EIT Innovation Forum

Report | #InnovEIT

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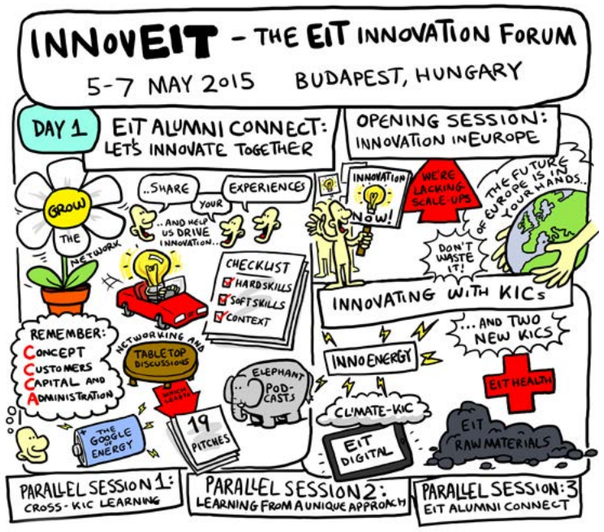
The EIT is a body of the European Union

Executive Summary



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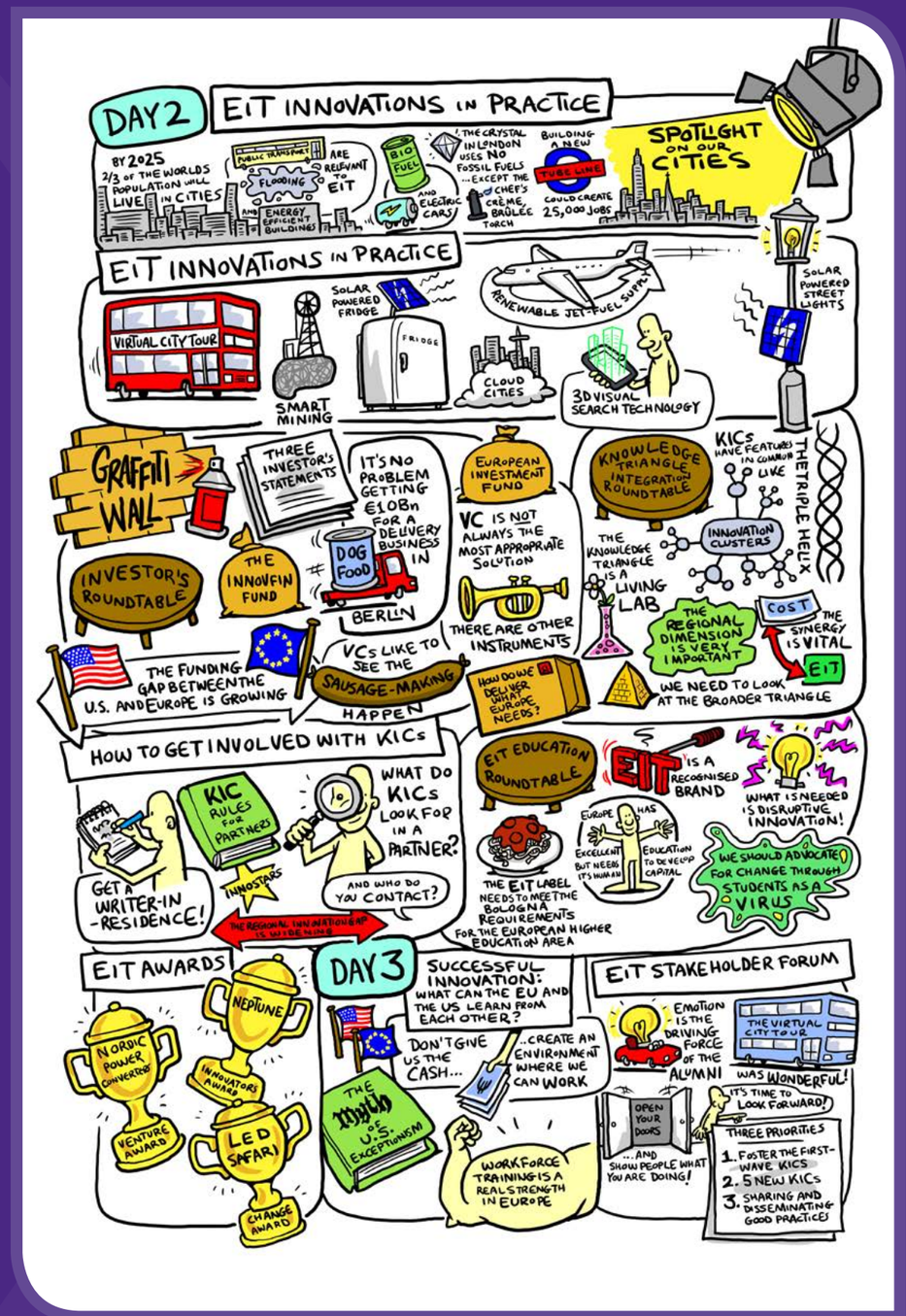


Day One: The Case & the Practice

EIT Alumni Connect – let's innovate together!

EIT Interim Director Martin Kern opened this special pre-conference EIT Alumni Connect session with a warm welcome, announcing that the event was "all about the students and the entrepreneurs and the researchers, bringing them together and fostering relationships." With over 1,000 graduates from EIT-labelled Master and Doctoral programmes offered by the EIT Knowledge and Innovation Communities – or KICs – the EIT boasts an alumni network that is a significant factor in the development of entrepreneurship as both an aspiration for, and a product of higher education in Europe. "You have been invited because of your experiences, which are shared across the KICs, and as an example of the added value the EIT creates," Martin told the meeting of around 100 energised and enthusiastic students and alumni. "Grow the network, share your experiences, and help us to drive innovation and entrepreneurship in Europe."

Jeroen van der Veer, former CEO of Royal Dutch Shell and now a member of the EIT Governing Board, joined the meeting to share his checklist for success. "You must strive for a balance between these three factors: First, the hard skills, that is what you learn at university, or in a trade, or you learn to do with your hands. Second, the soft skills, like good communication, how you behave, how you listen, having good relationships with colleagues. And thirdly, develop good contacts. That will help you to see the big picture." He also shared a model for business or career planning based on an acronym for easy recall – CCCA. The first 'C' is for the basic concept or idea, adding that "if it takes more than one or two minutes to explain or if I do not get it, then you have a problem." The second 'C' is for customers, or clients, and the third 'C' represents the capital or cash needed to realise the idea. He added the 'A' because things can go wrong due to a lack of good administration. Turning to leadership, he suggested that whatever leadership vision should be brief and the messaging must have real impact, so that everyone in the business will recognise that if they're not aligned to the message there will be consequences. Good leaders will always indicate what each colleague's role is in achieving progress. "In my mentoring," he said, "I also ask them to focus on the cost side not the customer side, because on the customer side it's only sold when you have the money in the bank." To sum it all up: balance the key skill sets; remember CCC and A; build your leadership around realistic next steps; and look at the cost side.

Participants' questions covered how to lead in a team of peers; whether the three key skill sets are universally applicable, or differentiated according to profile; how to ensure that a good company culture is scalable; and whether or not the leadership model has changed in recent years with the emergence of 'shared' leadership.

Responding briefly, Jeroen van der Veer explained that you have to clearly assign the role of the person who keeps the team together; someone expected to take action when something goes wrong. Secondly, deciding who represents the team to external stakeholders or to bosses is critical. "Someone who grabs all the credit is a problem," he explained. On the question of skill sets, he believes that people mostly fail on their soft skills. "If you only focus on the big picture you can end up with the wrong ideas, but if you are only good on soft skills I suggest you take a subscription to the *Economist* and read at least 10 pages every week." The scalability of company culture also relates to leadership. "If you have an idea, talk to some peers, get some feedback, and maybe some resources to test it," he suggested, before ending by highlighting the importance of strong values to successful leadership. "A leader must have followers or they're not a leader," he reminded everyone. "Make authenticity and integrity your core values, be a role model, and treat people with respect."

Lead facilitator Marc Gramberger then introduced the networking and tabletop exercises that took up the remainder of the morning. The session was designed to activate students and alumni from EIT-labelled programmes to develop the EIT alumni community even further by delivering concrete results. The objectives were first, for alumni from across the KICs to form groups to work together. Second, to share ideas and develop joint projects to move each community forward. And third, to work in mixed groups to support the development of an over-arching EIT identity among alumni. Students and alumni were asked to consider what projects they could bring together in the EIT Alumni Community, discuss them in groups, and then pitch them to everyone else.

To seed the discussion, three examples were briefly presented. Germán Leiva developed the networking app that was available for INNOV**EIT** delegates to download. Estefania Tapias introduced the 'Elephant' series of podcasts (climate change being 'the elephant in the room'), which she has produced to share expert interviews with a global audience. And Claudio Geyken spoke about a start-up in the Benelux region that has the challenging aim of 'owning' energy, in the way that Google 'owns' search. Intensive discussion and interaction followed, in which each table became a start-up office in microcosm, with teams forming, ideas flowing, and all kinds of sketches, strategies, plans, and proposals being captured on flip-charts, iPads, and laptops. Then the groups chose their spokespeople, and the pitches began. In all there were 19 pitches, each one answering the objectives set and many with potentially viable and valuable project ideas. They included plans for the alumni community to enhance communication through surveys on social media channels and via the creation of a newsletter; an idea to predict energy usage based on multi-model information from mobile phone data; an offline start-up discovery event, bringing together the skills from the three first-wave KICs; using EIT structures to encourage the EU to look at better standards of rubbish separation and recycling; and a next-generation navigation system called Navig8 which adds energy consumption and emissions data to Google Maps-style route planning.

A sounding board comprising Cyprus University of Technology Rector and EIT Governing Board member Elpida Keravnou-Papailiou, EIT Policy Officer Nadja Dokter, and keynote speaker Jeroen van der Veer offered feedback on the proposals.

