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The European Institute of Innovation and Technology (EIT): A New Way for Promoting
Innovation in Europe?

by Anne-Céline Didier

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Abstract:

This paper examines the extent to which the European Institute for Innovation and Technology (EIT) represents an institutional innovation in the EU landscape. This flagship initiative of the Barroso I Commission was established in March 2008 and aims at unlocking Europe's innovation potential by pooling together the best European students, researchers and businesses in integrated partnerships, called 'Knowledge Innovation Communities' (KICs), which should be operational by mid-2010. Using a comparative approach with a sample of leading technological universities, both EIT's nature and added value are questioned. Empirical findings lead to the conclusion that the institute can be considered as an institutional novelty, mainly because of its atypical virtual two-level structure, its independence and long-term focus and the integration of education, but that its added value - and thus its innovativeness - may be limited.

“Anyone who has never made a mistake has never tried anything new.”

Albert Einstein

In the context of the Lisbon strategy, the initiatives to foster innovation in the EU have multiplied over the last decade. Encompassing the two previous stages of science policy and technology policy, an innovation policy paradigm emerged in the mid-1990s, signalling the entry into the so-called ‘knowledge-based economy’¹. While the science policy paradigm of the 1940s-1950s was about research, scientific infrastructures and ‘big science’, and the technology policy of the 1970s-1980s focused on technological development², innovation policy embraces the elements that shape the institutional set-up for innovators³. The first definition chosen by the Commission has been gradually widened, resulting in innovation policy *“becoming a sort of umbrella policy, where different functional dimensions and traditional policy areas partly come together on the basis of their contribution to enhancing innovative processes in society and the economy”*⁴.

As one of the measures derived from the 2005 renewed Lisbon agenda, the European Institute of Innovation and Technology (EIT) participates in the process of widening EU innovation policy to higher education. Established in March 2008 and still in the process of being set up, it addresses directly universities and aims at unlocking Europe’s innovation potential by pooling together the best European students, researchers and businesses in integrated partnerships, called ‘Knowledge Innovation Communities’ (KICs)⁵.

¹ Susana Borrás, *The Innovation Policy of the European Union. From Government to Governance*, Cheltenham, Edward Elgar, 2003, pp.2-15.

² John Peterson and Margaret Sharp, *Technology Policy in the European Union*, London, Macmillan, 1998, pp. 5-8.

³ Borrás, op.cit., p.5.

⁴ Ibid. p. 18.

⁵ Selected in December 2009, the first three partnerships are expected to be operational mid-2010.

But why create another new institution for developing strategic partnerships instead of strengthening already existing EU research and innovation policy instruments? The European Commission justified its proposal by the innovativeness of the EIT

The concept and the capacity of such an innovative entity to stand as a symbol of Europe's competitiveness and creativity, which is supposed to represent *“an innovation in the heart of innovation”*⁶. The purpose of this paper is to examine the extent to which the EIT represents an institutional innovation in the field of EU innovation policy, and thus to test the solidity of the Commission's argument in favour of setting up the EIT.

The definition given by the OECD of innovation as *“new products, business processes and organic changes that create wealth or social welfare”*⁷ implies that the EIT has to fulfil two conditions to be considered innovative: first, newness, in comparison with already existing institutions and instruments; and second, added value, i.e. creation of supplementary wealth. The hypothesis to be tested in this paper is therefore that the EIT constitutes a new and valuable approach in enhancing innovativeness at EU level.

To verify the hypothesis, the master's thesis from which this paper is derived developed an analytical framework based on a comparative study of a sample of leading technological universities. The starting point of the discussion is the initial references made by European policy makers to the US Massachusetts Institute of Technology (MIT)⁸ and the similarity of the term ‘European Institute of Innovation and Technology’ (EIT) with the names of some technological universities. These suggest that existing higher education institutions could have inspired the EIT concept. Therefore, the analytical framework identifies three ‘role models’ – the MIT model, the Indian Institute of Technology (IIT)

⁶ European Commission, DG for Education and Culture, ‘The Magazine: Bringing innovation to the innovation process. The EIT is born’, No.29, Luxembourg, Office for Official Publications of the European Communities, 2008, p.3.

⁷ Vijay Vaitheeswaran, ‘Special report on innovation: Something new under the sun’, *The Economist*, Issue 950, 13 October 2007, p.25.

⁸ See Nicholas Watt, ‘European institute to rival MIT’, *The Guardian*, 22 February 2006.

model and the Western European model - from which two sets of criteria are drawn up in order to analyse in a systematic way the EIT's nature and 'newness' and to formulate prospective views on its future performance and added value.

The paper is divided into three parts. The first part gives an overview of the analytical framework. In the second part, the structural elements and the content of the EIT concept are looked at in light of the three role models developed previously. It then allows the formulation of prospective views on the EIT's future performance in the third part, whereas the final section draws up the main conclusions of the analysis.

1. Analytical framework: developing role models

What is it possible to learn from successful technological institutes worldwide? Bearing in mind their particular context and history, it is worth examining other higher education institutions focusing on research and technological development, before considering the EIT itself. Three examples have been selected, according to their relative success and reputation in research and education⁹: the Massachusetts Institute of Technology (MIT); a group of leading European technological universities, formed by the Swiss Federal Institutes of Technology (ETH Zürich and EPFL Lausanne), the Swedish Royal Institute of Technology (KTH) and the Technical University of Munich (TUM); and finally the Indian Institutes of Technology (IITs).

