

Horizon 2020

Aligning your innovation strategy
to increase competitiveness

August 2013



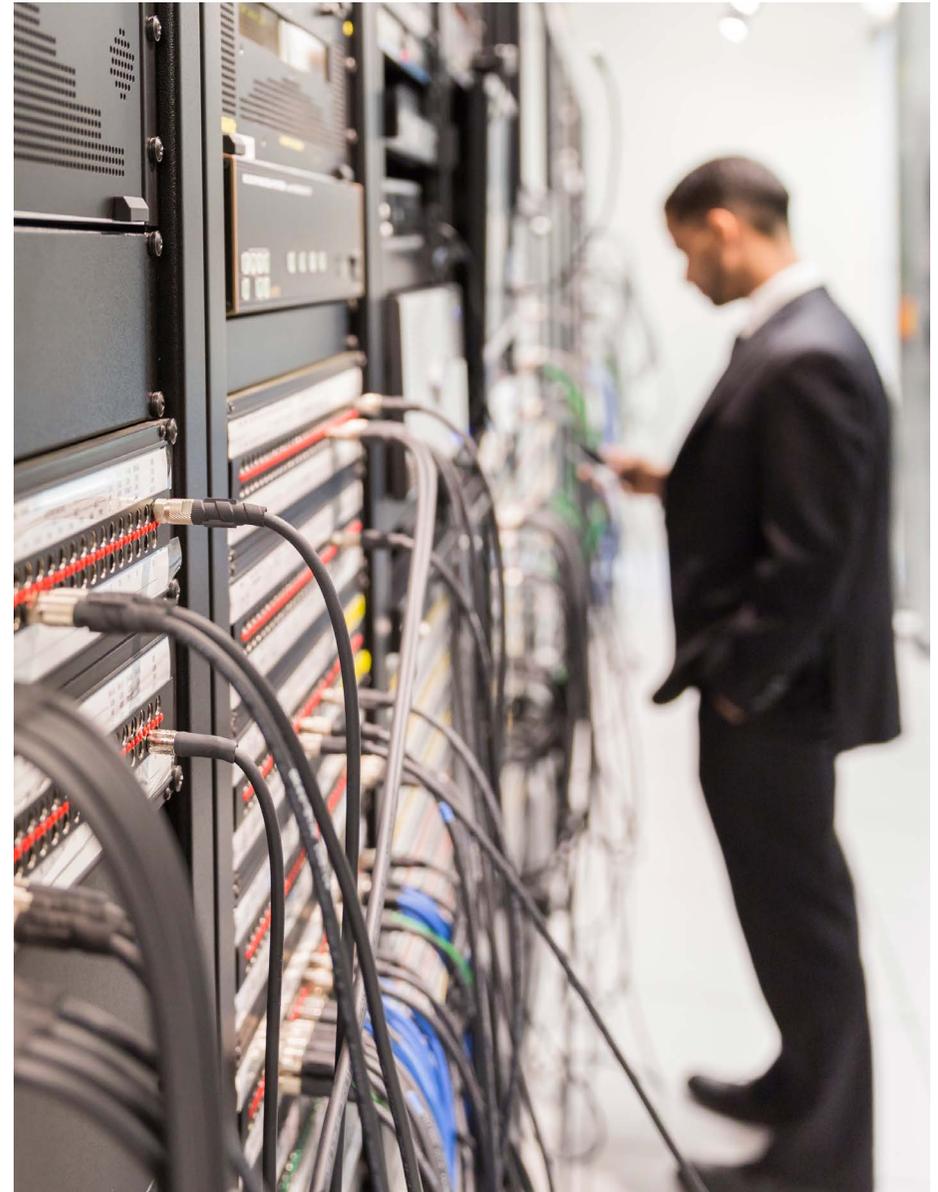
From the authors

The Horizon 2020 programme is the major funding body for research and innovation initiatives across Europe. It significantly deviates from the past Framework Programme in a way that its broader opportunities for participation is likely to increase international competition for available funding. This warrants organizations to rethink their research and innovation strategies:

- How to make Horizon 2020 work for your research and innovation ambitions?
- Optimise the positioning of your research portfolio towards the Horizon 2020's major pillars societal challenges, scientific excellence and industrial leadership;
- Adapt your internal processes and procedures towards the new regulations;
- Build, strengthen and align public-private partnerships on the regional, national and international level.