Elpida Keravnou-Papailiou began by saying that it was hard to pick out just one or two ideas but what was evident was the groups' enthusiasm for working with new people. Nadja Dokter's question was straightforward – with such diverse expertise on show, how can we make this community work? Four things are needed, she suggested; the necessary legal basis, the right communication platform, activities to ensure ideas become reality, and knowing how to finance all of this. "In terms of next steps," she noted, "we'll need to take it to the next EIT event and beyond. But we need each of you to step up and say 'yes I'll own this, I'll take it forward'." To decide which of the projects he would give his own support to, Jeroen van der Veer applied four criteria. "Is it new? Can it make money? Is it scalable? And what's my gut feel – do I like it?" That produced a shortlist of the 48-hour hackathon, a food-sharing plan, and the next generation navigation system. "Using my four criteria," he announced, "Navig8 is the winner."

Innovation in Europe

In the welcoming remarks with which he formally opened the conference Chairman of the EIT Governing Board Peter Olesen described his excitement at this first outing for the new event format, the EIT Innovation Forum, and his enthusiasm for introducing the KICs – including the two new ones – to the wider innovation community. Commenting on the fact that the EIT has been based in Budapest since 2010 he said; "We are grateful for the support received from our host country, Hungary." With that sentiment in mind he introduced József Pálinkás, President of the National Research, Development and Innovation Office of the Hungarian government.

"On behalf of the government of Hungary I warmly welcome all the participants of this unique event," József Pálinkás began, describing the 600 people in the room as "the driving force of our common future." The whole of humankind is facing great challenges, some of its own making, and observing that new solutions are urgently needed, he underlined that the "fierce competition" European nations face in many areas means there is a need for "smart innovations" to create and sustain market leadership. "We would not have that," he said, "without the brave men and women with entrepreneurial and risk-taking capabilities." Quoting Dennis Gabor, the Hungarian Nobel laureate and inventor of holography, he said, "we cannot predict the future, but we can invent it." The EIT community should embrace this ambition, he urged, and invent the future.

After these remarks the facilitators were dramatically interrupted by a group of student 'activists' streaming onto the stage carrying banners, blowing whistles, and waving rattles. It was quickly apparent that this was an entirely constructive contribution and the facilitators engaged the 'activists' in discussion, encouraging them to explain the slogans and statements they were carrying, such as 'Stop complaining, start innovating'… 'Entrepreneurial education for all'… 'Innovation is a lifestyle'… and, 'We'll make the change needed'. Some of the points raised were put to a panel on which Peter Olesen was joined by Tibor Navracsics, European Commissioner for Education, Culture, Youth and Sport, and Birgitte Andersen, CEO and Co-Creator of the Big Innovation Centre in London.

Tibor Navracsics pointed out that innovation is at the heart of European competitiveness. "When we talk about the skill of innovation it's a basic skill that should be included in the curriculum of schools," he said. However, it must go beyond schools to include a reward and support system for innovation that would encourage participation in start-up enterprises, providing a framework for future innovation. Birgitte Andersen agreed that there is a perception of a lack of public and private allocation for innovation, "especially if these banners are anything to go by." There are several reasons for this, yet there are plenty of opportunities in all economic sectors. "But somehow we're not scaling – not because we're lacking start-ups, but we're lacking 'scale-ups'." Three reasons can be offered for this situation. First, the financial eco-system hasn't evolved equally and there are different levels of investment in areas that are vital for innovative companies. In some instances, banks won't support them. "Maybe bigger companies can invest more in scale-ups?" Brigitte Andersen suggested. Secondly, we talk a lot in the EU about data protection, which is well and good, but we need to do more on data release, so companies can work – sensibly and legally – with data, instead of migrating it to China or California. Thirdly, we need more local enterprise partnerships to build innovation eco-systems.

For Peter Olesen, the challenge is to change mind-sets that put up obstacles to scaling up. "That's our mission," he proposed, "it's all about culture. We have to be inspired by, but not imitate, what happens in Silicon Valley and in China." Among other things, we need to promote collaboration across the Knowledge Triangle, and focus on education as a driving force, while also paying attention to decentralised structures, taking advantage of diversity, and promoting mobility. This doesn't happen overnight, so we need a long-term perspective, including a shift from a 'funding' mind-set to an 'investing' mind-set. Taking another cue from the 'activist' slogans, Tibor Navracsics affirmed that "EIT are not complaining, they are innovating. There's a gap between public investment and private sector methodologies that we have to bridge, and we must realise that public projects open up the opportunity for more private investment." By supporting young entrepreneurs on the one hand, and using KICs as meeting points and locations for collaborative activity on the other, we can link the business, higher education, and research communities. Andersen urged more ambitious aims. "Let's set some concrete goals, and say we want to scale up 200 companies by 2020. That's the way to make things happen – you have to put the ambition first and work towards it." Turning to the protestors for a response, co-facilitator Diana Madill put it to them that the panellists shared their ambitions. The demonstrators agreed that with the right support they can 'scale up', both as individual innovators and as start-up enterprises. But they also sounded a cautionary note, observing that the jobs of today won't exist in 50 years and we must prepare young people for the jobs and industries of tomorrow. Finally, they pointed out that the panellists' promises will be widely shared, and the pressure will be on them to make good on them.

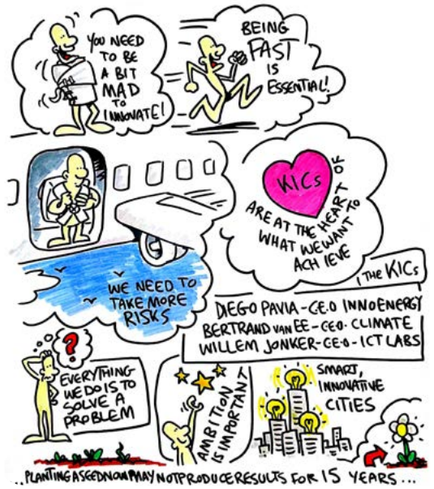
The panel welcomed Corinne Vigreux, co-founder and Consumer Business Managing Director of the satellite navigation company TomTom, to add her personal case study. Her company's in-car navigation set was the fastest-selling technology device ever when it was launched in 2004, racking up one million sales even quicker than the first mobile phones. Corinne Vigreux told how she had started out in Psion, a digital pioneer whose Psion Organiser device was used in 1990 to count the votes in the first free elections held in Hungary in 40 years. Today, she asserted, such a device would be from the USA or Asia. "We started TomTom with four people 25 years ago, and we now have 2,500 people. We're the only consumer electronics company to grow at that rate in Europe. We used to have Sinclair, Nokia, Ericsson; remember them? We need to get that innovative spirit back, and with you guys it's clearly possible." She made it clear that starting and building a business is not a 'romantic' prospect, it's extremely hard work. When TomTom introduced the first hand-held navigation device, having been primarily known for software and services, people said they were 'mad', and that it was 'obvious' that consumers would wait for navigation systems to be built in to new cars. "But 18 million units later we can say we were right, thank you very much! Now we're getting into 'autonomous driving', competing with the likes of Google, because we took the risk to invest in the technology." Lamenting the lack of a strong risk-taking culture in European businesses, Corinne Vigreux ended with a stark warning. "If we carry on like this European innovation won't be on the table, it will be on the menu." And addressing the 'activists' she added, "the future of Europe is in your hands – don't waste it."

Innovating with the EIT's Knowledge and Innovation Communities (KICs)

To bring the issues closer to home from the perspective of the EIT's three first-wave Knowledge and Innovation Communities, their CEOs were invited on to the stage: Diego Pavia of KIC InnoEnergy, Bertrand van Ee of Climate-KIC, and Willem Jonker of EIT Digital[1]. Pressed on the impact of their still relatively young communities, their contribution to boosting Europe's innovation capacity, and their results in terms of job creation, the CEOs responded by focusing on a mix of ambition and achievement. As Diego Pavia pointed out, impact is felt both short term and long term. 'Game changer' innovation will only be able to succeed over time, so we have to be patient. Bertrand van Ee commented on the ambitious deal made by European Council leaders in October 2014, known as 40/27/27.[2] "Setting clear goals will definitely help us." He stressed that the KICs' remit is about getting products to market more quickly. "We do that through the KIC infrastructure – we have the best universities with us, and we marry education with entrepreneurship." Asked how Europe might get ahead of Silicon Valley, Willem Jonker talked about the need to mobilise European efforts. "If you want to get ahead you have to run faster. Europe invented GSM, we were leading in mobile telephony and computing, but we became too confident." Referring to the calamitous decline of Nokia, he reiterated Peter Olesen's point that we should learn from the experience of Silicon Valley but not copy it.

Closing out this section of the discussion, Diego Pavia said that KICs are "places where people understand each other's motivations," and where together they can address challenges in a systemic manner. At which point, co-facilitator Martin Watson invited Ursula Redeker (EIT Health) and Jens Gutzmer (EIT Raw Materials), interim CEOs of the two second-wave KICs, to the stage. "Our remit is life, economy, healthcare," said Ursula Redeker. "It's a challenge in terms of affordability, and we feel we can have an impact on keeping healthcare affordable in Europe." For Jens Gutzmer, the starting point with raw materials is that "we're the background for all industries, the sector where it all starts." This has been ignored because of the impact typical raw material producers, such as extractive industries, have on the environment. "We have to get away from that because in Europe we're huge consumers of raw materials, and we have to contribute to the change we want to deliver."

