FIT-4-NMP

REPORT ON

HOW TO INCREASE THE PARTICIPATION OF TALENTED NEWCOMERS IN HORIZON EUROPE NMP PROJECTS

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Report

on How to Increase the Participation of Talented Newcomers in Horizon Europe NMP Projects

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EXECUTIVE SUMMARY

This report has been prepared in the frame of the H2020 FIT-4-NMP project funded by the European Commission, which aims to increase the participation of talented newcomers from underrepresented regions in nanotechnologies, advanced materials and new manufacturing processes (NMP) research in Horizon Europe compared to Horizon 2020. **FIT-4-NMP project** is a support action funded by Horizon 2020 to increase the participation of talented newcomers from underrepresented regions in Horizon Europe research in the fields of nanotechnologies, advanced materials and new manufacturing processes (NMP) as compared to Horizon 2020.

The report builds on the results of the questionnaire survey (D4.1) on motives, barriers and measures to encourage participation in the Framework Programmes, with an emphasis on the involvement of newcomers in NMP projects. It specifically looks at good practices and experiences in the implementation of policy measures to support participation in the Horizon 2020 (H2020) programme and summarises the main areas of action that should be addressed at European, national, regional and institutional level in removing existing barriers to participation in the Horizon Europe (HE) programme.

Barriers

The report focuses on two main areas of barriers to participation as identified in the literature and in the questionnaire survey, namely:

- Barriers related to the motivation of newcomers to submit project proposals
  - Success rates in Horizon 2020 are too low to make applying worthwhile
  - Easier access to national resources for funding R&D projects
  - Lack of awareness about the EU research and innovation framework programme
  - Long time between proposal submission to contract signing
  - Preference to participate in other European or international programmes
  - Negative experiences gained from previous unsuccessful project proposals
  - Concerns about sharing valuable knowledge with consortium partners
  - Imbalance between control and trust of beneficiaries
- Barriers related to the readiness of newcomers to engage in the preparation of project proposals
  - "Closed clubs" (e.g. EU public-private partnerships)
  - Limited financial resources to prepare a proposal
  - Newcomers seeking funding without well-developed networks
  - Inability to get co-funding for Horizon 2020/Horizon Europe projects
  - Limited in-house internal skills on drafting proposals or project management
  - Irrelevance of programme topics and goals to own research agenda
  - Imbalance between the small and large indicative project sizes in the calls for proposals

Policy measures

The review of existing policy interventions and good practices for strengthening participation in the H2020 programme has proved that there are already variety of policy measures implemented at European, national, regional and institutional levels. The report describes selected examples of these interventions implemented in countries and regions with generally lower participation in the Framework Programmes. Building on these

experiences, we identified different policy instruments for strengthening the participation of newcomers in HE and specifically in the NMP area. These tools are grouped into the following 5 areas and 4 levels of implementation:

		Level of implementation			
		HE programme level	**NCPs and other intermediaries**	**National/regional authorities**	**Institutional management**
Type of policy intervention	**Funding instruments**	Cascade grants Incentives for newcomers Hop-on mechanism ERA-NET Cofunds		Seal of excellence schemes Grants for project preparations (kick-start grants) PoC grants for FP results	Grants for project preparations
	Training	Mutual-learning communities NCP projects	E-learning platforms Targeted training programmes Mutual-learning communities	Mutual-learning communities	Mutual-learning communities
	Consultancy	Pre-proposal check	Quality check of proposals Administrative support and guidance		Professional grant offices
	Building networks	Match-making	Brokerage events Leveraging cluster initiatives	Visibility and attractiveness of potential newcomers	Strategic partnerships
	Capacity building	Demonstrating impact of FP projects	Systematic mapping of potential newcomers Demonstrating impact of FP projects	Secondment of national experts to Horizon Europe	

INTRODUCTION

FIT-4-NMP project is a support action funded by Horizon 2020 to increase the participation of talented newcomers from underrepresented regions in Horizon Europe research in the fields of nanotechnologies, advanced materials and new manufacturing processes (NMP) as compared to Horizon 2020.

The **FIT-4-NMP project focus on newcomer engagement** is motivated by the outcomes of high-level studies of the H2020 programme implementation. For example, the Horizon 2020 interim evaluation report[1] published by the European Commission in 2017 states that "improvements in programme implementation are needed to attract new participants to projects", notwithstanding that more than half (52 %) of H2020 participants were newcomers. In parallel, the Horizon 2020 Advisory Group for Nanotechnologies, Advanced Materials, Biotechnology and Advanced Manufacturing and Processing[2] highlighted that only 38.4 % of European beneficiaries were newcomers in the NMBP programme under Horizon 2020 as of November 2018. The Advisory Group's report paid particular attention to the actions that might help outreach to new players in NMBP field.

Another **FIT-4-NMP project focus is underrepresented regions**, i.e. regions with low participation in H2020 NMP projects but with untapped NMP potential. Since FP5, there were many studies published regarding the general underperformance of the EU Member States that joined the EU in or after 2004 (referred to as the EU-13) in the EU Framework Programmes compared to the Member States that joined before 2004 (referred to as the EU-15). However, the recent European Parliamentary Research Service's report[3] clearly demonstrated that both EU-13 and EU-15 country groups are not homogeneous concerning their participation, success rate, and funding received from the Horizon2020 budget. Moreover, analysis of regional embeddedness of research and innovation activities funded particularly under the FP7 NMBP programme[4] was performed in 2016 on demand of the European Commission. The results demonstrated that there are underperforming regions across all EU Member States for which the actual participation rate doesn't correspond to the "potentially expected participation rate" determined using a set of socio-economic, R&D and technological criteria. Thus, the **FIT-4-NMP project will engage and support the talented newcomers – especially SMEs – from underrepresented regions from EU-13 Member States, EU-15 Member States and H2020 Associated Countries**. It will enable more efficient exploitation of NMP capacities and talents from across the EU and Associated Countries. In this way, the FIT-4-NMP project will initiate positive changes across European NMP research and innovation chains and contribute to developing new product and process innovations essential for EU industry competitiveness and EU citizen wellbeing.

In the first phase of the FIT-4-NMP project, a background for the FIT-4-NMP support activities has been prepared:

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[1] Interim evaluation of Horizon 2020, European Comission, 2017

[2] Outreach to Newcomers and Societal Engagement in Industrial Technologies, Horizon 2020 NMBP Advisory Group Report, November 2018

[3] Exploring the performance gap in EU Framework Programmes between EU13 and EU15 Member States, European Parliamentary Research Study, June 2020

[4] Mapping the regional embeddedness of the NMP programme, European Commission, 2016

Deliverable 1.1[5] has aimed to: (1) Identify and prioritise underrepresented regions in the H2020 NMP research; as well as to (2): Identify talented newcomers from the prioritised underrepresented regions. To reach these aims, the D1.1 report presents (i) Analysis of regional participation in H2020 NMP research based on H2020 data about proposals submitted and projects funded under NMP calls and topics; (ii) Methodology to prepare a priority list of regions underrepresented in H2020 NMP research; and (iii) Identification and engagement of talented newcomers from prioritised underrepresented regions. Totally, 374 (NUTS 2 or equivalent) regions from 44 countries (28 Member States and 16 HE Associated Countries) as well as 215 NMP H2020 topics represented by 557 projects selected for funding have been analysed.

Deliverable 1.2[6] described in detail a wide range of scientific domains covered by the NMP. In order to be able to link talented newcomers to top innovators, it is first necessary to define categories of NMP domains and NMP subdomains. However, with the transition from Horizon 2020 to Horizon Europe, there has been a reorganisation of NMP research. NMP research has been absorbed into Cluster 4 "Digital, Industry and Space" of the Horizon Europe Pillar 2. Among the eleven research and innovation priorities of Cluster 4, four priorities arguably relate closest to Horizon 2020 NMBP: Advanced Materials; Manufacturing Technologies; Circular Industries; and Low-Carbon and Clean Industries. After categorising the NMP domains and sub-domains, the report has located Europe's top innovators and these **top innovators** have been plotted on an interactive map made available through the FIT-4-NMP website.

Deliverable 1.3 analysis was performed in November 2021 to refine the FIT-4-NMP project activities planned during the proposal preparation stage and align them with the current situation associated with the Horizon Europe launch in June 2021 and still ongoing Covid-19 pandemic. Practical recommendations regarding further WP1-WP5 activities – formulated in Section 2 of this deliverable – should improve the project KPIs and facilitate the project's impact regarding increasing the newcomers' rate in Horizon Europe projects relevant to the NMP domain. D1.3 has identified 5 top innovators in the underrepresented regions: CEA - mainly operates in "Clean Industries and Circular industries" domain and partially in "Functional Materials" and "Materials for additive manufacturing" subdomains; TU Delft and TU Dresden - jointly cover "High Performance Composites" subdomain; Fraunhofer-IFF dealing within the "Manufacturing Technologies" domain; and VTT interests are spread across all three NMP domains. It also has listed recommendations for further activities planned within the FIT-4-NMP project.

