



Synergies between Framework Programmes for Research and Innovation and European Structural and Investment Funds

Contributing to the Interim Evaluation of Horizon 2020
Final Report

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Synergies between Framework Programmes for Research and Innovation and European Structural and Investment Funds contributing to the Interim Evaluation of Horizon 2020

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EXECUTIVE SUMMARY

This study, broad in scope, is based on the design and implementation of several research approaches and tools. The purpose was to:

- Provide **evidence** on the progress of synergies in view of the Horizon 2020¹ interim evaluation;
- Raise the **visibility of the synergy policy** area by identifying concrete examples of synergies at the level of strategies and programmes, as well as funded projects;
- Identify the main **fostering and hampering factors**;
- Identify the progress of the **shift in mind-set** required to design, target and implement synergies successfully.

This study is based on evidence of different sources and qualities. Rather than a set of 'hard' recommendations, this report provides a set of stimuli and inputs on the subject matter of synergies, which are presented to be used for their wider scale generation.

The analysis of the research activities shows that:

- There are 114 work programmes for Horizon 2020 in the two periods 2014-15 and 2016-17, covering all the programme areas plus other areas such as EURATOM;
- 99 work programmes specifically mentioned European Structural and Investment Funds (ESIF) or synergies (86.8%)
- 15 did not mention the topic (12.3%).

*The level of **specification of the synergy objectives** is very variable in the H2020 work programmes (WP); in some cases, there is guidance in the main text of the WP, in other cases ESIF and synergy-related issues are only mentioned in the footnotes. In most cases, H2020/ESIF synergies seem more to be offered as an opportunity, to provide space for it in the programme, rather than providing concrete guidance to their set-up and implementation.*

The study analysis focused on the mainstream ESIF Operational Programmes (OP) and on the cross-border, transnational and interregional co-operation programmes. The analysis of a number of abstracts available shows that overall there is an explicit approach to synergies in many EU-15 and in EU-13 Member States². Many synergy-oriented actions are included in national and regional OPs and in OPs for cross-border, transnational and interregional programmes.

The 'probing' of OPs showed that many OPs mention synergies in their overall introduction and principles, demonstrating that synergies with H2020 are directly addressed by national and regional authorities concerned with cohesion policy.

The on-line survey shows that from the perspective of H2020 National Contact Points (NCP), communication with ESIF Managing Authorities (MA) should be improved for the sake of creating synergies. There are possibilities of sharing knowledge, integrating information and seeking forms of cooperation through the different synergy types.

¹ The EU Framework Programme for Research and Innovation for the period 2014-2020

² EU-15 Member States are those who joined the European Union before 2004. EU-13 joined on 1 May 2004.

Communication can help overcome the different set-ups of the two frameworks: H2020 and ESIF.

*The on-line survey considered **awareness raising and communication activities** as the starting point of the construction of synergies.*

H2020 NCPs do not consider there to be very intense exchange of information on H2020 structures and rules with the ESIF Managing Authorities and the related community. From the opinions gathered from the NCPs, their direct interaction with ESIF MAs seems not to be as developed as general dissemination towards the general research and innovation stakeholders.

The implementation of a complex and articulate policy instrument, such as H2020/ESIF synergies, would benefit significantly from an appropriate system to observe, track and monitor design, implementation and results of this policy.

Such a system could take advantage of the upgrade of existing monitoring systems, as well as of the implementation of new systems to be linked to existing H2020 and ESIF monitoring and assessment schemes, enabling the appraisal of outcomes and impacts.

There is a clear preference by the NCPs for generating synergies in the area of market-related applications, which could enhance the impact on growth and cohesion, creating jobs and offering solutions to territorial issues.

The NCPs indicate that there are major possibilities to improve the set-up and implementation framework and the ease of synergy implementation.

Based on the low number of responses received as part of a survey addressed to ESIF Managing Authorities, so far there seems to be a tendency among the MAs where they see a limited impact of smart specialisation strategies (RIS3)-promoted synergies on increased participation in H2020 and increased take-up of Framework Programme results towards the market, but they seem to recognise a strong relationship between their smart specialisation strategies and key H2020 approaches such as:

- *Science and Technology (S&T)-driven innovation;*
- *Demand-driven S&T;*
- *Public sector innovation;*
- *Partnership development between research, education and business;*
- *Fostering start-ups and scale-ups and to SME innovation projects;*
- *Developing research infrastructures.*

The ESIF MA survey results seem to indicate that:

- *There is significant involvement of academics and universities and of science and technology parks in the cohesion policy programming and implementation, depending on the presence of these infrastructures in a region;*
- *ESIF MAs work together with business support bodies;*
- *Collaboration with SMEs is considered to be very important;*
- *ESIF MAs involve regional development agencies in cohesion policy programming and implementation, while the involvement of civil society seems to be more limited.*

Overall, the study shows that synergies have clear benefits, and in some situations, they seem to emerge naturally. It is frequently observed that research and innovation actors in regional contexts are engaged and cooperate within H2020 operating according to the principle of excellence.

The study also confirms that there is a legal basis for synergies, there are overall implementation guidelines for all institutional players and the system of guidelines is more and more complete. There is good general knowledge of the opportunities provided by synergies among H2020 NCPs.

The generation of synergies is considered a significant policy approach that has an important role in supporting regional development and implementation of smart specialisation strategies. However, **their generation is seen by stakeholders as variable, occasional and based on chance**, more than on a systematic process. Many survey respondents and interviewees believe that **synergies are in their infancy and their generation is still limited in respect to the level of political support and expectations**.

The main areas to be addressed to improve the generation of synergies and to boost their impacts on regional development, on growth, job creation and tackling societal challenges are:

- strategic framework and programming;
- generation of concrete guidance and implementation of best practice;
- monitoring.

These issues should support a more specific, widespread, efficient and effective implementation of synergies between H2020 and ESIF.

The **strategic framework** exists; the rules are clear and synergy strategies are embedded in H2020 work programmes. Based on the low number of responses received as part of a survey addressed to ESIF Managing Authorities, it seems that some additional effort of awareness raising and coordination would improve the embedding of synergies in ESIF operational programmes.

Related to this is the **awareness** of the need for structured cooperation of synergy players, which is not fully realised.

The **clear definition of roles** would allow a more effective and focused support to the generation of synergies.

The key issues may be synthesised as follows:

- there is a need for a better clarity of concepts, definitions, roles and responsibilities;
- there is a need for better clarity of objectives and expected impacts, of their quality and size;
- there is a need for an improved definition of prioritisation and scaling up approaches, through feasibility and impact studies: in synergies, one size does not fit all.
- there is a need for more intensive communication, awareness raising, coordination and involvement of actors;
- there is a need for a more concrete design and implementation support, through synergy processes and showcasing of best practice;
- there is a need for coordinated monitoring, evaluation and feedback.

Addressing these key issues has the potential to **improve the design and implementation of synergies significantly in respect to the current state**. Actions should be taken to increase the clarity of the regulatory and implementation frameworks and the correspondence of the programme cycles to the two frameworks; to progress the dialogue and cooperation between the stakeholders involved in ESIF and in directly managed European Union programmes such as H2020; to improve the involvement and coordination of the actions of all interested players, i.e. the European Commission, ESIF MAs, H2020 NCPs, H2020 beneficiaries; to enhance and broaden the strategic embedding of synergies in both H2020 WPs and ESIF OPs; to increase the overall generation of synergies and widen their scope by attracting all interested actors; to generate favourable spill-overs towards EU-13 as these Member States are recipients of the higher share of European Structural and Investment Funds; to generate favourable impacts of synergies, pursuing their target development.

INTRODUCTION AND STUDY OBJECTIVES

1 Synergies

Synergies between Horizon 2020, the EU's Framework Programme for Research and Innovation, and the European Structural and Investment Funds (ESIF) have received high political support in the Union. Synergies are considered as one of the key policies to support job creation, growth and competitiveness across Europe's regions.

Synergies aim to building meaningful interactions, combining **place-based innovation investments** in smart specialisation priorities with **world-class research and innovation initiatives**, thus ensuring a higher impact of both types of funds – Horizon 2020 and the European Structural and Investment Funds – generating significant socioeconomic impacts.

The taxonomy of synergies provided by the "Guide on Synergies" includes five main types:

- Providing funding from **alternative sources** for positively-evaluated Framework Programme/Horizon 2020 proposals but not funded due to insufficient call budgets;
- Funding actions that build **research and innovation capacities of actors** aimed at participating in the Framework Programme/Horizon 2020 or other internationally competitive research and innovation programmes (sequential - upstream);
- Funding actions that capitalise on already-implemented Framework Programme/Horizon 2020 research and innovation actions aimed at **market up-take** (sequential - downstream);
- Combining funding from the Framework Programme/Horizon 2020 and the ESIF (and/or from other sources) for **coordinated parallel actions** that complement each other;
- Bringing together funding from Horizon 2020 and ESIF in **an integrated research and innovation project** that could be a single action or a group of inter-dependent actions or operations.

Synergies are expected to gain strength as, for the first time, both frameworks (H2020 and the Common Provisions Regulation of ESIF) now include the **legal mandate** to maximise synergies not only between these two instruments, but also with other programmes. The Common Provisions Regulation for ESIF emphasises the strategic and programming needs of synergies and has made them an essential element of smart specialisation strategies.