After a short video exploring the work of the first-wave KICs (which is available to view here), we were joined by practitioners from each of the three: Rahul Bansal, Climate-KIC Education; Chahab Nastar, Chief Strategy Officer for EIT Digital; and Guillaume Chazalet, Business Development, KIC InnoEnergy. For Guillaume Chazalet, the key word in the Knowledge Triangle is collaboration, and it's all linked together by the research. "At first we did research ourselves but although we were clever we weren't that clever, so we brought in partners from other institutions to create value." Rahul Bansal described how, in Climate-KIC, they have turned the Knowledge Triangle into a pyramid by adding government as a fourth point. "We're working closely with top academic institutions, SMEs and multinationals, and government," he said. The three first-wave KIC CEOs focused on the importance of working with the points on the Knowledge Triangle in meaningful, pan-European projects – "making them sing from the same hymn sheet", as Bertrand van Ee put it – so that they can find ways of drawing on each other's skills. The Knowledge Triangle is a means to an end not an output, added Willem Jonker, while Diego Pavia saw no "rivalries" between the three points on the Triangle, noting that if you want to "conquer a new space" you have to work together.



This was followed by a second video exploring the EIT approach to entrepreneurial education (available here). According to Rahul Bansal, knowledge used to be Europe's competitive edge but is now a global commodity. Climate-KIC runs summer schools for Master's students to develop business experience, and take part in 'meaningful' internships. "Our students go

[1] EIT ICT Labs was renamed EIT Digital on 1 June 2015; see page 24.
[2] See http://ec.europa.eu/clima/policies/2030/index_en.htm

on to work in the UN, the World Bank, in Indian slums, in all kinds of places, and bring what they learn back to Europe," he said. From the perspective of the second-wave KICs, as yet without alumni networks to build their profile and impact, the picture is nevertheless very similar. Ursula Redeker spoke about how health care is an increasingly multi-disciplinary field, and the resulting cross-fertilisation helps to grow the entrepreneurial and competitive potential of the sector. Jens Gutzmer noted that, while not everyone can found another TomTom, there is the opportunity for everyone's particular talents to flourish. "We need to get out of the silo thinking that can prevent us from seeing the gaps where opportunity exists," he added. Culture is the key, Chahab Nastar noted, and entrepreneurial culture is about getting things done. "We need to bring people together in a pan-European effort. Co-location is an important part of the KICs' efforts. Virtual doesn't always work for this; you need face-to-face interactions." Instead of having offices across Europe and loosely managing what's going on, KICs have physical spaces where they bring together students, academics, entrepreneurs, researchers, and developers. "We believe in the cross-pollination that occurs," he said, "they come together and create big things." Networking and conversation resumed before delegates split into groups to attend three Parallel Sessions.

Parallel Session 1: Cross-KIC learning

Interim EIT Director Martin Kern joined Diego Pavia, Bertrand van Ee, and Jens Gutzmer to consider five topics related to the sharing of learning and good practice among KICs: Working across boundaries; Knowledge Triangle integration; developing entrepreneurial minds; role, function, and impact of co-location centres; and leadership to drive innovation.

Working across boundaries: The discussion identified many boundaries within and between KICs, some visible, such as geographical boundaries, others not. In order to increase impact, cooperation, and communication, KICs can develop three dimensions of activity: thematic linkages between KICs; putting Europe in the forefront of innovation; and finding specific applications across KICs because what works in one KIC may work in others.

Knowledge Triangle integration: People with a common goal and ambition, who come together to make it happen, are central to the Knowledge Triangle. The Knowledge Triangle entails activities in the field of business, research, and education. Businesses, Higher Education Institutes and Research and Technology Organisations cooperate in a meaningful pan-European way. Increasingly, governmental institutions are partners in the activities within the Knowledge Triangle. Knowledge Triangle Integration is not the output, but a means to an end – engagement and collaboration are facilitated and orchestrated to spur innovation, entrepreneurship and entrepreneurial education.

Developing entrepreneurial minds: Inviting people from business to come to schools and talk about great ideas and great minds could trigger more interest among young people in innovation and entrepreneurship. Ten-year-olds may be too old, we should start even earlier and get across the message that trying is good, it's part of learning, and not to focus on failing.

Co-location centres: A co-location centre (CLC) is an enabler, a place for facilitating cooperation and identifying opportunities for the implementation of KIC activities. If co-location involves several partners working on a common project, at the very least it provides a place for regular meetings. But it also adds value in terms of sharing ideas and nurturing the culture of KICs in a particular area.

Leadership to drive innovation: The focus should not just be on the *product* of innovation but also the *culture* of innovation, and clear leadership is the most important driver of culture.

Parallel Session 2: Learning from a unique approach

Jeroen van der Veer was joined by Willem Jonker, Ursula Redeker, and Xavier Prats Monné, Director General, European Commission, Directorate General Education and Culture, to give external stakeholders the opportunity to discuss issues with EIT and KIC representatives. A wide-ranging conversation covered ways for existing businesses to get involved, how to grow start-ups, whether there should be improvements to the KIC infrastructure, and how KICs can influence policy. In exploring the prospects for a small new company to get involved and become bigger in the process, the panel discussed how SMEs' role could evolve from being an external 'object' into being the subject of the process – in other words, how they become central to a set of Knowledge Triangle relationships rather than something that sits outside it.

From the KICs' perspective the key lies in setting a vision, setting up business accelerator functions, and assessing start-ups for growth potential. Naturally, start-ups need capital, customers, talent, and "technological renewal", which involves bringing forward new products that meet market demands. However, the KIC is not there to harvest small opportunities, but to spot and bring through the start-up ideas that have the potential to become scale-ups. European policy makers, entrepreneurs, and educators must also keep a close watch on developments in emerging innovation centres in Singapore, Taiwan, India, and China. What is common to those entrepreneurial communities is that the population is well educated, alumni networks are active, and the interaction that takes place can lead to potentially valuable new product or service ideas.

In a discussion about whether there should be any adjustment to the administrative, financial, or legal establishment of KICs, the panel acknowledged that KICs should be held accountable, but not made to be accountants. However, external stakeholders were advised not to be shocked by the complexity of procedures; given the level of funding involved rigorous governance is required to make the complex networks effective and use budget efficiently. On the question of how the KICs can influence policy, the panel considered the interaction between policy and KIC activities.

There is clearly a need to spread the model of the KICs, and the EIT as the 'umbrella' organisation, into policy-making. Some stakeholders wanted to know what the back-up plan is in the event of budget cuts. Here Jeroen van der Veer, in his capacity as a member of the EIT Governing Board, was clear that 'Plan B' is a strong portfolio focus and a message to partners in terms of what can be done. The discussion ended with a rallying call for stakeholders to get involved. Like the start-ups, the KICs themselves can be scale-ups.

Parallel Session 3: EIT Alumni Connect – the EIT alumni community

EIT Governing Board member Elpida Keravnou-Papailiou welcomed Claudio Geyken (Community Manager, KIC InnoEnergy), Germán Leiva (President, EIT Digital Alumni Foundation Board), Estefania Tapias (President, Climate-KIC Alumni Association), and Nadja Dokter (EIT Policy Officer) to provide insights and suggestions in response to a set of detailed questions from the floor. Estefania Tapias began by introducing the Climate KIC alumni association, an interdisciplinary community of professionals working to improve the situation in society regarding climate change. Activities include the exchange of knowledge and skills within the community and beyond. Claudio Geyken noted a missing link in communication between KICs regarding the best way to integrate entrepreneurs, students, and other professionals from the outset of the development of a consortium. Representatives in different regions can organise events for students, alumni, entrepreneurs, and people interested in the activities, with the message that they are encouraged to propose ideas. Each event should be open to other KICs as part of a systematic approach to meeting and learning from each other.

Germán Leiva described how the EIT Digital Alumni Foundation is planning to develop a career tracking solution, with a promotional campaign featuring videos of students who have already graduated. Some of the alumni have created start-ups and are looking for talent to hire, while others are looking for internships or jobs, so there's an opportunity to put the two together. To do this, EIT Digital alumni could support the matchmaking between available and wanted positions, open to all KICs and to people from outside the EIT community. Nadja Dokter took the opportunity to reiterate the EIT's vision of an over-arching, self-sustaining EIT alumni community. The EIT will help with initial steps including defining legal structures and governance arrangements and organising communication channels and events. At the EIT level there working groups meet regularly with the presidents of the KIC alumni communities, alongside contacts at the individual level. There are also two internships for alumni to work in the EIT HQ for five months and liaise with alumni to provide support. The role of the EIT is to guide the process, but it is up to alumni to fill this community with activities and with life.

For Elpida Keravnou-Papailiou, the integration of alumni activities with the EIT mission is of strategic significance. Delivering more of this activity will create visibility for the alumni and gain a critical mass that will contribute to the further development of the EIT. The EIT's unique proposition lies in its commitment to entrepreneurial attitudes and the associated education to encourage innovation and progress. While the EIT can help, it is up to the alumni to put this into practice.

Good practices and new questions

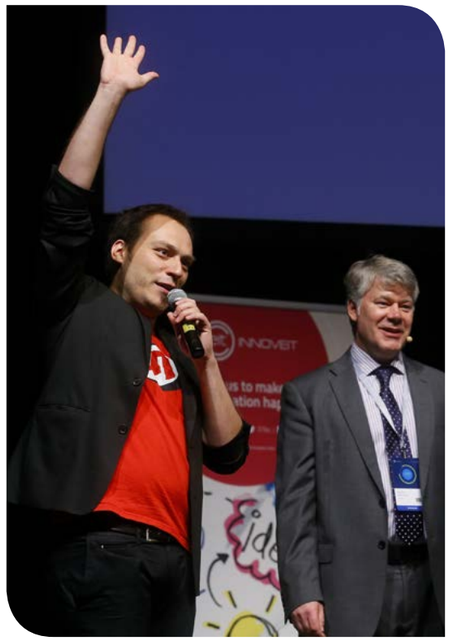
After another quick coffee break participants reconvened in plenary to review the three parallel sessions described above. Each session put forward a rapporteur to summarise what they had heard. They were joined on stage by Martin Kern, Birgitte Andersen and Corinne Vigreux, who offered their reactions to the reports. Noting how wide-ranging the comments in Parallel Session 1 were, Birgitte Andersen suggested that innovation must be considered in the broadest sense. "It's way beyond technology," she said, "innovation occurs everywhere, at every stage of a business, from single customer interactions through to global macro-level issues." Corinne Vigreux stressed the level of confidence that is required to deal with failure and "go beyond your comfort zone. You need to push yourself as an entrepreneur and know how to be resilient." Rounding off the responses Martin

Kern noted a "healthy tension" between cross-KIC collaboration and the fact that they compete too. The three first-wave KICs have the potential to collaborate in several areas, and opportunities for collaboration will increase as the number of KICs grows. The ambition is that KICs become financially independent in the medium to long term, establish good governance structures, and identify and share best practices.