Deliverable 4.1 presents results from a survey conducted between April and August 2021 all over Europe, namely by 128 respondents in 26 countries. The survey has asked Whether the H2020/HE responds to the newcomers´ needs; What are the barriers of higher participation in the programme; and How coherent is Horizon Europe with other EU/national/regional funding initiatives. Chapter 2.2 of this Deliverable 4.2 refers to results of D4.1 as well.

The European Parliament's Science and Technology Options Assessment (STOA) Panel's study of 2018 called *Overcoming innovation gaps in the EU-13 Member States* explains the role of framework programmes (FPs) as the primary EU instrument for creation of the European Research Area (ERA) and production of European added value. Therefore, the aim here is to support high level research, produced in international collaboration and selected on

[5] FIT-4-NMP Deliverable 1.1: *Report on underrepresented regions and talented newcomers in H2020 NMP research.* FIT-4-NMP consortium, June 2021

[6] FIT-4-NMP Deliverable 1.2: *Report on Europe's leading research and innovation organisations in nanotechnologies, advanced materials and new manufacturing processes (NMP).* FIT-4-NMP consortium, June 2021

competitive basis, apply the knowledge in national contexts, increase cohesion and promote social responsibility[7]. Even though EU-13 has access to FPs for over 20 years, the participation of these countries still lag behind the EU-15 – it is lower in FPs´ funding schemes aimed at excellence and innovation and higher in coordination and support. Study aims to identify the reasons for this in order to improve their future performance in HE and FPs as such. In the study, four hypothesis of lower participation of EU-13 have been finally confirmed: (i) lower quality of EU-13 proposals; (ii) prospective participants from the EU-13 have weaker connections to the collaboration network in FPs; and (iii) lower rates of participation in FPs are a reflection of the relative weakness of the RDI systems of the EU-13 compared to the EU-15; (iv) the problem of FP participation is specific to certain instruments in FP7 and H2020/HE instruments.

EU Industrial policy has recently been updated (6/21). There is also the Action Plan for Circular Economy which is important to newcomers. Therefor in the HE Cluster 4, there is a lot of support of circular economy aspects (raw materials, digital industry, manufacturing), climate action. Raw materials were covered by Societal Challenge 5: Environment etc., now these are included in the Cluster 4. So the Cluster 4 covers five of the previously separated topics: digital industry, NMP, Space, raw materials and part of KETs.

[7] IP/G/STOA/FWC/2013-001/LOT 8/C4: *Overcoming innovation gaps in the EU-13 Member States*. STOA, 2018.

1. NEWCOMERS IN NMP PROJECTS IN H2020

More than 4200 entities from EU Member States (including the United Kingdom), Associated Countries[8] and other non-EU Countries participated in NMP projects in the Horizon 2020 programme. Approximately one third of them were entities already participating in the Seventh Framework Programme (FP7), while the remaining two thirds were not participating in FP7 (hereinafter referred to as "newcomers"). Around 40% of the participants in NMP projects were SMEs (see Table 1).

Almost 80% of participants in NMP projects came from the EU-15 Member States (i.e. countries joining EU before 2004). About 6% of participants in NMP projects came from the EU-13 Member States (i.e. countries joining EU in 2004 and later), 7% from Associated Countries, and 8 % from other non-EU countries. Participants from the EU-15 and non-EU countries were on average involved in two projects (see second part of the Table 1). One participant from the EU-13 Member States was involved on average in a slightly lower number of projects. The average EC contribution per one participation in NMP project was approximately EUR 0.4 million. For participants from EU-13 Member States and non-EU countries the average EC contribution per one participation was somewhat lower. The projects were coordinated dominantly by EU-15 participants. The data on the number of participants from each group and their involvement in NMP projects is summarised in Table 1.

There are significant differences between newcomers and more experienced participants that have already been involved in FP7 projects (see Table 1). While the more experienced FP7 participants were involved in more than three projects on average, the newcomers were generally involved in one project only. The newcomers are also much less involved in project coordination compared to FP7 participants, where only 74 newcomers out of 2862 (i.e. less than 3%) coordinated a NMP project. In comparison, 231 entities out of the 1365 FP7 participants (i.e. approximately 17%) coordinated projects.

In addition, the role of newcomers in the projects is likely to be less significant compared to the FP7 participants, as the average financial contribution received by newcomers is approximately 30% lower than that received by the FP7 participants (see Table 1). The differences in the amount of financial contribution between newcomers and the FP7 participants may be explained by the lack of experience with FP projects.

[8] Albania. Armenia, Bosnia and Herzegovina, Faroe Islands, Georgia, Iceland, Israel, North Macedonia, Moldova, Montenegro, Norway, Serbia, Switzerland, Tunisia, Turkey, and Ukraine

TABLE 1 PARTICIPANTS AND NEWCOMERS IN NMP PROJECTS IN H2020.

NMP projects in H2020	Entities			Participations		Coordinations		EC net contribution (mil. EUR)	
	Total number of entities	Number of SMEs	Share of SMEs	Total number	Per entity	Total number	Number of entities	Total	Per participation
All participants	**4 227**	**1 637**	**39%**	**8 699**	**2.1**	**557**	**305**	**3 397.9**	**0.39**
FP7 participants	1 365	405	30%	4 965	3.6	478	231	2 243.2	0.45
Newcomers	2 862	1 232	43%	3 734	1.3	79	74	1 154.7	0.31
EU-15	**3 355**	**1 314**	**39%**	**7 091**	**2.1**	**488**	**275**	**2 858.1**	**0.40**
FP7 participants	1 110	329	30%	4 146	3.7	416	208	1 917.4	0.46
Newcomers	2 245	985	44%	2 945	1.3	72	67	940.7	0.32
EU-13	**269**	**116**	**43%**	**400**	**1.5**	**8**	**8**	**113.1**	**0.28**
FP7 participants	80	24	30%	170	2.1	6	6	53.4	0.31
Newcomers	189	92	49%	230	1.2	2	2	59.7	0.26
Associated countries	**283**	**99**	**35%**	**575**	**2.0**	**26**	**11**	**214.4**	**0.37**
FP7 participants	95	27	28%	339	3.6	24	9	138.0	0.41
Newcomers	188	72	38%	236	1.3	2	2	76.4	0.32
Other countries	**320**	**108**	**34%**	**633**	**2.0**	**35**	**11**	**212.3**	**0.34**
FP7 participants	80	25	31%	310	3.9	32	8	134.3	0.43
Newcomers	240	83	35%	323	1.3	3	3	78.0	0.24

Note to the Table 1: Participants are divided into participants who were involved in FP7 and participants who did not participate in FP7 (newcomers), and into participants from the old EU Member States (EU-15), new EU Member States (EU-13), Associated Countries, and other non-EU Countries. The first part of the table compares the number of participating entities and the number of SMEs, while the second part of the table compares the number of participations (total number of participations and the average number of participations per entity). The third part of the table compares the involvement of participants in the coordination of projects (number of coordinations and the number of participants who coordinated at least one project. The last part of the table compares the EU contribution provided to the projects (total contribution and the average EU contribution per one participations).

The next part of the chapter deals only with newcomers from the EU Member States and Associated Countries. Approximately 80% of the newcomers in NMP projects from these countries are private business enterprises (private for profit). Approximately 10% of newcomers are research organisations or tertiary and secondary education institutions (see Figure 1).

The largest number of newcomers is from the large EU-15 Member States - Spain, Germany, Italy and France. Among the EU-13 Member States, the number of newcomers is higher in Slovenia, the Czech Republic and Romania. The highest number of newcomers in non-EU countries is in Norway, Turkey and Israel (see Figure 2). The Figure 2 also shows that in some countries research organisations are more involved in NMP projects (e.g. Spain), while in other countries tertiary or secondary education institutions are more active (France).

