Website address:
https://www.gesundheitsindustrie-bw.de/en/article/dossier/horizon-2020-the-eu-framework-programme-for-research-and-innovation-a-boost-for-top-level-research-i

Horizon 2020 – the EU framework programme for research and innovation – a boost for top-level research in Europe

In the face of the ongoing financial crisis, Europe is working on a new research strategy that is aimed at creating new economic growth and jobs. The new EU framework programme for research and innovation, "Horizon 2020", replaces the 7th Framework Programme (FP7) and will run from 2014 with a budget of €80 billion. In July 2012, Brussels launched the final FP7 calls for proposals for 2013 that offer numerous market-based instruments designed to bridge the gap towards Horizon 2020.

All stakeholders involved in implementing the European Innovation Union agree that innovation is at the heart of the new Horizon 2020 financial instrument. However, opinions differ on what innovation actually means: for science organisations, innovation is more than just economic growth, but also involves social, cultural and historical aspects. The German government and science organisations point out that any innovation process chain starts with an idea and with basic research, which do not necessarily need to have economic aspects in mind. They are much more concerned with the idea that all science areas – humanities, social, technological and life sciences – also need to address societal challenges such as climate change, an ageing population, making renewable energy more affordable and ensuring food safety and security.

Although Horizon 2020 needs to pass through the European Council and Parliament before it comes into force and although the coming months will involve debates on participation rules, specific programmes and the overall budget for the programme, the main features of the new programme have already become apparent. And this is something that the representatives of German public research have already picked up on and been careful to praise the advantages of cooperative research across Europe and the European Research Council as European DFG (German Research Foundation).

Research must have consequences

According to the Innovation Union webpage, "the programme aims to improve conditions and access to finance for research and innovation in Europe, to ensure that innovative ideas can be turned into products and services that create growth and jobs."

As an example of the reactions of scientists and business leaders, the Industry, Research and Energy committee of the European Parliament cited Dr. Burton Lee, a lecturer at the Stanford School of Engineering in the USA, who gave his thoughts on whether the EU's ambitious plans would be sufficient: "They (editor's note: the universities) are just interested in pure research institutions and they would prefer to leave somebody else to worry about innovation," and he went on to suggest that "someone needs to step forward at EU level and issue a call for action for university reform" (see 21st March 2012 press release "Experts quizzed over how to stimulate innovation in the EU").

"Horizon 2020" must first go through the European Council and the EU Parliament before it can come into effect.
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Towards an Innovation Union

For the first time, Horizon 2020 brings together EU research and innovation funding under a single programme, i.e. the research-relevant parts of the Programme for Innovation and Competitiveness and the European Institute for Innovation and Technology (EIT). Horizon 2020 is a key pillar of Innovation Union, a Europe 2020 flagship initiative aimed at enhancing

European competitiveness. On 15th May 2012, the German government published a Core Thesis Paper in which it proposed that the entire innovative cycle from pure and pioneering research to applied research and marketability needs to concentrate more on boosting competitiveness and innovation in small- and medium-sized companies (SMEs). Does this mean that research is more than ever under pressure to turn scientific breakthroughs into innovative products and services that provide business opportunities, with the goal of increasing Europe's global competitiveness?

In these times of financial crisis, many of the Horizon 2020 plans are subject to reservations, although this does not include its financial budget. Nearly €32 billion will be used to address major concerns shared by all Europeans: health, demographic change and well-being, food safety and security, climate protection and secure and efficient energy. Around €25 billion will go into supporting pure research (to be distributed by the European Research Council, ERC), close to €14 billion will be invested in key technologies (including information and communication technologies, nanotechnology and biotechnology) and around €6 billion will be used to boost the innovation and competitiveness of small- and medium-sized companies.

Steinbeis: A world-first – access to capital and support for SMEs

The Steinbeis-Europa-Zentrum (SEZ), the regional SME contact point in Baden-Württemberg focused on EU research funding, believes that the proposal does not go far enough: "We need a specific budget for small- and medium-sized companies in addition to the 15 percent that comes from the thematic programmes," said Petra Püchner, managing director of Stuttgart-based SEZ and SME expert.