The analysis of these institutions reveals three crucial dimensions in their design, which can be considered as categorization criteria:

⁹ Measured by the two main international university rankings: the Times Higher Education Supplement World University Ranking and the Academic Ranking of World Universities of the Shanghai Jiao Tong University.

(i) General structure and governance

MIT corresponds to a concentrated model, with a small number of schools (five), located on a single campus¹⁰. KTH, TUM and ETH are also based on the centralized model, but their degree of physical and organizational concentration is smaller (several campuses and division into a bigger number of sub-units, from ten schools in KTH to sixteen departments in ETH). IITs are based on a decentralized model where institutes, intentionally spread throughout the Indian territory, share a common brand name implying a common steering council and procedures (entrance examination) but are, in principle, autonomous.

As regards governance, MIT follows the Anglo-Saxon model of strong autonomy and leadership, characterized by hierarchical decision making processes and a management style inspired by companies¹¹. The Swiss Federal Institutes of Technology, KTH and TUM correspond, to a varying degree, to a hybrid of the Anglo-Saxon model and the European collegial model of governance, the latter being characterized by democratic decision making procedures and the election of members of governing bodies¹². Regarding IITs, governing boards of each institute are under the authority of an overarching IIT Council, composed of IITs' directors, governing board members and members of Parliament. The President of India chairs the Council itself.

(ii) Funding and resources

The examples selected can be categorized along a spectrum of institutions with more to less diversified sources of funding. MIT has a high degree of funding

¹⁰ With the exception of the Lincoln Laboratory, based in Lexington, dealing with technologies for national security.

¹¹ Paloma Sanchez, 'Changing patterns of research governance in European universities: Emerging paradoxes', *PRIME Madrid Summer School*, 15-19 September 2008, p.4, <http://www.mbs.ac.uk/research/engineeringpolicy/researchprojects/prime/phd-pathway.aspx>. Retrieved on 11 April 2009.

diversification: in 2008, more than a half of its budget came from federal government grants, 9.5% from tuition, 17.1% from investment returns to operations, 13.1% from other operation revenues (including patents and licensing) and 5.7% from cash gifts from individuals, foundations and corporations¹³. For research conducted on MIT's campus, the federal government remains by far the primary sponsor (75 to 80%), before industry (12-13%), foundations and nonprofits organisations (7%) and local, state and foreign governments (3%)¹⁴. The Swiss federal institutes of technology, KTH and TUM have proportions of government and business-sponsored research more or less similar to MIT¹⁵, but the main differences lie in the absence (or very low level) of tuitions and fees and the limited size of own revenues¹⁶. IITs have an even lower degree of resources diversification: funding comes almost exclusively from the federal state, although recent efforts of diversification are to be noticed (e.g. in IIT Bombay¹⁷).

Moreover, the concentration of resources is the highest in MIT, which had an overall budget of \$2,3bn in 2008 (from which 643 million for campus research), with approximately 10,000 students, 10,000 employees, and 1,000 professors¹⁸. The two Swiss institutes and TUM, with twice as many students, have an equivalent number of staff and a total budget two to three times smaller¹⁹. For IITs, given the different standard of living in India, comparisons in absolute financial terms are less relevant.

¹² Ibid.

¹³ MIT, <http://web.mit.edu/facts/financial.html>. Retrieved on 12 April 2009.

¹⁴ MIT, <http://web.mit.edu/facts/research.html>. Retrieved on 12 April 2009.

¹⁵ It is even bigger for KTH with 14,1% of business-sponsored research in 2007. Royal Institute of Technology, Annual Report 2007, p.31. The figures are smaller for ETH and TUM (around 9-10%).

¹⁶ Benedetto Lepori, 'Options et tendances dans le financement des universités en Europe', *Critique internationale*, n°39, 2008, pp.25-45.

¹⁷ IIT Bombay, [http://www.ircc.iitb.ac.in/webnew/R&DSpectrum/funding-pattern\(sponsored\).html](http://www.ircc.iitb.ac.in/webnew/R&DSpectrum/funding-pattern(sponsored).html). Retrieved on 12 April 2009.

¹⁸ MIT, <http://web.mit.edu/facts/financial.html>. Retrieved on 12 April 2009.

(iii) Philosophy and approach to innovation

Historically, the institutions considered have been founded to fulfil the same mission: to strengthen national applied technology capacity. If they tend to praise the same guiding principles of ‘entrepreneurship’, ‘multidisciplinary’ and ‘collaboration’, they stress some values more particularly. MIT, which has built its reputation on the concept of entrepreneurship, today constantly refers to the broader concept of “creativity”²⁰; The Swiss federal institutes, KTH and TUM emphasize their alliance of tradition and modernity, since they are at the edge of university reform in Europe. IITs’ general philosophy also rests on the concept of excellence, but is understood as the result of high selectivity and competition. IITs have also developed a strong entrepreneurial culture among its students²¹.

