should improve the consistency and clarity of internal communication with partners and KIC stakeholders, and should report the results of KIC activities more consistently, so that participants have sight of the impacts of the KICs beyond the projects that they are directly involved with.*

The KICs have been effective in integrating relevant new partners. KIC partnerships have grown over time, both in terms of size and diversity. There is a reasonably good balance of types of organisation (universities, large businesses, SMEs, research organisations) within the KICs, including good coverage of many of the leading actors within KIC sectors.

Partners were generally positive about the number and balance of partners with the KICs. There was evidence that changes to KIC business models, primarily those driven by their obligation to move towards financial sustainability (e.g. membership fees) has had an impact on the ability of KICs to retain and attract new partners. However a notable feature of KIC partnerships is their stability, which suggests that they remain an attractive offer. The survey of partners carried out for this evaluation received some feedback about the desirability of more SME involvement. We equally received suggestions that there should be greater involvement by the R&D departments of large businesses, as well as more universities, and more public sector authorities, something that was also suggested in the High Level Group (HLG) Report³ on the EIT. KICs should continue to review their partnerships to ensure that they remain balanced and are

³ *The Future of the European Institute of Innovation and Technology (EIT) Strategic Issues and Perspectives Report by Commissioner Navracsics' High Level Group on the EIT (2016)*

configured to deliver their goals, and to benefit the various actors involved (partners, start-ups, students).

Conclusion: *KICs have been effective in establishing and building networks of partners. These networks have been stable over time, and most partners are largely satisfied with the size and composition of KIC networks.*

KICs' education programmes have been effective in attracting and retaining relevant students. The level of demand for participation in the EIT-label based educational programmes (Table ES1.1) provides an indication of the attractiveness of the KICs' education programmes. There are, however, high numbers of students dropping out during the process from application to enrolment due to several external (the way the national higher education systems are set up and study and life choices of students) and internal factors (e.g. issues related to scholarships, the Master School's application process, misalignment of expectations of stakeholders etc.). Once on the courses, the drop-out rate of the KIC education programmes is well below the world average retention rate for graduate school studies.

Conclusion: *the KICs' education programmes appear to present an attractive proposition to students, though the drop-out rate between application and enrolment has been high, which needs to be managed.*

The impacts of the EIT

The influence of the EIT

The current Strategic Innovation Agenda (SIA⁴) for the EIT states that, over time "*the EIT headquarters will become a resourceful repository of best practices and a real knowledge partner for policy makers.*" Continuing, the SIA notes that the EIT will play "*an even stronger role as the centre of expertise in all of its main tasks and areas of responsibility*". This evaluation therefore looked at the two different aspects of the 'influence' of the EIT: i) the influence that the EIT has had on policy development and implementation (e.g. the design of innovation support); and ii) influence on policy within the thematic domains addressed by KICs (e.g. climate change).

The EIT's influence on innovation policy development and implementation has been somewhat weak, particularly in the past, but there have been considerable efforts to improve on this in recent years. The KICs have provided evidence and support in the development and implementation of EU policy. However, there is a question as to the extent the EIT can be, as the SIA indicates, "*a real partner for policy makers*", bearing in mind the limited resources the EIT and the KICs have for supporting this function.

Conclusion: *the SIA for the EIT recognises the potential of the EIT and the KICs as a resource for policy-makers, though thus far the EIT's influence on policy development has been limited, in part due to a lack of dedicated resource and the relative immaturity of the EIT and KICs.*

An area where there is consensus around action from the EIT is in its role disseminating good practice from the KICs and showcasing success. The KICs are a valuable resource for policy-makers, providing examples of good practice and support in the development and implementation of EU policy in their thematic domains. Policy DGs can benefit from seeing how sectoral innovation, entrepreneurship and education support delivery can inform sectoral policy making. The KICs are also close to policy-makers at the national and regional level (e.g. via the CLCs) and there is ample evidence of emerging national

⁴ Adopted by the governing board in 2011 and the European Parliament and the Council in 2013.

and regional partnerships, even though this is not an explicit objective of the CLCs. Given the extent of their thematic expertise, and experience in delivery across a range of policy areas (innovation, education, entrepreneurship), the EIT and the KICs have an important role in disseminating good practice, including evidence of 'what works' in delivery.

Conclusion: *as the SIA for the EIT notes, the KICs have the potential to act as 'repositories' of knowledge and good practice. KICs (e.g. via CLCs) have built relationships with regional and national policy-makers, despite this not being an explicit goal, but there is scope for greater leverage of the expertise that they have accumulated.*

Recommendation #4: *The EIT and the KICs should focus on using examples of good practice and results (both in terms of model and impact) as the basis for policy dialogue and interaction. At the EU level, the KICs should continue to develop their thematic links with corresponding thematic DGs of the European Commission, seeking to inform and contribute to the development of policy and support the principles of the Innovation Union. CLCs should play a stronger role in informing national and sub-national policy stakeholders of their results, particularly where they are able to 'channel' lessons learned at EIT and KIC level.*

The impacts of the KICs

KICs have supported hundreds of start-ups across Europe, facilitating growth and innovation, and this will lead to job creation and economic growth in the future. Some of the early start-ups supported are in fact already scaling-up their activities, attracting investment and creating jobs.

A key area of KIC activity has been in supporting innovation via entrepreneurship, which has arguably been an area where the EIT has exceeded early expectations. Through their accelerator programmes the KICs have assisted entrepreneurs with innovative ideas to develop and test prototypes, demonstrate that their ideas work, and establish businesses to bring their innovative ideas to market. The KICs do not just support entrepreneurs to create businesses, and the entrepreneurship strand of their activity has also enabled new start-ups to scale-up their activity and achieve greater reach with their innovations. KIC accelerator programmes help businesses to build an understanding of their markets and enable access to customers, the latter often involving the networks of partners that KICs have established. KICs have also enabled entrepreneurs to access seed or growth funding to enable them to scale-up, and again we see evidence of the impacts of the networks that KICs have established, which include venture capital and business angels.

Conclusion: *The KICs' accelerator programmes have supported a cohort of innovative entrepreneurs to start-up and grow their businesses, and the practical lessons learned by accelerators can provide a valuable evidence base for the EIT and the European Commission to draw upon.*

Grant funding and investment provided by KICs has addressed market failures and supported bringing innovations to market. KICs address a key market failure facing many innovations – securing the finance needed in order to take a project from the development / prototype stage through to large-scale demonstration and commercialisation. They do this through grant funding to innovation projects and also via investments in innovative businesses.

One of the most significant innovation impacts of the KICs has been in enabling and facilitating multi-national partnerships involving a range of different partners from across business, academia / research, and public authorities. Research with KIC partners who were involved in innovation projects highlighted examples of institutional learning that resulted from participation in a KIC project, including building a 'culture' of commercialisation and knowledge transfer within universities and research organisations

that might not previously have thought this way. Still, it is also the case that there are a large number of KIC partners who are already innovative and therefore saw less impact on their organisation. For some, KIC innovation projects are still seen mainly as a source of public sector financial support for specific innovation projects.

Conclusion: *KIC-backed innovation projects have successfully brought together diverse networks of partners, in some cases resulting in institutional learning within participating universities and research organisations.*

The survey of graduates found that EIT-label courses provide graduates with entrepreneurial skills, though for the most part this has not yet generated a cohort of start-ups. There is evidence that the EIT-label courses have provided graduates with the entrepreneurial and innovation-focussed skills they desire and which were motivations for choosing an EIT-label course in the first place. If we look at career trajectories since 'graduation' (recognising that a limited amount of time will have elapsed since graduation for most graduates), we see that most graduates were in employment following their EIT-label course. A small minority had started a business, suggesting that, to date, the entrepreneurial impacts of EIT label courses were not yet translated to start-ups. Of course, it is still early, and we may come to see 'intrapreneurial' impacts as these individuals utilise skills learned as part of EIT-label courses to formulate new business ideas within their workplaces.

Conclusion: *EIT-label courses have successfully provided graduates with entrepreneurial skills, but thus far this has not translated into a significant cohort of start-ups, as most graduates have moved into employment instead.*

Impacts on innovation systems

While there is significant evidence of the positive opportunities and impacts of the EIT, the evaluation finds that these are mainly limited to the partners, graduates and start-ups that have directly involved with the KICs. When looking to extend the analysis to the systemic impacts of the EIT, the evidence is less clear.

One area where the EIT is often expected to have a wider impact is on developing and informing the uptake of good practice across the EU. This is an ambitious expectation and one that is not yet being achieved. Immaturity is one reason for this. In practice, the EIT has been operating for just seven years, and for more than half of this period had only three KICs. Systemic change takes time. As the KICs mature and more evidence as to what works, and what does not, becomes available, then the opportunity for the EIT to engage with the systemic agenda will emerge. However, this will, of necessity involve doing less of other things, if budgets remain the same. There is also the risk that the EIT's activities lose focus. It would require the diversion of resources towards the development of materials and channels of dissemination.

Conclusion: *thus far there has not been evidence of an uptake of good practices pioneered and disseminated by the EIT, though given the limited amount of time that the KICs have been operating it is perhaps too early to make an assessment of the EIT's impacts in this area.*

The EIT is intended to result in a lasting and systemic impact for the better integration of the knowledge triangle across Europe. There is also a desire in policy-circles to see the EIT work in synergy with other EU and relevant national / regional, policies and programmes.

Examining the effect of the EIT on innovation systems at different spatial scales (EU, national and regional) offers a modest view of the wider systemic impact of the EIT to date. The EIT has been configured as a sectoral, or domain-specific, innovation system, rather than a spatial system (as compared to the territorially-oriented Smart

Specialisation approach). Where CLCs are present, there is some evidence that systemic effects are emerging. However, these are highly localised and are not yet fully evolved, partly demonstrating the time that is required to develop embedded linkages. The introduction of the EIT RIS is too new for any additional territorial impacts to be observable.

Conclusion: *the EIT is configured around sectors/societal challenges, rather than as a spatial system, and thus far territorial systemic impacts have been limited to localities with CLCs. Over time the EIT RIS should result in systemic impacts.*

The EIT, through the KICs, has influenced European innovation capacity through establishing new networks of activity and through drawing new actors into existing networks. FP7/H2020 projects that involve KIC partners were more likely to involve cross-sectoral activity and to foster cooperation with new partners. Significantly, partnerships in which KIC partners were key actors were also more likely to be sustained beyond the life of a single project, suggesting strong impacts at a system level. This highlights the importance of such networks. However, because these are organised at the sectoral systems level, they are unlikely to have significant impact on the overall innovation system in the short term. There is also a question of scale and scope. If it is important to see a faster pace of change then resources need to be concentrated in fewer areas rather than over a larger number of sectors / domains.

Recommendation #5: *The EIT should seek to capitalise on its position as a pan-European response to innovation challenges in Europe. Through its structure and activities, the EIT can play a crucial role in strengthening links across innovation players in Europe, working at a European, national and sub-national level to support change. In particular, the EIT should advocate complementary actions that use ESIF as a means to generate multiplier effects (EIT RIS could be a core mechanism for this).*

Coherence with other initiatives

The EIT fits well into the overall European innovation policy landscape, filling a 'gap' via support to innovation through KTI. There are no significant signs of the EIT operating in contradiction with the EU's innovation policies. However, since the EIT was established, there have been major developments in European policy that are of relevance to its operations, notably the introduction of the EIC. With these developments, there are some signs of a certain amount of overlap in approach. Whilst there is evidence that the KICs have engaged with their corresponding policy DGs, the extent of this activity varies between KICs. It is not entirely clear whether some policy DGs have taken enough consideration of the position of the EIT and the KICs in the design of their own approaches. However, the EIT appears to have a good understanding of all of the other EU policy activities and how to position themselves accordingly.

Conclusion: *the EIT is coherent with the wider European innovation policy landscape, and has a good understanding of its position and role. Whilst the KICs have engaged with their corresponding policy DGs, it is not entirely clear whether some DGs consistently take the EIT and the KICs into account when designing their approaches.*

The EIT model supports and fits in well with approaches taken in the overall national and regional innovation policy landscape. At the national level the evaluation reviewed six examples of initiatives in Europe which are supporting innovation. There were many commonalities in approach, in particular in relation to knowledge transfer, a focus on excellence and attracting leading businesses as partners. This presents opportunities for complementarity, particularly where national policy recognises and makes room for international cooperation. What sets apart the EIT model is the emphasis on entrepreneurship and education which is less evident in the national comparators.

At the KIC level there are strong links into the regional innovation infrastructure and the CLCs are at least in part shaped by the local / regional innovation 'milieu', within which they are located. In this sense, the EIT and the KICs complement regional innovation policy, which is arguably an inevitable result of their decentralised nature and the role of specific partners working together through the CLCs. The new EIT RIS will further reinforce these linkages and coherence.

Conclusion: *the EIT is coherent with and complements national and regional innovation policy, and commonalities in approach present opportunities for cooperation.*

The EIT model combines multiple elements of the innovation system concepts and as a consequence is an ambitious policy initiative. The EIT's governance model is correspondingly multi-layered which makes it complex. The governance model has been subject to a significant amount of attention since in the setup of the EIT and in the past criticism has been levied at the EIT for its lack of in-house capacity for assessing operational performance and the functioning of the governing board. Significant work is being done to improve clear roles and responsibilities following this criticism. The conclusions and recommendations set out in the HLG report on the EIT remain valid for this evaluation.

The EU added value of the EIT

EU added value concerns the extent to which the EIT and the KICs deliver something that does not happen at national or sub-national level. Across the EU there are numerous national public policy initiatives that support one or perhaps two of the EIT's goals (to support innovation; to assist start-ups; to embed innovation and entrepreneurship within higher and adult education). The EIT provides EU added value through its focus on, and integration of, all three elements of the knowledge triangle, which is not an explicit feature of national or sub-national initiatives (though they may undertake some elements of KTI).

Conclusion: *the uniqueness of the EIT lies in its integration of all three sides of the knowledge triangle, which is not an explicit feature of other EU or national innovation support initiatives (though they may undertake some elements of KTI).*

Research conducted with KIC partners and beneficiaries of support provided by the EIT has indicated that the main way in which the EIT provides added value beyond national support initiatives is because the KICs operate across borders. This provides KIC partners and beneficiaries of KIC of support with access to partners, investors and customers that they might otherwise find it difficult to identify and build links with. This is especially true for start-ups and scale-ups that have been supported via KIC accelerator programmes, which find it particularly difficult to establish themselves in new countries. Other ways in which the KIC model adds value beyond what is implemented nationally (in some countries) include: their focus on innovation (rather than research), the fact that they are selected in order to address societal challenges, their medium-term funding horizon, and their ability to bring together partners from across the public and private sectors.

Conclusion: *KICs add value beyond national support initiatives, primarily by operating across borders and linking KIC partners and beneficiaries with organisations and networks that they would otherwise find it difficult to access.*

Though it is too early to assess impacts, the EIT adds value to and reinforces regional innovation policy throughout Europe via the EIT Regional Innovation Scheme (EIT RIS). The introduction of the EIT RIS reflected calls for the EIT to be more inclusive, and support innovation growth in areas of the EU that were not directly involved in a KIC. Since the EIT RIS is in its infancy, it is difficult to provide any evidence of its effects at present. The budget is presently relatively small – though is due to be increased – which

restricts the number of regions and regional partners that can participate (certainly compared to the European Structural and Investment Fund (ESIF) the scale of the EIT RIS activities are relatively minor). Nevertheless, the EIT RIS is an important mechanism for integrating the whole of Europe into the KIC networks, and ultimately the EIT.

Conclusion: *the EIT RIS adds value to and reinforces regional innovation policy throughout Europe, though it is too early to assess its impacts.*

The efficiency of the EIT

The efficiency with which the EIT and the KICs deliver results is hard to measure due to inconsistencies in the reporting of expenditure and results data, and problems inherent to the application of a unit-cost approach to KIC activities. Data were not made available to the evaluation team that would enable us to calculate expenditure on the action lines of the KICs (in some cases it was not possible to distinguish between spend on education, entrepreneurship and innovation). Consequently it was not possible to calculate expenditure per unit of output (e.g. the cost per business started, or the cost per innovation introduced to the market). This makes it impossible to measure the cost effectiveness with which the KICs deliver outputs, or to benchmark this against other initiatives to assess the efficiency of the EIT vis-à-vis other approaches to innovation support. Adjustments to the way in which KICs collect and report expenditure would be needed to enable a comprehensive assessment of efficiency, but such a unit cost driven approach would risk reducing the activities of the KICs to their component parts, rather than picking up the added value of KTI or the pan-EU dimension of delivery.

Conclusion: *whilst the absence of a consistent approach to defining and reporting KIC expenditure data has made a cost effectiveness assessment of the KICs' activities impractical, a unit cost driven approach to measuring efficiency would miss the role of KTI and the added value of the cross-border nature of KICs' operations.*

The KICs grew significantly between 2010 and 2013, increasing staffing and management costs as they ramped up delivery and introduced new action lines. The physical 'footprint' of the KICs also increased, with new CLCs established across Europe, and this brought challenges as the KICs had to work with different national legal systems, employment laws, performance tracking systems etc. Greater harmonisation across CLCs should bring efficiency improvements.

The first wave of KICs were 'learning by doing', and as the KICs move into a period of consolidation and delivery there is now scope for greater efficiency as KICs review and reflect on what works and what can be improved. Related to this point, the KICs are making progress in cross-KIC working to improve efficiency and effectiveness, and there is evidence that the second-wave KICs learned from the experience of the first-wave KICs as part of their set-up phase. Echoing the findings of the HLG Review (which called for 'shared services' where KICs require the same types of support), stakeholders consulted for this evaluation called for a greater role for the EIT in coordinating and potentially codifying lessons learned by the KICs, to increase the efficiency of delivery. This could involve central coordination in areas where there are commonalities across KICs (e.g. IPR arrangements), though sectoral and national specificities will always limit the extent to which a one-size-fits-all approach can be developed and deployed across all KICs.

Conclusion: *the first wave of KICs grew rapidly, as they expanded geographically they encountered challenges that affected the efficiency of their operations. Cross-KIC learning has improved efficiency, and can continue to do so as the KICs consolidate.*

A shift to multi-annual funding, rather than one year funding, should make the KICs more efficient. This was the issue most commonly raised by partners about the efficiency of the KIC delivery model. The advantages of multi-annual funding arrangements have

been identified elsewhere, notably in the ECA Report and also the HLG Report, and a reduction in the amount of resource consumed as part of business planning would be advantageous for the efficiency of the KICs.

Conclusion: *as noted in other recent reviews of the EIT (the ECA and HLG reports), a move to multi-annual funding arrangements would improve KIC efficiency.*

The financial sustainability of the KICs

Given the current levels of reliance on EIT funding, the KICs' strategies for financial sustainability, although laudable, look highly ambitious. Of the first wave of KICs, which have started to implement strategies for achieving financial sustainability, it is highly doubtful that EIT Climate-KIC will achieve financial sustainability by 2025. This is perhaps not surprising considering the scale of market failures in this thematic area. Although EIT Digital and EIT InnoEnergy are pursuing more diversified and comprehensive approaches to financial sustainability, an element of risk is inherent (e.g. the success of start-ups and (largely unproven) innovation projects).

This leads us to the more fundamental question of whether financial sustainability is a desirable and feasible goal given the EIT's role as a mission-orientated intervention intended to address market failures and contribute towards solving societal challenges. Feedback from the stakeholders consulted during this evaluation was mixed in this regard. The survey of partners and the OPC generated plenty of feedback to the effect that the KICs should not be expected to be financially sustainable, and that as long as they were addressing European societal challenges, they should remain (partly) publicly-funded bodies. There are concerns that the goal of financial sustainability could come at a high cost by negatively impacting upon the KICs' innovation capacities and their KTI mission (for example by KICs' shedding some or all of their operations that are not self-sustainable, such as education).

Conclusion: *the first wave KICs have made progress in pursuing financial sustainability, though their strategies for doing so are ambitious. There is arguably a contradiction between the EIT's role (addressing market failures and societal challenges) and achieving financial sustainability. Achieving the latter may impact on the former, with non-sustainable, but socially advantageous, activities dropped by KICs.*

In its recommendations, the HLG proposed a twin-track model, whereby a part of the EIT budget would be available for funding new KICs, while another portion would be earmarked for supporting some of the activities of the mature KICs that continue to meet predefined EIT goals. If financial sustainability is deferred or partly-abandoned as a goal, there needs to be a greater emphasis on the EIT to demonstrate its added value and impacts.

Résumé analytique (FR)

L'Institut européen d'innovation et de technologie (EIT) a été créé en 2008 pour répondre aux préoccupations profondes entourant la performance de l'innovation dans l'UE. Bien que l'UE ait des résultats remarquables en ce qui concerne les mesures de la science et de la recherche, elle semble moins capable de traduire son excellence en matière de recherche en valeur économique ou sociale (ce phénomène est largement appelé « le paradoxe européen de l'innovation »). L'EIT a été conçu pour répondre à certaines de ces faiblesses sous-jacentes : un système d'innovation fragmenté, le manque d'intégration de l'enseignement supérieur européen dans une chaîne d'innovation plus étendue et un faible niveau d'activité entrepreneuriale. Dans ce contexte, son objectif global est de « *contribuer à une croissance économique et à une compétitivité durable à l'échelle européenne en renforçant la capacité d'innovation des États membres et de l'UE en promouvant et en intégrant l'enseignement supérieur, la recherche et l'innovation de la plus haute qualité* ». L'EIT cherche à réaliser sa mission par le biais d'un réseau géographiquement répandu de communautés de la connaissance et de l'innovation (CCI) thématiques, celui-ci regroupant les établissements d'enseignement supérieur, les organismes de recherche, l'industrie et d'autres parties prenantes pour créer une masse critique nécessaire pour stimuler l'innovation. Les CCI sont thématiquement alignées sur les défis sociétaux du programme Horizon 2020. Au moment où l'évaluation a été conduite, il y avait cinq CCI : l'EIT InnoEnergy, l'EIT Climate-CCI et l'EIT-Digital (qui ont été créés en 2010) ainsi que l'EIT Health et l'EIT Raw Materials (qui ont été créés en 2015).

En mars 2016, la Direction générale de l'éducation et de la culture (DG EAC) a nommé une équipe d'évaluation dirigée par ICF et Technopolis pour mener une évaluation intérimaire de l'EIT. Cette évaluation indépendante est une exigence de la mise en place du règlement de l'EIT et répond également à la nécessité d'un examen indépendant de l'EIT tel que stipulé dans le règlement du programme Horizon 2020. Les résultats de l'évaluation visaient à informer les décisions de politique concernant tout amendement au Règlement sur l'EIT et les orientations du programme stratégique d'innovation (PSI) pour l'EIT (couvrant la période de 2021 à 2027).

Objectifs et méthodologie de l'évaluation

L'objectif de cette évaluation était « d'évaluer le travail de l'EIT tel qu'identifié dans le règlement EIT et le règlement d'Horizon 2020 et, en particulier, d'examiner comment l'EIT remplit sa mission ». Plus précisément, l'évaluation fut chargée de répondre à 40 questions d'évaluation regroupées autour d'un ensemble de sujets d'évaluation : pertinence, efficacité, impacts, cohérence, valeur ajoutée, efficacité et durabilité de l'EIT. Les activités de l'EIT ont fait l'objet de plusieurs autres examens récents et parallèles qui ont amené à un ensemble complet de recommandations. Nous ne répétons pas ces recommandations, mais nous y faisons référence quand elles s'alignent sur les conclusions atteintes par l'équipe d'évaluation.

Une approche de méthodes mixtes a été utilisée par l'équipe d'évaluation, englobant une recherche quantitative et qualitative. Les données sur les performances et les dépenses de l'EIT et des CCI ont été analysées. Un vaste programme de recherche primaire a été entrepris, afin de s'assurer que la base de données probantes comprenait les contributions d'un large éventail de parties prenantes, y compris de personnes et d'organisations qui étaient responsables de la prestation, ayant reçu un soutien de l'EIT ou n'ayant pas du tout participé à l'EIT. La recherche primaire a été constituée de : consultations auprès des parties prenantes au niveau de l'EIT et des CCI, y compris avec les personnes responsables de la gestion et de la prestation, d'enquêtes en ligne avec les partenaires des CCI, les diplômés des programmes de marque de l'EIT et les entreprises qui ont reçu un soutien grâce à un programme accélérateur des CCI, d'une consultation publique ouverte (CPO) et d'études de cas approfondies sur des caractéristiques spécifiques des opérations des CCI.

Pertinence des objectifs et du modèle de l'EIT

L'objectif de l'EIT consistant à soutenir l'innovation par le modèle "knowledge triangle integration" (KTI) (ci-après dénommé «le Modèle») reste pertinent et approprié pour relever les défis de l'Europe. Les objectifs initiaux énoncés dans l'EIT sont étayés par des publications académiques et politiques qui indiquent que des approches à l'innovation reliées contribuent à accroître les nouvelles communautés et à augmenter le succès dans les domaines de la promotion de l'esprit d'entreprise et de l'innovation dans le marché. En outre, il existe une forte raison de s'attaquer aux défis en matière d'innovation et sur le plan social au niveau européen, car l'ampleur et l'urgence des grands défis sociétaux exigent des efforts collectifs.

Conclusion: *La logique globale de l'EIT reste aussi valable maintenant que lorsque l'initiative a été lancée, et de plus le modèle, basé sur une croissance orientée vers l'innovation par les CCI, reste pertinent.*

Cependant, au fur et à mesure que l'EIT s'est développé et, avec son intégration dans le programme Horizon 2020, des objectifs supplémentaires ont été ajoutés au fil du temps d'une manière qui n'est ni propice à la productivité ni à l'efficacité.

Recommandation n°1 : *L'EIT devrait travailler en accord avec la Commission Européenne pour rationaliser les objectifs que l'initiative devrait atteindre. Ces objectifs devraient être clairement articulés, mesurables et liés à une logique d'intervention pour l'EIT. Un consensus devrait être construit autour de ces objectifs qui devraient ensuite être communiqués par l'EIT/les CCI aux parties prenantes pour assurer une compréhension commune de l'objectif, de la portée et des impacts attendus de l'EIT.*

La pertinence du modèle EIT serait grandement améliorée par une compréhension plus claire et commune du Modèle. La façon actuelle de mettre en œuvre le Modèle l'en davantage une marque ou un concept général plutôt qu'un modèle. Bien que cette ambiguïté confère à l'EIT et aux CCI une marge d'expérimentation et de priorisation en fonction des défis spécifiques auxquels ils sont confrontés, il est plus difficile d'évaluer si et comment les interprétations variées actuelles de l'ITC créent un impact. Après neuf ans, le concept central du Modèle est toujours débattu et à l'étude. La mise en œuvre du Modèle par l'intermédiaire de "centres de co-implantation" (CLC) (réseau géographiquement distribué de centres d'innovation) est axée sur l'excellence et reste largement pertinente.

Conclusion : *Il n'y a pas de compréhension claire et uniforme du Modèle. Alors que ces ambiguïtés ont donné une marge de manœuvre à l'EIT pour expérimenter et s'adapter, l'EIT et les CCI bénéficieraient d'une définition plus claire et uniforme de l'ITC.*

L'efficacité de la mise en œuvre du modèle EIT

Résultats des CCI

Les trois CCI de la première vague commencent à fournir un large éventail de résultats tangibles grâce à leurs activités dans les domaines de l'innovation, de l'entrepreneuriat et de l'éducation:

- Leurs activités d'accélération ont contribué à la création d'une cohorte d'environ 230 nouvelles entreprises ("start-ups") innovantes sur la période de 2010 à 2015,
- Environ 225 nouveaux produits, services et procédés ont été mis sur le marché en utilisant des subventions CCI et leur soutien à l'investissement,

- Les projets d'innovation des CCI ont généré environ 775 transferts ou adoptions de connaissances,
- Environ 820 personnes ont été diplômées de programmes de maîtrise et de doctorat certifiés par l'EIT.

Le Table ES1.2 résume la performance des trois CCI de première vague par rapport aux indicateurs clés de performance (ICP) sur la période de 2010 à 2015. La performance par rapport aux objectifs fixés a été quelque peu mitigée. En examinant les raisons de cette image de performance, il est évident que les CCI ont intensifié considérablement leurs activités au cours des dernières années et ont également redessiné/actualisé leurs « offres », ce qui a perturbé la prestation.

Table ES1.2 Performance des trois CCI de première vague par rapport aux ICP, 2010-2015. Les zones en vert/rouge indiquent l'atteinte / la non-atteinte des objectifs fixés

	EIT Climate-CCI		EIT Digital		EIT InnoEnergy	
ICP	Fixé	Atteint	Fixé	Atteint	Fixé	Atteint
Nombre de candidats par siège offert pour les programmes d'éducation (attractivité)	0.48	7.24	3.92	3.27	2.48	4.55
Nombre de nouveaux diplômés	193	222	235	220	414	379
Nombre d'idées d'affaires incubées	423	697	442	468	211	264
Nombre d'entreprises start-ups/spin-offs créés	199	120	67	48	44	76
Nombre de transferts/d'adoptions de connaissances	194	246	361	388	31	142
Nombre de produits/services/processus nouveaux améliorés ou lancés	168	141	90	52	32	31

Source: EIT

Les ICP présentés au Table ES1.1 ne fournissent qu'une image partielle car ils sont axés sur les résultats et ne permettent pas de saisir la totalité des réalisations des CCI. En plus de ces ICP de base, les CCI offrent également un compte-rendu de la performance des indicateurs propres à elles. Leurs réalisations par rapport à leurs plans annuels sont quant à elles, évaluées de manière indépendante.

La désagrégation des activités des CCI dans un ensemble d'ICP thématiques (c.-à-d. l'innovation, l'esprit d'entreprise et l'éducation) ne reprend pas les activités des CCI qui sous-tendent le modèle CCI (qui a été évalué séparément par l'équipe d'évaluation dans les paragraphes suivants). Il existe un besoin largement reconnu⁵ d'un système amélioré d'ICP qui mesureraient les impacts des CCI et démontreraient les effets globaux de l'EIT. À la suite de l'examen des ICP de l'EIT en 2016, les modifications apportées au cadre du reporting des CCI ont été introduites à partir de 2017. Ces nouveaux ICP ne sont plus axés sur l'impact, ce qui améliorera la cohérence de la mesure de l'ICP et l'utilité des données.

Conclusion: Historiquement, les ICP utilisés par les CCI n'ont pas mesuré adéquatement les performances, mais à partir de 2017, un ensemble plus complet d'indicateurs a été introduit qui permettront de mieux évaluer les résultats des activités des CCI.

⁵ En 2016, la Cour des comptes européenne (ECA) a publié un examen de l'EIT qui appelait à l'élaboration d'un ensemble d'ICP plus significatif

Le modèle “knowledge triangle integration” (KTI) et l’EIT

Le KTI est un élément essentiel du modèle CCI. En tant que tel, toutes les CCI s'attaquent au KTI comme élément central de leur stratégie et de leur fonctionnement. Compte tenu de la discussion ci-dessus concernant l'ambiguïté de ce que signifie le KTI, il existe des divergences dans l'interprétation et la mise en œuvre du concept à travers les CCI. En partie, cela s'explique par des facteurs tels que la maturité de la zone thématique sur laquelle se dresse une CCI particulière (par exemple, le changement climatique, la santé où les écosystèmes existants favorisant l'alignement des acteurs de l'innovation sont insuffisants). Toutes les CCI actuelles ont une stratégie qui est étayée par leurs interprétations du KTI. Les CCI ont également réussi à impliquer les trois acteurs du KTI dans leurs partenariats. La plupart des CCI ont dépassé les acteurs « classiques » du KTI pour impliquer également d'autres acteurs, tels que les autorités publiques (par exemple EIT Climate-CCI et les organisations de la société civile (par exemple EIT Health)). Les activités des CCI reflètent tiennent compte du KTI à des degrés divers.

Conclusion: *Le KTI est au cœur des modèles de prestation des CCI, et bien que ces dernières aient interprété le modèle différemment, elles ont réussi à impliquer un ensemble diversifié de partenaires et d'organisations de tous les côtés préconisés par le KTI.*

En examinant toutes les CCI, on pourrait conclure que chacune ait considéré le KTI dans la conception des lignes d'activité (innovation, entrepreneuriat et éducation). Cependant, les approches adoptées pour le KTI ne sont pas universellement excellentes à l'heure actuelle. L'éducation est sans doute beaucoup plus importante que la création d'entreprise/le démarrage de projets de soutien et d'innovation en capitalisant sur d'autres aspects du portefeuille d'activités des CCI. Par exemple, les programmes de CCI sont façonnés par la recherche et l'innovation, et l'industrie a participé à la conception et à la prestation de programmes d'éducation. L'intégration se déroule également au niveau des CLC (centres de co-implantation) et l'expérience des différents CLC et partenaires a été exploitée dans les expériences éducatives offertes. Là encore, certains étudiants ont accédé aux programmes d'accélération pour lancer leurs idées. Dans le domaine de la recherche et de l'innovation, nous voyons des start-ups qui ont été réalisées grâce à des programmes d'accélération contribuant à des projets d'innovation et à des partenaires qui travaillent avec des start-ups. Encore une fois, certains étudiants ont participé à des projets d'innovation. L'accent mis sur le KTI commence à porter ses fruits sous la forme de flux accrus de connaissances et de nouveaux types de coopération entre les établissements d'enseignement, les organismes de recherche, les entreprises ainsi générant une fragmentation réduite. Non obstant ces réalisations, il existe une marge de manœuvre pour renforcer le KTI au niveau de l'activité, à la fois au sein des CCI et au-delà, par exemple par la communication et la diffusion de « ce qui fonctionne ».

Conclusion: *Le KTI est évident à travers toutes les activités des CCI et nous voyons des exemples de création et d'exploitation de liens entre les activités des CCI, l'innovation, l'esprit d'entreprise et l'éducation. Il serait bon que le KTI soit renforcé par la communication et la diffusion de bonnes pratiques en matière de mise en œuvre.*

La productivité des communications

L'EIT a entrepris des travaux importants en ce qui concerne la productivité de ses activités de communication. Cela a conduit vers des stratégies et des activités bien documentées, accompagnées d'indicateurs qui ont été atteints. Malgré l'atteinte de l'ensemble des objectifs d'activité et de rendement fixés, les résultats de l'évaluation indiquent un faible niveau de sensibilisation et de connaissance de l'EIT et de sa marque au sein de la communauté des parties prenantes. L'absence de références croisées à l'EIT dans d'autres domaines politiques a peut-être entravé l'adoption du message à ce jour.

Pour les CCI, la réputation d'être associées à l'EIT n'est pas encore une motivation assez importante incitant la participation des partenaires. Les opinions ont été mitigées quant à l'efficacité avec laquelle les CCI ont communiqué leurs activités et leurs réalisations, tant à l'interne qu'à l'externe. Bien qu'il existe des preuves que les CCI ont adopté une approche plus cohérente en matière de communication et de marque, elles pourraient faire plus afin de diffuser plus systématiquement les résultats de leur soutien aux start-ups et à de nouveaux produits dans leur atteinte du marché.

Conclusion: *Malgré les activités de communication entreprises par l'EIT, il existe une connaissance limitée, en matière de marque, au sein de la communauté des parties prenantes. Les communications internes pourraient être améliorées, les partenaires de CCI demandant plus d'informations sur ce que les CCI ont atteint.*

L'ampleur des activités et des réalisations des CCI fait qu'une communication efficace est particulièrement difficile, car les messages doivent être ciblés sur des sous-groupes spécifiques (par exemple, les impacts du démarrage du support pour les entrepreneurs). On reconnaît l'importance de communiquer leur but et leurs réalisations en dehors de leur communauté partenaire. Alors que les CCI recueillent des données sur les activités et les résultats de divers aspects de leurs activités de communication, il n'existe pas de données disponibles sur l'étendue de la « portée » d'une ligne de communication de la part des CCI ou la pertinence des CCI et de ce qu'elles font parmi les principales communautés prenant part. Les études de cas et les messages concernant les réalisations disponibles sur les sites Web de CCI ne sont pas écrits d'une manière accessible aux organisations et aux personnes qui ne font pas partie du « milieu » des CCI. Toutefois, il faut signaler que les budgets de communication pour les CCI sont relativement faibles.

Conclusion: *en l'absence de données sur la portée des communications des CCI, il est difficile d'évaluer leur efficacité. Alors que les CCI investissent dans les communications, les budgets sont relativement faibles et l'ampleur de leurs activités et de leur auditoire signifie qu'elles sont au défi de parvenir à une communication efficace.*

Recommandation n° 2 : *L'EIT devrait réviser sa stratégie de communication dans le but d'accroître la sensibilisation et la connaissance des parties prenantes au sujet de l'EIT et de ses résultats. L'EIT devrait fournir un ensemble cohérent d'outils de communication pouvant être utilisés avec souplesse pour différents groupes de publics cibles afin d'aider l'EIT et les CCI dans la communication et l'engagement interne et externe. Cela comprend un meilleur suivi de l'efficacité de la communication et de la mesure de l'impact.*

Mise en œuvre des modèles de prestation des CCI

Certains partenaires pensent que le processus de distribution des subventions et des investissements aux projets d'innovation n'est pas suffisamment transparent. Les partenaires consultés pour cette évaluation ont suggéré que le processus de notification à tous des appels d'offres à venir n'était pas suffisamment visible, que le processus d'évaluation des propositions était opaque et que les commentaires sur les propositions étaient insuffisants compte tenu des efforts déployés par les partenaires (et compte tenu du fait que les CCI sont supposées être des réseaux inclusifs).

Conclusion: *Le processus par lequel les CCI distribuent un soutien aux projets n'a pas été jugé suffisamment transparent par les partenaires des CCI.*

Recommandation n° 3 : *L'EIT devrait travailler avec les CCI pour améliorer la transparence du processus par lequel les projets d'innovation sont sélectionnés et veiller à ce que les résultats du financement par subvention et les justifications des décisions*

soient communiqués de manière transparente aux candidats et aux partenaires de CCI. Les CCI devraient améliorer la cohérence et la clarté de la communication interne avec les partenaires et les parties prenantes des CCI et devraient signaler les résultats des activités CCI de manière plus cohérente afin que les participants aient une vue des impacts des CCI au-delà des projets dans lesquels ils sont directement impliqués.

Les CCI ont été efficaces pour intégrer de nouveaux partenaires pertinents. Les partenariats CCI ont augmenté au fil du temps, tant en termes de taille que de diversité. Il existe un équilibre raisonnable des types d'organisations (universités, grandes entreprises, PME, organismes de recherche) au sein des CCI, y compris une bonne couverture de nombreux acteurs principaux dans les secteurs CCI.

Les partenaires étaient généralement favorables au nombre et à l'équilibre des partenaires avec les CCI. Il a été prouvé que les modifications apportées aux modèles commerciaux de CCI, en particulier celles liées à leur obligation de se diriger vers la viabilité financière (par exemple, les cotisations des membres) ont eu une incidence sur la capacité des CCI de conserver et d'attirer de nouveaux partenaires. Cependant, une caractéristique remarquable des partenariats CCI est leur stabilité, ce qui suggère qu'elles restent une offre attrayante. L'enquête menée auprès des partenaires pour cette évaluation a reçu des commentaires concernant la nécessité d'une plus grande participation des PME. Nous avons également reçu des suggestions selon lesquelles il serait souhaitable que les départements de R&D des grandes entreprises ainsi que davantage d'universités et d'autorités du secteur public accroissent leur participation, un fait qui a également été suggéré dans le rapport⁶ du groupe de haut niveau (GHN) sur l'EIT. Les CCI devraient continuer à examiner leurs partenariats pour s'assurer qu'ils restent équilibrés et configurés pour atteindre leurs objectifs et profiter aux différents acteurs impliqués (partenaires, start-ups, étudiants).

Conclusion : *Les CCI ont été efficaces pour établir et créer des réseaux de partenaires. Ces réseaux ont été stables dans le temps et la plupart des partenaires sont largement satisfaits de la taille et de la composition des réseaux CCI.*

Les programmes d'éducation des CCI ont été efficaces pour attirer et retenir les étudiants concernés. Le niveau de demande de participation aux programmes éducatifs portant l'étiquette EIT (Table ES1.1) donne une bonne indication de l'attrait des programmes d'éducation des CCI. Il y a cependant, en raison de plusieurs facteurs externes (la manière dont les systèmes d'enseignement supérieur nationaux sont mis en place et les études et les choix de vie des élèves) et internes (par exemple, des problèmes liés aux bourses d'études, le processus de candidature pour la 'Master School', le désalignement des attentes des parties prenantes, etc.), un nombre élevé d'élèves qui abandonnent pendant le processus entre le moment de la demande et l'inscription définitive. Une fois en cours, le taux de décrochage des programmes d'éducation de la CCI est bien inférieur au taux moyen à l'échelle mondiale de rétention dans les études supérieures.

Conclusion : *Les programmes d'éducation des CCI semblent présenter une proposition intéressante pour les étudiants, bien que le taux de décrochage entre la demande et l'inscription définitive reste élevé, un fait qu'il faudra gérer.*

Les impacts de l'EIT

Influence de l'EIT

⁶ L'avenir de l'Institut européen d'innovation et de technologie (EIT) Questions stratégiques et perspectives Rapport du Groupe de haut niveau du commissaire Navracsics sur l'EIT (2016)

Le programme stratégique d'innovation (SIA⁷) courant de l'EIT stipule que, au fil du temps, « le siège de l'EIT deviendra un référentiel dévoué des meilleures pratiques et un véritable partenaire de la connaissance chez les décideurs ». Le SIA continue en disant que l'EIT jouera « *un rôle encore plus important en tant que centre d'expertise dans toutes ses tâches principales et ses domaines de responsabilité* ». Cette évaluation a donc examiné les deux aspects différents de l'influence de l'EIT : i) l'influence que l'EIT a eu sur l'élaboration et la mise en œuvre des politiques (par exemple, la conception du soutien à l'innovation), et ii) l'influence de l'EIT sur la politique dans les domaines thématiques abordés par les CCI (par exemple, le changement climatique).

L'influence de l'EIT sur l'élaboration et la mise en œuvre de la politique d'innovation a été, en particulier dans le passé, quelque peu faible mais des efforts considérables ont été faits pour l'améliorer ces dernières années. Les CCI ont fourni des preuves et un soutien dans l'élaboration et la mise en œuvre de la politique de l'UE. Cependant, il existe un doute quant à - comme l'indique le SIA - la possibilité de l'EIT d'être « un véritable partenaire pour les décideurs » compte tenu des ressources limitées dont l'EIT et les CCI disposent pour soutenir cette fonction.

Conclusion : *Le SIA pour l'EIT reconnaît le potentiel de l'EIT et des CCI en tant que ressources pour les décideurs mais, jusqu'à présent, l'influence de l'EIT sur l'élaboration des politiques a été limitée en partie en raison du manque de ressources dédiées et de l'immaturité relative à l'EIT et aux CCI.*

Un domaine où il existe un consensus autour de l'action de l'EIT est son rôle dans la diffusion des bonnes pratiques des CCI et dans la mise en valeur des réussites. Les CCI sont une ressource précieuse pour les décideurs, fournissant des exemples de bonnes pratiques et apportant un soutien dans l'élaboration et la mise en œuvre de la politique de l'UE dans leurs domaines thématiques. Les DG de la politique peuvent bénéficier de la manière dont l'innovation sectorielle, l'entrepreneuriat et la prestation de soutien à l'éducation peuvent contribuer à l'élaboration des politiques sectorielles. Les CCI sont également proches des décideurs au niveau national et régional (par exemple, par l'entremise des CLC (centres de co-implantation)) et il existe de nombreuses preuves de partenariats nationaux et régionaux émergents, même si ce n'est pas un objectif explicite des CLC. Compte tenu de l'étendue de leur expertise thématique et de leur expérience dans la diffusion dans divers domaines politiques (innovation, éducation, esprit d'entreprise), l'EIT et les CCI jouent un rôle important dans la diffusion des bonnes pratiques, y compris fournissant des preuves de « ce qui fonctionne » dans la prestation.

Conclusion : *Comme l'indique le SIA pour l'EIT, les CCI ont le potentiel d'agir comme « dépôts » de connaissances et de bonnes pratiques. Les CCI (par exemple, par le biais de CLC) ont établi des relations avec les décideurs régionaux et nationaux, même si ce n'est pas un objectif explicite, mais il est possible de tirer parti de l'expertise qu'ils ont accumulée.*

Recommandation n° 4 : *L'EIT et les CCI devraient se concentrer sur l'utilisation d'exemples de bonnes pratiques et de résultats (à la fois en termes de modèle et d'impact) comme base pour le dialogue et l'interaction des politiques. Au niveau de l'UE, les CCI devraient continuer de développer leurs liens thématiques avec les DG thématiques correspondantes de la Commission européenne, en cherchant à informer et à contribuer au développement de la politique et à soutenir les principes de l'Union de l'innovation. Les CLC devraient jouer un rôle plus important en informant les acteurs*

⁷ Adopté par le conseil d'administration en 2011 et le Parlement et Conseil de l'Europe en 2013

politiques nationales et sous-nationales de leurs résultats, en particulier lorsqu'ils sont en mesure de « canaliser » les leçons apprises au niveau de l'EIT et des CCI.

Les impacts des CCI

Les CCI ont soutenu des centaines de start-ups en Europe, facilitant la croissance et l'innovation, ce qui entraînera la création d'emplois et la croissance économique à l'avenir. Certaines des premières mises en chantier soutenues sont en train d'étendre leurs activités, d'attirer des investissements et de créer des emplois.

Un domaine clé de l'activité des CCI a été de soutenir l'innovation par l'esprit d'entreprise, ce qui a sans doute été un domaine où l'EIT a dépassé les premières attentes. Grâce à leurs programmes d'accélération, les CCI ont aidé les entrepreneurs à proposer des idées novatrices pour développer et tester des prototypes, démontrer que leurs idées fonctionnent et établir des entreprises pour mettre leurs idées innovantes sur le marché. Les CCI ne se contentent pas d'aider les entrepreneurs à créer des entreprises, en effet le volet entrepreneurial de leur activité a également permis aux nouvelles start-ups d'étendre leur activité et d'atteindre une plus grande portée avec leurs innovations. Les programmes d'accélération des CCI aident les entreprises à comprendre leurs marchés et facilitent l'accès aux clients, ce qui implique souvent les réseaux de partenaires que les CCI ont établis. Les CCI ont également permis aux entrepreneurs d'accéder à des fonds de création ou de croissance pour leur permettre de progresser et, encore une fois, nous constatons l'impact des réseaux créés par les CCI qui incluent le domaine du capital-risque et des investisseurs providentiels.

Conclusion : *Les programmes d'accélération des CCI ont soutenu une cohorte d'entrepreneurs innovants pour démarrer et développer leurs entreprises et les enseignements pratiques tirés par les accélérateurs peuvent constituer une source de preuves précieuse sur lesquelles l'EIT et la Commission européenne peuvent s'appuyer.*

Le financement et les investissements fournis par les CCI ont permis de remédier aux pannes du marché et de soutenir l'introduction d'innovations sur le marché. Les CCI se heurtent à une panne clé du marché face à de nombreuses innovations - sécuriser les financements nécessaires pour passer un projet du stade de développement/prototype à la démonstration et à la commercialisation à grande échelle. Elles le font grâce à des subventions pour des projets d'innovation et aussi grâce à des investissements dans des entreprises innovantes.

L'un des impacts d'innovation les plus importants des CCI a été de permettre et de faciliter des partenariats multinationaux impliquant une gamme de partenaires différents venant des entreprises, des universités/de la recherche et des autorités publiques. La recherche avec des partenaires de CCI impliqués dans des projets d'innovation a mis en évidence des exemples d'apprentissage institutionnel découlant de la participation à un projet de CCI, y compris la construction d'une « culture » de commercialisation et de transfert de connaissances au sein d'universités et d'organismes de recherche qui n'auraient peut-être pas pensé de cette façon. Pourtant, il est également vrai qu'il existe un grand nombre de partenaires CCI qui sont déjà innovants et qui ont donc constaté moins d'impact sur leur organisation. Pour certains, les projets d'innovation des CCI sont toujours considérés avant tout comme une source de soutien financier du secteur public pour des projets d'innovation spécifiques.

Conclusion : *Les projets d'innovation soutenus par les CCI ont réussi à regrouper divers réseaux de partenaires, entraînant dans certains cas un apprentissage institutionnel au sein des universités et des organismes de recherche participants.*

L'enquête auprès des diplômés a révélé que les cours portant l'étiquette EIT offraient aux diplômés des compétences entrepreneuriales, bien que dans la plupart des cas, cela n'ait

pas encore généré une cohorte de start-ups. Il est prouvé également que les cours portant l'étiquette EIT avaient permis aux diplômés d'acquérir les compétences entrepreneuriales axées sur l'innovation qu'ils souhaitent et qui avaient motivé leur choix envers un cours EIT. Si l'on considère les trajectoires professionnelles depuis l'obtention du diplôme (en reconnaissant qu'un nombre limité de temps se serait écoulé depuis l'obtention du diplôme pour la plupart des diplômés), nous constatons que la plupart des diplômés ont trouvé un emploi suite à leur cours portant l'étiquette EIT. Une petite minorité a commencé une entreprise, ce qui suggère qu'à ce jour, les impacts entrepreneuriaux des cours EIT n'ont pas encore été traduits en entreprises start-ups. Bien sûr, il est encore tôt, et il est possible que nous puissions voir dans le futur un impact intrapreneurial car ces personnes utilisent les compétences acquises dans le cadre des cours EIT pour formuler de nouvelles idées commerciales sur leurs lieux de travail.

Conclusion : *Les cours au label EIT ont réussi à fournir aux diplômés des compétences entrepreneuriales, toutefois jusqu'à présent cela ne s'est pas traduit par une importante cohorte de création de start-ups car la plupart des diplômés ont en fait trouvé un emploi.*

Impacts sur les systèmes d'innovation

Bien qu'il existe des preuves significatives des opportunités et impacts positifs de l'EIT, l'évaluation conclut que ceux-ci sont principalement limités aux partenaires, aux diplômés et aux start-ups qui ont directement participé aux CCI. En cherchant à étendre l'analyse aux impacts systémiques de l'EIT, la preuve est moins claire.

Un domaine où l'EIT devrait généralement avoir un impact plus large est celui qui consiste à développer et informer l'adoption de bonnes pratiques dans l'ensemble de l'UE. C'est une attente ambitieuse et qui ne s'est pas encore concrétisée. L'incomparabilité en est l'une des raisons. En pratique, l'EIT fonctionne depuis seulement sept ans et, pendant plus de la moitié de cette période, n'a eu que trois CCI. Le changement systémique prend du temps. À mesure que les CCI mûrissent et que l'on en découvre davantage sur ce qui fonctionne, et ce qui ne fonctionne pas, la possibilité pour l'EIT de s'engager dans l'agenda systémique apparaîtra. Cependant, cela impliquera nécessairement de faire moins de choses variées, si les budgets restent les mêmes. Il y a également le risque que les activités de l'EIT perdent de leur concentration. Cela nécessiterait le détournement de ressources vers le développement de matériaux et de canaux de diffusion.

Conclusion : *Jusqu'à présent, il n'y a pas eu de preuves de l'adoption de bonnes pratiques lancées et diffusées par l'EIT, toutefois le temps limité d'opération des CCI est peut-être trop court encore pour faire une évaluation des impacts de l'EIT dans ce domaine.*

L'EIT a pour but de provoquer un impact durable et systémique, ainsi favorisant le modèle KTI en Europe. Il est également souhaitable dans les milieux politiques de voir l'EIT travailler en synergie avec d'autres politiques et programmes nationaux et régionaux pertinents pour l'UE et les pays.

L'examen de l'effet de l'EIT sur les systèmes d'innovation à différentes échelles spatiales (UE, nationales et régionales) offre une vue modeste de l'impact systémique général de l'EIT à ce jour. L'EIT a été configuré en tant que système d'innovation sectoriel ou spécifique à un domaine, plutôt qu'un système spatial (par rapport à l'approche de spécialisation intelligente axée sur le territoire). Là où il y a des CLC, on peut voir des preuves d'effets systémiques qui sont en train d'émerger. Cependant, ceux-ci sont très localisés et ne sont pas encore complètement développés, ce qui démontre en partie le temps dont on a besoin pour développer des liens intégrés. L'introduction du RIS EIT est trop nouvelle pour que tout impact territorial supplémentaire soit observable.

Conclusion : *L'EIT est configuré autour des défis sectoriels/sociétaux plutôt que comme*

un système spatial et, jusqu'à présent, les impacts systémiques territoriaux se sont limités aux localités avec les CLC. Au fil du temps, l'EIT RIS devrait entraîner des impacts systémiques.

L'EIT, à travers les CCI, a influencé la capacité d'innovation européenne en créant de nouveaux réseaux d'activité et en attirant de nouveaux acteurs dans des réseaux existants. Les projets du FP7/H2020 impliquant les partenaires de CCI étaient plus susceptibles d'impliquer une activité intersectorielle et de favoriser la coopération avec de nouveaux partenaires. De manière significative, les partenariats dans lesquels les partenaires de CCI étaient des acteurs clés étaient également plus susceptibles d'être soutenus au-delà de la durée d'un seul projet, ce qui suggère des impacts forts au niveau du système. Cela souligne l'importance de ces réseaux. Cependant, parce qu'ils sont organisés au niveau des systèmes sectoriels, il est peu probable qu'ils aient un impact significatif sur le système d'innovation global à court terme. Il y a aussi une question d'échelle et de portée. S'il est important de voir un rythme de changement plus rapide, les ressources doivent être concentrées dans moins de zones plutôt que sur un plus grand nombre de secteurs/domaines.

Recommandation n° 5 : *L'EIT devrait chercher à capitaliser sur sa position de réponse paneuropéenne aux défis de l'innovation en Europe. Grâce à sa structure et ses activités, l'EIT peut jouer un rôle crucial dans le renforcement des liens entre les acteurs de l'innovation en Europe, au niveau européen, national et sous-national pour soutenir le changement. En particulier, l'EIT devrait préconiser des actions complémentaires qui utilisent les fonds ESI comme moyen de générer des effets multiplicateurs (EIT RIS pourrait être un mécanisme de base pour cela).*

Cohérence avec d'autres initiatives

L'EIT s'inscrit bien dans le contexte général de la politique européenne de l'innovation, en comblant un « fossé » via le soutien à l'innovation basé sur le modèle KTI. Il n'y a pas de signes significatifs de l'EIT en contradiction avec les politiques d'innovation de l'UE. Cependant, depuis l'établissement de l'EIT, des développements majeurs dans la politique européenne sont pertinents pour ses opérations, notamment l'introduction de l'EIC (consolidation de l'infrastructure européenne). Avec ces développements, il existe des signes d'un certain chevauchement de l'approche. Bien qu'il existe des preuves que les CCI se soient engagées avec leurs DG politiques correspondantes, l'étendue de cette activité varie entre les CCI. Il n'est pas tout à fait clair si certaines DG politiques ont suffisamment pris en compte la position de l'EIT et des CCI dans la conception de leurs propres approches. Cependant, l'EIT semble avoir une bonne compréhension de toutes les autres activités de politique de l'UE et comment se positionner en conséquence.

Conclusion : *L'EIT est cohérent avec l'ensemble du paysage européen de la politique de l'innovation et a une bonne compréhension de sa position et de son rôle. Alors que les CCI se sont engagées avec leurs DG politiques correspondantes, il n'est pas tout à fait clair si certaines DG prennent constamment en compte l'EIT et les CCI lors de la conception de leurs approches.*

Le modèle de l'EIT s'appuie sur et s'inscrit bien dans les approches prises dans le cadre général de la politique d'innovation nationale et régionale. Au niveau national, l'évaluation a examiné six exemples d'initiatives en Europe qui soutiennent l'innovation. Il y a eu beaucoup de points communs dans l'approche, en particulier en ce qui concerne le transfert de connaissances et l'accent mis sur l'excellence et l'attraction de sociétés de premier plan en tant que partenaires. Cela présente des opportunités de complémentarité, en particulier lorsque la politique nationale reconnaît et fait place à la coopération internationale. Ce qui distingue le modèle EIT, c'est l'accent mis sur l'esprit

d'entreprise et l'éducation, un fait qui est moins évident dans les comparateurs nationaux.

Au niveau de la CCI, il existe de solides liens dans l'infrastructure régionale d'innovation et les CLC sont au moins en partie façonnés par le « milieu » d'innovation local/régional, dans lequel ils se trouvent. En ce sens, l'EIT et les CCI complètent la politique d'innovation régionale, ce qui est sans doute un résultat inévitable de leur nature décentralisée et le rôle de partenaires spécifiques travaillant ensemble par le biais des CLC. Le nouveau RIS EIT renforcera ces liens et cette cohérence.

Conclusion : *L'EIT est cohérent avec la politique d'innovation nationale et régionale et la complète et les points communs dans l'approche présentent des opportunités de coopération.*

Le modèle EIT combine plusieurs éléments des concepts du système d'innovation et, par conséquent, une initiative politique ambitieuse. Le modèle de gouvernance de l'EIT est, en conséquence, multicouches, ce qui le rend complexe. Le modèle de gouvernance a fait l'objet d'une grande attention depuis la mise en place de l'EIT et, dans le passé, des critiques ont été formulées à l'encontre de l'EIT pour son manque de capacité interne d'évaluation des performances opérationnelles et du fonctionnement du conseil d'administration. Des travaux importants sont faits pour améliorer les rôles et les responsabilités plus clairement après cette critique. Les conclusions et recommandations figurant dans le rapport HLG sur l'EIT restent valables pour cette évaluation.

La valeur ajoutée de l'EIT par l'UE

La valeur ajoutée de l'UE concerne la mesure dans laquelle l'EIT et les CCI livrent quelque chose qui ne se produit pas au niveau national ou infranational. Dans l'ensemble de l'UE, il existe de nombreuses initiatives nationales de politique publique qui soutiennent un ou deux des objectifs de l'EIT (pour soutenir l'innovation, aider les start-ups, intégrer l'innovation et l'esprit d'entreprise dans le cadre de l'éducation supérieure et des adultes). L'EIT offre une valeur ajoutée de l'UE en mettant l'accent sur l'ensemble des trois éléments du triangle de la connaissance, ce qui n'est pas une caractéristique explicite des initiatives nationales ou sous-nationales (bien qu'elles puissent prendre en compte certains éléments d'ITC).

Conclusion : *L'unicité de l'EIT réside dans l'intégration des trois côtés du triangle de la connaissance, ce qui n'est pas une caractéristique explicite d'autres initiatives communautaires ou nationales de soutien à l'innovation (bien que celles-ci puissent prendre en compte certains éléments de la performance ITC).*

La recherche menée avec les partenaires des CCI et les bénéficiaires du soutien fourni par l'EIT a indiqué que la principale façon par laquelle l'EIT fournit une valeur ajoutée au-delà des initiatives nationales de soutien est que le fait que les CCI fonctionnent à travers les frontières. Cela fournit aux partenaires des CCI et aux bénéficiaires des soutiens CCI un accès aux partenaires, aux investisseurs et aux clients qu'ils auraient autrement du mal à identifier et avec lesquels il y aurait des difficultés à établir des liens. Cela est particulièrement vrai pour les start-ups et les extensions qui ont été supportées via des programmes d'accélération des CCI qui ont des difficultés particulières à s'établir dans de nouveaux pays. Les autres façons dont le modèle CCI ajoute de la valeur au-delà de ce qui est mis en œuvre à l'échelle nationale (dans certains pays) comprennent : leur accent sur l'innovation (plutôt que sur la recherche), le fait qu'elles soient sélectionnées pour relever les défis de la société, leur horizon de financement à moyen terme, et leur capacité à réunir des partenaires de tous les secteurs publics et privés.