This paper highlights some of the specifics of the Horizon 2020 programme and translate these into key strategic issues and best practices. These can help you in effectuating your research and innovation agenda, to maintain or strengthen your competitive position.

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Horizon 2020

Be prepared for the new opportunities!

The comprehensive Horizon 2020 programme as a major pillar for research and innovation initiatives across Europe

In a remarkably short time, economic globalisation has changed the world's economic direction, leading to new challenges and opportunities. To compete in this new environment, Europe needs to increase its level of innovation and respond more effectively to societal preferences and needs.

Europe possesses an extraordinary potential for innovation and has a longstanding tradition of producing breakthrough inventions; it has a wealth of creative people and can build on its cultural diversity. It has laid the foundations for one of the largest single markets in the world, where innovative products and services are commercialised on a large scale. Historically, Europe has a strong and responsible public sector, with major opportunities for further capitalisation. For this reason, the European Commission is formulating, influencing and implementing policies and programmes to increase Europe's innovativeness. Through Horizon 2020, the European Commission aims to enlarge Europe's competitiveness, sustainability and job creation.

At the same time, the economic crisis hampers access to other financial sources to boost innovations. Therefore, Horizon 2020 can be considered as the major source to support Research, Development and Innovation (hereafter: RD&I) programmes across Europe. As a consequence, industry, academic institutions, clusters and other research & innovation intensive entities need to have a clear understanding of the overall objectives and content of Horizon 2020. Understanding Horizon 2020 can be an important success factor in financing and implementing ambitious RD&I strategies.

Broader opportunities for participation, but also increased international competition

Compared to its predecessor FP7, Horizon 2020 – as a single portal of a wide range of European funding programmes – enhances major simplification participation rules, making it accessible for a wider range of organisations all over the world. This implies broader opportunities for participation, but also increases international competition for available funding, therefor driving the need for organisations to review their funding strategy on RD&I. Besides technical factors such as an organisations' research agenda, quality of the research facilities and the international reputation of scientists and the institute, the economic and social factors like strategic partners, expected (short and long term) outcomes and social impact, become more and more important. Quality, external profiling and knowledge transfer are becoming increasingly relevant in order to qualify for funding under Horizon 2020.

Horizon 2020 asks for a high level of creativity and entrepreneurship. To ensure optimal participation and revenues, organisations need to develop a coherent RD&I strategy and execute this consistently on regional, national and international level.

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Horizon 2020 is with a €71 billion budget the primary EU strategic framework for European Research and Innovation in 2014-2020*

RD&I are fundamental to the Europe 2020 strategy to realize smart, sustainable and inclusive growth. The Innovation Union, being one of the seven flagship initiatives of the Europe 2020 strategy, includes the objective of increasing spending on research and development to 3% of GDP by 2020. Therefore the seven year programme Horizon 2020 will be the main financial instrument to safeguard Europe's global competitiveness, bringing together the major existing European research and innovation funding initiatives, i.e. the Framework Programme for Research (FP7), the Competitiveness and Innovation Framework Programme (CIP) and the European Institute of Innovation and Technology (EIT), (see figure 1).



Figure 1. Horizon 2020 (2014-2020) will be the main financial instrument to safeguard Europe's global competitiveness, bringing together all existing European research and innovation funding initiatives

* Only final approval by the European Council and European Parliament on the Multiannual Financial Framework 2014-2020 of the EU (including the final budget of Horizon 2020) is needed which is foreseen in the autumn of 2013.