Regarding their approach to innovation, the main distinction lies in the extent to which they have incorporated the so-called ‘new approach’ to innovation, i.e. whether they have shifted away from the ‘linear model of innovation’, which implied a direct relationship between basic research, applied research, development and diffusion²². The new approach, similar to the ‘open innovation paradigm’²³ coined by Chesbrough, corresponds to a widening of the notion, including non-technological and external environmental factors, leading to new forms of interactions between science and education, economic systems and the political system²⁴. With its strong and early emphasis on multidisciplinary teaching and research and its early collaborative practices, MIT corresponds to the ‘new approach’. So do the Swiss, German and Swedish technological

¹⁹ Swiss Federal Institute of Technology Zurich, Annual Report 2007; Technische Universität München, Facts and Figures 2009.

²⁰ MIT, Mission Statement, <http://web.mit.edu/facts/mission.html>. Retrieved on 12 April 2009.

²¹ The Economist, *A special report on entrepreneurship*, 14 March 2009, pp.13-14.

²² Benoît Godin, ‘The linear model of innovation: The historical construction of an analytical framework’, Canadian Science and Innovation Indicators Consortium, Working Paper No. 30, 2005, pp.4-5.

²³ Henry Chesbrough, *Open innovation: The new imperative for creating and profiting from technology*, Cambridge, MA, Harvard Business School Press, 2003.

institutes, although the shift is much more recent. IITs remain very much concentrated on technology, and even more specifically on engineering sciences and computing.

These differences of structure, governance, funding, values and approach to innovation allow for considering these institutions as three distinct models, i.e. the MIT model, the Western European model and the IITs model. In addition, these examples suggest that three conditions need to be met for being a world-class technological institute:

a.) Sustainability

For the selected technological institutes, founded in the middle of the nineteenth century and in 1950 for the first IIT, sustainability involves three main requirements: critical mass (a minimum size, number or amount to produce a particular result²⁵), the capacity to raise and diversify funding or to self-finance part of its activities, and the capacity to adapt to external changes and demands.

b.) Interaction between education, research and industry

Interactions are *–building blocks for collaboration*²⁶. The level of interaction between education, research and industry is strong in the three models. In contrast with the ideology of ‘pure research’ of the late nineteenth century²⁷, technological universities have from their origin pursued practical problem-driven research strategies and thus developed relations with government and industry over time. The evolution of this relationship was later explained by Etzkowitz and Leydesdorff with the ‘Triple Helix model’, which *–attempts to account for a new configuration of institutional forces emerging within*

²⁴ Hanne Shapiro, Jens Henrik Haahr and Ida Bayer, ‘Background paper on innovation and education’, Danish Technological Institute, 2007, p.2-3.

²⁵ Merriam-Webster dictionary.

²⁶ Annamaria Inzelt, ‘Towards indicators on university collaboration’, PRIME Summer School, 15 September 2008, p.7.

²⁷ Henry Etzkowitz and Loet Leydesdorff, ‘The dynamics of innovation: from national systems and “Mode 2” to a Triple Helix of university-industry-government relations’, *Research Policy*, vol.29, 2000, p.116.

innovation systems [where] the university as a knowledge producing and disseminating institution plays a larger role in industrial innovation”²⁸.

There are different dimensions of interaction to be considered: their scale (individual and/or institutional level), their balance, i.e. between the three components of education, research and industry, and their territorial dimension (regional, national, international levels). Knowledge exchange occurring through these interactions is supposed to be reflected by the production of tangible results, such as inventions, spin-offs or contracts. However, reflections on indicators of university collaboration are still in their infancy²⁹.

c.) Identity and reputation at the international level

Identity and reputation have become increasingly important in the context of the accelerating internationalisation of higher education³⁰. Even though scientific research has always been international, the rise of an embryonic international market of higher education is a new phenomenon³¹.

Under these circumstances, identity has become intimately linked to branding, which is the *process of linking organisational identity and the external image of a given organisation*³². In the three role models, MIT, IIT, TUM or KTH are more than simple acronyms, since they have been associated with a specific image of excellence and innovativeness. The reputation attached to their brand can be reflected through different

²⁸ Henry Etzkowitz, Andrew Webster, Christiane Gebhardt and Branca Regina Cantisano Terra, ‘The future of university and the university of the future: evolution of ivory tower to entrepreneurial paradigm’, *Research Policy*, vol.29, 2000, p.314.

²⁹ Inzelt, op.cit., pp.16-31.

³⁰ Christine Musselin, ‘Vers un marché international de l’enseignement supérieur?’, *Critique internationale*, n°39, 2008, pp.20-21.

³¹ Ibid.

³² Bjørn Stensaker, ‘The relationship between branding and organisational change’, *Higher Education Management and Policy*, vol.19, No.1, 2007, p.1.

channels, but rankings and league tables have established themselves as the *barometer of global competition*³³, despite their imperfections³⁴.

These three conditions for success will be later used as assessment criteria for the EIT.

2. Characterizing the EIT: a comparative outlook

What is the exact nature of the EIT and to what extent is it new in addressing innovation? To answer this question, I will resort to the role models and the three-categorization criteria developed above. When appropriate, I will also refer to other national or European programmes or institutions.