The promotion of synergies targets three levels to be considered in a combined way: the strategic, programming and project levels. The **strategic and programming levels** assure the continuity in policy and a long-term vision and determination in the strategy implementation. The stimulation of strategic cooperation between public authorities responsible for the design of programmes is indispensable.

At **project implementation level**, impact on added value for the regional economy must be ensured.

The basic rules include:

- No double funding of the same cost item;
- No substitution of co-funding (national, regional or private to Horizon 2020 / ESIF projects or programmes) from other instruments;
- No diversion of funding from the purpose of the instrument.

There is a consensus on the fact that conceiving and setting up synergies builds on a change in mind-set:

- **Combining strategic thinking** about excellent research and innovation (R&I) and territorial development, associating the strategic scientific and innovation element with the objective of territorial growth;
- Adopting a **systemic approach** to identifying, involving and integrating actors, knowledge creation and development instruments in the synergetic process;
- Identifying and implementing the **most effective opportunities of synergies** in all H2020 programme areas;
- Synergies between H2020 and ESIF will benefit from tailored **set-up and implementation practices and of monitoring mechanisms** to provide information and evidence as to their relevance, effectiveness and impact.

This study, broad in scope, assesses the synergy achievements of the EU Framework Programmes for R&I and the European Structural and Investment Funds in the strategic and implementation processes. It looked at the approaches and at the progress in synergy generation and sought statements about the potential improvements in efficiency and effectiveness to pursue the common goals of growth, jobs and tackling societal challenges.

This study was based on evidence of different sources and quality. Rather than a set of 'hard' recommendations, this report provides a set of stimuli and inputs on the subject matter of synergies, which are presented to be used for their further development.

2 The specific objectives of the study

This study was based on the design and implementation of several research approaches and tools – a **literature review**; **surveys** targeted at ESIF Managing Authorities, H2020 National Contact Points and H2020 beneficiaries; and **interviews** with ESIF Managing Authorities; H2020 National Contact Points; Horizon 2020 beneficiaries; and the European Commission officials.

These approaches and tools:

- Provide **evidence** on the progress of synergies in view of the Horizon 2020 interim evaluation;
- Raise the **visibility of the synergy policy** area by identifying concrete examples of synergies at the level of strategies, programmes as well as funded projects;
- Identify the main **fostering and hampering factors**;
- Identify the progress of the **shift in mind-set** required to design, target and implement synergies successfully.

3 The methodological approach

The study was developed in a tight timeframe to comply with the evidence needs. The study was developed along three tasks:

- **Desk research**, to create the conceptual and documental information and data basis for the study. It supported the formulation of the questions in the surveys and interviews and constitutes a key element of the study's information base.
- **Web-based survey**, which was used to create a broad information set of opinions and judgments involving a significant number of stakeholders and experts. It involved ESIF MAs, H2020 NCPs and H2020 beneficiaries.

- **Thematic qualitative interviews**, which made in-depth reviews of the results of the web-based survey and of the desk research, and which have collected additional information. The interviews involved ESIF MAs, H2020 NCPs and H2020 beneficiaries as well as European Commission officials.

The three data collection activities are strictly interconnected and each one feeds into the subsequent one. This report provides a combined assessment of the results of the three tasks and outlines conclusions and recommendations.

THE STRATEGIC FRAMEWORKS FOR SYNERGIES

Both the legal frameworks of H2020 and the Common Provision Regulation of ESIF include the mandate to maximise synergies not only between these two instruments, but also with other programmes.

4 Synergies in the H2020 Work Programmes

The H2020 participant portal provides a link to regional policy³ and the related “Guide on synergies between European Structural and Investment Funds, Horizon 2020 and other innovation and competitiveness related EU programmes (COSME, Erasmus+, CreativeEurope and the digital services part of the Connecting Europe Facility)”⁴. This Guide is the starting point to design synergies and was extensively referred to and discussed in the study’s empirical research activities (surveys and interviews).

The study reviewed all the **Work Programmes (WP) of H2020** for the two-year periods of 2014-15 and 2016-17. The analysis was synthesised in the table annexed to the present document, which includes all H2020 programmes that address or mention synergies between H2020 and ESIF.

The analysis shows that:

- There are 114 Work Programmes in the two periods 2014-2015 and 2016-2017, covering all the H2020 areas plus other areas such as EURATOM;
- 99 Work Programmes specifically mentioned ESIF or synergies (86.8%);
- 15 did not mention the topic (12.3%).

The level of **specification of the synergies** is very variable; in some cases, there is guidance in the main text of the WP, in other cases ESIF and synergy-related issues are only mentioned in the footnotes. In most cases, H2020/ESIF synergies seem more to be offered as an opportunity, to provide a space for it in the programme, rather than providing concrete guidance to their set-up and implementation.

5 Synergies in ESIF Operational Programmes

The study analysis focused on the mainstream ESIF Operational Programmes (OP) and on the cross-border, transnational and interregional co-operation programmes. For the implementation of ESIF, national and/or regional authorities have developed over 400 Operational Programmes of which 167 provide support for Thematic Objective 1 Research, Technological Development and Innovation, i.e. not every programme supports research and innovation. The analysis was performed based on summaries available on the European Commission's Regional Policy website⁵ to overcome issues of

³ http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/regional-aspects_en.htm

⁴ Guide on Synergies is also available at the Horizon 2020 Participant Portal under the tab ‘Other Funding Opportunities’: <http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/other/index.html>

⁵ Summaries of the Operational Programmes adopted by the European Commission at the beginning of a programming period 2014-2020 are available at http://ec.europa.eu/regional_policy/en/atlas/programmes/

their high number and different national languages. Nevertheless, several OPs were 'probed', mostly those that were written in our research group's working languages.

The initial analysis of several OP summaries available shows that overall there is an explicit approach to synergies in many EU-15 and in EU-13 Member States⁶. Many synergy-oriented actions are incorporated into national and regional OPs as well as to cross-border, transnational and interregional programmes.

The 'probing' of OPs showed that many OPs mention synergies in their overall introduction and principles, demonstrating that synergies with H2020 are directly addressed by of national and regional authorities concerned with cohesion policy.

VIEWS ON SYNERGIES: THE STAKEHOLDER SURVEY

The main aim of this study on synergies is to construct an evidence base of synergies on the strategic, programming and project implementation levels. The ESIF implementation is under the European Commission's and Member States' shared management rules while Horizon 2020 and the other EU R&I instruments are managed at the EU level (directly by the European Commission or its Agency).

*The **key actors** in the design and implementation of synergies are the ESIF Managing Authorities; the European Commission services supervising and managing the Framework Programmes for Research and Innovation; the H2020 National Contact Points supporting the participation in research and innovation programmes; and the beneficiaries of Framework Programme.*

The data collection instruments of the study were surveys and interviews to build the necessary information base on synergies between H2020 and ESIF and to research stakeholder perceptions on success cases, on-going practices, success factors, challenges, and barriers. Information emerging from the surveys was also used to assess the synergy experience and to identify key measures on the field to improve the effectiveness of this policy and its contributions to the overall EU policy goals.

The three questionnaires were sent to:

- *ESIF Managing Authorities (MAs);*
- *H2020 National Contact Points (NCPs);*
- *H2020 beneficiaries.*

The three tables below show the response numbers and percentages.

H2020 NCP survey:

<i>Number of potential participants in survey</i>	<i>837</i>	<i>100%</i>
<i>Submitted responses</i>	<i>133</i>	<i>15.9%</i>

ESIF MA survey:

<i>Number of potential participants in survey</i>	<i>289</i>	<i>100%</i>
<i>Submitted responses⁷</i>	<i>27</i>	<i>9.3%</i>

⁶ EU-15 Member States are those who joined the European Union before 2004. EU-13 have joined in 2004.

⁷ Four responses received were of insufficient quality.

H2020 beneficiaries' survey:

Number of potential participants in survey	236	100%
Total submitted responses	17	7.2%

The number of responses in relative and absolute terms was carefully assessed. The responses by H2020 National Contact Points were sufficiently high, while the responses by ESIF Managing Authorities were significantly lower. Likewise, the responses by H2020 beneficiaries were low.

To avoid any possible distortion, responses of ESIF MAs and H2020 beneficiaries were both considered only to identify possible mainstream opinions and possibly weak signals⁸ for certain issues emerging from the design and implementation of synergies. In other terms, the statements emerging from the ESIF MA survey are presented in this report as potential general indications. The same approach was used for the limited responses received in relation to the survey of H2020 beneficiaries.

6 The survey responses of H2020 NCPs

H2020 National Contact Points (NCPs) have the mandate to support the implementation of the Framework Programmes for research and innovation in the national, and possibly also regional, context. The overall objective of the survey was to understand their knowledge of ESIF and their involvement in the generation of synergies between H2020 and ESIF.

Despite the limited time-frame of the publication of the online survey, the participation of National Contact Points was surprisingly high: 133, equal to nearly 16% of the overall survey population.

The questionnaire was deliberately kept short and focused, trying to get a comprehensive picture of the relationship of NCPs with ESIF and synergies, starting from perception and knowledge and completing that picture with statements and assessments.

