

FRAUNHOFER-GESELLSCHAFT ZUR FÖRDERUNG DER ANGEWANDTEN FORSCHUNG E.V.

COMPETITIVENESS OF THE EUROPEAN INDUSTRY

A TOP PRIORITY OF THE FUTURE FRAMEWORK PROGRAMME

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Introduction

Fraunhofer is convinced that research for and with industry has to remain a central and dedicated part of the European framework programme for research and innovation.

First, it is essential that the framework programme stimulates academia-industry cooperation and industry participation in all parts of the programme. Systematic academia-industry cooperation can enable scientific discoveries to move along the European innovation chain at much higher speed. European companies need to build up absorptive capacities beyond their regional ecosystems and academia needs to build up business and application driven thinking – ideally already at very early stages of development. It is therefore important that the framework programme stimulates academia-industry cooperation at all stages.

Second, the forthcoming framework programme should also continue to fund the development of future and key enabling technologies in pre-competitive innovation networks under a dedicated programme. This part of the framework programme should continue to be technology driven and should primarily focus on the development of a strong European technological base; this guarantees the competitiveness of the European industry. In past framework programmes, research and technology organizations (RTOs) have shown strong abilities to pull industrial partners and small and medium-sized enterprises into the different funding schemes.

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Declare the competitiveness of European industry a top priority of the whole framework programme

Science is a major contributor to industrial innovation, but the results of basic research are too unpredictable in terms of returns for private companies. Early stage industry involvement can create a better understanding of these risks in companies and ultimately lower them. In many cases, and especially for basic research at low technology readiness levels (TRLs), the relations and the understanding for the needs of the other party are particularly difficult. RTOs have proven to be helpful translators and facilitators.

There is no doubt that the European Research Council (ERC) is a European success story in funding basic science. Already in 2009, the ERC Scientific Council set up what is called today the working group on “Innovation and relations with industry”. Since then, the ERC slowly started to fund the academia-industry cooperation through the Proof of Concept (PoC) scheme. A scheme that from the start was only open to ERC grant holders and provided comparatively little funding.

Fraunhofer believes that the ERC should build up on the PoC scheme. Providing more attractive project funding and opening up the scheme to non-grant-holders could help to draw more companies into the programme. RTOs can play a vital role in connecting the different stakeholders and ultimately help to attract companies that do not conduct basic research in-house.

Strong industry involvement will also be pivotal to the success of the still discussed future European research missions and their impact on the ground. Ultimately, companies will have to provide technological solutions, products and services that can

complete a mission. It is therefore highly important that future missions are attractive to industry from the start. Missions must not only demonstrate solutions for a plastic-free ocean in the lab (one of the examples mentioned in the [LAMY report](#)), but they need to result in solid business cases that will make companies want to get actively involved in the cleanup of the oceans.

Industry involvement is not only essential for the success of the mission itself, but will need to help research results and novel technologies finding their way into different markets and fields of application. Famous examples of missions (e.g. in the field of space and defense: GPS, internet, etc.) have shown that the technologies developed may find their way into entirely different commercial applications and innovative products.

A dedicated programme for the digitization of industry and key enabling technologies

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A dedicated programme for the digitization of industry and key enabling technologies

Besides overall industry involvement in the framework programme, it will remain essential that Europe keeps a strong technological base of future and key enabling technologies. A strong technological base allows for example to cherry-pick the best-suited technologies to solve a European research mission and it paves the way for the mission's success.

Digitization is revolutionizing the European economy unstoppably. A rigorous focus in form of a dedicated programme on the digitization of industry and key enabling technologies is of paramount importance for the enhancement of European competitiveness in times of intensified global competition.

European standards, as well as the cooperation between various market participants along the entire value chain, are more important than ever and will decide who withstands global competition in the future. Collaborative research and innovation projects must accelerate digital change and lay the foundations for European standards. In times of digitization and short innovation cycles, a fast technology transfer is just as crucial as consistent co-operation along the value chain and a consequent further development of key technologies. The European Framework Programme for Research and Innovation should make a valuable contribution to all of these aspects.