2.1. A virtual, multilevel and independent institute

The Commission praises the *innovative structure*³⁵ and “*unique, flexible, two-level model*”³⁶ of the EIT. The EIT is indeed composed of a central strategic structure (the Governing Board and the EIT team) located in Budapest and an operational level, formed by integrated partnerships between universities, research organisations, companies and other innovation actors, called 'Knowledge Innovation Communities' (KICs). These “*strategic networks*”³⁷ are effectively in charge of conducting innovation, research and education in predefined fields. It must be noted that the concept of KICs is extremely close to the *Knowledge Integration Communities*’, also called *KICs*’, successfully experimented, at a lower scale, between 2000 and 2006 by the Cambridge-MIT Institute

³³ Ellen Hazelkorn, ‘Rankings and the battle for world-class excellence: institutional strategies and policy choices’, *Higher Education Management and Policy*, vol.21, No.1, 2009, p.1.

³⁴ Times Higher Education Supplement’s table is namely based on peer review, and as with the Shanghai ranking, they tend to have a bias towards large and English language institutions.

³⁵ European Commission, ‘European Institute of Innovation and Technology, Excellence for Innovation’, Luxembourg, 2008, pp.3-4.

³⁶ Ibid.

³⁷ Regulation (EC) No. 294/2008 establishing the EIT, Article 2.

(CMI)³⁸, a joint venture formed by Cambridge and the MIT, funded by the British government.

After the launch of a call for proposals in three priority areas (sustainable energy, climate change mitigation and adaptation, future information and communication society), the first three KICs were selected by the Governing Board in December 2009³⁹. Each KIC will be organised into different ‘co-location centres’ (from 5 to 6) bringing together individuals from the different partner organisations⁴⁰. The co-location centres, spread throughout Europe and specialised on one theme or sub-theme, are expected to be *“the lead nodes”*⁴¹. This geographically distributed model implies that the EIT is mainly a virtual institute.

The structure agreed upon by the Council and the European Parliament associates top-down and bottom-up approaches and thus corresponds neither to the centralized and concentrated ‘MIT model’, nor to the fully decentralized ‘IIT model’. Yet, the geographical layout of the EIT and the location of its headquarters in a new Member State reflect a concern for territorial development that is also present in the Indian federation’s technological institutes.

This rather complex structure is supported by a specific governance system. According to its regulation, the EIT is a Community body with legal personality⁴² and composed of four bodies: a Governing Board, an Executive Committee, a Director and an Internal Auditing Function⁴³. Furthermore, the EIT will have its own administration in Budapest.

³⁸ Cambridge-MIT Institute, ‘Accelerating Innovation by Crossing Boundaries: The Cambridge-MIT Institute 2000-2006’, 2008, p.33.

³⁹ RAPID Press Release, ‘The EIT launched the first three KICs’, IP/09/1950, 16 December 2009.

⁴⁰ Ibid.

⁴¹ EIT, Call for proposals EIT-KICS 2009, April 2009.

⁴² Regulation (EC) No. 294/2008 establishing the EIT, Article 11.

⁴³ Ibid. Article 4.

The Governing Board is composed of 18 members from higher education, business and/or research, appointed by the Commission, for a non-renewable six-year term, plus members elected by and among future staff and students⁴⁴. As the strategic and decisional core of the EIT, it is responsible for the designation and evaluation of KICs and the elaboration of a Strategic Innovation Agenda (SIA), which sets priorities for a seven-year period subject to the approval of the Commission, the Council and the European Parliament⁴⁵.

But the role of the board regarding its operational arms is limited. The regulation insists on giving a maximum degree of autonomy to KICs to define their own agenda and organisation⁴⁶, insofar as they fulfil the mid-term objectives set by the board. Subsequently, members of the Governing Board interviewed stressed the importance of making sure that each KIC has a strong management and governance⁴⁷.

Given the mixed composition of its Governing Board and the strong emphasis on independence, autonomy and transparency, the governance of the EIT follows the trends and reforms observed in ETH, KTH or TUM. Moreover, its status of public institution and the role of European institutions over orientations make the EIT closer to the Western European and the IIT models than to the MIT one.

2.2. The EIT's financial arrangements and resources

The main difference between the EIT and other EU research and innovation initiatives is the fact that it is not a funding instrument. Contrary to the Framework programme or the European Research Council, the EIT does not aim at funding projects.

⁴⁴ Ibid, Annex, Article 1.

⁴⁵ Ibid., Annex, Article 2.

⁴⁶ Ibid., Article 6.2.

⁴⁷ Interview with Bertrand Collomb, member of the EIT Governing Board, Paris, 3 April 2009; interview with Karen Maex, member of the EIT Governing Board, Leuven, 26 March 2009.

According to the regulation, the EIT's financial resources can come from six main sources⁴⁸: the EU budget, contributions from other public actors such as participating states, public authorities or international bodies, contributions from private companies, loans from the European Investment Bank, philanthropic contributions and finally revenue generated from own activities (contracts, royalties from intellectual property rights, capital endowments). KICs will also have the possibility to apply for EU funds from the 7th Framework Programme, the Competitiveness and Innovation Programme or structural funds. The EIT's financing model should thus follow "*an entrepreneurial logic*"⁴⁹ and "*seek to raise a significant and increasing proportion of its budget from private sources and from income generated by its own activities*"⁵⁰. It has therefore been given the power to establish a foundation.