6.1 The level of NCP knowledge about ESIF programming

It was important to provide an overall perception of the **relationship of NCPs with ESIF and synergies**: most NCPs declare a medium to high knowledge of ESIF programming. EU-13⁹ NCPs confirm a relatively higher knowledge of the subject matter than EU-15 NCPs, possibly related to the fact that the bulk of the European Structural and Investment Funds is allocated to the Member States who joined the European Union in 2004.

EU-15 NCPs are aware and knowledgeable about ESIF and synergies, being aware of the opportunities, but also of the possible directions of further generation of synergies.

6.2 The level of NCP synergy promotion activities

The NCP survey explored the consistency of NCP action to design synergies, to spread information and to generate synergies together with potential H2020 beneficiaries.

Nearly half of EU-13 NCPs confirm a medium to high level of synergy promotion activities, which is consistent with the level of ESIF these Member States receive. The

⁸ According to Ansoff and McDonnell (1990), "Weak signals" are "imprecise early indications about impending impactful events" (p. 20), while strong signals are "sufficiently visible" and "concrete".

⁹ EU-15 Member States are those who joined the European Union before 2004. EU-13 have joined in 2004.

percentage of EU-15 NCPs declaring a high level of synergy promotion activities is slightly lower than the one of EU-13 NCPs.

The emerging picture is logical and related to the weight of ESIF and related opportunities for generating synergies in the respective Member State groups.

6.3 The interest of FP applicants to engage in synergies distinguished by the synergy type

Another significant aspect related to synergies concerns the interest of potential FP applicants. EU-13 NCPs perceive a higher interest of applicants in generating synergies in the **same research and innovation project**, while EU-15 NCPs indicate that the interest in this type of synergies is relatively low.

EU-13 NCPs perceive quite a high interest by FP applicants in the synergy generation in **successive, upstream projects** (aiming at H2020 funding). EU-15 NCPs see this interest as slightly lower.

Concerning synergy generation in **successive, downstream projects** (supporting the uptake of research and innovation results towards markets) the interest perceived by all H2020 NCPs is relatively high.

EU-13 NCPs perceive the interest of FP applicants in the synergy generation that targets **coordinated, parallel projects**, as relatively higher in respect to EU-15 NCPs.

All H2020 NCPs perceive a high interest of FP applicants in the synergy type where **positively-evaluated FP proposals are encouraged to look for alternative funding, including ESIF**, with the support of **the Seal of Excellence** (three-fifths of all respondents). The perception of EU-13 NCPs is significantly higher than the one perceived by EU-15 NCPs.

The analysis of all aggregated responses on all synergy types of interest, shows the following priorities ranked from high to low:

- Alternative funding for positively-evaluated (R&I) projects with the Seal of Excellence;
- Combined FP/ESIF funding in the same project;
- Coordinated parallel projects;
- Successive downstream projects;
- Successive upstream projects.

6.4 NCP perception of the level of cooperation with ESIF MAs on synergies

It was important to estimate the **level of cooperation between H2020 NCPs and ESIF MAs**, which is at the origin of the set-up and implementation of synergies. Over two-fifths of all NCP respondents perceive a relatively low level of cooperation with ESIF MAs. Certainly, over half of NCPs see the level of cooperation more positively, but it would be appropriate to consider that the effort to generate synergies needs to involve the majority, if not clearly all actors, from R&I and the regional development side.

Thus, the survey results show that there is scope for improvement in cooperation between the two of the most important actors in the generation of synergies.

The perception of EU-13 NCPs is significantly more positive than the perception of EU-15 NCPs, i.e. they cooperate more actively.

The survey shows that, from the perspective of H2020 NCPs, communication with ESIF Managing Authorities can be improved to create synergies more effectively. There are possibilities of sharing knowledge, integrating information and seeking forms of cooperation through the different synergy types.

Improved communication could help overcome the differences of set-up of the two frameworks: H2020 and ESIF.

6.5 NCP awareness raising and communication activities on synergies

The survey considered **awareness raising and communication activities** as the starting point of the construction of synergies. These activities allow the diffusion of knowledge about synergies, the objectives, the expected outcomes and impacts, and the rules of design and implementation.

Half of EU-13 NCPs confirm their engagement in awareness and communication activities on synergies but only one-third of EU-15 NCPs confirm the same. Looking at the types of awareness raising and communication activities, EU-13 NCPs indicated that they are engaged in information days; workshops and seminars; communication actions; online information systems; documentation materials and brochures.

EU-15 NCPs in general did not specify the activities they had been undertaking.

The preferences of those H2020 NCPs who responded positively and specified the actions are as follows, ranked from high to low:

- Information days;
- Workshops and seminars;
- Communication actions;
- Online information systems; and
- Documentation materials and brochures.

6.6 NCPs providing information about H2020 to the ESIF Community

Considering that the NCP mandate does not include the promotion and generation of synergies, H2020 NCPs do not consider that there is a very frequent exchange of information on H2020 structures and rules with the ESIF Managing Authorities, neither with the R&I community (academia, research organisations). From the opinions received from NCPs, their direct interaction with ESIF MAs seems not to be as developed as the general dissemination towards general R&I stakeholders.

The survey investigated the frequency of interaction of H2020 NCPs with ESIF MAs. Concerning EU-13 NCPs, most of them inform ESIF MAs only occasionally about H2020 structures and rules and over one third of them do not consider it as one of their tasks. The interaction of EU-15 NCPs with ESIF MAs seems less frequent.

A significant share of NCPs rightly does **not consider communicating with ESIF MAs as one of their tasks**, EU-15 NCPs more than EU-13 NCPs, which is consistent with the current framework: NCPs do not have a mandate to deal with synergies. The same applies to actions to foster the understanding of H2020 beneficiaries of ESIF structures to generate synergies.

6.7 NCPs observing and monitoring the implementation of H2020/ESIF synergies

Another aspect of H2020/ESIF interaction on synergies concerns the monitoring and analysis of synergy design and generation. It assists in the understanding of this policy

as a whole, in the identification of synergy processes and outcomes, in the appreciation of their impacts and in the description of best practice, which might help other potential synergy generators.

According to the survey results, most of the responding NCPs has not put in place any mechanism or process to **observe, track and monitor synergies** in their field of activity.

The implementation of a complex and articulate policy, such as H2020/ESIF synergies, would significantly benefit from an appropriate system to observe, track and monitor design, implementation and results.

Such a system could take advantage of the upgrade of existing monitoring systems, as well as of the implementation of new systems to be linked to existing H2020 and ESIF monitoring and assessment schemes, enabling the appraisal of outcomes and impacts.

6.8 NCPs indicating the importance of synergies' scope

The H2020 NCPs provided their views on the importance of synergies, in particular as it concerns taking R&I towards market solutions or applications and international cooperation in the context of smart specialisation strategies.

There is certainly a **high preference** of NCPs to generate synergies between H2020 and ESIF in order to produce **close-to-market solutions**, demonstrating the importance of concrete applications and the quest for concrete solutions and applications for the benefit of cohesion and regional development.

6.9 NCP assessment of the effectiveness of the overall implementation of H2020/ESIF synergies

In respect to the strategic set-up and programming of synergies, NCPs confirm that there is scope for improvement of the **attraction of proposers and generation of synergies**. Most of EU-15 NCPs see extensive possibilities of reinforcement of synergy generation as part of strategy and programming in terms of synergy occurrence and in terms of effectiveness. EU-13 NCPs have a more positive view of the current strategic set-up and programming.

Likewise, NCPs believe that it is possible to improve the **effectiveness of the strategic set-up and programming** in terms of ease of implementation, facilitating the design and implementation work of involved actors.

6.10 The future perspective of NCPs on synergies

Three-fifths of all H2020 NCPs responding to the survey confirm that they make no specific effort in the generation of future synergies. EU-13 NCPs are more active in this respect than EU-15 NCPs.

There is a clear preference by NCPs for generating synergies in the area of market-related applications, which could enhance the impact on growth and cohesion, creating jobs and offering solutions to territorial issues.

NCPs indicate that there is scope for improvement of the strategic set-up and implementation framework and the ease of synergy implementation.

7 The survey responses of ESIF Managing Authorities

The ESIF MA survey aimed to investigate the different aspects of synergies from the point of view of the ESIF Managing Authorities.

The main aspect, as pointed out in the introductory section of this document, is that the low response rate allows the interpretation of the results of the survey responses only as weak signals and trend indicators.

Besides the overall responses, the analysis categorises the answers provided by EU-13 Member States in comparison to EU-15 countries.

7.1 Types of synergies

The different types of synergies were proposed to the MAs for assessment. Among the few responses received, only a few ESIF MAs confirm a strong focus on up-stream actions to H2020 in their OPs.

More MAs confirm that their OPs include downstream synergies aimed to enhance the take up of H2020 and other research results towards the market.

Considering the different types of synergies, relatively few MAs confirm that the generation of synergies in the same integrated research and innovation project is a strategic priority. Among the few responses received, several respondents do not seem to be aware of this type of synergy.

Relatively few MAs confirm current specific measures for the Seal of Excellence quality label at the moment of the survey (November – December 2016), but several foresee specific calls for the Seal of Excellence in the future.