After the report on Parallel Session 2, Corinne Vigreux emphasised that the role of higher education is critical, but should be embedded in an education-industry eco-system that provides a strong technical and commercial enabling environment. The founders of TomTom met at university, she added, and developed their business commercially and technologically through links with universities and the business world alike. Why aren't we getting Silicon Valley in Europe, Birgitte Andersen wanted to know. While we must never compromise on excellence we need much more than that; broader, more flexible career paths, different financial structures, technology regulation issues, and so on. We also need to look at the top of the 'knowledge pyramid' (i.e. government) to find ways of enhancing knowledge transfer. As Martin Kern pointed out, the EIT addresses some of the big global challenges, from climate change to health and active aging, from the digital revolution to raw materials, so it is well positioned to recognise, develop, and implement synergies using transdisciplinary approaches.

In response to the report of the third Parallel Session Martin Kern was quick to stress that "alumni are extremely important for us." The ultimate measure of success, he suggested, is "whether we have changed the mind-set, changed the lives, of students and alumni." Alumni need to "stick together", said Birgitte Andersen, to make a success of the network-building which is so characteristic of university alumni groups, as well as business alumni. She cited the example of Indian expats in Silicon Valley who return to India to build new businesses and who maintain contact with each other. Corinne Vigreux said TomTom is always on the lookout for talent and entrepreneurial spirit, either among people running their own businesses or working within other organisations. The point is, she said, "we recruit for cultural fit."

Despite the proximity of an enticing networking dinner with magical entertainment, there was no shortage of questions from the floor at this point. Delegates wanted to know more about how the EIT value proposition to SMEs and large companies differentiates it from Horizon 2020; and whether cross-border CLCs actually work. Martin Kern explained that the EIT difference rests on its long-term structural reform mission. "Working over a period of seven to fifteen years means you can really influence university curricula, you can really engage a major corporation strategically." Meanwhile, all co-location centres are by definition international because they're part of a KIC. "There will be more on Day Three about the next KIC call," he promised. Finally, a complex and important question emerged proposing complementarity between the EIT budget, which may be facing cuts, and European Commission President Jean-Claude Juncker's proposed investment plan for structural reform and fiscal consolidation. "There's no competition," Martin Kern asserted, "the Juncker plan can be very much complementary, we're exploring this right now. We could, for example, create a pipeline of projects and, in line with the Juncker plan approach, raise more private sector funding. We will be working closely with partners to develop these ideas."



As the formal part of Day One came to a close young Hungarian magician SOMA, two-time world champion of magic, appeared on stage to introduce his act. He pointed out that innovation is central to magic because "you have to keep thinking up new ideas, new tricks. And because networking is such a key part of this event, I'll be up close and personal doing magic for you as you network over dinner."

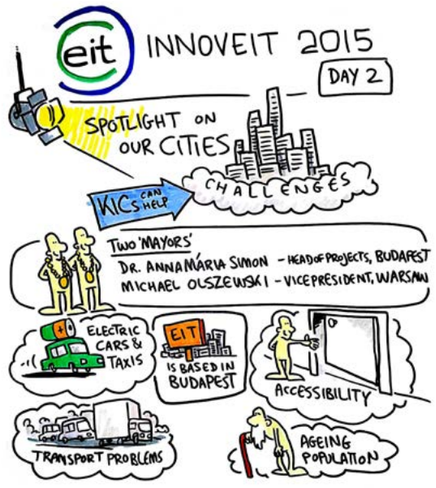
Day Two: Show & Involve

EIT innovations in practice – spotlight on our cities

Day two began with Martin Kern taking questions from lead facilitator Marc Gramberger, who asked, "why spotlight on our cities?"

"That's an easy choice in a city as lovely as Budapest," Martin Kern replied, "one which has so many links with innovators like Nikola Tesla and Janos Neumann, and more recently EIT Governing Board member and software pioneer Gabor Bojar." The full answer to these questions has two dimensions, he explained. "The first is the societal importance of sustainable urban development and the role our co-locations play in the regional setting. The world is rapidly urbanising. By 2025, nearly two-thirds of the world's population will live in urban areas, so sustainable urban development is a global issue. Secondly, our KICs deal with societal challenges such as housing, education, energy, health, food security, and so on; urban environments face all these challenges every day. We therefore chose cities as a lens to illustrate EIT/KIC achievements, although the choice of cities does not imply that cities is a new theme for EIT or a subject cross-cutting the KICs imposed by the EIT. Our co-locations are situated in urban areas – Berlin, London, the Randstad, and Paris, for example. Co-locations are engines empowering the local economy and at the same time solving local problems. We want to demonstrate and share the experience gained so far."

This session was designed to show some of the innovations and plans coming out of the KICs in the area of urban development. To emphasise the link between the EIT and the theme of cities, Martin Kern was joined by a panel of experts including Annamaria Simon, Head of the Project Management Department for the City of Budapest, who raised a number of subjects that are high on the city's agenda and which are relevant to the EIT, including public transport, security in relation to flooding, and the lack of energy efficient buildings. "We're looking at bio-fuel and electric cars and taxis," said Annamaria Simon, "along with a suitable charging system, to help us tackle transport in terms of accessibility and sustainability.



We're also looking at river defence initiatives in the wake of the record highs in the level of the Danube a couple of years ago." Inevitably, budget constraints are an ever-present, and while acknowledging that "innovation is not the cheapest solution," she was clear that short-term cost-efficiency must be weighed against long-term impact.

Michael Olszewski, Vice President of the City of Warsaw, also focused on efforts to improve the accessibility of public transport and therefore of the city, and some of the challenges arising from an aging population. "Unemployment is an issue for us in some parts of the city," he stated, "where supporting emerging labour markets is very important. Also, trying to solve the problem of pollution, which links back to the transport issue." He described a project to develop low-emission technologies in subway stations by using less energy in rolling stock. "But we're also focused on using ICT, particularly in ways that can improve the accessibility of the city for disabled people." He went on to describe how the city is now using industry contacts and building networks based on the KIC model, including setting up their own co-location centre. "This helped us to develop a network, cooperating for example with a private sector telecommunications company and a local university," he said. Moreover, he was candid about the financial problems the city faces due to the rising cost of social care services. "Certain technologies can help us optimise these services, so all existing KICs are welcome," he said. "We have EUR10m allocated, and we're developing further ideas in this area. The issue of budget cuts is the same everywhere, but when we prove the impact of innovation projects people are convinced."

Martin Powell, Global Head of Urban Development, Siemens, and Wolfgang Teubner, Regional Director Europe, Local Governments for Sustainability, ICLEI, each then had five minutes each to make a pitch about the work of their respective organisations. Martin Powell challenged the audience to imagine major cities in the year 2050, painting a picture of the congestion caused by endless traffic, despite the advance of robotics and driverless cars, noting that using computer modelling makes it possible to track and project megatrends. For instance, the Yokohama Research Institute's model for surface air temperature to the year 2100 shows that, if we don't reduce carbon emissions, temperatures will increase to disastrous levels across the world. "What will our legacy to our grandchildren be," he asked, "and what will they blame us for?" The answers lie in our ability to embed resilience in urban design. For instance, the Crystal, owned and operated by Siemens, is the first building in London to be awarded the two highest sustainable building accolades – the LEED Platinum designation and the BREEAM Outstanding award. The all-electric building uses no fossil fuels of any kind on site. "Apart from the chef's crème brûlée torch," he conceded, "and I'm going to get rid of that!" Bold solutions are required, for example installing a driverless train system in London would increase capacity by 26%, reduce CO_2 by 20%, and create 25,000 new jobs. "Innovation can have that level of impact," he said, concluding his pitch.

"A number of challenges have already been outlined," Wolfgang Teubner asserted, "such as transport, energy, aging, flooding; and ultimately, it's global boundaries that are changing." Yet in trying to avoid catastrophic climate impacts we limit ourselves to targets that we know we're going to miss. "The question is, how do we organise the level of wealth, services, and opportunities for our populations within these boundaries?" he asked. It's not just a question of efficiency but also requires societal transformation that goes beyond technological advancement, which must be combined with economic and cultural change. Therefore when it comes to innovation for cities, fundamentally different systems are involved than apply in everyday business-to-business innovation. The supply side currently tends to drive innovation in cities, and there are advantages to adopting a demand-driven model based on greater interaction with urban populations. In this context, system innovation rather than product innovation is the way forward. "We focus too much on efficiency," he commented, "linked to the demands of growth. We need to introduce efficiency models to make real gains. Yesterday the question was 'how does it create jobs?' But we have to look at economic value and its distribution and ensure access of all citizens to opportunities," he said. Solutions will emerge from promoting the bottom-up, civic-oriented start-ups and innovations that combine scientific and commercial innovation, which requires working with social entrepreneurs. He ended with a plea to the audience; "Policy and regulation rules the market, so which innovations surface depends on how the market develops for them. The challenge for all of you is to point innovation in the right direction."

With the discussion now open to the floor, Martin Powell was challenged on where he saw the 25,000 new jobs he mentioned coming from. "The new roles would involve mostly technical jobs," he replied, "which would also diversify the job market. Building a new tube line would be the biggest job creator, the second being retrofitting buildings. There are also a lot of smaller job opportunities in dealing with reducing emissions and the carbon footprint." Picking up on broader aspects of the session a

delegate wanted to know the vision for societal transformation. Wolfgang Teubner responded that there are a number of issues. "One is the idea of sharing, for instance car-pooling, or different ways of producing and using energy, transforming energy systems into decentralised ones which are more open and able to digest renewable energy." Moreover, we should look at whether some products can be made locally and regionally, but without this being an "anti-globalisation" scheme. Martin Kern added that he saw opportunities for KICs in all the challenges and solutions. "The networks behind KICs and their partners can definitely work on them. I'd also like to add one issue in the demographic dimension; migration across borders is important, but less attention has been paid to migration from rural to urban settings within countries." In summary the panel agreed that solutions should be localised to cities' specific needs, and although budgets are limited, technological and social innovation will help.

