view from the top luc van dyck

An MIT for Europe? Right idea, wrong model

Last week's official update from the Commission on its proposal for a European Institute of Technology confirms how debate on the EIT is gaining pace.

Just a week or so before, the European Research Council's Scientific Council quietly released its long-awaited "reflections" on the EIT, describing the proposal as having "the worthy aim to strengthen innovation in Europe" and as being "evidently complementary to the ERC". Could there be a better time to re-examine just what this institute is supposed to be about: its mission and business model, and the Commission's approach to the whole thing? Before it's too late!

Although the initial concepts in February 2005 from Jose Manuel Barroso, Commission President, envisaged a European flagship organisation modelled on the Massachusetts Institute of Technology, the parallels are illusory. Any newly created institute would take decades to flourish (and MIT is 140 years old), and it soon became clear that a centralised European institution, governed by the Commission, could not be established at a single location in the current European political context. The ERC suggests that its name should be changed to the European Technological Institutes, or ETI.

So, the idea evolved into a "federation of teams and departments from the academic and business sectors", organised around virtual "Knowledge Communities", with a triple mission involving education, research and innovation. But the proposal, outlined in the Commission's first communication in February this year, seems neither sustainable nor acceptable to stakeholders, especially the universities. It reflects a wish in some Brussels' circles to control European science and innovation, for which the Commission has neither the legitimacy nor the financial means nor the expertise.

The EIT's tentative business and organisational models illustrate this. Although the origins and scale of funding would determine the mission, scope, ambitions and ownership of the EIT, the Commission will not be in a position to publish a financial analysis until the autumn. "In the beginning", it acknowledges, the EIT would need considerable public core funding but, after that, it expects private funding to represent a significant share of the budget. Such notions seem ridiculously optimistic.

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Experience, even at MIT, shows that industrial sponsorship of research is likely to be limited and provided on a contractual basis, not to a central budget controlled by a Governing Board. Only 11 per cent of MIT's $567 million research funding comes from contracts with industry. The lion's share comes from federal sources.

Furthermore, it is also doubtful that private sources would contribute significant funding towards a "common pot". In a very different fiscal context, and based on a long tradition of gifts that does not exist in Europe, MIT collects around $208m a year from donors (42 per cent from individuals, many alumni) towards an operating revenue of $2 billion.

And then there is the idea that the EIT should be able to requisition university resources, including staff and infrastructures. But it does not make sense to extract a laboratory or department from its community; it is also likely to raise legal hurdles. And why would a regional or national authority want to yield control over its own institutions to a centralised, Commission-led body simply for the prestige of being part of the EIT? This is not reasonable. In fact, the Commission seems to be coming round to the idea of dual affiliation of partner organisations, which the ERC supports in its reflections on the EIT.

Furthermore, the EIT would have to eschew the "Network of Excellence" paradigm by focusing on consortia, selected on the strict criteria of excellence and competence, that would be relatively small, limited in number and receive heavy funding. Such an approach would create political turmoil, with the socio-economic implications of the EIT already resonating strongly in the ears of politicians of all European countries. Indeed, many member states are hardly likely to have any, or at best very few, "eligible groups". And if EIT networks are to be more than merely additional "Technology Platforms", the Commission would need to involve SMEs and avoid too much focus on large companies. Politicians

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ground rules

EIT latest

- The Commission, in its Communication released last week, sees the EIT as a "knowledge operator" that would put innovation at the heart of the knowledge triangle of education, research and innovation.
- An independent governing board would define the EIT's overall policy, strategic agenda and operational mechanisms, performing in much the same way as the Scientific Council of the European Research Council.
- The EIT would identify strategic business-relevant challenges in interdisciplinary areas and, from 2009, select and fund Knowledge Communities to address them.
- Knowledge Communities would assemble teams and departments from universities, research organisations and industry, with agendas extending for 10- 15 years. Partner organisations would be expected to provide most of the human and physical resources.

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might love success stories such as Airbus, but it is not a model that is applicable in, say, the biosciences.

While thriving on the strong interplay between its scientific community and industry, MIT is primarily a university whose mission is research and education. In contrast, the Commission sees the EIT as more innovation-oriented and, as such, it has now acknowledged that the EIT's role in education should revolve around the "teaching of postgraduate students", and include the awarding of degrees.

If teaching at the EIT were to become more than simply doctoral and postdoctoral training, so as to include the creation of masters and PhD programmes for instance, then EIT degrees could be a "brand". However, such degrees should be awarded in close coordination with and under the authority of the host institutions, and not independently by the EIT, as the Commission envisages.

Simply put, the Knowledge Communities could not do the job alone. In such a model, the different participants in the Knowledge Communities should be associated with the definition of the educational curricula of the masters and PhD programmes. If different members of a network organised common courses at their various locations, then the EIT could help finance infrastructures, salaries and mobility costs for the students and/or professors.

Nevertheless, the sustainability of such degree programmes remains questionable given that the timeframe of EIT funding of the Knowledge Communities would be limited. A more ambitious alternative could be to support, through financial and other incentives, the establishment of lasting, high-level "EIT educational programmes" in many European universities, disconnected from the physical location of the research networks. This notion would offer stronger European added value.

The Commission should be given credit for its long-standing efforts towards more autonomous and better funded universities, which could form the nucleus around which companies could gravitate or spin-off (as they do in the Boston area). The EIT might actually be an instrument to reach this goal.

The EIT could also help to develop new mechanisms to bridge gaps in the innovation chain in Europe by, for instance, supporting the proof of concept—the step between discovery and product development, where investors are unlikely to risk funds.

For the moment, there are more urgent priorities. First, the Commission should define realistic missions, map out a clear organisational concept, and create a sustainable business model.

Furthermore, it should also involve the EIT's potential funders and stakeholders directly in the decision-making process—rather than use them simply as unpaid consultants.