MAs confirm that their Regional and/or National Smart Specialisation Strategy (RIS3) specifically foresees synergies. However, the overall analysis of the few responses received seems to show that there is scope for improvement of synergy generation through these smart specialisation strategies.

MAs also confirm that their RIS3 approach builds on the development of relations with other regions with similar RIS3 priorities.

For most MA respondents, it seems that there is room to:

- Increase the MAs' focus on stronger R&I capacities in their country or region;
- Enhance the attraction of foreign researchers or innovators and seek strategic relations with H2020 actors.

MAs seem to be interested in building capacities of potential FP applicants and thus support their effort to participate in H2020, but there could be an increased effort to align FP and ESIF programmes, timing and funding models.

Based on the low number of responses received as part of the survey, so far, ESIF MAs see a limited impact of RIS3-promoted synergies on increased participation in H2020 and increased take-up of FP results towards the market, but they recognise a strong relationship between their smart specialisation strategies and key H2020 approaches such as:

- Science and Technology (S&T)-driven innovation;
- Demand-driven S&T;
- Public sector innovation;
- Partnership development between research, education and business;

- Fostering start-ups and scale-ups and to SME innovation projects;
- Developing research infrastructures.

7.2 Awareness raising actions

Awareness-raising actions disseminate the principles and opportunities of synergies between H2020 and ESIF synergy stakeholders. They are an important link from the Framework Programme/H2020 to ESIF. All in all, it seems that only some EU-15 MAs and very few EU-13 MAs among those few MAs who responded to the survey have organised awareness raising and communication actions on synergies between H2020 and ESIF.

However, the number of MAs who have participated in awareness-raising actions **seems to be relatively high among MAs in EU-15**. As for the future awareness-raising of EU-13, for example, the 'Stairway of Excellence' project events can have an important impact¹⁰.

Another important link between ESIF and the FP/H2020 is the **communication events** organised by the Managing Authorities and targeting H2020 National Contact Points. These are events potentially at the roots of synergies, in which ESIF MAs actively reach out towards NCPs and research and innovation potential to exchange knowledge and stimulate the conception and design of initiatives.

Some MAs participating in the survey have occasionally organised **meetings and events to connect synergy stakeholders from the sides of NCPs and R&I communities**. A more structured networking activity, bringing together NCPs and ESIF beneficiaries would lead to more positive impacts on the generation of synergies.

7.3 Interaction with H2020 National Contact Points

The trend of few MA responses received hints towards a limited interaction between **MAs and NCPs** on any of the thematic areas of H2020/ESIF¹¹ and it seems that there is room for more significant communication on H2020/ESIF programme themes, content and rules to increase the generation of synergies.

7.4 Evaluation and monitoring of synergies

Collecting data and information on synergies would be a means to follow and track their implementation and benefits. The trend of few MA responses received hints that this activity seems to be very limited among ESIF MAs.

7.5 ESIF MAs and their awareness of H2020 beneficiaries in their OP

It seems that ESIF MAs participating in the survey are not aware of H2020 beneficiaries and key institutional actors in their OP, i.e. bodies, organisations and institutions involved in the design and generation of synergies on the side of the R&I community.

7.6 H2020 stakeholders involved in the monitoring committees of the OPs

The involvement of H2020 stakeholders in the monitoring committees of the OPs is another linkage to generate synergies. Considering the low number of responses received, there is a positive view among MAs of the potential impact on synergies by involving the members of R&I communities in OP monitoring committees.

¹⁰ <https://ec.europa.eu/jrc/en/research-topic/stairway-excellence-s2e>

¹¹ <https://ec.europa.eu/programmes/horizon2020/find-your-area>

7.7 H2020 stakeholders involved in the entrepreneurial discovery process linked to the smart specialisation strategy in their region

The objective of increased generation of synergies requires an improvement of actions by H2020 actors in the implementation of smart specialisation strategies. The survey results seem to indicate that:

There is already a significant involvement of universities and of science and technology parks, depending on the presence of these infrastructures;

ESIF MAs work together with business supporting bodies;

Collaboration with SMEs is considered as very important;

ESIF MAs involve regional development agencies, while the involvement of civil society is limited.

7.8 Match of smart specialisation priorities and the H2020 research and innovation areas for synergies

EU-15 ESIF MAs survey respondents confirm an increased focus (ranked from high to low) on:

- SMEs and innovation;
- Climate action, environment, resource efficiency and raw materials;
- Secure, clean and efficient energy;
- Research infrastructures;
- Industrial leadership and KETs;
- Health, demographic change and well-being;
- Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the bio-economy (last four fields are equal).

EU-13 ESIF MAs survey respondents, on the other hand, prioritise (ranked from high to low):

- Climate action, environment, resource efficiency and raw materials;
- SMEs and innovation;
- Secure, clean and efficient energy;
- Smart, green and integrated transport;
- Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the bio-economy (last two fields are equal).

7.9 Research and innovation types of interventions for synergy generation

The survey asked ESIF MAs to indicate which types of research and innovation actions could more effectively support the generation of synergies. The overall input of the few MAs who responded to the questionnaires hints at the need for increased awareness of the need to generate synergies with research and innovation. The generation of synergies would benefit from better understanding of different types of synergies on the part of MAs.

7.10 Synchronisation and harmonisation of governance and management rules in the OP

ESIF MA respondents indicate that the synchronisation of timing and the harmonisation of programme rules between H2020 and ESIF is a priority, but that they have a limited power to influence it significantly.

Several ESIF MAs who responded to the survey confirm that synergies can generate more impacts on growth and jobs via better innovation performance of businesses. The awareness and knowledge among MAs of their role in generating synergies could be raised, in particular in the areas of fostering the connection to international innovation and business networks; and in this way, increasing the success of regional players in H2020 calls for proposals.

8 Survey responses of H2020 beneficiaries

Since it was important to set the scene for H2020 beneficiary participation in projects where synergies had been generated with ESIF, a preliminary question was asked about their involvement in synergies:

- Almost the entirety of H2020 beneficiaries who responded to the survey **were not involved in projects where synergies had been generated with ESIF**. In addition, over several respondents could not confirm their potential interest, because of a lack of knowledge about the policy and its characteristics.
- However, significant number of H2020 beneficiary respondents expressed **a potential high interest** in generating in H2020 and ESIF synergies.

The survey proposed several additional questions, which would have been answered only by H2020 beneficiaries, who confirmed participation in projects where synergies had been generated. The limited number of responses did not allow the drawing of any meaningful conclusions from this part of the questionnaire.

INTERVIEWS

Interviews have the added value to enable a more in-depth and interactive review of the synergy experiences, also building on the results of the surveys.

The interviews were carried out to understand the mechanisms that are at play and the behaviour of different types of actors, in the process of funding, planning and executing research and innovation activities in conjunction with cohesion activities and making progress towards output, outcomes and impact. This research approach exploited the flexibility of interviews by looking at different types of participants, their interactions and the mechanisms (and time lags) between input and impact. Moreover, interviews were effective for analysing portfolio effects from the perspective of individual participants.

The interviews concerned a sample of Horizon 2020 NCPs; a sample of ESIF Managing Authorities; a sample of Horizon 2020 & FP7 project and/or initiative coordinators and a sample of key European Commission officials. They were conducted in the time period of December 2016 – January 2017.

The study adheres to very strict privacy and confidentiality rules. The information collected will only be used in the context of our research for the current study and no identifiable or individual data will be disclosed to any third party, not even the European Commission itself.

The interviewees were selected based on the survey respondents' list and ensuring the most appropriate institutional and geographical coverage of the entire European Union. The interviewees are not mentioned by name, nor by institution, nor by area of activity, which would make them easily identifiable and the results are presented by interview topic, highlighting convergences and outstanding outcomes.

9 The key issues of H2020/ESIF synergies

During the interviews, the full set of issues related to synergy design, promotion, diffusion and generation was discussed with the different types of stakeholders and actors.

These discussions are presented by key topics, creating the basis for a set of recommendations to deepen and widen the deployment of synergies.

9.1 *The strategic, policy and regulatory framework*

Most interviewees agree that the strategic legal framework for synergies is clearly set out and the overall rules are appropriate and exhaustive from the regulatory point of view. However, the regulatory framework is considered somewhat theoretical and not providing enough concrete guidance on what can be done.

Starting from the current strong political will, the generation of synergies would benefit significantly from a more practical definition of their features and characteristics and of their expected added value. This process should be developed allowing sufficient time and involving all stakeholders.

It would be beneficial for the promotion of synergies if the existing regulatory framework and the guidelines would generate a strong operational basis involving all the institutional actors in order to spread political and strategic will further. The 'culture of synergies' needs to be spread among all stakeholders.

Many interviewees address the issue of the main purpose of synergies, which is also their **necessary pre-requisite**, namely the combination of H2020 excellence with ESIF strategies to reduce regional disparities and generate jobs and growth. The development of research and innovation ecosystems should target the increased involvement of users,

regional embedding and involvement of entrepreneurs. On this basis, Member States and regions can choose their priority areas from their smart specialisation strategies and stimulate concrete synergy actions in Horizon 2020.

Major focus should be placed on the **full integration and match of projects and programmes** and their integration with smart specialisation strategies.