Conclusion : *Les CCI ajoutent de la valeur au-delà des initiatives nationales de soutien, principalement en opérant à travers les frontières et en reliant les partenaires et les bénéficiaires de CCI aux organisations et aux réseaux auxquels ils auraient autrement du*

mal à accéder.

Bien qu'il soit encore trop tôt pour évaluer les impacts, l'EIT apporte de la valeur et renforce la politique d'innovation régionale dans toute l'Europe via le Système régional d'innovation EIT (EIT RIS). L'introduction du RIS de l'EIT reflète l'appel de l'inclusion de l'EIT et favorise la croissance de l'innovation dans les régions de l'UE qui ne sont pas directement impliquées dans une CCI. Étant donné que l'EIT RIS est à ses débuts, il est difficile de fournir des preuves de ses effets à l'heure actuelle. Le budget est actuellement relativement faible - mais devrait être augmenté - ce qui limite le nombre de régions et les partenaires régionaux qui peuvent participer (certainement par rapport au Fonds européen de structure et d'investissement (Fonds ESI), l'ampleur des activités EIT RIS est relativement mineure). Néanmoins, l'EIT RIS est un mécanisme important pour intégrer l'ensemble de l'Europe dans les réseaux CCI et finalement l'EIT.

Conclusion : *L'EIT RIS ajoute de la valeur et renforce la politique d'innovation régionale dans toute l'Europe, bien qu'il soit encore trop tôt pour évaluer ses impacts.*

Efficiences de l'EIT

L'efficacité avec laquelle l'EIT et les CCI fournissent des résultats est difficile à mesurer en raison d'incohérences dans la déclaration des données sur les dépenses et les données de résultats et sur les problèmes inhérents à l'application d'une approche à coût unitaire des activités des CCI. Les données n'ont pas été mises à la disposition de l'équipe d'évaluation ce qui nous permettrait de calculer les dépenses sur les lignes d'action des CCI (dans certains cas, il n'était pas possible de distinguer entre les dépenses consacrées à l'éducation, à l'esprit d'entreprise et à l'innovation). Par conséquent, il n'était pas possible de calculer les dépenses par unité de production (par exemple, le coût par entreprise commencée, ou le coût par innovation introduit sur le marché). Cela rend impossible de mesurer la rentabilité avec laquelle les CCI fournissent des résultats, ou de comparer cette situation à d'autres initiatives pour évaluer l'efficacité de l'EIT vis-à-vis d'autres approches du soutien à l'innovation. Des ajustements à la manière dont les CCI recueilleront et déclareront des dépenses seraient nécessaires pour permettre une évaluation globale de leur efficacité, mais une approche axée sur les coûts unitaires risquerait de réduire les activités des CCI à leurs composants, plutôt que de reprendre la valeur ajoutée de l'ITC ou la dimension pan-UE de la livraison.

Conclusion : *Malgré le fait que l'absence d'une approche cohérente de définition et de déclaration des données sur les dépenses de la CCI ait rendu impossible une évaluation de la rentabilité des activités des CCI, une approche axée sur les coûts unitaires pour mesurer l'efficacité manquerait le rôle de l'ITC et la valeur ajoutée des opérations de nature internationale des CCI.*

Les CCI ont considérablement augmenté entre 2010 et 2013, augmentant les coûts de personnel et de gestion puisqu'ils ont accru les prestations et introduit de nouvelles lignes d'action. L'« empreinte » physique des CCI a également augmenté, avec de nouveaux CLC établis en Europe, ce qui a entraîné des défis car les CCI ont dû travailler avec différents systèmes juridiques nationaux, lois sur l'emploi, systèmes de suivi des performances, etc. Une plus grande harmonisation entre les CLC devrait apporter des améliorations d'efficacité.

La première vague de CCI représentait « l'apprentissage par la pratique », mais au fur et à mesure que les CCI sont passées à une période de consolidation et de prestation l'efficacité s'est améliorée par le fait que les CCI ont révisé et réfléchi sur ce qui fonctionne et ce qui peut être amélioré. En ce qui concerne ce point, les CCI progressent à travers les CCI toutes entières en vue d'améliorer l'efficacité et la productivité et il est prouvé que les CCI de la deuxième vague ont tiré une leçon de l'expérience des CCI de la première vague dans le cadre de leur phase de mise en place. En faisant écho aux

résultats de l'examen HLG (qui appelait à des « services partagés » où les CCI exigent le même type de soutien), les parties prenantes consultées pour cette évaluation ont appelé à un rôle plus important pour l'EIT dans la coordination et la codification potentielle des leçons apprises par les CCI. Il s'agit d'augmenter l'efficacité de la prestation. Cela pourrait impliquer une coordination centrale dans les domaines où il existe des points communs entre les CCI (par exemple, les arrangements en matière de droits de propriété intellectuelle), bien que les spécificités sectorielles et nationales limitent toujours la mesure dans laquelle une approche unique peut être développée et déployée dans toutes les CCI.

Conclusion : *La première vague de CCI a augmenté rapidement, car elles se sont étendues géographiquement, elles ont rencontré des défis qui ont affecté l'efficacité de leurs opérations. Les leçons apprises à travers toutes les CCI ont amélioré l'efficacité et continuent à le faire au fur et à mesure que les CCI se consolident.*

Un passage au financement pluriannuel, plutôt qu'un financement d'un an, devrait rendre les CCI plus efficaces. C'était le problème le plus souvent soulevé par les partenaires sur l'efficacité du modèle de prestation CCI. Les avantages des accords de financement pluriannuels ont été identifiés ailleurs, notamment dans le rapport de la CEA et aussi dans le rapport HLG, et une réduction de la quantité de ressources consommée dans le cadre de la planification des activités serait avantageuse pour l'efficacité des CCI.

Conclusion : *Comme il a été noté dans d'autres revues récentes de l'EIT (les rapports de la CEA et du HLG), un passage aux accords de financement pluriannuel améliorerait l'efficacité de la CCI.*

La viabilité financière des CCI

Étant donné le niveau actuel de confiance dans le financement de l'EIT, les stratégies de la CCI pour la durabilité financière, bien que louables, sont très ambitieuses. Dans la première vague de CCI, qui a commencé à mettre en œuvre des stratégies pour assurer la viabilité financière, il est fort douteux que l'EIT Climate-CCI atteigne sa viabilité financière d'ici 2025. Ce n'est peut-être pas étonnant compte tenu de l'ampleur des défaillances du marché dans ce domaine thématique. Bien que l'EIT Digital et EIT InnoEnergy poursuivent des approches plus diversifiées et plus globales quant à la viabilité financière, un élément de risque est inhérent (par exemple, le succès des start-ups et des projets d'innovation (n'ayant pas fait encore leur preuve dans l'ensemble)).

Cela nous conduit à la question plus fondamentale de savoir si la viabilité financière est un objectif souhaitable et réalisable compte tenu du rôle de l'EIT en tant qu'intervention axée sur la mission visant à remédier aux échecs du marché et à contribuer à la résolution des défis sociétaux. Les commentaires des parties prenantes consultées au cours de cette évaluation étaient mitigés à cet égard. Le sondage auprès des partenaires et la CPO ont suscité de nombreux commentaires sur le fait que les CCI ne devraient pas être financièrement viables et que, tant qu'elles s'attaquaient aux défis sociétaux européens, elles devraient rester (en partie) des organismes financés par des fonds publics. On s'inquiète du fait que l'objectif de la viabilité financière pourrait avoir un coût élevé en impact négatif sur les capacités d'innovation de la CCI et leur mission KTI (par exemple par les CCI qui rejettent certaines ou l'ensemble de leurs opérations qui ne sont pas autosuffisantes, telles que celles concernant l'éducation).

Conclusion : *Les CCI de la première vague ont progressé dans la poursuite de la viabilité financière, bien que leurs stratégies pour le faire soient ambitieuses. Il existe sans doute une contradiction entre le rôle de l'EIT (aborder les défauts du marché et les défis sociétaux) et atteindre la viabilité financière. La réalisation de ce dernier peut avoir un impact sur le premier, avec des activités non durables, mais socialement avantageuses, abandonnées par les CCI.*

Dans ses recommandations, le HLG a proposé un modèle à deux voies, dans lequel une partie du budget de l'EIT serait disponible pour le financement de nouvelles CCI, alors qu'une autre partie serait destinée à soutenir certaines des activités des CCI matures qui continuent de satisfaire les buts prédéfinis de l'EIT. Si la viabilité financière est reportée ou partiellement abandonnée comme objectif, il est nécessaire d'accorder plus d'importance à l'EIT pour démontrer sa valeur ajoutée et ses impacts.

Zusammenfassung (DE)

Das Europäische Innovations- und Technologieinstitut (EIT) wurde 2008 als Reaktion auf tiefgreifende Sorgen hinsichtlich der Innovationsleistung der EU gegründet. Obwohl sich die EU bei Maßnahmen im Bereich Wissenschaft und Forschung als leistungsstark zeigt, scheint sie weniger in der Lage zu sein, ihre Exzellenz bei der Forschung in wirtschaftlichen oder sozialen Mehrwert zu übertragen (dieses Phänomen wird gemeinhin als „das europäische Innovationsparadox“ bezeichnet). Das EIT wurde eingerichtet, um etwas gegen die zugrundeliegenden Schwächen zu unternehmen: ein fragmentiertes Innovationssystem, mangelnde Integration der europäischen Hochschulbildung in die weitere Innovationskette und ein niedriges Niveau unternehmerischer Aktivität. Angesichts dieses Sachverhalts besteht das übergeordnete Ziel des EIT darin, *„zu nachhaltigem wirtschaftlichen Wachstum und nachhaltiger Wettbewerbsfähigkeit in Europa beizutragen, indem es durch die Förderung und Integration von Hochschulbildung, Forschung und Innovation, die den höchsten Standards entsprechen, die Innovationsfähigkeit der Mitgliedstaaten und der EU verstärkt“*. Zur Erreichung seines Ziels nutzt das EIT ein geografisch verteiltes Netzwerk von Wissens- und Innovationsgemeinschaften (Knowledge and Innovation Communities, KICs) mit thematischen Schwerpunkten, die Hochschuleinrichtungen, Forschungsorganisationen, Industrie und andere Akteure zusammenbringen, um die kritische Masse zu schaffen, die zur Stimulation von Innovation notwendig ist. Die KICs sind thematisch auf die gesellschaftlichen Herausforderungen der Horizon 2020-Verordnung ausgerichtet. Zu dem Zeitpunkt, als die Evaluation durchgeführt wurde, gab es fünf KICs: EIT InnoEnergy, EIT Climate-KIC und EIT-Digital (die 2010 gegründet wurden); und EIT Health und EIT Raw Materials (die 2015 gegründet wurden).

Im März 2016 hat die Generaldirektion Bildung und Kultur (DG Education and Culture, DG EAC) ein von ICF und Technopolis angeführtes Evaluationsteam eingesetzt, das eine Interimevaluation des EIT vornehmen sollte. Diese unabhängige Evaluation ist eine Anforderung der Verordnung zur Einrichtung des EIT und erfüllt darüber hinaus die in der Horizon 2020-Verordnung festgelegte Anforderung einer unabhängigen Überprüfung des EIT. Die Ergebnisse der Evaluation waren dazu vorgesehen, Informationen zur Entscheidungsfindung im Hinblick auf Änderungen der EIT-Verordnung und die Ausrichtungen der nachfolgenden Strategischen Innovationsagenda für das EIT (für den Zeitraum 2021-2027) bereitzustellen.

Evaluationsziele und -methoden

Das Ziel dieser Evaluation bestand darin, *„die in der EIT-Verordnung und der Horizon 2020-Verordnung beschriebene Tätigkeit des EIT zu bewerten und insbesondere zu untersuchen, wie das EIT seine Mission erfüllt“*. Konkret bestand die Aufgabe der Evaluation darin, 40 Evaluationsfragen zu beantworten, die um eine Reihe von Evaluationsthemen gruppiert waren: Relevanz, Wirksamkeit, Auswirkungen, Kohärenz, Wertschöpfung, Effizienz und die Tragfähigkeit des EIT. Die Aktivitäten des EIT waren Gegenstand mehrerer anderer vor Kurzem und parallel durchgeführter Überprüfungen, die eine umfassende Reihe von Empfehlungen umfassten. Wir wiederholen diese Empfehlungen nicht, aber verweisen auf diese, soweit sie mit den Schlussfolgerungen im Einklang stehen, zu denen das Evaluationsteam gelangt ist.

Das Evaluationsteam hat eine Kombination von Methoden verwendet, der quantitative und qualitative Forschung umfasst. Es wurden Leistungs- und Kostendaten des EIT und von KICs analysiert. Es wurde ein umfangreiches Primärforschungsprogramm durchgeführt, um sicherzustellen, dass die erhobenen Daten Beiträge eines breiten Spektrums von Interessenträgern umfasste, einschließlich von Einzelpersonen und Organisationen, die für die Umsetzung von EIT-Leistungen verantwortlich waren, Unterstützung vom EIT erhalten hatten oder überhaupt nicht am EIT beteiligt gewesen waren. Die Forschung bestand aus: Konsultationen mit Interessenträgern auf der Ebene des EIT und der KICs, auch mit Personen, die für die Verwaltung und die

Leistungserbringung zuständig waren; Online-Befragungen von KIC-Partnern, Absolventen von Programmen mit dem EIT-Label und Unternehmen, die Unterstützung über ein KIC-Beschleunigerprogramm erhalten hatten; eine öffentliche Konsultation (Open Public Consultation, OPC) und eingehende Fallstudien zu speziellen Merkmalen von KIC-Aktivitäten.

Die Relevanz der Ziele und des Modells des EIT.

Das Ziel des EIT, Innovation durch die Integration des Wissensdreiecks (Knowledge Triangle Integration, KTI) (das Modell) zu unterstützen, bleibt relevant und ein geeigneter Ansatz, um Europas Herausforderungen anzugehen. Die ursprünglich angegebenen Ziele des EIT werden durch die vorgenommene Literaturrecherche unterstützt, welche nahelegt, dass verbundene, vernetzte Ansätze für Innovation dazu beitragen, neue Gemeinschaften entstehen zu lassen, und Erfolg bei der Kultivierung des Unternehmertums und der Markteinführung von Innovationen zu steigern. Darüber hinaus gibt es einen starken Beweggrund dafür, Herausforderungen im Hinblick auf Innovation und gesellschaftliche Herausforderungen auf europäischer Ebene anzugehen, da das Ausmaß und die Dringlichkeit erheblicher gesellschaftlicher Herausforderungen gemeinsame Anstrengungen erfordern.

Schlussfolgerung: *die übergeordnete Logik für das EIT ist jetzt genauso gültig wie zum Zeitpunkt, als die Initiative ins Leben gerufen wurde, und das Modell zum Antrieb innovationsorientierten Wachstums durch die KTI ist weiterhin relevant.*

Allerdings wurden im Laufe der Entwicklung des EIT und mit seiner Integration in die Horizon 2020-Verordnung mit der Zeit weitere Ziele auf eine Weise hinzugefügt, die weder der Wirksamkeit noch der Effizienz des EIT förderlich ist.

Empfehlung Nr. 1: *Das EIT sollte mit der Europäischen Kommission zusammenarbeiten, um die von der Initiative zu erreichenden Ziele klarzustellen. Diese Ziele sollten klar formuliert, messbar und an eine Interventionslogik für das EIT geknüpft sein. Nach der Erreichung eines Konsens zu diesen Zielen sollten sie vom EIT/den KICs kommuniziert werden, um ein gemeinsames Verständnis des Zwecks, Umfangs und der erwarteten Auswirkungen des EIT sicherzustellen.*

Die Relevanz des EIT-Modells würde durch ein klareres und gemeinsames Verständnis der „Integration des Wissensdreiecks (KTI)“ wesentlich verbessert. Durch die derzeitige Form der Umsetzung des Modells wird KTI wohl eher zu einer Marke oder einem allgemeinen Konzept als zu einem operativen Modell. Während diese Mehrdeutigkeit dem EIT und den KICs Raum zum Experimentieren und zur Priorisierung gemäß den konkreten Herausforderungen gibt, denen sie sich gegenübersehen, ist es schwerer zu beurteilen, ob und wie die derzeitigen unterschiedlichen Auslegungen der KTI eine Wirkung erzielen. Nach neun Jahren wird das zentrale Konzept der KTI immer noch diskutiert und geprüft. Das Modell der Umsetzung der KTI durch auf Exzellenz ausgerichtete Kolokationszentren (ein geografisch verteiltes Netzwerk von Innovationszentren) ist weiterhin allgemein relevant.

Schlussfolgerung: *es gibt kein klares und einheitliches Verständnis des KTI-Modells. Während diese Mehrdeutigkeiten dem EIT Handlungsfreiheit zum Experimentieren und Anpassen gegeben haben, würden das EIT und die KICs von einer klareren und einheitlichen Definition des KTI-Modells profitieren.*

Die Wirksamkeit der Umsetzung des EIT-Modells Die Ergebnisse der KICs

Die drei KICs der ersten Phase fangen an, durch ihre Aktivitäten in den Bereichen Innovation, Unternehmertum und Bildung ein breites Spektrum greifbarer Ergebnisse zu liefern:

- Ihre Beschleunigeraktivitäten haben zur Schaffung einer Gruppe von circa 230 innovativen Start-ups im Laufe des Zeitraums 2010-2015 beigetragen;
- Circa 225 neue Produkte, Dienstleistungen und Prozesse, die unter Nutzung von KIC-Zuschüssen und KIC-Investitionsunterstützung auf den Markt gebracht worden sind;
- KIC-Innovationsprojekte haben circa 775 mal zu Wissenstransfer geführt;
- Circa 820 Personen haben Master- und Doktorandenprogramme mit dem EIT-Label abgeschlossen.

Table ES1.3 stellt eine Zusammenfassung der Leistung der drei KICs der ersten Phase gemessen an ihren wichtigsten Leistungskennzahlen (KPI) im Zeitraum 2010-2015 dar. Die an den Zielen gemessene Leistung ist etwas gemischt ausgefallen. Wenn man sich die Gründe für dieses Leistungsbild ansieht, fällt auf, dass die KICs zum einen ihre Aktivitäten in den letzten Jahren wesentlich verstärkt haben und zum anderen auch ihre ‚Angebote‘ umgestaltet/erneuert haben, was die Leistungserbringung gestört hat.

Table ES1.3 Leistung der drei KICs der ersten Phase gemessen an den wichtigsten Leistungskennzahlen (KPI), 2010-2015. Die grüne/rote Schattierung zeigt, dass das Ziel erreicht/nicht erreicht wurde

KPI	EIT Climate-KIC		EIT Digital		EIT InnoEnergy	
	Ziel	Erreicht	Ziel	Erreicht	Ziel	Erreicht
Anzahl der Bewerber pro angebotenem Platz für Bildungsprogramme (Attraktivität)	0.48	7.24	3.92	3.27	2.48	4.55
Anzahl der neuen Absolventen	193	222	235	220	414	379
Anzahl der entwickelten Geschäftsideen	423	697	442	468	211	264
Anzahl der gegründeten Start-ups/Spin-offs	199	120	67	48	44	76
Anzahl der Transfers/Übernahmen von Wissen	194	246	361	388	31	142
Anzahl der eingeführten neuen/verbesserten Produkte/Dienstleistungen/Prozesse	168	141	90	52	32	31

Quelle: EIT

Die in Table ES1.1 dargestellten KPI zeigen nur einen Teil des Bildes, da sie ergebnisorientiert sind und nicht die gesamte Bandbreite dessen darstellen, was die KICs erreicht haben. Zusätzlich zu diesen wichtigsten KPI erfolgt die Berichterstattung der KICs auch in Bezug auf KIC-spezifische Kennzahlen, und ihre Leistungen in Bezug auf ihre Jahrespläne werden unabhängig bewertet.

Bei einer Zerlegung der Aktivitäten der KICs in eine Reihe von thematischen KPI (d. h. in Bezug auf Innovation, Unternehmertum und Bildung) werden nicht die KTI-Aktivitäten erfasst, auf denen das KIC-Modell beruht (die vom Bewertungsteam in den nachfolgenden Absätzen separat bewertet wurden). Es ist allgemein anerkannt, ⁸ dass ein verbessertes System von KPI notwendig ist, mit dem die Auswirkungen der KICs gemessen und die Gesamtwirkungen des EIT aufgezeigt werden. Nach der Überprüfung der KPI im Jahr 2016 wurden ab 2017 Änderungen des Berichtsrahmens der KICs eingeführt. Bei diesen neuen KPI liegt der Schwerpunkt mehr auf der Wirkung, was zur Verbesserung der Einheitlichkeit der KPI-Messung und der Nützlichkeit der Daten führen wird.

⁸ 2016 hat der Europäische Rechnungshof eine Überprüfung des EIT veröffentlicht, in der die Entwicklung sinnvollerer KPI gefordert wurde.

Schlussfolgerung: *Durch die von den KICs in der Vergangenheit verwendeten KPI wurde die Leistung nicht adäquat gemessen, aber ab 2017 wurde eine umfassendere Reihe von Indikatoren eingeführt, mit der eine bessere Bewertung der Ergebnisse der KIC-Aktivitäten erfolgen kann.*

Integration des Wissensdreiecks (KTI) und das EIT

Das KTI ist ein zentraler Bestandteil des KIC-Modells. Daher gehen alle KICs das KTI als zentrales Element ihrer Strategie und Aktivitäten an. Dabei gibt es Unterschiede bei der Auslegung und Umsetzung des Konzepts bei den KICs, was die vorstehenden Kommentare zur Mehrdeutigkeit des Begriffs KTI widerspiegelt. Dies beruht zum Teil auf Faktoren wie der Reife des Themengebiets, mit dem sich eine bestimmte KIC auseinandersetzt (z. B. Klimawandel, Gesundheit, wo bestehende Ökosysteme zur Angleichung durch Innovationsakteure fehlen). Alle der zurzeit bestehenden KICs haben eine Strategie, die von ihrer jeweiligen Auslegung des KTI getragen wird. Weiterhin ist es den KICs gelungen, alle drei Akteure des Wissensdreiecks in ihre Partnerschaften einzubeziehen. Dabei sind die meisten KICs über den ‚traditionellen‘ Kreis der Akteure des Wissensdreiecks hinausgegangen und haben auch andere Akteure wie staatliche Behörden (z. B. die EIT Climate-KIC) und Organisationen der Zivilgesellschaft (z. B. EIT Health) einbezogen. Die Aktivitäten der KICs spiegeln das KTI zu einem unterschiedlichen Grad wider.

Schlussfolgerung: *Das KTI ist das Herzstück der Leistungserbringungsmodelle der KICs, und während sie das Modell unterschiedlich ausgelegt haben, ist es allen von ihnen gelungen, ein breites Spektrum von Partnern und Organisationen von allen Seiten des Wissensdreiecks einzubeziehen.*

Eine Betrachtung aller KICs zeigt, dass jede von ihnen bei der Gestaltung der Aktivitätslinien (Innovation, Unternehmertum und Bildung) die KTI berücksichtigt hat. Allerdings sind die für die KTI verwendeten Ansätze zurzeit nicht durchgängig optimal. Bei der optimalen Nutzung der anderen Aspekte des Aktivitätenportfolios der KICs kommt dem Bereich Bildung wohl ein wesentlich höheres Gewicht zu als den Bereichen Unternehmensgründung, Unterstützung von Start-ups oder Innovationsprojekte. So sind die KIC-Lehrpläne durch Forschung und Innovation geprägt, und die Industrie war an der Gestaltung und Umsetzung der Bildungsprogramme beteiligt. Die Integration findet auch auf der Colocation Centre (CLC) Ebene statt, wobei die Erfahrung der verschiedenen CLCs und Partner sich hier leicht unterscheiden. Darüber hinaus haben sich einige Studenten Beschleunigerprogramme zu Nutzen gemacht, um ihre Ideen auf den Weg zu bringen. Innerhalb des Forschungs- und Innovationsraums sehen wir Start-ups, die Beschleunigerprogramme durchlaufen haben, welche einen Beitrag zu Innovationsprojekten leisten, und Partner, die mit Start-ups zusammenarbeiten. Einige Studenten haben an Innovationsprojekten teilgenommen. Die Konzentration auf die KTI fängt an, Früchte zu tragen – und zwar in Form zunehmender Wissensströme und neuer Arten der Kooperation zwischen Bildungseinrichtungen, Forschungsorganisationen und Unternehmen sowie einer geringeren Fragmentierung. Ungeachtet dieser Leistungen gibt es Spielraum zur Verstärkung der KTI auf der Aktivitätsebene, sowohl innerhalb der KICs als auch darüber hinaus, beispielsweise durch die Kommunikation und Verbreitung der ‚erfolgreichen Ansätze‘.

Schlussfolgerung: *Das KTI ist bei allen Aktivitäten der KICs erkennbar, und wir sehen Beispiele für die Herstellung und Ausnutzung von Verknüpfungen zwischen den Aktivitätslinien der KICs – Innovation, Unternehmertum und Bildung. Es gibt noch Spielraum zur weiteren Verstärkung des KTI durch die Kommunikation und Verbreitung bewährter Verfahren bei der Umsetzung.*

Die Wirksamkeit der Kommunikation

Das EIT hat beträchtliche Anstrengungen hinsichtlich der Wirksamkeit seiner Kommunikationsaktivitäten unternommen. Dies hat zu gut dokumentierten Strategien und Aktivitäten geführt, mit zugehörigen Leistungskennzahlen, die erreicht wurden. Obwohl die Gesamtzielvorgaben für die Aktivitäten und Ergebnisse erfüllt wurden, lassen die Bewertungsergebnisse erkennen, dass der Bekanntheitsgrad und die Kenntnis vom EIT und seiner Marke bei den interessierten Kreisen im weiteren Sinne gering sind. Dabei kann der Mangel an Querverweisen auf das EIT in anderen Politikbereichen der Grund dafür sein, dass die Nachricht bisher noch nicht aufgenommen wurde. Im Hinblick auf KICs ist der Ruf, mit dem EIT verbunden zu sein, bisher noch kein signifikanter Motivationsfaktor zur Beteiligung für Partner. Die Meinungen zur Wirksamkeit, mit der die KICs intern und extern über ihre Aktivitäten und Leistungen informiert haben, waren gemischt. Obwohl es Anzeichen dafür gibt, dass KICs mittlerweile einen einheitlicheren und gründlicheren Ansatz für Kommunikation und Branding verfolgen, könnten sie mehr tun, um die Ergebnisse ihrer Unterstützung von Start-ups und ihrer Hilfestellung dabei, neue Produkte auf den Markt zu bringen, systematisch zu bewerben.

Schlussfolgerung: *trotz der vom EIT unternommenen Kommunikationsaktivitäten ist der Bekanntheitsgrad der Marke bei den interessierten Kreisen im weiteren Sinne beschränkt. Interne Kommunikation könnte verbessert werden, wobei sich die KIC-Partner mehr Informationen dazu wünschen, was die KICs erreicht haben.*

Durch die Bandbreite der Aktivitäten und Leistungen der KICs wird effektive Kommunikation zu einer besonderen Herausforderung, da Kommunikation auf konkrete Untergruppen ausgerichtet sein muss (z. B. die Auswirkungen der Unterstützung von Start-ups für Unternehmer). Weiterhin wäre es wichtig, die Kommunikation auf Zielgruppen außerhalb der KIC Partner auszuweiten. Obwohl die KICs einige Daten zu den Aktivitäten und Ergebnissen verschiedener Aspekte ihrer Kommunikationsaktivitäten erfassen, stehen keine Daten zur ‚Reichweite‘ der KIC-Kommunikation oder zum Bekanntheitsgrad der KICs oder ihrer Aktivitäten bei den Hauptzielgruppen zur Verfügung. Die Fallstudien und Nachrichten zu Leistungen, die auf den KIC-Websites zur Verfügung stehen, sind nicht auf eine Weise geschrieben, die Organisationen und Einzelpersonen zugänglich ist, welche nicht Teil des ‚Milieus‘ der KICs sind. Allerdings sind die Kommunikationsbudgets für KICs relativ gering.

Schlussfolgerung: *ohne Daten zur Reichweite der Kommunikationsaktivitäten von KICs ist es schwer, ihre Wirksamkeit festzustellen. Obwohl die KICs in Kommunikationsaktivitäten investieren, sind die Budgets relativ gering, und die Bandbreite ihres Aktivitäts- und Publikumsspektrums bedeutet, dass wirksame Kommunikation für sie eine Herausforderung darstellt.*

Empfehlung Nr. 2: *Das EIT sollte seine Kommunikationsstrategie überarbeiten –mit dem Ziel, den Bekanntheitsgrad und die Kenntnis vom EIT und seinen Ergebnissen bei den Hauptzielgruppen zu erhöhen. Das EIT sollte ein Bündel abgestimmter Kommunikationsinstrumente bieten, das flexibel für unterschiedliche Zielgruppen verwendet werden kann, um die interne und externe Kommunikation und interne und externe Dialoge des EIT und der KICs zu unterstützen. Dies umfasst eine bessere Verfolgung der Wirksamkeit von Kommunikation und die Messung der Auswirkungen.*

Die Umsetzung der KIC-Modelle zur Leistungserbringung

Nach Meinung einiger der KIC-Partner ist der Evaluationsprozess für Innovationsprojekte nicht ausreichend transparent. Die Partner, die für diese Evaluation befragt wurden, sind der Meinung, dass der Informationen über bevorstehende Ausschreibungen nicht ausreichend sichtbar war, dass der Prozess zur Bewertung von Vorschlägen undurchsichtig war und dass das Feedback zu Vorschlägen angesichts der von den

Partnern investierten Bemühungen (sowie angesichts des Umstands, dass KICs inklusive Netzwerke sein sollen) unangemessen war.

Schlussfolgerung: *der Prozess, durch den KICs Projekten Unterstützung gewähren, wurde von KIC-Partnern nicht als ausreichend transparent erachtet.*

Empfehlung Nr. 3: *Das EIT sollte mit den KICs zusammenarbeiten, um die Transparenz des Prozesses zu verbessern, durch den Innovationsprojekte ausgewählt werden, und sicherzustellen, dass Bewerbern und KIC-Partnern die Ergebnisse der Zuschussfinanzierung und die Entscheidungsgründe auf transparente Weise umfassender mitgeteilt werden. Die KICs sollten die Einheitlichkeit und Klarheit der internen Kommunikation mit Partnern und KIC-Interessenträgern verbessern und konsequenter über die Ergebnisse der KIC-Aktivitäten berichten, damit Teilnehmer einen Einblick in die Auswirkungen der KICs haben, der über die Projekte, an denen sie direkt beteiligt sind, hinausgeht.*

Die KICs haben wirksam relevante neue Partner eingebunden. KIC-Partnerschaften sind im Laufe der Zeit gewachsen, sowohl im Hinblick auf die Größe als auch in Bezug auf die Vielfalt. Es gibt ein angemessen gutes Gleichgewicht verschiedener Organisationen bzw. Unternehmen (Universitäten, große Unternehmen, kleine und mittlere Unternehmen, Forschungsorganisationen) innerhalb der KICs, und auch viele der führenden Akteure in den KIC-Themenbereichen sind in den KICs gut vertreten.

Die Kommentare der Partner zur Anzahl und zum Gleichgewicht der Partner bei den KICs sind im Allgemeinen positiv ausgefallen. Es gab Anzeichen dafür, dass Änderungen bei den KIC-Geschäftsmodellen, vor allem diejenigen die auf finanzielle Tragfähigkeit hinarbeiten (z. B. Mitgliedsgebühren), sich auf die Fähigkeit der KICs ausgewirkt haben, neue Partner zu gewinnen und zu halten. Allerdings ist eine bemerkenswerte Eigenschaft der KIC-Partnerschaften ihre Stabilität, was nahelegt, dass sie weiterhin ein interessantes Angebot darstellen. Bei der für diese Evaluation durchgeführten Befragung von Partnern gab es ebenfalls die Forderung nach einer stärkeren Einbeziehung von kleinen und mittleren Unternehmen. Ebenso haben wir Anregungen bezüglich einer stärkeren Beteiligung von Forschungs- und Entwicklungsabteilungen großer Unternehmen sowie von mehr Universitäten und mehr Behörden erhalten; dies wurde auch im Bericht der hochrangigen Gruppe (High Level Group, HLG)⁹ zum EIT angeregt. KICs sollten ihre Partnerschaften fortlaufend überprüfen, um sicherzustellen, dass sie ausgewogen bleiben und so konfiguriert sind, dass sie ihre Ziele erfüllen und die verschiedenen beteiligten Akteure (Partner, Start-ups, Studenten) von ihnen profitieren.

Schlussfolgerung: *Die KICs haben wirksam Partnernetzwerke gegründet und aufgebaut. Diese Netzwerke sind im Laufe der Zeit stabil geblieben, und die meisten Partner sind mit der Größe und der Zusammensetzung der KIC-Netzwerke weitgehend zufrieden.*

Den Bildungsprogrammen der KICs ist es effektiv gelungen, relevante Studenten anzuziehen und zu halten. Das Nachfrageniveau für die Teilnahme an Bildungsprogrammen mit dem EIT-Label (Table ES1.1) gibt einen Anhaltspunkt für die Attraktivität der Bildungsprogramme der KICs. Es gibt allerdings eine große Anzahl von Studenten, die aufgrund mehrerer externer (Struktur der nationalen Hochschulsysteme und Studien- und Lebensentscheidungen der Studenten) und interner Faktoren (z. B. Probleme mit Stipendien, dem Bewerbungsverfahren der Master School, falsche Erwartungen usw.) während des Prozesses zwischen Bewerbung und Einschreibung

⁹ Die Zukunft des Europäischen Innovations- und Technologieinstituts (EIT) Bericht zu strategischen Fragen und Perspektiven von der hochrangigen Gruppe von Kommissar Navracsics zum EIT (2016)

aussteigen. Nach der Einschreibung in die Programmen liegt der Prozentsatz der Abbrüche bei den KIC-Bildungsprogrammen deutlich unter der weltweiten durchschnittlichen Verbleibquote für Programme von Graduiertenschulen.

Schlussfolgerung: *die Bildungsprogramme der KICs scheinen ein attraktives Angebot für Studenten darzustellen, obwohl die Abbruchsquote zwischen der Bewerbung und der Einschreibung hoch war – in dieser Hinsicht müsste man etwas unternehmen.*

Die Auswirkungen des EIT

Der Einfluss des EIT

In der derzeitigen Strategischen Innovationsagenda (SIA¹⁰) für das EIT steht, dass „die EIT-Zentrale“ im Laufe der Zeit „zu einem unerschöpflichen Reservoir bewährter Verfahren heranwachsen und sich zu einem echten Wissenspartner für Entscheidungsträger entwickeln wird“. Im weiteren Verlauf heißt es in der Strategischen Innovationsagenda (SIA), dass das EIT „eine noch stärkere Rolle als Kompetenzzentrum bei all seinen Hauptaufgaben und in all seinen Hauptverantwortungsbereichen“ spielen wird. Daher hat diese Evaluation die beiden verschiedenen Aspekte des ‚Einflusses‘ des EIT untersucht: i) den Einfluss, den das EIT auf die Entwicklung und Durchführung politischer Maßnahmen gehabt hat (z. B. die Gestaltung von Innovationsprogrammen); und ii) den Einfluss auf politische Initiativen innerhalb der Themenbereiche, auf welche die KICs eingehen (z. B. Klimawandel).

Der Einfluss des EIT auf die Entwicklung und Durchführung innovationspolitischer Maßnahmen war etwas schwach, insbesondere in der Vergangenheit, aber in den letzten Jahren wurden beträchtliche Anstrengungen unternommen, um die Leistungen in dieser Hinsicht zu verbessern. Die KICs haben Fakten und Unterstützung bei der Entwicklung und der Umsetzung der EU-Politik bereitgestellt. Allerdings ist fraglich, inwieweit das EIT – wie in der SIA angegeben – „ein echter Partner für Entscheidungsträger“ sein kann, wenn man bedenkt, welche beschränkte Ressourcen dem EIT und den KICs zur Unterstützung dieser Funktion zur Verfügung stehen.

Schlussfolgerung: *in der SIA für das EIT wird das Potenzial des EIT und der KICs als Ressource für Entscheidungsträger erkannt, obwohl der Einfluss des EIT auf die Entwicklung politischer Initiativen bisher begrenzt gewesen ist, was zum Teil auf dem Mangel einer dedizierten Ressource und der fehlenden Reife des EIT und der KICs beruht.*

Ein Bereich, bei dem Konsens über Maßnahmen des EIT besteht, ist seine Rolle bei der Kommunikation vorbildlicher Lösungen der KICs und bei der Darstellung von Erfolgsgeschichten. Die KICs stellen eine wertvolle Ressource für Entscheidungsträger dar – sie bieten Beispiele vorbildlicher Lösungen und Unterstützung bei der Entwicklung und Durchführung politischer Maßnahmen der EU in ihrem jeweiligen thematischen Bereich. Generaldirektionen der Europäischen Kommission können davon profitieren, dass sie sehen, wie die Unterstützung von Innovation, Unternehmertum und Bildung in einem bestimmten Bereich Informationen für die Politikgestaltung liefern kann. Darüber hinaus besteht auch eine Verbindung zwischen den KICs und Entscheidungsträgern auf nationaler und regionaler Ebene (z. B. über die Kolokationszentren (CLCs)), und es gibt umfangreiche Belege für sich entwickelnde nationale und regionale Partnerschaften, auch wenn dies kein ausdrückliches Ziel der CLCs ist. Angesichts des Umfangs ihrer themenbezogenen Kompetenz und ihrer Erfahrung bei der Leistungserbringung in verschiedenen Politikbereichen (Innovation, Bildung, Unternehmertum) kommt dem EIT und den KICs eine wichtige Rolle bei der Verbreitung von best practice zu, einschließlich von Belegen für ‚erfolgreiche Ansätze‘ bei der Leistungserbringung.

¹⁰ 2011 vom Verwaltungsrat und 2013 vom Europäischen Parlament und dem Rat angenommen.

Schlussfolgerung: wie im SIA für das EIT angegeben ist, haben die KICs das Potenzial, als ‚Reservoir‘ des Wissens und best practice aufzutreten. KICs haben (z. B. über CLCs) Beziehungen zu regionalen und nationalen Entscheidungsträgern aufgebaut, obwohl dies kein ausdrückliches Ziel war, aber es besteht noch Spielraum für eine stärkere Nutzung der von ihnen aufgebauten Kompetenz.

Empfehlung Nr. 4: Das EIT und die KICs sollten sich darauf konzentrieren, Beispiele bewährter Verfahren und Ergebnisse (sowohl hinsichtlich des Modells als auch in Bezug auf die Auswirkung) als Grundlage für Dialog und Interaktion zu politischen Maßnahmen zu verwenden. Auf der EU-Ebene sollten die KICs ihre thematischen Verknüpfungen mit den entsprechenden thematischen GDs der Europäischen Kommission weiterentwickeln, um Informationen und Beiträge für die Entwicklung politischer Maßnahmen zu liefern und die Grundsätze der Innovationsunion zu unterstützen. CLCs sollten eine größere Rolle dabei spielen, nationale und sub-nationale Interessenträger politischer Maßnahmen über ihre Ergebnisse zu informieren, insbesondere, wenn sie in der Lage sind, auf der Ebene des EIT und der KICs gewonnene Einsichten zu ‚kanalisieren‘.

Die Auswirkungen der KICs

KICs haben hunderte von Start-ups in ganz Europa unterstützt und Wachstum und Innovation gefördert, was zur Schaffung von Arbeitsplätzen und zu wirtschaftlichem Wachstum in der Zukunft führen wird. Einige der ersten unterstützten Start-ups sind tatsächlich bereits dabei, ihre Geschäftstätigkeit auszuweiten, Investitionen anzuziehen und Arbeitsplätze zu schaffen.

Ein Hauptgebiet der KIC-Aktivitäten bestand darin, Innovation durch Unternehmertum zu unterstützen, und dies ist wohl ein Bereich, in dem das EIT die ersten Erwartungen übertroffen hat. Durch ihre Beschleunigerprogramme haben die KICs Unternehmer mit innovativen Ideen unterstützt, um Prototypen zu entwickeln und zu testen, nachzuweisen, dass ihre Ideen funktionieren, und Unternehmen zu gründen, mit denen sie ihre innovativen Ideen auf den Markt bringen können. Die KICs unterstützen nicht nur bei der Gründung von Unternehmen, sondern der Unternehmertumbereich ihrer Aktivitäten hat neuen Start-ups auch ermöglicht, ihre Tätigkeit auszuweiten und eine größere Reichweite mit ihren Innovationen zu erzielen. Die Beschleunigerprogramme der KICs helfen Unternehmen dabei, ein Verständnis ihrer Märkte zu entwickeln, und ermöglichen Zugang zu Kunden, wobei Letzteres oft die von den KICs aufgebauten Partnernetzwerke einbezieht. Darüber hinaus haben KICs Unternehmern ermöglicht, Zugang zu Fördermitteln in der Seed- oder Wachstumsphase zu erhalten, um ihnen zu ermöglichen, ihre Geschäftstätigkeit auszuweiten, und auch hier sehen wir Anzeichen für die Auswirkungen der von den KICs aufgebauten Netzwerke, zu denen auch Risikokapitalunternehmen und Business Angels zählen.

Schlussfolgerung: Die Beschleunigerprogramme der KICs haben eine Reihe innovativer Unternehmer dabei unterstützt, ihre Unternehmen zu gründen und auszuweiten, und die von Beschleunigern gewonnenen praktischen Einsichten können eine wertvolle Evidenzbasis bieten, auf die sich das EIT und die europäische Kommission stützen können.

Die Zuschussfinanzierung und Investitionen, die von den KICs bereitgestellt werden, haben Abhilfe für Marktversagen geschaffen und Innovationen dazu verholfen, auf den Markt zu gelangen. KICs bieten Abhilfe für das Marktversagen, dem sich viele Innovationen gegenübersehen – sie sichern die Finanzierung, die erforderlich ist, um ein Projekt vom Stadium der Entwicklung/des Prototyps bis zur Demonstration in großem Maßstab und zur Kommerzialisierung zu bringen. Dies tun sie durch

Zuschussfinanzierung für Innovationsprojekte und durch Investitionen in innovative Unternehmen.

Eine der wichtigsten Innovationsauswirkungen der KICs bestand darin, dass sie multinationale Partnerschaften zwischen verschiedenen Partnern aus Wirtschaft, Wissenschaft/Forschung und staatlichen Stellen ermöglicht und erleichtert haben. Forschung mit KIC-Partnern, die an Innovationsprojekten beteiligt waren, hat Beispiele institutionellen Lernens aufgezeigt, das auf der Teilnahme an einem KIC-Projekt beruhte, einschließlich des Aufbaus einer ‚Kultur‘ der Kommerzialisierung und des Wissenstransfers innerhalb von Universitäten und Forschungsorganisationen, die zuvor vielleicht nicht so gedacht hätten. Allerdings trifft auch zu, dass es zahlreiche KIC-Partner gibt, die bereits innovativ sind und daher eine geringere Auswirkung auf ihre Organisation verzeichnet haben. Einige sehen die Innovationsprojekte der KICs immer noch in erster Linie als eine Quelle finanzieller Unterstützung für bestimmte Innovationsprojekte durch den öffentlichen Sektor an.

Schlussfolgerung: *Durch KICs unterstützte Innovationsprojekte haben erfolgreich vielfältige Partnernetzwerke zusammengebracht, was in einigen Fällen zu institutionellem Lernen innerhalb von teilnehmenden Universitäten und Forschungsorganisationen geführt hat.*

Bei der Befragung von Absolventen wurde festgestellt, dass Programme mit EIT-Label den Absolventen unternehmerische Fähigkeiten vermitteln, obwohl dies größtenteils noch nicht zu von Start-ups geführt hat. Es gibt Anzeichen dafür, dass die Programme mit dem EIT-Label den Absolventen die von ihnen gewünschten unternehmerischen und innovationsorientierten Fähigkeiten vermittelt haben, welche auch Beweggründe dafür waren, sich überhaupt für ein Programm mit EIT-Label zu entscheiden. Bei der Betrachtung der beruflichen Laufbahnen seit dem jeweiligen Abschluss des Programms (unter Berücksichtigung des Umstands, dass für die meisten Absolventen erst ein kurzer Zeitraum seit dem Abschluss vergangen ist) lässt sich erkennen, dass die meisten Absolventen nach dem Abschluss ihres Programms mit EIT-Label in einem Beschäftigungsverhältnis standen. Eine kleine Minderheit hatte ein Unternehmen gegründet, was – bisher – nahelegt, dass die unternehmerischen Wirkungen der Programme mit EIT-Label noch nicht in Start-ups übertragen wurden. Natürlich ist es noch früh, und es ist möglich, dass wir in Zukunft Wirkungen in Form des ‚Unternehmertums im Unternehmen‘ sehen werden, wenn diese Personen die im Rahmen der Programme mit EIT-Label erlernten Fähigkeiten dazu nutzen, neue Geschäftsideen an ihrem Arbeitsplatz in einem bestehenden Unternehmen zu formulieren.

Schlussfolgerung: *Programmen mit EIT-Label ist es gelungen, Absolventen unternehmerische Fähigkeiten zu vermitteln, was allerdings bisher noch nicht in eine wesentliche Gruppe von Start-ups übertragen wurde, da die meisten Absolventen stattdessen in ein Beschäftigungsverhältnis eingetreten sind.*

Auswirkungen auf Innovationssysteme

Obwohl es deutliche Anzeichen für die positiven Auswirkungen des EIT gibt, hat die Evaluation ergeben, dass diese in erster Linie auf die Partner, Absolventen und Start-ups beschränkt sind, die direkt mit den KICs zu tun hatten. Bei einer Erweiterung der Analyse auf die systemischen Auswirkungen des EIT sind die Belege weniger deutlich.

Ein Bereich, bei dem vom EIT oft eine weitergehende Auswirkung erwartet wird, ist die Entwicklung und die Bereitstellung von Informationen für die Übernahme vorbildlicher Lösungen in der gesamten EU. Dies ist ein hoher Anspruch – und einer, der noch nicht erfüllt wird. Ein Grund hierfür ist mangelnde Reife. Praktisch gesehen ist das EIT erst seit sieben Jahren tätig und während mehr als der Hälfte dieses Zeitraums verfügte es nur über drei KICs. Systemveränderungen brauchen Zeit. Wenn die KICs heranreifen und mehr Belege dazu verfügbar werden, welche Ansätze funktionieren und welche nicht funktionieren, wird sich dem EIT die Gelegenheit bieten, sich mit einer systemischen

Agenda zu beschäftigen. Das wird allerdings notwendigerweise bei einem gleichbleibenden Budget dazu führen, dass es andere Tätigkeiten verringert. Weiterhin besteht das Risiko, dass die strategische Ausrichtung der Tätigkeiten des EIT verloren geht. Es würde die Umleitung von Ressourcen hin zur Entwicklung von Verbreitungsmaterialien und -kanälen erfordern.

Schlussfolgerung: *bisher gibt es noch keine Anzeichen für die Übernahme vorbildlicher Lösungen, die vom EIT entwickelt und durch das EIT verbreitet wurden, obwohl es angesichts des Umstandes, dass die KICs erst seit recht kurzer Zeit tätig sind, vielleicht noch zu früh ist, eine Bewertung der Auswirkungen des EIT in diesem Bereich vorzunehmen.*

Der Zweck des EIT besteht in einer nachhaltigen und systemischen Auswirkung für die bessere Integration des Wissensdreiecks in ganz Europa. In politischen Kreisen besteht darüber hinaus der Wunsch, dass das EIT synergetisch mit anderen politischen Maßnahmen und Programmen der EU und relevanten politischen Maßnahmen und Programmen auf nationaler/regionaler Ebene zusammenwirkt.

Eine Untersuchung der Auswirkung des EIT auf Innovationssysteme auf unterschiedlichen räumlichen Betrachtungsebenen (EU, national und regional) bietet eine bescheidene Sicht der weitergehenden systemischen Wirkung, die das EIT bisher hatte. Das EIT wurde als sektorales oder bereichsspezifisches Innovationssystem statt als räumliches System konfiguriert (im Vergleich zum räumlich orientierten Ansatz der intelligenten Spezialisierung). An den Orten, an denen sich CLCs befinden, gibt es Anzeichen dafür, dass systemische Wirkungen entstehen. Allerdings sind diese zu einem hohen Maß lokal und noch nicht vollständig entwickelt, was zum Teil zeigt, wie viel Zeit erforderlich ist, um eingebettete Verknüpfungen zu entwickeln. Die Einführung des EIT Regional Innovation Scheme (EIT RIS) ist noch zu neu, um zusätzliche räumliche Auswirkungen feststellen zu können.

Schlussfolgerung: *das EIT ist um Sektoren/gesellschaftliche Herausforderungen herum konfiguriert, und nicht als räumliches System, und räumliche systemische Auswirkungen konnten bisher nur an Orten festgestellt werden, an denen sich CLCs befinden. Längerfristig sollten die EIT RIS zu systemischen Auswirkungen führen.*

Das EIT hat über die KICs die europäische Innovationsfähigkeit beeinflusst, indem es neue Aktivitätsnetzwerke eingerichtet hat und neue Akteure in bestehende Netzwerke eingebunden hat. Bei FP7/H2020-Projekten, an denen KIC-Partner beteiligt sind, bestand eine größere Wahrscheinlichkeit für die Einbeziehung sektorübergreifender Aktivitäten und die Förderung der Kooperation mit neuen Partnern. Bezeichnenderweise bestand bei Partnerschaften, bei denen KIC-Partner eine Schlüsselrolle innehatten, auch eine größere Wahrscheinlichkeit dafür, dass sie über die Lebensdauer eines einzelnen Projekts hinaus fortgesetzt wurden, was starke Auswirkungen auf systemischer Ebene nahelegt. Dies zeigt die Bedeutung solcher Netzwerke auf. Allerdings ist es unwahrscheinlich, dass sie kurzfristig eine wesentliche Auswirkung auf das Innovationssystem insgesamt haben, da sie auf der Ebene der sektoralen Systeme organisiert sind. Weiterhin stellt sich die Frage nach dem Maßstab und Umfang. Wenn es wichtig ist, ein höheres Tempo der Veränderungen zu sehen, müssen Ressourcen auf weniger Gebiete konzentriert werden statt auf eine größere Anzahl von Sektoren/Bereichen.

Empfehlung Nr. 5: *Das EIT sollte sich darum bemühen, seine Position als gesamteuropäische Reaktion auf Innovationsherausforderungen in Europa zu nutzen. Durch seine Struktur und seine Aktivitäten kann das EIT eine entscheidende Rolle bei der Stärkung der Verknüpfungen unter den Innovationsakteuren in Europa spielen, wobei es auf europäischer, nationaler und subnationaler Ebene tätig wird, um eine Änderung zu unterstützen. Insbesondere sollte sich das EIT für ergänzende Maßnahmen einsetzen, bei denen der Europäische Struktur- und Investmentfonds (ESIF) als ein*

Mittel zur Erzeugung von Multiplikatorwirkungen verwendet wird (wofür EIT RIS einen Kernmechanismus bilden könnten).

Kohärenz mit anderen Initiativen

Das EIT fügt sich gut in die gesamte innovationspolitische Landschaft der EU ein und füllt durch die Unterstützung von Innovation durch die KTI eine ‚Lücke‘. Es gibt keine wesentlichen Anzeichen dafür, dass die Tätigkeit des EIT im Widerspruch zu anderen innovationspolitischen Maßnahmen der EU steht. Allerdings hat es seit der Gründung des EIT wesentliche Entwicklungen bei der europäischen Politik gegeben, die für seine Tätigkeit relevant sind, insbesondere die Einführung des Europäischen Innovationsrats (EIC). Aufgrund dieser Entwicklungen gibt es einige Anzeichen dafür, dass sich die Ansätze zum Teil überschneiden. Während es Belege dafür gibt, dass ein Dialog zwischen den KICs und den ihnen entsprechenden DGs stattgefunden hat, ist der Umfang dieser Aktivität bei den einzelnen KICs unterschiedlich. Es ist nicht vollständig klar, ob einige DGs die Position des EIT und der KICs bei der Gestaltung ihrer eigenen Ansätze in ausreichendem Maße berücksichtigt haben. Allerdings scheint das EIT alle anderen politischen Maßnahmen der EU gut zu kennen und weiß sich entsprechend zu positionieren.

Schlussfolgerung: *Das EIT befindet sich im Einklang mit der breiteren Landschaft der europäischen Innovationspolitik und kennt seine Position und seine Aufgabe. Obwohl die Wissens- und Innovationsgemeinschaften (KIC) sich mit dem jeweils für ihre politischen Ziele zuständigen GD abstimmen, ist nicht völlig klar, ob einige GD das EIT und die KIC berücksichtigen, wenn sie ihre politischen Ansätze formulieren.*

Das EIT-Modell unterstützt die in der Landschaft der nationalen und regionalen Innovationspolitik üblichen Ansätze. Auf nationaler Ebene überprüfte die vorliegende Studie sechs Beispiele von Initiativen in Europa, die die Innovation unterstützen. Methodisch gab es viele Gemeinsamkeiten, insbesondere in Bezug auf den Wissenstransfer, den Fokus auf Exzellenz und das Eingehen von Partnerschaften mit führenden Unternehmen. Dadurch ergeben sich Möglichkeiten für Komplementarität, insbesondere wenn die nationale Politik die internationale Kooperation anerkennt und ihr Raum gibt. Das EIT-Modell zeichnet sich durch die Betonung des Unternehmertums und der Bildung aus, die in nationalen Vergleichsmodellen weniger ausgeprägt ist.

Auf der KIC-Ebene gibt es starke Verknüpfungen zwischen der regionalen Innovationsinfrastruktur und den Kolokationszentren (CLC), die mindestens teilweise durch ihre lokale bzw. regionales Innovationsmilieu geprägt sind. In diesem Sinne ergänzen das EIT und die KIC die regionale Innovationspolitik, die wohl ein unvermeidliches Ergebnis ihrer Dezentralität und der Rolle der jeweiligen Partner ist, die über die CLC zusammenarbeiten. Das neue EIT Regional Innovation Scheme (EIT RIS) verstärkt diese Verknüpfungen und diese Kohärenz.

Schlussfolgerung: *Das EIT befindet sich im Einklang mit der nationalen und regionalen Innovationspolitik und ergänzt sie; ihre Gemeinsamkeiten im Ansatz eröffnen Möglichkeiten der Zusammenarbeit.*

Das EIT-Modell vereint mehrere Elemente der Konzepte des Innovationssystems und ist insofern eine ehrgeizige politische Initiative. Das EIT-Steuerungsmodell ist dementsprechend vielschichtig, das heißt, komplex. Das Steuerungsmodell hat seit der Einrichtung des EIT ein erhebliches Maß an Aufmerksamkeit erhalten, und in der Vergangenheit geriet das EIT aufgrund seines Mangels an Ressourcen für die Leistungsbeurteilung und der Arbeitsweise des Verwaltungsrats in die Kritik. Diese Kritik hatte erhebliche Anstrengungen zur Folge, um Aufgaben und Kompetenzbereiche klar voneinander abzugrenzen. Die Schlüsse und Empfehlungen der hochrangigen Expertengruppe über das EIT bleiben auch für die vorliegende Evaluation gültig.

Der „EU-Mehrwert“ des EIT

Der EU-Mehrwert betrifft das Ausmaß, in dem das EIT und die KIC Leistungen erbringen, die auf nationaler oder subnationaler Ebene nicht erbracht werden. EU-weit bestehen zahlreiche Initiativen, die ein oder zwei EIT-Ziele unterstützen (Unterstützung von Innovation; Hilfe für neugegründete Unternehmen, Einbettung von Innovation und Unternehmertum in Hochschul- und Erwachsenenbildung). Das EIT erbringt EU-Mehrwert durch seine Konzentration auf alle drei Elemente des Wissensdreiecks, die nicht ein ausdrückliches Merkmal nationaler oder subnationaler Initiativen sind (obwohl sie einige Elemente des KTI beinhalten können).

Schlussfolgerung: *Das Besondere des EIT liegt in seiner Integration aller drei Seiten des Wissensdreiecks, was kein ausdrückliches Merkmal anderer EU- oder nationaler Initiativen zur Innovationsunterstützung ist (obwohl sie einige Elemente des KTI beinhalten können).*

Die mit den KIC-Partnern und den Nutznießern der vom EIT geleisteten Unterstützung durchgeführten Studien zeigen, dass das EIT hauptsächlich Mehrwert über die nationalen Initiativen hinaus erbringt, weil die KIC grenzüberschreitend tätig sind. Dadurch werden KIC-Partner und Nutznießer von KIC beim Zugang zu Partnern, Investoren und Kunden unterstützt, der für sie ansonsten schwer zu finden und aufzubauen ist. Das gilt insbesondere für von den KIC über Accelerator-Programme geförderte neugegründete und sich vergrößernde Unternehmen, denen es besonders schwerfällt, sich in neuen Ländern zu etablieren. Der Mehrwert des KIC-Modells gegenüber den (in einigen Ländern) national umgesetzten Modelle umfasst folgende Bereiche: ihr Fokus auf Innovation (statt Forschung), die Tatsache, dass sie zur Bewältigung gesellschaftlichen Wandels ausgewählt werden, ihr mittelfristiger Finanzierungshorizont und ihre Fähigkeit, Partner aus dem privaten und öffentlichen Sektor zusammenzuführen.

Schlussfolgerung: *Die KIC erbringen Mehrwert über die nationalen Förderinitiativen hinaus, vor allem durch ihre grenzüberschreitende Tätigkeit und die Verknüpfung von KIC-Partnern und Nutznießern mit Organisationen und Netzwerken, zu denen sie ansonsten nur schwer Zutritt fänden.*

Obwohl es für eine Bewertung der Auswirkungen zu früh ist, schafft das EIT Mehrwert und verstärkt die regionale Innovationspolitik über das EIT Regional Innovation Scheme (EIT RIS). Die Einführung des EIT RIS geht auf Aufforderungen an das EIT zurück, die Inklusivität zu verstärken und Innovationswachstum in Regionen der EU zu fördern, die nicht direkt an einem KIC beteiligt sind. Da das EIT RIS noch ganz am Anfang steht, ist es zurzeit schwierig, Nachweise für seine Auswirkungen zu erbringen. Das Budget ist zurzeit relativ klein – obwohl es erhöht werden soll –, so dass die Anzahl der Regionen und regionalen Partner, die teilnehmen können, beschränkt ist (insbesondere verglichen mit dem Europäischen Struktur- und Investmentfonds (ESIF), ist der Umfang der Tätigkeit des EIT RIS relativ geringfügig). Nichtsdestoweniger ist der EIT RIS ein wichtiger Mechanismus für die Integration von ganz Europa in das KIC-Netzwerk und letztlich in das EIT.