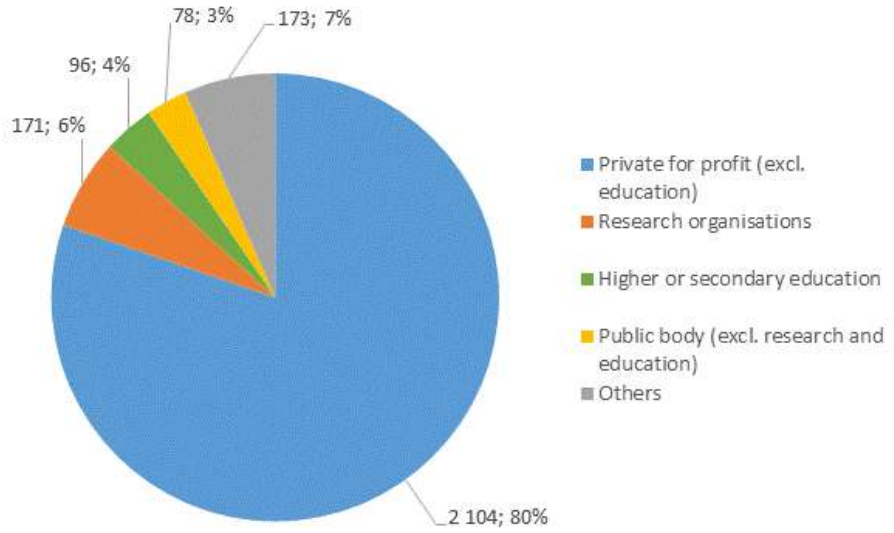


FIGURE 1 NEWCOMERS INVOLVED IN NMP PROJECTS IN H2020 BY SECTOR

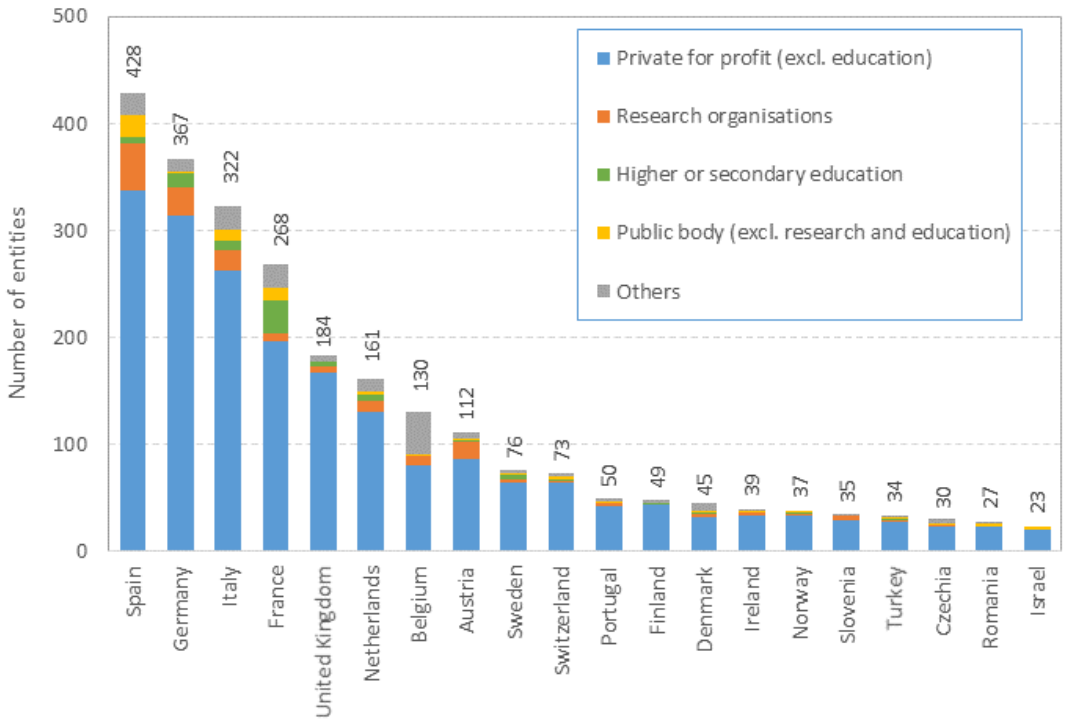


FIGURE 2 THE NUMBER OF PARTICIPANTS IN H2020 NMP PROJECTS FROM EACH COUNTRY BY SECTOR. ONLY COUNTRIES WITH AT LEAST 20 PARTICIPANTS ARE DISPLAYED.

The NUTS2 regions with the highest number of newcomers in NMP projects are listed in Table 2. The regions with the highest number of newcomers are Basque Country, Île-de-France, Catalonia, Lombardy and Madrid, i.e. the regions in the countries that contribute most to the total number of newcomers. In these regions, newcomers account for around 70% of all participants in NMP projects (see Table 2).

Although most newcomers have only been involved in one project, there are some newcomers who have participated in a higher number of NMP projects in H2020. These include in particular Innovation in Research & Engineering Solutions (Belgium), which was involved in 16 projects, as well as Ciaotech S.r.l. (Italy), Vdeh-Betriebsforschungsinstitut GmbH (Germany) and Sidenor Aceros Especiales SL (Spain) that participated in 10 and more projects. The highest EC contribution gained the German company Betriebsforschungsinstitut GmbH (see Table 2).

TABLE 2 NUTS2 REGIONS WITH AT LEAST 30 NEWCOMERS TO NMP PROJECTS IN H2020.

Country	NUTS2	Region	Number of newcomers	Share of newcomers
Spain	ES21	Basque Country	93	72%
France	FR10	Île-de-France	91	65%
Spain	ES51	Catalonia	84	74%
Italy	ITC4	Lombardy	81	69%
Spain	ES30	Madrid	76	68%
Belgium	BE10	Région de Bruxelles-Capitale	64	62%
Spain	ES52	Valencia	51	75%
Italy	ITH5	Emilia-Romagna	50	77%
France	FRK2	Rhône-Alpes	49	71%
Netherlands	NL33	South Holland	42	74%
Italy	ITC1	Piedmont	42	64%
Italy	ITI4	Lazio	35	65%
Austria	AT13	Vienna	33	72%

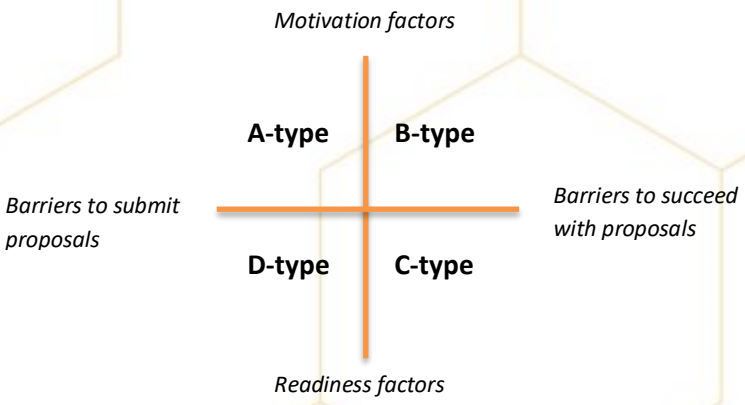
TABLE 3 NEWCOMERS INVOLVED IN THE HIGHEST NUMBER H2020 NMP PROJECTS. ENTITIES THAT HAVE COORDINATED AT LEAST ONE NMP PROJECT ARE HIGHLIGHTED IN GREEN.

Entity	Country	Sector	Number of participations	EU contribution (mil. €)
INNOVATION IN RESEARCH & ENGINEERING SOLUTIONS	Belgium	PRC	16	4.501
CIAOTECH Srl	Italy	PRC	11	2.434
VDEH-BETRIEBSFORSCHUNGSINSTITUT GMBH	Germany	REC	10	7.738
SIDENOR ACEROS ESPECIALES SL	Spain	PRC	10	2.152
ARCELORMITTAL INNOVACION INVESTIGACION E INVERSION SL	Spain	PRC	9	2.721
AXIA INNOVATION UG	Germany	PRC	8	2.183
ENGINEERING - INGEGNERIA INFORMATICA SPA	Italy	PRC	8	3.710
Turkiye Petrol Rafinerileri Anonim Sirketi	Turkey	PRC	8	3.912
MAIER TECHNOLOGY CENTRE S COOP	Spain	REC	8	1.404
GOLDBECK CONSULTING LIMITED	United Kingdom	PRC	8	1.969
SIDENOR INVESTIGACION Y DESARROLLOSA	Spain	REC	7	0.985
FONDAZIONE LINKS - LEADING INNOVATION & KNOWLEDGE FOR SOCIETY	Italy	REC	7	3.867
EUROPEAN FEDERATION FOR WELDING JOINING AND CUTTING	Belgium	OTH	7	1.935
AVANTIUM SUPPORT BV	Netherlands	PRC	7	1.275
UNISMART - FONDAZIONE UNIVERSITA DEGLI STUDI DI PADOVA	Italy	PRC	7	1.187
GREENDECISION SRL	Italy	PRC	7	2.136
HYSYTECH SRL	Italy	PRC	6	4.848
BEWARRANT	Belgium	PRC	6	1.022
CENTRO DE INVESTIGACIONES ENERGETICAS, MEDIOAMBIENTALES Y TECNOLOGICAS	Spain	REC	6	2.727
CSR CONSORZIO STUDI E RICERCHE SRL	Italy	PRC	6	0.563
ASOCIACION CENTRO TECNOLOGICO CEIT	Spain	REC	6	3.291

2. LIMITATIONS TO PARTICIPATION OF TALENTED NEWCOMERS IN NMP

2.1. Typology of barriers

The starting point for the analysis of limitations to participation in the Framework Programmes (FPs) is the creation of a typology of barriers that will allow us to monitor their importance for the submission or success of a project proposal. Based on the extensive analysis of different types of barriers to participation in the FPs carried out in the



study by Pazour et al. (2019), we can identify two basic dimensions to track them. The first key dimension consists, on the one hand, of factors influencing researchers' motivation to participate in FPs and, on the other hand, of factors determining their readiness to participate in FP projects. This dimension therefore distinguishes whether the reason for low participation is due to barriers related to researchers' lack of motivation to participate in FPs (e.g. ambition, availability of alternative funding, etc.) or to barriers related to lack of readiness to participate in FPs (e.g. lack of information, inadequate quality of research, etc.). The second dimension that can be established to monitor the types of barriers to FP participation reflects the project proposal submission and evaluation phase. Thus, in this dimension, we can observe barriers to submitting a project proposal on the one hand (e.g. lack of contacts to potential partners) and barriers to getting a project on the other hand (e.g. inexperience in writing high quality international research projects). By linking these two dimensions, we can identify four basic types of barriers to FP participation, namely (i) Motivational barriers to submitting a project proposal (A-type), (ii) Motivational barriers to obtaining a project (B-type), (iii) Readiness barriers limiting the submission of a project proposal (C-type), (iv) Readiness barriers limiting project acquisition (D-type). This typology of barriers is illustrated in the following diagram.