A fact on which all interviewees agreed, is that the generation of synergies is still in its infancy and that the challenge is to harmonise funding frameworks focusing on innovation, growth and research combined with smart specialisation and thus supporting clusters and entrepreneurship. There is the potential for H2020 projects to act as a catalyst for synergies in regional cooperation, in particular those focusing on interregional cooperation, would add another dimension to H2020 and ESIF synergies, namely the cooperation of regions from different Member States.

There is a general convergence of interviewees' opinions on the fact that there is a comprehensive general framework, but the implementation needs to move from chance-driven to a structured one. The overall analysis demonstrates that, to some extent, synergies emerge naturally, that research and innovation actors in regions are involved in cohesion strategies and that they are aware and knowledgeable about the potential of participating in the Framework Programme for Research and Innovation. However, more coordinated communication and dissemination, as well as support activities, would help achieve synergy design and implementation on a wider scale.

This general framework, which includes the European Commission's Guide on Synergies and the requisites for involved actors and institutions, should be further developed to provide **additional details on concrete objectives and outputs**, on the expected roles and interactions between institutions and players, on best practice experiences, which have the power to inspire new proposals. One important instrument would concern incentives, to provide rewards for programme managers and applicants for an activity which currently requires additional effort, but for which there is no resource coverage.

One of the strategic steps recommended by most interviewees is to communicate and coordinate strategic definition of synergies better, including the objectives and the wider impacts expected, building on the guidance provided by the European Commission services.

9.2 Programming for generation of synergies

The efficiency and effectiveness of generating synergies between H2020 and ESIF would benefit from a **coordinated approach and the clear definition of expected impacts**, working not only from an input – resource-driven – perspective, but also from an output perspective. This would lead to a comprehensive design of strategies and programmes to foster the set-up of synergies, considering that design and implementation of smart specialisation strategies are not a responsibility of the European Commission, but that of regions.

The success of synergies starts with communication, awareness raising, sharing of best practice, motivating the definition of common policy and strategic goals, setting common implementation rules and paths (processes) to tailor the design of synergies to research and innovation characteristics and to the characteristics of the regional territory. For example:

- Societal Challenges of H2020 have a project-oriented approach. To generate synergies between projects oriented towards Societal Challenges, stakeholders would be very interested to see a direct reference to Societal Challenges in the synergy strategy set-up, particularly considering that downstream synergies may produce added-value to solutions for Societal Challenges, keeping in mind the requirement not to jeopardise the H2020 excellence principle;

- synergies between H2020 and ESIF should be tuned carefully to regional structural characteristics and capacity, which significantly influence their success.

Interviewees' opinions also converge on a set of basic features, as outlined below.

Interviewees report positive experiences of synergies at project level. They would welcome an increased action to broaden the scale and scope of synergy generation. Interviewees are particularly in favour of focusing on concrete application-oriented generation of synergies. This could be achieved through:

- enhanced communication;
- proposition of best practice examples to guide potential proposers;
- structured approach to monitoring and evaluation and the communication of outcomes;
- stronger involvement of ESIF MAs and H2020 NCPs, who have the direct contact with stakeholders on the ground and can support proposers seeking synergies successfully.

Areas in which interviewees expect positive impacts are, for example, the case of EIT / Knowledge and Innovation Communities (KICs) and the case of Digital Innovation Hubs (DIH).

Interviewees recognised very positive examples of synergies that have helped regional enterprises to internationalise, reach new markets and improve their economic performance.

9.3 Objectives of synergies

Interviewees support developments, which would favour:

- clarity of general objectives of the synergies. Synergies concern Member States; regions; different European Commission services; higher education institutions; research and innovation institutions; enterprises; and users. Their coordination is necessary to ensure an appropriate allocation of responsibilities;
- better definition of the specific objectives, coordinating the characteristics of H2020 excellence with the characteristics and needs of the regions and related ESIF OPs;
- clarity of requirements and guidance on the definition of specific objectives and impacts expected by synergies, on both sides of H2020 and ESIF, and guidance on how to design the monitoring and evaluation instruments and related processes. A more concrete presentation of synergies and their characteristics, the design and implementation rules would help key actors, ESIF MAs, H2020 NCPs, as well as potential beneficiaries to translate strategies and guidelines into practice related to their needs.

9.4 Pre-conditions, communication and the implementation process

The analysis of the interviews shows that interviewees are in favour of increased support of:

- identification and agreement on the ex-ante conditionalities¹², which could be addressed by the smart specialisation strategies and indirectly by synergies. In other terms, stakeholders would be in favour of clear guidance on which specific thematic and general ex-ante conditionalities should be directly related to the generation of synergies;
- agreed definition of the process and path to generate synergies, including the harmonisation of strategies and governance, evaluation and selection criteria, and management rules. Attention is needed to identify the harmonisation requirements and the success factors to overcome them;
- improved and wide-scale communication strategy, based on a comprehensive and multi-level approach. The communication starts with identification of the target audiences and their level and hierarchy. First-level target audiences include the ESIF Managing Authorities and the H2020 National Contact Points. Second-level target audiences are the potential beneficiaries. The communication activity shall enable implementers and direct and indirect beneficiaries under ESIF and H2020 to generate synergies efficiently and effectively, also providing best practice approaches at all levels: for the involved institutions, the support organisations and at the level of the potential beneficiaries.

Interviewees indicate that to promote synergies more effectively, it would be advisable to invite a research and innovation representative of the European Commission to the ESIF OP monitoring committees. The objective would be to provide an extensive view on how the European Commission would like to work towards synergies and how this approach could be translated at national level.

9.5 Synergy types

During the interviews, different types of synergies were discussed with the interviewees. There is consensus that there are some successful experiences:

- **Downstream synergies** are easily generated by single-applicants, while partnership-based synergies seem much more problematic because of the challenge of consortium beneficiaries supported by different funds (ESIF) from different countries/regions. Downstream synergies start from H2020 projects, which are integrated in regional development initiatives funded by ESIF;
- **Up-stream synergies** (from ESIF to H2020) are easily generated according to several interviewees. The development of regional research infrastructures paves the way towards the cooperation of research and innovation players, who then can make joint efforts to apply for H2020 funds;

¹² Thematic ex-ante conditionalities for ESIF include, inter alia, research and innovation; research and innovation infrastructure; digital growth and next generation network – broadband infrastructure; SMEs; energy efficiency and cogeneration; water and waste; transport and smart energy distributions, storage and transmission; employment, labour market, aging, adaptation to change; active inclusion and health; schooling and education; public administrations. General ex-ante conditionalities include, inter alia, anti-discrimination; gender equality; disability; public procurement; state aid; environmental legislation; and statistical systems and result indicators; further information available at http://ec.europa.eu/regional_policy/sources/docgener/informat/2014/eac_guidance_esif_part2_en.pdf.

In general, it is easier for ESIF beneficiaries to engage in upstream synergies and participate in H2020 calls. This is very much related to the field of research and innovation and concerns academia, research organisations and enterprises (SMEs);

In many cases, interviewees confirm that synergies emerge naturally in regional Operational Programmes: the upstream-type seems more frequent but in several cases, there were successful experiences of market-related applications towards downstream.

- There are some science and technology fields, which may act as a driver for synergies, such as the environmental field and, specifically, in the transport field, the Clean Sky initiative. This Joint Technology Initiative provides a concrete platform for synergy application based on a specific work package and multiple memoranda of understanding that have been signed with regions and has the goal to increase research and innovation capacity for the Aeronautical sector;
- One of the success factors for generating synergies is the availability of appropriate **skills and infrastructures** in the targeted region(s) and in more general, the success in taking advantage of H2020 project results that are related to the goals of regional smart specialisation;
- Apart from those application fields of general interest, which drive the design and generation of synergies, there are obvious synergies in the field of **research infrastructures**. These have a very long life cycle, long implementation and huge investment costs that can be amortised by increasing the scale of use and involving international partners. The infrastructure implementation steps go from design, construction, operation, access and, if necessary, decommissioning. Synergies are generated between H2020, ESIF and likely EIB grants. Horizon 2020 supports the feasibility study and comes into play in the case of open access, providing funds for travel, accommodation and use by researchers, including some experiments. Creating synergies to set up and build an infrastructure requires long planning and the satisfaction of numerous pre-conditions. The ESFRI, the European Strategic Forum for Research Infrastructures, operates through Member State committees that define priority actions. The process set-up for the ESFRI-related research infrastructures can be considered a significant example of synergy set-up and operations: strategic needs assessment, scientific and technological roadmaps, technological demands that are embedded in the region and its business planning and management. The process fulfils the requirements suggested by interviewees for the set-up and implementation of synergies in general. The effort put into the process needs to be proportionate to the added-value that will be created by the synergy;
- Interviewees consider that **sequential funding of research and innovation** towards downstream synergies often works: they normally result from H2020 projects, and especially in the pilot projects get additional regional and national funding from ESIF. Downstream synergies were generated since many EU Framework Programme periods, as Framework Programme beneficiaries had always the possibility to apply for ESIF funding or co-funding. In addition, examples of synergies in projects that represent high Technology Readiness Levels (TRLs) – to support commercialisation – exist already.