EIT Innovations in practice – virtual city tour

The next phase of the spotlight on cities involved an innovative and highly active feature. Delegates formed groups and were joined by 'tour guides' to take them on visits to a 'virtual city', a collection of 29 EIT-KIC innovations. Each innovation was presented at a stand-up table on one of the two upper floors of the venue, accompanied by an explanatory talk and leaflet. For a quick video taster of the experience, see https://vine.co/v/eZTxMU9h27j

The KICs were all well represented among the virtual cities, including the two second-wave KICs. EIT Raw Materials presented Smart Mining Solutions, with its vision to accelerate innovation in tools, equipment, processes, and services to enable effectively controlled, efficient, and safe mining operations; while EIT Health shared information about its planned Accessible Healthcare in Urban Areas innovation programme to help caregivers optimise workload and patient flow in institutions. The following gives a flavour of the diversity and ingenuity of what was on offer from the remaining KIC networks.

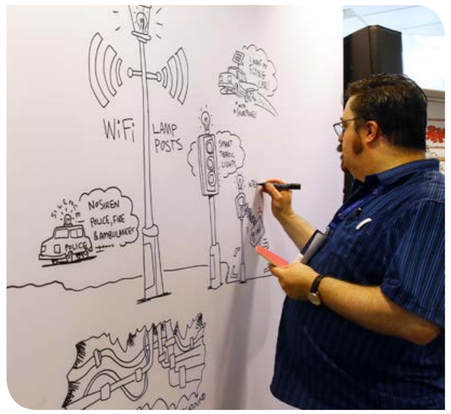
From KIC InnoEnergy comes Esc, the energy supply cooperative developing energy-autarkic (self-sufficient) environmentally-friendly residential quarters. A great example of partnership working that connects all points of the Knowledge Triangle, Esc provides intelligent power demand management and is up and running in two pilot city quarters in Germany. Then there was Solabcool, a system using waste or ecologically produced heat to power highly efficient cooling systems. As a start-up company Solabcool has created seven new jobs within its first year of operating, and is close to achieving commercialisation of the initial product range. EIT Digital's Intelligent Outdoor Lighting service linked directly to the cities theme. Building on the brand advantage lighting can offer a city, the project connects embedded sensors in the urban environment to create lighting effects and monitoring capability that can support citizens' needs and improve environmental conditions. And staying with the urban theme, the cooperation of a Swedish institute of technology, a German research centre, and a Spanish company, enabled by EIT Digital, has led to the development of 3D visual search technology that is available on a smartphone and makes accessing heritage or tourism information as easy as taking a selfie.

[3] http://www.chathamhouse.org/about/chatham-house-rule

Climate-KIC projects included renewable jet fuel supply chain and flight operations and open access catastrophe modelling. From the perspective of urban environment innovation, the Carbocount City project offers an emissions measurement system that enables decision makers to monitor the effectiveness of mitigation measures for greenhouse gas emissions. Last and by no means least CloudCities is a network-based project which requires zero deployment or usage-based costs by pooling smart 3D city visualisations from a range of sources, giving business and government clients flexible assessment of urban climate and densification scenarios.

Graffiti

Alongside lunch and networking two graphic artists were present with pens, cards, and a blank canvas. Delegates were invited to note down, or draw their ideas for an innovation needed by cities onto a card, and hand it to the artists. The ideas were then sketched onto the canvas. Meanwhile, two further sessions got underway in separate rooms under the Chatham House Rule[3]. An Investors Roundtable and a Knowledge Triangle Integration Roundtable met to discuss, respectively, trends and insights in innovation-related investment; and good practices in integrating research, business, and higher education.



Investors roundtable

Scene-setting presentation: Having started in 2010, there are now five KICs, expanding in the near future to seven. So far they have incubated about 100 start-ups. Secondly, the political, regulatory, and market context must take into account 28 member states, 23 official languages, centralised and decentralised political systems, and on-going financial crisis. But crisis is good for entrepreneurship, because it creates opportunity. Over the last ten years, on average, deal flow has been stable and funding has increased slightly, so it could be said that the context is improving. However, the gap between Europe and other regions, mainly the US, is increasing faster. Thirdly, the EIT/KICs' relations with the investor community are largely a question of balancing cooperation with the competitiveness that is characteristic of the investment world. And finally, there are challenges. KICs are highly integrated across the Knowledge Triangle as well as geographically, being pan-European, but building an effective eco-system is vital, hence the interest in the Silicon Valley model. It takes appropriate infrastructure, investors, entrepreneurs, employees, and so on, to build an eco-system. Therefore consolidation might encourage the investment to turn start-ups into scale-ups, as the conference has been hearing. Other issues include risk and opportunity identification, the boundaries and roles of private and public investors, and financial sustainability. With these elements in place it is possible to look at scalability and anticipate impact in the form of job creation, economic value, and growth. Three investor statements preceded a general discussion.

First statement: The Innovfin fund is a major programme providing funding to innovative companies. The Commission has agreed to share part of the risk with the European Investment Bank so the latter can invest in smaller, riskier programmes. Innovfin offers a mix of SME and venture capital as well as Innovfin Advisory, a new service offering advice to particularly risky or complex projects. For example, a 2014 loan to Imperial Innovation allowed them to commercialise intellectual property from UK universities.

Second statement: Venture capital is not a panacea. Many of the companies that emerge from the EIT system will not be venture supportable, and that's fine. VC funds have finite lifetimes, and the average VC lifetime of 12 years is short in the world of innovation. So VC cannot be a solution for every company. Also, VC-land is relatively complicated; to provide a comprehensive picture would require differentiating between different sectors and stages. The statistics shared earlier are true but they are meaningless. While there's money around, it's all going into internet and B2C and practically nothing in the hardware area. It's no problem getting EUR10m for a dog-food delivery business in Berlin, but if you have a big machine or process to reduce waste, if you need a factory to be built and you need more than EUR10m, it's a real problem. VCs like to see the 'sausage-making' happen, so they can influence what the business is planning to do, and what value-added it can provide. KICs have very substantial platforms and infrastructure, but interaction with VCs seems erratic. Maybe that's to avoid privileged relationships, or maybe it just hasn't been thought through. But on the whole VCs are open to give, to help, and to share.

Third statement: Ignoring some of the points about capital-intensive industries there are two fundamental problems – no proven model for solving early stage management issues; and, vis-à-vis KIC support, there has to be some way of sharing some of the risk. There's a quality assurance opportunity, to filter and improve the quality of the inflow, because if something is never going to be VC-able it should be weeded out. Cross-sector and cross-geography facilitation is also a potential opportunity for EIT. Assuring quality with the filtering and funnelling approach appears to be working, but there needs to be preparation of targets for the next round, the second phase of expertise. The European Investment Fund is working on a possible solution, which is a co-investment fund with two phases.

Discussion ranged across general, specialist, and technical aspects of investment, and the tables contributed points as well as questions, presented in abbreviated form here to ensure individual contributors are not identified.

- What's needed is more investment firepower and more co-investment capacity for pan-European companies. We have national instruments, but they can't help start-ups to grow across Europe.
- EIT is best placed to provide a platform, especially in early stage management.
- What size of fund are you targeting – EUR250m? Also, what kind of fund? Public? Co-investment? Funding levels? Type of investment model? The business model that goes with it necessitates being an investment management company, meaning appropriate registration and regulation. Will Financial Authorities regulate KICs? That could lead to certain constraints, whereas KICs have been quite flexible and free.
- Are we talking about one venture fund per KIC? Or an EIT umbrella fund? It seems to be the former, but it's not smart to duplicate a management structure for every KIC. Better to take advantage of what already exists, to have a set of 5-10 accredited investors and the fund would then credit the KIC.
- What kind of management do you need to run such an investment 'shop'? How would you find people with the expertise to run this?

- What about smaller start-ups that are sustainable, providing 30 or 40 jobs, but can't access equity to grow? Could this fund be used to trigger further public funding?
- Why not consider having a signal to the market about promising new technology?
- We're looking at EUR10-20bn for the creation of sustainable investment funds of the type under discussion here. The key is enabling mutually beneficial relationships between business, administrative powers, researchers, and the public. It's also important to be aware of the amount of money available to the 270 or so regions across the EU, which have the chance to invest in financial instruments.
- A lot of investing connected with local funds comes with strings attached. Avoid any strings that are not market standard, so understand what those standards are.
- EIT should not contribute in its own right to this relationship because of the sector-based nature of the KICs. Those sectors have to build the excellence that will convince investors.
- So what the EIT can do, anecdotally, is collect best practice that has been established in KICs and spread it around. The VC community is happy to get involved because it's in their interests to help, so develop clear 'terms of engagement'.

Summing up statement 1: There are different types of investors and the VC community is not always the most appropriate solution. In this 'golden age' of entrepreneurship there are other instruments, depending on stage of investment required and sector or industry. Comparing the EU with the US, the majority of European investment goes to later stage, whereas in the US it's B-round. If you believe the statistics, then EIT/KICs could set up a fund at an indicative level of EUR100m, with co-investment at pan-European level to avoid fragmentation.

Summing up statement 2: One of the specific advantages in the KIC set-up is the direct link to business. For B2B you have the industrial stakeholders around the table. They're not just saying 'great, give us some grant money', they are more engaged than that, more forward-looking, more active in the creation process. This is unique in Europe, but perhaps not in the US because of the 'people transfer' between the various players. Use this advantage to create customers for your start-ups, because customers mean revenue. It's hard for VCs to set this up; it's a unique advantage of the EIT and its role vis-à-vis the KICs.