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Mapping Horizon 2020: The three strategic policy objectives

Horizon 2020 will cover the whole spectrum of frontier and fundamental research, technological development, demonstration and tackling non-technological barriers prior to market-implementation. To this end the proposed support for RD&I under Horizon 2020 will be aligned with three strategic policy objectives: **supporting excellence in the science base**, tackling **societal challenges** and securing **industrial leadership**.

The three strategic policy objectives (see figure 2) are intimately linked to each other and are complementary to cover all relevant themes that are necessary for the Innovation Union Flagship Initiative. The “Supporting Excellence in the Science” policy objective aims to enhance the dynamism and creativity of European research and researchers, and endows world-class research infrastructures. The “Societal Challenges” policy objective includes those themes which are specifically and directly linked to the societal challenges of Europe’s 2020 strategy (e.g. health, clean energy, food security). Themes and topics that do not fall directly under the societal challenges, but are important for the competitiveness of European industries, will be supported under the “Industrial Leadership” policy objective. This objective has a strong focus on fostering industrial leadership and leveraging private sector investments by making Europe a more attractive location for businesses, large and small, to invest and set the research and innovation agenda.



Figure 2. The three strategic policy objectives of Horizon 2020 are intimately linked to each other

To achieve those objectives, Horizon 2020 will focus on excellent international consortium-based research and developments, which can be translated into practical innovations among academia and industry in the short-term. The market driven approach will focus on creating partnerships with the private sector and across Member States, strengthening participation of industry. Cooperation with third countries and international organisations will be promoted, creating impact on a global scale.

Besides the three strategic objectives, Horizon 2020 pay’s special attention to the following specific topics that will enhance a long term European RD&I impact:

Sustainable development will be an overarching objective of Horizon 2020. The dedicated funding for climate action and resource efficiency will be complemented through the other specific objectives of Horizon 2020 with the result that at least 60% of the total Horizon 2020 budget will be related to sustainable development,

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the vast majority of this expenditure contributing to mutually reinforcing climate and environmental objectives.

Public-Private collaborations will align excellent research with market needs and societal challenges, enabling participation for both industry and academia. To that extent, the European Commission, EU Member States and European industry will invest more than €22 billion over the next seven years in innovation for sectors that deliver high quality jobs. Most of the investment will go to five public-private partnerships in innovative medicines, aeronautics, bio-based industries, fuel cells and hydrogen, and electronics. Additionally Horizon 2020 will give more room to Public-Private Partnerships and stimulates cluster initiatives¹ that display a more durable collaboration. The execution of the Strategic Innovation Agenda 2014–2020 of the European Institute of Technology (EIT) and an allocation of 3.5% of the total Horizon 2020-budget to the consolidation and further development of the existing Knowledge Innovation Communities (KIC's)² and the creation of five new KIC's is a clear statement on this development by the European Commission.

SMEs constitute a significant source of innovation and growth in Europe and therefore Horizon 2020 takes a new approach to stimulate and support research and innovation in SMEs. A dedicated SME instrument enhances small companies to lead European innovation projects, which shall be conducive to their competitiveness and growth while tackling societal challenges. For this reason around 15% of the total combined budget of “Societal Challenges” and “Leadership in enabling and industrial technologies” under the pillar “Industrial Leadership” will go to SMEs. The programme will assess SME participation both at monitoring and evaluation stages.