9.6 *Guidance and best practice*

Both ESIF Managing Authorities and H2020 National Contact Points would welcome any common action:

- to improve the guidance on how to combine the needs of regions with the characteristics of excellence embedded in H2020 activities;

- on how to combine and respect the different rules and how to overcome possible contradictions between them. This is a particularly sensitive issue: interviewees have pointed out some differences between the information received by different European Commission services.

The European Commission services, H2020 NCPs and ESIF Managing Authorities are encouraged to make a joint effort to **support proposers to define a clear path to generate synergies**, creating additional value, i.e. describe and achieve concrete results.

Even though synergies **are still considered in their infancy** and their real generation is only expected to start in the next programming period for the Framework Programme for Research and Innovation and ESIF, there are some success cases, which provide excellent examples for the wider generation of synergies between H2020 and ESIF.

Interviewees have a positive view on the ease of generating synergies, even if they would welcome increased harmonisation of H2020 and ESIF frameworks. The key challenge is to work towards a 'synergy-oriented mind-set' of all involved players, which would favour an enhanced use of the policy combining H2020 and ESIF in the frame of smart specialisation strategies and generating positive impacts on cohesion and regional development.

Wider communication and involvement of H2020 NCPs and beneficiaries (academia, research and technology organisations, businesses, other bodies and institutions) in the early stages of national and regional ESIF programming would have a very positive effect on generation of synergies and on the generation of their impacts.

The improvement of awareness and concrete guidance would generate positive impacts on the wider take-up of the synergy opportunities.

9.7 Monitoring

Most interviewees support the introduction of monitoring and evaluation systems of synergies. There is a clear benefit stemming from such systems, which not only allow the tracking and monitoring of the different experiences, but also support positive feedback loops to strategies, programming, experiences and implementations in the area of synergy generation.

9.8 The Seal of Excellence

One example of the synergy generation instrument in practice is the Seal of Excellence (SoE) that is a quality label awarded to proposals submitted for funding under the calls of the Horizon 2020 SME instrument which succeeded a rigorous evaluation, but could not be funded under the available Horizon 2020 call budgets. A holder of the certificate can approach alternative available funding sources (public or private) at national, regional, European or international level and present the certificate as a label of a high-quality project proposal. It offers a unique opportunity for regions and Member States (and any other interested actor) to exploit fully the high-quality Horizon 2020 evaluation process.

A Community of Practice has been set up for public authorities and funding bodies interested in investing in Seal of Excellence proposals, where they can exchange practices and address bottlenecks. Already around 200 Seal of Excellence projects have been funded. Following the successful piloting of the SME instrument, the application of the Seal of Excellence initiative will be gradually extended to other selected parts the Horizon 2020. For example, Seal certificates are already granted to Teaming Phase 2 proposals of the Horizon 2020 Widening actions. Preparatory work for extending the Seal to the Marie Skłodowska-Curie actions and the ERC Proof of Concept proposals is in progress.

The **Seal of Excellence is considered by ESIF MA and H2020 NCP interviewees** a brilliant idea to encourage the allocation of alternative funding for high quality project proposals in each regional or national context. The interviewees concur that, so far, there are no large numbers for the proposals with the Seal, but following the successful piloting of the SME instrument, application of the Seal of Excellence initiative will be gradually extended to other selected parts the Horizon 2020. **Several issues were raised by the interviewees** about the Seal of Excellence:

- Interviewees believe that ESIF does not benefit from the block exemption that H2020 has on State Aid and that this may be an obstacle for allocating ESIF for H2020 proposals with the Seal. However, the **Explanatory note on Seal of Excellence and State Aid has been completed by the European Commission services** by the end of 2016 and is now available¹³. It gives clear guidance on how to proceed with State Aid.
- It is possible that Member States and regions managing ESIF avoid using new instruments, due to their concern of disrupting frameworks, which are already complex and articulate;
- As the Seal of Excellence is now designed, it cannot be used by collaborative projects due to several challenges: there is an issue of ownership of the proposal as there is usually a misalignment of the consortium and the geographical origin of ESIF;
- Furthermore, ESIF regulations may not allow for funding the proposal as it is, since it may not fulfil the ESIF requirements for territorial location or the interregional character of the proposal poses the challenge. The Seal of Excellence may thus be difficult to implement, and additional resources may be needed to take advantage of ESIF yet respecting the objectives of territorial development. There may also be a need to make an additional 'pre-check' assessment of the proposal with the Seal of Excellence in order to meet ESIF rules.

Overall, interviewees confirm that Seal of Excellence projects placed into a (inter)regional context can act as a powerful catalyst for different actions/initiatives within the smart specialisation strategies. This means that the integration of Seal of Excellence proposals can create opportunities and generate benefits at the regional level. Further work would be needed to adjust the H2020 and ESIF frameworks, to harmonise the application of rules and to resolve bottlenecks. Both frameworks need to enable the Seal of Excellence and some incentives need to be provided to the applicants with the Seal of Excellence for searching for alternative funding.

10 Prospects

Interviewees agree that there is **no single solution matching all the issues involved in the generation of synergies**. The solutions need to be tailored to the characteristics of the research and innovation projects and the development needs of the regions and territories, taking account the application fields, the needs of the involved institutions and parties and the size of the grants.

The most important goal shall be **awareness raising** of the opportunities of synergies in a regional context to induce a change in mind-set, working towards the bottom-up generation of synergies embedded in smart specialisation strategies.

The interviewees confirm the need to **harmonise governance and management rules** of the two frameworks used in H2020 and ESIF and to disseminate co-ordinated information from the European Commission's side. More guidelines are not necessarily

¹³ https://ec.europa.eu/research/soe/pdf/swd2017-11_application_of_state_aid_rules_to_funding_schemes.pdf

needed but rather the pre-requisite is the assurance of compatibility between the two frameworks.

At the same time, in-depth cooperation with Member States and regions would move towards the harmonisation of the relevant rules and frameworks.

Upon the harmonisation of the strategy, programme and funding for the two frameworks, the process of generating synergies shall more and more move towards the definition of roles and responsibilities of the actors involved: ESIF MAs, H2020 NCPs, beneficiaries, the European Commission and other bodies.

The **analysis of the regional R&I ecosystems and compatibility of their different parts**, i.e. the possibility to combine them to generate synergies, shall lead to the feasibility assessment of synergies under given conditions, a critical mass of available resources and their impacts on growth, jobs, regional development, cohesion and societal challenges.

The key is a customised approach that adapts to the specific characteristics and needs of each region to allow the most effective exploitation of R&I opportunities. The point is not to replicate but to adapt, going beyond the perception of blending funding yet aiming at a more comprehensive integration to achieve synergies.

Mechanisms to improve the visibility of H2020 projects and results of H2020 projects are needed aiming to improve take-up of results by ESIF.

The new set-up to support the generation of synergies should also include:

- top-down **incentives for R&I-oriented interregional cooperation** to promote the regional dimension of innovation and help adapt the concrete application to the local dimension of innovation;
- **incentives for academics** at universities;
- **incentives for ESIF MAs and ESIF beneficiaries**;
- **incentives for H2020 NCPs**.

One of the key factors of the success in generating synergies is communication and awareness raising, which should concern:

- communication of the concept of synergies, of their characteristics and objectives;
- best practice that would provide examples for proposers who seek to generate synergies;
- guidance on the concrete application of rules when generating synergies;
- strategic policy priorities and expected impacts, i.e. what policy-makers expect from synergies and what the objectives are for a certain region or a group of regions;

The success of generating synergies is based on a participatory process with a (clear) mandate on synergy design and coordination by institutional actors at all levels, including the national ministries, the European Commission services as well as the Executive Agencies. The promotion of synergies would also need better synchronisation of funding and calls for proposals, even if there is already now a certain theoretical alignment of programme timeframes between H2020 and ESIF.

The process of redesigning support for synergy generation between H2020 and ESIF would also benefit from the further harmonisation of procedures (accounting, reporting and timing) and from the design and implementation of monitoring and evaluation tools and processes that building on clear mutual objectives and responsibilities.

CONCLUSIONS

The present study on synergies aims to provide concrete evidence on the approach to integrate two policy frameworks and generate synergies between Horizon 2020 and ESIF that has received a high level of political endorsement. Synergies are expected to boost the impact on growth and job creation and to tackle societal challenges by integrating excellent research and innovation funded by H2020 with activities supported by ESIF in line with smart specialisation strategies.

The study was set up and completed in a very short time-frame and this required swift research work and analysis.

Nevertheless, the outcomes and results were placed in context, taking advantage of significant participation from some groups of stakeholders involved in the synergy generation processes and of strongly convergent views by interviewees from ESIF Managing Authorities, H2020 National Contact Points, H2020 beneficiaries and European Commission officials.

11 The status of generating synergies between H2020 and ESIF

Synergies have clear benefits and may emerge naturally. It is frequently observed that research and innovation actors in regional contexts are engaged and cooperate with both ESIF and the Framework Programme FP/H2020 that follows the principle of excellence.

Besides the natural generation of synergies, most H2020 work programmes include references that encourage the generation of synergies between the FP and ESIF Operational Programmes. Likewise, such references are included in many ESIF OPs. There is a clear legal basis for synergies, there are overall implementation guidelines for all institutional actors and the system of guidelines is thus becoming more and more complete. The hindering issue related to State Aid rules in connection with H2020 proposals with the Seal of Excellence was also recently improved with specific guidance.

