

FRAUNHOFER GESELLSCHAFT

## **TOWARDS A EUROPEAN INNOVATION COUNCIL**

Boosting research-driven entrepreneurship in Europe

## 1 EIC reasoning

In today's global economy, companies that want to sustain their competitiveness and growth need to move beyond the development of innovative products. Innovative companies have to anticipate technological trends and potential disruption, and be able to create entire new markets.

Concurrent trends such as increasing complexity, integration, miniaturization, and digitization in the globalised economy are challenging European industries that rely on innovative solutions and technological excellence. Established firms are constantly confronted with new technologies that may substitute their own or allow for new business models that might make the firms obsolete in the value chain. The value chains have become more complex with many stakeholders and new business models. Success is now largely reliant on how well you use external knowledge and resources while maintaining your added value in the system. This creates a need to also adapt European innovation policy and its publicly funded instruments to foster innovation.

**Fraunhofer very much welcomes Commissioner Moedas' initiative to set up a European Innovation Council to strengthen Europe's economy and innovation capacities ensuring prosperity and job growth.** We propose to start as soon as possible with a pilot phase in which all existing instruments that should spur innovation will be analysed with regard to effect and scope (**EIC foundations**) and to already introduce a new instrument that brings promising technologies to investor readiness (**EIC start**). As a second step, all instruments will have to be arranged along the innovation chain to maximise synergies and to minimize overlap and redundancies. In the end, there will be a variety of instruments under the roof of EIC that map the whole way from lab to market (**EIC portfolio**) so that Europe's state of the art technologies will find a direct route to tomorrow's crucial markets with all-encompassing support along the way .

## 2 EIC foundations

The foundations for an EIC have to be a thorough analysis of the current contribution of publicly funded research and innovation (R&I) projects to sustainable economic growth and job creation in Europe. There is a common understanding that Europe does not lack the technological expertise when it comes to innovation but rather the appropriate means to bring the results of excellent research and development to the market (i.e. create impact). The need to spur innovation and to bridge the infamous 'valley of death' has been long identified and several initiatives were introduced from different players across programmes in Europe. However, despite the good intentions, the problem remains and the different initiatives have led to a rather complex and largely scattered support landscape.

**Setting up a European Innovation Council provides a unique opportunity to put everything under close scrutiny with regard to its impact on the European economy and to implement subsequent adaptation measures according to the outcome.** Fraunhofer and many other European RTOs are willing to strongly support the European Commission in this effort and to provide substantial assistance in conducting such a comprehensive impact study.

## 3 EIC start

Fostering research with public money is widely acknowledged as beneficial to the ultimate objectives of economic growth and prosperity. It is therefore important that EU funding supports interventions to overcome the "last mile" until market mechanisms become effective.

Fraunhofer was initially set up as a public body to grant access to cutting edge technologies for SMEs, but now also has a growing demand for its expertise and services from larger companies and corporations. Staying ahead of technological developments has become a challenge for companies across all sectors, and

not only for SMEs that don't have the means to maintain an internal R&D department. Staying alert and embracing change instead of clinging to traditional approaches with regard to processes, technologies and structure is necessary for companies in our globally interconnected world. Economic success is not determined by the company characteristics alone, but mainly by how the company is positioned in global innovation and value chains. The focus therefore has to shift from solely optimizing internal factors to defining and managing external relations (Open Innovation).

Fraunhofer has always been a strong link in the innovation chain, developing new technologies further until they are ready to be applied in solutions for real life problems. With the growing need to collaborate even more closely in order to optimize product development and innovation cycles, we notice a growing demand for leadership during the period where the technology is clearly promising, but not mature enough yet to calculate its market value. European industry is increasingly reluctant to take the entire risk, especially with relation to ground-breaking technologies that have the potential to disrupt established value chains but can also fail to create the new market needed.

It is that point where uncertainty prevails but the investment need is usually very high, especially with hardware-related technologies. Venture capital is not available (in Europe) at this stage, where no measurement and indicators can be applied with an adequate level of certainty and precision. The process of due diligence that precedes an investment decision follows the assumptions that are taken with regard to well-defined applications in usually well-known markets. This procedure cannot be applied to technologies where the potential applications can only be roughly described and maturation is needed to narrow down all potential options to the ones with the highest revenue potential.