Given the great variety of funding possibilities, the EIT could be said to resemble the MIT model. But as the capacity to ask students for financial contributions will stay a prerogative of participating universities, the EIT's financing structure is closer to the Western European model. Yet, the institute fundamentally departs from the three models on one point: the lower proportion of basis public funding in its budget. Indeed, the contribution from the EU budget is meant to kick-start the EIT's activities and represents only 14% of the total projected costs for the 2008-2013 period (€308.7m)⁵¹. Each KIC will be funded at only 25% from the EIT itself⁵².

The total spending of the EIT for 2008-2013 has been projected to amount to around €2.367bn⁵³, on the basic scenario of six KICs in 2013. It corresponds to

⁴⁸ Regulation (EC) No. 294/2008 establishing the EIT, Article 14.

⁴⁹ European Commission, *'European Institute of Innovation and Technology. Excellence for Innovation'*, op.cit., p.16.

⁵⁰ Regulation (EC) No. 294/2008 establishing the EIT, Article 5.1.(d).

⁵¹ Martin Schuurmans, *'The EIT – sustainable growth and competitiveness through innovation'*, Presentation to ITRE Committee, 12 December 2008, p.8.

⁵² Ibid.

⁵³ European Commission, *'Proposal for a regulation of the European Parliament and of the Council establishing the EIT'*, COM(2006) 604 final, 18 October 2006, p.10.

approximately €394m per year; the total annual costs for one KIC being estimated between €50 and 100m⁵⁴. At first sight, the EIT's financial resources seem relatively modest in comparison with the total annual spending of institutions like TUM, ETH Zürich or even KTH. However, it is rather significant if it is compared to those institutes' annual research spending⁵⁵.

The same reasoning is relevant for non-financial resources. The staff of the EIT's central structure will be very limited⁵⁶, whereas each KIC should gather between 1,000 and 1,500 people, among which 100 academic staff, 300 researchers, 600 technical staff, 600 Master's students and 400 PhD candidates⁵⁷. This is rather large when considering that each KIC will work on one specific topic. In addition, the structure should allow savings on infrastructure, since KICs' partners' infrastructure could be used.

2.3. The EIT as a 'knowledge flagship'

In its first communication on a 'European Institute of Technology', the Commission declared aiming at developing a "*knowledge flagship*"⁵⁸. The choice of this expression reveals an essential part of the initiative's philosophy, namely a commitment to excellence. Commitment to excellence is a common feature in the three role models. However, at EU level, the implementation of this principle through strict selectivity (of KICs) and the assertion of elitism are relatively new, since there usually tends to be a sprinkling effect of Community funds⁵⁹. Commission official interviewed also stressed the "*new type of excellence, which is world class excellence*"⁶⁰, of the EIT.

⁵⁴ Schuurmans, op.cit., p.8.

⁵⁵ Approximately €150m for TUM and ETH, €200m for KTH. TUM. Facts and Figures 2009, Federal Institute of Technology Zurich, Annual Report 2007, Royal Institute of Technology, Annual Report 2007.

⁵⁶ Maximum 60 staff members.

⁵⁷ European Commission, 'Proposal for a regulation establishing the European Institute of Technology', op.cit., p.36.

⁵⁸ European Commission, 'Implementing the renewed partnership for growth and jobs. Developing a knowledge flagship: the European Institute of Technology', COM(2006) 77 final, 22 February 2006.

⁵⁹ Interview with Bertrand Collomb, member of the EIT Governing Board, Paris, 3 April 2009.

⁶⁰ Interview with Commission official, Head of the EIT unit, Brussels, 23 March 2009.

Apart from excellence, the EIT is expected to follow four other guiding principles: collaborative spirit, multidisciplinary, entrepreneurship and global dimension. As reflected by the concept of 'KIC', collaboration lies at the core of the project and appears more important than in MIT, IIT and Western European models. It is also more pronounced than in the collaborative research projects of the Framework programme, since autonomous legal and physical entities are created. The idea of multidisciplinary directly derives from the principle of collaboration. Yet, in the first KICs, the mix of technological and non-technological disciplines is less visible than in the MIT model. Regarding entrepreneurship, the regulation makes clear that a central aim of the institute is to create new economic activities such as “*start ups, spin offs and small and medium sized-enterprises*”⁶¹, and to bridge the cultural gap between researchers and entrepreneurs. Moreover, the EIT has been conceived on the premise that a global vision is lacking in European universities⁶². While having the ambition to create a European champion, KICs will therefore be opened to non-EU partners and should attract students and researchers from outside Europe.

What about the EIT's approach to innovation? The idea of an EIT rests on the initial diagnosis of the *inability of the EU to fully exploit and share R&D results*⁶³ and the recommendation to reinforce university-industry collaboration⁶⁴. The Commission has thus forged the concept of a *knowledge triangle*, whose three corners are formed by education, research and innovation. This approach to innovation matches the open innovation paradigm applied in the MIT model, and increasingly advocated in European technological universities. But the structure of the EIT implies a much greater degree of collaboration, similar to the Triple Helix model of Etzkowitz and Leydesdorff mentioned earlier. The EIT

⁶¹ Regulation (EC) No. 294/2008 establishing the EIT, recital 8.

⁶² European Commission, *Implementing the renewed partnership for growth and jobs. Developing a knowledge flagship: the European Institute of Technology*, op.cit., p.5.