12 The knowledge of synergies

There is a good general knowledge of the opportunities provided by synergies among H2020 NCPs. NCPs were particularly responsive to this study's research activities. Based on the low number of responses received as part of the survey addressed to ESIF Managing Authorities, ESIF MAs had a more diversified stance and it seems that they have not reached their full potential when sharing information about their actions in the area of promoting synergies. The reasons for this may be the fragmented knowledge regarding this policy and the uncertainty of the role ESIF MAs have in supporting this policy.

13 What about synergies?

The outcomes of the study show that the generation of synergies is considered an important approach that has a potential role in supporting regional development and smart specialisation strategies through the opportunities provided by research and innovation in Horizon 2020.

However, the creation of synergies is seen by all the stakeholders as variable, occasional and based on chance, more than thanks to a systematic process. This may be related to the early stage of development. Many survey respondents and more interviewees believe that synergies are in their infancy and that their generation is still limited in respect to the level of political support and expectations.

All bodies and institutions involved in the generation of synergies have the responsibility to improve the strategic framework, communication, the coordination and support to this policy.

The main issues to be addressed to improve the generation of synergies and to boost the impact on regional development, growth and job creation, as well as tackling societal challenges are:

- the strategic framework and programming;
- generation of concrete guidance and of best practice in implementation;
- monitoring.

These issues should support a more specific, widespread, efficient and effective generation of synergies between H2020 and ESIF.

14 The strategic framework and programming

The strategic framework exist, rules are clear and strategies encouraging synergies are embedded in the H2020 work programmes. Some additional efforts in awareness raising and coordination would improve the further embedding of synergies in smart specialisation strategies and related Operational Programmes.

One key area of intervention is awareness of synergies by all actors and the clarification of their roles and responsibilities in promoting, supporting, and generating synergies. Related to this is awareness of the need for structured cooperation of all players, which is not fully realised.

It is important to emphasise the specific role of each player in the synergy generation process (ESIF MAs, H2020 NCPs, beneficiaries, the European Commission) and their role in generating a multiplier effect to avoid placing the burden of all actions on one actor only. Synergies are 'distributed' by definition and build their strength by combining efforts of ESIF with centralised initiatives such as those of the Framework Programmes.

In this area, the **European Commission** has the potential to act as an overall strategic advisor, supporter and guide, facilitating the interaction, harmonisation of rules and timelines, as well as making support material available from the side of the ESIF and Framework Programmes. The European Commission also can play an important role in facilitating the harmonisation of the two frameworks, providing guidelines on the application of specific rules. The European Commission also has the opportunity to guide the synergy customisation processes, to ensure their optimal embedding in the regional context. The European Commission should take responsibility for the further communication and awareness raising activities, acting as a multiplier. The European Commission may also take up the overarching function of analysis and modelling in the generation of synergies and could provide feed-back on the results to leverage EU-wide experiences for the benefits of all involved actors.

The **ESIF MAs** are in close contact with their regions and stakeholders on the ground; they are responsible for analysing the needs of the regional system and for the interaction with local players. They would benefit from closer interaction with H2020 National Contact Points. MAs should ensure the appropriate embedding of synergies in their Operational Programmes as well as setting up and executing a number of direct activities in the field aimed at the promotion and support of synergies and at developing feedback loops on best practice. ESIF MAs could play a key role in tailoring projects to reach synergies and to feed the needs of their territories (regions). They could support significantly communications between different levels (EU and local), different frameworks (ESIF and H2020), and different players in the field (institutions, H2020 NCPs, academia, research, enterprises, users) and guide their integration from a regional development perspective. Their communication with H2020 National Contact Points is particularly relevant to support information flow from the ESIF programmes, projects and regulations.

H2020 **National Contact Points** have the key role to provide practical support to processes aimed at synergy generation: they should interact with ESIF MAs and support them with information from H2020. If properly resourced, they could take a similar role in respect to synergy support as that they already have in supporting participation in EU Framework Programmes.

All of these above players can cooperate proactively to induce the wide-scale cultural and mentality shift of strategy and programme managers as well as potential beneficiaries towards the generation of synergies. They are able to support the necessary information exchange, coordination, harmonisation and cooperation between originally heterogeneous policy frameworks.

All of these above actors have the responsibility to raise awareness of synergies, and to communicate on how to generate them to achieve expected societal impacts.

15 Synergy generation guidance and best practice

The clear definition of roles will allow more effective and focused support to the generation of synergies. All respondents and interviewees in the study support a set of actions related to synergy generation:

- each institutional actor (EC, ESIF MAs, H2020 NCPs) shall contribute to identify and circulate synergy best practice. The synergy generation is unevenly spread across regions, Member States, scientific and application fields (e.g. some regions are more advanced than others, some science and technology fields – research infrastructures – more developed than others). Making available best practice cases and approaches is likely to generate spill-over and multiplier effects;
- each actor, according to their institutional role and responsibilities, shall contribute to the clarification of rules and to their harmonisation;
- each actor shall contribute with material or immaterial incentives for proposers seeking synergies;
- each actor shall support awareness-raising actions as well as the development of specific synergy tools for design, analysis (synergy-friendly set-up of EU instruments directly managed by the European Commission) and provide support proactively to synergy generation;
- each actor has the responsibility to adapt the concept and generation of synergies to the characteristics and needs of each (regional) territory, avoiding a 'one-size-fits-all' attitude;
- each actor has the role to contribute to the monitoring and assessment of synergies in their field of direct responsibility.

The support and guidance to synergy set-up and generation is not based on unilateral inputs and initiatives, but more on a shared and co-ordinated effort of all involved bodies and institutions.

16 The key issues for the success of generating synergies between H2020 and ESIF

The key issues may be synthesised as follows:

- clarity of concepts, definitions, roles and responsibilities;
- clarity of objectives and expected impacts, including their quality and size;

- definition of prioritisation and scaling approaches, through feasibility and impact studies: in synergies, one size does not fit all - this means that the guidance towards synergies needs to take account of the characteristics of each region and the way its stakeholders can take advantage of H2020 research and innovation funds.
- communication, awareness raising, coordination and involvement;
- concrete design and implementation support, through processes and best practice;
- coordinated monitoring, evaluation and feedback.

Addressing these key issues has the potential to **improve significantly the design and implementation of synergies in respect to the current state** and to increase the clarity of the regulatory and implementation framework and the correspondence of the life-cycles of the two frameworks; to progress the dialogue and cooperation between the stakeholders involved in ESIF and in directly managed European Union instruments, such as H2020; to improve the involvement and coordination of the actions of all interested players, i.e. EC, ESIF MAs, H2020 NCPs, H2020 beneficiaries; to enhance and broaden the strategic embedding of synergies in OPs; to increase the emergence of synergies and widen their scope, attracting interested actors; to generate favourable spill-overs towards EU-13 as the recipients of the higher share of ESIF; to generate favourable impacts on efficiency and effectiveness in the process of generating synergies.