Schlussfolgerung: *Das EIT RIS schafft Mehrwert und verstärkt die regionale Innovationspolitik in ganz Europa, obwohl es zu früh ist, um seine Auswirkungen endgültig zu bewerten.*

Die Effizienz des EIT

Die Effizienz, mit der das EIT und die KIC Ergebnisse liefern, ist aufgrund der Uneinheitlichkeit der Daten in der Berichterstattung über Aufwendungen und Ergebnisse sowie den bei der Anwendung eines Stückkostenansatzes auf die KIC-Tätigkeit inhärenten Problemen schwer zu messen. Dem Gutachterteam wurden keine Daten zur

Verfügung gestellt, womit es die Aufwendungen für die einzelnen Funktionslinien der KIC berechnen konnte (in einigen Fällen war es nicht möglich, zwischen Ausgaben für Bildung, Unternehmertum und Innovation zu unterscheiden). Dementsprechend war es nicht möglich, die Stückkosten zu berechnen (d. h. die Kosten pro gegründetem Unternehmen oder die Kosten pro im Markt eingeführte Innovation). Daher ist es unmöglich, die Wirtschaftlichkeit zu messen, mit der die KIC Ergebnisse liefern oder diese Wirtschaftlichkeit mit der anderer Initiativen zu vergleichen, um die Effizienz des EIT gegenüber anderen Ansätzen der Innovationsförderung zu beurteilen. Um eine umfassende Bewertung der Effizienz zu ermöglichen, sind Anpassungen der Methode, wodurch die KIC Aufwendungsdaten erhebt und berichtet, erforderlich. Mit solch einem Stückkosten-orientierten Ansatz würde allerdings riskiert, dass die Tätigkeit der KIC auf ihre Einzelteile reduziert wird, statt insgesamt den Mehrwert der KTI und der paneuropäischen Dimension zu betrachten.

Schlussfolgerung: *Während der nicht einheitliche Ansatz zu Definition und Erfassung der KIC-Daten über ihre Aufwendungen eine Bewertung der Wirtschaftlichkeit der Tätigkeit der KIC unmöglich macht, würde ein Stückkosten-orientierter Ansatz zur Messung der Effizienz die Rolle der KTI und den Mehrwert der grenzüberschreitenden Tätigkeit der KIC verfehlen.*

Die KIC wuchsen von 2010 bis 2013 erheblich. Mit der Einführung neuer Funktionslinien erhöhte sich die Zahl der Mitarbeiter und die Managementkosten stiegen. Die physische Präsenz der KIC nahm durch die Einrichtung neuer Kolokationszentren in ganz Europa zu, wodurch die KIC mit verschiedenen nationalen Rechtssystemen, Arbeitsgesetzen, Leistungsmessungssystemen usw. zusammenarbeiten mussten. Eine größere Abstimmung zwischen den Kolokationszentren ist erforderlich, um die Effizienz zu verbessern.

Die erste Generation der KIC verfuhr nach dem Motto „Learning by doing“, aber jetzt ist größere Effizienz möglich, da die KIC in einer Konsolidierungs- und Durchführungsphase sind und sich die Frage stellen, was funktioniert und was verbessert werden kann, so dass größere Effizienz möglich wird. In Bezug darauf machen die KIC Fortschritte in der KIC-übergreifenden Arbeit zur Verbesserung von Effizienz und Effektivität, und es gibt Belege dafür, dass die zweite Generation der KIC als Teil ihrer Einrichtungsphase aus der Erfahrung der ersten Generation gelernt hat. Genau wie der Bericht der hochrangigen Expertengruppe (der da „gemeinsame Leistungen“ fordert, wo KIC die gleiche Art der Unterstützung benötigen), forderten auch die für diese Evaluation befragten Stakeholder eine stärkere Rolle des EIT bei der Koordinierung und potenziellen Kodifizierung von KIC-Erfahrungswerten, um die Effizienz des EIT zu erhöhen. Das kann eine zentrale Koordinierung in Bereichen beinhalten, in denen Gemeinsamkeiten zwischen den KIC bestehen (z. B. bei Vereinbarungen zum geistigen Eigentumsrecht), obwohl sektorale und nationale Besonderheiten immer das Ausmaß beschränken, in dem ein für alle KIC geltendes Universalkonzept entwickelt und eingesetzt werden kann.

Schlussfolgerung: *Die erste Generation der KIC wuchs schnell, aber bei ihrer geografischen Expansion entstanden Schwierigkeiten, die die Effizienz ihrer Tätigkeit beeinträchtigten. Der Erfahrungsaustausch zwischen den KIC hat die Effizienz gesteigert, und die Konsolidierung der KIC wird sie nochmals steigern.*

Eine Verlagerung auf mehrjährige statt einjährige Finanzierung macht die KIC vermutlich effizienter. Dieses Problem wurde von den Partnern in Bezug auf das KIC-Modell besonders häufig angesprochen. Die Vorteile mehrjähriger Finanzierungsvereinbarungen wurden bereits in anderen Berichten diskutiert, insbesondere im Bericht des ERH und im Bericht der hochrangigen Expertengruppe, und eine Verringerung der als Teil der Geschäftsplanung verbrauchten Ressourcen wirkt sich auf die Effizienz der KIC positiv aus.

Schlussfolgerung: *Wie in anderen kürzlich durchgeführten Prüfungen des EIT (den*

Berichten des ERH und der hochrangigen Gruppe) angemerkt, verbessert ein Übergang zu mehrjähriger Finanzierung die Effizienz der KIC.

Die finanzielle Nachhaltigkeit von KIC

Angesichts des Ausmaßes ihrer derzeitigen Abhängigkeit von der EIT-Finanzierung wirken die KIC-Strategien, die das Ziel finanzieller Nachhaltigkeit verfolgen, wenn auch lobenswert, so doch überambitioniert. Es ist höchst zweifelhaft, ob der EIT Climate-KIC, einer, der KIC aus der ersten Generation, die damit begonnen haben, Strategien umzusetzen, um das Ziel finanzieller Nachhaltigkeit zu erreichen, bis 2025 finanziell nachhaltig wirtschaften kann. Das ist vielleicht nicht überraschend, wenn man den Umfang des Marktversagens in diesem thematischen Bereich bedenkt. Obwohl EIT Digital und EIT InnoEnergy diversifiziertere und umfassendere Ansätze verfolgen, um das Ziel finanzieller Nachhaltigkeit zu erreichen, ist ein gewisses Risiko nicht auszuschließen (z. B. der Erfolg von neugegründeten Unternehmen und (größtenteils in ihrer Wirkung unbewiesenen) Innovationsprojekten).

Daraus ergibt sich die grundsätzlichere Frage, ob finanzielle Nachhaltigkeit ein wünschenswertes und machbares Ziel ist, wenn man die Rolle des EIT als aufgabenorientierte Intervention versteht, die sich mit dem Versagen des Marktes befasst und zur Lösung gesellschaftlicher Probleme beiträgt. Die Rückmeldungen der für dieses Gutachten befragten Stakeholder waren diesbezüglich gemischt. Die Umfrage unter den Partnern und die öffentliche Konsultation ergaben eine große Zahl von Rückmeldungen, denen zufolge von den KIC nicht erwartet werden sollte, dass sie finanziell nachhaltig sind, und dass sie, solange sie sich mit europäischen gesellschaftlichen Problemen befassen, (teilweise) mit öffentlichen Geldern finanziert werden sollten. Es wird befürchtet, dass das Ziel der finanziellen Nachhaltigkeit hohe Kosten verursacht, indem es das Innovationsvermögen der KIC und deren KTI-Aufgabe beeinträchtigt (z. B. dadurch, dass ein KIC einige oder alle seine sich nicht selbst tragenden Tätigkeiten aufgibt, wie etwa Bildung).

Schlussfolgerung: *Die erste Generation der KIC hat Fortschritte auf dem Weg zur finanziellen Nachhaltigkeit gemacht, obwohl ihre Strategien überambitioniert sind. Es besteht wohl ein Widerspruch zwischen der Aufgabe des EIT (das Ansprechen von Marktversagen und gesellschaftlichen Problemen) und dem Erreichen finanzieller Nachhaltigkeit. Das Erreichen des letzteren Ziels stellt möglicherweise das Erreichen des ersteren in Frage, wenn nicht finanziell nachhaltige, aber gesellschaftlich vorteilhafte Tätigkeiten von den KIC eingestellt werden.*

In seinen Empfehlungen schlägt die hochrangige Expertengruppe ein zweigleisiges Modell vor, demzufolge ein Teil des EIT-Haushalts für neue KIC zur Verfügung steht, während ein anderer Teil für die Unterstützung einiger derjenigen Tätigkeiten reifer KIC vorgesehen wird, die die vorgegebenen EIT-Ziele erfüllen. Wenn das Ziel, die finanzielle Nachhaltigkeit zu erreichen, aufgeschoben oder teilweise aufgegeben wird, muss der Schwerpunkt des EIT stärker auf dem Beweis seines Mehrwerts und seiner Wirkung liegen.

1 Introduction

1.1 This report

This report is the fourth (Final Report) deliverable of the interim evaluation of the European Institute of Innovation and Technology (EIT). In line with the Terms of Reference (ToR), the Final Report provides:

- An overview of the evaluation methodology, including consideration of its strengths and weaknesses (Section 1.4.2);
- The results of the evaluation, which have been organised into seven sections:
 - Section 2 considers the continued relevance of the EIT model;
 - Section 3 analyses the effectiveness with which the EIT model has been implemented;
 - Section 4 investigates the wider impacts of the EIT and the KICs;
 - Section 5 explores the coherence of the EIT within the wider policy landscape;
 - Section 6 considers evidence about the EU added value of the EIT;
 - Section 7 evaluates the efficiency of the EIT;
 - Section 8 considers questions around the financial sustainability of the EIT.
- A summary of the conclusions and recommendations of the evaluation team (Section 9).

Annexes to this report have been provided in a separate document, and contain:

- A standalone Synopsis Report covering the results of the Open Public Consultation carried out as part of this evaluation;
- The ToR of the interim evaluation;
- Copies of the research instruments deployed consisting of: the Open Public Consultation questionnaire; the partner survey questionnaire; the graduate survey questionnaire; and the business survey questionnaire;
- Details of the individuals who were interviewed as part of the stakeholder consultations undertaken for this evaluation;
- The detailed KIC level case studies;
- The results of the two patent landscaping cases;
- A technical report for the social networking analysis.

1.2 The European Institute of Innovation and Technology (EIT)

1.2.1 Rationale and objectives

The EIT was established in 2008¹¹ as a response to deep-seated concerns regarding the innovation performance of the EU. Although the EU performs strongly on measures of science and research, it appears to be less able to translate its research excellence into innovation outcomes and economic success (this phenomenon is widely referred to as “the European Innovation paradox”). The EU2020 strategy and its Innovation Union Flagship in particular recognise the need to address long-term societal challenges for

¹¹ Regulation (EU) No 294/2008 of the European Parliament and of the Council of 11 March 2008 establishing the European Institute of Innovation and Technology

innovation. Three specific challenges have been identified which impede stronger innovation activity:

- A fragmented market for innovation in the EU, which hampers both investment and Europe's attractiveness;
- The lack of integration of European higher education into the wider innovation chain;
- The lack of a globally competitive entrepreneurial and risk-taking environment in Europe.

The objective of the EIT is *"to contribute to sustainable European economic growth and competitiveness by reinforcing the innovation capacity of the Member States and the EU by promoting and integrating higher education, research and innovation of the highest standards"*.¹²

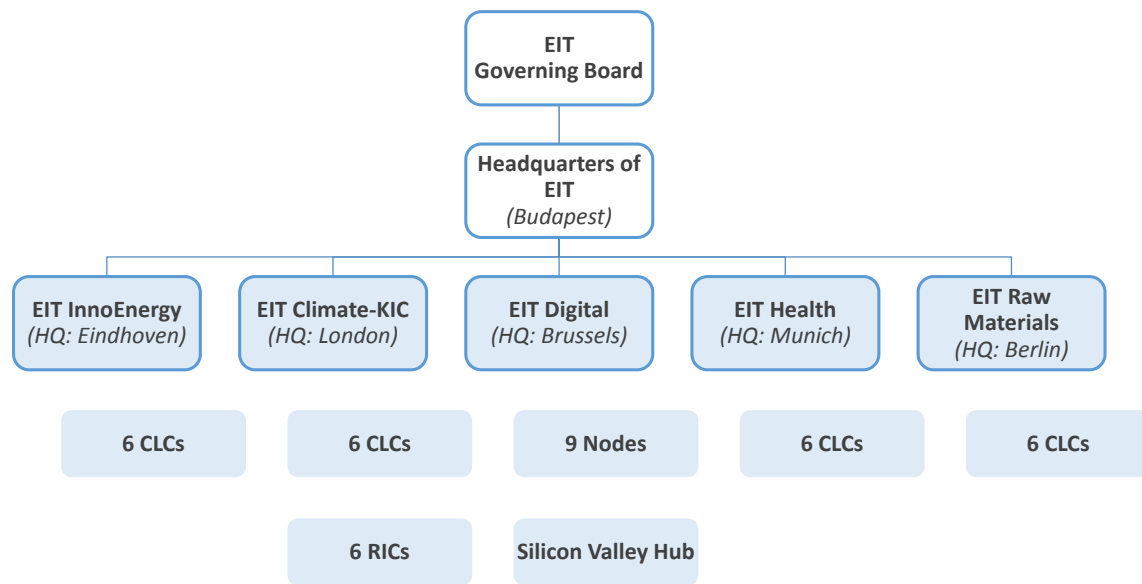
1.2.2 Design of the governance EIT model

The 'EIT model' comprises several layers as follows (Figure 1.1):

- The Governing Board is the principal governing body of the EIT and is entrusted with the role of strategic leadership and the overall direction of the operational activities implemented by the headquarters of the EIT in Budapest. It is independent and autonomous in its decision-making.
- The EIT is an independent community body. It possesses legal personality and has a specific statute which sets out its operations and the responsibilities of its main actors, including the management committee, the director and the internal auditing function. The Director is appointed by the Governing Board. The EIT is headquartered in Budapest. Aside from grant management, the headquarters of the EIT also focuses on communication and dissemination, outreach, and improving the knowledge triangle integration (KTI) model.
- The EIT seeks to achieve its mission primarily through operational entities known as Knowledge and Innovation Communities (KICs), which combine all stakeholders in the innovation chain: industry, higher education, research and technology institutes, entrepreneurs, financial intermediaries and where relevant, public authorities and Civil Society Organisations. The KICs are funded by the EIT and are selected via open calls for proposals by the Governing Board.
- Each KIC is organised around a small number of co-location centres (CLCs) or nodes, and in some cases additionally also Regional Innovation Centres (RICs) / Associate Partners / Satellites, which act as geographical hubs for the various KIC activities.

¹² Regulation (EU) No 1292/2013 of the European Parliament and of the Council of 11 December 2013, amending Regulation No 294/2008.

Figure 1.1 The EIT governance structure



Source: ICF team, based on interviews with EIT and KIC staff

1.2.3 The Knowledge and Innovation Communities (KICs)

The KICs are independent legal entities, structured around a partnership of core partners representing all sides of the knowledge triangle. Each KIC also includes a large number of affiliated, associated or network partners that contribute to the KIC's activities, but do not participate directly in its governance. KICs apply an 'open' entry and exit approach with regard to the affiliated partners and so the wider KIC community is a 'living' network with evolving membership.

The focus of the KICs is, broadly, to stimulate entrepreneurial education, innovation activities, business creation and value formation through combining and integrating education, business and research and innovation. Specifically, each KIC (in conjunction with its CLCs) develops and delivers a portfolio of activities in three areas:

- *Research and innovation projects:* bringing together partners from the knowledge triangle and beyond to develop new products, services, processes and business models.
- *Education activities:* education programmes such as EIT labelled MSc/ PhD programmes, executive/ professional development courses and more recently, massive open online courses (MOOCs) which are designed to train a new generation of innovators and entrepreneurs and provide them with the necessary competences and skills.
- *Business Creation and support activities:* a range of business support services, often labelled as start-up accelerator schemes, to help entrepreneurs and start-ups launch innovations on the market and translate their ideas into successful business models.

Additionally, the KICs and CLCs engage in a range of outreach, communication and dissemination activities such as the organisation of events, publication of material (e.g. success stories, newsletters etc.), networking etc. More recently, a dedicated programme, the EIT RIS has been put in place to widen participation in the EIT's KICs in areas of Europe with relatively low innovation capacity.

As illustrated in Figure 1.1, the KICs are thematically aligned with the Horizon 2020 societal challenges. At the time of evaluation there were five active KICs.

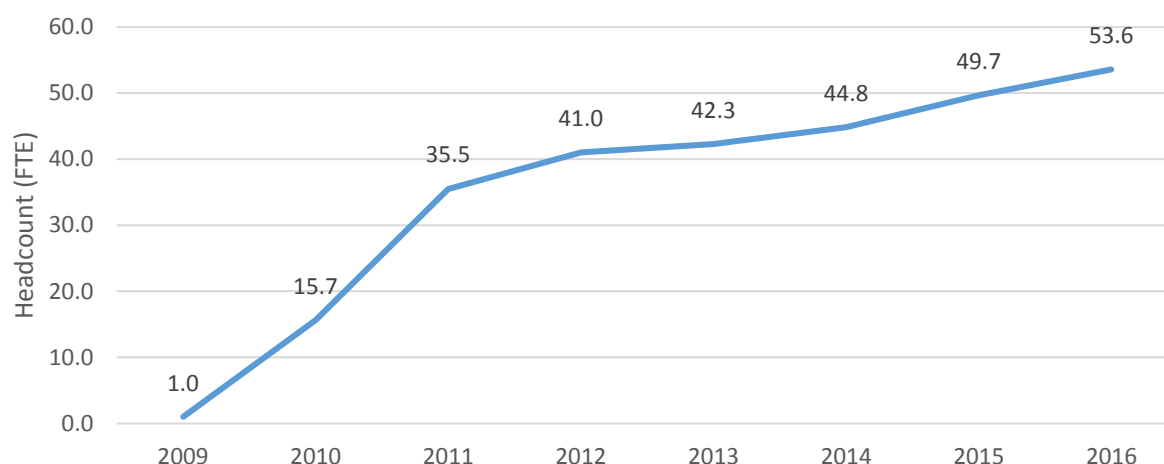
Table 1.1 Five Active KICs

Wave 1 KICs – established in 2010	Wave 2 KICs – established in 2015
EIT Climate-KIC: addressing climate change mitigation and adaptation	EIT Health: addressing healthy living and active ageing; and
EIT Digital: addressing Information and Communication Technologies	EIT Raw Materials: addressing sustainable exploration, extraction, processing, recycling and substitution
EIT InnoEnergy: addressing sustainable energy	

1.2.4 Evolution of the EIT over time

The initial years of the EIT (2008-2010) were focused on establishing the structures for its operations, including the appointment of the initial Governing Board, the identification of Budapest, Hungary as the site for its headquarters, the employment of the EIT's first staff and the call for proposals for the first three KICs. Since this time, the EIT has evolved, both in size and scope, reflecting a process of on-going development. The EIT's budget has increased from EUR 308.7 million (2008-2013) to EUR 2.4 billion (2014-2020).

The EIT has also expanded as an operation. The headquarters in Budapest increased from 1 Full time Equivalent (FTE) employee in 2009 through to 35.5 FTE employees just two years later in 2011, and ultimately to 53.6 FTE employees in 2016 (Figure 1.2). In parallel, the KICs have also expanded as organisations, and between them, the five first- and second-wave KICs employed a total of 424 FTE employees in 2016 (see Table 7.3 in Section 7.2 for more details).

Figure 1.2 Headcount (FTE) at the EIT headquarters in Budapest, 2009-2016


Source: EIT

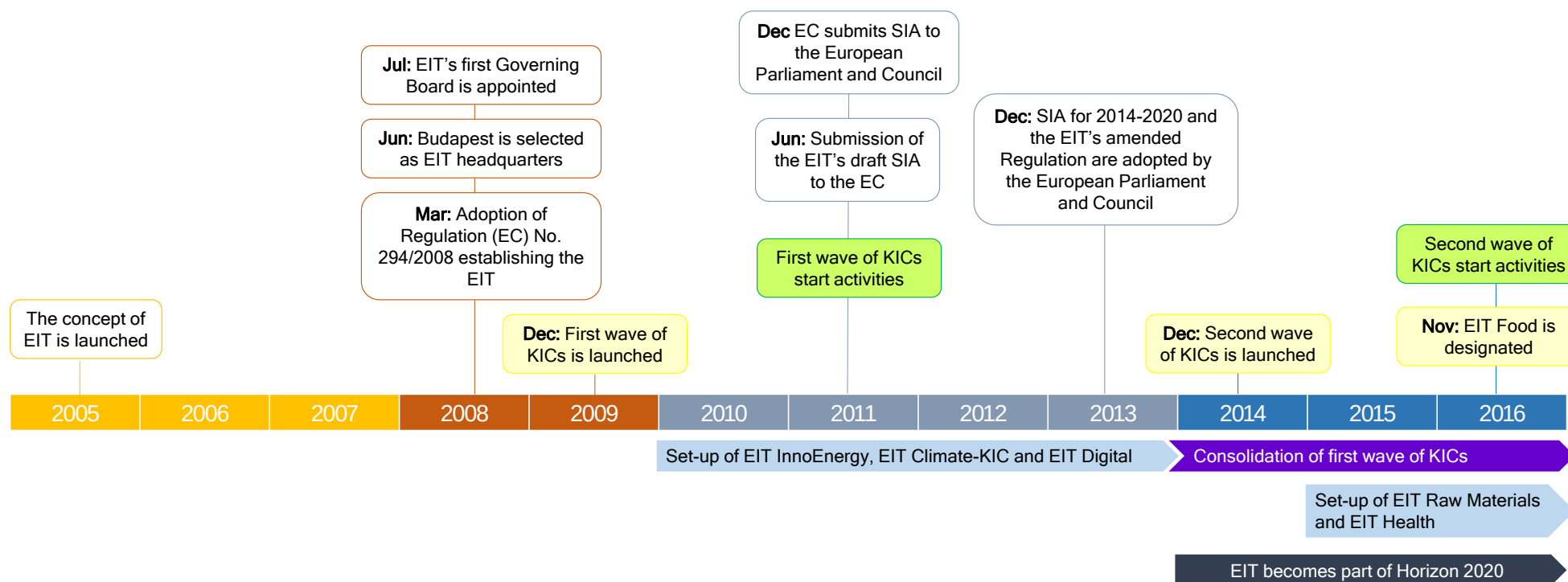
Figure 1.3 provides an overview of the key milestones in the development of the EIT. The period from 2010 to 2013 can be regarded as the experimental / bedding-in phase of the EIT initiative, while 2014-2020 can be regarded as the consolidation and growth phase. We briefly outline the most significant developments below:

- The first three KICs were designated in December 2009 under the following priority themes: climate change mitigation and adaptation ("EIT Climate-KIC"); sustainable energy ("EIT InnoEnergy"); future information and communication technologies ("EIT Digital", formerly ICT Labs).
- In December 2014, the EIT selected two new KICs: Healthy Living and Active Ageing (EIT Health) and Raw Materials – Sustainable Exploration, Extraction, Processing, Recycling and Substitution (EIT Raw Materials).

- In 2013, the EIT was included in Horizon 2020 and its Regulation was amended so that Horizon 2020 rules would apply (until 2013, the EIT had been a separate entity from the Framework Programme). This evolution in the institutional setting of the EIT provided opportunities, but also required a new set of regulations to be implemented. A further evolution in the institutional development of the EIT is signalled by the prospective opening of an office in Brussels, to enable more effective engagement in policy debates.
- In November 2016, EIT Food in the field of sustainable supply chain i.e. from resources to consumers was designated (its start-up phase started at the beginning of 2017)¹³. EIT Urban Mobility – providing sustainable solutions for urban mobility – is planned for 2018.

¹³ *The EIT did not select a KIC in the area of Added-value Manufacturing. After a thorough evaluation procedure and hearings with the EIT Governing Board, the EIT Governing Board concluded that the unique proposal did not meet the excellence levels required to be designated as a KIC.*

Figure 1.3 EIT Timeline: key milestones in the development and implementation of the EIT



Source: ICF team, based on interviews with EIT and KIC staff

In terms of scope, the EIT has evolved in significant directions since its launch in 2008. Whilst the foundations remain the same, there has been a more explicit emphasis on entrepreneurship and the addition of EIT Awards to raise the profile of activities supported by the EIT. The increasing attention given to outreach activities is a recent development that demonstrates the evolving reach of the EIT. Broadly, the main developments are as follows:

- *Education*: the EIT model places a strong emphasis on the role of innovation and entrepreneurship within education. Much of this activity takes place within the KICs with the role of the EIT headquarters evolving to focus on consistency and quality assurance. As examples of this, the EIT has developed an EIT Label, awarded to educational programmes that meet EIT-specific quality criteria and overarching learning outcomes, and has published a handbook to support coordinators, teachers and reviewers in planning, developing and reviewing EIT-labelled programmes. The EIT has also established an EIT Alumni community, and established networking opportunities for alumni via the EIT Alumni CONNECT event.
- *Innovation*: there have been various developments as the EIT has refined its innovation 'offer' and the KICs have refined their approaches to include various types and amounts of grant and investment funding in support of innovation. The EIT also launched the EIT Innovation Award that showcases innovative products, processes or services.
- *Entrepreneurship*: the EIT has gradually strengthened the profile of promoting entrepreneurship within its activities. It has introduced EIT Awards (see below) and, more recently, has begun to promote actions supporting entrepreneurship among women.
- *EIT Awards*: an important evolution in the EITs activities has been the development of EIT Awards. The year 2012 saw the introduction of the EIT Venture Award, which celebrates breakthrough innovations and exciting start-ups, in 2013 the EIT added the EIT CHANGE Award, to celebrate Europe's newest generation of entrepreneurs and the ideas they are producing, and in 2015 the EIT awarded an Innovators Award to KIC innovation teams. Candidates for these awards are nominated by the KICs each year.
- *Outreach*: the EIT seeks to engage with those parts of Europe and beyond that are not represented in its activities (such as through membership of a KIC) through its stakeholder communities. It has also launched the EIT RIS to increase the innovation capacity in areas and regions in Europe not directly benefiting from the EIT and its KICs. Through this KICs are supported in establishing partnerships with regions to promote mutual knowledge exchange and practice transfer. This widens the geographical focus of the EIT and is a valuable extension to the spatial emphasis of the KICs CLCs.

Finally it is worth noting that the EIT has been developing during a period of constrained economic opportunities, as the European and global economies slowly emerge from the global financial crisis and the Euro area sovereign debt crisis. As the EU continues to seek to promote economic growth and tackle the societal challenges facing citizens, the emphasis on innovation remains strong. This dynamic external environment presents its own complexities, as the policy landscapes itself evolves, presenting potential new changes to the setting for the EIT¹⁴.

¹⁴ The idea for a European Innovation Council (EIC), proposed by Commissioner Carlos Moedas, suggests that this initiative is likely to play a lead role in supporting market-focused innovation in future. At the time of the evaluation, it was unclear whether the EIT will be positioned within or alongside the EIC.

1.3 Evaluation context

The results of this evaluation need to be viewed in context in order to avoid drawing misleading conclusions. It is therefore, worth highlighting that:

- Only about 17% of the total 2014-2020 budget (EUR 2.4 billion) has been spent so far (2014-2015). This needs to be taken into account when evaluating the impacts of the EIT, since the results of the initiative will be in line with expenditure. Spend is proceeding according to plan and expenditure of the KICs is increasing as the second-wave KICs ramp-up their activities and new KICs become operational.
- The first wave of KICs became operational in 2011 and only ramped up their delivery from 2013 onwards, while the second wave of KICs are still bedding-in. There is in effect only 3-5 years of activity of the first wave of KICs to evaluate. Whilst innovation cycles are shortening and the KIC activities are starting to deliver results such as external investment and job creation at start-ups, creation of a pool of talent etc., it is still relatively early to be looking for the impacts of the EIT on innovation systems, the effects of which will take even longer to bear fruit.
- The EIT's activities have been the subject of several recent and parallel reviews (Table 1.2). The process of learning and adapting is thus, underway. When *devising our* recommendations, we have been conscious of the fact that several of the issues highlighted in this Report are already known to the EIT and are being addressed.

Table 1.2 Reviews and studies supporting the EIT's growth, vision and strategic direction

Title of review	Commissioning body	Status (at early 2017)
EIT education review (2016)	EIT	Completed
In-depth Review of the Implementation of KIC Financial Sustainability Strategies (2016)	EIT	Completed
Revision of the EIT core KPIs and EIT specific KPIs (2016)	EIT	Completed
The Future of the European Institute of Innovation and Technology (EIT) Strategic Issues and Perspectives (2016) – Report of the High Level Group	European Commission	Completed
Performance audit – CoA report (2016)	European Court of Auditors (ECA)	Completed
Assessment of EIT implementation of knowledge triangle integration and co-location centres	EIT	Ongoing
Assessment of the implementation of the innovation agenda of the EIT KICs	EIT	Ongoing
KIC Business Creation programme reviews	EIT	Completed
Study and analysis on the Global and European Impact of the EIT and its KICs from 2010 to 2016	EIT	Ongoing

Source: EIT

1.4 Evaluation methodology

1.4.1 Evaluation objectives and questions

The task specifications set out in the ToR for this study specify that the goal of this evaluation is “to assess the EIT's work as identified in the EIT Regulation and Horizon 2020 Regulation, and in particular examine how the EIT fulfils its mission”. This was an interim evaluation, covering the period 2011-2015, though evidence for the years 2010 and 2016 were included in the analysis where evidence was available and added value to the study.

The results of the evaluation are expected to inform policy decisions relating to any amendments to the EIT Regulation and the future orientations of the next Strategic

Innovation Agenda (SIA) for the EIT (covering the period 2021-2027), aside from meeting the legislative requirements¹⁵. The evaluation should therefore inform the H2020 interim evaluation as well as the EIT review, both of which are due by the end of 2017. The findings and recommendations¹⁶ of the evaluation will feed into a follow-up action plan drawn by the European Commission and the EIT Governing Board of the EIT will take them into due account for the EIT programmes and operations.

The ToR for this study listed a set of 40 evaluation questions, structured under eight evaluation topics (ETs). These are summarised in Table 1.3 (the complete list of evaluation questions is included in the ToR, which is included in the annexes to this report (published separately) and include:

- A set of questions related to the *impacts of the EIT* on innovation and knowledge triangle integration, grouped under the heading 'systemic level impacts' (ET1).
- Questions related to the six *evaluation criteria* of effectiveness, efficiency, relevance, EU added value, coherence and sustainability (ET2-7);
- Questions specifically related to the *EIT management practice*, structured under the heading 'Horizontal management' (ET8).

The evaluation was tasked with providing answers to six evaluation questions about the EIT's role within Horizon 2020. Answers to these questions were included in the Interim Report for this evaluation, as this was required in order to meet the timetable for the mid-term evaluation of Horizon 2020. The answers have been integrated into this report, and each sub-section of this report indicates where we have addressed a Horizon 2020 themed evaluation question.

Table 1.3 The evaluation framework

Evaluation topic	Description	Evaluation sub-topics and corresponding report sections
1. Impacts	The impacts of the EIT on innovation, including system-level impacts The impacts of the EIT on competitiveness and societal challenges Whether the EIT has influenced policy design outside of its immediate environs	The impacts of the EIT (Section 4) Wider impacts on economic competitiveness and societal challenges (Section 4.5). The influence of the EIT on policy-makers at an EU and national level (Section 4.1).
2. Effectiveness	The effectiveness of the EIT model and the extent to which the EIT has delivered against its objectives, as set out in supporting EU Regulation	Whether the EIT model has been implemented effectively (Section 3).
3. Efficiency	The relationship between the resources used and the changes generated by the EIT's work	Assessment of the efficiency with which the EIT has generated impacts (Section 7).

¹⁵ Set out in Regulation (EC) No 294/2008 establishing the European Institute of Innovation and Technology as amended by Regulation No 1292/2013 of 11 December 2013 and H2020 Regulation (Regulation (EC) No. 1291/2013)

¹⁶ The ToR tasked the evaluation with answering six specific questions concerning the future of the EIT (in brackets we indicate where this is addressed in this report): 1) how can the EIT's cost-effectiveness be increased? (Section 7.2); 2) how can the identified the bottlenecks and weaknesses be overcome? (Section 3); 3) what should be changed/adjusted to achieve the EIT's Horizon 2020 objectives, and what should be maintained? (Section 2.4); 4) to what extent and how do the objectives need to be changed to reflect the changes that occurred? (Section 2.4); 5) how can the innovation potential across Europe be better joined in the work of the EIT and the KICs? (Section 4.6); and 6) how can the long term sustainability of the EIT and its KICs be achieved? (Section 8.1)

Evaluation topic	Description	Evaluation sub-topics and corresponding report sections
4. Relevance	Whether the EIT model as originally designed remains relevant	The continued relevance of the EIT model (Section 2).
5. Added value	The value resulting from the EIT activities that is additional to the value that would have resulted from other initiatives at national level	The added value of the EIT compared to national activities in support of innovation (Section 6)
6. Coherence	The relation of the EIT's work with the other EU and national initiatives in the field of innovation	Coherence of the EIT with EU and national initiatives (Section 5).
7. Financial sustainability	The financial sustainability of the EIT model	The progress of the KICs towards financial sustainability (Section 8)
8. Horizontal management	Performance management and organisational learning	The EIT KPI system (Section 3.3). Learning within the EIT (Section 2).

1.4.2 Overview of the evaluation methodology

This sub-section reviews the data collection and analysis activities that were undertaken as part of the evaluation.

1.4.2.1 Open Public Consultation

The purpose of the OPC was to gather information and opinions from a wide spectrum of stakeholders on the effectiveness, efficiency, relevance, coherence and added-value of the activities of the EIT and KICs. Whereas most of the research conducted as part of the interim evaluation involved participants and beneficiaries of the EIT, the OPC provided an opportunity to 'open up' the data collection exercise to a wider community of individuals and organisations and enable them to input into the evaluation.

The OPC consisted of a structured questionnaire that was designed to be completed online (using SurveyGizmo). In addition or instead, respondents were given the opportunity to submit written responses. The questionnaire was designed by the evaluation team and reviewed by Commission Services prior to deployment. Questions were largely closed-ended, with a number of opportunities for respondents to provide more detailed open-ended comments. To encourage a good response rate, the questionnaire was kept as short as was feasible, and consisted of 24 questions.

The OPC was launched on 26 August 2017, and closed on 20 November 2016. It was primarily accessible via DG EAC's dedicated public consultation webpage, and was promoted via the European Commission's standard procedures for running a public consultation. The evaluation team was not involved in raising awareness of the OPC, or in encouraging specific organisations to respond. The OPC received the following responses:

- A total of 159 questionnaires were submitted;
- In addition, 12 written submissions were sent to the Commission, and passed on to the evaluation team.

Quantitative and qualitative data were analysed by the evaluation team, and the results of this analysis are used throughout this report. A standalone Synopsis Report of OPC findings is included within the annexes to this report (published separately).

1.4.2.2 Online surveys of partners, graduates and businesses

Three separate online surveys were designed to collect evidence from KIC partners (past and present, core and associate / affiliate¹⁷), graduates of EIT-label courses and businesses that had participated in KIC accelerator / business support schemes. The purpose of these surveys was to collect evidence from the individuals and organisations that had benefited from KIC support across the knowledge triangle (innovation, education and entrepreneurship), as well as, in the case of the partners, organisations that had insights into the design and delivery of the KICs.

Table 1.4 summarises the survey statistics, with data presented for each KIC. Following discussions with KICs (who hold the contact details for survey recipients), two broad approaches were used to survey delivery: EIT InnoEnergy, EIT Digital and EIT Raw Materials sent out the surveys on ICF's behalf, whereas EIT Climate-KIC and EIT Health sent ICF a contact database containing email addresses, so that ICF could send out the survey directly. All surveys were hosted online using SurveyGizmo. Recipients of the survey were contacted by email and provided with a link to the site where the survey could be completed. The partner survey was appropriate for all KICs, but the newness of the second wave of KICs meant that graduate surveys could not be deployed in relation to EIT Health or Raw Materials. EIT Health had a cohort of accelerator beneficiaries and so the start-up survey could be deployed.

Looking across the surveys, response rates for the partner survey were mixed, ranging from around 20% up to 54%. This may reflect research fatigue given the recent partner survey carried out for the European Court of Auditors (ECA) Report, and the parallel OPC (which many partners responded to). Response rates for the graduate survey were around 45-55% which is positive, and were around 40-95% for the business survey, which is very high (excluding the EIT Health survey, for which the population was small, given how recent the KIC started its operations).

Table 1.4 Summary of the results of the surveys, disaggregated by KIC

Survey type	KIC	Population	# Responses	Response rate	Delivery mode
Partner survey	EIT Climate-KIC	239*	128	53.6%	Sent by ICF
	EIT InnoEnergy	250^	52	20.8%	Sent by KIC
	EIT Digital	103^	34	33.0%	Sent by KIC
	EIT Health	157*	31	19.7%	Sent by ICF
	EIT Raw Materials	100^	31	31.0%	Sent by KIC
Graduate survey	EIT Climate-KIC	205*	97	47.3%	Sent by ICF
	EIT InnoEnergy	300^	160	53.3%	Sent by KIC
	EIT Digital	153^	85	55.6%	Sent by KIC
Business survey	EIT Climate-KIC	224*	219	97.8%	Sent by ICF
	EIT InnoEnergy	75^	54	72.0%	Sent by KIC
	EIT Digital	100^	41	41.0%	Sent by KIC
	EIT Health	51*	15 ^{###}	29.4%	Sent by ICF

*Note: * Counts from contact database provided by KIC; ^ numbers provided to ICF by KIC; ^{###} Sample too small (n<30) to analyse quantitatively*

Quantitative and qualitative data from the three surveys were analysed by the evaluation team, and the results of this analysis are used throughout this report. Copies of the three questionnaires are also provided in the annexes to this report (published separately).

¹⁷ Note that the partner survey population does not match the analysis of the number of partners per KIC (see Figure 3.1), because the partner survey was opened up to all partners, past and present, whereas partner data are presented on a per-year basis.

1.4.2.3 Social network analysis

The purpose of the social network analysis (SNA) was to answer a key evaluation question: to what extent the EIT and its activities had an impact on strengthening the EU ecosystem in the KIC fields of research and innovation, thus reducing fragmentation. This is directly related to the system-level innovation impacts of the EIT model.

The SNA was designed to investigate whether or not the establishment of the KICs had an influence on the characteristics of the research networks of the KIC core partners and associated / affiliated partners in the EU Framework Programme (FPs). Two time periods were used for comparison purposes: during FP7 (i.e. before the launch of the KICs), and under Horizon 2020 (i.e. once the KICs were established). The SNA involved taking the population of KIC partners (as at 2016), and investigating their participation and collaboration patterns within FP-funded research projects. We also looked at the extent to which the key participants in the FP research networks were involved in the KIC partners' FP networks.

The basis for the SNA was the data in the FP7 and H2020 Community Research and Development Information Service (CORDIS), available from the EU Open Data Portal¹⁸. We restricted the analysis to the thematic areas of the three first-wave KICs (i.e. energy (EIT InnoEnergy), environment and climate change (EIT Climate-KIC), and ICT (EIT Digital)). Under FP7 these programmes were centred in the Cooperation pillar; in H2020 they are spread over two pillars: Industrial leadership (LEIT) and Societal Challenges. EIT databases containing the identities of all KIC core partners and associated / affiliated partners were linked with the CORDIS data.

1.4.2.4 Research with policy-makers and at the EIT headquarters

The purpose of this part of the methodology was to understand the rationale, governance and evolution of the EIT and its mandate, processes and procedures. There have been a number of changes within the EIT in the last few years, in terms of staffing, structure, and growth. This included the appointment of a new interim director. During the evaluation, the team visited the EIT headquarters in Budapest twice, collected data and interviewed staff.

The data analysed included: administrative documents, minutes of the board meetings, the SIA and other strategy documents. The EIT provided access to a number of other data sources for the KIC level strand of this evaluation.

Interviews with key staff at the European Commission and the headquarters of the EIT covered the following issues:

- The alignment of the EIT vision with the needs in the current EU innovation system;
- The discrepancy between the division of roles as envisaged in the official documents and its implementation;
- The processes for decision-making in relation to the EIT strategy, the EIT Board, and the activities that take place at the EIT headquarters;
- The EIT Governing Board structure and mandate;
- The space for learning in the EIT Governance System;
- The importance of the EIT brand.

In addition, interviews were held with EIT Governing Board Members (present and former), European Commission staff, Former EIT Director and Seconded National Experts.

¹⁸See: https://data.europa.eu/euodp/en/data/dataset?q=cordis&ext_boolean=all&sort=views_total+desc

Table 1.5 provides an overview of the interviews conducted. A complete list of the interviewees is provided in the annexes to this report (published separately).

Table 1.5 Interviews completed with policy-makers and at the EIT headquarters

Interviewee category	Example(s) of interviewees	# of completed interviews
European Commission / policy makers	DG EAC (present and past EIT 'managers') DG RTD / H2020 representatives European Parliament	6
EIT headquarters	Board Director & COO Staff of the Partnership Management Unit, Policy and Communication Unit and Services and Finance Unit	12
Key EIT stakeholders at national level	Innovation policy-makers Innovation support agencies	4
Total		22

1.4.2.5 KIC-level research

KIC-level research consisted of a large programme of work spanning qualitative and quantitative research methods (in resource terms, the KIC research was the single largest research task conducted as part of the evaluation). Broadly, the purpose of the KIC-level research was to collect a comprehensive evidence base about the effectiveness and impact of the EIT at KIC level, and to explore the added value of the EIT compared to national initiatives. The scope of the work included five KICs: the three first-wave KICs (EIT InnoEnergy, EIT Climate-KIC, EIT Digital), plus the two second-wave KICs (EIT Health and EIT Raw Materials).

Research with each of the KICs was the responsibility of thematic experts (with the support of a thematically focussed research team), who undertook the following research activities:

- *Desk research*: a review of documentary material on the KICs, including: Business Plans; performance reports, including KPIs; independent assessments of KICs; and any other material available;
- *In-depth semi-structured interviews*: each KIC team undertook a comprehensive programme of interviewing with key individuals, including representatives from: the Board, KIC management (COO, CEO, Directors of education, innovation, entrepreneurship), the project officer at the EIT, CLC team members, key partners, and regional / national stakeholders (see Table 1.6 for an overview per KIC).
- *Study visits to CLCs*: a member of the study team undertook a study visit to two CLCs in Berlin (part of EIT Digital and EIT Climate-KIC respectively) to interview a selection of stakeholders involved in the delivery of activity (CLC Managers) and a selection of partners / beneficiaries (e.g. businesses that received support from the CLCs). In addition, CLC representatives were interviewed as part of the in-depth semi-structured interviews.
- *Case studies*: case studies were designed to explore thematic topics of relevance to the evaluation, and three each were completed within each of the three first-wave KICs (the second-wave KICs were omitted from the case study exercise as they had only recently commenced delivery). Each case study consisted of between 2-4 interviews with key stakeholders (project leads, partners, beneficiaries), together with a review of project documentation and evaluative evidence, if available.

The primary research undertaken at KIC level is summarised in Table 1.6. A complete list of the interviewees is provided the annexes to this report (published separately). The

results of the KIC-level research were analysed by the evaluation team, and are presented throughout this report in response to the evaluation questions. Where relevant, we have included extracts from the case studies to provide additional evidence that illustrates and supports the conclusions of the evaluation team.

Table 1.6 Overview of the primary research undertaken within each of the KICs

KIC name	# Stakeholder interviews	Case studies
EIT InnoEnergy	6 KIC team / Board 2 partners 2 beneficiary 1 EIT desk officer	<i>Developing Game Changers</i> : improvements made to the KIC's Masters programme on the basis of lessons learned from implementation. <i>Financing Minesto</i> : support to a business/technology on the cusp of commercialisation, and the role of the KIC as a partner. <i>EIT InnoEnergy Iberia's role in the regional innovation system</i> : the systemic impact of the KIC in supporting regional innovation.
EIT Climate-KIC	6 KIC team / Board 3 partners 2 participants professional development 1 EIT desk officer	<i>Pioneers into Practice</i> : the impact of the KIC's professional mobility programme which looked to build entrepreneurial and intrapreneurial skills amongst climate professionals. <i>Start-up support: analysis of the results generated by the KIC's Accelerator</i> , which looked to support start-ups to scale up their businesses. <i>Innovation support</i> : the impacts of support provided by the KIC to a start-up via its participation in two innovation support projects.
EIT Digital	5 KIC team / Board 1 partner 1 beneficiary innovation project 1 EIT desk officer	<i>ARISE network</i> : regional innovation support provided by the KIC, to build innovation and entrepreneurship support capacity in European regions. <i>High Impact Initiatives (HIIs)</i> : the rationale, activities and emerging impacts of EIT Digital's HIIs, which are innovation projects with significant potential. <i>Silicon Valley Hub</i> : the added value and achievements of the Hub and drivers/barriers to transatlantic cooperation.
EIT Health	6 KIC team / Board 3 partners 1 EIT desk officer	No case studies were completed for the second-wave KICs
EIT Raw Materials	6 KIC team / Board 1 EIT desk officer	No case studies were completed for the second-wave KICs

1.4.2.6 Patent landscaping

In addition to the work carried out by the thematic leads at KIC level, CambridgeIP were contracted to undertake a concise patent landscaping exercise. The purpose was to explore the innovation impact and channels of impact of KIC's patent activities. A case study approach was used, whereby KICs were invited to suggest an example of a business that they had supported that had resulted in the generation of a patent. The results were thus not expected to be representative of all patents registered as an output of EIT support; rather, this analysis has been used to illustrate the impacts for specific examples. The following cases were suggested by the KICs and analysed by CambridgeIP:

- CorPower Ocean AB (EIT InnoEnergy); and
- Backhaul Solutions for Heterogeneous Networks (EIT Digital).

CambridgeIP carried out a desk based qualitative and quantitative analysis as follows:

- Background research on the company and broader developments in the relevant technology areas;

- Company patent portfolio analysis, including patent family size analysis, patent citation *analysis*, geographic distribution of patent protection, key technology applications of the company's patents;
- Industry patent analysis using IPC code analysis, building of some top-level patenting trends in the technology fields relevant to the company, identifying patenting trends and key patents in the field;
- Other analysis such as commercialisation evidence, such as licensing or spin-offs.

Due to budget constraints, the analysis was based solely on data extracted from publicly available sources and documents created by third parties, such as patent data obtained Patent Offices' databases and company website. As such, the analysis is limited in scope. In particular, there was no scope to conduct:

- Comparisons between different technology areas and the IP outcomes of different KICs;
- Analysis of factors that can increase the impact of the technologies;
- Systematic analysis of the total patent/IP impact of the KICs;
- Analysis of the relative superiority of any one technology compared to the market;
- Identification of licensing partners/targets from patent data.

1.4.2.7 Comparative analysis

Comparative analysis consisted of a review of a small number of national programmes and initiatives¹⁹ that are broadly comparable with the EIT. The primary purpose of this exercise was to provide evidence as to the added value of the EIT model in comparison to what is happening at national level, and also to use these comparators to shed light on the effectiveness, impact and efficiency of the EIT. A total of eight national initiatives were identified in the Interim Report:

- COMET - Competence Centres for Excellent Technologies, Austria;
- Cooperative Research Centres Programme, Australia;
- Leading-Edge Clusters, Germany;
- Networks of Centres of Excellence (NCE) Program, Canada;
- Nordic Centres of Excellence, Norway;
- Pôles de Compétitivité, France;
- SHOK – Strategic Centres for Science, Technology and Innovation, Finland; and
- VINN Excellence Centres – Centres of Excellence in Research and Innovation, Sweden.

Comparator initiatives were selected on the basis that they demonstrated some similarities to the objectives and implementation models of the KICs. This means that they mostly support the creation of communities of various actors, from the private, public and academic sectors, in order to pursue innovation. A mixture of countries – including some non-EU countries – was also considered necessary to achieve a balance of contexts.

The research carried out as part of the comparative analysis consisted of:

¹⁹ It was agreed at inception stage that, since there are no directly comparable initiatives to the EIT in operation at an EU level, the focus of the benchmarking work would be national level programmes and initiatives.

- *Desk research*: this was the primary data collection methodology, and involved analysis of information on the official websites of the comparators, as well as in the available documentation that included monitoring, annual and evaluation reports.
- *In-depth semi-structured interviews*: to fill in gaps in the desk research and to explore specific research topics, a total of five interviews were carried out with representatives from five of the comparator schemes²⁰.

The data collected via these methods was analysed via a template that was structured around five key 'themes': i) inputs and expenditure; ii) activities carried out; iii) outputs, outcomes, and impacts (quantitative measures where possible, though qualitative assessments of impacts were also included); iv) monitoring and evaluation arrangements; and v) strategic positioning (a largely qualitative assessment of initiatives' embeddedness and role in national/regional innovation systems, and interviewees' views on their distinctiveness vis-à-vis the EIT/KICs). Information collected about the KICs was also added to the analysis matrix, and on the basis of this, comparisons were made about the similarities and differences between the EIT and the other initiatives.

1.4.2.8 Consultation workshop

At the end of the data collection phase, a one-day workshop was organised in Brussels to present the emerging findings of the evaluation, and for attendees to discuss two key topics of relevance to the evaluation:

- The role and contribution of the EIT in strengthening the EU's innovation capacity through knowledge triangle integration;
- The role of the EIT in the EU innovation landscape, including its relevance, coherence and EU added value.

Workshop participants included Member States representatives, industry, research organisations and academia, as well as Commission officials and EIT staff. The evaluation team prepared a short paper summarising the main discussion points from the workshop, and the results have been incorporated into the analysis presented in this report.

1.4.3 Assessment of the strengths and weaknesses of the data collected

Sections below detail the strengths and weaknesses of the methodology and the evaluative data collected and analysed. Notwithstanding these limitations, we believe that the evaluation design is strong. Because there are multiple lines of evidence contributing to answering each evaluation question, limitations associated with individual research activities do not put into question the integrity of the evaluation findings. In the view of the evaluation team, the results are valid and reliable. A series of measures were undertaken to ensure validity and reliability:

- Hypothesis exploration: multiple hypotheses were tested to identify the best, most probable explanation;
- Information validation: evidence compiled from different sources was corroborated and cross-validated (triangulation);
- Stance analysis: taking account key informants' and stakeholders' backgrounds to assess how their perspective might have biased the information they provided;
- Understanding and making explicit the assumptions, strengths, weaknesses, limitations and gaps in analysis;
- Information synthesis: going beyond simply collecting, listing and describing distinct data elements in the interpretive process;

²⁰ COMET, Leading-Edge Clusters, NCE, Nordic Centres of Excellence, VINN Excellence Centres

- Explanation critique: external experts were involved in independently examining the interpretive chain of reasoning and inferences drawn;
- Where the evidence is limited in some way, the report notes that fact and weighs the value of the findings.

1.4.3.1 Strengths of the data collected

The strengths of the data collected include the following:

- *A diversity of sources of evidence:* a large amount of data collection and analysis was undertaken as part of this evaluation. The research programme was designed to be as wide-ranging as was feasible given the resourcing and timetable of the study. This was to ensure that the evaluation was able to draw on a wide evidence base, encompassing analysis of secondary data and consultation with a diverse set of stakeholders (including individuals and organisations involved and not involved with the EIT, and representatives from small and large businesses, academia, research institutes, and EU, national and regional governments).
- *Mostly good response rates to the surveys and OPC:* as shown in Table 1.4, the surveys of partners, graduates and businesses mostly achieved good response rates. This was particularly true of the graduate surveys (response rates were around 50% for all KICs) and the business surveys. A good survey response rate suggests that the results should be representative of the population, though since there are no population-level data we were not able to perform any tests for non-response bias. The OPC received around 170 responses in total, and included a good mix of respondents who were involved or not in the EIT/KICs (as well as a good mix of types of respondents – public sector, business, academia etc.).

1.4.3.2 Weaknesses of the data collected

The weaknesses of the data collected include the following:

- *Gaps in coverage of centrally-held evaluative data:* whilst the autonomy of the KICs is a key part of their delivery model, from an evaluation perspective this presented a challenge in terms of collating certain pieces of evaluative data. Contact details for partners and beneficiaries (graduates, businesses) had to be sourced from each KIC, and in some cases the team had to rely on KICs to send out surveys on our behalf. Whilst data on the core KPIs was available centrally from the EIT headquarters, additional KIC-specific indicators had to be sourced from each of the KICs. In relation to expenditure data, how KICs 'code' expenditure information varies, meaning that we could not consistently calculate expenditure by innovation, entrepreneurship, education and management, let alone attempt a more detailed disaggregation of expenditure patterns.
- *A lack of consistency in KPIs:* the problems with the KPI system used by the EIT and the KICs are well-known and have been subject to an independent review in order to improve the quality of the data available, the results of which are being implemented from 2017 onwards²¹ (see Section 3.3 for a discussion). Beyond the six core KPIs collected for the EIT as a whole, there are gaps and inconsistencies between KICs, such that information is available for some KICs but not for others. Consequently, there are limitations in the extent to which the evaluation has been able to present an aggregate picture of the results of the EIT.
- *A mixed response rate to the partner survey:* the notable exception to the point made above about good response rates was the response to the partner survey. As shown in Table 1.4, the partner response rate was around 20-30% for the KICs (the exception was EIT Climate-KIC where a 50% response rate was achieved), which is

²¹ EIT (2016) *Revision of the EIT Core KPIs & EIT specific KPIs*

reasonable but not good. Though this could not be confirmed, discussions with KICs indicated that there is likely to be a certain amount of 'survey fatigue' amongst partner organisations (for example, partners had relatively recently been surveyed as part of the ECA Report on the EIT). Moreover, the OPC was conducted in parallel to the partner survey, and it is likely that some organisations elected to respond to the OPC rather than completing the partner survey.

- *OPC results are not statistically representative:* whilst the surveys of partners, businesses and graduates were censuses (i.e. all units in the population had an opportunity to participate in the survey), the OPC was not. Respondents self-selected based on whether or not they wanted to participate. The results of the OPC are thus not statistically representative, regardless of whether a good response rate was achieved (see above). Whilst we present descriptive statistics, as is convention with public consultations, these results should not be seen as representative of the wider stakeholder population.
- *Interviews with wider stakeholder groups:* When the evaluation methodology was designed, it was envisaged that sufficient evidence about the system-level impacts of the EIT model could be sourced from stakeholders involved in the EIT (partners etc.) together with the results of the OPC. With the benefit of hindsight, the OPC proved insufficient, and targeted consultation with wider stakeholder groups who were not directly involved with the EIT but who might have been affected by its work (universities, policy makers and innovation actors at local, regional and national levels) would probably have provided another more robust source of evidence about the wider impacts of the EIT.
- *The patent landscaping proved to be challenging:* Whilst patent generation is not a core part of what the KICs do, in some cases patent is an important output of KIC-backed innovation projects. Including an element of impact assessment through patent landscaping was a more risky approach methodologically. Innovation takes a long time to emerge and even the first KICs have only been fully up and running since around 2013. Identifying potential impacts to explore was, therefore, challenging. Moreover, using patent landscaping only provides good evidence if that particular breakthrough lends itself to patent citation being a good indicator of success. There are lessons to be learnt from the methodological approach, but the data collected did not add significant value to the evaluation results.

2 Relevance of the EIT model of innovation

This section provides answers to the following evaluation questions:

- Q4.1: To what extent have the original objectives of the EIT proven to have been appropriate for the EU needs in the context of the innovation gap? (Sections 2.1 to 2.3)
- Q4.2: To what extent is the EIT's objective of supporting innovation through knowledge triangle integration still relevant in the EU? (Section 2.4)
- Q4.6: How relevant is the KIC model for supporting innovation in the EU? (Section 2.4)

In answering the above questions, this section briefly summarises the original rationale for the EIT. It then discusses how the innovation challenges facing the EU and the landscape within which the EIT operates have evolved since its creation. Finally, we conclude with a whether the EIT's objectives and its model of innovation remain valid in this changing context.

2.1 The original rationale for creating the EIT

The proposal to set up what was to become the EIT was first put forward in 2005.²² The rationale stated that technological advances and the application of high-level scientific research are crucial drivers of economic growth and employment prospects. However, despite Europe's many successes in research and education, it was falling behind competitor economies when it came to the creation, dissemination and application of "new knowledge" or the creation of marketable innovations. In addition Europe needed to respond to global competition and address urgent societal challenges.

Europe did not lack the underlying capacity to innovate, but needed to address a number of deficiencies. These included the fragmentation of the innovation system, lack of exploitation of research strengths, a failure to create and sustain new enterprises (at a sufficient rate) and a low level of entrepreneurial culture.

The nature and scale of the innovation challenge required action to be taken at the Community level. The EIT was therefore, established in March 2008 as a body of the European Union "to increase European sustainable growth and competitiveness by reinforcing the innovation capacity of the EU", as a response to the innovation challenges described above. It was seen as a vehicle to bring together key players from the world of academia alongside the public and the private sector to create economies of scale, apply new knowledge and address fragmentation. This was a new approach as higher education had not previously been such a central player in the Lisbon Strategy, supporting economic growth. The inclusion of higher education with research and innovation was described as knowledge triangle integration.²³ For education, the EIT was not seen as just engaging in teaching and research, but also, originally, in awarding qualifications. For innovation, the model included leveraging private sector investment. Early documents described the EIT as a knowledge operator, not a funding agency:

*"It will carry out activities around the three parts of the knowledge triangle – it will educate, do research, and seek to apply the outcomes of that research to commercial or societal ends. That is the real difference with the activities carried out under the education, research or innovation programmes, where the Commission essentially distributes funds for various pre-defined activities."*²⁴

²² Commission mid-term review of the Lisbon Process (COM (2005) 24), page 23

²³ Regulation (EC) No 294/2008 of the European Parliament and of the Council of 11 March 2008 Establishing the European Institute of Innovation and Technology

²⁴ Communication from the Commission to the European Council - Implementing the renewed partnership for growth and jobs - Developing a knowledge flagship: the European Institute of Technology COM/2006/0077 final

2.2 The ongoing rationale for the EIT

The overarching logic for the EIT remains as valid now as when the EIT was first launched. The importance of innovation-led growth remains a touchstone of policies promoting economic growth and the creation of new employment opportunities across the EU, whilst the integration of higher education, research and innovation continues to be a desired policy goal, but is elusive in practice.