Knowledge Triangle Integration roundtable

The purpose of this session was to hear from participants who inhabit the EIT eco-system, gather views and examples of good practice, and get concrete ideas that can be put into practice. Referring to experiments to construct artificial reefs to enhance diversity and productivity in marine eco-systems, the opening presenter suggested this was analogous to what the EIT does in creating European innovation eco-systems with many interfaces – between entrepreneurs, students, academics, and between cultures, thereby fostering diversity and spurring innovation and entrepreneurship. The KICs have features in common with other models such as innovation clusters, the 'triple helix', and responsible partnering. But what is unique is the governance model and the emphasis put on entrepreneurship education, developed in close collaboration with all actors in the Knowledge Triangle.

Four participant statements were heard before the room took part in general discussion.

First statement: Responsible partnering is a way of providing a set of guidelines that businesses, universities, and research and technology organisations can use to help them take partnering seriously, ensuring a win-win outcome. Where there is industrial use of publicly-funded research that should be optimised in the industrial uptake on the market. Collaboration isn't just the preserve of people doing research, and it's important to respond to the ethical challenges. The eco-system that we work in is more than researchers and academics, it's about all the ways in which innovation gets to the market and is useful and ethical.

Second statement: The EIT had a clear mandate at the start, to unleash Europe's innovative potential, overcome the mentality of working in silos, and go about innovation in a different way. A key aspect of that is activating the flow in the so-called Knowledge Triangle. It's all a bold experiment, a living laboratory, with a view to change innovation and strengthen European potential. It's easy to say 'we bring people together' but how do you do it in practice? How do you create an adequate environment, including for a risk-taking culture, which seems so often to be absent from Europe? The mission of the EIT is to act as a spearhead for innovation policy in Europe. It was emphasised that we need to align instruments and initiatives, exchange experiences, learnings and good practices within EU Institutions, among Member States and multiplier organisations to create new jobs and enhance the quality of life in Europe efficiently and effectively. The EIT can take the initiative to incorporate such activities as a new dimension of Knowledge Triangle Integration.

Third statement: The regional dimension is very important, for five specific reasons: First, regional innovation eco-systems put much more emphasis on usage innovation, shifting towards multi-disciplinary teams. Second, regions support systemic innovation, i.e.

transformational innovation involving many partners, and providing a wider perspective on changing behaviour, attitudes, and culture. Third, players in a region can position themselves to create international value chains. Fourth, promoting smart specialisation, which is defined as building on the past but breaking with the past. And fifth, regions enable synergies between research and innovation programmes and structural funds. The regions and KICs are natural allies in building networks.

Fourth statement: The synergy between COST (European Cooperation in Science and Technology) and the EIT is vital, though they don't have the same remit. They do seem to have better leverage and use of national funds and people. During the last few years COST has leveraged billions through the Seventh Framework Programme. COST carried out a study last year to see what impact their network creates with little money. The Marie Curie programme has been vital, and there have been projects making a difference in other areas too.

Issues that emerged from the discussion included how do we deliver the impacts that Europe needs; and does the Knowledge Triangle cross boundaries? The respondents' views showed considerable consensus, but also some divergence. On delivering impacts, it takes great flexibility in the curriculum and the business model, and changes are needed so that innovation is the starting point, not accounting and cost control. Regions are important for embedding what KICs are doing in society, within Europe and outside it. The cross-border setting enables access to a larger pool of like-minded people with a broad range of technical, educational and commercial competences and faster scaling-up. It would be good to look at the broader Triangle – the 'pyramid' alluded to previously – where knowledge, society, and policy makers work better together and KICs play a stronger role. When KICs start, it takes time to create an eco-system and make it work, but these initial communities need to open up after a while to interact with society, with policy makers, to do more to ensure that we address issues at scale.

EIT Awards 2015 – meet the nominees

An extraordinary array of talent and tenacity was the next item on the agenda, as the nominees for the EIT Venture Award, EIT CHANGE Award, and EIT Innovators Award got the chance to face the conference in plenary and present their achievements. EIT Governing Board chair Peter Olesen introduced the award categories, including the newly created Innovators Award with its focus on both the project and the teams behind the nominated innovations. The trick, he said, is "combining entrepreneurial spirit with addressing societal challenges." How did the nominated innovators go about getting the idea, putting the team together, linking the corners of the Knowledge Triangle, and – crucially – creating a convincing business model?

Details of all the nominees can be found in the brochure *EIT Awards 2015 Nominees* (available here).

After a break the day moved into its final section, with further parallel sessions; one to explore options for stakeholders from various backgrounds to get involved with the KICs, another focused on education and its many touchpoints with EIT concerns, and the third a self-organised match-making session for EIT Connect participants to meet and consider possibilities for working together.

How to get involved with KICs

Co-facilitators Marc Gramberger and Diana Madill set out the agenda for this highly interactive session where conversations on stage, and between the stage and the floor, set out to find opportunities and challenges facing those wishing to get involved, or increase their involvement, with the EIT KICs and their respective networks. The contributions are reported here in brief.

- One speaker was a regional representative from Budapest, not yet involved with KICs. Her interest was very much in EIT Digital and she had already made contacts at this event, which she was keen to follow up in due course.
- A delegate from a Polish institute of technology described how his consortium of universities and research centres intends to connect with regional development schemes through smart specialisations.
- A self-described 'digital storyteller' recommended including a writer-in-residence in each of the KICs, because although the KICs are good at explaining *what* they do, they are less successful at explaining *why* they are important.
- A graduate of an EIT-labelled course expressed his appreciation for what EIT's support had helped him to achieve in joining a company where he has become CFO within five years. However, although the company has an interest itself in becoming involved with KICs, they are unsure about how to do it.

A short response from the stage featured Martin Kern and Richard Tuffs, Director, European Regions Research and Innovation Network (ERRIN). Martin Kern began by restating EIT's strong commitment to disseminating results, which is in part what this conference is about. There are KIC-specific rules for partners to enter and exit, and the KICs themselves have considerable autonomy in determining the details. Therefore he advocated direct contact with the KICs to see where concrete collaboration may be possible. On the question of regions, Richard Tuffs sees them as a good route to getting involved with KICs. An example of that involvement is the way Climate-KIC is directly connected with 11 regions. The other major part is the idea of smart specialisation, and KICs can help set up policies and strategies, as well as being a player in implementation.

Opening up the conversation to include representatives of the KICs themselves, Bertrand van Ee, Jens Gutzmer, and Ursula Redeker, along with Rafal Mrowka, Director of KIC InnoEnergy Poland Plus, and Fabio Pianesi, Research Director of EIT Digital, all joined the stage. They were asked to comment on what KICs look for in potential partners and participants; and how they bring potential partners in. For Bertrand van Ee, the first thing that partners must have is a passion for climate action. "We like to see what you're already doing yourself," he said, "and find out what you know

about innovation and being part of a value chain that focuses on innovation." Ursula Redeker talked about the structure of EIT Health, which in addition to the co-location centres already on the map works with six InnoStars regions, including one in Hungary. From the floor, a delegate working in one of the InnoStars projects added comments about how trust-building is important, supported by lots of communication and understanding of the two sides of the coin – excellence on one side, talent and new ideas on the other.

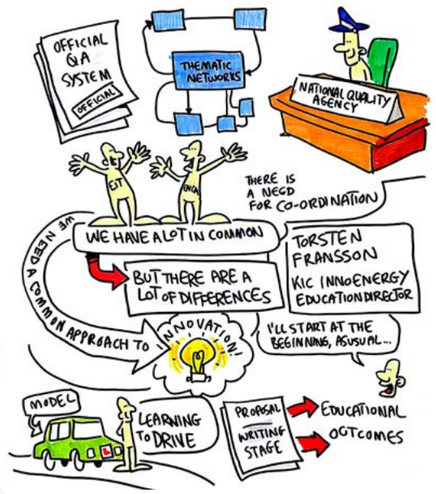
Richard Tuffs added a seemingly small but vital detail, to do with the importance of knowing precisely who to contact within the complex world of KICs and their networks. This is also true on the side of regional networks. Martin Kern expressed his satisfaction at the openness of the KICs, and the fact that they have the right criteria in place for building new parts of their networks. The pan-European dimension is crucial and must accommodate specific regions in the appropriate ways. Richard Tuffs then provided some insight into how the ERRIN/Climate-KIC deal works, explaining that there were a lot of regions interested in joining Climate-KIC. The Valencia region has set up a 'fringe' buddy scheme with a German region using their own funds in a sort of copy of a KIC, working on climate issues. So the model itself has to some extent become the product. Fabio Pianesi spoke about several instruments with which EIT Digital works to involve external organisations, such as the Idea Challenge competition. Winners do attract some funding, but the real opportunity is to get integrated with the KIC network, leading to access to markets and to further funding. Jens Gutzmer noted that EIT Raw Materials is already working with big consortia. With large numbers of partners having already signed up, he said, "we're closed until the end of next year for formal partners, but 'task partners' can get involved and influence the direction of the new KIC." He urged interested parties to get in touch via head office or through the co-location centres and suggested that their managers are probably the best first point of contact.

While the EIT carefully watches KIC outreach and openness, and the picture is currently very diverse, the EIT doesn't want to get involved in partner selection, said Martin Kern. The objective, he added, is to look at the indicators for research excellence and support regions that are behind the curve. Widening into new regions is something ERRIN is very much in favour of, according to Richard Tuffs. "The regional innovation gap is widening, and where the KICs are linked in, for example through co-location centres, there's a lot of opportunity to deepen connections." However, there need to be clear distinctions between initiatives like EIT Health and other health and active aging initiatives. The ultimate goal for KIC InnoEnergy Poland is to support innovative business ideas in the energy sector, said Rafal Mrowka. "You can easily reach us because we've established more than 20 representative institutions all across Europe. Contact us and get the information on how to prepare your case. The mechanism is working, with big thanks to the regional development centre in Hungary for their involvement." A delegate from a regional environmental centre working in central and eastern Europe described having worked on a two-year project with KIC InnoEnergy. "We assisted with recruiting students and entrepreneurs to the KIC InnoEnergy programmes. Only five out of 300 have received KIC funding, which is a bit disappointing. Is the problem capacity building, language skills, business planning, application completion? It can't be the lack of ideas, or they wouldn't be on the scheme in the first place."