⁶³ Ibid. p.1.

⁶⁴ European Commission, *Creating an Innovative Europe*, Report of the Independent Expert Group on R&D and Innovation appointed following the Hampton Court Summit, Luxembourg, 2006, p.26.

would indeed correspond to the 'Triple Helix III' configuration. Whereas the Triple Helix II configuration "*consists of separate institutional spheres with strong borders dividing them and highly circumscribed relations among the spheres*"⁶⁵, the Triple Helix III "*is generating a knowledge infrastructure in terms of overlapping institutional spheres, with each taking the role of the other and with hybrid organizations emerging at the interfaces*"⁶⁶. Under this circumstance, the concept of 'knowledge triangle' would appear as an attempt at the popularization of the Triple Helix model, with the three institutional actors replaced by broad activities. It results nonetheless in the concept being rather imprecise and vague. This impression is reinforced by the different, and sometimes contradictory, uses of the expression by the Commission.

Does it call the EIT's added value into question? The next part aims at assessing the chances of the EIT to fulfil its promises of becoming a world-class institution and enhancing Europe's innovation capacities.

3. Prospects on EIT future performance: which added value?

At the time of the publication of this paper, the EIT and its KICs are still in the process of being set up. Hence, assessing EIT performance can only be prospective. The earlier comparative examination of EIT's nature suggests nonetheless that some first lines of enquiry can be drawn, prior to being able to conduct a full evaluation of its operations in several years. I will therefore use the assessment criteria developed in the first part as a benchmark for assessing EIT's chances of success.

⁶⁵ Etzkowitz and Leydesdorff, op.cit. p.111.

⁶⁶ Ibid.

3.1. Sustainability: a severe test

A primary objective of the EIT is to reach critical mass. It intends to remedy the problem of fragmentation of R&D in Europe, since it is generally agreed that *Europe cannot afford having 22 places doing the same things - without even knowing from each other's*⁶⁷.

A first observation is that the size of the future KICs will be smaller than what was initially planned. The call for proposal for the first KICs mentions a total annual spending at least half (€of the €200m announced by the Commission in 2007⁶⁸ (50m to €100m)⁶⁹. Given this reduced budget, it can be estimated that the number of people involved will be closer to 1,000 than 2,000. Consequently, for the 2010-2013 period, KICs might represent a lower concentration of resources than that enjoyed by leading European technological universities.

But financing constitutes the main challenge. According to the rapporteur on the EIT, Reino Paasilinna, *“in its adopted form, the EIT will stand or fall according to how well it can attract funding from investors”*⁷⁰. As explained earlier, the basic EC contribution is very low, and KICs have been designed on the principle of 75% of funding coming from other sources. It has been widely suggested that this financing model is unrealistic, the journal *Nature* even calling it a *“farce”*⁷¹. The MIT and the European models show indeed that funding from business usually does not exceed 15% of total research spending. Moreover, the €300m kick-start contribution may not have a sufficient stimulus effect for business R&D, whereas licenses or contracts cannot be expected as a

⁶⁷ Interview with Karen Maex, member of the EIT Governing Board, Leuven, 26 March 2009.

⁶⁸ Odile Quintin, Speech at a stakeholders meeting, 15 January 2007, p.3.

⁶⁹ EIT, Call for proposals EIT-KICS 2009, 2 April 2009, p.4.

⁷⁰ Reino Paasilinna, ‘Innovation for economic growth’, *European Voice*, 6 November 2008.

⁷¹ ‘The EIT farce’, Editorial, *Nature*, 20 March 2008, <http://www.nature.com/nature/journal/v452/n7185/full/452254b.html>. Retrieved on 19 April 2009.

plausible source of revenue in the short term, since arrangements for technology transfer already require a substantial initial investment⁷². Besides, funding from Community programmes has the disadvantage of being rather unstable, as most of them function on the basis of calls for proposals.

Given the uncertainties surrounding KICs' financing, flexibility and adaptability are particularly important. The combination of the gradual approach in its development, the large autonomy of the KICs and the possibility to deviate from the Commission's standard procedures when necessary⁷³ suggest that the EIT fulfils sufficient guarantees with regards to flexibility. Furthermore, the Governing Board will have the possibility to stop a KIC if it does not function or to propose improvements⁷⁴. The regulation also includes a review clause, after five years⁷⁵, and it will be possible to develop other instruments than KICs in the future⁷⁶.

3.2. Interactions and knowledge exchange: fulfilling immediate aims

Three main reasons for participating in a KIC can be identified. First, cost savings occur from the pooling of resources and sharing of infrastructure, although being partner in a KIC will necessarily imply some costs. Second, the value of the EIT brand may attract partners willing to possess a European excellence label. However, this EIT brand still has to be shaped. Third, stakeholders may perceive the concept as innovative and likely to produce some original results. Thus potential partners would rather be risk-takers, or institutions or enterprises already involved in cooperation programmes or clusters. In this sense, a complicating factor for the EIT is to find its place and assert its specificity, regarding other Community and Member States' actions (e.g. national clusters, EUREKA cluster, Framework Programmes' Networks of Excellence, Joint Technology Initiatives). It

⁷² MIT Technology Licensing Office, <http://web.mit.edu/tlo>. Retrieved on 22 April 2009.