Whilst performance is improving, the EU continues to lag behind competitor economies on key innovation benchmarks, whilst others are beginning to close their own innovation gap with the EU²⁵. This highlights the continuing relevance of a body designed to contribute to enhancing innovation capacity in the EU. The reasons for the EU's relatively weak performance have been well-analysed and include factors such as: the separation of research, education and innovation; the fragmentation of research and innovation activities within regions and, more particularly, across the EU; the relatively low expenditure of businesses on research and innovation; the difficulties experienced in translating excellent research into commercial goods and services; low-rates of new business creation, and traditionally risk averse attitudes. Within the EU there are also strong disparities in innovation performance, with some high-performing areas but many where performance remains much weaker. In part this is due to the different development paths experienced by various parts of the EIT, highlighting the variegated landscape in which the EIT seeks to operate.

Our understanding of the innovation process has also strengthened over recent decades. No longer is it considered as a linear process, or the endeavour of a lone individual. The systemic nature of the innovation process (with both sectoral and spatial aspects) is now fully appreciated, alongside its social and cultural dimensions. The scale of resources has also altered. In the modern economy, collaborative ventures are required if we are to realise the critical mass necessary for achieving impactful innovation. This is not just in the form of greater numbers but also the ability to draw on inter-disciplinary perspectives, where the introduction of new perspectives can bring substantive benefits. Yet, levels of collaboration in many parts of the EU remain low, with issues both of trust and of capacity. The move towards more open-innovation models reflects the power of combinatorial approaches, although institutional structures are required that enable the opportunities of this to be fully-realised. The networked model of the EIT reflects this mode of thinking and suggests that the approach remains conceptually well-grounded, as well as addressing recognised systemic weaknesses.

In many respects the rationale for the EIT has, in fact, strengthened in the years since the EIT was established. The advent of the financial crisis and the subsequent slowdown in economic growth has reinforced the importance of promoting growth and employment. To help achieve this, the EU and Member States have enhanced the significance attached to promoting innovation as a source of economic growth. Moreover, increasing attention is also now being paid to how innovation can assist in addressing key societal challenges, such as an ageing population and the effects of climate change. In an age of austerity, particularly for public finances, increasing the efficiency of existing actions and enhancing their effectiveness is a crucial consideration, which further reinforces the continuing rationale for the EIT as a principle.

Box 2.1 The rationale for intervention – theoretical perspectives

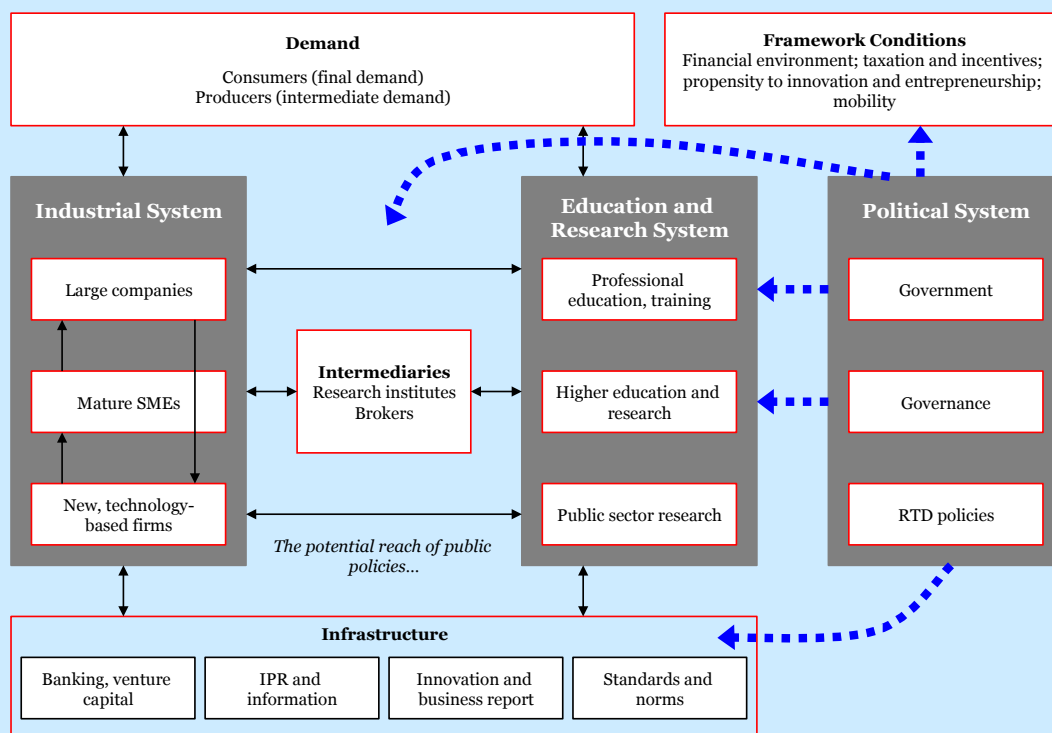
It is widely understood that innovation does not take place along simple linear lines from research, through invention to commercial product or process but is dependent on a variety of feedback loops "within a context of structured relationships, networks, infrastructures and in a wider social and economic context". In other words, innovation takes place within complex

²⁵ According to the 2016 European Innovation Scoreboard, the EU's innovation performance gap with respect to Japan and the US is narrowing, while the gap between the EU and South Korea is increasing, and the EU lead over China is also shrinking

national, international and regional systems (see figure below). Individual components of these systems – such as companies, universities, institutions, institutes, governance, education, tax laws and other ‘framework conditions’ etc. – all need to work well if the system as a whole is to generate economic welfare. Not only the components of the system but the way they are interconnected need to be efficient and of high quality. Correspondingly, the balance among different system components and the policies that relate to them needs to be appropriate and the policies need to be mutually consistent.

Moreover, the innovative performance of an economy depends not only on how the individual organisations perform in isolation, but also on how they interact with each other and on their interplay with social institutions (such as values, norms and legal frameworks).

Figure: Stylised representation of Innovation Systems



Source: Erik Arnold and Stefan Kuhlman, *RCN in the Norwegian Research and Innovation System, Background Report No 12 in the Evaluation of the Research Council of Norway*, Oslo: Royal Norwegian Ministry for Education, Research and Church Affairs, 2001

Important components of innovation systems include the industrial, education and research systems. The industrial system places businesses firmly at the centre, as the main actors in innovation. The education and research systems play a special role, in part because together they have three ‘missions’ – teaching, research and knowledge exchange with society (including innovation) – which are co-located. The link between research and the third mission is quite well understood, but the research-teaching and teaching-society links are less so. In principle, the EIT should help make this link more deliberate and explicit – connecting teaching to areas of priority for research and innovation as well as orientating teaching towards fulfilling the third mission.

New knowledge plays an important role in innovation and therefore understanding how new knowledge flows in the economy and how to make best use of knowledge is important to the

development of appropriate innovation policies.

Networks - by facilitating knowledge flows and collaboration among the different actors – play an important role in the innovation system. The innovation literature puts forward several justifications for public intervention to support the development of networks²⁶:

- Overcoming the widespread information and behavioural barriers to cooperation between the different actors of the innovation system.
- Developing stronger channels to facilitate the flow of knowledge and technology from higher education and research institutes to businesses who are in a position to deploy that know how in a commercial setting increasing social returns.
- Conducting problem-focused research (as opposed to purely disciplinary academic research), in the expectation that this might expand the total academic effort devoted to user-oriented research and thereby accelerate technological breakthroughs in key areas.
- Developing a critical mass of research excellence/ innovation capacity in emerging areas.

Finally, proximity is another important aspect as it facilitates the development of relationships between firms and their external sources of information. Geographic proximity, for instance, enhances 'togetherness' and exchanges, while 'cognitive' proximity (i.e. a common knowledge base encompassing diverse but complementary capabilities) facilitates interactive learning, and, thus, innovation.

2.3 The changing policy landscape

Whilst the underlying rationale for the EIT remains, there have been a number of policy developments in the years following its creation. Overall, these reinforce the significance of promoting innovation across the EU and so set an important context for the EIT's activities.

The strong policy emphasis is headlined in Europe 2020, where Smart Growth: developing an economy based on knowledge and innovation, is one of three key objectives. The objectives of Sustainable Growth and Inclusive Growth also form an important context for the work of the EIT. To realise these objectives, Europe 2020 includes seven flagship initiatives, which set out clear directions of travel. For the EIT, the most significant of these is the Innovation Union, however others are also relevant to its activities including those promoting an agenda for new skills and jobs; a modern industrial policy; a digital agenda and greater resource efficiency. The EIT's activities contribute to each of these, highlighting its wide-ranging relevance.

The EIT is also working within a landscape where there is increasing recognition of the importance of strengthening the role of Higher Education Institutions (HEIs) in their surrounding economies. Often termed the 'third mission' of HEIs (alongside research and education) this seeks to strengthen the impact of the research and educational activities of the higher education sector through building links with firms or into surrounding communities. It is increasingly seen as being part of the 'Civic Mission' of the higher education sector. Whilst this remains a nascent policy theme, it highlights how the EIT can be seen as being in the vanguard of current live policy debates, with the opportunity to shape policy developments as well as to respond to emerging opportunities. However, although this is an area of strong emerging relevance, the extent to which the EIT seeks to engage with this debate, rather than the higher profile but more traditional policy debates around innovation and entrepreneurship, is not clear to this evaluation.

As significant as high-level policy statements are for identifying the continuing relevance of the EIT, the most significant policy developments for the EIT were introduced in the agreed Multi-annual Financial Framework (MFF) for 2014-20. This brought the EIT into

²⁶ Cunningham, P. and Ramlogan, R. (2012) *The Effects of Innovation Network Policies: Compendium of Evidence on the Effectiveness of Innovation Policy Intervention*.

the ambit of Horizon 2020, with its emphasis on securing Europe's global competitiveness through coupling research and innovation and supporting actions which are of the highest standards. A second consequence of the MFF has been to raise the importance attached to research and innovation in the EU's Cohesion Policy. This has not only substantially increased the funding available to research and innovation activities, particularly in those areas eligible for significant financial support under Cohesion Policies, it also embedded the notion of Smart Specialisation into the European Regional Development Fund (ERDF) and the European Agricultural Fund for Rural Development. For the ERDF, this had the effect of requiring all Member States to ensure that a national or regional Research and Innovation Strategy for Smart Specialisation is drawn up to guide relevant EU programme expenditures. This radical change to the EU innovation landscape provides a number of opportunities for the EIT and KICs to strengthen their potential for engagement.

Two further developments are also noteworthy. The first is the establishment of the European Fund for Strategic Investment (ESIF) as part of an investment plan for Europe. This provides an opportunity to leverage substantial investments in for infrastructure, education, research and innovation, alongside risk-finance for small businesses. These are all areas which are highly pertinent to the EIT's interests and activities. The second, much smaller development, has been the promotion of actions that strengthen excellence and widen participation in Horizon 2020 to those Member States and regions that have not been strongly engaged in the past. As its contribution to this important agenda, the EIT has developed the regional innovation scheme (EIT RIS).

A final development that is currently under discussion is the proposed European Innovation Council (EIC). The aim of the EIC would be to promote breakthrough market-creating innovations in Europe and to scale up innovative firms. At the time of this evaluation the final form of the putative EIC remains unknown, but as an initiative this serves to demonstrate the continuing interest in the area of activity inhabited by the EIT. The work of the EIT and the EIC (as currently formulated) would appear to be highly complementary rather than duplicative, particularly as it would allow the EIT to focus on its founding mission to "reinforce the innovation capacity of the Member States and the EU by promoting and integrating higher education, research and innovation of the highest standards".

2.4 Continuing relevance of the EIT's objectives and model of innovation

2.4.1 The relevance of the objectives of the EIT

There is a strong rationale for tackling innovation and societal challenges at a European level (see Box 2.2). The stated objectives of the EIT are clearly aligned to the challenges Europe confronts in terms of innovation and the notion of the innovation paradox. In addition, it aligns its objectives with innovation system theory supporting the need for greater capacity building, governance, networking and integration of knowledge actors and proximity. The newer notions of the importance of entrepreneurship and delivering innovation through societal challenges are also integral to the vision of the EIT.

Box 2.2 Societal challenges and the EIT

The scale and urgency of major societal challenges demand collective efforts at EU level, since these challenges cannot be tackled effectively by individual Member States alone. In part, since all Member States face similar sets of 'grand challenges', EU actions designed to complement national efforts to improve individual aspects of their own research and innovation systems are all likely to contribute to the resolution of major societal problems. However, there is now also a need to improve not only the policy mixes of individual Member States, but also the coherence and effectiveness of the collective policy mix of the EU itself through the implementation of focused actions deploying coherent sets of policy instruments on both the supply- and demand-

sides to tackle specific societal challenges²⁷.

The scale-related logic, which underpins many of Europe's major policy drivers, is also highly relevant for innovation.

This is borne out in the original²⁸ and the amended regulation.²⁹ The coherent approach to policy objective formulation, further reinforcing the alignment of approach to innovation by the European Commission, is seen in the EIT's General and Specific Objectives in the Horizon 2020 Regulation:

"The EIT shall contribute to the Horizon 2020 general objective and the priorities, i.e. to building a society and an economy based on knowledge and innovation across the Union by leveraging additional research, development and innovation funding and by contributing to attaining research and development targets, including the target of 3% of GDP for research and development across the Union by 2020. The EIT specific objective is to integrate the knowledge triangle of higher education, research and innovation and thus to reinforce the Union's innovation capacity and address societal challenges."

The EIT has a number of ambitious supporting statements related to its objectives in Commission documents as well as its own SIA. These firmly indicate the importance of the EIT as a policy instrument for innovation and stress the importance of education and entrepreneurship:

- Boost capacity to convert outputs from research into high value products and services;
- Bring about systemic change in the way European innovation players collaborate
- Be world class, linking local and global aspects;
- Solve long-term strategic challenges;
- Support trans- and interdisciplinary innovation-driven research;
- Stimulate entrepreneurship and entrepreneurship education, creation of start-ups, spin offs and SMEs.

One of the major aspects of the EIT, reflected above which is less well documented in innovation theory, but more so in entrepreneurship, is that of creating a different mind-set. The EIT has objectives which relate to innovation capacity and changing mind-set. The relevance of the EIT in tackling both of these aspects is high, and was echoed in the interviews with the EIT board members (past and present). The nature of a changing landscape and how to remain relevant is also important. The EIT has a vision which allows for adaptation, played out operationally through the KICs. The concept is dynamic and evolving, according to the Governing Body.

As part of the OPC, participants were asked to indicate the importance of a number of different aspects of innovation-related policy objectives which are addressed by the EIT (Figure 2.1).

The most important were indicated as the creation of EU innovation communities, new models of knowledge sharing and open innovation, networks of world class partners, cutting edge research in areas of social and economic interest, knowledge transfer and entrepreneurs. These are the most related to knowledge triangle integration and fit well with the ethos of the EIT. The importance of societal challenges is borne out by the responses to the question on "cutting edge research in areas of social and economic interest". Systems innovation is generally approached through the lens of grand (or

²⁷ Europe 2020 Flagship Initiative, Innovation Union COM (2010) 546

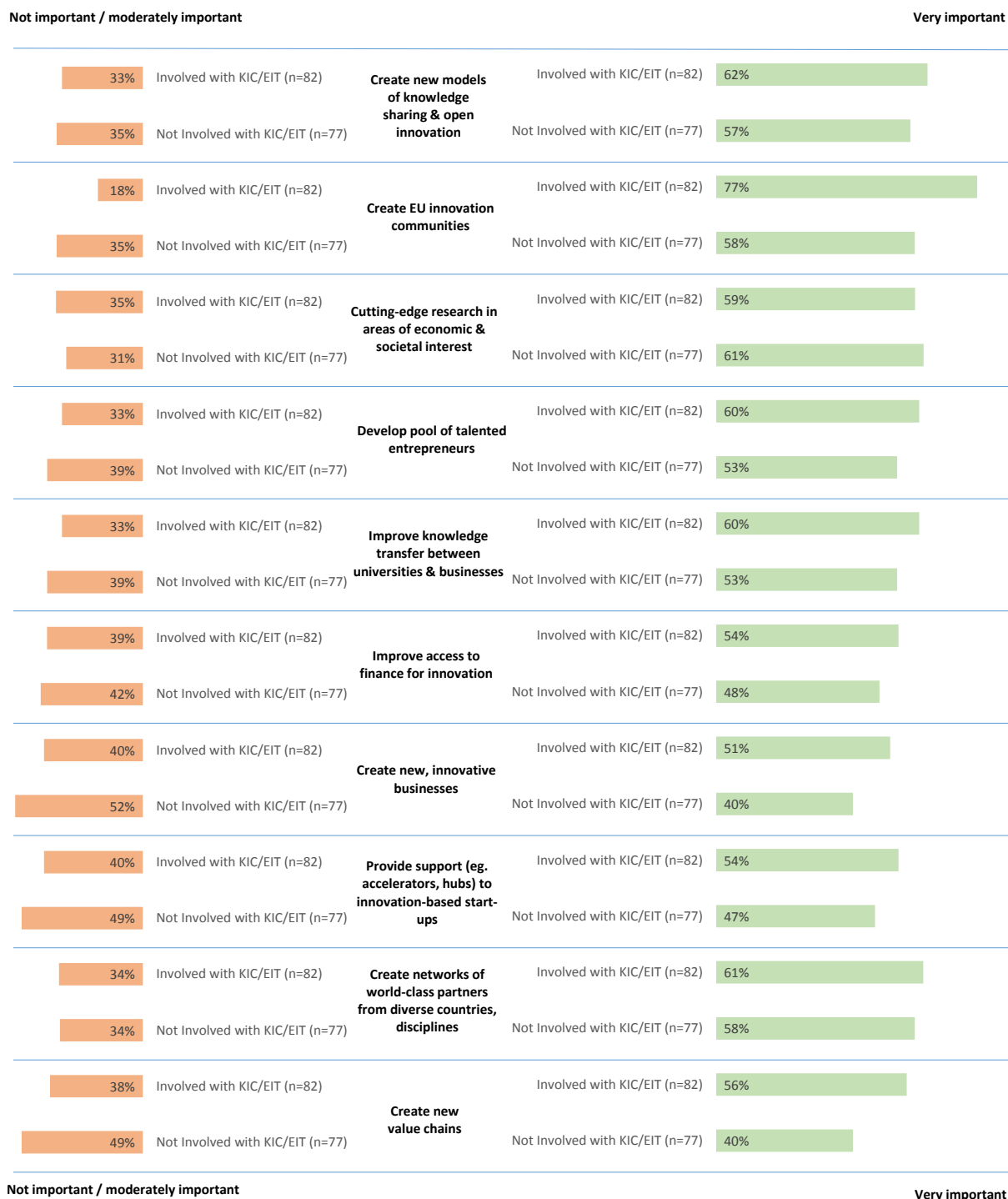
²⁸ Regulation (EC) No 294/2008

²⁹ Regulation (EC) No 1294/2013

societal) challenges which need policy across disciplines and boundaries, since they have a systemic nature.

Figure 2.1 OPC: How important it is for the EIT to deliver against a selection of innovation-related policy objectives

Q10. In order for it to achieve its mission (i.e. to enhance Europe's innovation capacity), how important is it for the EIT to deliver on the following?



Base: all respondents; note: excludes 'no opinion' and no response so does not sum to 100%

Although the stated objectives are clearly articulated, the way in which they are interpreted and understood varies greatly amongst stakeholders. This is reflected in the results of the OPC as well as during the consultation workshop held as part of the interim evaluation. This in part relates to general communication about the EIT and what it does, the additional call on the EIT, over time, to widen its remit, the variety of themes of the

KICs (and individual approaches) and also the EU policy landscape as a whole, with its many instruments and programmes. This has potentially added too many goals and tasks to the EIT in a manner which is neither conducive to effectiveness nor to efficiency.

2.4.2 The relevance of the innovation model of the EIT

There are two aspects to the EIT model of innovation:

- The first is knowledge triangle integration.
- The second part of the model is the KIC being organised around a small number of co-location centres (CLCs) or nodes (and in some cases additionally also Regional Innovation Centres (RICs) / Associate Partners / Satellites), which act as geographical hubs for the various KIC activities.

Supporting innovation through knowledge triangle integration is increasingly relevant in the EU. If anything, this concept is growing in relevance. In relation to education and innovation, the importance of improving the quality of skills and their relevance for the labour market is a policy priority in Europe. Competitiveness critically depends on knowledge, skills, competences and creativity in a dynamic relationship.

The results from the OPC, presented above, indicate the importance of the EIT approach as a way of enhancing Europe's innovation capacity, through innovation communities.

There is however an issue in the understanding of the definition of KTI and therefore how it is operationalised. There are different variants and levels or elements of KTI.³⁰ At a broad level, KTI can be understood as integration of activities (innovation, education and entrepreneurship activities) or as integration of actors (businesses, universities, research organisations and others). The same problem of definition existed for co-location centres.

Knowledge triangle integration has not been defined in Regulation (EC) No 294/2008, Regulation (EU) No 1292/2013, or in the SIA. In the current review of KTI (commissioned by the EIT), it is noted that the concept is deliberately kept open. This is in order to give the KICs room to develop their own position and mechanisms for developing the concept to match their own needs. A strength of this approach is that it allows for the different challenge-led KICs to interpret KTI in a way which supports their particular ecosystem. A weakness is, that, with little guidance, it is challenging to assess what has been done in operationalising the knowledge triangle and therefore difficult to judge whether KTI is successful. To a certain extent it remains a brand or concept, rather than a conceptual model.

The EIT Amended Regulation (Regulation (EU) No 1292/2013) provides a firm definition of co-location centre: "co-location centre" means a geographical area where the main knowledge triangle partners are based and can easily interact, providing the focal point for the KICs' activity in that area.

Recognising the need for more support in understanding KTI and co-location the EIT has been working hard on the definition and guidance in the last two years.

In 2015, an internal document³¹ provided a working definition of KTI. In this, the elaboration of the knowledge triangle and KTI within the EIT community is proposed to take place at four interconnected levels: the EIT, KIC, KIC Co-location Centres and KIC projects. According to this document: *"Knowledge Triangle Integration is a coordinated process in which the EIT and its Knowledge and Innovation Communities (KICs) inspire, facilitate and empower people with a large diversity of skills and competences to creatively use the resources available to:*

³⁰ Durst, S., Horvat, M., Kroll, H., van der Meulen, B. (2017) Inception Report: Assessment of EIT Implementation of Knowledge Triangle Integration and Co-Location Centres, 3 January 2017

³¹ EIT (2015) Strategy WG - Note on the EIT definition of Knowledge Triangle Integration, Third draft, 24 August 2015

- Deliver new products, services and business models;
- Equip students with the skills to become entrepreneurs;
- Create start-ups and accelerate the scaling-up of ventures”.

A clear thread which runs through the discussions on KTI is the interconnectedness of innovation networks. The evolution seen in innovation, research and higher education policy in the last 10 years has mirrored the changes in current innovation thinking towards interconnectedness. For this reason, the use of the model by the EIT can be seen as very valid.

Where divergences are seen, these tend to relate to terminology. For example in European policy, the ‘knowledge triangle’ is used extensively. More globally there is a tendency to see the term “triple helix”³². Although one can argue the differences (of which there are many), the sentiment is very similar as it is drawing together elements of a system to create something more coherent in which knowledge can flow. The triple helix thinking has in particular influenced the cluster debate and research on knowledge-intensive clusters. Although academia is represented in the triple helix, it is often more narrowly interpreted as research knowledge / capacity rather than human capital (skills and entrepreneurs).

The knowledge triangle has remained a softer, less well defined concept, but at the same time, the one which emphasises human capital and entrepreneurial skills development as important / equal elements in innovation systems. It is mainly known in European policy circles and is championed by the EIT. The EU Framework Programmes tended to emphasise research and innovation, although this is changing (especially with the integration of EIT into H2020). The EIT provided a policy framework encouraging education to be seen as a fully integrated part of the innovation system. This is theoretically well thought out, but as highlighted, implementation is more complicated due to the traditional modes of innovation thinking around research funding. This has led to structures and partnerships being formed to support the funding streams, grounded in a more narrow approach to knowledge exploitation.

For co-location, clarification has been provided from the Strategy Working Group of the EIT in 2015, providing information on partnership, geographical proximity, governance and vision. This is highly connected to KTI as the co-location centres provide the space for KTI to happen.

In conclusion, the objectives of the EIT and the concept of delivering the objective through knowledge triangle integration and co-location, remain relevant. Since the model of KTI is not defined, it is hard to evaluate the model’s impact on innovation.

³² Etzkowitz, H., & Leydesdorff, L. (2000). *The Dynamics of Innovation: From National Systems and 'Mode 2' to a Triple Helix of University-Industry-Government Relations*. *Research Policy*, 29(2), 109-123.

3 Effectiveness of the EIT model

This section examines how effective the EIT has been in delivering against its objectives and in integrating the three sides of the knowledge triangle (as a means of achieving its objectives) as well as its role in promoting KTI more widely in Europe. It also examines the EIT's effectiveness in communicating its achievements, engaging stakeholders, attracting partners and graduates.

The specific evaluation questions addressed here are as follows (Horizon 2020 specific evaluation questions are **highlighted bold**):

- Q2.1: To what extent and how have the EIT's objectives, as identified in its legal framework and programming documents, been achieved? What factors, and to what extent, influenced the achievements observed? (Section 3.1)
- Q8.1: How effective has the EIT been in the use of performance measurement instruments, such as Key Performance Indicators? Are these instruments relevant? (Section 3.3)
- Q2.3: How effective has the EIT been in developing and managing the KIC model for the purpose of achieving the EIT's objectives? (Section 3.2)
- **Q2.2: What has been the EIT's contribution, through the KIC model, to the integration of higher education, research and innovation in Europe? (Section 3.4)**
- Q1.6: What has been the EIT's results and impact as compared to other broadly similar EU initiatives? (Section 3.5)
- Q4.4: How successful have the EIT and the KICs been in communicating the outputs, results and impacts of their work to stakeholders and the general public? (Section 3.6)
- Q4.5: How successful have the EIT and the KICs been in engaging their stakeholders and the general public in their activities? (Section 3.7)
- **Q2.4: To what extent have the KICs been effective in integrating relevant new partners, including from outside the EU, where they can provide added value? How has the EIT managed this process? (Section 3.8)**
- Q2.6: How effective have the KICs' education programmes been in attracting relevant students and in raising the overall awareness of the programmes' distinctive profile? (Section 3.9)

3.1 Achievement of objectives

3.1.1 Achievement of KPI targets

The results of the KICs are measured using a set of Key Performance Indicators (KPIs)³³. A new set of KPIs were introduced from 2017 onwards (see Section 3.2), and data presented here are the results of the 'old' system that was in use for the period 2010-2016. Over this period, there were two sets of KPIs in use:

- *Core KPIs*: all KICs reported against a standard set of six core KPIs (the inclusion of sub-KPIs brought the actual figure to eight core KPIs). Performance of the three first-wave KICs against these pre-2017 core KPIs is shown in Table 3.1 (KPI targets were only available for the period 2013-2015). Data for 2016 – which included the second-wave KICs – were not available to the evaluation team when this report was prepared.

³³ The 'KPI review' (*ibid.*) noted inconsistencies in the methodologies for calculating KPIs between KICs and between the EIT and the KICs. Moreover, KICs reported that their methodologies in some cases varied year-on-year. We do not revisit these issues here as they are discussed in detail in the KPI review.

- KIC-specific KPIs: in addition to the standard set of core KPIs, KICs were free to collect their own performance data, tailored to their specific areas of activity and interest. Data for performance against KIC-specific KPIs are shown in Table 3.2.

Table 3.1 Overview of performance of first-wave KICs against core KPI targets (2010-2015). Green/red shading shows target achieved/not achieved

EIT Climate-KIC	2010-2012	2013	2014	2015	2016	2017	2018
	Achieved	Target					
Attractiveness of Education Programmes	0.8	0.0	20.1	0.0	4.2	1.4	3.9
# new graduates	17	20	42	50	46	123	117
# business ideas incubated	72	100	133	98	216	225	276
# start-ups/spin-offs created	1	45	33	71	48	83	38
# knowledge transfers/adoptions	15	15	67	70	82	109	82
# new/improved products/services/processes launched	6	30	44	20	39	118	52
EIT Digital	Achieved	Target	2014	2015	2016	2017	2018
	Achieved	Target					
Attractiveness of Education Programmes	0	3.0	3.1	2.8	2.7	5.9	4.1
# new graduates	0	0	0	70	74	165	146
# business ideas incubated	32	90	93	218	169	134	174
# start-ups/spin-offs created	9	18	10	35	21	14	8
# knowledge transfers/adoptions	24	75	48	163	123	123	193
# new/improved products/services/processes launched	6	30	2	34	20	26	24
EIT InnoEnergy	Achieved	Target	2014	2015	2016	2017	2018
	Achieved	Target					
Attractiveness of Education Programmes	6.7	0.0	2.1	0.0	3.4	7.4	6.1
# new graduates	28	120	98	149	121	145	132
# business ideas incubated	76	59	39	98	58	54	91
# start-ups/spin-offs created	8	10	14	15	21	19	23
# knowledge transfers/adoptions	2	5	9	10	80	16	53
# new/improved products/services/processes launched	0	9	3	15	12	8	16

Source: EIT

Table 3.2 presents data on the KIC-specific KPIs, for the period 2010-2015. As noted above, these KPIs sit outside of the (pre-2017) core set of KPIs, and thus were not collected by all KICs. The indicator “Investment attracted by start-ups supported by KICs” has, since 2017, become a core KIC KPI.

Table 3.2 Overview of performance of first-wave KICs in KIC-specific KPIs (2010-2015)

KPI theme	KPI name	EIT Climate-KIC	EIT Digital	EIT Inno-Energy
Innovation	# patent applications	n/a	n/a	55
	# patents awarded	n/a	n/a	7
	# other forms of IP generated	n/a	n/a	38
	# policies/standards co-developed	23	n/a	n/a
Entrepreneurship	# business ideas screened	1,756	1,862	1,513
	Value of capital raised by start-ups (€m)	213.0	57.7	n/a
	Value of start-up portfolio revenues (€m)	n/a	197.0	n/a
	# start-up portfolio employees	1,726	3,556	n/a
	# start-ups with >€1m revenue	45	n/a	n/a
Education	# participants in professional development	4,842	315	176
	# enrolments in MOOCs	n/a	21,000	25,512

Source: reported by KICs; Note: n/a means that this indicator is not reported by the KIC

3.2 Assessment of the EIT’s performance

This section contains a discussion of the data presented in Table 3.1 and Table 3.2.

3.2.1 Performance in the field of innovation

The two pre-2016 core KPIs measuring the innovations generated by the KICs are:

- *New/improved products/services/processes launched onto the market*: a sales-linked measure of the introduction of innovations, to distinguish between innovation and research (the latter not a focus of the EIT);
- *Knowledge transfers/adoptions*: a measure of the knowledge assets (patents, copyright) created within KIC-backed innovation projects. Adoption involves internal usage of this knowledge by project partners, whereas transfer involves a licensing agreement (patents, copyright) or service contract (know-how).

Between 2010 and 2015, the three first-wave KICs resulted in the launch of a total of 224 new products, services or processes onto the market, and generated 778 knowledge transfers or adoptions. The scale of contribution by the different KICs varied significantly. EIT Climate-KIC achieved almost two thirds (141 out of 224, or 63%) of the new or improved products / services / processes launched between 2010 and 2015. Conversely, EIT Digital was responsible for around half (388 out of 778) of total knowledge transfers / adoptions.

Alongside these core measures of innovation performance, two KIC-specific KPIs were collected:

- EIT InnoEnergy reports against measures of IP generation, including patents applied for (55 between 2010 and 2015) and granted (7 between 2010 and 2015); and
- EIT Climate-KIC reports against the number of standards and policies co-developed (23 between 2010 and 2015).

Every year the performance of the KICs against their Business Plans has been assessed by the EIT, drawing on the assistance of independent experts. If we look at these reports over the period 2010-2015, together with the data shown in Table 3.1 and the results of

the KIC level research undertaken as part of this evaluation, the following observations can be made on the achievements of the KICs in relation to innovation support:

- *EIT Climate-KIC*: in 2013 and 2014 the KIC exceeded Business Plan targets regarding innovation activities, as the ramp-up of the KIC's innovation activities proceeded. In 2015 the KIC missed both innovation targets (knowledge transfer and innovations launched). The expert review for 2015 noted that this could be an indication that *"many ideas are brought forward to the KIC as a result of the Innovation Pipeline process, but that the rate of turning these into businesses or products is being rather underachieved"*³⁴.
- *EIT Digital*: Table 3.1 indicates that, after underperforming against innovation related targets in the early years (2013-2014) the KIC subsequently increased the scale of its delivery and achieved its target for knowledge transfer, and almost achieved its target for innovations launched. However, expert reports queried whether the innovation projects were generating sufficient market-ready products and processes, and suggested that there was too great a focus on research rather than innovation. According to the 2014 report³⁵, *"the scope of the innovation activities is comprehensive, but activities still leaned strongly towards research, insufficiently integrated with business and entrepreneurship ... compared with the ambitions stated in the 2014 [Business Plan] the innovation activities have produced few tangible results in terms of products that attract customers, and that are close to market and true exploitation by start-ups or existing companies"*.
- *EIT InnoEnergy*: the KIC performed well against Business Plan targets for knowledge transfers, and in 2015 achieved its target for innovations launched for the first time. According to the latest (2015) report, innovation support by the KIC *"is running well, judging the higher than targeted KPI results (patents, new products/services, knowledge transfer). The first projects are becoming mature and are starting to deliver results to the market"*³⁶.

3.2.2 Performance in the field of entrepreneurship support

In terms of support to business creation, there are two core KPIs that track KIC performance:

- *Ideas incubated*: entrepreneurs / start-ups that agree to incubate an idea for a new business;
- *Start-ups or spin-offs created*: businesses created as a result of KICs' incubation activities.

The data presented in Table 3.2 indicated that the three first-wave KICs screened over 5,100 business ideas between 2010 and 2015. Table 3.1 indicates that a total of 1,429 businesses then proceeded to a KIC incubation scheme. These are both input measures that show the volume of activity rather than the results. Ultimately, 234 business start-ups or spin-offs have been attributed to the KICs (2010-2015). These are – or should be – innovative businesses, since the KICs do not operate a volume start-up generation model, but rather assist entrepreneurs with an idea for a new product or process that tackles a societal challenge.

There was considerable variation between KICs, with EIT Climate-KIC accounting for the majority (51%) of the start-ups/spin-outs. Discussions with representatives from the KICs highlighted differences in approaches to the selection of business ideas to support, with EIT Digital in particular electing to shift its support from immature start-ups to

³⁴ EIT (unpublished) EIT Assessment of the KIC report: EIT Climate-KIC, Grant Agreement 2015

³⁵ EIT (unpublished) EIT Assessment of the KIC report: EIT Digital, Grant Agreement 2014

³⁶ EIT (unpublished) EIT Assessment of the KIC report: EIT InnoEnergy, Grant Agreement 2015

established businesses looking to scale-up their activities (which would not be reflected in the KPIs shown in Table 3.1).

Table 3.2 also shows the available data on capital raised by start-ups, which is a key indicator as this is widely acknowledged to be an area of market failure (arguably more so for cleantech than ICT). EIT Climate-KIC reported almost EUR 215 million secured by start-ups that it had assisted, compared to EUR 60 million for EIT Digital.

Again, if we look at Table 3.1, the independent expert assessments of the performance of the KICs over the period 2010-2015, and the results of the KIC level research, the following observations can be made:

- EIT Climate-KIC: the KIC started relatively slowly, which the 2013 expert review attributed to “challenges encountered in some regional markets due to the immaturity of the investment climate in clean technologies”³⁷. Thereafter, performance of the KIC was largely in line with Business Plan expectations, though the strategy refresh at KIC level was noted to have affected 2015 performance against targets (in 2015 the KIC missed its target in terms of start-ups/spin-outs).
- *EIT Digital*: as Table 3.1 shows, the KIC exceeded annual targets regarding business ideas incubated, but missed targets year-on-year for ‘converting’ these into new start-ups/spin-outs. As noted above, the KIC has changed its focus away from start-ups and towards scale-ups, which may account for this underperformance against targets. Experts concluded that the KIC “made progress in scouting and supporting start-ups, and increasing visibility of the EIT with entrepreneurs in Europe”, and noted the role of the Idea Challenge (a competitive prize for start-ups) in particular as being an “effective instrument” for entrepreneurship support³⁸.
- *EIT InnoEnergy*: as Table 3.1 shows, the KIC’s performance against Business Plan targets picked up from 2013 onwards, and though some delays and problems were encountered, in 2015 it was reported that “the business creation area is in the current state a success within the KIC”³⁹. Experts drew attention to the links made between the KIC and the venture capital community, though this does not seem to have been measured in the set of KPIs reported to the evaluation team (no data were available on the capital raised by start-ups).

3.2.3 Performance in the field of education

Aggregating across the three first-wave KICs indicates that EIT-label Masters and PhD programmes resulted in 821 graduates over the period 2010-2015. As Table 3.1 shows, just under half of this total (46%) came from the courses run by EIT InnoEnergy. The KICs measure the ‘attractiveness’ of their courses by calculating the number of eligible applications for IT labelled PhD and Master programmes per available seats. As Table 3.1 shows, the ‘attractiveness’ of the courses varied by year and by KIC, but on average ranged from 3-5 eligible applicants per seat.

The KICs have also delivered results as part of their adult-focussed education activities (Table 3.2):

- The professional development courses run by KICs collectively reported around 5,300 participants. These courses are relatively recent, and only the EIT Climate-KIC courses were ‘mature’ enough to report large volumes of attendees by 2015.
- MOOCs are an even more recent development, with performance data only available for 2015 (when around 21,000 and 25,000 individuals enrolled on the courses operated by EIT Digital and EIT InnoEnergy respectively). Though not shown in Table 3.2 we understand that the rate of course completion in MOOCs is low, however.

³⁷ EIT (unpublished) EIT Assessment of the KIC report: EIT Climate-KIC, Grant Agreement 2013

³⁸ EIT (unpublished) EIT Assessment of the KIC report: EIT Digital, Grant Agreement 2014

³⁹ EIT (unpublished) EIT Assessment of the KIC report: EIT InnoEnergy, Grant Agreement 2015

Again, if we look at the data in Table 3.1, the expert assessments of the performance of the KICs over the period 2010-2015, and the results of the KIC level research, the following observations can be made:

- *EIT Climate-KIC*: the education activities of the KIC performed against Business Plan targets in most years, though the expert assessment noted that the strategy refresh in 2015 had disrupted delivery somewhat. Overall, however, in 2015 the expert report concluded that “*EIT Climate-KIC education has produced several unique and arguably, outstanding achievements that demonstrate good practice*”⁴⁰.
- *EIT Digital*: as shown in Table 3.1, the education activities of the KIC increased between 2013 and 2015, though in 2015 the KIC missed its target for the number of graduates, and also missed its target regarding the attractiveness of its courses. The expert report concluded that “*the numbers demonstrate that the program is less attractive than foreseen*”⁴¹.
- *EIT InnoEnergy*: whilst the number of graduates of EIT-label courses has increased year-on-year, between 2013 and 2015 the KIC missed each annual target for the number of new graduates. The expert report reported that the underperformance against recruitment targets for masters students was attributed to high drop-out rates, attributed to them receiving more competitive offers from other courses (the expert report noted that this “*puts in question the attractiveness of the KIC’s master offer*”⁴²). The attractiveness of the courses, however (as measured by the number of eligible applicants) increased each year.

3.3 Assessment of the EIT’s KPI system

As noted above, the EIT and the KICs have a somewhat complex arrangement for tracking performance, which is based on four ‘levels’ of KPIs⁴³:

1. *Horizon 2020 level*: indicators that align to Horizon 2020 monitoring requirements;
2. *EIT level*: indicators that track the performance of the EIT as a Union body;
3. *Cross-KIC level*: (core) indicators that track the aggregate performance of the KICs and their contribution to the objectives of the EIT as a whole;
4. *KIC level*: KIC-specific indicators that track performance against each KIC’s Business Plan, and may thus vary depending on precisely what they deliver.

The EIT undertook a review of its arrangements for tracking performance, which was completed in 2016 (the ‘KPI review’⁴⁴). The KPI review identified a number of shortcomings with the performance monitoring system, which included the following:

- “Existing innovation assessment methodologies are not appropriate or totally applicable to the EIT situation, nor do they measure the EIT impact and added-value;
- Measuring the effectiveness of innovation policy is not adequately addressed; this is important since the EIT is driven by EU policy, and the objectives of the EIT are not to innovate per se but to develop an enabling innovation ecosystem;
- The outcomes and impact of the EIT are currently not assessed across all strategic and operational levels;

⁴⁰ EIT (unpublished) EIT Assessment of the KIC report: EIT Climate-KIC, Grant Agreement 2015

⁴¹ EIT (unpublished) EIT Assessment of the KIC report: EIT Digital, Grant Agreement 2015

⁴² EIT (unpublished) EIT Assessment of the KIC report: EIT InnoEnergy, Grant Agreement 2014

⁴³ EIT (December 2015) EIT Monitoring Strategy, available at
<https://eit.europa.eu/sites/default/files/EIT%20Monitoring%20Strategy.pdf>
<https://eit.europa.eu/sites/default/files/EIT%20Monitoring%20Strategy.pdf>

⁴⁴ Albertina Melo Dias and Eugene Sweeney (March 2016) Revision of the EIT Core KPIs and EIT specific KPIs

- The current KPIs do not fully take into account the impact of the Knowledge Triangle Integration (KTI) and hence EIT added-value;
- The current KPIs do not clearly differentiate between EIT and KIC objectives. The EIT activities focus on dissemination, outreach, grant management and improving the KTI model; whereas KICs are focussed on innovation, education and business creation”.

The evaluation team echoes these observations, and notes that the KPI system used by the EIT prior to 2016 did not provide a thorough set of indicators that enable the performance of the EIT and the KICs to be adequately assessed.

From 2017 onwards, the KICs will report against a revised set of core KPIs that have been designed to reflect concerns about the pre-2016 KPI system. The pre-2016 indicators (see Table 3.1) were largely measures of activity or output (with some exceptions – such as new or improved products, services or processes launched on the market.). There was a lack of indicators that tracked KICs along what the KPI Review called the ‘result chain’ – i.e. from input and output through result and ultimately impact. The post-2017 KPIs reflected these concerns, and have been split between measures of output and measures of result/impact. The evaluation team supports these new indicators, which will enable better tracking of the results of the EIT in future.

Even after the changes introduced in 2017, there is still a need to better align performance and result indicators with the objectives of the EIT and the KICs, to enable an assessment to be made as to whether the EIT is delivering impact. For example, there are no impact measures reported of the societal impacts of the EIT: carbon savings, quality-adjusted life years saved etc. On a practical level, it is also clear from the work carried out as part of this evaluation that there are issues with how KPIs are defined and calculated, with discrepancies evident between KICs and between the KICs and the EIT, and also variations between years. A lack of a consistent, harmonised approach makes it difficult to assess the aggregate impact of the EIT.

3.4 Effectiveness in integrating the three sides of the knowledge triangle

3.4.1 Knowledge triangle integration within the EIT

All KICs are tackling KTI as a central element of their strategy and operations. There are however, variations in interpretation and implementation of the concept across KICs – see Box 3.1 for example. In part, this is due to factors such as the maturity of the area which a particular “KIC challenge” is addressing. For example, in ICT, there are already many well established ecosystems at the national and regional level which bring together research, business, entrepreneurs and infrastructures (or other important elements of a system supporting innovation). This is less common in areas such as health and climate change and thus, the mechanisms for KTI quite naturally vary according to the societal challenge being addressed.

Box 3.1 KTI: differences in conceptualisation of knowledge triangle integration

EIT Digital refers to KTI as ERB integration (Education, Research, Business) and this model underpins several aspects of the KIC’s operations including the master’s education programme (inclusion of stakeholders in programme design and execution), the doctoral education programme (industry partners choosing topics with the university), Innovation Action Lines, the innovation funnel concept and the CLCs (access to all types of actors). EIT InnoEnergy similarly applies the terminology of REB (Research Education and Business).

Conceptually, EIT Climate-KIC views innovation as “research and business, aided by education”. The three sides of the knowledge triangle are seen to have distinct, but complementary roles:

- Research: creating, developing and refining the unique intellectual property that underpins innovation;
- Business: creating and realising the value of the intellectual property at scale;

- Education: developing the human capital by addressing the knowledge and competency gaps in innovation.

At a practical level, in the domain of climate change, there are no existing natural structures or ecosystems for climate innovation actors to align with as actors are typically geographically dispersed. The KIC also needs to reconcile the issues of climate mitigation and climate adaptation, which are not always complementary. Both these issues (lack of existing ecosystem and the existence of two somewhat conflicting notions) make it harder for the KIC to bring relevant actors together. Moreover, the KIC sees a wider range of actors representing the three sides of the knowledge triangle:

- Research: actors include higher education (including individual graduates), public or private research institutes, profit and not-for-profit enterprises;
- Business: actors include profit and not-for-profit enterprises, public and governmental bodies;
- Education: higher education, profit and not-for-profit enterprises.

EIT Health faces some of the same issues as EIT Climate-KIC in terms of a lack of an existing defined ecosystem, and the inclusion of public players in the partnerships. All of the KIC's activities are framed in the context of three strategic challenges: healthy living; active ageing and improved healthcare. The KIC promotes KTI by building cross-linkages between its education, business creation and innovation activities.

Key elements of the EIT Raw Material's thinking and strategy are based on the notion of KTI along the value chain.

3.4.1.2 KTI at a strategic level

All of the current KICs have a strategy which is underpinned by their interpretations of the knowledge triangle.

In 2016, EIT Climate-KIC undertook a strategy re-refresh. This strategy refresh has had a particular impact on the operation of the KTI concept. Until 2015, EIT Climate-KIC was organised into three pillars (education, innovation and entrepreneurship) and eight major climate change challenges, including greenhouse gas monitoring, adaptation services, sustainable cities, and resource efficiency. According to the KIC, this structure tended to reinforce separation between the three pillars rather than KTI. The three pillars operated in silos. The education pillar targeted individuals, the entrepreneurship pillar targeted young companies / SMEs, and the innovation pillar focused on projects with consortia of established organisations from private sector/ academia. This led to the creation of a vast number of programmes⁴⁵, and projects without any common thematic storyline.

To address this issue, EIT Climate-KIC has changed its strategy structure to work across four themes (programmatic approaches) where the KIC wants to have an impact, with each theme encompassing all three pillars. In practice, this allows a Theme Director to follow initiatives across the innovation programme pipeline (ideator, accelerator, demonstrator and scaling), which should enable each theme to deliver better impacts.

However, the transition to a thematic approach will likely take two years, and they are currently in the middle of this phase (one year complete). Consequently, although stakeholders are positive about the changes, it is still too early to confirm if the issues targeted through the strategy re-refresh have been addressed.

Within EIT InnoEnergy, KTI is integrated at four levels in the design model of the KIC, known as the "InnoEnergy Innovation model". First through the governance structure (having the right balance of institutions), second through partnership management, third

⁴⁵ For example, even though the *Pioneers into Practice (PiPs)* activity was originally included within the *Entrepreneurship* pillar, it was an *Education* programme focused around regional universities. It was included within *Entrepreneurship* in order to increase the amount of initiatives (give mass) under this pillar. In the strategy re-refresh, it has moved to the *Education* theme.

through the business model (with three main business lines: education, technological innovation and business creation) and fourth through operational excellence (all the business lines are represented on the board and management of the CLCs and cadence meetings of the Working Groups, best practice exchange).

EIT Digital places a relatively high emphasis on physical proximity (CLCs) as a means of promoting integration between Education, Research and Business in its SIA for 2017-19. The CLCs serve as focal points for KTI or ERB integration and as such, are designed to be attractive, dynamic physical spaces bringing together a diverse mix of organisations and people and hosting a wide range of activities.

EIT Health's approach to KTI focuses on developing cross-linkages between its three strands of activities:

- "CAMPUS provides education to turn business ideas within PROJECTS into practice.
- PROJECTS identify innovative ideas and put them into practice. They are backed by an ACCELERATOR, assisting with private equity access and providing living labs and test beds across Europe.
- The ACCELERATOR offers support for CAMPUS to foster students' project ideas (e.g. by business coaches)."

In EIT Health, the portfolio development process (start-up in 2016) was based firmly on an integrated approach, including common calls, events and internal meetings within EIT Health to explore synergies between the portfolios (projects, campus, accelerator), and thus integrate the knowledge triangle at activity level. This was explicitly stated in its Strategic Research Agenda and Business Plan 2016. To help monitor future outcomes and impacts of this integration, EIT Health developed an 'Integrated Activity Pyramid'⁴⁶ which helps the internal management to map activities and show how it cuts-across each of the portfolios (projects, campus, accelerator). The mapping exercise is currently ongoing but expects to help EIT Health identify processes and linkages that need to be further strengthened.

EIT Raw Material envisages KTI at four levels:

- Organisational (KIC level): achieving KTI by creating a balanced community of partners;
- Organisational (CLC level): for example through regular meetings and events involving a blend of partners and participants, and recruiting staff with backgrounds from industry, research and education;
- Project level: KTI within KAVA and other activities;
- Programme level (Light house programmes)⁴⁷: higher KTI through improved portfolio analysis and planning, to ensure KTI is embedded within the range of activities.

3.4.1.3 KTI at organisational level

The KICs have been successful in involving all three actors of the knowledge triangle in their partnerships (Figure 3.1). All KICs and particularly EIT Climate-KIC and EIT Health have gone beyond the 'classical' actors of the knowledge triangle to also involve other actors such as public authorities representing cities and regions (EIT Climate-KIC) and civil society organisations (EIT Health).

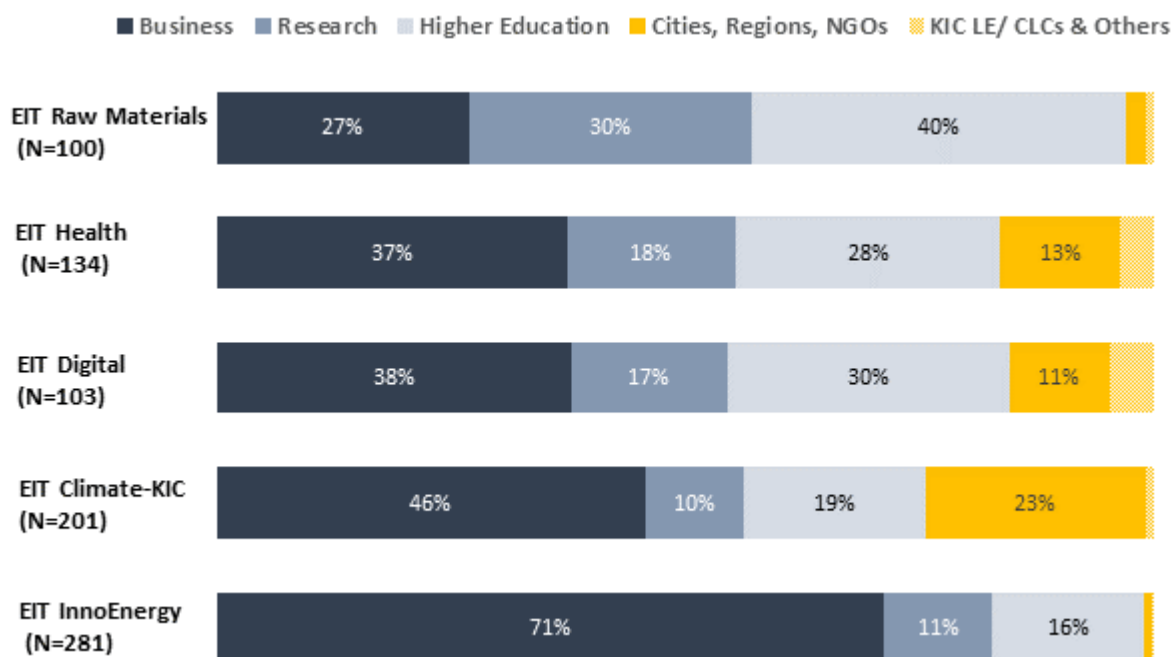
Looking at the overall partnership mix of each KIC, we observe that:

⁴⁶ EIT Business Planning 2016. Page 5 (Figure 1: Transformation of the knowledge triangle to an Integrated Activity Pyramid)

⁴⁷ These are large scale programmes which cover all types of projects. Example, smart mine of the future

- The partnership mix of EIT InnoEnergy is highly skewed towards businesses. Business representation within partnership structures is more balanced within the rest of the KICs.
- Exceptionally, Higher Education Institutes are the dominant partner category within EIT Raw Materials;
- Research institutes are generally under-represented within the partnership mix of KICs (accounting for less than 20% of all partners) with the exception of EIT Raw Materials.

Figure 3.1 Partnership mix of KICs (2016)



Source: based on data provided by the EIT (25 April 2017)

While the core partnership of the first wave of KICs looks well balanced, research institutes are clearly under-represented within the core partnership of the EIT Health and Higher Education Institutes are slightly over-represented within the core partnership of the EIT Raw Materials. Given the early stages of development of these two KICs, it is not possible to say whether this is inhibiting KTI at an operational (i.e. activity) level in any way.

Table 3.3 Structure of core partnership

	EIT InnoEnergy (2015)	EIT Climate-KIC (2015)	EIT Digital (2016)	EIT Health (2016)	EIT Raw Materials (2016)
Business	9	9	11	23	16
Higher Education	10	11	8	21	24
Research	7	7	11	7	17
Other	2	4		2	2
Total: core partners	28	31	30	53	59
Core partners as % of all partners	10%	15%	29%	40%	59%

Source: based on data collected from KICs

3.4.1.4 KTI at activity level: education

The main channels through which KTI is taking place within the KIC's education activities are as follows.

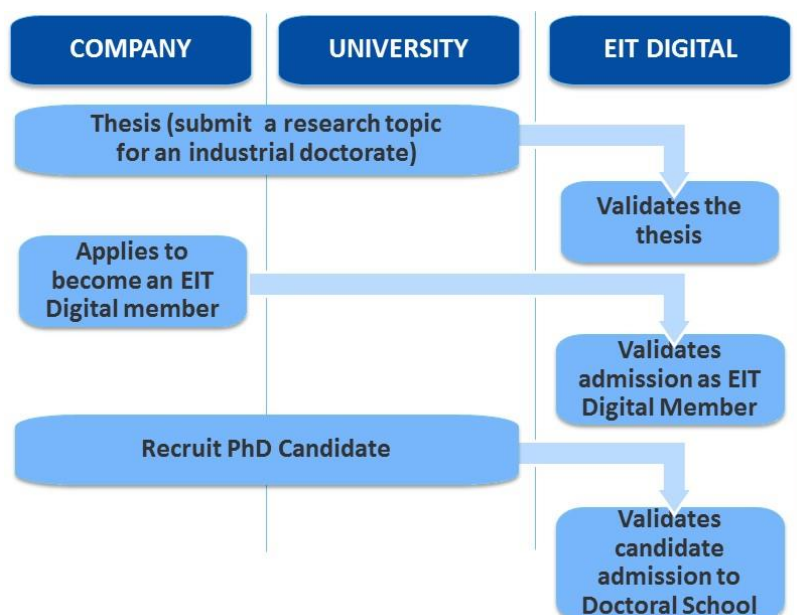
Integration of research results and innovative practice into the educational offer

There are many examples of how the curriculum is being shaped by research and innovation. For example, EIT Digital is using the latest technologies and innovations as case studies in courses. EIT Health Spark courses, Innovation Days and Business Transition Fellowships aim to develop and deliver a portfolio of 'spark' activities to introduce innovation and entrepreneurship within already established academic offerings. More generally, the recently completed review of the KICs' education activities notes that all EIT labelled programmes are delivered through research-led university partners which means that teachers are often actively involved in the latest research in their disciplines and as a result, disciplinary teaching draws on the latest research.

Involvement of industry in design and delivery of education programmes

While academic partners tend to lead the design of education programmes, industry experts are more active in supporting delivery, including through guest talks, case studies, challenges, guiding internships and supervision of theses. There are however, examples of industry partners also being involved in the design of education programmes. For example in several EIT Digital nodes, industry partners are being engaged in improving curriculum and in co-funding education activities. EIT Digital has developed a new Industrial Ph.D. programme which will be delivered in cooperation with the partner universities and companies – as illustrated below. The available grants and thesis topic will be aligned with the EIT Digital innovation action lines.

Figure 3.2 New model of Industrial Doctorates at EIT Digital



Source: EIT Digital

In EIT InnoEnergy, the industry is significantly involved in co-designing the syllabus for the Masters programme, setting the skills that the applicants should have, promoting the offering together, and setting the thesis topics. EIT InnoEnergy has developed challenge-based learning subject-specific modules, where academic educators teach alongside industry representatives around a real world case study, thus encouraging students to

apply their subject-specific domain knowledge to practical problems. There is however, still scope for improvement. For example, the 2015 business plan assessment of EIT InnoEnergy recommends that the participation of industry in education should be further increased in the KIC's Masters and Executive programs. It also flags timing issues (duration of the innovation projects vs. program duration), as well as content issues (low TRL for PhD, higher TRL for innovation projects and business creation) with the KIC's PhD programmes as barriers to greater industry involvement in the Doctoral programmes.

Using the expertise of the different co-location centres and partners to add value to educational experiences

EIT Climate-KIC's Journey (Box 3.2), is a particular case where the programme is designed to gain value from different partners within the KIC providing direct input and ideas into a summer school programme from industry and research.

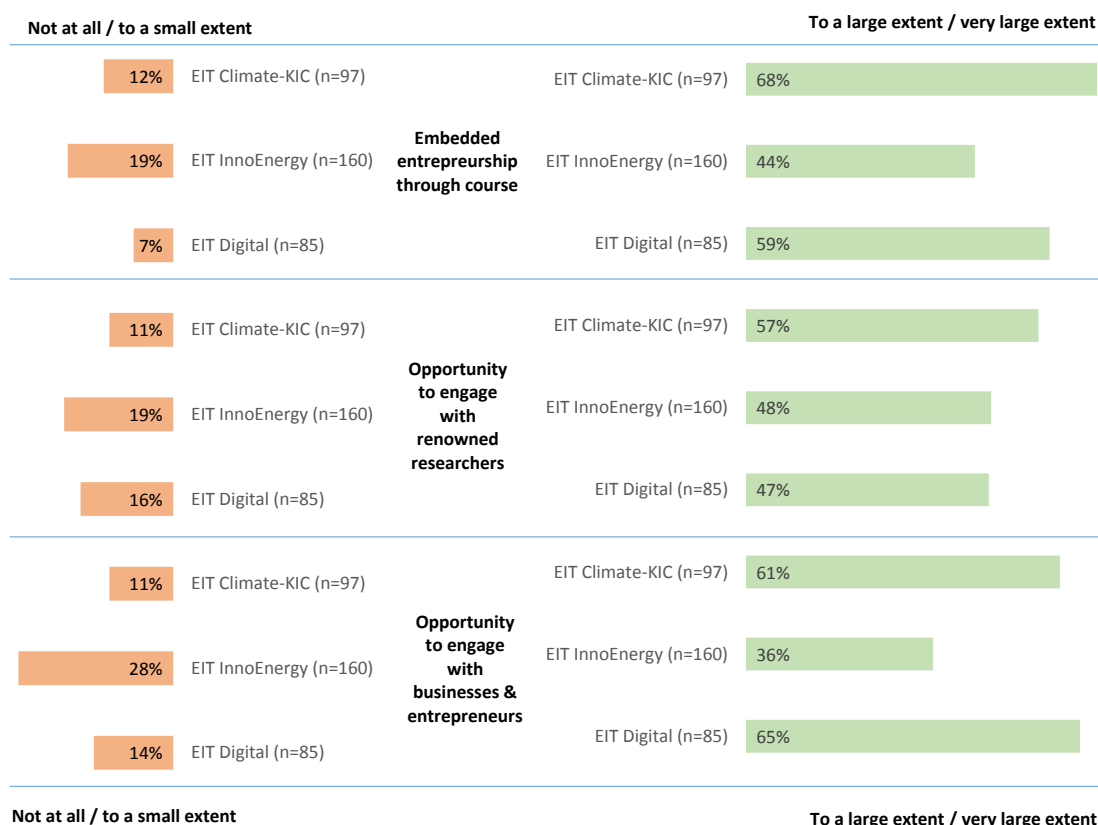
Box 3.2 The Journey Summer School run by EIT Climate-KIC

The Journey is a five-week summer school under which participants visit EIT Climate-KIC partners' facilities and learn from them. Participants are given a challenge and work together to develop solutions with support from coaches. The Journey aims to transform graduates' mind set, give them thought leadership and enable the creation of a community of thought leaders.