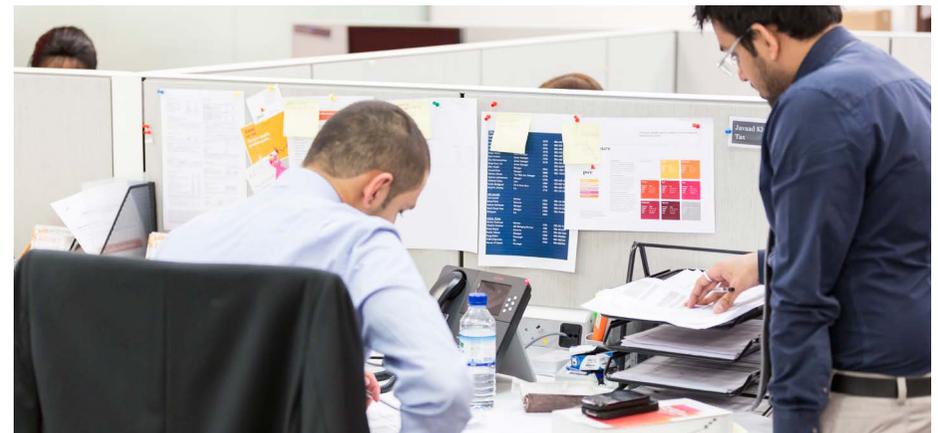
- 1 A cluster is a thematic oriented triple helix collaboration bringing together industrial needs with academic excellence and governmental policies within integrated research agendas
- 2 KIC's are highly integrated partnerships, bringing together excellent universities, research centres, small and large companies and other innovation actors on a long-term basis around specific societal challenges

Smart specialisation: Linking regional development to European opportunities

A strategic approach at Union level is to align resources through smart specialisation. This means identifying the unique characteristics and assets of each region, highlighting its competitive advantages, and rallying regional stakeholders and resources around an excellence-driven vision of their future. It also means strengthening regional innovation systems, maximising knowledge flows and spreading the benefits of innovation throughout the entire regional economy. Having a smart specialisation strategy in place will be the basis for Structural Fund investments in R&I as part of the future Cohesion Policy's contribution to the Europe 2020 jobs and growth agenda.

Broader opportunities by simplifications

Horizon 2020 will introduce a number of new features in, application, administration, financing processes and audit which triggers preparation both in case of experienced participants of previous European Innovation programmes (FP, CIP and EIT) and new participants. The following table summarizes the main changes and their expected effect on the different organisations to obtain and manage related public funding (+ Advantageous, ++ Highly advantageous, +- Neutral, - Disadvantageous, -- Highly disadvantageous). The direction of the effect (advantageous or disadvantageous) depends on individual organization specifics and will require a more in depth analysis, including their accounting system and R&D portfolio.



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	Academia	Industry	Clusters
Integration of research and innovation - Support from idea to market			
More support for innovation and activities close to the market, leading to a direct economic value	+	++	++
Creating business opportunities out of responses to societal challenges in Europe and globally	+	+	+
Improved access to risk-finance for SME's being successful in demo-phase	+ -	++	+
Further improvements and clarifications on IPR (more open access)	+	++	+
Opening towards new participants			
Inclusive approach to ensure the participation of excellent researchers and innovators across Europe and beyond	++	+	++
Including ideas outside the mainstream	++	++	++
Special facilities to ensure easy access for SME's	++	++	++
More options for new entrants and young, promising scientists to put forward their ideas	++	+	++
Reduced bureaucracy, accelerated processes			
Simpler programme architecture and single set of participation rules	++	++	++
Single point of access for participants	++	++	++
Fewer controls and audits (only at the end of the project)	++	++	++
Less paperwork in preparing proposals and grant agreements, reducing the average time to grant by 100 days	++	++	++
Easy to use cost reimbursement model			
Single flat rate for indirect costs 25%* (instead of different calculation methods)	--	+ -	-
Single reimbursement rate indifferent to the type of participant (per action) up to 100% of direct costs*	++	++	++
Reimbursement rate (70%*) for close to market actions primarily consisting of activities such as prototyping, testing and demonstrating	+	+ -	+
Simplifications in funding rules (e.g. personnel costs, time-recording requirements), broader acceptance of beneficiaries' usual accounting	++	++	++
Eligibility VAT / no declaration on interest pre-financing needed	++	+	++
* Expected rates, not yet finalized.			