⁷³ Interview with Bertrand Collomb, member of the EIT Governing Board, Paris, 3 April 2009.

⁷⁴ Regulation (EC) No. 294/2008 establishing the EIT, Art. 16. 1.

⁷⁵ Ibid., Art. 16. 2.

must also be underlined that in the scientific community, there is no consensus on the desirability of integrated partnerships– some scientists argue that competition is the best incentive to stimulate innovation⁷⁷.

There are also important obstacles for the partnerships to overcome, if they are to reach the level of integration required, which constitutes the specificity of EIT. The first hurdle is the definition of a common IP policy. Whereas all the attempts to create a Community patent have failed so far for reasons related to the linguistic arrangements of a future Community patent system⁷⁸, KIC's partners are expected to be able to set up shared patent portfolios⁷⁹. The second hurdle regards mobility: the full recognition of diplomas and qualifications will be instrumental for the KICs' functioning, as well as efficient transport infrastructures between the different 'nodes' of a KIC. A third strand of obstacles is linked to the diversity of taxation, state aides and public procurements rules in the EU⁸⁰.

The EIT itself does not address these obstacles; it is the task of the partnerships to find concrete solutions. It is then expected that best practices developed by the KICs would have a spillover effect and inspire other institutions and enterprises⁸¹. As a result, a large part of the success of KICS will depend on the innovative mindset of partners.

Finally, the risk of an unbalanced knowledge triangle, with education being only at the periphery of KICs' activities, should be considered. The scope of EIT's involvement in education and training has already been narrowed down, as the Council and the European Parliament rejected the initial idea of EIT degrees awarded through KICs. The following compromise was finally agreed: *“only higher education institutes recognized by Member states will be allowed to award degrees and diplomas, with the possibility of attaching an*

⁷⁶ Interview with Commission official, Head of the EIT unit, Brussels, 23 March 2009.

⁷⁷ 'EIT chief hits back at 'monopoly' criticism', *Euractiv.com*, 18 February 2009, op.cit.

⁷⁸ Börje Johansson, Charlie Karlsson and Mikaela Backman, 'Innovation policy instruments', Royal Institute of Technology, CESIS, Working Paper No. 105, pp. 7-9.

⁷⁹ EIT, IPR Guidelines.

⁸⁰ European Commission, 'Progress report on the broad-based innovation strategy', February 2009, pp.4-6.

*EIT brand*⁸². The category of students to participate in KICs was also a contentious issue: training at the Master's level was finally accepted. Yet, it is alleged that the dispersed structure of KICs does not provide the proper environment for training since "*students choose for a „placæ*"⁸³. Lastly, businesses should be sufficiently involved in education activities, not only using KICs for recruitment purposes, but also effectively participating in Master's and PhD's students' training.

3.3. Building EIT's identity and reputation

Beyond enhancing innovation, a key objective of the EIT is to reach *„global attractiveness*"⁸⁴. But is it possible for the EIT, which is not a university but a hybrid organisation, to develop a brand as strong as those of MIT or IIT?

A primary interrogation concerns the acceptance of the EIT brand by potential partners and the compatibility and articulation between different brands attached to a same institution. There is a divide between European universities with a strong established brand, principally British universities such as Oxford and Cambridge, and others that are still in the process of developing one (as, for instance, French business and engineering schools, grouped into the *„ParisTech*' entity since 2007). For the French member of the EIT board, there is no incompatibility between the branding of an institution like ParisTech and an EIT brand, since *„EIT*' – through the KICs - will be a network brand and not an institutional brand⁸⁵. However, the Commission considers the EIT brand first and foremost as the brand of an institution⁸⁶.

⁸¹ Interview with Commission official, Head of the EIT unit, Brussels, 23 March 2009.

⁸² Jan Figel quoted in Emily Smith, *„Degree of compromise in EIT clash*', *European Voice*, 3 May 2005.

⁸³ UNU-MERIT, *„European Institute of Technology. Assessment of the feasibility and possible impact of the establishment of an EIT*', IP/A/ITRE/IC/2006-157, 2007, p.49.

⁸⁴ European Commission, *„Implementing the renewed partnership for growth and jobs. Developing a knowledge flagship: the European Institute of Technology*', op.cit., p.8.

⁸⁵ Interview with Bertrand Collomb, member of the EIT Governing Board, Paris, 3 April 2009.

⁸⁶ Interview with Commission official, Head of the EIT unit, 23 March 2009.

Four other issues might also hinder the emergence of a strong EIT brand. First, the principal instrument used today to measure global reputation, namely rankings, will not be available for the EIT, since it is not a university. Second, if different instruments than KICs are developed, a coherent long-term strategy will be necessary for the EIT brand to survive. Third, there exist risks to the reputation of universities engaged in close collaboration with industry (e.g. conflict of interest, attempts by participating firms to increase secrecy)⁸⁷. Fourth, scholars have observed that *“the branding game itself carries the potential of becoming more important than the purpose of the game”*⁸⁸ and that the tendency of universities to profile themselves as ‘_world-class’ or ‘_the best’ can lead to a paradoxical situation whereby trying to be unique, they become more similar.