ANNEXE: OVERVIEW OF SYNERGIES IN THE H2020 WORK PROGRAMMES

H2020	WP	YEARS	PAGE	Section		
SC	Energy	14	5	6	Introduction	ESIF mentioned and smart specialisation
SC	Energy	14	5	85	SCC-1-2014/2015: Smart Cities and Communities Solutions Integrating energy, transport, ICT sectors through high house large scale demonstration first of the kind projects	ESIF mentioned
LEIT	Finance	14	5	3	Introduction	ESIF mentioned
LEIT	Finance	14	5	7	SMEs & Small Midcaps & Loans Service, Additional participation mechanism	ESIF mentioned
LEIT	Finance	14	5	14	Joint Guarantee Instruments for R&I-intensive SMEs and Small Midcaps	ESIF mentioned
LEIT	Finance	14	5	14	Feasibility Study for Prizes Scheme in the & Greek, Latvian presidency conferences Access to Risk Finance Domain Access to Finance for Research, Innovation and Growth	ESIF mentioned
SC	Climate	14	5	7	Waste: Resource to Recycle, Reuse and Recover Raw Materials. Towards near-zero waste society. H2020-WASTE-2014/2015	ESIF mentioned
SC	Climate	14	5	25	Water Innovation: Boosting its value for Europe. Reusing our water. H2020-WATER-2014/2015	ESIF mentioned
SC	Climate	14	5	39	Growing a Low Carbon, Resource Efficient Economy with Sustainable Supply of Raw Materials. H2020-SC5-2014/2015	ESIF mentioned
LEIT	nmp	14	5	8	NMP-2-2014: Open access pilot lines for cost-effective nanocomposites	ESIF mentioned
LEIT	nmp	14	5		NMP-2-2015: Integration of novel nanomaterials into existing production lines	ESIF mentioned
LEIT	nmp	14	5		NMP-3-2015: Manufacturing and control of nanoporous materials	ESIF mentioned
LEIT	nmp	14	5		NMP-3-2014: High definition printing of multifunctional materials	ESIF mentioned
LEIT	nmp	14	5		NMP-5-2014: Industrial-scale production of nanomaterials for printing applications	ESIF mentioned
LEIT	nmp	14	5		NMP-6-2014: Scale-up of nanopharmaceuticals production	ESIF mentioned
LEIT	nmp	14	5		NMP-13-2014: Storage of energy produced by decentralised sources	ESIF mentioned
LEIT	nmp	14	5		NMP-18-2014: Materials solutions for use in the creative industry sector	ESIF mentioned
LEIT	sme	14	5	5	Introduction	ESIF mentioned
LEIT	Intro	14	5	6	Cross-cutting KETS	ESIF mentioned
Introduction		14	5	14	1.3.7 Closing the Research and Innovation Divide	ESIF mentioned
Introduction		14	5	18	Cross-cutting issues in Horizon 2020. Widening the participation	ESIF mentioned
Introduction		14	5	20	1.6 Synergies with European Structural and Investment Funds (ESIF)	ESIF mentioned
SEWP		14	5	4	WIDESPREAD	ESIF mentioned
SEWP		14	5	12	WIDESPREAD-1-2014	ESIF mentioned
SEWP		14	5	17	H2020-TWINN-2015	ESIF mentioned
SEWP		14	5		Support to an event organised by the EU Greek Presidency: Week of Innovative Regions in Europe (WIRE) 2	ESIF mentioned
SEWP		14	5	24	Support to an event organised under the EU Latvian Presidency: Week of Innovative Regions in Europe (WIRE) 5	ESIF mentioned
SC	Security	14	5	23	DRS-9-2014/2015: Disaster Resilience & Climate Change Topic: Science and innovation for adaptation to climate change: from assessing costs, risks and opportunities to demonstration of options and practices Specific challenge: As the EU, the Member States, Associated Research and innovation actions [2014]	ESIF mentioned
SC	Society	14	5	37	GARRI.8. 2014 National Contact Points for quality standards and horizontal issues	ESIF mentioned
Excellent Science	infrastruct	14	5	69	Individual support to ESFR projects and the world class research infrastructures	ESIF mentioned
Excellent Science	infrastruct	14	5	70	HCO-4-2014: Bridging the divide in European health research and innovation	ESIF mentioned
SC	Health	14	5	85	innovation	ESIF mentioned
LEIT	sme	16	7	5	Introduction	ESIF mentioned
LEIT	sme	16	7	27-28	INNOSUP-01-2016-2017: Cluster facilitated projects for new industrial value chains	ESIF mentioned
LEIT	sme	16	7	37	INNOSUP-05-2016-2017: Peer learning of innovation agencies	ESIF mentioned
LEIT	sme	16	7	55	8. Internationalisation of innovation in SMEs: enhancing support to creation and joint venturing with partners from third country economies	ESIF mentioned
Focus		16	7	39	ICT for the factories of the future	ESIF mentioned
Focus		16	7	42	FOF-12-2017: ICT innovation for Manufacturing SMEs (I4MS)	ESIF mentioned
Focus		16	7	73.76	CIRCULAR ECONOMY	ESIF mentioned
Focus		16	7	80	CIRC-02-2016-2017: Water in the context of the circular economy	ESIF mentioned
Focus		16	7	82	CIRC-03-2016: Smart specialisation for systemic eco-innovation/circular economy	ESIF mentioned
Focus		16	7	106	SCC-1-2016-2017: Smart Cities and Communities high house projects	ESIF mentioned
Focus		16	7	115	SCC-02-2016-2017: Demonstrating innovative mature-based solutions in cities	ESIF mentioned
LEIT	Finance	16	7	3	Introduction	ESIF mentioned
LEIT	Finance	16	7	13	Joint Guarantee Instruments for R&I-intensive SMEs and Small Midcaps	ESIF mentioned
LEIT	Finance	16	7	22	Dutch Presidency Conference on the role of philanthropic and social investments in fostering research and innovation	ESIF mentioned
LEIT	Finance	16	7	23	Innovative Enterprise Week 2016: Financing ideas from Europe	ESIF mentioned
LEIT	Finance	16	7	23	Innovative Enterprise Week 2017	ESIF mentioned

H2020	WP	YEARS	PAGE	Section	
LEIT	Intro	16.7	3	Introduction	Esif mentioned
LEIT	Intro	16.7	7	Cross-cutting KETS	Esif mentioned
LEIT	Intro	16.7	11	Business cases and exploitation strategies for industrialisation	Esif mentioned
SC	Climate	16.7	5	Introduction	Esif mentioned
SC	Climate	16.7	10	SCS-01-2016-2017: Exploiting the added value of climate services	Esif mentioned
SC	Climate	16.7	29	SCS-08-2017: Large-scale demonstrators on nature-based solutions for hydro-meteorological risk reduction	Esif mentioned
SC	Climate	16.7	44	Raw materials	Esif mentioned
SC	Climate	16.7	49	SCS-14-2016-2017: Raw materials innovation actions	Esif mentioned
SC	Climate	16.7	56	EU network of mining and metallurgy regions 2017	Esif mentioned
SC	Climate	16.7	57	EU network of regions on sustainable wood mobilisation (wood supply) (2017)	Esif mentioned
SC	Climate	16.7	75	SCS-21-2016-2017: Cultural heritage as a driver for sustainable growth	Esif mentioned
Introduction		16.7	6	Political context	Esif mentioned
Introduction		16.7	7	A new boost for jobs, growth and investment	Esif mentioned
Introduction		16.7	14	Cross-cutting and the key features	Esif mentioned
SEWP		16.7	6	WIDESPREAD-01-2016-2017: Teaming Phase 2	Esif mentioned
SEWP		16.7	9	WIDESPREAD-02-2016: Support to PI Urban Europe	Esif mentioned
SEWP		16.7	11	WIDESPREAD-03-2017: ERA Chairs	Esif mentioned
SEWP		16.7	20	WIDESPREAD-04-2017	Esif mentioned
SEWP		16.7	25	WIRE VIII Conference	Esif mentioned
SEWP		16.7	26	Presidency Conference: Spreading Excellence and Crossing the Innovation Divide 25	Esif mentioned
LEIT	space	16.7	11	EO-2-2016: Downstream services for public authorities	Esif mentioned
SC	energy	16.7	11	Introduction	Esif mentioned
SC	energy	16.7	57	Innovative financing schemes	Esif mentioned
SC	energy	16.7	183	Administrative arrangements with the ERC on the identification of the technologies and innovative solutions that support the most effective implementation of EU energy policy priorities within the ESIF	Esif mentioned
SC	food	16.7	12	Introduction	Esif mentioned
SC	food	16.7	17	Sustainable Food Security: Resilient and resource-efficient value chains	Esif mentioned
SC	food	16.7	125	Rural Renaissance: Fostering innovation and business opportunities	Esif mentioned
SC	food	16.7	126	Consolidated policy framework and governance models for synergies in rural-urban linkages	Esif mentioned
SC	food	16.7	128	Coastal-rural interactions: Enhancing synergies between land and sea-based activities	Esif mentioned
SC	food	16.7	159	Bio-based innovation for sustainable foods and services supporting the development of the European Bioeconomy	Esif mentioned
LEIT	ICT	16.7	13	ICT-04-2017: Smart Anything Everywhere Initiative	Esif mentioned
LEIT	ICT	16.7	84	ICT-32-2017: Startup Europe for Growth and Innovation Radar	Esif mentioned
LEIT	ICT	16.7	88	ICT-33-2017: Innovation procurement networks	Esif mentioned
SC	Health	16.7	28	SC1-PM-12-2016: PCP Health innovation in empowering the patient	Esif mentioned
SC	Health	16.7	56	SC1-HCO-08-2017: Actions to bridge the divide in European health research and innovation	Esif mentioned
SC	Transport	16.7	38	MG-4.3-2017: Innovative approaches for integrating urban nodes in the TEN-T core network corridors 21	Esif mentioned
LEIT	infrastructure	16.7	55	Specific features for research infrastructures	Esif mentioned
SC	infrastructure	16.7	56	Individual implementation and operation of SFRI projects in the world class research infrastructures	Esif mentioned
LEIT	NMP	16.7	61	NMBP-21-2016: ERA-NET on manufacturing technologies supporting industry and particularly SMEs in the global competition	Esif mentioned
LEIT	NMP	16.7	94	NMBP-33-2016: Networking and sharing best experiences in using regional clusters strategies with a focus on supporting innovation in the NMBP thematic area	Esif mentioned

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This publication is the final report of a study that contributed to the interim evaluation of Horizon 2020. It collected information and data on the overall development of synergies between Horizon 2020 and European Structural and Investment Funds. The study provided evidence that there is a legal basis for synergies in place and that there are overall implementation guidelines for all the institutional synergy actors involved. However, the overall development of synergies is considered by the synergy actors as variable, occasional and rather based on a chance than on a more systematic process. All the actors involved in the promotion of synergies should thus assume their responsibilities to improve the strategic framework, communication, coordination and support to this policy. Clearer definition of roles between the synergy actors would allow a more effective and focused support to the generation of synergies. Overall, there is a need to improve the clarity of synergy-related concepts and definitions as well as objectives and expected impacts. There is a need to enhance communication, awareness raising, coordination, and importantly, monitoring of this policy. More concrete support should also be provided - support that is tailored to specific needs of a Member State and/or a region - for the processes aimed at designing and developing synergies as well as for the operational implementation of synergies, for example, by showcasing good practices.

Research and Innovation policy