From ERRIN's perspective Richard Tuffs noted that capacity building is an issue that needs to be looked at. "What we're all looking at is regional competitiveness. Most regions have an office in Brussels, a good place to go for some advice which can be very helpful for an SME who, while they are not looking to get involved in a Horizon 2020 project, still may have potential that could be realised elsewhere. What are your success chances? Climate-KIC is quite full… EIT Raw Materials, as we've just heard, is full. Making the early contacts can still provide the access at a later date." Acknowledging that there are difficulties to overcome, Martin Kern still described the high number of SMEs coming in as very positive. "The 'jungle' of all these initiatives can be hard to navigate," he conceded. "We're looking closely at others where there is synergy or complementarity, but it's a hugely complex area. We will do our best to provide guidance."

EIT education roundtable

Like the investors roundtable earlier, the education roundtable set out, under the Chatham House Rule, to explore a set of specific questions. Facilitator Martin Watson introduced the process of the roundtables and guiding questions, the presenters, and the rapporteur. A scene-setting statement and three contributors' statements preceded the general discussion.



Scene-setting statement: The EIT label is attached to innovation-related courses at MA/MSc and PhD level, and has the aim of becoming a recognised brand that fosters entrepreneurship. To achieve this, quality is of the essence. The label needs to meet the Bologna requirements for the European Higher Education Area and at the same time satisfy the EIT's own quality criteria. Online education is a strategic cross-KIC initiative and the EIT needs to continuously expand content and develop new pathways for digital learners. The participation of key universities and businesses is important and the joint programmes of the EIT have, as a matter of course, a strong business component. Students emphasise that the existence of this network is a key factor for them getting involved with KICs.

First statement: There are links between the official bodies assuring standards in Europe, but there are different approaches. These bodies focus on programmes following the same approach as the EIT, with thematic networks, for example in engineering. National systems and global challenges have their own characteristics, but have a common language and standards. Transversal skills like entrepreneurship are needed in any discipline,

and at a recent workshop on this topic ways of measuring innovation and entrepreneurship were discussed. All agencies in the field are concerned about this. First, there are different networks focusing on different topics, so methodologies could be shared. Second, there is a risk of inconsistencies in the way different programmes are evaluated.

Second statement: Europe has excellent education but needs to develop its human capital. The talents of the future should be developed and nurtured without killing their entrepreneurial spirit. We need to develop programmes with educational outcomes as a direct intention; other programmes can then use this model. In terms of expanding and distributing information, the European Commission could help. For instance, there should be a learning outcome put into Commission proposals for any research. At the moment there are national boundaries of accreditation, but in the future students will be working in and between them without worrying about universities' accreditation.

Third statement: What is needed is innovative disruption. To enhance the EIT's label promotion it should team up with the European Commission. It cannot work in isolation, yet there is not a lot of cooperation between the Commission's Directorates General. For example, there is the EIT Digital Master's degree, and a complementary EU leadership initiative addressing senior management, CEOs in organisations; they're talking about the same skills, i.e. CEO as 'e-leaders' (as in entrepreneurial leaders). The aim should be to establish an industry-driven quality label, in parallel with the work of industry bodies; this could be issued by the EIT with a recognised industry association, to develop skills that will be recognised by future employers.

Thoughts and recommendations from the floor included the following:

- Students need a blend of formal education and business reality, recognised by education assurance.
- We need to improve the quality of the label but also the quantity in order to be able to scale the phenomenon. However, there is an issue of compromise, once the quantity is higher the quality potentially drops. A counter-example was offered, of Apple products, where quality and quantity are possible at the same time.
- Students should be made carriers of a 'virus', by injecting entrepreneurship into them, so that they can 'infect' their teachers and bring about change.
- The EIT has a role to play in creating an educational model in Europe, and teachers need to be more involved in the EIT's events. Teachers need to be transformed before we can change the educational model.
- We mustn't forget that students can be people of any age. Lifelong learning has not come into this discussion enough. In the future the term 'learner' could replace 'student', which is generally perceived as being someone up to the age of 25.

Final summary: It's clear that there is a big change happening in the education system. Recognition needs to come from employers as well, not just from universities in the form of a degree. We should advocate for making change through students as a 'virus' infecting teachers and leading to a new model of teaching and learning.

EIT Awards celebration

EIT Governing Board Chairman Peter Olesen welcomed guests to the Bálna centre. "This is a very special occasion for the EIT," he said, "highlighting all the hard work going on in the KICs. The juries have been deliberating since the pitches this afternoon. Not an easy task. Soon we shall find out who the winners will be."

The EIT Venture Award is judged on the basis of six criteria; commercial, technical, financial, societal, the quality of team, and the quality of pitch. The decision was unanimous and the judges even agreed they would put their own money in. The product is outstanding, has huge potential, and a great team behind it. And it will deliver societal benefits to all of us. The 2015 winner was *Nordic Power Converters*. Regnar Paaske accepted the award for his company developing power converters that are five times smaller, half the cost, and 2-5 times longer-lasting than current power converters used in, for instance, LED lighting and chargers.

The choice for the EIT Innovators Award jury was a difficult one. They were all great projects; all will break through to market. But the jury had to choose one, and made their decision because of their impression that this project gathered a diverse team and overcame significant obstacles to build something very special. The 2015 winner was *Neptune.* Cost-effective, accurate, and versatile, Neptune's system measures wind speed up to 200 metres above sea level. Accepting the award, Rajai Aghabi said, "We want to commercialise this product and see all the hard work pay off. In the end the difference was the effort of every single member of the team; not just the project team, the KIC as well."

Martin Powell of Siemens represented the jury for the EIT CHANGE Award, sharing with the room his view that, "all of the candidates showed incredible commitment, passion, and desire. They were all excellent, but one showed a slight incremental excellence in all categories. A smart idea with a lot of commitment behind it." The 2015 winner was Govinda Upadhyay, who received the award for his entrepreneurial achievement with regard to LED Safari. "It's incredible," he said, stepping up to accept the award, "we worked so hard for this for the last two years." He paid tribute to his team members, emphasizing the importance of having the right team. With LED Safari, he and his team aim to eliminate kerosene and other harmful energy for lighting in developing communities.

A final round of applause for all the nominees and winners closed the evening's formalities.

Day Three: Reflect & Conclude

Innovation conversation – 'Successful innovation: What the EU and the US can learn from each other'

Welcoming everyone to the third and final day, facilitator Marc Gramberger observed that there had been much talk about the issue of successful innovation, specifically a comparison between EU programmes and the US. Of course there are Asian and other regions that are players in this, but the EU-US relationship is particularly important. So what can we learn from each other? Two exceptional speakers were welcomed on stage to shed some light on this.

First, Charles Wessner, Professor Adjunct at Georgetown University, presented a US view. The EIT understands the importance of collaboration, but he suggested that in Europe we need to change the incentives for what we do, lest we end up doing the same things over and over. This calls for changes to laws and for the creation of new institutions to foster innovation and collaboration. The EIT is a prime example of this. Countries that do best at fostering innovation provide specific enablers, including a high-level focus on growth and sustained support for universities. "In Europe 'solidarity' is a popular term," he noted, "but how about showing some solidarity for your own children and grandchildren? You're not going to do that with ever-larger pensions and health care costs." The better route is investing in the future. The US leads in global R&D and, in a nutshell, while China is a growing force, Europe lags behind. The Department of Defense accounts for 48% of total US R&D spend, and the trends in federal R&D are not positive.

However, the US can claim assets including an openness to science and innovation, positive social norms, entrepreneur-friendly policies, and a strong intellectual property regime. There are problems and risks, not least of the US becoming complacent and believing that it will be in the lead no matter what. Also, too much war and a focus on current rather than future consumption could derail US efforts. But Europeans have stayed focused on main factors, which is good, and he expressed his appreciation of the celebration of commercial success at the EIT. He also wanted to challenge the myth of American exceptionalism. "The secret of Silicon Valley," he told an expectant audience, "is French engineers, British managers, German capital, Indian technologists, and Chinese entrepreneurs. Only the sand is American." Wrapping up this opening statement he commended the EIT for "looking at what other countries and regions are doing" but urged delegates to set their sights higher than competing with "the EU average". You're not competing with the EU average you're competing with Silicon Valley, and most of all with Singapore, and Korea, and Taiwan. China looms large, and they're changing the whole framework for international competition."

The responding statement from the European perspective was delivered by Ernö Duda, President and CEO, SOLVO Biotechnological Ltd. He picked up where Charles Wessner left off, pointing out that the EU-US comparison is a limited perspective with the importance of the far east increasing rapidly. There are cultural issues about role models in European society, especially for young people. "Many youngsters will tell you that their dream job is to work for the government or a large organisation," said Ernö Duda. "The image of the entrepreneur is marred by the feeling that they are trying to make money off other people." It can seem like everyone is waiting for entrepreneurs to fail, whereas in the US the biggest, brightest role models are those who failed miserably five times and then made it on the sixth attempt. Nobody talks about how many jobs were lost, how many investors lost money, how many patents were lost in the first five attempts. The attitude in Europe even among venture capitalists is that they don't support anyone who's failed. But in the US you need to show you can fail; some investors will *only* back entrepreneurs with at least one big failure on their CV.