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Although simplifying and broadening of participation rules are in general being perceived as advantageous, the potential downside for industry and academia could be increased competitiveness, as the entrance hurdle for (new) participants will be lowered. Due to announced changes in the cost reimbursement model, academia for example need to adjust their financial planning with the modified financial administration rules, especially since there is a re-shift from funding indirect costs to funding direct costs. Furthermore Horizon 2020 can pave the way for companies to take new roles in international collaborations due to its simplifications and its increased focus on industrial leadership.

How to make Horizon 2020 work for your organisations' RD&I ambitions

Horizon 2020 may strengthen your research activity and support new related initiatives in the coming years. However for developing a winning project and obtaining EU-funding a thorough preparation well in advance is necessary. Although the first call of Horizon 2020 is already expected to be published in January 2014, the period of opening of subsequent EU-calls provides a perfect opportunity for your organisation to prepare a sound strategy for effective participation in the Horizon 2020 programme and to get involved in the preparations of - and consultations on - the further Horizon 2020 work programmes.

More opportunities but increased competition – Review your RD&I strategy

Due to the simplifications and changes mentioned earlier, increased competition for funding will be the main impact for all academia, industry and cluster organisations. The total budget of Horizon 2020 is remarkably higher than the budget of the preceding FP7, however a keener competition will be more perceptible on international level due to the economic down-turn in Europe and related cost cuttings in national research and innovation funding budgets. With funding pipelines on a national level running dry, it is more important than ever to align the organisation's RD&I strategy with the European Innovation Agenda. The key-issues for reviewing the RD&I strategy from a Horizon 2020 perspective need to be considered on three different levels:

1. **Thematic level:** Organisational positioning towards the three pillars of Horizon 2020
2. **Internal level:** Adapting internal processes & procedures towards the new regulations
3. **External level:** Building public-private partnerships and organizing efforts in clusters on a regional, national and international level

Below these key-issues are outlined in some more detail.

1. Thematic level: Positioning towards the three pillars of Horizon 2020;

To participate successfully in Horizon 2020, organisations need to align - or possibly even redirect - their RD&I strategy. The first step would be to map the current and/or aspired RD&I portfolio according to the three major pillars of Horizon 2020: excellent science, industrial leadership and societal challenges (see figure 2). A strategic question for such an initial assessment is the way how current RD&I programmes excel on at least one of these pillars, or how their focus could be readjusted to improve this. A clear break with the past is for example ICT and nanotechnology. Whereas FP7 considered ICT and nanotechnology as a stand-alone theme, Horizon 2020 thematically positions them as enabling technologies to better serve industrial needs. Hence, academic centres active in these areas would want to strengthen collaboration with industry in a wide range of sectors to ensure that academic research directly serves their sector specific needs.

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Competitiveness of R&D portfolio within the context of The Horizon 2020 programme: an example

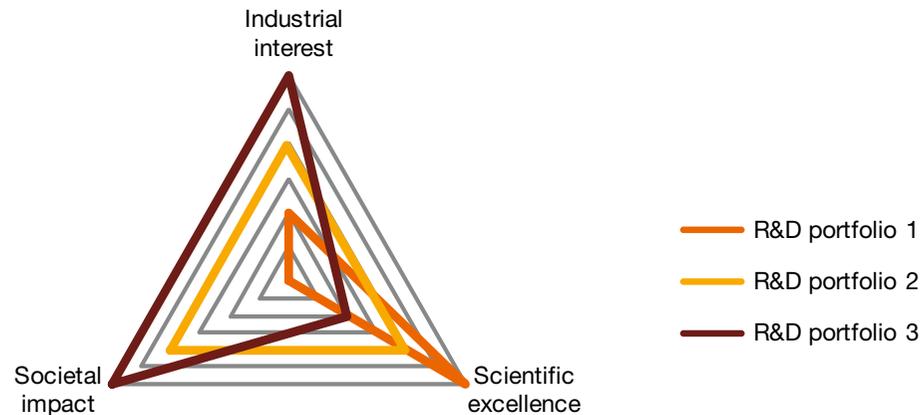


Figure 3. Plotting the competitiveness of a given R&D portfolio according to the three pillars of the Horizon 2020 programme: excellent science, societal challenges and industrial leadership.