The graduate survey provides some direct insight into the extent to which those benefiting from the education programmes were exposed to research and industry, either directly or through course content (Figure 3.3). As we see, a majority of graduates who attended EIT-label courses operated through EIT Climate-KIC and EIT Digital noted that their course had embedded entrepreneurship, and had given them the opportunity to engage with businesses and entrepreneurs.

Figure 3.3 Graduate survey: The extent to which EIT-label courses exposed graduates to researchers and industry

Q11. To what extent do you agree with the following statements: the education programme I completed...?



Base: all respondents; note: excludes no response so does not sum to 100%

Facilitating access to accelerator programmes to help students launch their ideas

There are several examples of graduates from EIT Climate-KIC education courses that have progressed with their ideas to other stages of EIT Climate-KIC. For example, winners from the *Climathon* are directed to the *Greenhouse* or the *Accelerator*. The *Journey* provides the opportunity for students to develop their business and entrepreneurial skills, meet a range of industry contacts and extend their peer networks across Europe. It further facilitates students in developing their business ideas into market ready concepts which can then be supported by the KIC Accelerator. Berlin based start-up, Coolar⁴⁸, featured under Forbes 30 under 30, was first ideated under the EIT label education programme (2012) and subsequently, went through the *Journey* (2012), *Greenhouse* (2014), and *Accelerator* (2015, 2016).

A similar concept (the *Sidewalk*) was launched by some KICs in their Master's programme. This initiative supports students in developing ideas they have initiated during their studies into fundable propositions, although there is no guarantee that these will be taken up by the KIC Accelerator. Following initial successes, the *Sidewalk* is now expected to be scaled-up in the coming years.

EIT Health has developed innovation fellowships and Innovation Days which support students' idea generation and application of scientific knowledge to industry challenges. The "Incubate Package", developed under the Accelerator Programme is run as a joint activity between Accelerator and Campus, with coordinators from both pillars organising the Bootcamp and Local Training Networks.

Apart from the specific examples mentioned above, the available evidence suggests that facilitation of student involvement in business creation and innovation projects is in the

⁴⁸ <http://coolar.co/>

main limited to occasional short-term internship, guest visits and business case education opportunities⁴⁹. Although students are encouraged to take part in other KIC related activities, a relatively small share of the respondents (at most 35 per cent) to the graduate survey actually reported participating in at least one other KIC activity (e.g. innovation project, accelerator etc.).

Figure 3.4 Graduate survey: The share of graduates participating in KIC innovation projects and business creation activities (grey shade marks use of 'their' KIC's programme)

Q15: Did you participate in any of the following activities during or after the programme? (Those answering yes)

KIC	KIC programme	% of graduates:		
		EIT Climate-KIC (n=97)	EIT InnoEnergy (n=160)	EIT Digital (n=85)
EIT Climate-KIC	Launchpad (start-up competition)	12%	1%	1%
	Accelerator	32%	3%	1%
	Pathfinder innovation projects	3%	2%	
	Innovation projects	13%	2%	
EIT InnoEnergy	Highway (accelerator programme)	1%	3%	1%
	Innovation projects	4%	28%	1%
EIT Digital	Digital Challenge (start-up competition)		1%	35%
	Accelerator		1%	6%
	Innovation projects	2%	1%	26%

Base: all respondents; note: only includes those who answered 'yes', so does not sum to 100%

KIC education programmes as a source of talent for entrepreneurship and innovation activity

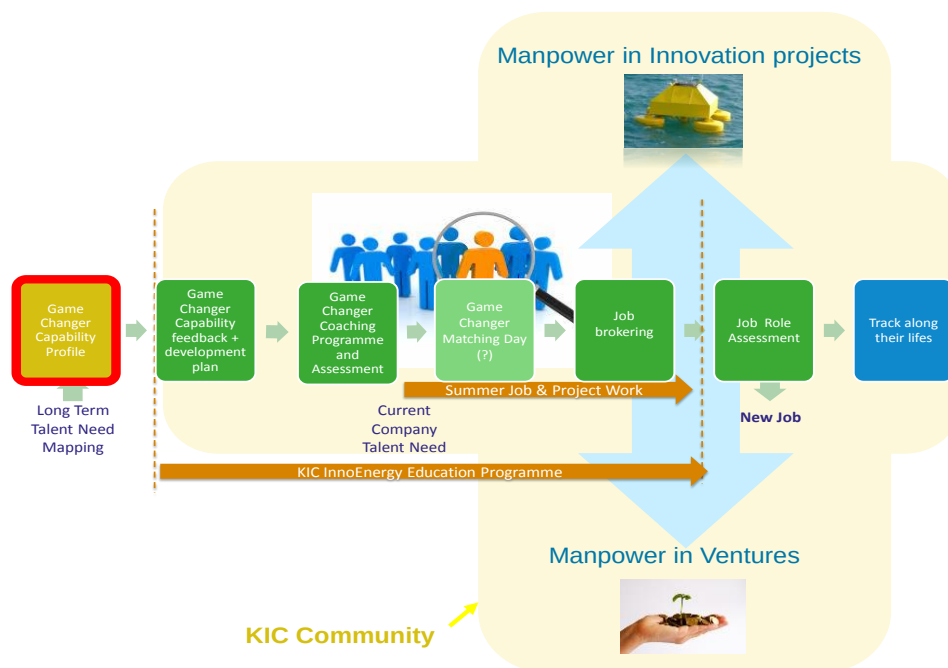
The KIC's education programmes are an important, if somewhat under-exploited, source of talent and ideas for their entrepreneurship and innovation activities. EIT InnoEnergy appears to have made the most progress in facilitating the flow of talent from its education programmes to other activities. Between 2011 and 2016⁵⁰:

- 223 students participated in start-up ventures supported by EIT InnoEnergy;
- 12 start-ups were co-led by KIC graduates; and
- 143 students participated in innovation projects.

⁴⁹ EIT (2016) *Assessment of the implementation of the EIT Knowledge and Innovation Communities (KICs) educational activities*

⁵⁰ Oana Penu's presentation on KTI within EIT InnoEnergy, 11-12 January 2017

Figure 3.5 EIT InnoEnergy's approach to utilising the talent developed by its education programmes



Source: EIT InnoEnergy

3.4.1.5 KTI at activity level: business creation / start-up support

As previously mentioned, EIT Climate-KIC's business creation activities are quite well connected to its education activities (Box 3.3 provides an example of this), but there is less evidence of linkages between the KIC's innovation and business creation activities.

Box 3.3 KTI within EIT Climate-KIC's business creation activities: Green City Solutions

In 2014, the Berlin based start-up Green City Solutions received support from the EIT Climate-KIC Accelerator to develop and commercialise their idea: "CityTree", a new way of outdoor advertisement. The CityTree is a customised solution for urban spaces. It combines a vertical plants display with air purification. The plants can be arranged freely on the CityTree to display visual information like colour logos or a QR-Code, which links to additional digital content.



EIT Climate-KIC Berlin provided Green City Solutions with matchmaking help. Green City needed a research institute and a municipality to take their idea forward. EIT Climate-KIC helped them find both and put the idea together as a project. Additionally, Green City took on interns from the EIT Climate-KIC's education courses.

The business is now in scale-up phase. In December 2016, Green City Solutions was awarded first place in the Digital Cities category of the EIT Digital Challenge

(designed to help start-ups scale their ideas) for their innovation. In February 2017, the start-up successfully closed a seven figure institutional fund raising deal.

EIT InnoEnergy actively uses the following two sources of deal-flow for its accelerator programme: the results of the innovation projects and the emerging talent and ideas from the education programmes, thus ensuring KTI. Twelve start-ups spun-off the KIC's innovation projects during 2011-16.

Within EIT Digital, it is not clear to what extent the KIC's education activities are feeding business ideas and possible entrepreneurs into its business creation activities,

particularly the Idea Challenge. According to the expert assessment of the KIC's 2015 business plan, a change in focus of EIT Digital's business creation activities from start-ups to scale-ups might be hindering integration of the KIC's education activities into its business creation activities.

Within EIT Health, at an operational level, databases containing LivingLabs and the Market Expert Network are shared between the Accelerator Programme and the Innovation project pillar, in order to avoid duplication of work and to facilitate integration between the two activities. Moreover, EIT Health fosters KTI within its entrepreneurship activities through the following channels:

- Expertise from larger organisations (companies and health care providers) in areas such as market understanding and procurement, is leveraged to support SMEs and start-ups
- Establishment of links with Campus activities

3.4.1.6 KTI at an activity level: research and innovation projects

A significant number of start-ups have contributed to innovation projects by joining the call for proposals as sub grantees within EIT Digital. Similarly, some EIT InnoEnergy start-ups are also starting to participate in the KIC's innovation projects (according to available data, nine start-ups were involved in innovation projects during the period 2011-16).

There is evidence of different types of actors (businesses, universities and research institutions) collaborating on innovation projects. Within EIT Climate-KIC, several examples can be found of project consortium participants from academia, research and business (e.g. Blue Green Dream; SOLSUN; CarbonLED; Biogas ETC; EnC02re; and Dream Products). Within EIT InnoEnergy, calls for investment requires the presence of at least two actors of the KTI in order to meet the eligibility criteria. The project also needs to demonstrate that it incorporates students, PhD candidates. Similarly, EIT Health requires all innovation projects include at least one academic and one non-academic partner (although this approach cannot strictly speaking be regarded as true KTI, it shows at least some commitment to encouraging collaboration between different actors of the knowledge triangle). Furthermore, EIT Health has incorporated elements of business creation / business support in all innovation projects, e.g. links to local market / procurement expertise to support project teams and accelerated evaluation and co-creation of innovations through living labs and test-bed network.

However, the links between education programmes and innovation project do not appear to have been fully developed across the KICs. EIT Climate-KIC's thematic platform 'Transforming the built environment'⁵¹ has offered a series of education courses to support the KIC partners, contributing to knowledge triangle integration. One of its innovation projects (Innovation Building Block) also offered a series of education courses to support KIC partners in making their projects a success. Education activities included as part of EIT Health's innovation projects include project-specific MOOCs and summer schools. Across most KICs, however, innovation projects have very few educational aspects, apart from graduate participation in innovation projects.

3.4.1.7 KTI impacts on networking opportunities, collaboration and ideas sharing

The observed benefits of KTI include the following.

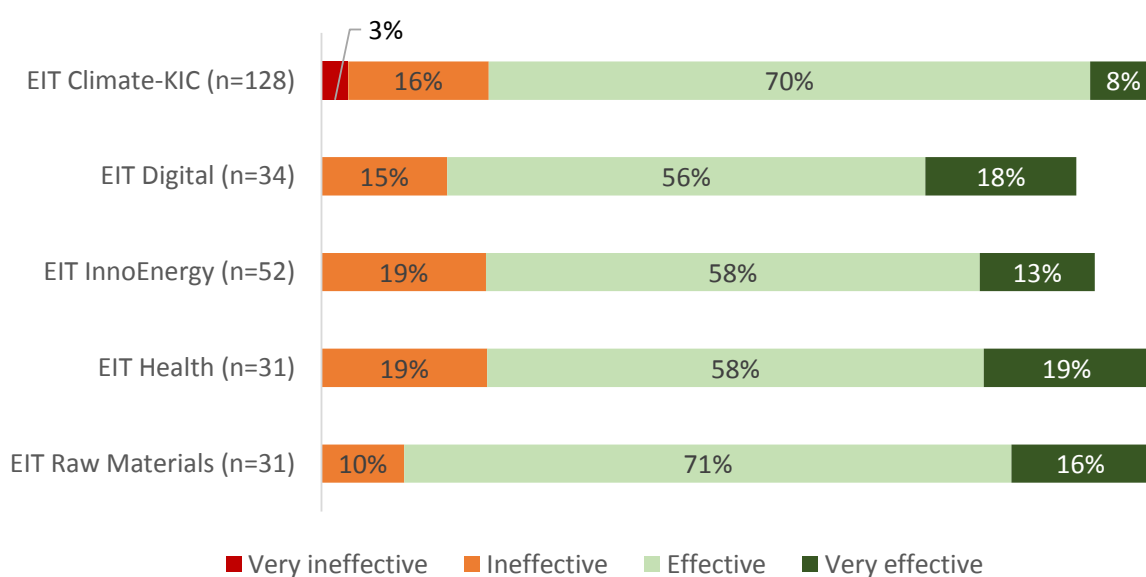
Increased flows of knowledge and new types of co-operation between education institutions, research organisations and business

⁵¹<http://www.climate-kic-centre-hessen.org/transforming-the-built-environment-144.html>

These results are achieved via CLCs, networking events e.g. EIT Digital CLCs link students, researchers and entrepreneurs, inter alia, by means of site visits and hands-on assignments. KICs note that the integration of university, industry, research institutions and public stakeholders has increased networking opportunities between these stakeholders and the opportunities for new collaborations and idea sharing. Across the KICs, almost 71% of the partners believe that the KICs have been 'effective' or 'very effective' in supporting knowledge transfer between businesses and universities/ research organisations.

Figure 3.6 Partner survey: Effectiveness of KICs in supporting knowledge transfer between businesses and universities / research organisations

Q16. How effectively do you think that the KIC is delivering activities in the following areas: supporting knowledge transfer between businesses and universities / research organisations?



Base: all respondents; note: excludes no response so does not sum to 100%

The responses to the OPC provide an indication of the KICs playing a (somewhat limited) role in supporting connectivity and knowledge transfer between universities, research labs and businesses, which is partially knowledge triangle integration (Figure 3.7).

Figure 3.7 OPC: The role of KICs in supporting improved connectivity and knowledge transfer between businesses and universities / research organisations

Q11. And to what extent is the EIT actually contributing to the following....?



Base: all respondents; note excludes 'no opinion' and no response so does not sum to 100%

According to the education review, businesses benefit from access to motivated and enthusiastic students through the network and their involvement in programmes had an impact on industry, including potential to adopt ideas from master's theses into industry and access to graduates from the programmes to support talent scouting and new business creation. It was noted that while students may not all end up creating their own businesses, they were becoming highly employable into the associated industries and sectors.

Reduction in fragmentation of the industry sector

In the example of EIT Raw Materials, the integration of the knowledge triangle helps build trust and address the fragmentation of the raw materials supply chain and the lack of cross-country cooperation in the sector (especially regarding the link between education and the private sector). For example, university curricula are being reviewed with inputs from the research and business communities to incorporate the latest techniques and technologies, and new innovative approaches and delivery methods for education are being proposed in a topic that has usually been seen as a traditional area of study (especially for the first stages of the materials cycle). This will help contribute to generating technical and managerial profiles that can have a higher-level view of the whole sector and are better equipped to incorporate the notions of circular economy and materials substitution. The expectation is that this more sophisticated way of thinking about the sector and its supply chain can contribute to tackling the issues affecting the sector and its future development, it can in turn help address the negative press that the

sector often has, which is impacting supply and demand for adequately skilled graduates (with especially low participation from women).

3.4.2 The EIT's contribution to knowledge triangle integration within the EU

As described above, the EIT / KICs are advancing KTI through several channels and these efforts are starting to bear fruit in the form of:

- Increased opportunities for networking, collaborating and idea sharing between university, research institutions, industry and public stakeholders;
- Improved employability and entrepreneurialism among students via greater exposure to industry in the EIT education courses (see Section 4.4 for further evidence of this);
- Greater interaction between industry and universities. The EIT education review⁵² notes that KIC activity had created a catalyst for universities and industry to work more closely together around education provision and that this was beginning to have a positive impact on all partners to take advantage of the new opportunities this created.

Yet the education review also notes that these positive opportunities and impacts, were limited to the partners themselves and there was little evidence to suggest that these benefits were spreading to universities or businesses outside of the KIC partnerships (a comment also echoed by the HLG in its report⁵³) except where specific effort was being put by KICs to reach out beyond partners. Some isolated examples can be found:

- EIT Health's Innovation Fairs provide a meeting point in cities for public, private and education stakeholders along with citizens to raise awareness of key health issues.
- EIT Climate-KICs Climathon programme focuses on city-based challenges and brings together public, private and education stakeholders (beyond partners) to support an open call for teams to work on a city-led challenge over a 24 hour period.

There is little evidence of the KTI approach being implemented in full at the national level when reviewing the comparator structures, or any influence from the EIT. The comparators tended to have a limited approach to including education, with examples of supervising PhDs and some internships, but no formal education or full degree studies. There is evidence of strong KTI throughout the Nordics,⁵⁴ but this drive ran in parallel to the evolution of the EIT and originated from the work of the Swedish Presidency of the Council of the European Union in 2009. Even in the Nordic case, there were limitations in implementation identified⁵⁵. Only in Sweden was the term actually used in documents and national policies. The initiatives and activities were very different in approach. There is no evidence of being informed by the EIT, but many documents on the Nordic Triangle reference the EIT as working in the same way. It is perhaps still too early for the model to have been used to shape integration elsewhere.

3.5 The EIT's achievements compared with similar initiatives

The evaluation team identified a set of eight national innovation support initiatives that are broadly similar to the EIT, all operating with the fundamental principle of integrating at least two of the three vertices of the knowledge triangle, though it should be noted that none of them explicitly make use of the knowledge triangle concept to rationalise their delivery model. Table 3.4 summarises the available evidence about the scope and

⁵² EIT (2016) *Assessment of the implementation of the EIT Knowledge and Innovation Communities (KICs) educational activities*

⁵³ van Vught, F., Achleitner, A., Nowakowska, B., Bergman, N., Vecsenyi, J. (2016) *The Future of the European Institute of Innovation and Technology (EIT): Strategic Issues and Perspectives, Report by Commissioner Navracsics' High Level Group on the EIT, December 2016*

⁵⁴ <https://www.tii.se/>

⁵⁵ *Knowledge Triangle Review in the Nordics, 2011, Technopolis*

results of these comparators. The main goal of this particular exercise was to shine a light on the latest trends in the national support for innovation, rather than provide a direct comparison between the KICs and initiatives that operate alike, which would not be appropriate given the unique model of operation of the EIT.

There are many similarities between the EIT InnoEnergy, EIT Climate-KIC and EIT Digital and the national comparators. For the majority of the comparators, it was very important to involve all the elements of the knowledge triangle, i.e. education, research / innovation and entrepreneurship, though it should be noted that the comparators typically had a greater focus on basic research than the EIT. The emphasis on the knowledge triangle integration is reflected in the objectives of the comparator structures, which are very well aligned to those of the KICs, but with much less emphasis on education and entrepreneurship. The range of activities and the composition of the actors and partners is also comparable. Furthermore, the basic funding principles - based on the complementarity of the various funding sources, such as the public grant, partners' contributions etc., can be found both with the KICs and their comparators. There are, however, differences in the minimum financial commitment of the partners. We also see significant variations in the public funding budget, though a number of schemes – Leading-Edge Clusters (Germany) and Strategic Centres for Science, Technology and Innovation (Finland) – were of a similar order of magnitude to the annual EIT grant.

The evidence suggests that the results and impact achieved of the KICs and their comparators are similar. Both KICs and comparators seem to have contributed positively to creating networks of partners leading to more opportunities to innovate.

A significant difference between the KICs and their comparators lies in the KICs' success in reducing the fragmentation of the European innovation landscape in the areas of operations of the KICs, which relates to the European-wide focus of the KICs and which is something that probably none of the national comparators can achieve. Furthermore, the team has found that, even though there are issues as regards the regional aspects of the KICs' activities and their links to the regions within which CLCs are located, the links developed by KICs are in many cases stronger than those of the comparators (or at least they are not as explicitly articulated).

Where results data were available (which was not always the case), we also see that:

- If anything, KICs performed well in terms of start-up creation and spin-offs, though we are not strictly comparing like-with-like for the most part, as the comparator programmes were less like the accelerators that we see with the KICs.
- While the KICs offer full-fledged study programmes, based on the cooperation with networks of universities across Europe, none of the comparators provides such formalised educational offers. The involvement of students in the comparators' activities consists mostly in supervising their final theses, practical internships, providing access to research equipment etc. The 'outputs' shown in Table 3.4 are thus not strictly comparable with the outputs recorded by KICs.

Table 3.4 Key design and performance metrics for the comparator national innovation initiatives

Initiative	Average annual government funding	Overview of objectives / activities	# Innovation projects and # partners (2015 unless stated)	# Ph.D. and Masters students and graduates (2015 unless stated)	# Start-ups / Spin-offs created (2015 unless stated)
COMET - Competence Centres for Excellent Technologies, Austria	EUR 50m	Basic, industrial and experimental research, and training measures	2014: 25 projects, 852 participations, 739 participants	436 Masters; 396 PhDs	n/a
Leading-Edge Clusters, Germany	EUR 67m	Network building and cooperation, cooperation between research and business, support for new talent, practical training	All years: 1,300 funded projects, 2,000 stakeholders	1,000 Bachelor and Master dissertations; 450 doctoral and professorial theses	5 start-ups annually on average
Networks of Centres of Excellence (NCE) Program, Canada	EUR 45m	Research, knowledge and technology exchange / exploitation, development of highly qualified personnel, networking	14 active networks, 2,203 partnerships	768 students (combined PhDs and Masters)	6 start-up companies created
Nordic Centres of Excellence, Norway	EUR 2m	Excellent scientific research, cooperation between disciplines	3 partnerships in the BIO-ECONOMY programme	3-4 PhDs per centre annually	No start-up created
VINN Excellence Centres – Centres of Excellence in Research and Innovation, Sweden	EUR 20m	Develop universities and other research bodies into a research resource for the business and public sectors	2012: 321 partners	2012: 73 postgraduates; 223 Masters theses	8 companies
Cooperative Research Centres (CRCs) Programme, Australia	EUR 114m	Link advances in science and technology as effectively as possible to applications in industry	2008-2016: 209 CRCs, 1,905 participants	On average 21.5 active PhD students in any given year	n/a
Pôles de Compétitivité, France	EUR 119m	Accelerating innovation efforts, support for high-tech and creative activities, collaborative R&D	2011: on average, one cluster involved 187 participants	n/a	2012: 93 spin-offs generated out of 49 clusters
SHOK – Strategic Centres for Science, Technology and Innovation, Finland	EUR 78m	Research programmes of work carried out jointly by research organisations and companies. Companies utilise research.	2012: 127 national connections/partnerships	n/a	2012: 3 spin-off companies generated

Source: Desk review and interviews by evaluation team

3.6 The effectiveness of communication and dissemination activities

The EIT has undertaken significant work on communication. This has led to well-documented strategies and activities, with associated activity, output and outcome indicators, which have been met (Table 3.5).

Table 3.5 Indicators and achievements (2014-2015)

Year	Performance indicator	Target	Results/ achievements
2014	New call: Successful organisation of an event	300 participants with 95% satisfied or fully satisfied with the delivered content of the event	346 took part 95.4% satisfied or full satisfied
	Timely development of the brand strategy	Brand strategy adopted by the EIT Governing Board by end 2014	Adopted September 2014 Launched 1 December 2014
	Timely launch of website	Launch March 2014	Launched May 2014
	Increase in visits to EIT website	10% increase unique visitors (compared with 2013)	16.3% increase
	Feedback from stakeholders	Positive, above average feedback	No survey completed
2015	Level of understanding among EIT community of activities, achievements and co-operation possibilities	80% of stakeholders have an increased understanding of EIT activities during 2015 (based on online survey)	More than 80% increased understanding of EIT Community activities following INNOVEIT
	Quantitative and qualitative increase in EIT media coverage	20% increase in EIT media coverage in 2015 compared to 2014 statistics (media monitoring reports)	1477 articles about the EIT: 25% increase in written press articles (258 articles) 200% increase in web articles (1219 articles)
	Quantitative increase in visits to the EIT website, Facebook and Twitter accounts	10% increase in unique visitors to the EIT (compared to 2014) 20% increase in the number of unique users "like" the EIT Facebook and following the EIT Twitter in 2015	167,364 unique visitors to the EIT Website: 6.2% decrease* 116% increase in followers Facebook; 60% increase on Twitter 90% increase on LinkedIn

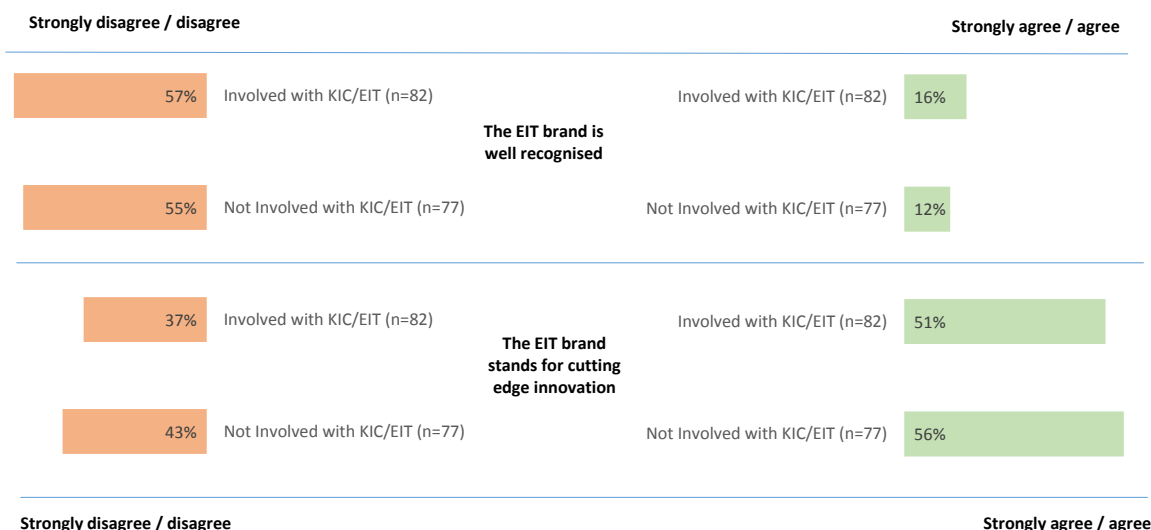
Source: Annual activity reports 2014, 2015 (* partially caused by a change in the algorithm for calculating unique visitors)

In spite of the overall activity, output and outcome targets being met, the evaluation results indicate an ongoing low level of awareness and knowledge of the EIT and its brand. This was highlighted in a number of stakeholder interviews, including with Members of the Governing Board, national programme managers, and the Member State configuration.

This was reinforced by the results of the OPC (Figure 3.8), where over half of OPC respondents, regardless of whether or not they were involved with the EIT/KICs, disagreed that the EIT brand is well recognised. This suggests that the opinion is not based on familiarity (or lack thereof) with the EIT. There was a little more support for the view that the EIT brand stands for cutting edge innovation (supported by 51-56% of OPC respondents, though disputed by another 37-43%).

Figure 3.8 OPC: Views on the EIT brand

Q21. To what extent do you agree or disagree with the following statements?

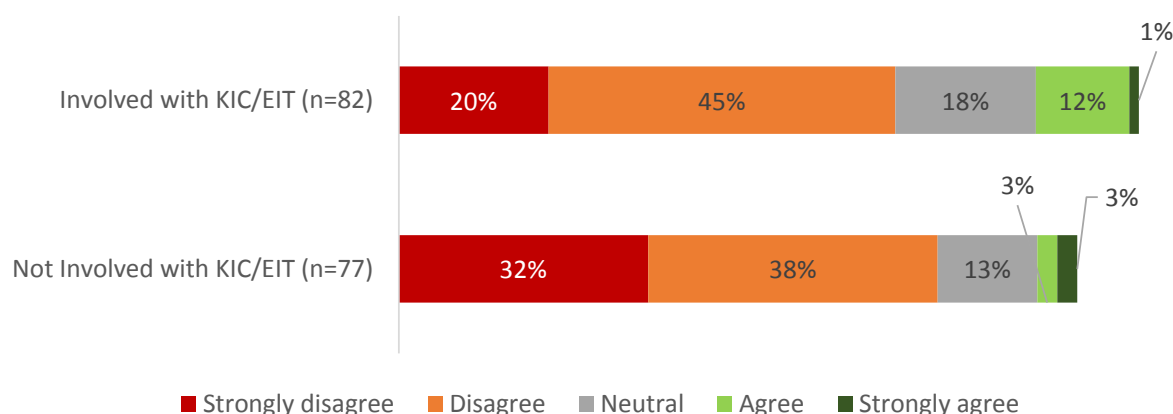


Base: all respondents; note: excludes 'neutral', 'no opinion' and no response, so does not sum to 100%

It often takes time for activity in communication to result in growing awareness (outtakes of communication) and ultimately new opinions / changing perceptions (outcomes of communication).

Figure 3.9 OPC: How well known is the work of the EIT and the KICs?

Q12. To what extent do you agree with the statements below: The results of the EIT and its KICs' work are well known?



Base: all respondents; note: excludes 'no opinion' and no response, so does not sum to 100%

The work on communication is ongoing. In 2012/13, the EIT contracted an external organisation to support the development of its communication. At the time there was criticism of the excessive focus of the EIT communication inside Brussels (reported in the communication strategy), differences of opinion between the EIT and its KICs on

messages and channels and an under-resourced communication team. The report recommended concentrating on press relations, creating a dedicated PR team, a better website and better use of conferences. This report fed into the 2014 communication strategy which is still current but will be reviewed in 2017. According to the EIT, much of the existing strategy remains valid. The focus is on “people, partners and products”.⁵⁶

Table 3.6 Extracts from the communication strategy 2012

Year	2013	2013-2015	2016-2020
Objective	Securing the budget	Growing the KICs	“Demonstrating success”
Key messages	“We are ready to scale up”	“Benefits EIT brings to partners”	“Innovative, dynamic, pan-European” “making innovation happen”
Audience	European Parliament, Member State policy makers	Leaders of companies, research universities and local governments (in KIC thematic fields)	Cross section of entrepreneurial students, researchers, business leaders, policy makers and media

Source: EIT updated communication strategy 2012

This is echoed in the approach set out in the Annual Work Programmes after 2013. In each Annual Work Programme of the EIT, there is a section on communication and knowledge exchange, linking communication to its wider goals of active dissemination and community building. 2014 represented a year of significant renewal with the relaunch of the website in May 2014 and the updated EIT Community brand identity being launched in December 2014. The other major changes set out in the communication plan were to focus on the press and to ensure the role of the EIT, KICs, DG EAC and the Cabinet were clear and did not create confusion.

Table 3.7 Focus on communication in the Annual Work Programmes 2014-2016

AWP	Focus of communication	Indicators / targets
2014	Increasing the level of awareness, visibility and understanding of the EIT among its stakeholder community, and begin to implement recommendations put forward in its revised 2013 Communications Strategy (brand review, digital communications relaunch website) Communication on new KIC call 2014 (Information day)	Timely delivery of the brand (adopted end of 2014) New website launched, 10% increase in unique visitors to EIT website Positive above average feedback from stakeholders (on communication) 300 participants – 95% satisfied with the content of information day
2015	Strengthen EITs communication with external stakeholders on topics related to the knowledge triangle Enhance its visibility across the EU. All relevant means and avenues of communication will be used to ensure sufficient access to information on the functioning and scope of the EIT and its KICs.	80% of stakeholders have an increased understanding of EIT activities during 2015 20% increase in EIT media coverage in 2015 compared to 2014 statistics (media monitoring reports) 10% increase in unique visitors to the EIT website in 2015 compared to 2014, additional Facebook and twitter targets.
2016	Increasing the level of awareness and understanding of the EIT Community’s activities and achievements among its external stakeholders. This included media activities, an annual	Adoption of communication campaign 10% increase in unique visitors to the EIT website (compared to 2015) 5% increase in positive media coverage (compared

⁵⁶ *EIT updated communication strategy 2012*

AWP	Focus of communication	Indicators / targets
	integrated campaign, common branding across all channels and ensuring all of the information was available for the 2016 Calls.	to 2015) Additional Facebook and twitter targets.

Source: ICF analysis of EIT Annual Work Programmes

In spite of all this, the problem of awareness has not reduced and working with the community to find out why is an important step to take. The results of the OPC provide additional qualitative responses related to the issue of brand and awareness. There are still many individuals whose views are encumbered by issues of the past (the set up and the bureaucracy). Other recurring comments included the lack of coherence from the EC in terms of all of its policy instruments and the excessive use of European jargon.

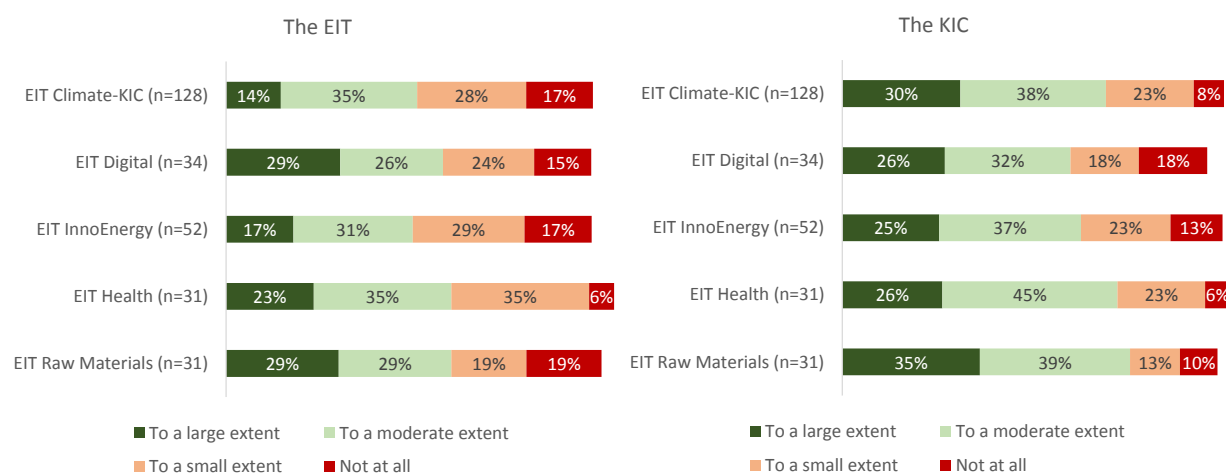
Another key trend in the answers is that there is low public awareness and it is mostly known about by "insiders". A number of respondents to the OPC indicated that the KICs is where the communication needs to happen as they have the success stories and the lessons learned. The KICs are considered to be more "the brand" than the EIT.

This needs to be considered carefully. All KICs have large communication and marketing teams (there are in excess of 40 people working on this area across the KICs). Each one communicates about their own KIC rather than the EIT. If this is where communication is concentrated, there is a need for more coordination around the messages. The EIT House, in Brussels will form an important cornerstone in this coordination.

Associated with brand is reputation. In the partner survey, the respondents were asked to indicate their motivations for joining the KIC with two separate questions relating to reputation, one on the benefits of the EIT reputation and the second on the benefits for association with the KIC (Figure 3.10). The reputational benefits from association with the EIT ranges from 48-58% for "moderate or large extent". There are slightly higher for the newer KICs, perhaps indicating the reputation is growing over (the three first-wave KICs were joining an unknown entity and may suffer from legacy bias). The reputational benefits of being associated with the KICs range from 62-74% for "moderate or large extent" with the highest scores again coming from the new KICs.

Figure 3.10 Partner survey: Whether reputational benefits from association with the EIT / KICs were motivations to become a KIC partner

Q8. To what extent were the following motivations reasons why your organisation became a KIC partner: Reputational benefits from association with the EIT / KIC?



Base: all respondents; note: excludes no response so does not sum to 100%

3.7 Effectiveness in engaging stakeholders

As set out in the SIA 2014-2020 *“Active exchange and mutual learning with other initiatives should be a cornerstone of the EIT’s efforts ... To this end, the EIT will directly engage with Member States and other stakeholders from across the innovation chain, generating beneficial effects on both sides. In order to render such dialogue and exchange more systematic, the setting up of an EIT Stakeholder Forum (now part of InnovEIT)⁵⁷, bringing together the wider community of stakeholders around horizontal issues, could be an appropriate tool to facilitate a two-way, interactive communication.”⁵⁸* The organisation of the Stakeholder Forum was incorporated into the modified EIT Regulation, accompanying the SIA.

In addition to the Stakeholder Forum, the Member States representatives (configuration) meet within the Stakeholder Forum and are another important aspect of stakeholder engagement.

At the activity level, stakeholder reach has continued to grow. This is evidenced by the number of briefings held per year which has grown from 6 in 2010 to 88 in 2016. (Table 3.8). These briefings take place with the education, research, business community, KICs, and political decision makers and cover a range of issues including input into the Stakeholder Forum (these figures do not include other bilateral meetings which take place during the Stakeholder Forum, nor the Member State configuration).

Table 3.8 Briefings held for stakeholders (2010-2016)

Year	2010	2011	2012	2013	2014	2015	2016
# of briefings	6	29	23	18	28	79	88

Source: EIT

InnovEIT represents the largest engagement event for the EIT.

The organisation of the Stakeholder Forum was incorporated into the modified EIT Regulation, accompanying the SIA. The purpose stated in the Regulation is “to make wider dialogue and exchange more systematic, the setting up of an EIT Stakeholder Forum, bringing together the wider community of stakeholders around cross-cutting issues could be an appropriate tool to facilitate a two-way, interactive communication”.⁵⁹ The Stakeholder Forum is now part of InnovEIT, the event which brings together the Forum, the EIT Awards and the Alumni.⁶⁰ This triggers by far the most direct engagement and the EIT in Budapest work hard to reflect on how to improve this event year on year. This forms a significant part of their engagement activity.

The internal monitoring of the 2016 event highlighted the successes of the event as well as issues to be improved. In relation to communication, it was noted that some of the co-location centres were not aware of the EIT Awards nomination processes and KICs requested additional information which had already been provided. It appears, reading between the lines, that a more joined up approach between the EIT and the KICs would be beneficial (although it should be noted that cooperation which did occur, is reported to have worked well).

There are already plans for the next edition of InnovEIT, with a larger audience, more practitioners and partners and, as with 2016, a large number of students and alumni.

⁵⁷ InnovEIT is the EIT’s Innovation Forum which combines the EIT awards and the Stakeholder Forum

⁵⁸ <https://eit.europa.eu/sites/default/files/Strategic%20Innovation%20Agenda%20%28SIA%29.pdf>

⁵⁹ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52011PC0822>

⁶⁰ The EIT Alumni Connect event brings together 100 alumni from the KICs; the EIT Awards include: Change Award; Innovators Awards; Venture Award.

Interviews with members of the Member State configuration indicated there is more to be done in order to engage with this group of stakeholders. The issues raised are on both sides (with the Member State configuration indicating they need to be more proactive too). The impression given was that it is a talking shop and that many of the items brought to the forum are already a *fait accompli*.

There are other significant activities which either directly or indirectly affect engagement:

- Alumni:
 - EIT Alumni Start-up Days which took place in 2016 in six cities (Stockholm, Berlin, Paris, Eindhoven, Lisbon and Barcelona).
 - Cross-KIC Alumni meet ups and workshops
- Info Days – for information on the new call in 2014 / 2016 (over 400 participants).

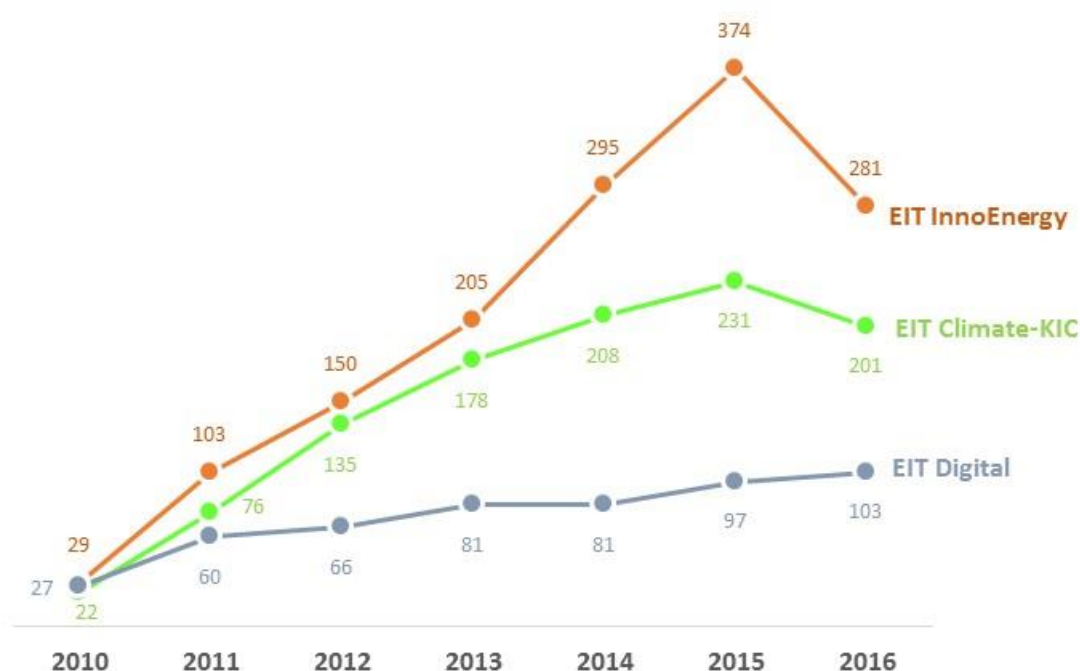
The EIT House, already referenced, will provide further opportunity for engagement with stakeholders and political decision makers in Brussels. Overall the stakeholder engagement activities are in line with the objectives set out in the modified Regulation of the EIT. There is room for further coordination of activity.

3.8 Effectiveness in integrating new partners

The available evidence indicates that KIC partnerships have grown over time, both in terms of size and diversity – see Figure 3.11 and Figure 3.12. EIT Climate-KIC and InnoEnergy have grown their partnerships significantly (almost tenfold) during the last six years, although the latter lost over 90 partners in 2016. EIT Climate-KIC also saw a decline in its partnership numbers in 2016, but to a smaller extent. EIT Digital on the other hand has steadily expanded its partnership over-time, although at a slower pace as compared to the other two KICs.

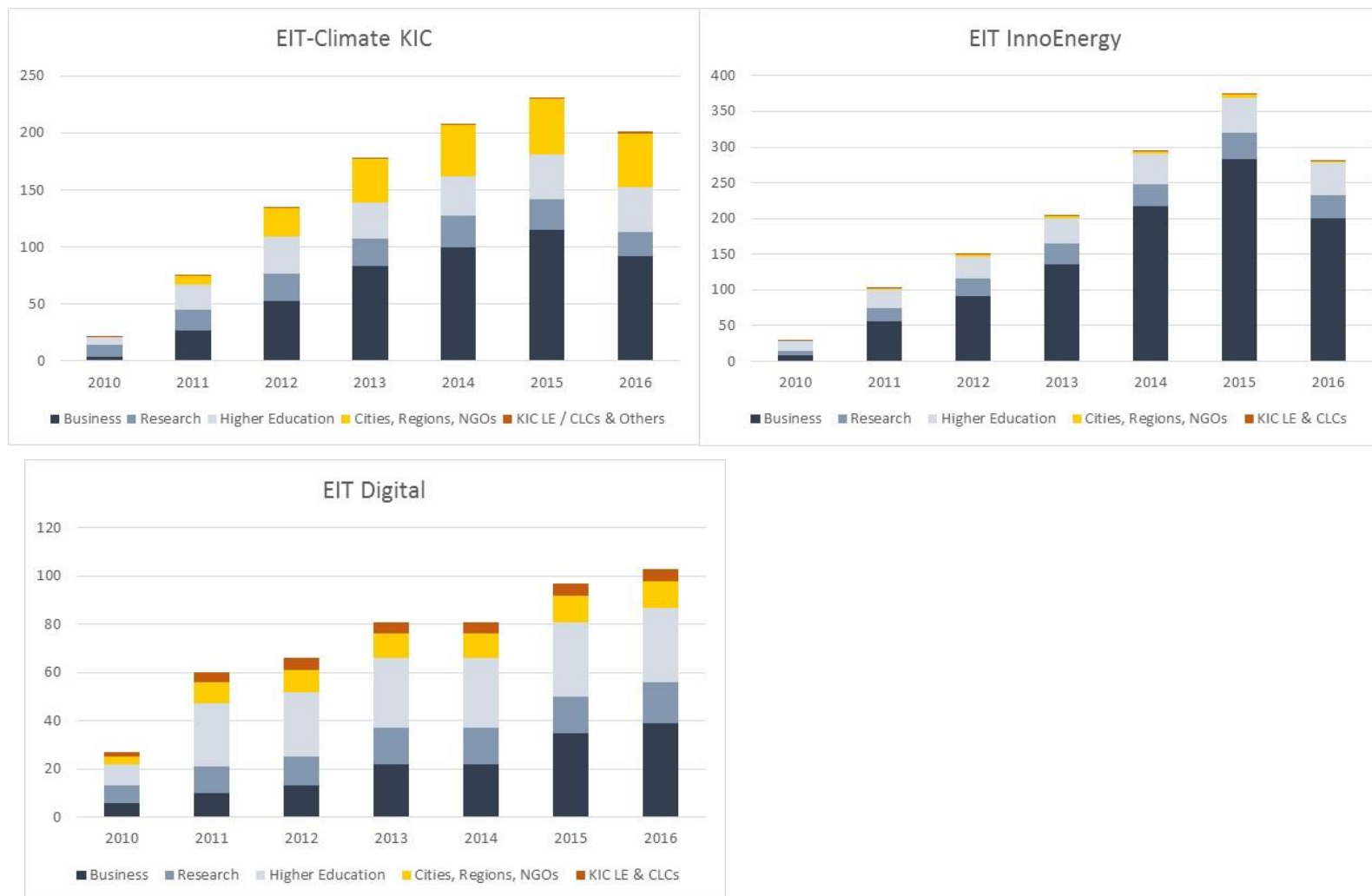
Interviewees from KICs indicated that some partners have left KICs in recent years due to changing policies around administrative procedures, reporting, eligible cost etc. The introduction of membership fees is also reportedly acting as a disincentive for new partners.

Figure 3.11 Growth of KIC partnerships, 2010-2016



Source: based on data provided by the EIT (25 April 2017)

Figure 3.12 Evolution of KICs' partnership mix, 2010-2016



Source: based on data provided by the EIT (24 April 2017)

Interviews with KIC teams suggest that:

- EIT Climate-KIC finds it challenging to attract partners from the demand-side of the innovation value chain (i.e., organisations responsible for the production, transformation and commercialisation of a technology, who can help scaling-up projects). The administrative burden associated with being an EIT Climate-KIC partner is seen as a major deterrent. According to an interviewee, joining EIT Climate-KIC as a core, or affiliate, partner can be 'too cumbersome' for these organisations and disproportionate in relation to the amount of funding these organisations are granted. In many cases, the private sector organisations do not need EIT Climate-KIC's funds, and will either prefer to develop their innovation projects, or to support innovation projects which are relevant to their business. Due to this situation, according to an interviewee, EIT Climate-KIC is considering the option of introducing a new partner category, under which partners would be able to be connected to the EIT Climate-KIC network and support projects that they regard as more interesting to their businesses, but would not have access to the grants. As such, these partners would be free from the reporting and other administrative requirements. The expectation is that more business can be attracted by the opportunity to work with innovative business, without having the administrative commitment of reporting on KPIs and how the grant money is spent
- EIT Climate-KIC finds it not only challenging to attract new partners, but also ensuring that industry partners represented at board level have decision making authority. While academic partners are represented at a senior level (e.g. directors), lower tier officials typically represent industry partners.
- Industry partners are attracted 'organically' to EIT Digital as its innovation action lines and business support activities evolve. Attracting additional university partners is perceived as a challenge as the available financial resources of universities (e.g. needed for developing blended education) are being reduced in many EU Member States.
- EIT InnoEnergy has also faced challenges in attracting and integrating new partners. Initially, partners handed in applications, expecting a similar to FP7 grant approach, but EIT InnoEnergy adopted a different approach that initial partners were not familiar with (i.e. 'strong market orientation and geared to market success'). This led to initial tensions and can be seen as part of the reason behind slow initial growth for the KIC. There have been examples of partners being disappointed as they anticipated less red tape and bureaucracy. InnoEnergy has overcome some of these initial issues by engaging with partners to offer a more realistic view on what is feasible through partnerships. EIT InnoEnergy has found it particularly challenging to attract and integrate new higher education partners. Similar to business partners, there was an initial failure to manage various expectations from the KIC's outset. More important challenges that have been stated by KIC Directors have been the lack of flexibility from universities to adopt modern approaches. It is perceived that the speed of change from universities is very slow and they are still risk averse to experiment with new approaches.
- During the early phases of the EIT Health setup, work was done to understand what competencies were needed to set up the KIC effectively, looking in particular at the field of expertise desired and the types of partners needed (business, industry, academia etc.). The executive committee then approached organisations which fulfilled these criteria (on the basis of the Inno-life consortium and their networks). In addition this committee developed specific evaluation criteria for partnership applications: A key element of selection was looking at the value each potential partner could bring to the KIC, their expertise and standing within their industry/domain. In terms of scoping for new partners, the KIC's supervisory board develops a growth strategy looking in particular at the more public domain (cities, localities) and at areas where there is an under-representation of types of

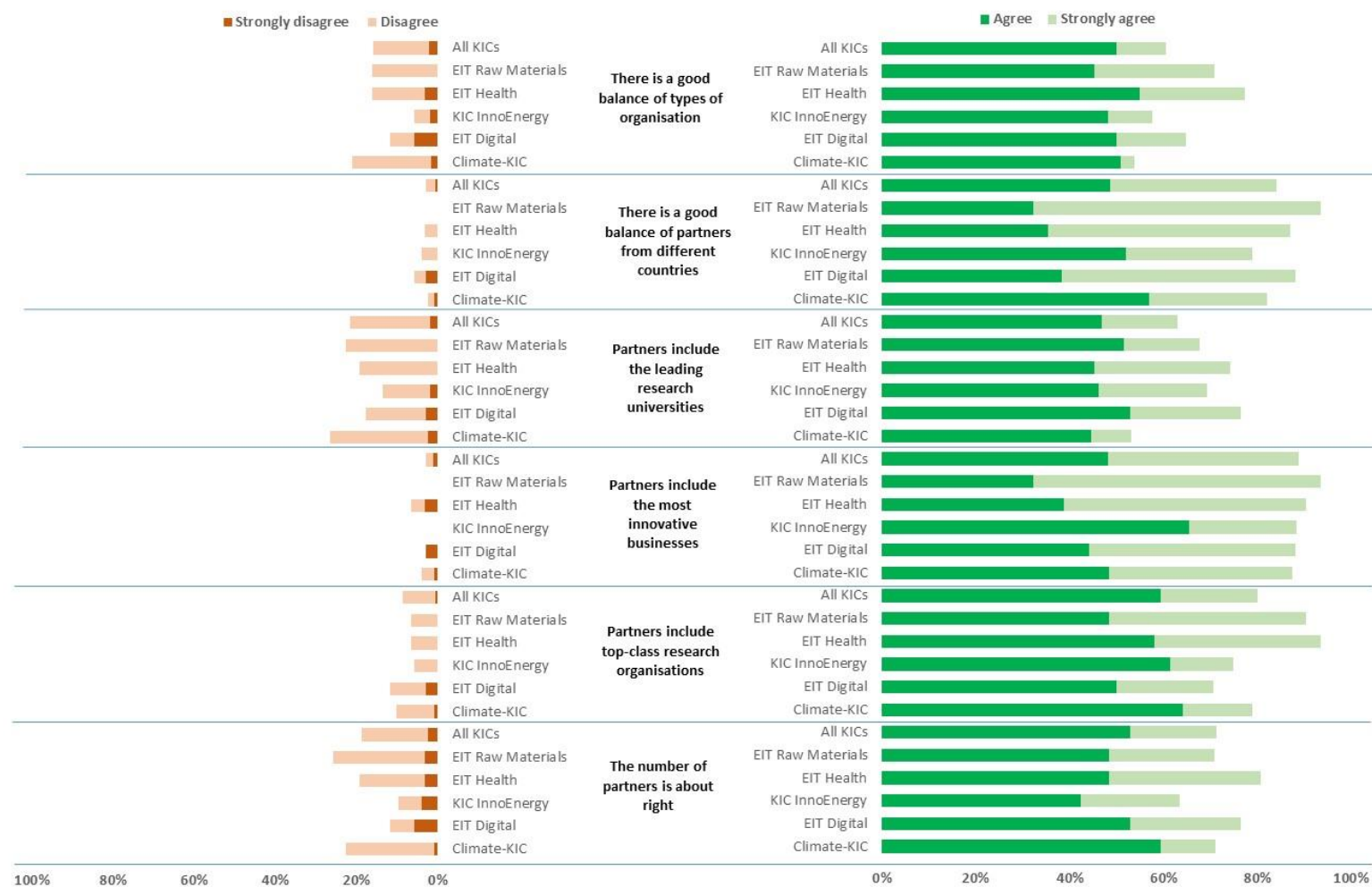
stakeholders. There is an understanding that quality matters over quantity – in particular when it comes to looking at the potential and expertise that future partners could bring to the EIT overall. Given the large partnership already in place, EIT Health is only focusing on adding a number of strategic partners from sectors which are currently under-represented but are key in bringing innovation into the health care system. For example in 2017 they will aim to add three additional core partners representing healthcare providers: One of the main problems for EIT Health, and with initiatives aimed at improving healthcare, is the lack of engagement with the healthcare providers themselves.

Partners' own perceptions of the partnership mix however, are largely positive (0) with a significant majority agreeing or strongly agreeing that:

- There is a good balance of types of organisation (universities, large businesses, SMEs, research organisations) within the KICs.
- There is a good balance of partners from different countries within the KICs.
- Partners include the leading research universities in the KICs' respective thematic areas.
- Partners include the most innovative businesses.
- Partners include top-class research organisations.
- The number of partners is about right.

Figure 3.13 Partner survey: Views of partners on various features of KIC partnerships

Q9. To what extent do you agree with the following statements about the organisations that are currently KIC partners?



Base: all respondents; note: excludes 'don't know' and no response, so does not sum to 100%

Elaboration of partners' views on KIC partnerships

In the survey, partners who disagreed / strongly disagreed with the above statements were asked to explain their responses. The main points raised by the partners can be summarised as follows:

- There were several comments from partners regarding a lack of SME involvement in KIC partnerships. Conversely, other partners indicated that they would like to see a greater number of large and international businesses involved in the KICs.
- There were several comments regarding lack of balance within the EIT Climate-KIC partnership in particular: SMEs, public authorities, and demand-side organisations (i.e. those who invest in solutions) were seen to be under-represented. Some partners believed there was too much emphasis being placed on the supply-side, including research organisations, and highlighted the geographical imbalance in the KIC's partnership (According to available data, the KIC's partnership is dominated by organisations coming from the EU-15. Among the new Member States, there are a few partners from Hungary and Poland only)
- Some commented that partners with an academic / research profile are dominating the EIT InnoEnergy partnership. The lack of public authorities was mentioned by several partners as a challenge.
- Some partners commented that there is slight over-representation of incumbent companies (and less of digital champions) within EIT Digital partnership.
- It was suggested that the healthcare sector and citizens are not adequately represented within EIT Health partnership and that the KIC is being driven by academia.
- Some suggested that EIT Health and Raw Material partnerships are already too large while others suggested that there is scope to expand these partnerships further to address some of the 'imbalances' described above.

3.9 Effectiveness in attracting graduates

Comprehensive data on the profile of applicants and participants in education programmes (e.g. gender, nationality, educational background, prior work experience etc.) is not available to undertake a systematic and comprehensive analysis of applicant and student profile. KICs typically collect baseline data on country and gender only. The analysis presented here is therefore, primarily based on secondary evidence (e.g. education review, KIC business plan reports and their assessments) supplemented with information collected via interviews with EIT / KIC staff. The attractiveness of the EIT-label education programmes can be measured as follows.

Selection rate

The high demand for participation in the EIT-label based educational programmes provides an indication of the attractiveness of the KICs' education programmes. As the table below shows, that overall, EIT labelled education programmes are significantly over-subscribed.

Figure 3.14 Over-subscription rates

	2012	2013	2014	2015
EIT Climate-KIC	0.75	20.1	4.23	3.89
EIT InnoEnergy	6.65	2.05	3.39	6.09
EIT Digital	n/a	3.06	2.67	4.08

Source: EIT. Measured as number of applications received divided by the number of students selected

The average figures however, mask differences between specific courses. For example the EIT Digital Masters School received 1,590 applications in 2015 for 320 seats. Although the number of applications fell short of expectations (2,400), there was high over-subscription (4.96) nonetheless. The Doctoral school was less successful in attracting students: only 40 applications were received against a target of 200.

In the case of EIT InnoEnergy, although the EIT labelled education courses were heavily over-subscribed, the number of applicants (1609 against 2000) and recruits (254 against 380) fell short of expectations. Moreover, there are high numbers of students dropping out during the process from application to enrolment due to several external (the way the national higher education systems are set up and study and life choices of students) and internal factors (e.g. issues related to scholarships, the Master School's application process, misalignment of expectations of stakeholders etc.).

Drop-out rate

The drop-out rate of the KIC programmes is less than 10%, as compared to the world average retention rate for graduate school studies of around 50%⁶¹. While EIT Climate-KIC has been quite successful in developing a distinction and high profile of its educational programmes (EIT Climate-KIC's education programmes have received global recognition and acclaim – see Box 3.4), the other KICs have been less successful. A recent study by Technopolis found that the "EIT InnoEnergy" brand has yet to become widely known among the stakeholders (students, academics, parents and employers). Likewise, EIT Digital's Masters' programmes suffer from weak recognition, particularly within the EU as they appear to lack distinctiveness.

Box 3.4 EIT Climate-KIC's education activities

EIT Climate-KIC's education global branding is further reflected in the success of the Climathon initiative, which has been implemented in 120 cities since its initiation, with many outside the EU, such as Addis Ababa, Ethiopia; Beijing, China; Bogota, Columbia; Perth, Australia; New Delhi, India; Santiago, Chile, and Wellington, New Zealand. A global invitation to gather new ideas for city level solutions attracted more than 1,000 citizens in 19 cities across six continents in 2015. In 2016, EIT Climate-KIC was awarded a Guardian Sustainable Business award for a global communications campaign around its successful 2015 Climathon.