Figure – 1 Typology of barriers to participation in the Framework Programmes. Source: Pazour et al. (2019)

This basic typology will be used in the next section to elaborate in more detail on the different factors that may hinder participation in the FP.

2.1.1. Motivational barriers to submitting a project proposal (A)

The motivation of researchers plays a key role in the decision to participate in FP projects. Based on the literature search, quantitative analysis, questionnaire survey results and guided interviews conducted and described in the study by Pazour et al. (2019) and using the experience of the National Contact Points for FP, we can structure the motivational barriers to submitting a project proposal in more detail according to the type of motivations.

One possible motivation for submitting a project proposal to the FP is to obtain financial resources for one's own research (or for one's research team). Possible related barriers to participation in the FP are:

- *Easier availability of alternative sources of research funding (e.g. higher success rates in national programmes)*
- *Demotivating way of distributing the funds from the acquired projects within the institution*
- *Non-existent financial incentives (bonuses) for researchers to win international projects*

Another motivation for submitting a project proposal to the FP may be to increase prestige within the institution (or the institution within the R&D&I system). Closely related to this is the way research is evaluated and the consideration of participation in international research projects among the criteria for research evaluation. A barrier to motivation to submit a project proposal to the FP in this context may be the *lack of evaluation of participation in FP projects in national or institutional research evaluation* compared to participation in other (e.g. national) projects.

Furthermore, access to new knowledge or research infrastructure may be a motivating factor for submitting a project proposal. As shown in the survey of FP participants from EU13 countries (see Pazour et al. 2019), this motivating factor plays an important role especially for enterprises, for which access to new knowledge allows them to develop their own capacity to develop new products. A related barrier is the *limited ambition of research teams*

or the limited opportunities for using the results of FP projects in other activities of research organisations and enterprises.

Another set of motivating factors for submitting a project proposal is the benefit of the research itself carried out in the FP. This benefit may be in the form of scientific contribution, societal relevance of the research or personal benefit for individual researchers in terms of future careers. If this benefit is not perceived by individual researchers in FP projects, the motivation for submitting project proposals to this programme may decrease. A related barrier in this case is the *lack of awareness of the benefits and impacts of FP projects*.

2.1.2. Motivational barriers to obtaining a project (B)

The set of motivational barriers to obtaining a project is very limited. These are specific cases where a research team may be motivated to submit a project proposal to the FP (e.g. the number of FP project proposals submitted is positively evaluated in the internal evaluation system), but has no motivation to win the project. Figuratively, these barriers may be related to the existence of traditional networks of research teams which are difficult for newcomers to the FP to access. Another related barrier may be the lack of influence of research teams and their representatives in negotiating the focus of FP calls.

2.1.3. Barriers to readiness limiting the submission of a project proposal (C)

Given the FP's emphasis on scientific excellence and societal relevance of projects, and given certain specificities of the FP in the area of management and administration, sufficient motivation of researchers is usually not a sufficient condition for submitting a project proposal. Other factors that may play an important role include sufficient information and administrative support as well as sufficient contacts and links with potential partners.

In the case of information support, possible barriers can be indicated in several areas. One of the areas of barriers related to information support may be the *timeliness and availability of relevant information on the upcoming biennial work programmes and related calls*, where the unavailability of such information may hinder the conditions for the timely preparation of adequate project proposals. Another information barrier to project proposal submission may be the *availability of relevant information on the focus and terms of the call itself*, where it is usually necessary to know the broader context leading to the identification of the objectives and focus of the call. Information barriers may also arise in the case of *limited information on the administrative and financial aspects of FP projects*, which is necessary to know in order to properly fulfil all the formalities of the projects.

Another area is administrative support for the preparation of FP projects. *Lack of preparedness of administrative support to research teams in the preparation of projects* can have a negative impact on both the submission of the project proposal itself and its quality. In this respect, the lack of support to researchers in conceptualising the research proposal in a way that is in line with the objectives and purpose of the call in question, and that fulfils the purpose of the FP in general, may be an obstacle. Proper conceptualisation and framing of research topics is particularly necessary for more complex projects and requires some knowledge of the context of the call design and formulation. Another potential barrier to the preparation of a project proposal is the *lack of support in completing all administrative formalities*. Although the administrative complexity of preparing FP projects does not exceed the administrative complexity of preparing other research projects (quite the contrary), in the absence of such support researchers may not submit a proposal, e.g. due to missing deadlines. Limited administrative support can also be a barrier in the case of communication with partners, which can be very challenging, especially in the case of larger consortia.

Limiting factors for participation in the FP can also be seen in the area of contacts and links. Such factors include, for example*, insufficient links with research teams from previous FP projects or similar international research projects (e.g. COST)*. As shown in previous analyses of collaborating institutions (e.g. Balland et al., 2019), there are stable consortia of institutions in the FP that work together to develop and implement FP projects. This is a rational effort by project coordinators to form a project consortium of proven partners who both bring the necessary expertise to the project and are sufficiently reliable in terms of project management. Another factor in this area, which may reinforce the isolation of research teams and their unpreparedness for involvement in the preparation of FP projects in the absence of links from previous projects, is their *low interaction within the research community* (e.g. low publication activity in international journals, lack of active participation in international conferences, etc.). In some cases, certain networking tools (e.g. partner exchanges, partner search tools) can substitute for the lack of links in the research community. *Lack of awareness of the networking tools* may be an additional barrier to participation in FP proposals.

2.1.4. Barriers to readiness limiting project acquisition (D)

The last group of potential barriers to participation in the FP are those related to sufficient readiness to obtain a project. As mentioned above, the key parameter for obtaining projects in the FP is the high quality and social relevance of the proposed projects and their consistency with the intended objectives of the calls.

In terms of the evaluation of project proposals, the relevance of the project proposal to the expected objectives of the calls is an important criterion. In this context, a *lack of consideration of the context*, a narrow research focus that does not reflect all the objectives and the broader context of the work programme and the specific call may be an obstacle to the award of a project. The experience of the coordinator and the research team in writing the project proposal and their knowledge of the broader context of the creation and formulation of the programme call play an important role in this respect.

Another set of readiness-related obstacles is the area of expected real impacts of the project. Here, the *lack of experience in transferring R&D results into practice* or an underdeveloped system for knowledge transfer at individual institutions may be a limiting factor. In the case of projects implemented by (or with) enterprises, insufficient capacity of enterprises to effectively use the results in innovation may limit the success of the project.

The scientific quality and feasibility of the project is a key factor potentially limiting the project's success. As the Framework Programmes are primarily based on excellence and the selection of the scientifically best project proposals, the *lack of scientific capacity* of the proposers and the related lack of ability to formulate a high quality project is one of the key barriers to winning a project. In this context, sufficient scientific capacity not only of the project proposal coordinator but also of the other consortium partners is important.

2.2. Barriers to participation of newcomers in NMP

The survey carried out in the FIT-4-NMP project among representatives of research organisations, enterprises, NCPs, policy experts and policy-makers was aimed at assessing the barriers to participation related mainly to the submission of projects to the Framework Programmes. Specifically, the importance of barriers related to the motivation of newcomers to submit project proposals (type A) and the importance of barriers related to the readiness of newcomers to engage in the preparation of project proposals (type C) were assessed.

As the evaluation of the survey shows (for more details see the Deliverable 4.1), the most significant factor that reduces the motivation of newcomers to submit project proposals to the NMP is the low success rate of projects in Horizon 2020. It is the relatively low chance of success with project proposals that discourages potentially talented newcomers to submit project proposals. This factor is one of the most significant barriers to the preparation of project proposals for all categories of respondents, irrespective of the type of organisation and their previous experience with the Framework Programmes.

For enterprises, which represent the most significant potential newcomers to participate in Horizon Europe, in addition to a generally low success rate, limited access to financial resources for the preparation of project proposals decreases interest in submitting proposals. Unlike research organisations, enterprises (in particular SMEs) generally do not have base funding to invest human and financial capacities in the preparation of project proposals with very uncertain results (success rates of around 15%). Because of this uncertainty and high probability of resources being wasted, the Framework Programmes are not attractive to many smaller companies.