If the EIT brand is a long-term challenge, there are also decisive steps in the short term for such a brand to emerge. The first governing board will have a key role in building the EIT’s credibility and reputation, as it will *“set the agenda and the tone of the EIT for a generation”*⁸⁹. In this sense, a positive element is that the Governing Board’s members are high profile representatives from business and academia. Moreover, the first three KICs are made of leading companies and universities (ETH Zürich, TUM and KTM are among them⁹⁰), which reflect adequately excellence in research, education and business⁹¹.

Nevertheless, as branding does not only refer to external image but also to organizational identity, the relations between the KICs and the central structure will determine the emergence of an EIT brand. UNU-MERIT researchers consider that synergy between the two levels and the KICs themselves should not be expected given the different

⁸⁷ Derek Bok, *Universities in the marketplace: the commercialization of higher education*, Princeton, Princeton University Press, 2003, p.115-118.

⁸⁸ Stensaker, op.cit., p.10.

⁸⁹ European Commission, *Implementing the renewed partnership for growth and jobs. Developing a knowledge flagship: the European Institute of Technology’*, op.cit., p.13.

⁹⁰ These examples had been selected independently of their interest in the EIT initiative, before the results of the call for proposals.

⁹¹ See KICs webpages for a comprehensive list of partners: <http://www.climate-kic-proposal.org>, <http://www.innoenergy-initiative.com>, <http://www.eitictlabs.eu/>.

themes of KICs and the degree of complexity to organize interactions within one KIC⁹². Thus, it has been suggested that there would be no EIT identity. Only KICs would develop an identity⁹³. Consequently, ‘EIT’ would be a label and not a strong global brand.

Lastly, it is relevant to wonder to whom the EIT might be a reference model. Best practices from KICs may inspire European universities, but it is unlikely that the EIT as such could constitute a reference model for European universities. European universities such as KTH, ETH or TUM, which already have a modern governance system, a strong relationship with industry and solid technology transfer capacities, may constitute more useful reference points for their counterparts. Most importantly, the EIT and universities have different missions: contrary to the Commission initiative, universities’ main task is not to contribute to growth and competitiveness but to educate people and advance knowledge.

From a global perspective, if the EIT may produce and disseminate practices useful for other institutions, it may not be able to substitute US universities such as MIT in their role of global reference model. The explanation lies in the *sui generis* character of the EU. The EIT has been shaped according to Union’s specific problems (incompleteness of the single market, fragmentation of the higher education landscape) and is closely connected to the integration process.

4. Conclusions

“Every innovation is a new thing but not every new thing is an innovation”⁹⁴. This also applies to the EIT, since empirical findings on the EIT only partially confirm the

⁹² UNU-MERIT, op.cit., p.48.

⁹³ Interview with Bertrand Collomb, member of the EIT Governing Board, Paris, 3 April 2009.

⁹⁴ Nimal Jayaratna and Bob Wood, ‘Every innovation is a new thing but not every new thing is an innovation’, *Revue internationale de projectique*, No.0, 2008/1, p.15.

hypothesis that the EIT is a new and valuable approach to enhance innovativeness at EU level.

In comparison with the different role models, the distributed structure of the EIT and its mixed top-down and bottom-up approach are new. Being neither a funding agency, nor a programme nor an instrument, the EIT marks the vanishing of the recurrent dream of a European university, but it constitutes a novelty in the field of EU innovation policy. Its independence vis-à-vis the Commission and its long-term perspective distinguish it also from previous innovation policy initiatives.

But the analysis also revealed that the project draws on the same philosophy and guiding principles as the world's leading technological institutes, especially the MIT model. It was also highlighted that EIT's approach to innovation rests on the Triple Helix and open innovation paradigms, and that the concept of KIC is very similar to a previous experiment of implementation of the Triple Helix by the Cambridge-MIT Institute. Consequently, if the EIT can be said to be at the edge of reforms in Europe, it is not as thoroughly an 'ice-breaker' as it aims to be.

As for the EIT's future performance, the situation is rather balanced. Sustainability is the most critical and worrying dimension, as flexibility may not outweigh the lack of resources. Given the many hurdles remaining and the sensitivity of the education issue, the first KICs will presumably reach a lesser degree of integration than planned, even though the partnerships selected are made of actors already used to working together. Besides, the emergence of an EIT brand, able to compete on the world scale and to constitute a reference model, is unlikely. Yet, a very positive sign is that the initiative has succeeded so far in mobilizing first rank higher education and business' actors.

Ultimately, the study highlighted that the EIT is as much addressed to European stakeholders as to non-European ones. It is primarily this external dimension that makes the

EIT unique. A key interrogation is whether national governments and universities are ready to accept a supranational entity such as the EIT, for the sake of the EU being visible on the international knowledge market. In this respect, the Strategic Innovation Agenda, which has to be voted by the European Parliament and the Council by 2011, will be instrumental to test EIT's legitimacy and independence. The institute is engaged in a time trial: in order to be sufficiently funded by the Community budget after 2013, the first KICs will have to deliver results as soon as possible. All the more so EIT proponents hope that the new institute will be able to make up for what is perceived as 'lost time' in the context of international competition for knowledge⁹⁵. Fears of a close economic and scientific European decline will thus be crucial to understand the future developments of the EIT.

⁹⁵ Martin Schuurmansm quoted in Jim Brunsten, 'Community building : the next for EIT', *European Voice*, 6 November 2008.

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