Over 1,000 participants from across the globe have gained climate and entrepreneurial knowledge and inspiration from The Journey since its inception in 2010. More than 200 Business ideas have been generated, with an increasing number of these successfully continuing on to the EIT Climate-KIC Greenhouse, Accelerator and other European and global start-up programmes. For the first time in 2015 a commercial 'global edition' Journey was tested, to further increase the outreach of the programme. The 2015 edition of the Journey was the largest yet, with 8 Journeys across Europe, over 300 participants and more than 60 climate-related business ideas generated. With over 45 nationalities represented, the Journey fulfils an important outreach function for EIT Climate-KIC. The participants come from a variety of academic and professional backgrounds, making the Journey a truly multidisciplinary. The Journey was recognised by the Organisation for Economic Co-operation and Development (OECD), who included it in their HEInnovate best practice guide. EIT Climate-KIC also has a strong alumni network, with 1,606 members, including 13 European and 3 International chapters (2015).

Student profile

As regards the profile of the students, the evidence extracted from secondary sources suggests that diversity is well embedded in the student population in the EIT Label-programmes. KIC programmes attract a variety of students from across the world through highly competitive selection processes. For example, the EIT Digital Masters School attracts a high number of non-European applicants (5 to every available seat). The downside of this is that high quality non-European students expect competitive

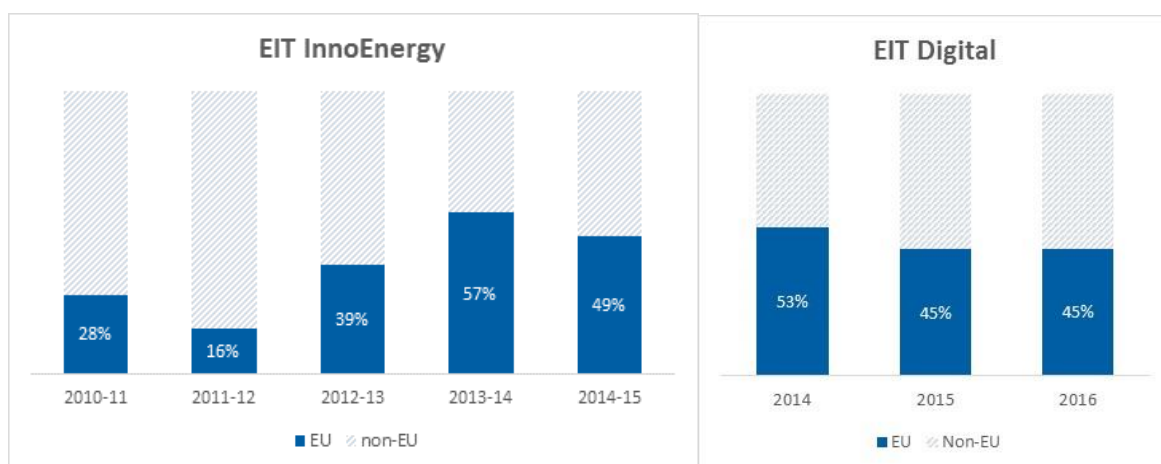
⁶¹ EIT (2016) *Assessment of the implementation of the EIT Knowledge and Innovation Communities (KICs) educational activities*

scholarships and do not enrol when they receive better financial conditions elsewhere. The share on EU students has slightly declined in recent years. This could be due to the alignment of the EIT programmes with the Erasmus Mundus programme targeting third country students. However, this needs to be analysed further.

In the case of EIT Climate-KIC, the last cohort of PhD students consisted of approximately the same number of EU and non-EU students. The number of nationalities associated with EIT Climate-KIC educational courses has also remained high; for example, in 2013, 2014 and 2015, over 50 nationalities were involved in education initiatives, such as the Masters and PhD labelled programmes, the Pioneers into Practice (PiP), and the online education platform, including students from the US, India and China.

Over 30 nationalities are represented on EIT InnoEnergy graduate programmes. In early years, these programmes were dominated by non-EU students. This has evened out in more recent years. The highest number of non-EU students have come from India and Bangladesh while, a third of the EU students have come from Germany and Italy.

Figure 3.15 Citizenship of students



Source: EIT

Available evidence suggests that the educational programmes are attracting high-calibre students:

- According to the education review, programme leaders attest to the fact that the EIT label students are more motivated compared to regular students;
- Research conducted by EIT InnoEnergy found that its graduates have a high employability rate (96%) and a high initial enumeration (14% higher than their cohort non-EIT InnoEnergy programs);
- A total of 13 of EIT Climate-KIC entrepreneurs feature on Forbes' 30-under-30 list, including four alumni members.

4 The wider impacts of the EIT

This sub-section provides answers to the following evaluation questions (Horizon 2020 specific evaluation questions are **highlighted bold**):

- Q4.3: To what extent have the EIT and the KICs influenced EU policy development and implementation in their individual thematic areas? (Section 4.1)
- Q1.1: What has been the EIT impact on innovation in the EU? (Section 4.2)
- Q1.3: What has been the EIT impact on national innovation systems in the EU? (Section 4.6)
- Q5.2: Are there any indications of spill-overs on the MS level arising from EU intervention? (Section 4.6)
- Q1.2: What has been the EIT impact on the innovation systems in the different EU regions? (Section 4.6)
- Q1.4: What has been the impact of the EIT education label programmes on the employability, entrepreneurialism and innovativeness of its graduates? How was this impact achieved? (Section 4.4)
- Q1.5: What has been the EIT's impact on job creation, societal challenges and economic growth? How was this impact achieved? (Section 4.5)
- **Q6.2: To what extent have the EIT and the KICs contributed to the relevant Horizon 2020 priorities? (Sections 4.2 to 4.6)**

4.1 The EIT's influence on EU policy development

4.1.1 Influence at the EIT level

The current Strategic Innovation Agenda for the EIT⁶² states that over time, “*the EIT headquarters will become a resourceful repository of best practices and a real knowledge partner for policy makers.*” The EIT will play “*an even stronger role as the centre of expertise in all of its main tasks and areas of responsibility*”.

The policy influence of the EIT in the past has been somewhat weak, but there have been considerable efforts to improve on this in recent years. Up to 2016/17, some reports published about the EIT⁶³ raised issues about its low level of influence on policy development, and in particular the lack of coherence of approach between the EIT and the European Commission. This was echoed in the interviews undertaken with stakeholders as part of this evaluation who also questioned the extent to which the EIT be expected to be highly influential in policy development, bearing in mind the small resources the EIT has for supporting this function. An area where there is consensus around action from the EIT, is in its role disseminating good practice from the KICs and showcasing success.

This section sets out some of the issues noted during the evaluation, as well as documenting the work which has been done to improve on its policy influence for the future.

In the past there was less opportunity given to the EIT to engage with the European Institutions in key fora. EIT staff tended not to be invited to meetings with the European Commission services and had minimal contact with DGs other than DG EAC. This meant the EIT did not have a strong position on the European or global stage and would not have been seen as the voice for innovation in Europe. Although the EIT was absent from policy discussions at the European institution level, the KICs were often present in their own policy domains, co-hosting events, being invited to conferences, advisory boards

⁶² Adopted by the governing board in 2011 and the European Parliament and the Council in 2013.

⁶³ 2011 Evaluation of the EIT; 2016 Report of HLG on the EIT

etc. This makes a distinction between the role of the EIT as a whole (influencing policy and practice) and the role of the KICs in their own policy domains, both of which are important.

The recent report from the Commissioner Navracsics' High Level Group on the EIT has a number of conclusions relating to the need for the EIT to be part of the policy debate, once again reflecting the comments on the lack of visibility of the EIT on the policy stage. The report also indicated that the EIT "needs to develop its own capacity for comparative (cross national, cross regional and cross programme) innovation analysis, and for communicating the lessons learned in various contexts and to different stakeholders (EU, national or regional) as appropriate. "The EIT thus should become a learning organisation - a key task in the future governance model".

The Governing Board before 2015 showed little evidence of discussing or debating policy matters. As indicated in other sections of this evaluation, little time was devoted to vision and policy insights in past Governing Board meetings. The minutes of meetings shows how operational matters took precedence, with more micro-management by the board and direct links between the board and the KICs as well as with the EIT.

At the EIT in Budapest, the first years saw high staff turnover (Table 4.1) and many vacancies, which did not help with positioning the institute to function as a policy influencer. In particular the rapid turnover at the senior management level impaired continuity and thus strategic positioning. This included the role of the Director. There have been a number of Directors in the short life of the EIT (the current position remains Interim). There have been a number of critical periods where certain departments were very low on staff. There was little activity in the first few years of the EIT on producing data and intelligence which could feed into the policy debate (there were only a small number of external research contracts, and an under-resourced policy unit).

Table 4.1 Staff turnover rates at the EIT headquarters, 2009-2015

Year	2009	2010	2011	2012	2013	2014	2015
Turnover rate	0%	31.9%	5.6%	26.8%	28.3%	11%	17%

Source: EIT

The lack of a common view on the knowledge triangle has also been an issue for the EIT. This made it difficult to portray the concepts of KTI in a way which creates a shared mutual vision for the functioning of the KICs and the influence of the EIT.

There have been significant efforts to address these shortcomings. In the recent period, EIT has directed its available resources for policy influence towards its priorities and in line with the Strategic Innovation Agenda. There is more coordination with the European Commission, across the Directorate-Generals. The EIT has been active in establishing structured dialogue with a number of EC services. There are many examples including an MoU with the Joint Research Centre (JRC), increased dialogue with DG REGIO in relation to smart specialisation and the new EIT RIS, with DG GROW, the fact that the EIT is referenced in the 2016 Communication on "Europe's next leaders: the start-up and scale up initiative".⁶⁴ The dialogue is growing in structure and content.

The EIT now finds more opportunities to have its voice heard and to feed into the policy debate. One recent example is its position paper in relation to the proposed European Innovation Council (EIC), where it provided lessons learnt from its own set up. The new EIT House in Brussels will also help the EIT's position inside Brussels. The EIT ring-fenced EUR one million for the EIT House in 2016 which provides resource for space and staff will be employed by the KIC legal entities and financed through the EIT grant allocated to the KICs. As this structure beds in, having a coordinated message and approach will be a key part of its mission.

⁶⁴<http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52016DC0733&from=EN>

With regards to the Governing Board, there is a much clearer division of responsibility and the Board is operating in line with the EIT Regulation. The board meeting minutes in recent years document the need to reorient the EIT towards being an impact-driven institute. The Governing Board members are devoting more meeting time to reflection and strategic orientation, its own role and how it can bring added value to the EIT and KIC community.⁶⁵ One outcome of this is the clearer mechanisms of communication. Now the Director of the EIT links with the CEOs of the KICs, and the EIT Governing Board Chairperson links with their parallels at the KICs.

The previous Director prepared some publications on strategic positioning, conceptualising the KIC model and reflection on what the EIT means for the EU innovation landscape. The current Interim Director is both working hard to fine-tune operational and managerial issues, whilst at the same time, building up capacity for future policy influence. Over the last two years there have been a number of internal reviews commissioned which support the EIT's growth, vision, operation and strategic direction.

In the past, a lack of common infrastructure for data hampered the ability to use information more strategically. This is now being tackled by EIT through the simplification task force and the online system. The role of the EIT in disseminating good practice is well developed and further supported by the cross-KIC activity.⁶⁶ The SIA and the Triennial Work Programme indicate a number of actions related to cross-KIC activities including outreach, work to support the EIT RIS (led by EIT Health), cross-KIC activity in human capital led by EIT InnoEnergy, cross-KIC activity for generating of funds from national or regional funding programmes, led by EIT Climate-KIC, a web-based tool to provide a platform for knowledge sharing and networking around the EIT, Alumni, repository of open course ware from the EIT's and KICs' educational and training activities, joint communications, IPR and foresight.

The EIT-KIC Forum is the mechanism by which the EIT Director and KIC CEOs discuss on the focus of the cross-KIC activities. In 2016 four high level topics were identified and EUR 4m was ring-fenced for such activities.

The recruitment drive means that the EIT is almost at full complement (even if this is still disputed as being enough staff with respect to their responsibilities⁶⁷). The staff increased from 50 to 59 from the end-2015 to end-2016. The EIT makes good use of trainees and experts. This provides the opportunity for more senior staff to take a strategic role in policy influence, however this will take time. There has been an internal reorganisation to help with continuity and organisational succession planning. There are also talks ongoing about finding more shared resources with the KICs although it is important not to blur the boundaries

The more recent criticisms have been met with action on the part of the EIT. This is timely as it enters into the phase of the creation of the next SIA. The internal "ordering work" will help create a solid platform on which to start playing a more strategic external role. Additionally, the results emerging from the KICs are growing apace with the maturation of the first three KICs, and there is an opportunity to widely disseminate results and start to create a bigger community of informed stakeholders across Europe. According to the staff interviews at the EIT, they are much better known at the EU, national and regional level and involved in more policy discussions.

⁶⁵ GB meeting minutes, 3 December 2015

⁶⁶ "The EIT will continue to encourage further collaboration and to support continuous exchanges of knowledge among all KICs through the implementation of cross-KIC activities in all areas of the Knowledge Triangle. The EIT will strive to broaden its current cross-KIC agenda. KICs will be incentivised to develop joint activities on cross-cutting issues, share good and novel practices, contributing, over the long-term, to the establishment of European education, entrepreneurship and research global leadership." (EIT Triennial Work Programme 2016-2018)

⁶⁷ The ECA Report on the EIT, 2016 reporting that staffing levels were not sufficient

The extent to which the EIT should play a policy influencing role at the national level is questionable (given resources). There will be more attention to this at the KIC level with the positioning of the co-location centres and the new EIT RIS. This is addressed in the next section on the KICs and policy influence.

4.1.2 Influence at the KIC level

KICs have the potential to be a valuable expert 'resource' for policy-makers, and have built some links at EU level, but their influence on national policy-makers is unclear

The KICs have a 'reservoir' of expertise as regards innovation within their respective thematic areas. Through their networks they bring together thematic representatives from business, academia, research, and public policy, thus providing a diversity of perspectives. They are pan-EU, and bring together individuals and organisations from across Europe, as well as international perspectives via their outreach activities (e.g. EIT Digital's Silicon Valley Hub). Since they are also responsible for the delivery of interventions, they are well-placed to provide a perspective on 'what works', which can be built in to EU policy design.

The KICs could thus be a valuable specialist resource for policy-makers at EU level, providing evidence and support in the development and implementation of EU policy. There is evidence that this is taking place. EIT InnoEnergy has worked with DG Energy and contributed to the revision of the Strategic Energy Technology (SET) Plan (which identifies research and innovation actions to support the deployment of low-carbon technologies), and is also an observer to the Executive Board of the European Energy Research Alliance (EERA⁶⁸). The achievements of the other KICs in this area are not as clear; for example, the independent expert review of EIT Climate-KICs' 2015 performance concluded that "*EIT Climate-KIC's links with European research and European policy are not yet demonstrably achieved*"⁶⁹. There is certainly scope for the KICs to play a more significant role as a 'sounding board' for the DGs of the European Commission in the development of policy (e.g. around FP9, innovation support, entrepreneurship support etc.). The EIT Health CEO is part of the H2020 Advisory Board, ensuring thematic synergies and opportunities for consultation. EIT Digital has provided the European Commission (e.g. DG RTD and DG CONNECT) with feedback on draft H2020 work programmes. Most KICs have also engaged in a structured dialogue with the JRC with the view to identify synergies and exchange best practices and knowledge to support a number of policy areas.

In terms of their wider influence on public policy (i.e. beyond EU programmes), KICs organise, and participate in, numerous events focussing on specific topics / issues within their broad thematic areas, for example using these opportunities to disseminate information about ways in which innovation projects / start-ups have tackled societal challenges. EIT Climate-KIC has been particularly active in using events as a way in which to disseminate its activities and thus participate in policy debates. Representatives from the EIT Climate-KIC team attended the COP20 climate summit in Lima (2014) and COP21 in Paris (2015) and Marrakech (2016). The KIC used these events to showcase innovations and disseminate information about the achievements of the KIC (particularly in relation to climate change mitigation), including participation in specific side events focussing on discussion of specific challenges (e.g. greenhouse gas emissions monitoring, and research developments on energy storage technologies).

Assessing the extent to which KICs have shaped national or sub-national policy development in their respective thematic areas is challenging. The annual independent expert reviews of the KICs have consistently suggested that greater 'integration' at a national and regional scale is desirable, and did not report any significant results in this

⁶⁸ <http://www.eera-set.eu/>

⁶⁹ EIT (unpublished) EIT Assessment of the KIC report: EIT Climate-KIC, Grant Agreement 2015

area. Some interviewees from KICs suggested that, thus far, they had focussed efforts on delivery rather than on deepening their role within national and regional policy spheres. There is some evidence that CLCs have successfully built links with city and regional policy-makers in the cities within which they are located (particularly around the provision of start-up support and using the profile of the CLC/KICs to attract entrepreneurs and innovative start-ups businesses). No evidence was identified that pointed towards the KICs having a significant impact on national policy development. Some individuals who were consulted for this evaluation suggested that the KICs were often not well known at national level, even in countries where there is a strong CLC presence. Interviewees from KICs noted, however, that they can and do exert influence on policy development via their partners. KICs' networks include individuals mainly from leading universities, research organisations and businesses who have strong connections with politicians and policy-makers (international and national). It was suggested that such high-level links are an effective way in which the KICs can influence external policy stakeholders.

4.2 Impacts of the EIT's innovation support activities

KICs address a key market failure facing many innovations – securing the finance needed in order to take a project from the development / prototype stage through to large-scale demonstration and commercialisation. They do this through grant funding to innovation projects and also via investments in innovative businesses. We assessed the role of the KICs in this regard via two case studies, which are set out below:

- Box 4.1 presents the results of a case study that was undertaken by the evaluation team of EIT InnoEnergy's support (investment and also broader assistance) to Minesto, and the impacts that this had on innovation.
- Box 4.2 sets out the results of a case study of EIT Climate-KIC's support to Naked Energy, which encompasses financial support to two innovation projects, and also more general business support (Naked Energy also participated in EIT Climate-KIC's accelerator initiative, and thus provides an example of the way in which KIC entrepreneurship support can lead to follow-on innovation support).

Box 4.1 EIT InnoEnergy's support to Minesto

Minesto is a marine energy technology company whose mission is to minimize the global footprint of the energy industry by enabling commercial power production from low velocity tidal and ocean currents. The company was founded in 2007 and has offices in Gothenburg (Sweden), Holyhead (Wales) and Portaferry (Northern Ireland). Minesto's patented product, Deep Green, is a marine power plant that operates cost efficiently in areas with low velocity currents.

Whilst the Deep Green technology is a proven technology (which was a key requirement for EIT InnoEnergy to become involved), Minesto needed to secure investment to fund the installation of the first commercial scale, 0.5MW power plant off the coast of Anglesey in North Wales, UK. In May 2015, Minesto secured a EUR 13 million investment from the European Regional Development Fund through the Welsh European Funding Office (WEFO), for the commercial rollout of Deep Green. More funding was required, however, and Minesto successfully applied to EIT InnoEnergy for an initial EUR 3.5 million worth of investment (subsequently increased to EUR 4.5 million). This investment has been necessary in moving forward the planned power plant, which is due to begin construction in 2017. Interviews with Minesto representatives identified the significance of this investment in enabling the project to move forward relatively rapidly, though they were unable to assess what would have happened if there had been no EIT InnoEnergy involvement (and it should be stressed that the bulk of the investment needs were met via ERDF funding).

Minesto's involvement with EIT InnoEnergy has also reportedly brought a number of other benefits. Financially, the investment by EIT InnoEnergy put the business in a better position in advance of its 2015 initial public offering (IPO), a crucial step in securing additional finance and expanding the business. EIT InnoEnergy has also provided other forms of (non-financial) support that have helped Minesto. Interviews with representatives from Minesto indicated that the KIC had brought useful industrial knowledge, as well as knowledge of public and private financing.

EIT InnoEnergy also initiated the development of a long-term 'roadmap' for Minesto's development and expansion, which the business identified as an unexpected benefit to participation, and a useful tool for its post-KIC development.

Box 4.2 EIT Climate-KIC's support to Naked Energy

Naked Energy is a UK-based design and innovation businesses specialising in solar technology and energy conservation. The business was founded in 2009, progressed through the KIC's Accelerator Programme Stages 1 to 3, which amongst other benefits helped them improve their approach to pitching their product and, consequently, their ability to attract further funding. Naked Energy developed Virtu™, a hybrid solar panel that generates both heat and electricity.

In addition to receiving accelerator support, Naked Energy has participated in two KIC-backed innovation projects: i) WE4CC; and ii) E-USE, both focussed on commercial applications of its Virtu™ technology. WE4CC is a partnership between TNO and Naked Energy, together with a number of other partners. The project 'combined' Naked Energy's Virtu™ technology with TNO's Memstill® to run an innovative water production and air conditioning system. The E-USE project followed on from this, and consisted of a partnership between Naked Energy, Deltares (a water treatment company), and six other partners. Under E-USE, Naked Energy's Virtu™ tubes will be applied to heat water which will then be stored in an underground aquifer. The electricity generated by the tubes can also be applied to run the pumps needed for the aquifer thermal energy storage system.

As part of both of these projects, Naked Energy received funding from EIT Climate-KIC. This funding enabled the business to test its technology – Virtu™ – in real-world applications. We see a progression, whereby WE4CC involved eight Virtu™ tubes, and E-USE involved 120 tubes. Whereas WE4CC was thus a relatively small scale demonstration of commercial application, E-USE represents the first large scale application of Naked Energy's technology. Representatives from Naked Energy indicated that this was an important step in the commercialisation of their innovation, and should enable them to attract further investment and customers in the future (the approach used as part of E-USE has significant potential for large scale application in the Netherlands – where it is being tested – and elsewhere).

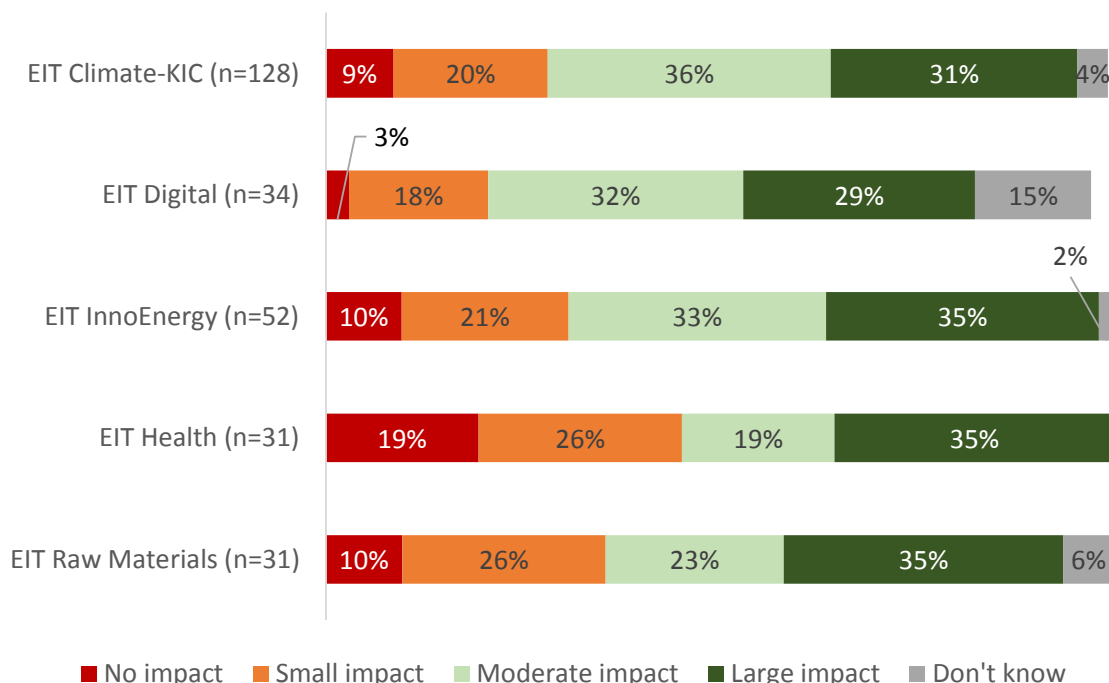
Naked Energy's involvement with EIT Climate-KIC has supported their progression as a start-up, and enabled them to find real-world commercial applications for their technology. Of course, other parties have played a part in the business's journey (including UK Government financial support), and the business benefited from access to Imperial College London's university facilities, which allowed Virtu™ to be tested and validated, and provided valuable operational data. Nevertheless, in addition to the finance that EIT Climate-KIC has provided, Naked Energy has also benefited from the partnering opportunities that participation in a KIC provides, by supporting access to research institutes and customers who were willing to bring their technology to the market.

As part of the KIC partner survey, respondents were asked about impact that being involved in a KIC had had on the *innovation capacity* of their organisation (Figure 4.1). This is important because it looks at the extent to which involvement in a KIC and in KIC-led innovation projects had resulted in institutional changes that improved the capacity of participating organisations to innovate. This question thus considers whether the activities of the KICs go beyond 'transactional' grant funding to encompass wider-reaching impacts on partners.

As Figure 4.1 shows, around a third of survey respondents (29-35%) across the five KICs reported that involvement in the KIC had had a 'large impact' on their organisation's innovation capacity. About another 19-36% of survey respondents rated the impact as 'moderate'. Overall, therefore, a majority of partners (who responded to the survey) from each KIC believed that participation had had a moderate or large impact on their organisation's innovation capacity, which suggests that in most cases the KICs have an effect that goes beyond the immediate outputs generated through their innovation projects.

Figure 4.1 Partner survey: The impact of participation on the innovation capacity of partners

Q21. Overall, what impact has being a KIC partner had, or do you expect it to have, on the innovation capacity of your organisation?



Base: all respondents; note: excludes no response so does not sum to 100%

Following on from the data shown in Figure 4.1, KIC partners were asked to provide more detail on if and how involvement in the KIC had impacted on their organisational capacity. The following points were made by survey respondents.

KICs provided an opportunity to work with a range of other organisations

The most frequently mentioned explanation as to how the KIC had improved innovation capacity was the way in which being part of a KIC had enabled / encouraged organisations to work together to solve a problem, bring a product to market etc. Some partners noted that this had created new linkages and relationships which had continued outside of the KIC-backed innovation projects: "[the KIC] helped to establish partnerships with universities that also help to work on other innovation totally non-related to KIC". Other partners emphasised a change in the way in which their organisations approached collaborations with other organisations: "our institution has developed and professionalised its knowledge transfer activities through its partnership with EIT Climate-KIC".

KIC innovation projects are market-focussed

Various partners noted that KIC innovation projects tend to be very market-focussed, compared to, for instance, Framework Programmes, which are more research-focussed. Some partners noted that this approach had encouraged them to be more aware of the commercial potential of what they proposed to do, since they were "being forced to think and rethink the business feasibility of each project idea".

KICs helped build a 'culture' of knowledge transfer

This observation was particularly true for universities and research institutes that believed that their organisations still may not think in terms of the knowledge transfer potential of their research (clearly, for other universities there was less of an impact here). Participating in a KIC had encouraged their organisation to focus more on

commercial potential, and to work with businesses to realise this impact. According to one partner who responded to the survey:

"The collaboration with private companies is vital for research institutions; it enables focused research and development on real-world problems and products. It ensures that academic research doesn't sit inside a bubble, and has impact with the wider business community."

There was less impact where KIC partners were already innovative

Clearly, a large number of partners joined KICs *because* they were already highly innovative (excellence is a driving value of the KICs). These survey respondents were thus less likely to see any wider impacts on their organisation from participation in a KIC innovation project: *"we are already highly innovative, and have been for over a decade."*

For some, KIC innovation projects are still seen as a grant programme

The KIC model is intended to be more than a programme that distributes grants to beneficiaries, and as noted above, for many partners this is the case. However, for some KIC partners, the innovation projects are seen simply as a source of public sector financial support for specific innovation projects, as this quote from a survey response illustrates:

"Our company has already set up a series of innovation mechanisms according to the innovation policy of the company, so [we have] no need for a large support in generating innovation, but it [the KIC] is a complementary instrument the company may use in some cases, for example, to mature or introduce innovation in specific products of the company portfolio".

4.3 Impact of the EIT's business accelerator programmes

A key area of KIC activity has been in supporting innovation via entrepreneurship. Through their accelerator programmes the KICs have assisted entrepreneurs with innovative ideas to develop and test prototypes, demonstrate that their ideas work, and establish businesses to bring their innovative ideas to market. The KICs do not just support entrepreneurs to create businesses, and the entrepreneurship strand of their activity has also enabled new start-ups to scale-up their activity and achieve greater reach with their innovations.

To assess the impact of the KICs' entrepreneurship support activities, the evaluation team surveyed businesses that had received support via what we term a 'KIC accelerator programme'.

First, as Figure 4.2 shows, the exact status of 'beneficiaries' of KIC accelerator programme varied between KICs. EIT Climate-KIC and EIT InnoEnergy mostly supported entrepreneurs at the first 'stage' in their start-up journey (an innovative idea, or the development of a prototype), particularly EIT Climate-KIC where 46% of survey respondents indicated that they were at an 'idea / gestation' stage when they first joined a KIC accelerator programme. The cohort of businesses assisted by EIT Digital included a higher share of 'established businesses' (46%). This reflects the shift within EIT Digital to what have been termed 'scale-ups' rather than start-ups – i.e. established businesses that are looking to increase the scale of what they do, for instance by moving from their first national market to operating in multiple European countries, or taking a working prototype to a mass market product.

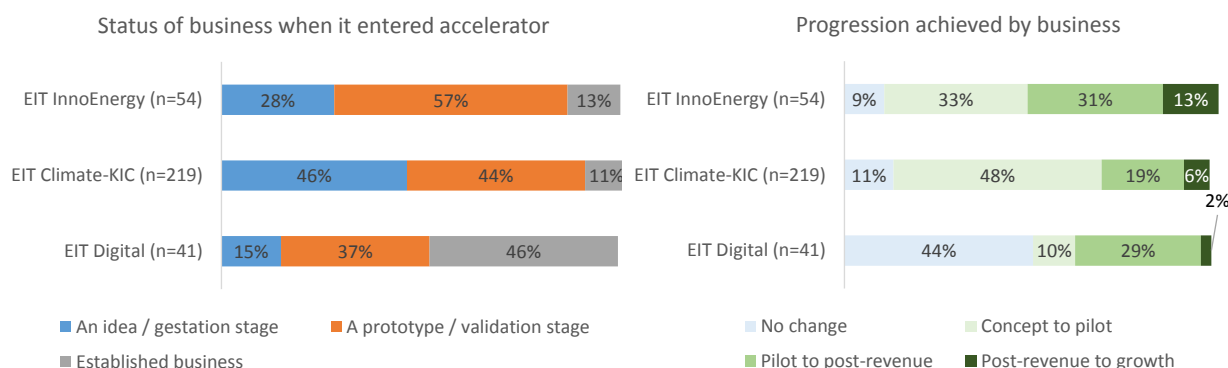
Figure 4.2 also shows the extent of progression along what might be termed the start-up journey. High shares of businesses that participated in EIT Climate-KIC and EIT InnoEnergy accelerator programmes moved from concept to pilot, and from pilot to generating revenue (jointly, 64% of survey respondents from the EIT InnoEnergy programme, and 67% of respondents from the EIT Climate-KIC programme). Just under half of respondents from the EIT Digital programme reported 'no change', though this is

likely to be a result of the profile of participants, since just under half were already established businesses.

Figure 4.2 Accelerator survey: Status of businesses when they entered their accelerator programme, and the progression achieved

Status of business: Q7. When you first received support from the programme, at what stage was your business at?

Progression achieved: Q18. Did the programme help advance your business idea to the next level? Please indicate the progression achieved.



Base: all respondents; note: excludes no response so does not sum to 100%

4.3.2 The benefits of participation in a KIC accelerator programme

To explore in more detail the role of KIC accelerator programmes in supporting innovation, the accelerator survey then asked businesses to indicate the benefits or results that participation in the KIC had brought (Figure 4.3). Observations are as follows:

- *Help with converting an innovative idea into a business* was a key result of participation in a KIC accelerator programme (78% and 76% of respondents from the EIT InnoEnergy and EIT Climate-KIC accelerator programmes agreed that this had been a result of participation). The proportion of respondents from EIT Digital agreeing that they had achieved this result was much lower (49%), which is again in line with the point made previously about the profile of beneficiaries of EIT Digital programmes.
- *Market access – understanding of the market, access to customers, and reduced time to market* – was also an important result of KIC accelerator programmes. This illustrates how the KICs have assisted entrepreneurs with an idea for a new product or process to launch their innovation onto the market quicker and with a wider reach than would otherwise have been the case.
- We also see evidence of networking effects, with a majority (60-80%) of survey respondents agreeing that the accelerator programmes had given them *access to potential partners*. Research at KIC level highlighted the extent to which participants in accelerator programmes have opportunities to meet and engage with other entrepreneurs and KIC partners, the latter including leading universities / research institutes and large businesses. This contact could be virtual, or can take place in person through the CLCs. These networking opportunities are valuable for start-ups, giving them access to potential markets for their innovations (partners also indicated that they benefit from sight of emerging ideas and innovations), as well as in some cases opportunities for follow-on innovation projects backed by KICs.
- We look at access to finance in more detail below, but it is worth noting that 50-75% of survey respondents agreed that the KIC accelerator had given them *access to seed or growth funding*.

Figure 4.3 Accelerator survey: Results of participation in a KIC accelerator programme

Q16. To what extent do you agree or disagree that your participation in the accelerator programme produced the following benefits or results?



Base: all respondents; note: excludes no response so does not sum to 100%.

4.3.3 Access to finance and investment

Access to finance and investment as part of the KIC accelerator programmes was investigated in more detail via the survey of accelerator participants, as it is often noted that one of the key reasons for the failure of start-ups is related to their inability to secure investment to support growth. Interviews with representatives from KICs and

start-ups indicated that venture capital investment can be lacking in specific areas and markets ('cleantech' in particular⁷⁰). This is a market failure that the KICs have sought to address via assistance to start-ups (investment readiness training) and networking (brokering start-up access to investors, helping start-ups to attend major investment events etc.)

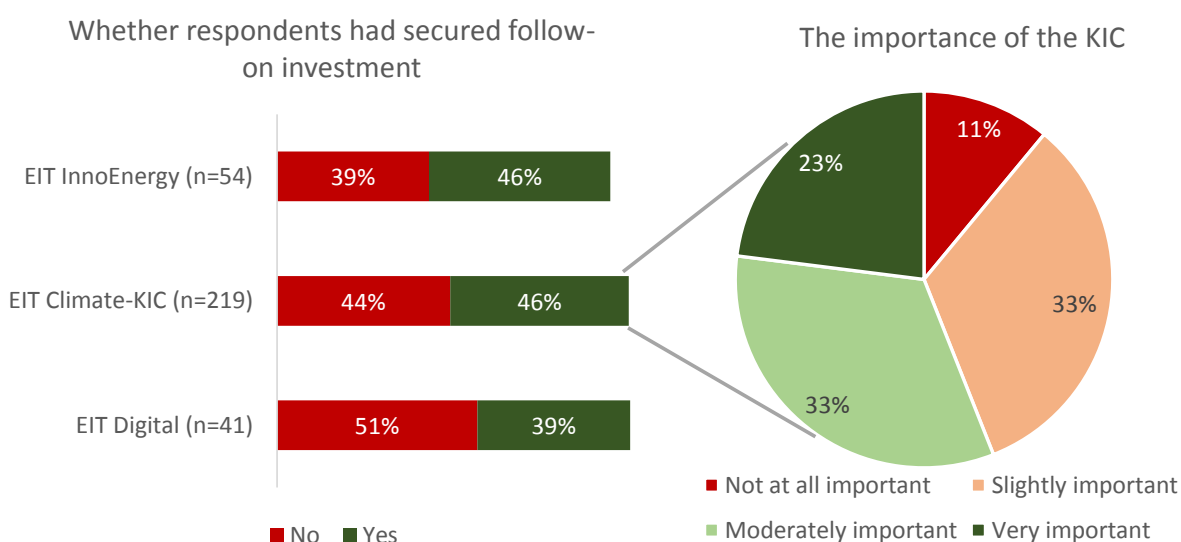
As Figure 4.3 above indicated, access to seed or growth funding was an important result of KIC support to start-ups, with 50-75% of accelerator survey respondents agreeing that the KIC had helped them in this regard. The KIC KPIs presented in Table 3.2 indicated that EIT Climate-KIC reported that its activities had led to EUR 213 million worth of investment being raised by start-ups (the comparable figure was EUR 58 million for EIT Digital).

Through the accelerator survey, we asked all businesses whether they had secured investment after leaving their KIC accelerator scheme (Figure 4.4). Just under half (46%) of respondents from EIT Climate-KIC and EIT InnoEnergy accelerator programmes indicated that they done so (39% for respondents from EIT Digital's accelerator programme), though we do not know how recently these businesses 'graduated' from the accelerator programmes. Those respondents who indicated that they had secured follow-on investment were then asked about the importance of the KIC's programme (also shown in Figure 4.4). Small sample sizes mean that we can only present the data from respondents who participated in EIT Climate-KIC's accelerator programme, where 56% of survey respondents rated the KIC's involvement as 'moderately important' or 'very important'.

Figure 4.4 Accelerator survey: Whether businesses had secured follow-on investment, and the importance of the KIC in this achievement (EIT Climate-KIC only)

Whether secured follow-on investment: Q20. Has your business accessed investment from another source after receiving support from the KIC?

Importance of the KIC: Q21. How important was the KIC in helping you access the investment?



Base: Q20 (all respondents); note: excludes no response so does not sum to 100%; Q21 (respondents who had secured follow-on investment, EIT Climate-KIC only: 100)

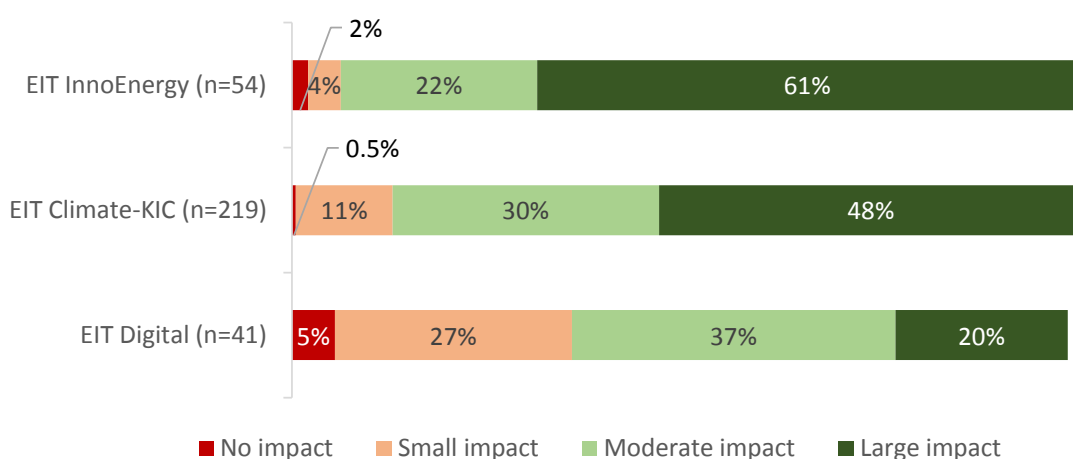
⁷⁰ <http://energy.mit.edu/wp-content/uploads/2016/07/MITEI-WP-2016-06.pdf>

4.3.4 The impacts on businesses of participating in a KIC accelerator programme

Finally, businesses were asked to assess the overall impact of participating in a KIC accelerator programme (Figure 4.5). Clearly, most businesses saw participation as beneficial, especially survey respondents from EIT Climate-KIC and EIT InnoEnergy accelerator programmes, where 48% and 61% of businesses respectively indicated that the programme had had a 'large impact' on their idea or business.

Figure 4.5 Accelerator survey: The impact on a business of participating in a KIC accelerator programme

Q14. Overall, how would you rate the impact of the programme on your idea / business?



Base: all respondents; note: excludes no response so does not sum to 100%

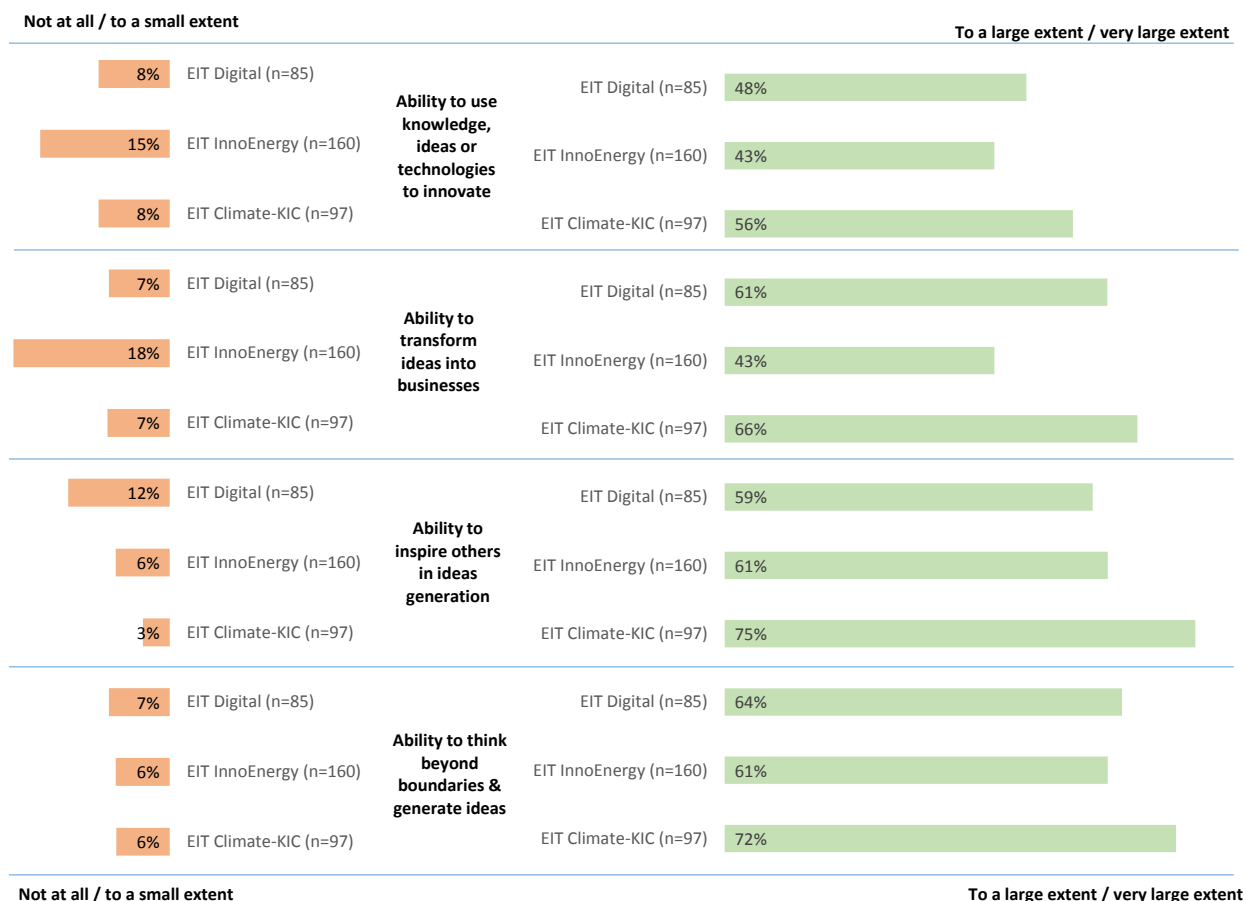
4.4 Impact of the EIT education label programmes

Our main source of evidence about the impact of the EIT-label courses on participants has come from a survey of graduates of the EIT-label courses run by the three first-wave KICs.

Graduates were asked what skills they had learned as a result of their course (Figure 4.6). These are, of course, self-reported impacts, and it should be noted that we do not know whether survey respondents would have developed these skills anyway, if they attended a different course. However, we see from Figure 4.6 that graduates developed skills in a number of areas which we might consider important innovation skills. For example, between 43-56% of survey respondents agreed 'to a large extent' or 'to a very large extent' that their course had taught them the ability to use ideas, knowledge and technology to create new or improved products, services or processes (i.e. to innovate). There was also support amongst survey respondents for the statement that their EIT-label course had taught them the ability to turn their ideas into businesses (i.e. entrepreneurial skills), with 43-66% of survey respondents agreeing to a large / very large extent that this had been the case.

Figure 4.6 Graduate survey: Skills developed by graduates of EIT-label programmes

Q12. To what extent have you developed the following skills as a consequence of the EIT labelled programme?



Base: all respondents; note: excludes 'to a moderate extent' and no response so does not sum to 100%.

Career trajectories since graduation

The graduate survey explored career trajectory since graduation, and asked all graduates what they were doing at the time of the survey (autumn 2016). The results are shown in Figure 4.7. Employment, whether full or part time, was the most common response (accounting for between 60-80% of survey respondents across the three KICs). Whilst this employment could be anywhere, there were examples of employment opportunities involving other areas of KIC operations. This included graduates who found work at start-ups that had been through KIC accelerator programmes (evidence from the CLCs suggests that they often host visits from graduates where they meet businesses, leading to internships and possible employment). The survey of partners also identified examples of partners who had employed graduates of KIC courses, since they often found these individuals to be well-trained and entrepreneurially-minded⁷¹.

A minority of graduates, at time of the graduate survey, had actually founded a business (though this was 16% of survey respondents from EIT Climate-KIC EIT-label courses). Around 20% of graduates from the EIT-label courses of each KIC were *thinking* of

⁷¹ There was also evidence that this extended to the professional learning programmes provided by KICs. According to one partner who responded to the partner survey: "we've had many pioneers [graduates] through the PiP [Pioneers into Practice – run by EIT Climate-KIC] programme and some of these have been very good and contributed well to our company - all have broadened the perspective of our team".

starting a business at some point, suggesting a future pipeline of start-ups (if indeed this intention comes to fruition).

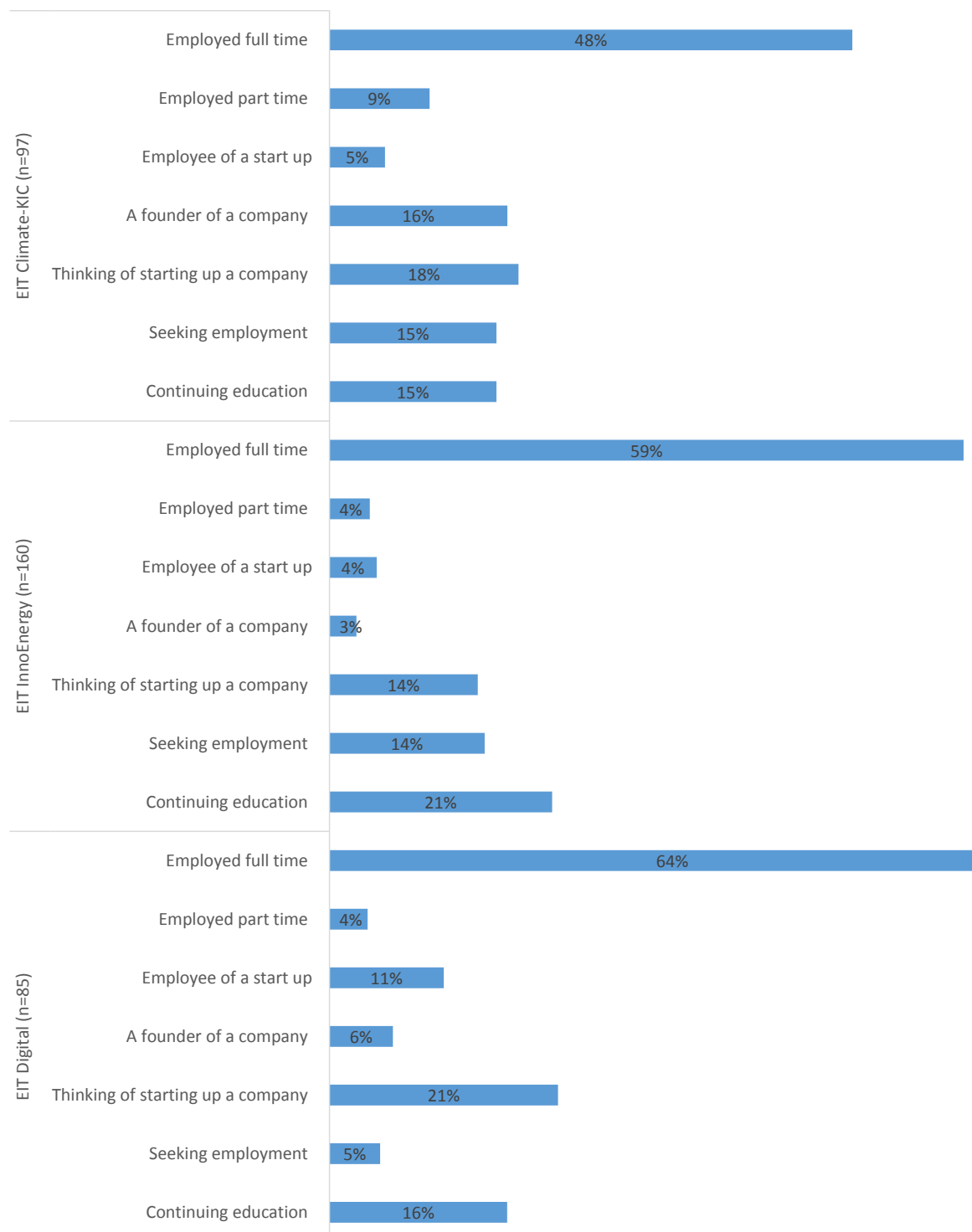
Two respondents to the graduate survey elaborated on their views as to the impact of the EIT-label courses on their attitudes towards starting-up a business, highlighting both the potential for a change in mind-set (quote number one) and also that it may take time for the entrepreneurial impacts of the EIT-label courses to manifest themselves in start-ups (quote number two).

"The EIT Climate-KIC Journey [the KIC's Summer School] was a condition of my PhD funding at my time of starting. While very sceptical, I had a great time and became more open minded to becoming involved in business. I am currently a full time postdoctoral researcher, but am working with my partner to set up a small sustainable business, for which having some knowledge of writing a business plan, finance etc. has been very useful".

"Entrepreneurship is something you learn by doing. And you actually need a good idea that you first believe in, before starting up ... EIT has too high expectations of the master school to see short-term results in new successful start-ups/products etc. whereas most of the students just look for a normal job after the master school. However, by all the kick-off / ideation / business development / summer school events, every student has indeed an idea of what it takes and how he could proceed, if he wanted to develop an idea into business".

Figure 4.7 Graduate survey: the current employment status of graduates of EIT-label courses

Q19. Please indicate your employment status now



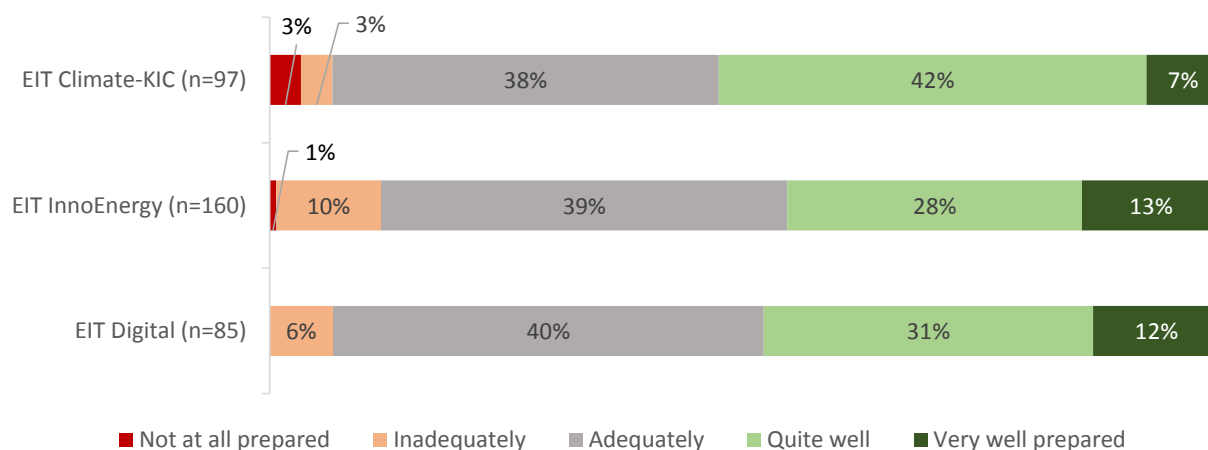
Base: all respondents; note: respondents could select more than one answer, so sums to more than 100%

Finally, the graduate survey also asked respondents to assess the extent to which their EIT-label course had prepared them for their chosen career path (Figure 4.8). For each KIC, most survey respondents indicated that their course had prepared them either

'adequately' or 'quite well', which suggests that, whilst they clearly found the courses useful, in most cases it had not (yet) played a major role in their choice of career.

Figure 4.8 Graduate survey: How well the EIT-label course prepared graduates for their chosen career path

Q20. How well do you think EIT labelled programme has prepared you for your chosen career path?



Base: all respondents; note: excludes no response so does not sum to 100%

4.5 EIT's impact on job creation, societal challenges and economic growth

The general objective of Horizon 2020 is to contribute to building a society and an economy based on knowledge and innovation across the Union by leveraging additional research, development and innovation funding and by contributing to attaining research and development targets, including the target of 3% of GDP for research and development across the Union by 2020. H2020 priorities include boosting innovation, industrial leadership, growth, competitiveness and job creation; and addressing the major societal challenges. This section considers the extent to which the EIT has contributed to these H2020 objectives, looking first at the employment and economic impacts of the initiative, and then at the impact on addressing societal challenges.

4.5.1 Job creation and economic growth

The KPIs reported by the EIT and the KICs do not include a comprehensive assessment of the economic impacts of their activities, making an aggregate assessment of employment and economic impacts of EIT difficult. Moreover, there will of course be a significant lag between much of what the EIT delivers – graduate schemes, support to start-ups etc. – and the realisation of significant economic impacts. We can certainly expect to see economic impacts from the EIT's activities in the future:

- The start-ups that have been supported by accelerator schemes will generate jobs as they grow, and revenue / GDP from sales;
- Innovation projects will open up new markets, generating revenue and GDP, potentially on a very large scale if even a small number of the innovations backed by the KICs are 'game-changers'.

We have some KPI data which gives us an idea of the economic impacts of start-ups (Table 4.2). Data are gross so don't take account of additionality (i.e. whether these start-ups would have happened anyway, so economic impacts would have happened anyway). The data in Table 4.2 only indicate the outputs collected by KICs, which does not extend to the multiplier effects from these start-ups (i.e. jobs and economic growth

supported by the supply chains of these start-ups). The results shown in Table 4.2 are thus likely to be an underestimate of the economic impacts of the KICs, but quantifying these wider effects would require specific research.

Table 4.2 Selected economic impacts from start-ups supported by KICs (2010-2015)

	EIT InnoEnergy	EIT Climate-KIC	EIT Digital
Number of start-ups created	66	186	21
Start-up revenues	n/a	n/a	EUR 197m
Start-up employment	n/a	1,726	3,556

Source: KIC KPIs

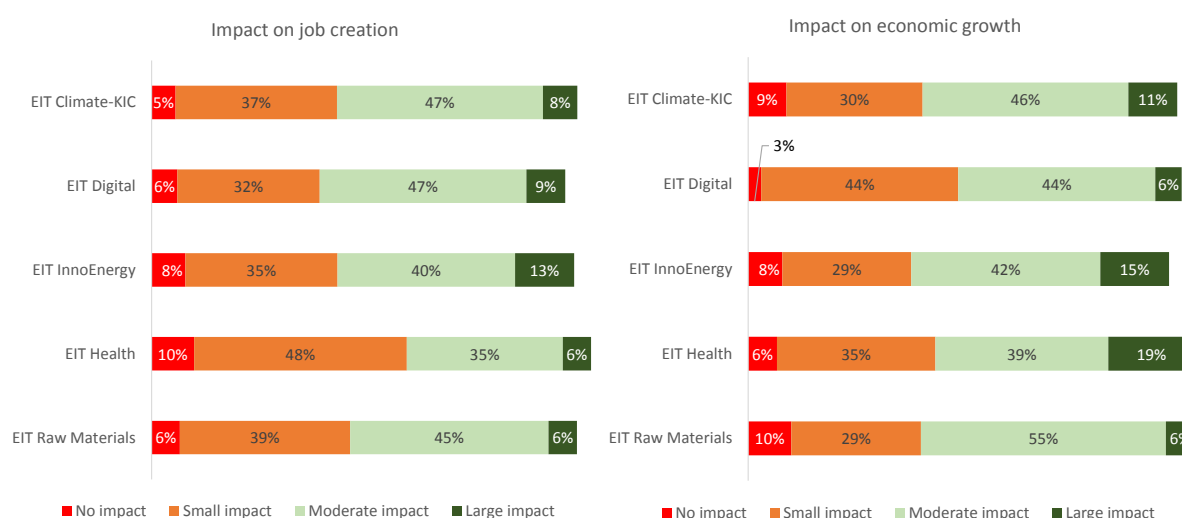
The partner survey also asked about economic and employment effects of the KICs, including what they believed would happen in the future (Figure 4.9). The results were fairly consistent across each of the KICs, and broadly partners were conservative in their judgement about the current and future economic impacts of the KICs. Between a third and just under a half partners (typically around 35-47% of survey respondents) rated the current/future impact on job creation and economic growth as 'moderate'. Similar proportions rated the impact as 'small'. Partners thus do not seem to view the EIT and the KICs as likely to have significant impacts on European economic performance. Asked to explain their answer, several partners pointed towards the fact that the EIT has a relatively small budget (compared to other EU or even national expenditure programmes) that is spread out over a number of years and spans multiple lines of action. As one partner noted:

"To have any meaningful impact on job creation and economic growth in Europe, the KIC model is really still too small and within the hands of too few institutions."

The focus of the EIT is, of course, innovation, rather than economic growth per se. KICs focus on riskier ventures and opportunities, many of which will not 'pay off' and generate economic impact (though there should hopefully be some significant successes).

Figure 4.9 Partner survey: Impacts of the KICs on job creation and economic growth

Q25. What impacts has the KIC had, or you expect it will have, in the following areas: job creation in Europe, economic growth in Europe?



Base: all respondents; note: excludes no response so does not sum to 100%

4.5.2 Societal challenges

To recap, societal challenges form the basis for selecting the themes around which KICs form, and addressing these societal challenges via innovation is one of goals of the KICs.

Broadly, KICs have structured their activity lines along 'sub-themes' centred on specific societal challenges that they have identified (see Table 4.3). Activities are then structured around, and deliver against, the societal challenge related themes / sub-themes, in the following ways:

- Supporting entrepreneurs to start businesses that tackle societal problems;
- Training graduates to be more innovative and entrepreneurial in thematic areas that correspond to societal challenges;
- Directly funding innovative projects that seek specific solutions to societal problems.