TABLE 4 AVERAGE VALUES OF RESPONSES ON PERCEIVED MOTIVATIONAL BARRIERS TO SUBMITTING A PROJECT PROPOSAL (TYPE A BARRIERS). VALUES RANGE FROM 1 = UNIMPORTANT TO 5 = EXTREMELY IMPORTANT

Ranking	Barrier	Total	BUSINESS	PRO/UNI	PUBLIC	No experience	Applicants	Participants	Coordinators
1.	Success rates in Horizon 2020 are too low to make applying worthwhile	3,75	3,29	3,85	4,56	3,70	3,77	3,61	4,00
2.	Easier access to national resources for funding R&D projects	3,36	3,11	3,41	3,89	3,30	3,77	3,29	3,06
3.	Lack of awareness about the EU research and innovation framework programme	3,11	3,10	3,10	3,22	3,32	3,14	3,07	2,88
4.	Long time between proposal submission to contract signing	3,08	3,29	2,94	3,22	3,27	3,29	3,11	2,56
5.	Preference to participate in other European or international programmes	2,73	2,50	2,72	3,56	3,43	2,76	2,50	2,17
6.	Negative experiences gained from previous unsuccessful project proposals	2,55	2,39	2,57	2,89	2,43	2,91	2,68	2,06
7.	Concerns about sharing valuable knowledge with consortium partners	2,52	2,46	2,54	2,56	2,87	2,35	2,79	1,83
8.	Imbalance between control and trust of beneficiaries	2,49	2,21	2,60	2,67	2,43	2,62	2,61	2,22

Another set of barriers to participation of newcomers in the NMPs include limited links to partner organisations for the submission of project proposals. In this context, closed clubs of existing partnerships are perceived as limiting, as they generate and direct the focus of future calls in the Framework Programmes. It is difficult for organisations that are not part of these existing partnerships to break into upcoming consortia. The results of the survey show that this barrier is particularly strongly perceived by organisations with previous experiences with submitting project proposals to the Framework Programmes. As a result of insufficient links of newcomers to existing networks

is the tendency to submit project proposals outside well-established consortia and partnership networks. The limited experiences of new partner consortia with the Framework Programmes reduces the potential to be successful with their project proposals. Third group of limiting factors consist of the skills and access to information relevant for the successful submission of project proposals. Although these factors are not perceived as the most significant barriers to the participation of newcomers in the NMP, increasing the skills on drafting proposals and managing international research projects as well as raising awareness of Horizon Europe need to be given due attention.

TABLE 5 AVERAGE VALUES OF RESPONSES ON PERCEIVED BARRIERS TO READINESS LIMITING THE SUBMISSION OF A PROJECT PROPOSAL (TYPE C). VALUES RANGE FROM 1 = UNIMPORTANT TO 5 = EXTREMELY IMPORTANT

Ranking	Barrier	Total	BUSINESS	PRO/UNI	PUBLIC	No experience	Applicants	Participants	Coordinators
1.	"Closed clubs" (e.g. EU public-private partnerships)	3,64	3,32	3,73	4,13	3,27	4,24	3,61	3,41
2.	Limited financial resources to prepare a proposal	3,43	3,62	3,30	3,56	3,48	3,86	3,46	2,78
3.	Newcomers seeking funding without well-developed networks	3,39	3,14	3,48	3,63	3,50	3,43	3,64	2,76
4.	Inability to get co-funding for Horizon 2020/Horizon Europe projects	3,37	3,18	3,49	3,22	3,17	3,81	3,43	3,00
5.	Limited in-house internal skills on drafting proposals or project management	3,21	2,50	3,56	3,33	3,52	3,09	3,14	3,06
6.	Irrelevance of programme topics and goals to own research agenda	2,96	2,64	3,06	3,33	3,00	2,64	3,11	3,06
7.	Imbalance between the small and large indicative project sizes in the calls for proposals	2,88	2,55	2,96	3,44	2,87	3,05	2,93	2,61

3. GOOD PRACTICES FOR ENHANCING PARTICIPATION IN H2020 PROJECTS

Policy-makers at European, national, regional and institutional levels are striving to create the conditions for effective participation of research and innovation teams in the Framework Programmes. The aim is to maximise the benefits of such participation for the qualitative development of research and innovation activities, strengthening international cooperation and delivering results for the benefit of EU society.

In this section, we will focus on selected experiences and good practices among the practices and policy measures to support participation in the H2020 programme. These policy measures and practices were identified through a search of available resources and through interviews with National Contact Points and EC policy-makers working on relevant topics in H2020, i.e. in particular the NMP and Widening participation areas. A key source of information on good practices in promoting participation in the Framework Programmes was the input from the individual project partners, who identified relevant examples of effective interventions from each country and region.

For the purpose of collecting information on good practice, the following terms 'good practice' and 'policy measure' were defined:

- **Good practice** - practice that has been proven to work well in promoting participation in H2020, and can be therefore recommended as a model. It is a successful experience, which has been validated in practice, and deserves to be shared with others. Good practices can be training activities, financial support schemes, consultancy services, brokerage events, etc.
- **Policy measure** – policy instrument or action introduced by European/national/regional authorities, intermediaries or organisations (universities, research organisations, business enterprises, etc.) aimed at enhancing participation in H2020.

The resulting good practices were grouped according to the level at which the relevant interventions are implemented. In this context, we distinguish between European, national/regional and institutional levels. In the following, experiences and examples of good practices are described according to these levels.

3.1 Good practices for enhancing participation in H2020 – European level

3.1.1 CASCADE FUNDING

Cascade funding (CF), also known as Financial Support for Third Parties (FSTP), has been specifically created by the European Commission with the aim of distributing funding to create new companies and increase their scalability and to create new SMEs or mid-cap companies via the digital innovation scheme. Cascade funding has one very specific objective: to simplify administrative processes for SMEs and to allow some already running European Projects to open calls and to obtain more funding. It seems “a relatively easy way to apply for public EU funding for innovative digital start-ups”.
SMEs have traditionally been supported by FPs, but now we also have Cascade Grants, i.e. consortium responsible for channelling funding of approx. 50-100 000 EUR to SMEs to test their innovative ideas – Open Innovation Test

Beds OITB[9] (materials) or Digital Innovation Hubs (digitalisation) – H2020. SMEs need the right kind of topic, but also they need basic information on the FPs opportunities, on the programme, calls, how it works etc. Cascade grants also help the SMEs to take part in the FP without previous knowledge and experience as selected OITB-DIHs open calls show so far that this funding mode is far easier for newcomers, especially SMEs to get involved in FPs.
Around 10 % of the current HE calls are open to third parties to use the cascade funding mechanism. Third parties have a settled % of funding directly in the respective call topic. Often the CF varies from 20 to even 50 % of the overall budget.

OITB

In H2020, the Open Innovation Test Beds were defined as entities, established in at least three Member States or Associated Countries, offering access to physical facilities, capabilities and services required for the development, testing and upscaling of nanotechnology and advanced materials in industrial environments. The objective of the Open Innovation Test Beds was to bring nanotechnologies and advanced materials within the reach of companies and users in order to advance from validation in a laboratory (TRL 4) to prototypes in industrial environments (TRL 7). Open Innovation Test Beds should upgrade existing or support the setting of new public and private test beds, pilot lines, and demonstrators to develop, test and upscale nanotechnologies and advanced materials for new innovative products and services in some specific domains. They will be typically run by for-profit organisations. Users could be industrial, including SMEs, as well as innovators and start-ups. In HE, the „industrial" part does not contain topics like OITB which supported technological services (use of technical equipment meaning tools like ´trying before buying´) or coaching for business development in open calls to improve the SMEs products´ or services' characteristics anymore. This type of H2020 calls does not contain a direct financial support to SMEs, it rather brings a discount to what the SMEs (selected in internal calls) usually pay for the use of technical equipment. The usage of this type of services within the internal calls can be found in concrete H2020 projects such as for example: SmartEES, BOWI, OASIS, MANUELA etc.

EDIHs

European Digital Innovation Hubs (EDIHs) will function as one-stop shops that help companies dynamically respond to the digital challenges and become more competitive. By providing access to technical expertise and experimentation as well as the possibility to 'test before invest', EDIHs help companies improve business/production processes, products, or services using digital technologies. They also provide innovation services, such as financing advice, training, and skills development that are needed for a successful digital transformation. Environmental issues are also taken into account, in particular with regard to energy consumption and low carbon emissions. EDIHs will have both local and European functions. EU funding will be made available for hubs that are already (or will be) supported by their Member States (or regions), in order to increase the impact of public funding. The Digital Europe Programme will increase the capacities of the selected hubs to cover activities with a clear European added value, based on networking the hubs and promoting the transfer of expertise. Member States have an essential role in the selection process of the EDIHs; the initial network of EDIHs will be established from a list of hubs designated by the Member States.
Many European Digital Innovation Hubs (EDIH) will be based on existing clusters, or include organisations that are part of an EEN consortia. The SME Strategy also commits to expand Digital Innovation Hubs in connection with

[9] See more details on OITB-DIH here:
https://ec.europa.eu/research/participants/data/ref/h2020/other/guides_for_applicants/h2020-supp-info-innotestbeds-18-20_en.pdf

Startup Europe and the EEN and provide a seamless service within local and regional ecosystems. Following the ongoing development of the work programme of the Digital Europe Programme, a first restricted call for EDIHs is expected to be launched in September 2021, to enable selected EDIHs to start their operation towards the second quarter of 2022.

3.2 Good practices for enhancing participation in H2020 – national/regional level

There are several types of instruments at national and regional levels that can effectively help to develop international cooperation in research and innovation and to increase participation in H2020 projects. These tools aim primarily at removing barriers to participation related to the motivation to submit project proposals and barriers to participation related to readiness for and success of proposals. In particular, these are systemic policy measures, financial incentives and information support.