That gap which is part of the well-known 'valley of death' is the most important from Fraunhofer's perspective. Many technologies do not get to a mature state because there is no stakeholder ready to take the risk. Europe possesses a huge reservoir of outstanding technologies which are not being further developed due to a lack of funding. That is where the EIC could deliver the much needed economic impact. The EIC should fund the maturation and valorisation of cutting edge technologies with strong business potential. It has to take a collaborative, non-exclusive approach that accelerates the valorisation of ground-breaking technologies with a well-defined market potential and return of investment forecast.

**R&I projects today aim at creating impact from research mainly through patents and publications. The EIC should challenge this approach to increase impact. The main deliverable of an EIC start project should be to achieve investor readiness.** This would directly tackle the valley of death. Creating future industrial companies (research-driven, resource-intensive, hardware, deep-tech scale-ups) is of utmost importance for Europe's competitiveness.

With a focus on 'investor readiness', the EIC could provide a constant stream of investment opportunities. This would be directly aimed at private investments, including from the EIB, its partner banks and others.

The EIC start instrument should transform a research project into a commercialization project at a point of time when the concrete and final product cannot be defined yet. At this stage, a collaborative setting with technological expertise is required to mature the technology but the project should be carried out with the mind-set, the determination and the objectives of a business. The EIC start instrument should therefore provide support to companies with a sound commercialisation plan and the backing of the mother institutions and an entrepreneur that will drive the project to the market. The receiving party should be a legal entity that consists of a consortium of partners building on collaborative research (i.e. for instance EU-funded projects). Accordingly, the legal entity is the commercialization vehicle for the technology. Consequently, the problematic issues of IP and revenue sharing, and of lacking commitment of people and institutions, is avoided because eligibility for EIC start support is dependent on these issues being agreed amongst the project partners.

An appropriate mechanism to channel the support to beneficiaries could be the formation of consortia by TTOs, RTOs, Universities and VC. Each participating institution provides an in-kind contribution in the form of an investment manager. The EIC support will be provided by a grant (used for the thorough analysis of potential) and a convertible loan (for seed investment).

## 4 EIC portfolio

The current EU innovation funding and support landscape is complex and largely scattered. It is almost impossible for newcomers to find the matching instrument. In accordance with the outcomes of the proposed impact study, (EIC foundations) all existing innovation funding instruments should be arranged, bundled and sharpened along the innovation value chain.

**The EIC should provide a single entry point for every innovator and could also become a role model on how to better evaluate innovation projects by setting up its own modern and dynamic procedures for project proposals and their evaluation.** In order to evaluate the potential economic impact of project proposals, the EIC needs to attract evaluators with expertise beyond science and research. In general the EIC could challenge the classical approach of reviewing written proposals. All this should lead to faster and lighter procedures which would be crucial for the efficiency and the attractiveness of the EIC.

Apart from the largely non-transparent funding and support landscape, a major drawback for innovators is the lack of connectivity between existing instruments – each of them having different eligibility criteria. Moreover innovation projects follow, in principal, the same lengthy application processes as many scientific collaboration projects. Despite all the efforts under Horizon 2020, the procedures remain slow and time to grant takes too long for innovation projects. The EIC should change this by providing a portfolio of interdependent instruments and slim-lined application procedures where a deliverable of one project would fulfil the requirements for a new proposal under a different (or even the same) instrument. A thorough examination and review of the project would be only needed once. A much reduced procedure can apply when the project moves along the innovation chain. Innovators may seek funding several times at multiple stages depending on their specific needs. Common to the whole EIC portfolio should be the parallel maturation in a technological and commercial sense.

Overall the EIC should aim to become the European 'lighthouse' of innovation. Just like the ERC is associated with Nobel Prize winners, the EIC should be associated with highly innovative companies, breakthrough innovations and successful scale-ups. The EIC should provide a strong brand that helps receiving companies to market their innovation. The EIC brand also needs to be a vehicle to project the value of research and innovation to society as a whole.