Given the time lag in these activities – particularly in relation to the future role of graduates – it is difficult at this stage to systematically measure the extent to which KICs have played a role in addressing societal challenges. KICs have integrated societal challenges within their high level goals and objectives, which has translated into their activities to support innovation, entrepreneurship etc., so we would expect to see impacts once these investments pay off.

Table 4.3 Overview of the societal missions of the KICs

KIC	Societal mission / goal	Specific programmes
EIT InnoEnergy	Pioneering change in sustainable energy	▪ Clean coal and gas technologies ▪ Energy storage ▪ Energy efficiency ▪ Energy from chemical fuels ▪ Renewable energies ▪ Smart and efficient buildings and cities ▪ Smart electric grid ▪ Nuclear instrumentation
EIT Climate-KIC	Build a zero carbon economy and climate resilient society	▪ Urban Transitions ▪ Sustainable Production Systems ▪ Decision Metrics and finance ▪ Sustainable Land Use
EIT Digital	Driving Europe's digital transformation	▪ Digital Industry ▪ Digital Wellbeing ▪ Digital Cities ▪ Digital Infrastructure
EIT Health	Promoting entrepreneurship and innovation in healthy living and active ageing	▪ Promote healthy living ▪ Support active ageing ▪ Improve healthcare
EIT Raw Materials	A cost-efficient, secure, sustainable supply and use of raw materials	▪ Exploration and raw materials resource assessment ▪ Mining in challenging environments ▪ Increased resource efficiency in mineral and metallurgical processes ▪ Recycling and material chain optimisation for End-of-Life products ▪ Substitution of critical and toxic materials in products and for optimised performance ▪ Design of products and services for the circular economy

Source: ICF review of KIC Business Plans

KIC partners' views on the impacts of KICs on societal challenges

As part of the KIC partner survey, respondents were asked what impact they believed 'their' KIC had had or would have in terms of addressing societal challenges (Figure 4.10). As the data show, around two thirds of survey respondents from most of the KICs believed that their KIC had had or would have either a 'moderate' or 'large' impact.

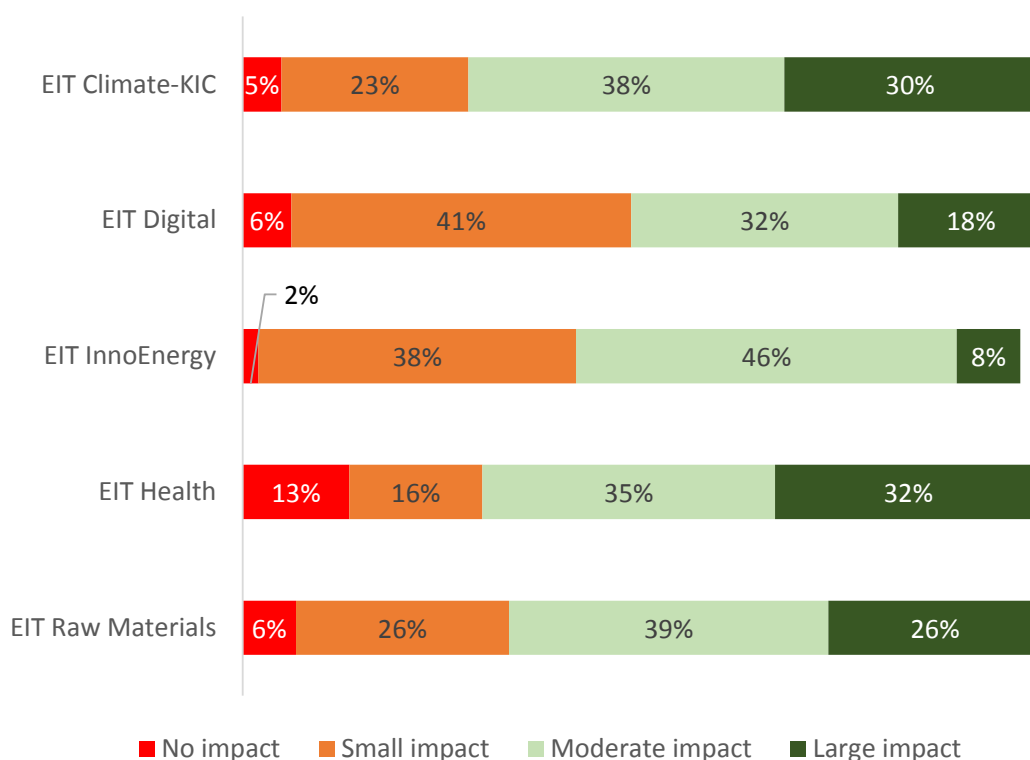
Amongst KIC partners, therefore, there was thus support for the idea that KICs have a societal impact, as one partner made clear:

"Concerning the societal challenges, I feel that there has been some EIT Climate-KIC impact compared to other programmes. Impact however is mainly in the field of mitigation (moving the KIC towards innovative energy), and less impact has been achieved in adaptation...EIT should develop ideas and strategies for innovations not directly relating to growth and jobs, but to public welfare / well-being and avoided costs".

The exception shown in Figure 4.10 was partners of EIT Digital, where exactly 50% of respondents saw either a 'moderate' or 'large' impact on societal challenges, and a similar proportion (47%) saw 'no' or 'small' impact. This could at least in part be that EIT Digital's role within societal challenges tends to be indirect – a piece of technology that forms part of a wider solution.

Figure 4.10 Partner survey: Impacts of the KICs on addressing societal challenges

Q25. What impacts has the KIC had, or you expect it will have, in the following areas: addressing societal challenges?



Base: all respondents; note: excludes no response so does not sum to 100%

4.6 Systemic impacts of the EIT

The EIT is intended to result in a lasting and systemic impact for the better integration of the knowledge triangle across Europe. The aim is for it to have a sustainable and systemic impact, measured in terms of new educated entrepreneurial people, new technologies and new businesses. There is also a desire in policy-circles to see the EIT work in synergy with other European, and relevant national / regional, policies and programmes. Furthermore, there is an expectation that the actions of the EIT should inform the development of wider European, national and regional policies and programmes that affect innovation.

On this basis it is anticipated that the EIT's systemic impacts might be realised through:

- Influencing the shape of wider European, national and regional policies that affect innovation;
- Influencing the operation of the EU innovation system or national / regional / local systems;
- Promoting wider changes in higher education practices;
- Promoting wider changes in business practices.

The EIT's policy influence has been extensively discussed in section 4.1. This section therefore, focuses on the remaining three channels through which the EIT might be expected to have a systemic impact.

4.6.1 Influencing the operation of the EU innovation system or national / regional / local systems

One original aim of the EIT was to reinforce the innovation capacity of Member States. There is also an expectation that the EIT will impact on the wider innovation system of the EU.

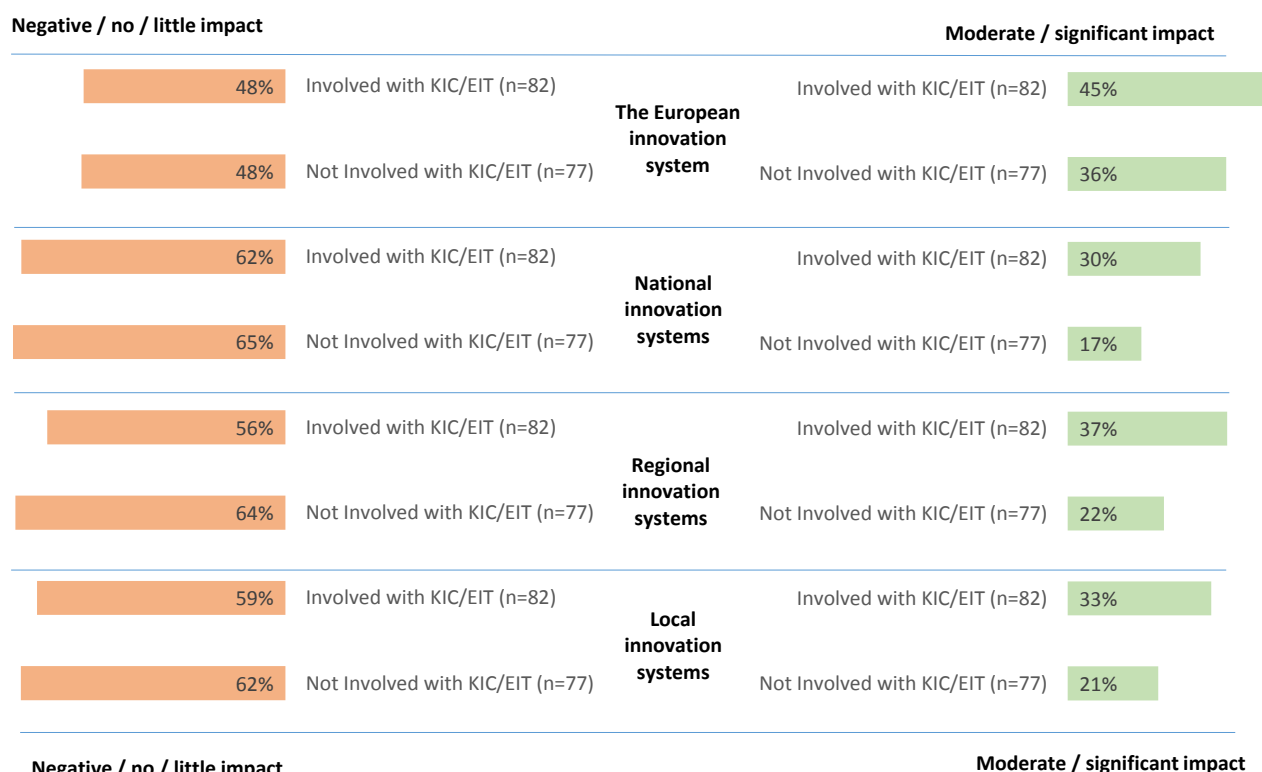
Examining the effect of the EIT on innovation systems at different spatial scales offers a modest view of the wider systemic impact of the EIT to date. As part of the OPC, respondents were asked whether they believed the EIT had had an impact at four different spatial scales (Figure 4.11). Most respondents reported that the EIT had had little or no *systemic* impact, although the impact at the EU level was slightly more balanced.

One reason for the limited effects at national, regional and local scales may be a methodological challenge. The EIT is actively present in 19 of the 28 Member States and its actions are concentrated in geographical locations where there are CLCs. An EU-wide survey is unlikely to identify significant national or sub-national effects on this basis. The introduction of the EIT RIS is too new for any additional impact.

As with many exercises, those internal to the EIT/KICs tend to have a more positive perception of the impact of the EIT than those who are external. This may reflect 'loyalty' to the EIT, but may also suggest the presence of more subtle effects than are externally visible.

Figure 4.11 OPC: The impact of the EIT on innovation systems

Q14. In your view, what has been the impact of the EIT on...?



Base: all respondents; note: excludes 'no opinion' and no response, so does not sum to 100%

At the EU level, the EIT is gradually strengthening its position in policy debates, through engaging with key actors and contributing to strategic debates (as discussed in Section 4.1). The publication of its SIA is an important part in this process, and can act as an influential vehicle for exerting strategic influence. One area where much attention is given to the systemic impact of the EIT is in the realisation of synergies with other programmes and policies. At present, this discussion is primarily couched in terms of how the resources / activities of different programmes can be used in a complementary (and synergistic) manner. So far, this has been quite limited.

Additionally, the EIT, through the KICs, has also influenced European innovation capacity through establishing new networks of activity and through drawing new actors into existing networks. Results of Social Network Analysis show that FP7/H2020 projects that involve KICs are more likely to involve cross-sectoral activity and to foster cooperation with new partners. Significantly, partnerships in which KICs were key actors were also more likely to be sustained beyond the life of a single project, suggesting strong impacts at a system level. KICs were neither more nor less likely to be involved in successful H2020 projects than previously in FP7, suggesting a consistency of performance.

Moreover, the KICs have created pan-European open innovation platforms. As such, the EIT has been configured as a sectoral, or domain-specific, innovation system, rather than a spatial system. Where CLCs are present, there is *some* evidence that systemic effects are emerging (as discussed in Section 4.1). However, these are likely to be highly localised and are not yet fully evolved, partly demonstrating the time that is required to develop embedded linkages. Examples of this can be seen in the work of EIT InnoEnergy with city authorities, and the emerging example of how CLCs can help develop local initiatives, such as Stockholm Innovation Day (EIT Health).

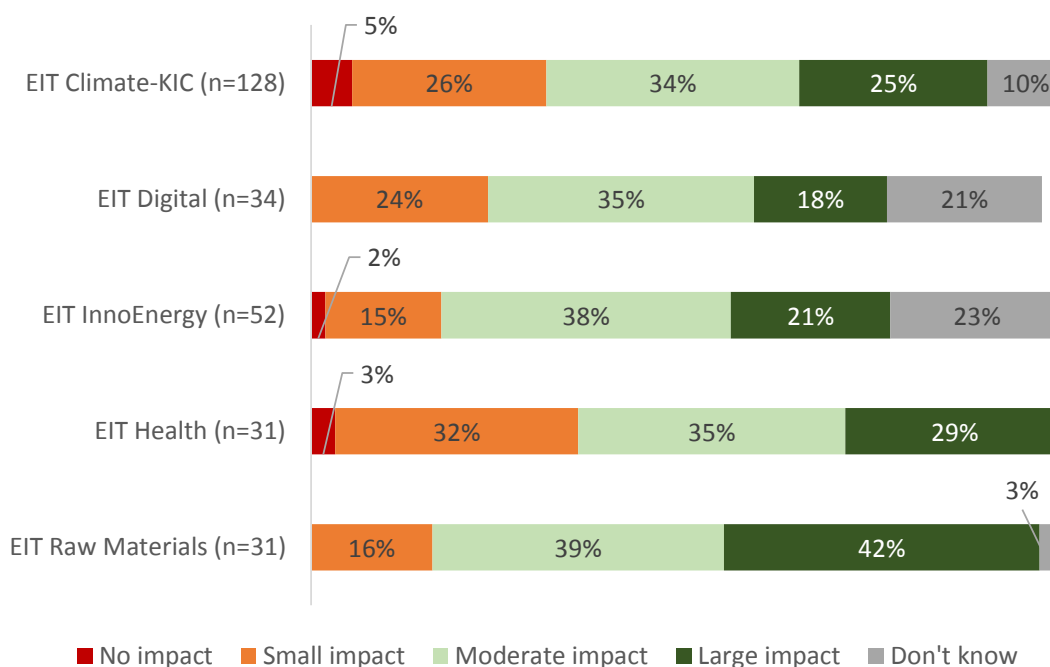
In contrast to the modest views of the impact of the EIT at a spatial level, there is a slightly more positive view of the impact of the EIT at a sectoral, or domain, level. KIC partners were asked whether they thought that the KIC had had, or would have, a wider

impact on innovation within their sector (Figure 4.12). For each KIC, a majority (53-81%) of partners indicated that they thought the KIC had had or would have a 'moderate' or 'large' impact on innovation within their sector.

Around a quarter of survey respondents from each KIC believed the KIC had had or would have 'no impact' or a 'small impact' on innovation (rising to 36% of partners from EIT Health). A notable minority of partners from some KICs (EIT Digital and EIT InnoEnergy) selected 'don't know' in response to this question, which may reflect the profile of some respondents and their awareness of innovation within their sector and/or may also reflect a lack of awareness about what the KICs are doing beyond projects that partners are directly involved in (see discussion in Section 3 about KICs and their internal communication with partners).

Figure 4.12 Partner survey: The impact of the KIC on innovation within partners' sector(s)

Q24. Thinking beyond your organisation, what impacts has the KIC had, or do you expect it to have, on innovation within your sector?

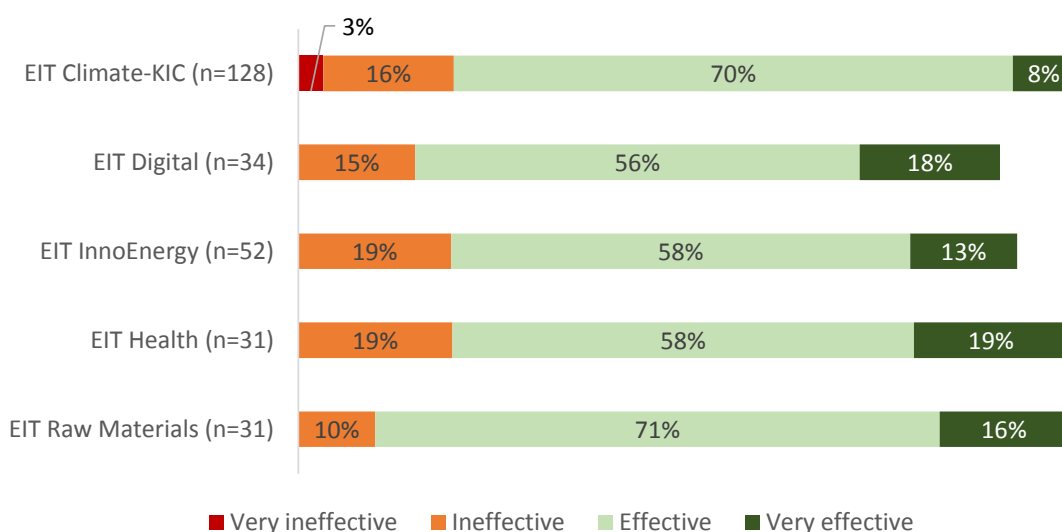


Base: all respondents; note: excludes no response so does not sum to 100%

Evidence of collaborative links formed around common themes illustrates how the EIT / KICs are framing debates and shaping narratives as well as exerting positive changes on the ground. For example, the partner survey explored whether respondents believed that the KIC approach was effectively supporting the development of knowledge communities (Figure 4.13). The majority of survey respondents (71-87%) across each of the KICs reported that they believed the KICs were 'effective' or 'very effective' in building such communities.

Figure 4.13 Partner survey: Whether the KICs are effectively building thematic knowledge communities in support of innovation

Q16. How effectively do you think that the KIC is delivering activities in the following areas: creation of knowledge communities to support innovation?



Base: all respondents; note: excludes no response so does not sum to 100%

4.6.2 Promoting wider changes in higher education practices

There is some evidence that the KIC process is leading to changes in the practices of HEIs that are involved in the KICs. As more HEIs become involved in KIC level activities so the effects ripple out further. However, as previously noted there is very limited evidence of the EIT achieving wider changes in HEI practices, beyond those involved in the KICs. One reason for this is that the focus of the activities of the EIT and its KICs has not been fully directed towards such ambitions. A second is the highly conservative nature of the European HE sector. Across the EU a myriad of institutional settings govern the operation of HEIs and effectively constrain the rapid development of new practices. The sclerotic nature of the HE system within the EU is widely acknowledged and so the more limited ability of the EIT to promote wider changes in HE practices is not unexpected.

If it is desired that the EIT should deliver systemic change in this area it will need to engage more strongly with the policy community in this field. There is a growing pool of talent and experience within the EIT on this topic, but a more concerted effort may be required to mobilise this in the future.

4.6.3 Promoting wider changes in business practices

Finally, an initiative such as the EIT is expected to generate changes in business behaviour and innovation practice through knowledge spill-overs and demonstration effects. While, the evaluation has found evidence of impact on those businesses directly involved with the KICs (as reported in sections 4.2 and 4.3), possibly with spill-over impacts on associated businesses, we could not discern any wider effects on business behaviour and practice and we suspect that these are rather limited at this stage based

on the available evidence (as with HEIs). Again, one could argue that the EIT (and KICs) has not invested in activities which might create the conditions for these wider impacts and so any impact is incidental (at best).

4.6.4 Overall assessment

There is a consensus that the EIT is a relevant actor in the EU's innovation landscape, with preceding sections having presented the evidence as to the EIT's impact on innovation, start-ups, graduates and knowledge triangle integration. However, when looking to extend the analysis to the systemic impacts of the EIT, the evidence is less clear. Immaturity is one reason for this. In practice, the EIT has been operating for just seven years, and for more than half of this period had only three KICs operating. This provides a limited range of evidence and practice on which to draw on, and systemic change takes time.

Within the EIT there is an active debate as to the extent to which the EIT should focus on KIC activities, as opposed to diverting attention and resources to more strategic, systemic, concerns. To date, the focus has primarily been on stimulating KIC-focused outcomes, rather than seeking to facilitate more systemic impacts. This is understandable considering that the EIT has been significantly under-resourced until recently.

In consequence, systemic impacts have largely been a side outcome of KIC activities. If more systemic impacts, at European or national levels, are desired in the future, then the EIT will have to divert activity to achieving this. As the KICs mature and more evidence as to what works, and what does not, becomes available then the opportunity for the EIT to engage with the systemic agenda more fully is emerging. However, this will, of necessity involve doing less of other things, if budgets remain the same. There is also the risk that the EIT's activities lose focus.

5 Coherence

This sub-section provides answers to the following evaluation questions:

- Q6.1: What is the relation of the EIT's work with the other EU, national and regional initiatives in the field of innovation and in specific KIC societal challenges? (Section 5.1)
- Q6.3: To what extent is the EIT, including its governance model, coherent with the wider EU innovation policy? (Section 5.2)
- Q6.4: What is the relationship and/or complementarity of the EIT's and KICs' activities with national and Community policies to support higher education, research and innovation? (Section 5.3)

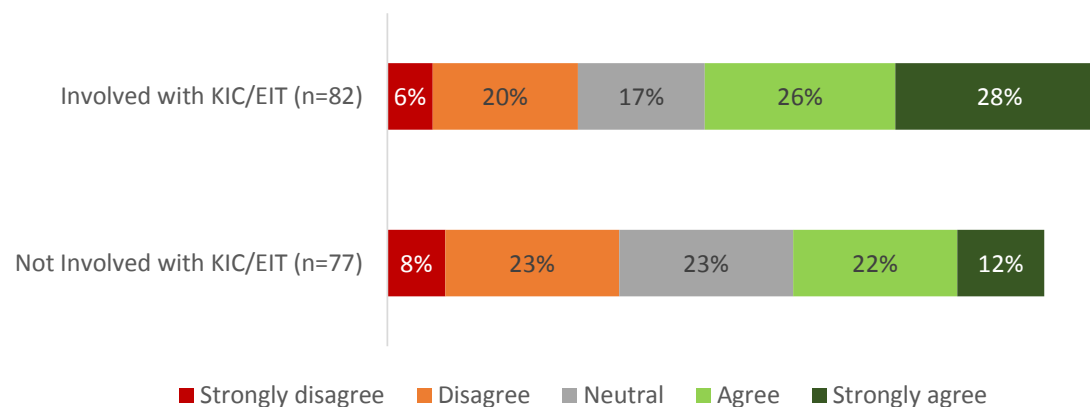
5.1 Coherence with wider EU research and innovation policy

The EIT seems to fit well into the overall European innovation policy landscape and there are no significant signs of the EIT operating in contradiction with the EU's innovation policies. Therefore, it can be concluded that the EIT is coherent with the initiatives and policies at the European level.

Regarding the question of complementarity of the EIT's and KICs' activities with other European initiatives and instruments, as part of the OPC respondents were asked whether they believed that the EIT complemented other innovation initiatives (Figure 5.1). The majority (54%) of respondents who were involved in the EIT/KICs agreed that there was complementarity. Around a quarter (26%) of OPC respondents who were involved in the EIT/KICs disagreed that there was complementarity.

Figure 5.1 OPC: The extent to which the EIT complements EU and national innovation initiatives

Q12. To what extent do you agree with the statements below: the EIT complements well the existing European and national initiatives to support innovation?



Base: all respondents; note: excludes 'no opinion' and no response so does not sum to 100%

Further analysis by the evaluation team identified some signs of overlaps and a lack of mutual reinforcement of various instruments. As outlined above, in recent years a considerable number of policies have been adopted at European level, addressing the issue of the EU's innovation potential, though often from different angles and with a broader or narrower focus. These policies are not in contradiction with the activities of the EIT but, at least in some cases, are likely not to fully reflect on the EIT's existing activities, which limits the extent to which the EIT can mutually reinforce the effects of other European instruments for supporting innovation. A partial explanation might be that different DGs take responsibility for various sectors of the policymaking, sometimes not taking full account of the development outside of their remit.

There have been several examples identified of potential lack of mutual policy reinforcement at EU level in relation to the EIT, although there are examples of coordination at the KIC level:

- The European Fund for Strategic Investments (EFSI) provides investments for businesses also involved in the innovation process, for which a single-entry investment Advisory Hub, the EIAH (aiming at improving public-private partnerships) was created. This could overlap with the KICs activities. Furthermore, the results of the EFSI so far show that funding has been allocated on very similar challenges to those of the KICs, such as resource efficiency, research, development and innovation, digital, energy etc. According to interviews at the EIT there are plans to set up an impact fund to provide access for early stage development and there are links with EFSI and InnovFin which are being assessed before implementation.
- While the full EIC has not been established yet, the pilot phase as part of the Horizon 2020 work programme 2018-20 is expected to support excellent innovative firms on a fully bottom-up basis with the potential to scale up rapidly. The Commission has indicated its intention to put in place a mechanism to ensure effective coordination and complementarity between EIC and EIT/KICs.
- Some of the EU's sectoral industrial programmes, such as Connecting Europe Facility support innovation that might overlap with the sectoral focus of some of the KICs (such as EIT InnoEnergy in this example), though this could be complementary rather than an issue of duplication.
- Despite operating as fora rather than implementing specific projects, the European Technology Platforms (ETPs) operate in fields and sectors that are very similar to those of the KICs, such as energy and ICT (though there is evidence of collaboration with KICs).
- The public-private partnerships created as part of the European Innovation Partnerships (EIP) initiative have also been active in fields that are similar to the KICs – such as healthy ageing and raw materials.
- The COSME programme provides specific supports for entrepreneurs to foster business creation, one of the key areas of activities of the KICs.
- In the education field, the Knowledge Alliances funded by Erasmus+ have the involvement of businesses at their core and aim at developing entrepreneurship skills, something that could potentially overlap with Masters and PhD entrepreneurial courses provided by the KICs.

5.1.2 Links between the KICs and other policy initiatives

At the KIC level, there are specific examples of policy and project coherence with EU policy initiatives (some are already explored in the section on policy influence – Section 4.1).

For EIT Climate-KIC the new strategy structures activities around four themes which address specific challenges to climate change mitigation and adaptation: urban transitions (e.g., Urban Agenda for the EU 'Pact of Amsterdam', Energy Roadmap 2050 [COM(2011) 885], EU Urban Mobility Package and Cohesion Policy), sustainable production systems, sustainable land use (e.g., Roadmap to a Resource Efficient Europe [COM(2011) 571], Europe 2020 Strategy, and EU Action Plan for the Circular Economy [COM(2015) 614]), and decision metrics and finance.

In EIT Climate-KIC Urban Transitions, the Behavioural Change for Sustainable Urban Mobility (BestMOB) project aims to develop business models to reduce the negative effects of congestion. This (and the KIC's Smart and Sustainable Districts (SSD) flagship programme) is aligned to the European Commission's 'Urban mobility package'. Moreover, a new KIC on urban mobility is due to be launched in 2018, and so there will

need to be alignment with EIT Climate-KIC. The Open Access Catastrophe Model (OASIS) project developed an open software tool for catastrophic risk modelling, with the goal to improve the insurance of extreme weather events. This supports Action 8 of the EU's Adaptation Strategy to promote insurance and other financial products for resilient investment and business decisions. The Accompany Cities in Energy Strategy (ACCENT) project provides tools to support the energy transition of European cities, which is coherent with the urban area funding objectives of the European Structural and Investment Funds (ESIF), and commitments by the Covenant of Mayors initiative.

EIT Digital has a number of links with Horizon 2020 and can be seen as complementary. The KIC has also worked closely with DG CONNECT and provided early engagement with policies and activities related to the digital single market. EIT Digital is a partner of the European Investment Fund. EIT Digital signed a MoU with the European Investment Fund (EIF) in order to, among other things, facilitate EIT Digital coached start-ups having access to the EIF network. Other links include the Institute of Electrical and Electronics Engineers (IEEE), European Telecommunications Standards Institute (ETSI), the Internet Engineering Task Force (IETF), the Trust in Digital Life organisation, EuroCIO, Future Internet PPP, Future Internet Research & Experimentation and the Big Data Value Association.

EIT InnoEnergy has a number of policy linkages. They also have had contracts (seven since 2012) with Commission services (DG ENER and DG RTD).

The new KICs have plans for working with other EU initiatives as they mature. EIT Health has created a Strategic Advisory Board with the participation of the General Directors of DG EAC, DG SANTE, DG RTD and the KIC CEO. On an operational level EIT Health emphasises links between H2020 funded projects and the EIT Health, with the medium goal of testing the research outcomes from projects through EIT Health Accelerator or Projects (bringing ideas to the market). Matchmaking events were organised by the CLCs in France and Spain, with a view of seeking out synergies between H2020 projects and EIT Health activities. EIT Health and the European Innovation Partnership on Active and Health Ageing (AHA) both have an explicit need to address the health challenges brought about by demographic change and ageing. A number of EIT Health members are involved in the EIP-AHA and discussions are ongoing in order to find ways to implement activities in the area of innovation projects. There have been preliminary discussion with the Innovative Medicines Initiative (IMI) but as yet, no tangible outcomes are reported.

EIT Raw Materials presents various complementarities and interactions with the three main EU policy initiatives of the raw materials sector. The Raw Materials Initiative⁷² (RMI) where the first and second pillars depend on the emergence of technological developments and new innovative approaches that are fostered by EIT Raw Materials. The European Resource Efficiency Platform⁷³ (EREP), where EIT Raw Materials contributes to achieving similar goals by supporting innovation to boost resource efficiency. The European Innovation Partnership (EIP) on Raw Materials aligns well with EIT Raw Materials. There are other shared goals with initiatives such as the Public Private Partnerships⁷⁴ (PPP) Factories of the future, launched initially in FP7, and the Sustainable Process Industry through Resource and Energy Efficiency (SPIRE) PPP, launched in H2020. EIT Raw Materials also aligns on work carried out in previous EU activities such as the ERA-NET on the Industrial Handling of Raw Materials for European industries (ERA-MIN)⁷⁵, and with more general initiatives such as Erasmus+ and the Programme for

⁷² 24.6.2013 - COM(2013) 442 final: Report from the Commission on the implementation of the Raw Materials Initiative

⁷³ 20.9.2011 - COM(2011) 571 final: Roadmap to a Resource Efficient Europe

⁷⁴ The overarching objectives of the research PPPs as well as their specific roadmaps are available at: http://ec.europa.eu/research/industrial_technologies/ppp-in-research_en.html
http://ec.europa.eu/research/industrial_technologies/ppp-in-research_en.html

⁷⁵ ERA-MIN. Network on the Industrial Handling of Raw Materials for European Industries. ERA-MIN Research Agenda (2013).

the Competitiveness of enterprises and SMEs (COSME). EIT Raw Materials has mapped initiatives across all these dimensions as part of its 2016-22 strategic agenda.

5.2 Coherence of the EIT governance model with the wider EU innovation policy

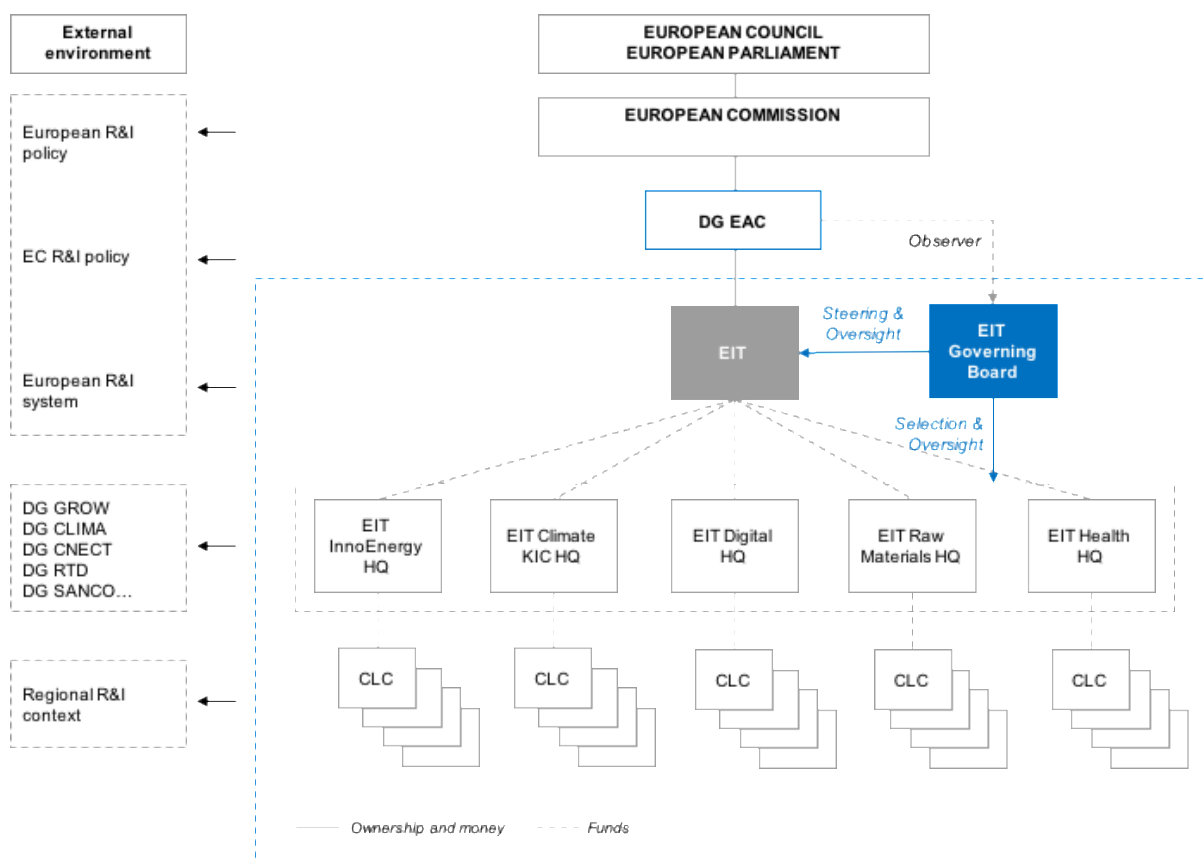
The EIT model combines multiple elements of the innovation system concepts:

- It is based on the 'knowledge triangle' concept aiming to foster integration between high-level research, higher education, innovation and business across the European Union.
- It takes a holistic view to innovation: the 2011 EIT Strategic Innovation Agenda (SIA) presents the KICs as "the new European eco-system fostering innovation not through research in isolation, but through entrepreneurship holistically defined as all human activity in pursuit of the creation or expansion of innovations and economic activity".
- It aims at creating sectoral innovation systems, setting the basis for knowledge transfer within the sector at a European level, stimulating innovative ideas and entrepreneurship, and enabling firms to enter different national markets while fostering regional innovation.
- It takes an explicit bottom-up and sector-specific approach, granting flexibility to the KICs for the development of their business models, strategic agendas and activities depending on and in alignment with the needs in their sectors of activity.

As such, the EIT represents an ambitious policy initiative to foster the European knowledge and innovation capacity which needs a solid governance model to reflect all of these layers.

The EIT governance structure thus consists of multiple levels as shown in Figure 5.2. The 'core' of the EIT governance structure is the EIT Governing Board and the EIT in Budapest, the KICs Headquarters and the Co-location Centres (CLC).

Figure 5.2 The EIT governance structure and its external environment



Source: ICF team, based on interviews with EIT and KIC staff

The Regulations⁷⁶ describe the EIT structure and responsibilities of the different bodies. In principle, the higher European policy levels, i.e. the European Council and the European Parliament (EP), limit their involvement to the adoption of the EIT Strategy (Strategic Innovation Agenda – SIA), proposed by the European Commission on the basis of a draft provided by the EIT. DG EAC acts as the European Commission entity linking the European policy structure and the EIT, taking responsibility in particular for the administration at the EC level (e.g. the EU financial support to the EIT).

An important aspect of the governance model is the combination of the “bottom-up approach of the KICs with strategic guidance from the EIT level”.⁷⁷ This means that the EIT level remains strategic, in combination with implementation mechanisms.

The governance model has been subject to a significant amount of attention since in the setup of the EIT. In the past, criticism has been levied at the EIT for their lack of in-house capacity for assessing operational performance and the functioning of the governing board which needed to “better ensure that strategic decisions are properly informed by the experiences from the KICs and the wider innovation community.”⁷⁸ In both the recent European Court of Auditors’ report and the report of the HLG on the EIT⁷⁹

⁷⁶ Regulation (EU) No 1292/2013 of the European Parliament and of the Council of 11 December 2013, amendment to Regulation No 294/2008 of the European Parliament and of the Council of 11 March 2008 establishing the European Institute of Innovation and Technology

⁷⁷ DECISION No 1312/2013/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 on the Strategic Innovation Agenda of the European Institute of Innovation and Technology (EIT): the contribution of the EIT to a more innovative Europe

⁷⁸ Ibid

⁷⁹ The Future of the European Institute of Innovation and Technology (EIT) Strategic Issues and Perspectives Report by Commissioner Navracsics’ High Level Group on the EIT (2016)

there is criticism of the administrative burdens imposed on the KICs and the associated costs of administration which mean funds are not used effectively for strategy. The criticism makes reference to the relationship between the EIT and the European Commission as well as between the EIT and the KICs. The conclusions and recommendations set out in the HLG report are recent and remain valid for this evaluation. However, in parallel significant work, which addresses the recommendations, is on-going within the EIT which should be noted. This includes the work of the Simplification Task Force, a Code of Collaboration to improve quality, trust and way of working between the EIT and the KICs and a Grant Cycle Essentials document. A new comprehensive monitoring strategy, which was a missing element in the EIT's grant management framework, was adopted in December 2015.

Box 5.1 Key contribution from the Simplification Task Force⁸⁰

Grant management cycle processes (business plan, reporting, audits, monitoring).

Measuring of progress, legal requirements, impact, financial sustainability, quality, including KPIs for simplification measures.

EIT and KIC management and control systems and interactions, sharing KIC lessons learnt during these processes.

Review of the system as a whole in terms of its effectiveness and suitability to deliver EIT mission.

As an institute, the EIT plays a multi-functional role. The original decision to create a mixture of a centralised and a distributed EIT was made following the ex ante impact assessment and it was recorded this would present "major challenges to governance" (the final model after amendments was nearer to the distributed model) and this appears to have been borne out in implementation. In the innovation literature, many forms of innovation governance are identified. In a paper on future governance of innovation policy in Europe (2001)⁸¹, three scenarios were sketched out as a means to inform debate: centralised, decentralised and a centrally mediated option. The centrally mediated option is most akin with the approach taken by the EIT which assumed shared responsibilities across actors, co-evolution across the international, national and regional policy arena and functional information linkages, both vertically and horizontally. The European Research Area was interpreted at the time as a move in this direction and was followed by policy approaches such as the EIT. A key point made in this article about the centrally mediated option is that it could "create favourable conditions for the development of lead markets and simultaneously affect a balance between prosperous and less-favoured regions". With the introduction of the EIT RIS, the EIT is leading the way in testing this approach of distributing excellence more widely.

5.3 Coherence with national and regional initiatives

The evaluation team considered the complementarity and coherence of the EIT/KIC approach with national innovation policy via detailed analysis of six European national innovation initiatives (see Section 1.4.2.7 for further details on the methodology). The schemes that were analysed consisted of:

- COMET - Competence Centres for Excellent Technologies, Austria;
- Leading-Edge Clusters, Germany;
- Nordic Centres of Excellence, Norway;
- Pôles de Compétitivité, France;

⁸⁰ *ToR for Simplification Task Force, 2016*

⁸¹ *Future governance of innovation policy in Europe — three scenarios, Research Policy, 30 (2001) 953-976*

- SHOK – Strategic Centres for Science, Technology and Innovation, Finland;
- VINN Excellence Centres – Centres of Excellence in Research and Innovation, Sweden.

These schemes are high-level initiatives, important for the governments that present them as the flagship initiatives in innovation and in linking businesses to the public and academic sectors. They are considered to be main (funding) instruments in the countries' innovation policies. If we look at their objectives, we see commonalities in terms of their approach, with the general absence of entrepreneurship and education:

- Promoting dynamic and interactive innovation activities through high-quality and excellent research;
- Strengthening the link between university research and that of other actors so that advances in science and technology translates to applications;
- Attracting global market leaders, top-level experts and mobilising talent through developing and focussing competences;
- Better targeting the resources and accelerating innovation efforts of various players;
- Strengthening the country's competitiveness and its attractiveness as a business location.

There are a couple of examples among the comparators which put an accent on international cooperation, such as the Nordic Centres of Excellence that aim at *"facilitating appropriate division of work and specialisation between the Nordic countries and the Leading-Edge Clusters in Germany that are to support further international network building and cooperation"*.

On the basis of this comparison, we see that the EIT model fits well with national innovation policy. There are commonalities in approach (e.g. knowledge transfer, a focus on excellence, attracting leading businesses) that present opportunities for complementarity, particularly where national policy recognises and makes room for international cooperation (which the EIT and the KICs are well placed to support).

In terms of governance, the national schemes looked at as part of this evaluation take a more 'hands-off' approach in comparison to the EIT. The centres / projects supported have a significant level of freedom to come up with ideas and their own strategic plans. Despite the funders providing guidance and advice to the partners involved, their moderation of themes, ideas and areas is more limited than in the case of the KICs, and seems to be reduced to monitoring of the progress and performance. Although the EIT is also a "bottom-up" approach, when compared to the national structures, the existence of the pre-defined thematic areas for the KICs and other guiding and horizontal principles gives the impression of an approach which is "top-down". This was mentioned by many of the interviewees from the national programmes. The KICs seem to be placed under much closer and more permanent scrutiny to prove their right for funding, compared to the national comparators.

As well as looking at existing initiatives, with similar attributes to the KICs, there are also trends identified and links made with national and regional initiatives on the thematic KIC level which showcase their coherence and complementarity.

Looking at regional complementarity, the strategic priorities and action lines / activities of the KICs are organised centrally by each KIC, and are largely homogenous across Europe (i.e. the main components of a KIC accelerator programme are the same regardless of where it is run). However, discussions with KIC representatives have emphasised that the activities run by the CLCs are at least in part shaped by the local / regional innovation 'milieu', within which they are located, which encompasses the strengths of local partners and the profile of the wider cities. For example, in the case of EIT Digital, in the Eindhoven region the CLC is one of the organisations to increase the region's expertise in software and digital services, mostly for smart health and smart

industry. In Berlin, the CLC helps foster the booming start-up scene that is focused on apps and internet-based services (communication, entertainment, financial, etc.). In this sense, the EIT and the KICs do tend to complement regional innovation policy, which is arguably an inevitable result of their decentralised nature and the role of specific partners working together through the CLCs.

We look at the EIT RIS component of the KICs later in this report (Section 6.5), which includes further consideration of complementarity between the EIT/KICs and regional innovation policy.

6 EU added value

This sub-section provides an answer to the following evaluation question:

- Q5.1: What is the EIT's added value compared to innovation interventions that the MS undertake themselves? (Sections 6.1 to 6.5)

6.1 EU added value beyond national initiatives

EU added value concerns the extent to which the EIT and the KICs deliver something that does not happen at national or sub-national level. Across the EU there are numerous public policy initiatives that aim to achieve one or perhaps two of the following goals: support innovation; assist start-ups; embed innovation and entrepreneurship within university courses. It has been recognised for some time within public policy that these are key ways in which to boost innovation performance. Similar activities also happen outside of the public policy arena: businesses run graduate training programmes to instil innovation-related skills in their new employees; businesses collaborate with each other and with universities to undertake innovation; and there are successful private sector start-up incubator and accelerator programmes. The added value of the EIT and the KICs thus falls into two areas:

- Providing something additional to what is available at national or sub-national level. This might include integrating all three elements of the knowledge triangle (whilst other initiatives might only focus on one or two elements), and/or the transnational / cross-border remit of the EIT.
- Delivering in parts of the EU where the innovation ecosystem is weaker and there are not public policy or non-public alternatives.

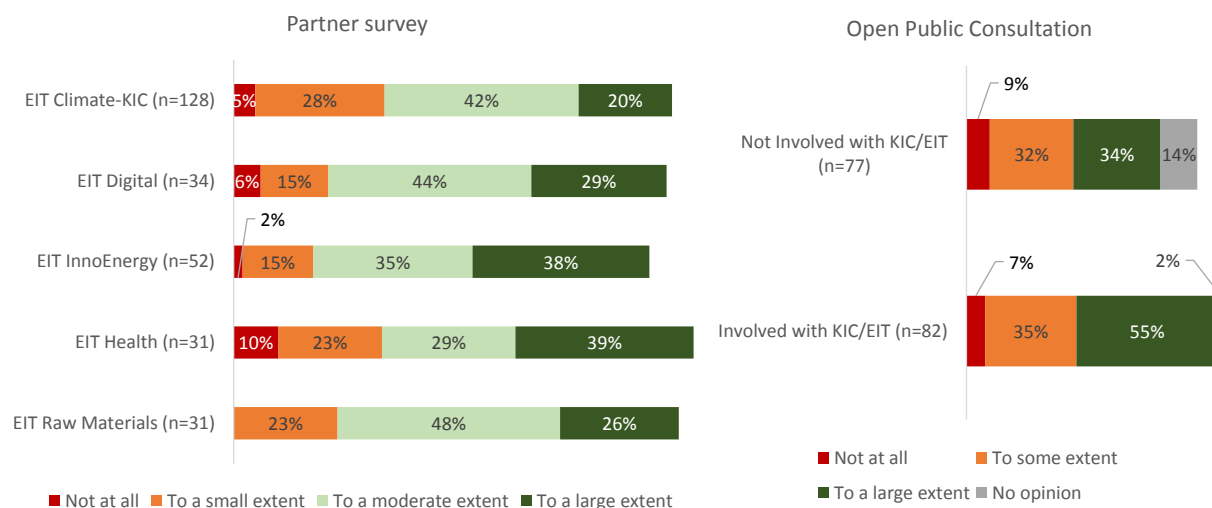
We return to these points below. First though, we explored whether the EIT adds value to national initiatives via the partner survey and through the OPC (the former looked at KICs, the latter at the EIT as a whole). Figure 6.1 plots the results of these two surveys side-by-side, though note that the exact phrasing of the question and the answer options for respondents were slightly different between the two surveys.

Broadly, data from the two surveys suggests that there is a perceived added value to the EIT and KICs over what happens at national level. Looking first at the OPC, 55% of those respondents who were involved in the EIT/KICs thought it added value 'to a large extent' above what was carried out nationally, falling to 34% amongst those respondents who were not involved in the EIT/KICs. (Note that 14% of OPC respondents who were not involved in the EIT/KICs indicated that they had 'no opinion', which might suggest a lack of awareness of exactly what the EIT does). Similarly, the partner survey found support for the idea that the KICs provided added value, with around quarter to third of respondents from each of the KICs indicating that they thought the KIC provided added value 'to a large extent', and most of remainder reporting a 'moderate' level of added value. Only a small minority of KIC partners thought that the KICs provided no added value beyond what was undertaken at a national level (2-10% of survey respondents).

Figure 6.1 Partner survey and OPC: whether the EIT/KICs add value to national innovation initiatives

Partner Survey Q19. To what extent does the KIC add value to existing initiatives and activities within your sector that support innovation: national innovation initiatives / activities?

OPC Q18. To what extent is the EIT distinctive from existing initiatives that support innovation: national innovation initiatives / activities?



Base: all respondents; note: excludes no response so does not sum to 100%

6.2 The ways in which the EIT and the KICs add value

Both the OPC and the partner survey asked respondents to identify ways in which the EIT and the KICs added value beyond national innovation initiatives, if they believed that this was the case. This was a research topic that was also picked up in the KIC level research. Looking across all of these sources of evidence, stakeholders identified the following ways in which the EIT and the KICs provided EU added value.

EIT and the KICs operate across borders

The pan-EU (and international) scope of the KICs brings together organisations from multiple countries, which makes them distinct from national public policy initiatives. This cross-border element to the initiative provides KIC partners and beneficiaries of KIC programmes with access to partners, investors and customers that they might otherwise find it difficult to identify and build links with. This cross-border benefit manifests itself in a number of ways. Start-ups and businesses looking to scale-up their activities have relocated or made temporary use of KIC accelerator programmes to access markets outside of their country of origin (which is particularly helpful for businesses from smaller Member States). The pan-EU reach of KICs has also provided businesses looking for investment with access to a greater range of venture capital funds than they would otherwise be in a position to work with (again, particularly beneficial in countries with a more limited community of potential investors). According to one partner:

"[The] KIC is pan-European, and this gives it a major advantage over other organisations. Its network is large and its thematic focus is also well considered".

KICs bring together a large and diverse network of partners

KICs operationalise public-private partnerships in a way that other national public innovation support initiatives often do not, and KICs have been successful in bringing together small and large businesses, universities and research organisations to deliver innovation projects. Of course, there are many national public policy initiatives that support and facilitate business-university linkages. However, the networks that KICs

have created are distinct in terms of their size and diversity, which is reflected in the networks that form to deliver innovation projects (which can bring together businesses with universities, research organisations and public authorities). Relatedly, KICs were seen to be particularly favourable to small businesses and start-ups, in part due to the extent to which start-up support is embedded within their operations, providing a 'pipeline' of small businesses that were ready to scale up to participate in larger innovation projects. This was seen as a way in which the EIT differentiated itself from other innovation initiatives, which could often come to be dominated by large businesses and leading research universities. Two quotes from partners illustrate these points:

"[The] main difference is the very open public-private partnership, where representatives from academia and business cooperate as full partners. This is unique and in my view extremely effective".

"In my opinion the KIC, if compared to national or sub-national innovation initiatives / activities, matches better interests and skills of research centres and of business organisations (including both large and small-medium companies)".

The KICs are innovation-led and market focussed

Compared to many national initiatives, as well as Horizon 2020 and past Framework Programmes, some partners suggested that the EIT is more focussed on innovation and new technologies that are close to market with a high Technology readiness level (TRL). KIC-backed innovation projects typically run for less time than framework programme projects, and focus on what one KIC partner referred to as the *"last mile before market introduction ... this is an essential part which was missing [from other public policy interventions]"*. Elaborating on this view, two partners suggested that:

"KICs provide support in the crucial phase between R&D and commercialization, often referred to as the 'valley of death'. No other institution is as active in making these investments, which are essential to get technologies from the lab/demo scale to market. [The KIC is a] hugely impactful model that we would like to see more organisations copy to enhance the impact of public RD&D funding".

"KICs focus on innovation and high TRL. [The] KIC helps the partners to launch new services, new products, new business, create competence where needed. This is quite unique from what I know".

The KICs focus on societal challenges

The thematic focus of KICs, and specifically the focus on tackling 'grand' societal challenges was identified by some partners and OPC respondents as a key added value of the EIT. National and sub-national public policy initiatives are often 'agnostic' in terms of thematic focus, or may target a specific sector or industry. KICs are, however, multidisciplinary, and cluster around tackling pressing social problems. Aside from the societal benefits that accrue from this approach, it was also noted that this model is particularly attractive to 'social entrepreneurs' (a suggestion that was also reflected in the recent HLG Report on the EIT).

The knowledge triangle is embedded in the KIC model

The EIT model – with its integration of innovation, research, start-up support and entrepreneurship education – is distinctive. Stakeholders consulted as part of this evaluation stressed that the model is one way in which the EIT distinguishes itself from other public policy initiatives. In most countries, stakeholders suggested, this was a new way of working that facilitated open innovation and brought new ideas and perspectives to the innovation process, especially as a result of the entrepreneurship education component of the EIT-label courses. As noted by one respondent to the OPC (albeit referring to added value compared to other EU instruments rather than national policy):

"The key added value [of the EIT/KICs] is the integration of the three sides of the knowledge triangle, i.e. education, innovation and research. No other EU instrument

integrates education into research and innovation activities which is a stronghold and is expected to deliver on improved entrepreneurship and innovation capacities”.

Longer-term programme lifespan

It was noted that the EIT and KICs have a relatively long-term lifespan when compared to many national and sub-national public initiatives. This provides partners and project participants with greater assurance of the long-term value of participating, and that the investment required in familiarisation with requirements will ‘pay off’ in terms of a reliable set of future opportunities. One partner explained this viewpoint as follows:

"We hardly join other EU / NL initiatives, because they are too much 'hit and run'... we don't invest in innovation programmes with a low success rate and which can be shut down overnight for budget or other reasons ... We need a long term vision. KICs and especially EIT Health is very effective because there is a long-term horizon”.

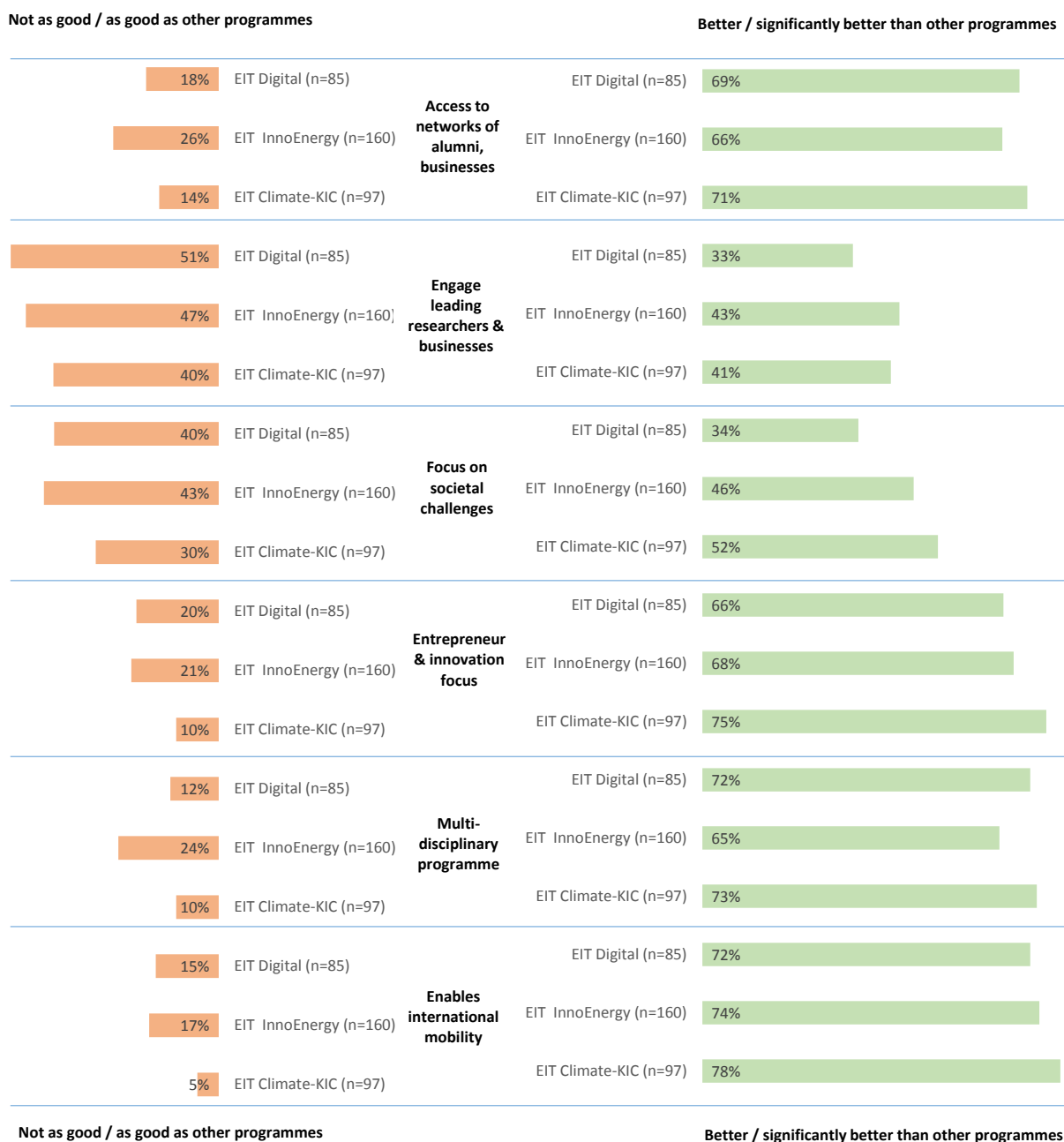
6.3 The added value of EIT-label courses

The EIT commissioned a review of the education elements of the EIT model that reported in 2016. This review looked at the added value of the EIT-label courses versus courses that European universities offer. The review concluded that areas of added value included: the thematic focus of the EIT-label courses (e.g. EIT Climate-KIC’s focus on low-carbon futures); the mobility of students and the level of cooperation between universities (which might previously have competed, but instead now collaborate to develop innovative and challenging programmes; and the breadth / diversity of students from multiple backgrounds and different disciplines, which was seen to add ‘dynamism’ to the learning environment.

As part of graduate survey, respondents were asked what they saw as the key distinguishing features of their EIT-labelled courses, as compared to other graduate programmes (Figure 6.2). Of course, these results are based on a survey of individuals who chose their EIT-label course over the alternative, and who thus clearly preferred the EIT-label course to other programmes (and indeed who may not really know much about what the alternatives offered). Taking these concerns into account, the main ways in which the EIT-label education courses were seen by survey respondents to distinguish themselves were: the access to business and alumni networks that they provided (66-71% of survey respondents indicated that they were ‘better’ or ‘significantly better’ than alternative courses in this regard); the focus on entrepreneurship and innovation (66-75%), the multidisciplinary nature of the courses (65-73%) and the international mobility that the courses provided (72-78%).

Figure 6.2 Graduate survey: the added value of the EIT-label education courses

Q17. In your view, what are the key distinguishing features of the EIT labelled postgraduate programmes as compared to other similar programmes?



Base: all respondents: note excludes 'no comment' and no response, so does not sum to 100%

6.4 The added value of KIC accelerator programmes

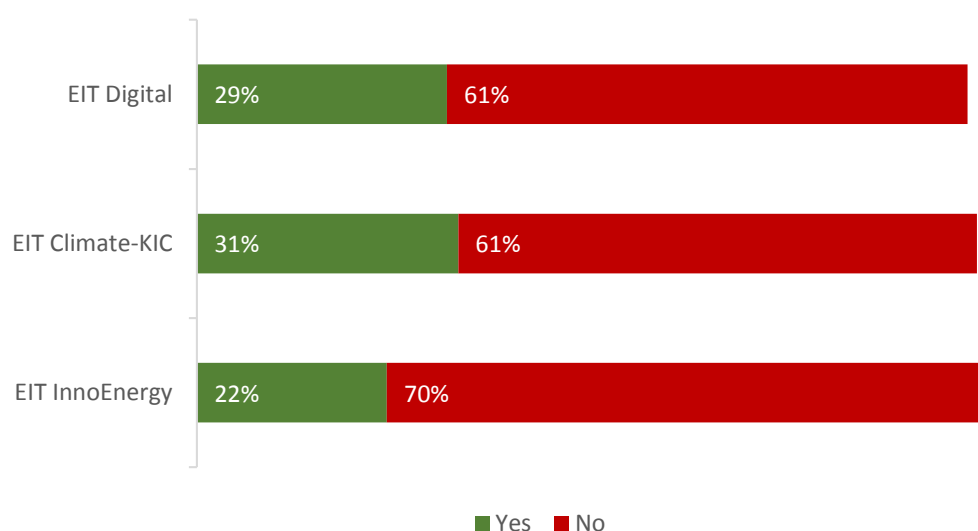
The survey of businesses that had been through KIC accelerator programmes asked them whether they believed that they could have received this support from elsewhere, including national and sub-national accelerator and incubation programmes. As Figure 6.3 shows, around a third of respondents across each of the five KICs indicated that they thought they could indeed have accessed the support they received from elsewhere, and a selection of incubator and accelerator schemes that they thought they could have used

instead⁸². This included a mixture of national and sub-national public sector schemes, facilities run by universities, and also private sector initiatives.