The main *systemic policy measures* to promote participation in H2020 that can be implemented at national or regional level include incentives for international research collaboration and internationalisation in national/regional research evaluation systems. On the one hand, the emphasis on international cooperation in the research evaluation criteria demonstrates a clear intention of research and innovation policies to foster the internationalisation of research and, at the same time, motivates evaluated entities to take international research cooperation into account in their strategies and objectives. The fact that the assessment of international collaboration in national research evaluation is one of the important motivating factors for submitting project proposals to the Framework Programmes was confirmed, among others, by a questionnaire survey carried out among participants in FP7 or H2020 projects in 2018 (see Pazour et al., 2019).

Another systemic tool for the development of international cooperation applied at national level are the ERA-Net Cofund initiatives, which interconnect national and regional research programmes. These initiatives aim to fund individual calls that are launched internationally and funded at the national or regional level. Each ERA-NET has its own specific thematic focus, with the specific topics of each joint call being determined on an ad hoc basis during their preparation. The research topics are common to all participating countries and reflect their priority research areas. ERA Net Cofund instruments are implemented in a number of EU countries and regions (two examples from Romania and Czechia are described below).

Program 3: European and international cooperation, Subprogramme 3.2. Horizon 2020 – National Plan for Research-Development and Innovation for the period 2015 - 2020 (PNCDI III)	 **ROMANIA**
The main objectives are to support participation of Romanian research organizations in Horizon 2020 projects – ERA-NET/ERA-NET Cofund, to strengthen the national RDI system by intensifying collaboration in European research excellence and to increase Romania's visibility in the field of research and innovation. The programme funds transnational projects, including projects in NMP domain, following the calls for proposals: • MANUNET III calls (ERA-NET on Advanced Manufacturing Technologies): 2017, 2018, 2019, 2020 • M-ERA.NET calls (ERA-NET on research on materials science and engineering): M.ERA.NET2 -2018, 2019, 2020, M.ERA.NET3-2021 • FLAG-ERA calls: FLAG-ERA-II-2017, FLAG-ERA-III-2021 • EuroNanoMed III calls (EUROpean network of transnational collaborative RTD projects in the field of NANOMEDicine): 2017, 2018, 2019, 2020, 2021	

• ERA-MIN calls (ERA-NET Cofund on Raw Materials): ERA-MIN2-2017, 2018, 2019, ERA-MIN3-2021 Eligible organisations: Public or private universities, national RDI institutes, other public or private research organisations, SMEs or large companies, public administrative units, nongovernmental organisations, according to national and transnational calls eligibility criteria
https://uefiscdi.gov.ro/p3-cooperare-europeana-si-internationala

Implementation of ERA-NET calls by national funding agencies	**CZECHIA**
Several ERA-NET calls have been made available to Czech participants since 2017. • QuantERA calls 2017 and 2019 (implemented by MEYS) • QuantERA II call 2021 2019 (implemented by TACR and MEYS) • M-ERA.NET calls 2019 and 2020 (implemented by TACR) • EuroNanoMed calls 2019 and 2020 (implemented by TACR) • + several other ERA-NETs (implemented by TACR) not directly linked to the NMP programme (e.g. CHIST-ERA, ERA-MIN, BioDivClim, AquaticPollutants) National information events organized with publications of calls (shared with the (National Information Centre for European Research – NICER, a unit of Technology centre CAS which hosts all NCPs for the H2020/HE FPs); continuous monitoring of participation; partner search tool developed for the TACR website linked to the partner search tool of the individual ERA-NETs. Participation in ERA NET calls led to increased participation of CZ stakeholders in H2020 calls, higher success rate of proposals / Establishing working relations within the European communities, exploited in subsequent H2020 calls.	
https://www.tacr.cz/en/era-net-cofunds/	

The second group of instruments to strengthen participation in H2020 applied at national level consists of *financial incentives*. These instruments generally seek to incentivise research organisations and enterprises to prepare and submit project proposals to the Framework Programmes. The economic rationale behind these instruments is to try to reduce the costs associated with project preparation, usually in case project proposals are not successful and projects are not funded by the Framework Programmes. The investment in project preparation will thus be fully or partially recovered from the national or regional funding bodies in the form of financial reimbursement of preparation costs or through funding of the unsuccessful project proposals.

Seal of Excellence

The Seal of Excellence represents a quality label awarded by the EC to proposals which has been assessed in a H2020 call for proposals and are deemed to comply with the quality requirements of H2020 but could not be funded due to budgetary constraints. The use of the Seal of Excellence is strongly emphasized by the EC under Horizon Europe programme. In this context, the Commission promotes synergies between the R&I Framework programmes and European Regional Development Fund (ERDF). An example of the successful use of the Seal of Excellence for Structural Fund projects is the scheme to support the international mobility of researchers implemented by the Czech Ministry of Education, Youth and Sports. This scheme supports high quality project proposals under the MSCA Individual Fellowships scheme that have not been supported by the H2020 programme. Another area where the Seal of Excellence is finding its application is the SME Instrument. Examples are the funding schemes for high quality

but unsuccessful project proposals submitted to SME Instrument Phase I calls in Lithuania or Phase I and II calls in Poland. Also, here the funding makes use of synergies between H2020 and ESIF. It turns out that the Seal of Excellence is a relatively successful instrument for funding high quality project proposals submitted by individual investigators (researchers or companies). For funding H2020 project proposals submitted by international consortia, the use of this instrument is very complicated.

International Mobility of researchers – MSCA Individual Fellowships, complementary funding based on the Seal of Excellence	 **CZECHIA**
This is a national programme financed through the Operational Programme Research, Development and Education (OP VVV, OP RDE) and in line with so-called Seal of Excellence, quality label awarded by the European Commission. The aim of this scheme is to fund proposals which were highly scored (obtained a score of 70 % or above) in the call for Marie Skłodowska-Curie Actions Individual Fellowships within Horizon 2020 but were not funded under that call due to insufficient H2020 budget. It enables to support not only arrivals to the Czech Republic, i.e. fellowships carried out at Czech host institutions, but also departures from Czech host institutions abroad, to any host institution in an EU Member State or Associated Country to Horizon 2020 (in that case, there is a mandatory 6-month return phase in the Czech Republic). The organisations for research and knowledge dissemination according to the definition of the Framework for State Aid in Research and Development and Innovation (2014/C 198/01) and based in the Czech Republic are eligible for funding. This programme is open only to European Fellowships (Global Fellowships consisting of outgoing phase in a third country are not eligible). The grant is calculated based on seniority (two categories of junior and senior researchers). This national funding scheme significantly increases chances to be funded and in general the success rate of MSCA IF applicants. It is an alternative funding scheme which stimulates interest of Czech researchers in applying to MSCA Individual Fellowships as well as the interest of international researchers choosing the Czech Republic as host institution for their fellowship. It makes the Czech Republic more attractive destination for research and innovation.	
https://opvvv.msmt.cz/vyzva/vyzva-c-02-20-079-mezinarodni-mobilita-vyzkumnych-pracovniku-msca-if-iv.htm	

SME instrument phase 1 Support Scheme	 **LITHUANIA**
Lithuania has implemented funding schemes to support innovation champions that could not be funded under the Horizon 2020 SME Instrument. MITA has implemented 'Seal of Excellence' friendly actions Programme and offered the possibility for funding SMEs which submitted high quality project proposals in H2020 (eligible/ranked high) but were not funded due to budget exhaustion. A new voucher R&I call was launched in 2018 and funded by European Structural & Investment Funds (ESIF). It consisted of a voucher scheme (State aid/de minimis) for SME instrument Phase 1 proposals. Companies that receive 'Seal of Excellence' but no funding from the EC, can get funding for their projects from MITA. SMEs submit a Proposal to the Agency for Science, Innovation and Technologies (the ERC with Seal of Excellence is attached as Annex). Budget: € 500 000,00 until 07/01/2020 or budget exhaustion; Max. € 35 714,50 per project for SME Instrument-Phase I. The maximum aid intensity for Enterprises (SME Instr.) cannot exceed 50%. Non-competitive procedure employed / First-In-First-Served until Budget Exhaustion. Internal Evaluation by MITA Staff.	