Püchner does not support the idea of taking money away from programmes that would have been used to turn own SME projects into reality under FP7. Many suggestions have been put forward with regard to boosting the competitiveness of SMEs; there have been as many as ten suggestions relating to the financing of SME mentors. Püchner also pointed out that Horizon 2020 allocates less money to SMEs than FP7 does.

European institute expected to close the translation gap

The Commission also proposed to provide the European Institute of Innovation and Technology (EIT) with almost three billion euros. Established in 2008 and funded with €308 million under the ongoing framework, the EIT will play an important role in the new programme by strengthening and bringing together the 'knowledge triangle' of higher education institutions, research centres and businesses. The EIT is expected to close the translation gap between research, education and entrepreneurial activities by way of cross-border public-private partnership hubs known as Knowledge and Innovation Communities (KICs).

At present, there are three KICs (Climate KIC, EIT ICT Labs and KIC InnoEnergy), involving 200 partners from 12 European countries. These existing KICs will be expanded with the addition of six new ones in 2014-2017. Example: as part of the "InnoEnergy" KIC, the Karlsruhe Institute of Technology, the University of Stuttgart, the energy company EnBW, Landesbank Baden-Württemberg, the Fraunhofer Institute ISI and Steinbeis-Europa-Zentrum are working together on increasing the share of biomass and other renewable energy resources, amongst other things (Energy from Chemical Fuels).

Collaboration between research and industry

The European Commission is convinced that science and industry need to work closely together in order to efficiently turn scientific findings into innovative products and technologies. Brussels has published a consultation paper seeking views relating to the launch of a PPP in the life sciences area under Horizon 2020 and what areas should be addressed. As it takes a lot of money and time to turn basic research results into new drugs and vaccines, the European Commission plans – alongside the Innovative Medicines Initiative (IMI) – to establish public-private partnerships (PPPs) between public and private life sciences institutions in order to close early translation gaps and to seek multidisciplinary solutions for the "health, demographic change and well-being" challenge. The establishment of PPPs will be supported by one of the EU's most successful and pivotal funding instruments (transnational cooperative research projects bringing together researchers and SMEs).

The Commission also envisages the establishment of PPPs in the field of bioeconomy, which is also an integral part of the German government's High-tech Strategy. Another proposal (SPIRE) for a European public-private partnership dedicated to innovation in resource and energy efficiency in the process industries (www.spire2030.eu) is open for public consultation until October 2012.

MEPs call for more money and transparency

Is research always able to deliver innovation? Horizon 2020 focuses more than ever on turning scientific breakthroughs into innovative products and services – at least on paper.
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The initial reactions of members of the European Parliament (MEPs) on Horizon 2020 are quite revealing. The EU Parliament has gained a great deal more political weight since the signing of the Lisbon Treaty in 2009 and will discuss new amendments and bring its assessment to the European Commission after the summer recess.

The members of the Industry, Research and Energy (ITRE) committee in the European Parliament do not agree on all aspects of the Commission's Horizon 2020 and have made a number of key suggestions: they are calling for broader and simpler access to funds for small research institutions, they want to ensure that public research is not disadvantaged vis-à-vis industry and that research institutions are encouraged to focus on research and innovation. Members of the ITRE committee also say that the planned €80 billion are not enough if Horizon 2020 is to reach its goals. Instead of a mere 6 percent increase of the Horizon 2020 budget in comparison to the FP7 funding level in 2013, MEPs are calling for a total budget of €100 billion. They are also calling for further simplification and additional measures for SMEs, but are as a whole fairly satisfied with the new programme for SMEs for which the Commission has proposed 15% of the "Societal challenges" budget.

No decisions in the back room

MEPs also called for greater democratic transparency and more frequent evaluations (up until now, the FPs have only foreseen one evaluation half-way through the funding periods), and it seems highly likely that the EU Commission will frown on these requests. MEPs have also criticised the Commission's habit of intervening too much: they believe that the European Commission should determine the direction of the EU's overall long-term R&D policy and leave the detailed implementation up to scientific steering committees, and the definition of research and innovation priorities up to scientists in a bottom-up, competition-driven process (in much the same way as the ERC does).

Dossier

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