Every focal R&D programme or area -albeit pursued on an individual entity or partnership level- can be ranked according to its competitiveness on each of the pillars. In figure 3, data is shown for an organisation that pursues several R&D programmes that are highly competitive on at least one or more pillars and with at least reasonable scores on the remaining pillar(s). The resulting R&D competitiveness landscape as exemplified in the figure can be used as a basis to prioritise among R&D activities relevant within the Horizon 2020 context and the regional specialisation strategy. Based on this selection, potential successful projects and complementary partnerships (with an excellent score on a certain pillar) can be identified to strengthen the competitiveness of such priority R&D activities.

2. Internal level: Adapting internal processes & procedures towards the new regulations;

A clear insight in the competitiveness of a given R&D portfolio will help to identify R&D activities that could qualify for EU funding by Horizon 2020 before the first calls for proposals are published. But, more important, it can help to determine a strategy towards national and European lobby trajectories, potential collaboration partners and/or clusters and internal funding policies supporting a structured approach towards mobilization of public- and private funding sources.

Where previously organizations were dazzled by constant changes in rules and regulations, now a more proactive attitude is commonly used by organizations that frequently make use of European funding schemes. An important trend is the harmonization of internal funding processes. By identifying internal roles and integrate funding tasks within regular functions that fit-in within the normal scope of responsibilities, obligations attached to EU-funding can be met more easily. This can be supported by centralized instructions on cost allocation and uniform cost calculation methods.

Where appropriate and possible, an increasing number of organizations also decide to centralize supporting (funding) functions with the aim of promoting uniformity, knowledge sharing and control of risks. These supporting (funding) functions not only support in the preparation of applications, administration of project activities and costs or accountability and control, but also assist in project initiation, partner search and lobby.



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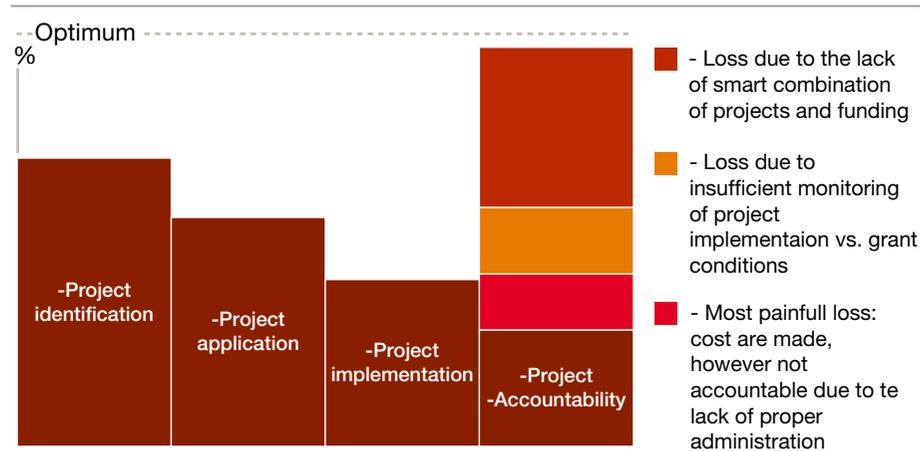


Figure 4. Elements that optimize additional funding

The key concepts for this transition are uniformity and standardization of processes, eventually supported by a more extensive form of digitization or electronic data exchange. For most organizations uniformity results directly in the prevention of potential losses on the obtainment of related EU-funding (figure 4) and the following benefits:

- more focus on acquisition of public funding;
- better utilization of existing EU- funding programs;
- more monitoring and control on promised EU-public funding;
- improved and timely project administration, less administrative burden and increased transparency both internally as to external parties ;
- increased overview of progress of project implementation and budgets in general;
- more insight into risks;
- increased compliance and less audit costs

3. External level: Building public-private partnerships and organizing efforts in clusters;

Due to the increasing awareness that the answers to European societal challenges can only be provided by powerful coalitions between government, academia and businesses,

the development of public-private partnerships has taken a flight. Thematic RD&I driven clusters are developing and seek cross border alliances to increase critical mass and upscale their impact. By stimulating world class research excellence the European Commission strives to improve European research & innovation capacities in bringing these collaborations to an international level.

To achieve sufficient critical mass and create capacity, it is important to find strategic partners which are complementary to your own knowledge, expertise and infrastructure. By identifying complementary partners, aligning your RD&I strategies into joint action plans and building sustainable cross border collaboration structures, the innovation potential of the partnership will be increased. Furthermore, such partnerships are the perfect breeding ground to develop fragmented project ideas into a European-level project and reacting quickly to future opportunities while meeting the objectives of Horizon 2020. The evaluation of these collaborative projects will be based on the following criteria:

- the added value of action at EU-level;
- potential scale of impact on industrial competitiveness, sustainable growth and socio-economic issues;
- scale of the resources involved and the ability to leverage additional investment in research and innovation;
- a clear definition of roles for each of the partners and agreed key performance indicators over the period chosen;
- long term commitment from all partners based on a shared vision and clearly defined objectives.

Strategic challenges in organising efforts within a cluster lie in establishing an innovation chain - from education to economic impact - drawing on, but moving beyond the experience and capabilities of individual parties delivering measurable societal, economic and entrepreneurial learning and business impact. In this light focus on a cluster's capabilities, competences, competitive advantages and potential for excellence within European and global value chains is essential, making smart specialization a must.

Additionally it is very valuable to get involved in international representative bodies to position your research area and bring in the competitive knowledge and experience of

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your own organisation and its regional and (inter-) national partners. In this light it is important to take notice of the fact that Horizon 2020 is an excellent opportunity not only to receive funding for joint RD&I activities, but also for the development of clusters itself. Operational issues can be addressed such as structuring these collaborations legally and financially enabling them to work cross-borders in a changing regulatory and technological environment.

Potential to create synergic effects on several geographical levels

The key issues within before described levels are closely linked with each other, having the potential to create synergic effects in positioning the organisation for effective realisation of the organisations' RD&I ambitions through collaborations on several geographical levels (figure 5).



Figure 5. The key-issues are closely linked with each other, having the potential to create synergic effects on several geographic levels



Having a strong thematic focus provides a solid base to successfully position the organisation externally, enabling the search for – and collaboration with – complementary partners. Internal preparedness will benefit the organisation in implementing its RD&I strategy while creating a strong(er) collaboration and networking power to support collaborations on a regional, national and international level. Aligning both will enhance successful representation of the available knowledge, experience and interests of the organisation within a network, a cluster or a scientific area facilitating strategic alliances and participation in international and multidisciplinary collaborations funded by Horizon 2020.

Consider the increased value of the Horizon 2020 programme in the realisation of your research and innovation ambitions, and the need to adapt your current research and innovation strategy. We are there to share ideas to help you formulating and implementing your strategy for successful participation in Horizon 2020.

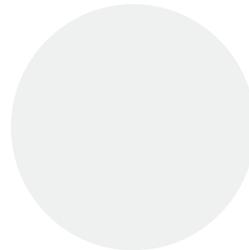
PwC has extensive experience in advising academia, industry and cluster entities for the obtainment and management of EU-funding and has advised the European parliament on Horizon 2020. With a global network of Grants & Incentives colleagues and a dedicated Dutch team, we would be pleased to discuss your RD&I strategy and its alignment with Horizon 2020 and to support you in identifying additional public funding opportunities.

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