However, as Figure 6.3 shows, the majority of businesses from each KIC accelerator (61-70% of survey respondents) believed they could not have accessed the same level of support from elsewhere, which suggests that KIC accelerators do add value. Asked to explain their answer, respondents gave much the same arguments as those presented by partners when asked to explain the added value of the EIT and KICs (Section 6.2). This included: the pan-EU reach of the KIC accelerator programmes and their ability to enable access to markets that the start-up would otherwise be unlikely to access using a national scheme; and the access to a set of partners – including multinational businesses and leading European universities – that the KICs provided. Discussions with start-ups that were carried out as part of KIC level research also made clear that the thematic focus of the KICs was seen as a benefit (compared to a national scheme that may support innovative start-ups regardless of sector), particularly EIT Climate-KIC with its focus on cleantech (seen as a sector that may be ignored by some private accelerator and support schemes).

Figure 6.3 Accelerator survey: Whether businesses believed they could have received their support from another source

Q11. Do you think that you could have received this support from another source?



Base: all respondents; note: excludes no response so does not sum to 100%

6.5 The added value of the EIT Regional Innovation Scheme (EIT RIS)

The EIT RIS was introduced as part of the EIT's SIA 2014-2020, in order to provide a "specific mechanism for the dissemination of best practice and widening participation in KIC activities ... the EIT can play the decisive role in synthesising the diversity of approaches applied by the KICs and in making them transferable in areas where innovation capacity is weak, and which would otherwise not be able to benefit from the experience gained by the EIT"⁸³. The EIT RIS activities were thus envisaged as a way in which the EIT could add value and influence innovation policy through outreach and dissemination in "areas / regions in Europe not yet directly benefitting from the EIT and

⁸² They were asked to specify, and for the most part respondents noted national alternatives, such as Rockstart; Hightech XL; InnovateUK; Réseau Entreprendre Paris; ESA BIC Noordwijk; Ashoka; YES!Delft; Fundación Repsol; Barcelona Activa

⁸³ European Commission (2013) *The EIT Strategic Innovation Agenda (SIA)*

its KICs⁸⁴. Using the European Innovation Scoreboard (DG GROW), the EIT identified countries that are eligible within the EIT RIS, based on innovation performance and (a lack of) participation in the KICs. The EIT RIS is implemented by the KICs on a voluntary and autonomous basis, though all KICs have chosen to implement EIT RIS activities.

EIT RIS 'projects' typically involve a KIC working with a selection of regional organisations that perform with a function within the knowledge triangle (this includes public and private bodies, such as universities, businesses support agencies, innovation centres etc.). There is a two-way flow of talent and ideas as part of an EIT RIS project:

- The regional partners working with the KIC gain access to expertise and experience in innovation support and the operation of the knowledge triangle. This might include joint events attended by members of the KIC team and representatives from partners. Ultimately the goal is that regional partners will apply lessons learned within their own regions and improve the quality of the service that they provide.
- KICs gain access to a wider 'pool' of entrepreneurs, innovative businesses and graduates, who can then participate in KIC activities. This provides individuals and organisations with access to the KIC that they might not otherwise have had, because the KIC has no presence in their country.

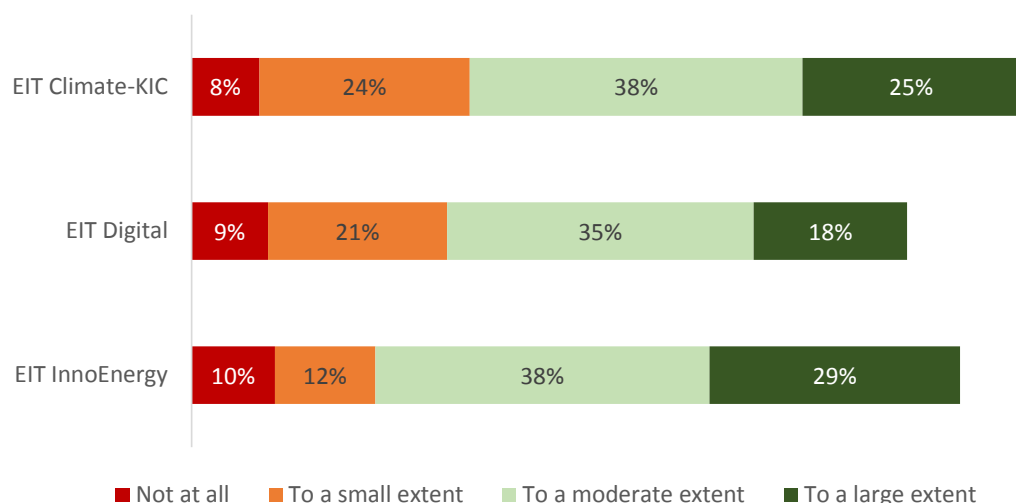
EIT RIS activities are at a very early stage, and we have not been able to systematically assess their impacts in terms of boosting capacity in regions that are not part of the EIT⁸⁵. As part of the partner survey, respondents were asked to assess the extent to which the KICs provide regional added value (which includes the activities via the EIT RIS as well as regional initiatives outside of the EIT RIS). The results are shown in Figure 6.4 (only for the first wave of KICs). We see that most partners believed that the KICs did provide a 'moderate' or 'large' regional added value, though a notable minority disagreed that this was the case.

⁸⁴ EIT (2016) *EIT Regional Innovation Scheme (EIT RIS) Implementation Guidance Note*

⁸⁵ Based on lessons learned from the implementation of the RIS, a new EIT RIS Guidance Note will be published, providing stronger guidance on the expected impact, implementation framework of EIT RIS activities (including a 3-year EIT RIS Strategy per KIC), synergies with smart specialisation and access to structural funds, interaction with national/ regional authorities, visibility and a new funding model (an increase in budget from EUR 1.5m to EUR 4m per KIC).

Figure 6.4 Partner survey: The regional added value of KICs

Q19. To what extent does the KIC add value to existing initiatives and activities within your sector that support innovation: sub-national / regional innovation initiatives / activities?



Base: all respondents; note: excludes no response so does not sum to 100%

Box 6.1 provides an illustration of how EIT Digital's EIT RIS operates, and how the scheme provides regional added value.

Box 6.1 The added value of EIT Digital's ARISE Europe EIT RIS

ARISE Europe, part of the EIT RIS, is a programme of EIT Digital designed to enhance innovation capacity in EU countries where EIT Digital is not present. Its objective is to connect local and regional Innovation Centres to EIT Digital's innovation and education ecosystem, in order to strengthen them. ARISE works with seven 'partner' organisations (note these are not KIC partners):

- ABC Ljubljana, Slovenia, a business accelerator centre;
- BGI Lisbon, Portugal, a business accelerator centre;
- Found.ation Athens, Greece, a technology hub;
- HardGamma Ventures, Poland, a venture capital fund;
- Inits Vienna, Austria, a business incubator;
- JIC (South Moravian Innovation Centre), Czech Republic, a business acceleration centre;
- Start-up Wise Guys Tallinn, Estonia, a B2B start-up accelerator.

The total annual budget per ARISE region is between EUR 22,000 and EUR 105,000, meaning that the fairly limited budgets reflect that the focus is on networking, communication and scouting activities. Start-ups in partner countries can access EIT Digital's support (e.g. joining a CLC's accelerator programme), thus giving entrepreneurs in countries where EIT Digital does not have a 'footprint' an opportunity to benefit from the KIC's support. The education elements of the ARISE programme fulfil a similar function in terms of attracting interest in EIT-label graduate programmes.

The *added value* of ARISE Europe comes from its work in building the capacity of partners to deliver high-quality support. There are two areas of activity:

- *Business innovation projects:* ARISE carries out business innovation projects with its local partners, bringing together investors, start-ups and SMEs. These activities support the partners' ecosystems by improving the available services, for example by working together with EIT Digital's experts (mentors, business developers, access to finance experts).
- *Education and skills development initiatives:* ARISE connects academic institutions to the EIT

Digital network of 20 leading European universities and fosters entrepreneurial skill development through innovative education programmes. Universities can learn about best practices in blended education, and strengthen their links with local innovation ecosystems.

To assess the impact of participation in ARISE, the evaluation team interviewed representatives from one of the partners (ABC Ljubljana in Slovenia, a business accelerator centre). It was reported that the start-up support 'ecosystem' in Slovenia is underdeveloped, and thus that their motivation to participate in ARISE was to access EIT Digital's services and network. EIT Digital and ABC Ljubljana jointly ran events for start-ups and entrepreneurs that increased the pipeline of businesses accessing local accelerator support, and enhanced the quality of the services provided to start-ups.

7 Efficiency

This section provides answers to the following evaluation questions (Horizon 2020 specific evaluation questions are **highlighted bold**):

- **Q2.5: What has been the EIT and its KICs' level of consumption and the efficiency in the use of funds allocated through the implementation of the Horizon 2020 Regulation? Which factors and to what extent affected this result? How has the EIT supported the development of the absorption capacity of the KIC? (Section 7.1)**
- Q3.1: To what extent have the costs of the EIT been proportionate to its benefits? (Section 7.2)
- Q3.2: To what extent have the costs of the KICs been proportionate to their benefits? (Section 7.2)
- Q3.3: What factors, and to what extent, influenced the efficiency with which the EIT's achievements were obtained? (Section 7.3)
- Q3.4: To what extent do differences exist in the costs and benefits accruing to Member States and stakeholders from the EIT and its three 2009 KICs? What is causing them? To what extent are they justified in the context of the EIT's mission? (Section 7.2)
- **Q3.5: To what extent have the seed funds for the establishment of second-wave KICs (EIT Health and EIT Raw Materials) been efficiently used? (Section 7.4)**
- Q8.2: What is the effect of the EIT's grant cycle framework on the overall performance, including also efficiency and effectiveness, of the EIT? (Section 7.3)

7.1 Absorption of EU funding

The evaluation team was provided with KIC level expenditure data for the period 2010-2015, for the three first wave KICs (we consider the second-wave KICs separately in Section 7.4). Table 7.1 shows total KIC expenditure over the period 2010-2015, and the source of funding over this period. KIC expenditure increased rapidly between 2010 and 2014 as delivery was ramped up, since when expenditure by the KICs has been more stable as they have consolidated. The share of funds coming from the EIT since 2013 (as a proportion of the total) has fluctuated between 10-25% (the latter is the ceiling).

Table 7.1 Total KIC expenditure by source (2010-2015)

KIC	Spend category	2010	2011	2012	2013	2014	2015
EIT Digital	Total (EUR m)	16.9	82.1	112.1	187.4	272.0	270.5
	...EIT funding (%)	25.5%	20.2%	21.7%	20.9%	22.5%	24.7%
	...other KAVA (%)	6.5%	3.9%	6.2%	3.6%	2.9%	4.5%
	...KCA (%)	68.0%	75.9%	72.1%	75.5%	74.6%	70.8%
EIT Climate-KIC	Total (EUR m)	43.3	117.5	176.0	440.2	363.1	348.3
	...EIT funding (%)	8.8%	7.8%	16.3%	9.6%	19.6%	25.0%
	...other KAVA (%)	1.9%	2.0%	1.2%	1.6%	2.1%	0.8%
	...KCA (%)	89.2%	90.1%	82.5%	88.8%	78.3%	74.2%
EIT InnoEnergy	Total (EUR m)	27.0	84.2	163.6	234.6	373.6	332.1
	...EIT funding (%)	24.2%	28.3%	20.9%	17.6%	14.7%	20.5%
	...other KAVA (%)	75.8%	5.6%	6.7%	4.0%	1.9%	3.0%
	...KCA (%)		66.1%	72.4%	78.5%	83.4%	76.6%

Source: Analysis of KIC Summary Financial Reports; Note: Other KAVA consists of co-funding (e.g. by partners), and KCA consists of complementary funding (including other EU)

KIC summary financial reports provide some detail on the profile of expenditure, but there are limitations to the analysis that can be completed due to inconsistencies

between KICs and between years in how data have been categorised. Specific challenges include:

- KICs do not all use the same categorisation of expenditure for the three main areas of activity: education, innovation, entrepreneurship. Consequently, it is difficult to track expenditure in these three key areas over time.
- Management and KIC operational costs also defined inconsistently between KICs (as also observed by the ECA Report).

Figure 7.1 provides the 'best estimate' of the evaluation team as to expenditure by area by KIC over the period 2010-2015. Note that for 2014 and 2015 EIT Digital used a different categorisation of expenditure so it was not possible to disaggregate between the three strands of activity (education, entrepreneurship and innovation).

As a general point on expenditure data, it should be recognised that the goal of the EIT is to integrate the knowledge triangle. Whilst the disaggregation of activities into categories (innovation, education, entrepreneurship) is useful from an administrative / monitoring perspective, and shows the relative balance of expenditure, this approach does not accurately record the extent to which the KICs integrate these three categories. In other words, if KICs are successful in integrating the knowledge triangle, then it will become harder for them to allocate expenditure to one of the three categories.

As Figure 7.1 shows, innovation accounted for the largest share of expenditure across all KICs. The share of expenditure on innovation activities varied year-on-year, ranging from around 60-80% of total expenditure for EIT Digital and EIT InnoEnergy, though declining from 90% of expenditure to under half for EIT Climate-KIC. Broadly, we see increasing expenditure on education and entrepreneurship for EIT Climate-KIC and for EIT InnoEnergy (with the exception of 2015), though as a total share of expenditure, entrepreneurship activities in particular are a relatively small component of KIC activities as measured by budget).

We consider management costs in more detail below (Section 7.2).

Assessing whether the expenditure by KICs is proportionate to the benefits is difficult due to a 'mismatch' between KIC data on expenditure and results. For example, the KPIs relating to innovation outcomes / impacts – e.g. new and improved products, services and processes introduced to the market, knowledge transfers – could be a result of innovation projects or some aspects of the entrepreneurship support that KICs provide. Budget categorisations do not align with outcome categorisations, meaning that we cannot calculate the costs incurred in delivering each outcome (and thus the unit costs of KIC delivery).

Moreover, as discussed in Section 3.3, even after the introduction of the new KPI system in 2017, the KPIs arguably do not capture the full range of 'benefits' of the KICs (there are, for instance, no measures of wider impacts, such as tonnes of CO₂ saved). KPIs are also very much measuring 'silos' and do not track KTI. As this is a key goal / added value of the EIT, using the existing KPIs to track efficiency misses the extent to which the strands of the knowledge triangle – education, entrepreneurship, innovation – interact to become more than the sum of their parts.

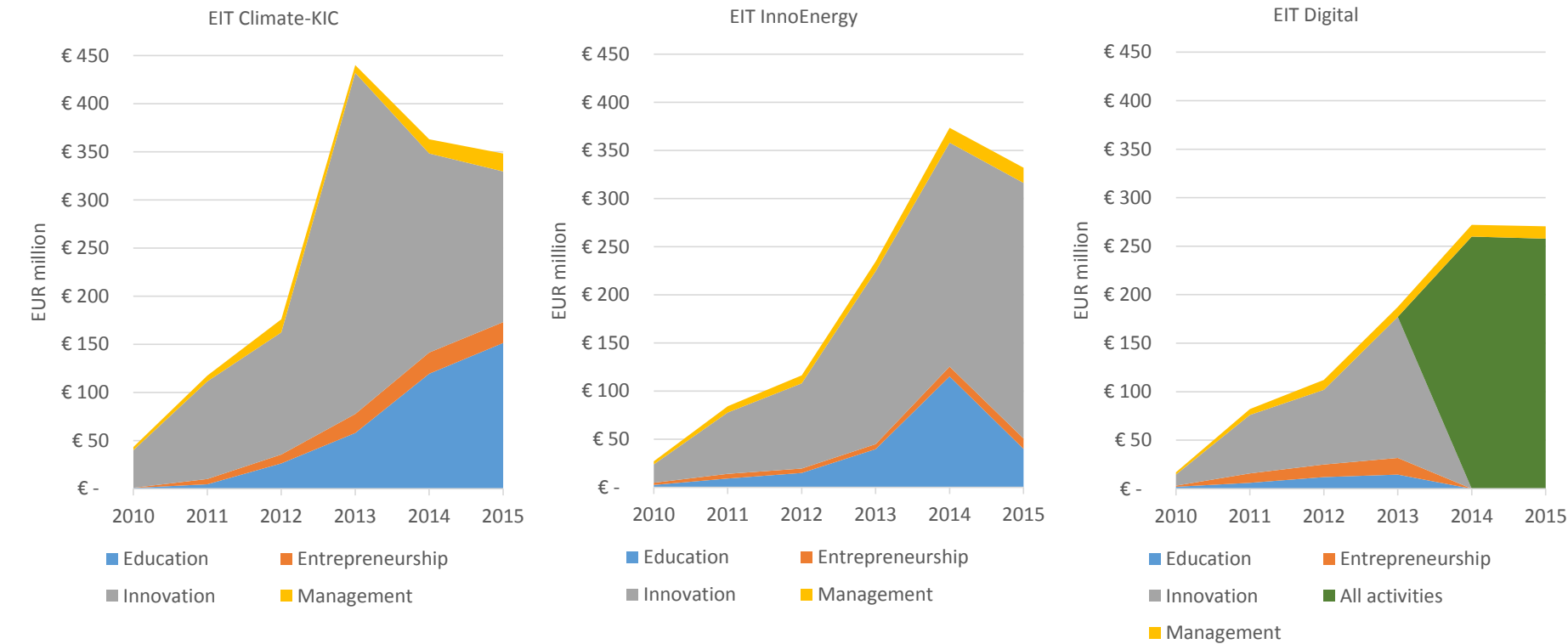
Overall, therefore, we do not presently consider unit costs (expenditure per outcome) to be a useful measures of the efficiency of the EIT, unless a greater level of granularity can be derived from KIC data.

Unit costs were considered as part of the EIT educational assessment that was published in 2016 (the 'Education Review'). It was reported that, in 2015, the three KICs achieved *average* unit costs per learner or graduate of: EUR 20,730 for the Masters Schools, EUR 39,396 for the Doctoral Schools, EUR 6,307 for the Executive / Professional Schools, and EUR 41.80 for Online/other educational activities (e.g. MOOCs). The Education Review concluded that there are year-on-year cost reductions per learner / graduate enrolled on programmes, which were attributed to efficiencies from maturing programmes and the

embedding of programme management and administration systems at an organisational level. The Education Review, however, highlighted the fact that aggregations / comparisons across KICs are difficult due to differences in the programmes run by individual KICs. This includes programme lengths, different types of support offered to PhD students (whether salaries or scholarships are paid) and differing salary levels at CLCs. These concerns thus echo the points raised above.

The Education Review also noted challenges in comparing unit costs from the KICs with unit costs from comparable education initiatives.

Figure 7.1 KIC expenditure by area (2010-2015)



Source: Analysis of KIC Summary Financial Reports; Note: data show total expenditure across KCA and KAVA

7.2 Cost-effectiveness

As alluded to above, the lack of consistency in methodologies for collecting and reporting management cost data across KICs makes an assessment of the efficiency with which KICs manage their operations very difficult. Table 7.2 provides the 'best estimate' of the evaluation team of the value and proportion of annual KIC expenditure on management and coordination (as distinct from the costs of delivering innovation, education or entrepreneurship activities). Given the scale of total KIC expenditure, we have restricted this to expenditure of the EIT grant, which is what KICs used to cover the vast majority of their management expenditure.

Note that the data in Table 7.2 includes what KICs have termed the costs of operating their 'ecosystem', which includes maintaining their networks of CLCs and other hubs. These are, therefore, not 'central' management costs, but also include the costs of operating a decentralised network of centres.

As Table 7.2 shows, expenditure by KICs on management increased in absolute terms between 2010 and 2015, as the KICs scaled up their central activities (e.g. increased staff numbers and the CLCs they operated from), and increased the volume of work that they delivered (which required more resources to coordinate and monitor). If we look at the years 2014-2015, when KICs consolidated and expenditure broadly 'stabilised', we see a slight decline in the proportion of the EIT grant devoted to management, though concerns over consistency of definition mean that we cannot be sure that these data are an accurate reflection of expenditure on management activities.

In March 2016 the EIT published a paper, taking into account the recommendations of the ECA Report that better defined and set thresholds on the EIT contribution to the management of the KICs⁸⁶. A taper was introduced in terms of the percentage of the EIT grant that could be spent on management, decreasing from 18% in 2016 to 12% by 2018 (first wave KICs only). It was reported that in 2016 the three first wave KICs met this requirement (note that the methodology for calculating expenditure on management was different to that used to calculate the data shown in Table 7.2).

Table 7.2 Expenditure of EIT grant on management and coordination by KICs (2010-2015)

KIC		2010	2011	2012	2013	2014	2015
EIT Digital*	Expenditure (EUR million)	2.0	4.9	6.1	7.9	9.8	10.4
	% of total EIT grant	47%	30%	25%	20%	16%	16%
EIT InnoEnergy#	Expenditure (EUR million)	2.3	4.8	7.2	9.1	12.8	14.9
	% of total EIT grant	35%	20%	21%	22%	23%	22%
EIT Climate-KIC^	Expenditure (EUR million)	3.1	5.0	7.0	7.4	14.2	18.4
	% of total EIT grant	82%	54%	25%	18%	20%	21%

*Source: Analysis of KIC Summary Financial Reports; note: only includes EIT grant, not total KCA or KAVA; defined as follows: * "Management" and "CLC and Eco-systems", # "Organization & processes", ^ "Impact, community and communication, Delivering the Eco-system, Central co-ordination"*

Staffing is a major component of KIC expenditure. KICs are legal entities and employ their own staff (as well as taking secondees from partner organisations). Staff work at the headquarters of each KIC, as well as within the CLCs and other 'decentralised' units of the KICs. Table 7.3 shows staff numbers at each of the KICs in 2016. Staff numbers have increased over time as they have expanded the extent (to include the EIT RIS for instance) and geographical coverage (opening new CLCs / nodes) of their activities.

⁸⁶ EIT (Unpublished 2016) Transition plan for EIT funded part of KIC management costs

Broadly, we see significant differences in staff numbers at KICs, with EIT InnoEnergy and EIT Climate-KIC both much larger (in FTE staff terms) than the other KICs.

Table 7.3 FTE staff numbers at the KICs (as at 2016)

KIC	FTE equivalents (2016):		
	KIC headquarters / central office	CLCs / decentralised functions	Total
EIT Digital	15	36	51
EIT InnoEnergy	73	87	160
EIT Climate-KIC	47	83	130
EIT Health	16	18	34
EIT Raw Materials	20	30	49

Source: KICs

7.3 Factors affecting efficiency

Interviews with representatives from the KICs, together with reviews of the expert reviews of KIC performance, have identified a number of factors that have affected the efficiency with which KICs deliver.

Between 2010 and 2013 the KICs underwent a process of expansion (which can be seen in the profile of annual expenditure shown in Figure 7.1). This expansion encompassed a relatively rapid scaling-up in activity – the launch of innovation, entrepreneurship and education programmes, the introduction of new activities (EIT RIS), and physical expansion with the opening of new CLCs. The first wave of KICs were ‘learning by doing’, and as the KICs move into a period of consolidation and delivery there is now scope for greater efficiency as KICs review and reflect on what works and what can be improved.

Expert reviews of the performance of the KICs also give a sense that the central coordination of KICs – which would be expected to drive forward improvements in efficiency – has had to ‘catch up’ with the rapid expansion of the first wave KICs. A review of EIT Climate-KIC⁸⁷, for example, noted that “*governance, organisation and management of EIT Climate-KIC have not been fully matured yet*”, suggesting that there is further scope for improvements in efficiency of delivery. Similarly, a review of EIT InnoEnergy concluded that:

*"An important pressure factor for the management and operations of EIT InnoEnergy is the high growth rate since its inception ... this requires specific tools (including reporting) and also the right organization and operative structure and procedures. Some improvements have been made in this respect ... but further work needs to be done"*⁸⁸.

The networked nature of KICs, whilst a strength and a key part of the EIT model, has also affected the efficiency with which they deliver. The KICs have harmonised and improved their central management systems over time, but there has inevitably been some ‘friction’ generated by a decentralised delivery model that brings together CLCs located in multiple different countries (with different institutional and legal requirements etc.). Moreover, KICs include staff employed directly by the KICs’ legal entities and also individuals ‘seconded’ from partner organisations, which again brings complexity when seeking to harmonise management and delivery systems across a KIC. Discussions with KICs have highlighted that they have often endeavoured to bring staff in-house to overcome issues caused by such fragmentation.

⁸⁷ EIT (unpublished) EIT Assessment of the KIC report: EIT Climate-KIC, Grant Agreement 2015

⁸⁸ EIT (unpublished) EIT Assessment of the KIC report: EIT InnoEnergy, Grant Agreement 2015

As part of the partner survey, KIC partners were asked whether there were any issues with the efficiency of the KIC delivery model. The following issues were identified:

- *Annual funding agreements are not an efficient way in which to distribute funds:* this was the most commonly issue raised by partners about the efficiency of the KIC delivery model. The advantages of multi-annual funding arrangements have been identified elsewhere⁸⁹ and are not repeated here. Relatedly, there have been discussions at EIT and Commission level about finding a solution to this issue⁹⁰. Partners reported that the inefficiencies connected to single year funding arrangements include large amounts of time invested in meeting short-term planning requirements, and an inability to plan for the medium-term (the timescale over which innovation takes place) given uncertainties about whether funding will be available. Two quotes from partners who responded to the partner survey illustrate their concerns:

"[The] KIC business model is somewhat chaotic, as the business plan is not approved on time. Even if an activity is in the business plan, sometimes we are informed about the realisation very late."

"[The KIC] only looks to delivery in one year and lacks the necessary flexibility (time-shifts of deliverables, remedying actions that cross the calendar boundaries). Partners are faced with reimbursement deductions when a deliverable is delayed and have no opportunity to recover the funding the year thereafter, when delivery happens. This triggers risk adverse programming which is killing to speed in the innovation process."

- *KIC decision-making processes can be slow:* some partners called for greater decentralisation in KIC decision-making (to CLC level) which, it was argued, would speed up the process of reviewing applications and awarding grants. Some partners suggested that KICs are too centralised and have too much "middle management"; resources that could be better deployed locally.
- *Reporting mechanisms could be made more efficient:* various partners reported that administrative and reporting requirements attached to KIC innovation grants could be overly complex and time-consuming. According to one partner:

"Less reporting for the partners who do the work in the field would liberate more time for the actual work of engineering and industrialisation. The administration is of course needed but sometimes very time consuming and this time could be used in a better way to achieve the final purpose of having more contact with the market, customers, industry etc."

7.4 Use of seed funds

The financial model of the KICs follows an 'entrepreneurial logic'. While the EIT provides a seed investment of up to 25% of the total KIC budget, the KICs seek to raise the remaining funds from private sources, from other EU instruments such Structural Funds or from income generated by their own activities. EIT co-funding remains available for 7-15 years and hence over this time, KICs are required to become financially self-sustainable.

⁸⁹ For example the ECA (2016) report on the EIT

⁹⁰ This issue has been discussed between the EIT, KICs and DG EAC in the Task Force on Simplification. The underlying issue is that the EIT has annual budget appropriations. Whilst there is nothing preventing the EIT from signing multiannual agreements, it would only be possible to commit to a budget for the first year. A solution is available, but not until post-2020 with the start of a new multiannual financial framework

Table 7.4 shows how the seed / start-up funds have been used by the second wave of KICs during their first year of operation (2015). For both KICs, the actual costs exceeded the planned costs: by 5% in the case of EIT Raw Materials and by 12% in the case of EIT Health. While the latter generated some in-kind contributions from partners, no such contributions were mentioned in EIT Raw Materials SUGA Report.

Table 7.4 Use of start-up funds by EIT Raw Materials and EIT Health (2015)

Activity	EIT Raw Materials			EIT Health		
	Planned (EUR)	Actual (EUR)	Actual as % total	Planned (EUR)	Actual (EUR)	Actual as % total
Legal readiness	313,993	559,490	178%	715,081	606,167	85%
...Set-up of KIC legal structure	177,069	217,899	123%	358,812	403,380	112%
...KIC Partnership Agreements	136,924	341,591	249%	356,269	202,787	57%
Operational Readiness	1,667,389	1,917,264	115%	987,517	1,318,623	134%
...Recruitment of core KIC staff including CEO	242,282	290,427	120%	329,060	390,377	119%
...Set-up of operational functions at KIC LE level	700,520	982,951	140%	185,203	518,114	280%
...Development of first business plan	724,587	643,885	89%	473,254	410,132	87%
Fostering EIT identity (communication plan)	521,205	580,636	111%	234,522	228,833	98%
Other activities	1,299,488	927,222	71%	1,361,867	1,537,075	113%
Total	3,802,075	3,984,612	105%	3,298,987	3,690,698	112%

Source: 2015 KIC SUGA Final Report for EIT Raw Materials and EIT Health

Both KIC successfully went through a complete start-up phase in 2015, and used the EIT grant to achieve operational and legal readiness to start implementation of their first business plans. The start-up funds were used in the following ways:

- Formal establishment of legal entities at HQ and CLC levels;
- Conclusion of partnership agreements between KIC legal entity and partners;
- Recruitment and appointment of management team and core staff such as CEO, CFO, COO, thematic/ CLC Directors or Managers;
- Establishment of KIC HQs with facilities and IT infrastructure;
- Launch of branding and communication activities;
- Development of 2016 Business Plans including preparation of the first set of KIC projects, activities and service offerings for launch and deployment during 2016;
- Other activities such as implementation of IT systems, development of IP policy, financial sustainability strategies and monitoring strategies.

Feedback from the second-wave KICs suggests that collaboration with other KICs on administrative and transversal topics and drawing upon the lessons learned from the ramp-up of the first wave of KICs might have contributed to a more efficient ramp-up of EIT Raw Materials and EIT Health. According to the first interim evaluation of the EIT, the set-up of the first wave of KICs was challenging. Early evidence suggests that the additional benefit of the established KICs and cross-KIC resources has made the process

clearer. For example, the 2016 Business Plan of EIT Raw Material highlights how they benefitted from some of the following cross-KIC activities:

- Multilateral meetings with the existing three KICs offered information on practical / procedural details;
- Cross-KIC COO / CFO meeting or a cross-KIC discussion on financial sustainability broadened their knowledge on the issue;
- Collaboration talks with other KICs on IT-related issues (e.g. selection of systems to support collaboration, grant management or innovation management) and on governance and legal structures, as well as joint awareness raising and lobbying events provided them with best practice experience during the start-up year;
- The Education Panel meetings provided learnings on learning and evaluation activities and processes;
- The cross-KIC work on the development of the new EIT label handbook provided interesting insights regarding the labelling and branding of educational programmes.

The EIT Health team explained how scoping work was done around understanding the lessons learnt from previous KICs, in order to improve the set-up of the KIC. As a result of this work, a number of “guiding principles” were developed which guided the set-up of EIT Health:

- The understanding that the future consortium would need to be built in a conscious way: Ensuring balance between the type and number of partners: national / regional / local and partners representing sectors (education, healthcare, research, business).
- *The need to secure additional, sustainable, revenue (aside from the EIT core funding)*: To this end work was done to scope out national resources that could be tapped into. An example is the EUR 0.5 million / year received from the German government to fund the EIT Health headquarters.
- *The need to ensure partners pay a membership fee*: Not only to provide additional revenue, but to highlight the sustainability aspect of the KIC, and show the “buy-in” from partners which can provide returns in the form of services facilitating exchange, collaboration and outreach activities. We see a benefit to establishing this upfront: when fees were introduced by EIT Climate-KIC a number of partners departed. If a membership fee is always a condition of involvement then there is less risk of partners leaving.
- *The importance of having a flexible membership option to attract various levels of partnerships*: Aside from the core and associate partners, EIT Health developed the notion of “project partners” - organisations (mainly SMEs) that could be involved in specific projects rather than becoming a full member. This provides flexibility for organisations to focus on their specific needs and use their expertise.
- *The necessity of having a well-thought out legal entity*: Work was done on developing various models to ensure a correct and sustainable legal entity was put in place.
- *Ensuring content is at the forefront of driving action*: The consortium did not want to create structures that would stand in direct competition with the partners. Work was therefore done to understand the key areas of expertise of each core partner, looking at their limitations and then focusing on how EIT Health could strengthen those.
- *Tailoring education programmes to meet the needs of the healthcare domain as a whole*: Rather than focusing just on traditional degree programmes, EIT Health is exploring other executive professional education courses which would be of interest to stakeholders in the healthcare delivery domain and other courses for citizens themselves.

8 Financial sustainability

This section provides answers to the following evaluation questions (Horizon 2020 specific evaluation questions are **highlighted bold**):

- Q7.1 What progress has the EIT made towards achieving the financial sustainability of its activities? (Section 8.1)
- Q7.2 How has the EIT progressed in developing its sustainability strategy and what are its distinct factors? (Section 8.1)
- Q7.4 How likely is the KIC model to be sustainable after the maximum foreseen grant period of 15 years? (Section 8.1)
- **Q7.3 How successful have the KICs been in attracting funds from partners and especially from the private sector, and how successful has the EIT been in supporting and incentivising them towards this goal? (Section 8.2)**

8.1 Progress towards financial sustainability

A KIC is expected to reduce its dependency on EIT funding in the medium-term, and eventually become financially sustainable in the long-term. EIT funding is available to a KIC for up to 15 years from its designation. During this period, a KIC may be financed for up to 25% of its global expenditure through the EIT budget, drawing in the rest through other sources of financing (e.g. private sources, co-funding from European or national funds etc.). According to the "Principles of Financial Sustainability" the EIT funding should follow a bell-shaped pattern:

*"The maximum EIT contribution to a KIC will be reduced from up to 100% funding to KAVA after 10 years of a KIC's designation to 80%, on average, in year 11 and thereafter progressive annual reductions: 60% in year 12, 40% in year 13, 20% in year 14 and 10% in year 15, until reaching a 'pre-defined minimum level' of EIT funding to a KIC. The same reductions apply to KIC management and administration costs."*⁹¹

8.1.1 EIT Digital

EIT Digital relies heavily on EIT funding and external sources of funding remained under-developed. At the end of 2015, external funding (KIC partners and other) accounted for only 15% of the KIC's total funding. Although the 2016 business plan anticipates a rise in co-funding to 22% (EIT funding 78% of KAVA) in 2016 and up to 25% in 2018, the majority of this co-funding is in-kind.

The KIC however, took its first steps towards financial sustainability in 2015:

- *It experimented with the idea of introducing a success-fee based scheme for the winners of the Idea Challenge contest.* In exchange for its Business Acceleration services, the KIC offered to adopt a success fee scheme based on their growth – i.e. EIT Digital would have financial returns of 2% of the earnings before interest, tax, depreciation and amortization (EBITDA) of the coached start-up. This offer was generally not well accepted by the start-ups.
- *It re-orientated its approach to engagement with large corporations,* from being connected to the research arms of these organisations to shift focus and make connections with the business units, the technology scouting units, the merger and

⁹¹ EIT (2015) Decision 4/2015 of the governing board of the European Institute of innovation and Technology (EIT) on Principles of Financial Sustainability. Available at: <https://eit.europa.eu/sites/default/files/EIT%20GB%20Decision%20on%20principles%20on%20KIC%20Financial%20Sustainability.pdf>

acquisition units, the venture arms, as well as to recruiting and human resources departments. To this end, the KIC announced its plans to launch a new corporate engagement programme activity in 2016.

- *It developed plans to make outreach more sustainable.* The KIC developed plans to extend more systematically its Business and Entrepreneurship activity to the RIS activity in 2016 as well as plans to leverage its Silicon Valley hub to benefit its fast-growing start-ups.

The focus on financial sustainability was reinforced in 2016 with the KIC Board and management engaging independent experts to advise them on their financial sustainability strategy. The KIC also carried out extensive discussions with its partners both in terms of the need to charge fees but also the overall governance of the KIC.

As a result of this exercise, EIT Digital plans to develop the following four sources of income:

- *Income from the 'Ecosystem',* including membership fees (see Table 8.1), CLC participation fees, and cash cost sharing contributions (e.g. Silicon Valley office costs shared by Member States) and advisory revenues. Significant progress was made in this respect in 2016 with the agreement of a partnership fee structure (which applies with effect from 2017). The annual income from partner fees is estimated to amount to EUR 2.7 million (25% of overall organisation, governance and management costs currently funded by EIT).

Table 8.1 EIT Digital - membership fee structure

Type of organisation	Annual partner fee
Large enterprises, research institutes and universities	EUR 25,000
Mid-sized enterprises	EUR 10,000
Small enterprises	EUR 5,000
Micro enterprises	Zero

Source: Pelly, R. (2016) *In-depth Review of the Implementation of KIC Financial Sustainability Strategies*

- *Cash generation and management in the 'balance sheet' of the KIC* which includes measures such as pre-financing of grants, the maintenance of working capital and the possibility of building up some capital buffer;
- *Income generation from innovation and start-up activity* including future service fees, revenue-sharing on supported start-ups and monetisation of future equity stakes in start-ups and scale-ups. Specific measures undertaken by the KIC include:
 - The EIT Digital Business Development Accelerator introduced a 'kick back' mechanism in 2016, which includes several options such as equity ownership, success fees and warrants. A rough initial estimate based on a success fee mechanism suggests a potential income of EUR 500,000 in 2017 and EUR 1.5 million in 2018 with further growth potential for the subsequent years.
 - The KIC plans to deliver a number of fee paying services e.g. related to finding open innovation solutions for identified challenges, technology scouting, match-making and transfer services, software testing and certification, intellectual asset brokerage and facility and support services. Initial projections suggest a potential income of EUR 200k in 2017 and EUR 500k in 2018 from these sources.
 - The KIC has been exploring other revenue generating ideas such as an 'interest bearing' grant, and success fees for support in fund raising. The KIC

has however, not put in place a mechanism for systematically obtaining an equity interest in their pipeline portfolio companies (due to concerns regarding conflict of interest).

- *Income generation from education activity* to eventually cover all costs. For the time being, it is anticipated that a combination of measures (student fees, course cost rationalisation and cash co-funding) would result in the following levels of cost recovery in the long-term: 50% for Masters Courses, 30% for PhD but up to 90% for the Professional course.

The overall conclusion of the Financial Sustainability Review was that the EIT Digital has the potential to achieve financial sustainability within the anticipated timeframe if it adopts best practices from other KICs (e.g. a mechanism for acquiring equity stakes in start-up and scale-up companies). The Review further highlighted the need for clarification of what level of their co-funding could be considered to be an 'additional' source of KAVA funding.

8.1.2 EIT InnoEnergy

EIT InnoEnergy has a clear and well defined strategy for achieving financial sustainability, although implementation is at an early phase and would need to be accelerated for the KIC to achieve this goal. In 2015, EIT InnoEnergy generated revenues of EUR 4.2 million which yielded a financial sustainability coefficient (total revenues/EIT contribution) of only 6.1%.⁹² The percentage dependency on EIT funding is projected to fall from 83% in 2016 to 27% in 2022 and then to 10% by 2025 (a part of the education activities would require ongoing EIT funding), which is the 15th year after designation.⁹³

EIT InnoEnergy's financial sustainability strategy relies on twelve diverse sources of revenue which can be grouped together as follows⁹⁴:

- *Fees*: each shareholder invests EUR 100,000 on an annual basis into the KIC. A further 25 partners pay annual fees of EUR 30,000. The total annual income of approximately EUR 5 million generated through these sources covers 35% of the operating costs of the KIC;
- *Revenue / return from start-up and innovation activity*: this a key area of focus for EIT InnoEnergy as up to 40% of KAVA annually from 2022 is expected to be generated from these sources. These sources include:
 - Revenue sharing/royalties/upside sharing agreements with select project consortia.
 - Equity stakes in start-ups participating in the InnoEnergy Highway® programme. The KIC systematically takes an equity stake of between 10 to 15% at the outset and then selectively commits follow-on investment. At the end of 2015, EIT InnoEnergy was a shareholder in 62 ventures, most of them post-revenue.
 - Market Creator. This scheme has specifically been designed for high risk projects. On a highly selective basis, the KIC will use its own resources together with those of key partners, to build and operate the project. It will negotiate either an up-front premium or fees over time to transfer the project to a sponsor once certain milestones have been met. One concrete example is already being developed, while two other projects of this nature are also in the pipeline.

⁹² EIT (2016) *EIT Assessment of the KIC Report: KIC InnoEnergy, Grant Agreement 2015*

⁹³ Pelly, R. (2016) *In-depth Review of the Implementation of KIC Financial Sustainability Strategies*

⁹⁴ *Ibid*

- *Revenue from education activities*: this would entail charging fees for the Masters and Doctoral level courses, as well as monetisation of EIT InnoEnergy's educational material and assets. By 2022, the KIC expects to generate EUR 15 million of cash contribution from its education activities.
- *Fee earning advisory services and consultancy*: this is however, not seen as a major source of income for EIT InnoEnergy;
- *Other public and private sources*: these include, for example, grants from other EU programmes. EIT InnoEnergy has already secured nine contracts from other EU bodies by way of grants into their projects. The KIC has also developed a new source of alternative funding during 2015 which seeks to attract impact investors (in particular those focussed on double bottom line). Although the plan is under-development, it has reportedly received a promising first response from the market and is expected to generate EUR 50 million by 2019.

The Financial Sustainability Review concluded that the above strategy, while being "comprehensive", is "ground breaking" and "ambitious".

8.1.3 EIT Climate-KIC

EIT Climate-KIC's financial sustainability plan is still in its initial stage. In 2015, it generated only EUR 952,771 as revenue. Notably, the KIC generated no return from service-based propositions to the private sector; no income coming from start-ups and innovation projects. The main sources of reported income were fees for education courses, KIC membership fee and alternative sources of funding (two non-EIT EU grants, private donations and interest income on assets)⁹⁵.

In 2015, EIT Climate-KIC developed its financial sustainable strategy. They are now better managing their sales pipeline and through August 2015 had 43 customer relationships in the revenue pipeline with total contract value potential of EUR 28.2 million. In January 2016, EUR 4.6 million of EIT Climate-KIC's EUR 5 million financial target was achieved.⁹⁶ It is planned that dependency on EIT funding would gradually reduce from 93% in 2016, to 75% in 2018 and eventually to 37.5% in 2024⁹⁷.

The KIC's financial sustainability strategy focuses on the four priority income streams (Grants, Procurement, Co-development and Services). Notably, it does not place much emphasis on membership fees as a source of income; nor on generating a return on innovation projects or from investment in start-up equity, although some income from commercial exploitation of existing activities is envisaged e.g. charging for education interventions, equity stakes in start-ups and partnership fees. For example, in 2015, EIT Climate-KIC signed service-equity agreements with stage 3 start-ups and has taken convertible loans, and there has been an initial return on investment (ROI) achieved through equity participation in the SmarterBetterCities and Naked Energy start-ups. For all innovation projects started in 2015, Return On Investment principles have been included in EIT Climate-KIC award letters and negotiated agreements.⁹⁸ The KIC has also developed some marketable education products (e.g. the Journey) and others were successfully tested (i.e. Climathon). The KIC has set itself a target of generating revenues of EUR 500,000 from its education activities.

In effect, the main sources of revenue being developed by the KIC are⁹⁹:

⁹⁵ EIT (2016) *EIT Assessment of the KIC Report: EIT Climate-KIC, Grant Agreement 2015*

⁹⁶ *EIT Climate-KIC 2016 Business plan*

⁹⁷ Pelly, R. (2016) *Op cit*

⁹⁸ *Ibid*

⁹⁹ *Ibid*

- *Fees from services including consultancy, sponsorship and other fee-for-service.* The KIC sees potential in tapping into public procurement opportunities offered by the Commission and other public sector bodies. Potential is also seen in developing revenue sources through 'Co-development' projects with foundations and multilateral institutions such as UNEP, World Bank, EIB. The KIC expects to generate revenues of EUR 6 million from this area over the next two years.
- *Grants from other EU and national funding sources:* including programmes such as Horizon 2020, LIFE+, COSME, ESIF (there is some interest in developing an Impact Fund with EIB / EFSI support) as well as targeted national funds by taking on one of the following roles: consortium leader (project coordinator); project partner; sub-contractor or broker. This source of revenue is expected to rise from EUR 3 million in 2016 to EUR 50 million in 2024.

There are diverging amongst stakeholders on EIT Climate-KIC's need and approach to achieving financial sustainability:

- One stakeholder noted that financial sustainability is something that EIT Climate-KIC will achieve naturally, as the programme is able to deliver key disruptive innovations.
- Another stakeholder expressed concerns that the pursuit of financial sustainability might represent a threat to the independence that EIT Climate-KIC currently benefits from.
- Another noted that financial sustainability will be enabled when EIT Climate-KIC's new innovative business models are progressively integrated into the operations of partners (as well as of other market actors) to the extent that EIT Climate-KIC will not be needed anymore.

Several stakeholders highlighted that the main reason for partners to join and maintain their membership with EIT Climate-KIC is to be part of a "champion's league of innovators". At least one partner noted that the financial support granted to projects was small compared to the grant that could be obtained through other EU programmes, and therefore, financial reward was not the primary reason for joining EIT Climate-KIC. Specifically for the private sector, it is believed that the motivation for joining is to be granted access to specific knowledge ("the newest information in the climate science field") and the ability to push new ideas.

Some well-informed respondents to the OPC, although not questioning the principle that KICs should develop at least some income streams, challenged whether it was reasonable to expect the KICs to generate a financial return from EIT support and partner investments so that they could continue their operations when the EIT funding is phased out, while still delivering their mission of enhancing the EU's innovation capacity through knowledge triangle integration. The HLG, in its report to the European Commission, also highlighted the inherent contradiction between the aim of financial sustainability and the EIT's public mission noting that "*it is not realistic to expect that KICs can become self-financing while maintaining the full breadth of knowledge triangle activities.*" The HLG further pointed out that pursuit of financial sustainability would put the KICs' partnerships under pressure which in turn might prompt some partners to leave (as has happened with EIT InnoEnergy, for example) and result in the KICs' shedding some or all of their non self-sustainable operations (e.g. education). They warned that the goal of financial sustainability could come at a high cost by negatively impacting upon the KICs' innovation capacities and their knowledge triangle integration mission.

In its recommendations, the HLG proposed a twin-track model, whereby a part of the EIT budget would be available for funding new KICs, while another portion would be earmarked for supporting some of the activities of the mature KICs that continue to meet predefined EIT goals.

The HLG also reflected upon the notion whether the EIT should seek to achieve financial sustainability. The EIT Regulation is vague in this respect and loosely requires the EIT to raise its total annual budget under competitive conditions or from private actors. According to the Group *"(...) such a sustainability requirement for EIT itself is not advisable"*. The Group therefore, suggested that Regulation's provision should be interpreted more flexibly *"(...) as a requirement that a portion of the EIT's operating costs should be borne from non-EU sources, the Group notes that the fund-raising efforts would require an additional up-front investment, while raising a number of questions about governance, accountability and potential institutional conflicts of interest."*

8.2 Success in attracting funds from the private sector

As already explained, several steps are being taken by EIT Digital to generate revenue from private sources:

- Charging start-ups a business development fee, depending on the support provided (e.g. coaching and/or providing links to investors).
- Charge start-ups and scale-ups a fee for using the CLC.
- Developing the Silicon Valley hub, while as soon as possible, introducing membership fees for US and European partners.
- Membership fees.
- Having co-funding (in-cash) as a requirement in more activities, e.g. in the High Impact Initiatives; regions that join the ARISE network; and universities, cities, regions, countries or industries that want to attract EIT labelled education.
- More substantial contributions by students, at all levels (Master, Doctoral, Professional) and also including the Summer Schools and MOOCs.
- Taking equity in start-ups (especially spin-outs from innovation activities) and scale-ups.

Private sources of revenue being pursued by EIT Climate-KIC include:

- Membership fees charged from partners;
- Fees for education courses; and
- Commercial exploitation of results from its education, start-up and innovation activities.

EIT Climate-KIC however, intends to generate a significant share of its future revenues from public sources, most notably:

- Grants from other EU and national funding sources;
- Fees from services including consultancy, sponsorship and other fee-for-service secured mainly through public procurement contracts.

EIT InnoEnergy is pursuing diverse sources of private funding, which include:

- Membership fees;
- Revenue/ return from start-up and innovation activity including revenue sharing/ royalties/ upside sharing agreements with select project consortia; equity stakes in start-ups ; and the MarketCreator scheme;
- Revenue from education activities including fees for the Masters and Doctoral level courses, as well as monetisation of the KIC's educational material and assets.

As noted in the previous section, these schemes are in their infancy and so far, the KICs have generated very limited revenue from private sources. There is however,

tremendous upside potential from equity positions in start-ups and revenue sharing / royalties / upside sharing agreements on innovation projects.

The EIT has supported and incentivised KICs in attracting funds from partners through guidance and via reporting requirements. On 5 March 2015 the EIT Governing Board adopted, through formal decision, the Principles on KICs Financial Sustainability. The EIT has an important role to play in providing guidance and support to the KICs, which is done through the legal framework and the annual grant management cycle guidelines. The EIT supports and incentivises the KICs in a number of ways in attracting new funds, including:¹⁰⁰

- Efforts to communicate more on the success of the EIT, to incentivise potential new funding sources;
- Reflection on analysing scenarios and recommendations for financial sustainability, through a paper from the EIT (October 2014);
- An in depth review of the implementation of KIC Financial Sustainability Strategies¹⁰¹.

Currently there is much more of a focus on results based funding from the EIT and this has implications for the KICs who have to compete each year for the competitive funding.¹⁰² The competitive funding is allocated on the basis of three criteria: past performance, future plans and progress towards financial sustainability. The business plans are now more clearly driven by financial sustainability in the long run. This is helping to change the overall mindset of the KICs towards their funding sources. By adopting new principles and making financial sustainability part of the legal requirement, it helps to stimulate the KICs to once again think differently in terms of their funding in the long term.

From 2015, KICs have to separately report on financial sustainability, in addition in 2016, the business plans had to present their KIC Added Value Activities and complementary activities in a new way in order to further incentivise leverage.

The EIT also has plans to set up an Impact Fund which will provide access to early stage development beyond current EIT support to help leverage private sector capital.¹⁰³

¹⁰⁰ *As an additional impetus, the KPIs of the EIT include financial sustainability*

¹⁰¹ *Richard Pelly, July, 2016*

¹⁰² *The Governing Body sets the ratio of support vs competitive funding for each wave of KICs as they are not at the same level of maturity*

¹⁰³ *According to the current Regulation, the EIT cannot invest in start-ups beyond seed funding.*

9 Conclusions and recommendations

This section presents the conclusions of the evaluation team, organised around the evaluation topics set out in the ToR for this study.

The relevance of the EIT model

The overarching logic for the EIT remains as valid now as when the initiative was first launched, and the model of driving innovation-led growth through KTI remains relevant. The original stated objectives of the EIT are supported by academic and policy literatures which indicate that connected, networked approaches to innovation help to grow new communities and increase success in nurturing entrepreneurship and bringing innovation to market.

However, as the EIT has developed, and with its integration into Horizon 2020, additional goals and tasks have been added over time in a manner which is neither conducive to effectiveness nor to efficiency.

Recommendation #1: *The EIT should work with the European Commission to streamline the goals that the initiative is expected to achieve. These goals should be clearly articulated, measurable, and linked to an intervention logic for the EIT. Consensus should be built around these goals, which should then be communicated by the EIT/KICs to stakeholders to ensure a common understanding of the purpose, scope and expected impacts of the EIT.*

There is not a clear and consistent understanding of the KTI model. The current ways of implementing the model arguably makes KTI more of a brand or a general concept rather than a model. Whilst these ambiguities have given the EIT leeway to experiment and adapt, the EIT and the KICs would benefit from a clearer and more consistent definition of KTI.

The effectiveness with which the EIT model has been implemented

The three first wave KICs are starting to deliver a wide range of tangible results through their activities in the areas of innovation, entrepreneurship and education. However the performance of the three first-wave KICs against their core Key Performance Indicators (KPIs), over the period 2010-2015, has been somewhat mixed. Looking at the reasons for this performance picture, it is apparent that KICs have been scaling-up their activities significantly in the past few years, and also redesigning / refreshing their 'offers', which has disrupted delivery.

Historically, the core KPIs used by the KICs did not adequately measure performance, but from 2017 a more comprehensive set of indicators has been introduced which will allow for a better assessment to be made of the results of the KICs' activities. The performance of the KICs is also tracked through KIC-specific indicators, and their achievements against their annual plans are independently assessed.

KTI sits at the heart of KICs' delivery models, and whilst they have interpreted the model differently, they have all been successful in involving a diverse set of partners and organisations from all sides of the knowledge triangle. KTI is evident throughout the KICs' activities, and we see examples of the creation and exploitation of linkages between the KICs' activity lines of innovation, entrepreneurship and education. There is scope for KTI to be further strengthened through communication and dissemination of good practice in implementation.

The effectiveness of communications

Despite the communications activities undertaken by the EIT, there is limited brand awareness within the wider stakeholder community. Internal communications could be

improved, with KIC partners calling for more information on what the KICs have achieved.

Without data on the reach of KICs' communications it is hard to assess its effectiveness. Whilst the KICs do invest in communications, budgets are relatively small, and the breadth of their activities and audiences means they face a challenge in communicating effectively.

Recommendation #2: *The EIT should revise its communication strategy with the objective of increasing stakeholder awareness and knowledge about the EIT and its results. The EIT should provide a coherent set of communication tools which can be flexibly used for different sets of target audiences to help the EIT and the KICs in internal and external communication and engagement. This includes better tracking of the effectiveness of communication and the measurement of the impact.*

The implementation of KIC delivery models

The process through which KICs distribute support to projects was not seen as sufficiently transparent by KIC partners.

Recommendation #3: *The EIT should work with the KICs to improve the transparency of the process through which innovation projects are selected, and ensure that grant funding outcomes and decision rationales are transparently communicated to applicants and KIC partners more widely. The KICs should improve the consistency and clarity of internal communication with partners and KIC stakeholders, and should report the results of KIC activities more consistently, so that participants have sight of the impacts of the KICs beyond the projects that they are directly involved with.*

KICs have been effective in establishing and building networks of partners. These networks have been stable over time, and most partners are largely satisfied with the size and composition of KIC networks.

The KICs' education programmes appear to present an attractive proposition to students, though the drop-out rate between application and enrolment has been high, which needs to be managed.

The influence of the EIT

The SIA for the EIT recognises the potential of the EIT and the KICs as a resource for policy-makers, though thus far the EIT's influence on policy development has been limited, in part due to a lack of dedicated resource and the relative immaturity of the EIT and KICs.

As the SIA for the EIT notes, the KICs have the potential to act as 'repositories' of knowledge and good practice. KICs (e.g. via CLCs) have built relationships with regional and national policy-makers, despite this not being an explicit goal, but there is scope for greater leverage of the expertise that they have accumulated.

Recommendation #4: *The EIT and the KICs should focus on using examples of good practice and results (both in terms of model and impact) as the basis for policy dialogue and interaction. At the EU level, the KICs should continue to develop their thematic links with corresponding thematic DGs of the European Commission, seeking to inform and contribute to the development of policy and support the principles of the Innovation Union. CLCs should play a stronger role in informing national and sub-national policy stakeholders of their results, particularly where they are able to 'channel' lessons learned at EIT and KIC level.*

The impacts of the KICs

The KICs' accelerator programmes have supported a cohort of innovative entrepreneurs to start-up and grow their businesses, and the practical lessons learned by accelerators can provide a valuable evidence base for the EIT and the European Commission to draw upon.

KIC-backed innovation projects have successfully brought together diverse networks of partners, in some cases resulting in institutional learning within participating universities and research organisations.

EIT-label courses have successfully provided graduates with entrepreneurial skills, but thus far this has not translated into a significant cohort of start-ups, as most graduates have moved into employment instead.

The impacts of the EIT on innovation systems

Thus far there has not been evidence of an uptake of good practices pioneered and disseminated by the EIT, though given the limited amount of time that the KICs have been operating it is perhaps too early to make an assessment of the EIT's impacts in this area.

The EIT is configured around sectors/societal challenges, rather than as a spatial system, and thus far territorial systemic impacts have been limited to localities with CLCs. Over time the EIT RIS should result in systemic impacts.

Recommendation #5: *The EIT should seek to capitalise on its position as a pan-European response to innovation challenges in Europe. Through its structure and activities, the EIT can play a crucial role in strengthening links across innovation players in Europe, working at a European, national and sub-national level to influence change. In particular, the EIT should advocate complementary actions that use ESIF as a means to generate multiplier effects (EIT RIS could be a core mechanism for this).*

Coherence with other initiatives

The EIT is coherent with the wider European innovation policy landscape, and has a good understanding of its position and role. Whilst the KICs have engaged with their corresponding policy DGs, it is not entirely clear whether some DGs consistently take the EIT and the KICs into account when designing their approaches.

The EIT is coherent with and complements national and regional innovation policy, and commonalities in approach present opportunities for cooperation.

The EU added value of the EIT

The uniqueness of the EIT lies in its integration of all three sides of the knowledge triangle, which is not an explicit feature of other EU or national innovation support initiatives (though they may undertake some elements of KTI).

KICs add value beyond national support initiatives, primarily by operating across borders and linking KIC partners and beneficiaries with organisations and networks that they would otherwise find it difficult to access. The EIT RIS adds value to and reinforces regional innovation policy throughout Europe, though it is too early to assess its impacts.

The efficiency of the EIT

Whilst the absence of a consistent approach to defining and reporting KIC expenditure data has made a cost effectiveness assessment of the KICs' activities impractical, a unit cost driven approach to measuring efficiency would miss the role of KTI and the added value of the cross-border nature of KICs' operations.

The first wave of KICs grew rapidly, as they expanded geographically they encountered challenges that affected the efficiency of their operations. Cross-KIC learning has improved efficiency, and can continue to do so as the KICs consolidate. As noted in other recent reviews of the EIT (the ECA and HLG reports), a move to multi-annual funding arrangements would improve KIC efficiency.

The financial sustainability of the KICs

The first wave KICs have made progress in pursuing financial sustainability, though their strategies for doing so are ambitious. There is arguably a contradiction between the EIT's role (addressing market failures and societal challenges) and achieving financial sustainability. Achieving the latter may impact on the former, with non-sustainable, but socially advantageous, activities dropped by KICs.

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