The EU is still at a stage where it is felt that the best way to help entrepreneurs is to give them money. The grant system has an important part to play in risky R&D in particular. But the framework in which entrepreneurs can set up and conduct their business is of greater importance. And it's a lot less regulated in the US, where it's easier both to start up and to scale up. For example, employing people in the US is based on the principle of 'employment at will', but in the EU it's the most regulated contract there is. "You can basically choose people and let them go from one day to the next in the US." And likewise, employees can just quit if they wish. "So don't give us cash," he concluded, "create an environment where we can work." It all starts with education and while the EU is good at basic education, the employability of graduates is still an issue as they are perceived to be lacking in practical knowledge. Closing with a story from the business school in Budapest that he and his company support, he highlighted the tendency of fee-paying US students to take over the management and communication functions in teams where they are grouped with "much smarter Eastern European scholarship kids," who end up doing all the work!

Asked by Marc Gramberger to say what the US might learn from the EU in terms of developing entrepreneurial spirit, competences and practice, Charles Wessner said the US administration is paying active attention to what the rest of the world is doing, but some countries are easier to copy from than others. The EU is more original in its innovation programmes. "Workforce training is another real strength in Europe," he added, "just look at the German model on training middle skills." In the US the community colleges need to be strengthened. And while the US is second in the world in per capita spending on K-12 (elementary) education, it's only 18th in performance. A first round of points from the floor covered the question of open source vs. IPR regimes, attitudes to failure, China's strategic position in the energy market, and comparing R&D inputs and outputs. Responding first, Ernö Duda felt that, overall, strong IPR is preferable to open source, because huge investments need protection or great innovation won't happen. Regarding attitudes to failure, he stressed that "Europe is not homogenous in this respect but these cultural factors date a long way back." However, they can be changed through looking at media consumption, the kinds of stories we read, watch and tell. That's what influences people, but it will take a generation to see significant change. Charles Wessner added that "Europe suffers from a 'yes, but…' syndrome. Europeans want growth, venture capital investment, and a start-fail-start culture, but they aren't prepared to change the regulatory environment or loosen employment laws."

EIT Stakeholder Forum

Heading into the final part of INNOV**EIT** 2015 delegates were invited to contribute to a discussion about the event, the issues raised, and the strategic outlook for the EIT. The session commenced with comments from specially invited external stakeholders – Kurt Deketelaere, Secretary General of the League of European Research Universities (LERU), Christopher Shilling, European Industrial Research Management Association (EIRMA), and EIT alumna Estefania Tapias. Opening his comments, Kurt Deketelaere said that in 2009 only five LERU members were members of KICs, but there are now seven member universities in each of the two new KICs. This shows the support of LERU universities for the EIT, for the KICs, and for the notions of excellence, scaling up, and intensifying that have featured at INNOV**EIT**. "The continuing comparison with Silicon Valley is not so helpful," he said, " so let's focus on the Knowledge Triangle in Europe and motivating universities to contribute."

EIRMA is largely made up of research-based companies in, or with a base in, Europe, Christopher Shilling explained. Naturally it has a strong industry focus, "but we have common challenges and themes, whether it's the Silicon Valley comparison or the potential lack of ambition in Europe." If it remains easier to scale up outside Europe, he asked, will the great innovations we honoured yesterday get the chance to be the next TomTom? He referred to a lack of gender balance among the EIT Awards nominees and would like to see more support for entrepreneurship among women. However, the KICs offer a good strategic focus on challenge and can galvanise resources.

Estefania Tapias had two takes on the event. First, she said, "it was really amazing to see how many young people come together with the same mind-set, to innovate and to work together. Emotion is the driving force of the alumni, that's why we're still together working together, volunteering, and trying to push things forward." From a general perspective she had three main points. The discussion around education was important, because if you want to create change agents you have to go through education. Second, it was valuable to meet and hear directly from investors. And third, the preceding debate was an important highlight, confirming for her that "we have to look beyond the EU/US thing and see what's going on in Asia." By special request a further intervention was made by Bruno Revellin-Falcoz, Vice-chairman of the EIT Governing Board and member of one of the EIT Awards juries. "The virtual city tour yesterday was wonderful and I took my time to go through all the tables. It is the essence of the EIT to bring the decision-makers in front of you to showcase your products and ideas. I'd like to encourage all actors, the KICs and their partners, to open their doors, invite policy-makers and decision-makers, local or otherwise, to come to you so you can show them what you are doing." Following this, rapporteurs Vasco de Oliveira Janeiro, Laurent Roux, and Endika Bengoetxea from the investors, Knowledge Triangle Integration, and education roundtables respectively presented their reports on those discussions, as covered earlier in this report. Views, reactions, and comments from the floor picked up a number of themes and questions:

- The examples of innovation approaches are impressive, but what are the systemic effects of the EIT on the knowledge system in Europe?
- Are there any strategic initiatives to combine the various KICs' efforts?
- Make EIT courses more attractive, and establish more incubators. Offer free office space, free coffee, with EIT support services available 'on demand'.
- Could the EIT contribute more to shifting the unhelpful perceptions of failure?
- Innovation happens at the cross-roads of different fields. Is it feasible to offer monetary incentives to connect KICs and create alliances?

Quick responses from rapporteurs on stage underlined that cross-KIC cooperation is happening and that impact at systemic level requires wider stakeholder collaboration. There is strong evidence of KICs learning from each other using existing services. The US market is so different to the European market with its shared language and centralization of regulatory systems. While comparisons can be helpful we have to remember that it's not really a level playing field. And impact is qualitative as well as quantitative, so interested parties should just make a connection and see where it leads.

EIT interim Director Martin Kern returned to round out the three days with a view on the strategic outlook, an opportunity for final clarifications, and news about the next KIC call. But first we heard some breaking news from Willem Jonker, who announced that on May 1 EIT ICT Labs decided to change its name. A brief video unveiled the new identity, showing EIT ICT Labs officially becoming EIT Digital. The stage was then handed back to Martin Kern to give the strategic outlook in summary and talk about future plans, including KIC calls. The conference has been about showcasing the EIT's results, he pointed out, so its presence across Europe through co-locations and hubs is key. However, there is always more that could be done and the ambition is to have activities and partners in all EU member states. There are now some 760 partners for the three first-wave KICs and two second-wave KICs. Staying with numbers, he disclosed some impressive outputs – 1,028 graduates from EIT-labelled courses, 1,141 business ideas incubated, 205 start-ups created, and 280 new or improved products. All this activity can be characterised as creating interconnected knowledge hubs; breeding entrepreneurs; and attracting investors.

Through all these means (and more) the EIT is making gains in its mission to boost innovation in Europe; to facilitate the development of a European eco-system; to integrate and find solutions to big societal challenges. Martin Kern declared that it is important to enlarge the colocation map, to reach entrepreneurs, and attract industry into ventures. "Now it's time to look forward," he continued, identifying three priorities:

1. Fostering the first-wave KICs: Climate-KIC, EIT Digital, and KIC InnoEnergy
2. Creating 5 new KICS: 2014 saw the establishment of EIT Health and EIT Raw Materials; 2016 will see EIT Food and EIT Manufacturing; and in 2018 EIT Urban Mobility
3. Sharing and disseminating EIT good practices.

The EIT Triennial Work Programme for 2016-2018 is about incentivising growth, enhancing impact and ensuring sustainability throughout the EIT. Looking beyond the current agenda – and beyond 2020 – new delivery mechanisms and results-oriented monitoring will support the continuous striving for excellence. Developing a joint agenda with KICs will help to cut the administrative burden and facilitate an easier reporting and planning mechanism. In addition, an improved monitoring system based on a comprehensive strategy for evaluation and

impact assessment will make it easier to review performance against KPIs across the EIT/KIC family. Announcing the new call for KICs, Martin Kern gave some guidance about the process. For 2016, a call will be published for EIT Food and EIT Manufacturing. The EIT will be sharing as much information as possible from the outset on what the call will look like.

"We identified three areas where we'd like to go one step further compared to the call in 2014," he said. The first is simplification. It's important to make it easier for people previously uninvolved with KICs to understand the process and apply. Second, closer alignment with other Horizon 2020 programmes, which means there will be adjustments to the terminology and integration with the tools available under Horizon 2020; and third, the focus will be even more on excellence to ensure high quality proposals. In Q4 of 2015 the criteria and framework of guidance will be published, followed by the launch of the call in Q1 of 2016. Dissemination and outreach activities will continue intensively through various channels, including publications, the EIT website, social media, conferences, awareness days, and the EIT regional innovation scheme. All this activity will support the promotion of the KIC call and the work of the EIT and its KICs in general.

For a final chance to clarify any outstanding questions Martin Kern invited three colleagues from the EIT staff to join him on stage – Mathea Fammels, acting Head of Unit, Policy and Communications, Michal Gorzynski, KICs Project Officer, and David Tas, Finance Officer. The first contribution from the floor explored the notion of financial sustainability. Martin Kern replied that financial sustainability had been planned in from the start with all the KICs, in line with the EIT regulation. "We've set up principles of financial sustainability to create a framework," he added, "these were adopted in March and are public and will be shared further. They form the basis for new KIC applicants to think about." There's no 'silver bullet' solution for the financial problems we all face, and the KICs have different strategies, but anyone entering the call needs to "have this on their radar from day one."

The next contribution suggested the EIT should let results speak for themselves instead of using the complex language of CLCs and KICs and Knowledge Triangles. Mathea Fammels responded to this point by saying that the EIT's long-term strategic planning identified outreach and dissemination as top priorities. This means ensuring the widest possible distribution of results, tangible outcomes, showcasing selected case studies, and sharing best practices, "so that the wider world learns about the exciting outcomes and societal impacts we achieve." The third contribution focused on the Juncker plan, and the expectation that there would be some changes in the KIC call timeline. Martin Kern took this one, noting that budget cuts will mean an adaption of activities, which will hit quite hard in 2016-2017, and that is obviously a particular issue for the current KICs. Business plans will have to be revised if the cuts become reality but it should also be an incentive to search for financial sustainability via additional funding.

Graphic recorder Alex Hughes had been asked to create a single drawing to summarise the event, and that was presented to the room (see p. 43) before bags were picked up and packed, final handshakes and parting waves exchanged, and this extraordinary event drew to a close.

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