The overall budget is 500 000€ which is meant to support 14 SME Instrument Phase 1 'Seal of Excellence' proposals in total. This Lithuanian scheme is a concrete example of operational synergies between Horizon 2020 and the ESIF.
https://www.esinvesticijos.lt/lt/paraiskos_ir_projektai?invitation=134&contract_date%5Bfrom%5D=1990-01-01

Seal of Excellence (2/1.1.1/2020)	**POLAND**
The Seal of Excellence competition intended for micro-, small and medium-sized enterprises that have received a Seal of Excellence. This means that the only eligible proposals are those that received a positive evaluation under the SME Instrument (phase II, covering the funding of R&D) of the H2020 EU framework programme but were unable to obtain EU co-financing due to unavailability of funds. The projects must be performed outside the Mazovian Province (less developed regions). The funding may be allocated to industrial research, development work (required in each project) and pre-implementation work. Call open only to proposals that: • were submitted under the SME Instrument, phase II (Horizon 2020) within 18 months of the submission to the NCRD and • received the Seal of Excellence certificate under the SME Instrument, phase II (Horizon 2020) – but did not obtain co-financing due to unavailability of funds. A project obtaining funding under the call must fall under at least one National Smart Specialisation (NSS). Funding: • Maximum level of project eligible costs: 50 000 000 euro • Minimum level of project eligible costs: No minimum level of eligible costs The call was divided into 7 rounds. • 7 projects were awarded a total funding of PLN 26,8 million (for a total value of projects of PLN 40,0 million). • 2 projects were declined funding of PLN 15,0 million (for a total value of projects of 21,4 million).	
https://www.gov.pl/web/ncbr/seal-of-excellence-21112020	

Compensation for costs of preparing project proposals

Another form of financial incentive to prepare and submit project proposals to the H2020 programme is to provide some compensation for the costs associated with this preparation. The aim is to motivate research organisations and enterprises to prepare high quality project proposals, as the reimbursement of the costs of project proposal preparation is usually linked to the achievement of a certain threshold in the quality assessment of project proposals in the H2020 programme. Although this compensation does not usually cover the full costs of preparing and submitting project proposals, the possibility of obtaining these funds from national sources provides a certain economic incentive that reduces the loss in case the project is not funded. At the same time, the fact that the receipt of support is conditional on reaching a certain quality threshold in the evaluation of project proposals limits the deliberate submission of a large number of low-quality project proposals. An example of such a financing scheme is the instrument of the Latvian Ministry of Education and Science. Similar funding scheme has been implemented also by the Slovak Research and Development Agency.

Specifically, in some countries there is an emphasis on the submission of project proposals with a sufficiently prominent role of the supported institution. In this context, various evaluation and analytical studies show (see e.g. EC, 2017 or Pazour et al., 2018) that EU13 countries have a significantly lower number of coordinators compared to EU15 countries. Targeted support for the preparation of project proposals in the role of coordinator, or at least WP leader, is provided for example by the Polish Ministry of Science and Higher Education.

Support to International Cooperation Projects in Research and Innovation	 **LATVIA**
The aim of this policy measure implemented by the Ministry of Education and Science of the Republic of Latvia is to promote the development of bilateral and multilateral cooperation projects of the ERA and participation in international research, networking and twinning activities. Among the other measures this policy measure also include support to project application writing for Horizon 2020 calls. The support is supplied retrospectively – after the project proposal is submitted to the Horizon 2020 programme call and evaluated. The support can be received only for high quality project proposals. If the project proposal/application of SME or research organisation receives quality rating higher than the threshold of the respective call, then the applicant can receive reimbursement of expenses spent for preparation of the application. In case, if the Latvian applicant is coordinator of the project, then the reimbursement is 9 000 EUR. In case, if the Latvian applicant is partner of the project, then the reimbursement is 6 000 EUR. According to the NCP estimation, such support motivates participants to increase quality of the project proposals. In the case of the project coordinator, such reimbursement unlikely cover the costs of the proposal preparation, but nevertheless companies and research organisations are very interested in this support.	
https://likumi.lv/ta/id/291823-darbibas-programmas-izaugsme-un-nodarbinatiba-1-1-1-specifiska-atbalsta-merka-palielinat-latvijas-zinatnisko-instituciju	

Support for preparation of research and development projects of the EU Framework Program for Research and Innovation by 2020 - Horizon 2020	 **SLOVAKIA**
The aim of this scheme operated by the Slovak Research and Development Agency was to stimulate the participation of Slovak research and development organizations in Horizon 2020. Those applicants who passed the threshold (Evaluation Summary Report) with their proposals in the working programme of H2020 in 2018-2020 could ask for the financial support of 3000 € (project coordinator) or 2000 € (project partner). The support was realised through an open call, launched by Slovak Research and Development Agency with the allocated amount of 400 000 €. The support was aimed at covering part of the costs for the preparation of project proposal in the form of flat-rate refund. Overall, 24 applicants were supported in technical sciences; 17 applicants in natural sciences; 13 applicants in social sciences; 2 applicants in medical sciences; 1 applicant in humanitarian Science and 1 applicant in agricultural science. The support covers the manpower costs for about two months and is recognized as a compensation for the effort.	
https://www.apvv.sk/grantove-schemy/programy/archiv/pp-h2020.html?tab=older_documents	

Grants for Proposals – promotion of quality III	

	POLAND
The initiative was established to assist higher educational and research organisations in increasing their success rate in applying for grants financed with funds from the European Union budget for the implementation of projects under the European Union research programs and to involve employees of these entities in the preparation of high-quality proposals for these grants. Support is granted to higher education institutions and research organisations that submitted project proposals in H2020 programme and acted as: • coordinator of a project submitted by an international or domestic consortium, • coordinator of a specific portion/specific portions of a project submitted by an international or domestic consortium (WP leader), • a single applicant, • a single applicant in ERC grant applications, • applicant for the status of a beneficiary of the Marie Skłodowska-Curie COFUND type project; • applicant for the status of an institution hosting a researcher carrying out an ERC project, At the same time, they received at least the Threshold level in the final EC evaluation, and in the case of the ERC grant call, the A-level assessment in the 1st stage of the competition with an invitation to the 2nd stage of the competition or to the 3rd stage of the ERC SyG competition (in the case of the ERC competition - PoC - final grade A). The financial support available within the undertaking consists of: • reimbursement of costs related to development of a project proposal incurred within 12 months of its submission in response to a EC or ERC call or costs supported by financial documentation from that period and relating to: • investigation of the subject matter of the project proposal, • preparation, completion or correction of the project proposal, • the applicant's participation in conferences and brokerage or networking events related to developing the project proposal, • organising or participation in working meetings of the consortium or project management team (WP leaders); • financing a one-off bonus for the applicant's employees (as at the date of submitting the application) who were involved in the project proposal development process, in the gross amount constituting the total cost of the allowance borne by the applicant without indirect costs. Such financing may only cover bonuses the rules of which are set out in the corporate collective labour agreement or in the corporate remuneration regulations of the applicant. The amount of support ran to 30 000 PLN for coordinator of a project submitted by an international or domestic consortium, 10 000 PLN for WP leader, 20 000 PLN for single applicant, 20 000 PLN for applicant for the status of a beneficiary of the Marie Skłodowska-Curie COFUND type project or 20 000 PLN for applicant for the status of an institution hosting a researcher carrying out an ERC project. Between 2016 and 2021 the instrument was used to finance 477 applications submitted by 132 entities for a total amount of PLN 7,6 million.	
https://www.gov.pl/web/edukacja-i-nauka/granty-na-granty-promocja-jakosci-iii	

Grants for writing project proposals

In addition to the financial reimbursement scheme following the successful submission and evaluation of project proposals, there are also financial schemes at national and regional levels that provide support for the actual preparation of project proposals for H2020. In these cases, support is not provided retrospectively, but in advance to cover the costs associated with project preparation. The advantage for applicants is that they receive funding for

the preparation of the project proposal regardless of the outcome of its evaluation in H2020. On the other hand, the absence of a condition to achieve a certain quality of project proposal may increase the interest in this type of support and thus the competition for these funds. A financial scheme to support costs related to project preparation is implemented, for example, by the Polish Agency for Enterprise Development.

POIR Granty na Eurogranty (Grants for European Grants, Smart Development Operating Programme)	 **POLAND**
The objective of this scheme implemented by the Polish Agency for Enterprise Development (PARP) is to provide financial assistance to cover the expenses related to preparing a project for implementation within an EU Programme. The purpose of the scheme is to allow for reimbursement of the costs of preparing a European grant proposal, i.e. a project to be carried out under one the European Union Programmes, and in particular Creative Europe, LIFE, and other European Union programmes managed centrally by the European Commission, including Horizon Europe and the Single Market Programme. Eligible participants: Micro, small and medium-sized enterprises with their headquarters or a branch in Poland that intend to apply for funding under calls announced within EU Programmes, acting as a single applicant or a project coordinator, partner or member of a consortium jointly applying for funding. Eligible funding allocation: • Funding the cost of a consulting service that assists in proposal preparation • Funding the costs of a feasibility study • Funding the organisation of meetings, including partner searches and business trips • Funding the preparation of a European project proposal in line with the requirements defined by the call organiser and costs relating to any necessary adjustment of the proposal, including remuneration of employees in the part in which this remuneration is directly related to the preparation of the project planned for implementation within one from EU Programs, as well as costs related to the presentation of the proposal to the project evaluation committee appointed by the call organiser. • Funding the translation of the proposal documentation submitted to the call organiser. In total, 49 projects have been funded with funding of PLN 8,6 million.	
https://www.parp.gov.pl/component/grants/grants/granty-na-eurogranty#wyniki_i_archiwum	

In addition to systemic measures and direct financial incentives, national and regional policies also play an important role in providing *information and advisory support* for participation in the Framework Programmes. These services are of particular importance for newcomers to Framework programmes, as they raise awareness of the H2020 calls and rules, but also help to understand the context of the calls and their links to the objectives of European research and innovation policy. It is a good understanding of this context that enables applicants to target their project proposals properly to European objectives and to set project activities towards the expected impact. This naturally increases the chances of success of the submitted project proposals in the evaluation process.

