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EURAB recommendation on the proposed European Institute of Technology (EIT)

The objectives behind the initiative to launch a European Institute of Technology (EIT) are well known. Europe has to offer world-class education, if it wants to attract the best students. Only as a world-class center of research can it attract the best young researchers. Research management and quality have to be improved throughout Europe and, above all, research and innovation have to move closer together.

We share these objectives and see the need for firm and concentrated efforts to achieve them in the near future. However, we do not believe that it is possible to short-cut this arduous and sustained process through the start-up of a new institution before the other necessary conditions are in place. MIT's reputation has grown over decades before counting 59 Nobel Prize winners. Its current annual budget is \$1,8 billion. Its close connections with the most advanced industries, including service industries, are well known and for the first time among the highly ranked technical universities a woman president, neurobiologist Susan Hockfield, has been appointed. (For an approx. comparison with Imperial College and ETH Zurich, see the annex).

European universities are increasingly and often painfully made aware that deep changes are necessary if they are to become major players in a knowledge-based society. They recognize that their function includes both provision of a broad and solid base of higher education and excellence in the high performance end. If knowledge for growth is to be attained, it must be assured that society has access to both education and work. Society must actively participate in the collective bet on the future, which is innovation.

Innovation, as Schumpeter recognized almost one century ago, does not only need original ideas. It also takes the appropriate social organization and financial capital. It takes a mind-set and the motivation that he saw embodied in the figure of the entrepreneur. Innovation today is increasingly

knowledge- and research-based. There is no lack of new ideas and discoveries in Europe. What is lacking are (1) forms of social organizations that are capable of transforming these ideas into innovation and to compete in a globalizing world, (2) access to increasing amounts of financial capital (investment in research is a precondition, as is competition between universities and research institutions), and (3) research- and innovation-friendly conditions in and around the sites where new knowledge is produced. Following Schumpeter's lead and given the blurring of boundaries between basic and applied research, a new type of cooperation between research-entrepreneurs is needed to bridge the academic and the industrial world. These persons must also know how to integrate the societal dimension into their work.

It is our firm conviction that a European Research Council (ERC) is the best way forward towards achieving this end. Frontier research on a truly competitive basis at EU level as proposed within FP7 is also backed by European industry. Experience shows that 'excellence' cannot be granted as a monopoly through administrative-political means. Excellence is the outcome of competitive pressures. It is recognized when you encounter it.

Much as we would like to see an EIT come into existence in Europe, we are weary that it cannot be created top-down. An EIT must grow bottom-up from existing research communities and through the incentives provided by environments that push for both research and innovation. The only realistic way forward we see is to turn an ERC into a European success story.

The *direct* impact of an ERC should be to stimulate genuine competition for excellence throughout Europe. Its *indirect* desired impact is at least as important. It is to improve the overall conditions under which universities and other research institutions can compete. This includes incentives to diversify and develop their own profile, including novel ways of cooperating with industry. Research management must be strengthened. A competitive climate must prevail, and rules and regulations that now stifle competition must change. Recruitment must be opened up, where it is too narrowly constrained. The attractiveness of the working conditions, especially for young researchers, must be enhanced. They must be given more independence much early in their career and career development must be carefully nurtured. Leadership qualities at the top and flat hierarchies throughout have to become the norm. In all this, public and private

investment, with a clear aim to stimulate world-class research, is indispensable, but no factor taken alone is sufficient.

We therefore recommend that all efforts should be concentrated on creating the conditions that will allow an ERC to have the desired impact. Frontier research can only emerge from conditions that favour it. An ideal MIT-like institution cannot be created top-down (and experience with the JRC indicates the difficulties in establishing really creative organizations from the top down). Already existing networks between the best universities and the creation of new ones should be strengthened. But we see the risk of an EIT-like institution to distract from the objectives of an ERC, including a reduction of funds. While we share the ideal and vision behind the EIT initiative, we believe it is much more realistic to achieve them by using the opportunities that an ERC offers in a concentrated and determined way.