Raising awareness / Information support

Raising awareness of the opportunities for support from the Framework Programmes is an important area of information support provided by national and regional authorities. These services have long been provided by the National Contact Points. In addition, other groups and platforms are emerging that can provide information on opportunities and topics of FP calls. For example, the close cooperation between the NCPs and the Enterprise Europe Network (EEN), which provides a comprehensive service for SME development, is proving to be effective.

Long-term cooperation between the EEN and the SME segment can effectively assist in identifying potential newcomers for projects in the Framework Programmes. There is also good experience in raising awareness of the services provided by Open Innovation Test-beds (OITBs) and Digital Innovation Hubs (DIHs), through which it is possible to raise awareness of opportunities in the Framework Programmes among SMEs that would be difficult to reach by other means. The cooperation between the Czech NCPs and the DIHs is an example of these activities.

Supporting awareness of open calls and services of Open Innovation Test-beds (OITB) and Digital Innovation Hubs (DIH) for the benefit of local SMEs/mid-caps	 **CZECHIA**
The aim of this activity was to facilitate access of companies to technologies and services provided by networks of pilot lines and demonstration facilities and additional services (e.g. coaching of business development) and in certain DIHs also to financial support provided by the DIH consortia through their open calls. The starting point was the promotion of OITB/DIH information events linked to open calls on the dedicated Technology Centre web, targeted information dissemination to potential applicants to these calls. This was followed by matching of open calls and potential applicants based on known focus of OITB/DIHs and profiles of individual companies. Examples of OITB/DIH consortia and their open calls promoted by NCPs, to which attention has been drawn by targeted dissemination: • SmartEES (DIH) – resulted in financial support (FSTP) of one CZ applicant • BOWI (DIH) - financial support (FSTP) of one CZ applicant • ELG - European Language Grid (DIH) - financial support to two contracts with a CZ provider • TETRAMAX (DIH)– two internal collaborative projects with CZ participation • FORMPLANET (OITB) – results not yet available, the first call has just been opened • MANUELA (Pilot lines) – results not yet available, call in progress It was proved that: • targeted dissemination and subsequent communication with companies provably led to increased participation and success in open calls; • participation in open calls and communication with OITB/DIG leads to establishing new viable contacts and subsequent applications to consortia projects; • there was a largely positive feedback from companies participating in open calls.	
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/competitive-calls#collapseEightyFive	

Expert advice

Targeted advice for the preparation of project proposals is an important tool for strengthening participation in the Framework Programmes. Although this area is often effectively serviced by internal grant offices or private consultancy companies, there are also targeted consultancy services provided by intermediary bodies. Such services are particularly relevant for SMEs that do not have the capacity to set up their own dedicated grant offices. An example of targeted advisory services for SMEs are those provided by the Latvian State Education Development Agency for start-ups and SMEs preparing projects for the SME Instrument.

Latvian NCP support to Start-ups and SMEs to H2020 SME Instrument programme	 **LATVIA**

This policy measure implemented by the Latvian State Education Development Agency was to increase successful project proposals to Horizon 2020 SME Instrument programme.

Preparation of a quality project application requires considerable resources and efforts. The best results are achieved when the applicant receives individually tailored consultations according to the company's business profile and knowing technical details. Preferably that in the process are involved several NCP experts, involving - at least one industrial expert and expert on legal aspects on administration issues. The NCP experts do not write project applications, but give advice how to balance different project proposal parts and to which aspects to pay more attention.

This support resulted in 11 successful SME Instrument Phase I applications and 2 successful SME Instrument Phase II applications from Latvia. An important aspect for successful proposals is a highly motivated applicant who is ready to invest considerable efforts in preparation of project proposal. It has been proven that start-ups and SMEs are less interested in general info seminars.

https://viaa.gov.lv/lat/zinatnes_inovacijas_progr/apvarsnis_2020_red/petniec_kontaktinfo/

Brokerage events

Systematic linking partners into joint projects is an integral part of support to enhancing participation in the Framework Programmes. Such support is of particular importance for newcomers to the Framework Programmes who have not built up long-term links and trust in established European consortia. Although the European Commission's portal can be used to find partners, a more effective option is targeted matching of potential partners according to the expertise offered and demanded. Similarly to technology transfer processes, intermediaries play an indispensable role in creating a platform (space) for the first contact between potential partners. Proven platforms in this context are brokerage events, where, on the basis of pre-submitted profiles of individual partners, individual companies and research organisations have the opportunity to hold a series of meetings with potential partners in a short period of time. The cooperation between NCPs and EEN is also useful in this case. An example of networking services are the brokerage events organised by the Polish Institute of Fundamental Technological Research in cooperation with NCPs.

International Online Brokerage Events Organised in Cooperation with the European Commission and Thematic NCP Networks	 **POLAND**

The Institute of Fundamental Technological Research of the POLISH ACADEMY OF SCIENCES (IPPT PAN) as Polish NCP and partner of the SEREN4 project organised online brokerage events addressed to all EU and Associated Countries. These international brokerage events related to the last Secure Societies Calls under H2020 fully online.

The first brokerage event (7 April 2020): Almost 750 participants from 46 countries, 738 bilateral meetings with 584 participants. 30 participants from Poland (6 of whom from universities) who attended 121 B2B meetings took part in the whole event.

The second brokerage event (12 May 2020): Nearly 690 participants from 38 countries, 320 bilateral meetings, in which 411 participants took part. The whole event was attended by 34 participants from PL (9 of whom from universities) who had nearly 50 B2B meetings with foreign participants.

In comparison to two similar physical events organised in 2019 (in Brussels and Riga), the number of participants who have actively participated as well as the number of bilateral meetings have doubled in 2020.

The success factors were: Availability online; Wide participation; High quality partner profiles.

https://ancd.gov.md/sites/default/files/NCP%20Academy%202%20Best%20Practices%20Covid-19%20Annex_FINAL.PDF?fbclid=IwAR0bws8gvfU_-64Q7CTriFuhukCQI3GjAtzFvZTJZcTC_2XAqn5EqreUILk

Coaching and mentoring

In addition to expert advice for the preparation of project proposals for H2020, continuous and systematic development of competences for international cooperation in research and innovation is also an important tool for increasing participation of SMEs and especially newcomers in H2020 programme. This is done through various coaching and mentoring programmes aimed at strengthening the innovation capacity of SMEs and increasing their readiness to participate in riskier projects. The Enterprise Europe Network plays an active role in the implementation of coaching and mentoring activities and works systematically with innovative SMEs. In addition, there are also targeted programmes implemented by national and regional innovation centres and other intermediaries. Examples are the Polish Innovation Coach programme, the Slovak Mentoring scheme or the Ukrainian Instrument for supporting the potential applicants for NMPB Calls of Horizon 2020, which is specifically targeted at enhancing participation in NMP topics.

Innovation Coach	**POLAND**

The Innovation Coach Project is path II of the STEP Instrument (Sprawdzimy Twój Eksperymentalny Pomysł na Projekt – Checking Your Experimental Project Idea) carried out by the Ministry of Development Funds and Regional Policy in partnership with the Polish Academy of Sciences Institute of Fundamental Technological Research (IPPT PAN). The project is intended for entrepreneurs who would like to conduct research and development work but do not know how to initiate this activity and have no experience in acquiring R&D&I funding.

The prerequisites for participation in the project is a lack of experience in applying for public R&D funding (national or EU, e.g. Horizon 2020 calls) and a readiness to implement innovative solutions in the enterprise.

Participation in the project consists of the following steps:

- Step 1 – registration of the enterprise at www.innovationcoach.pl and determination of proficiency in acquiring EU funding for R&D&I.
- Step 2 – assignment of a coach from the EU Research Programme Centre team.
- Step 3 – joint evaluation of the enterprise's R&D&I potential and resources by the coach and entrepreneur.
- Step 4 – coach's recommendations on directions and paths of implementing innovation in the enterprise and possibilities of obtaining innovation funding from the European Union.

The project offers support to all organisations at any stage through:

- Info days – which will provide additional information about the Innovation Coach project – pathway I of the STEP Instrument – and the funds available to enterprises under the Polish Smart Development Programme and Horizon 2020.
- Consultation for entrepreneurs – provided by experts from the EU Research Project Centre and aimed at identifying the enterprise's needs and potential.
- Innovation coaching service – provided by qualified industry experts. The service aims at identifying an enterprise's potential in the area of implementation of innovative solutions, and analysing its business surroundings and strengths and weaknesses. The result of coaching will be the preparation of individual recommendations by the expert for the enterprise including an idea for the implementation of innovation developed together with the entrepreneur, as well as an indication of how to finance it with the use of European funds.

- R&D workshops – which will allow the entrepreneurs to familiarise themselves with the specifics of conducting and structuring research and development projects, creating financial models, the principles of intellectual property protection or the possibility of obtaining funding for the implementation of their business ideas from the European Union.

https://www.innovationcoach.pl/

Call for participation to EU Community Programs	**SLOVAKIA**

The aim of this scheme implemented by the Slovak Business Agency is to enhance the participation of Slovak SMEs in the directly managed EU programmes – "community programmes" (such as Horizon 2020, Erasmus +, Creative Europe, Life+, COSME and others).

The support to SMEs was realised through open call for proposals, launched by SBA, for 80 hours of expert consulting services to support the application process. Support was under de minimis scheme and the whole set-up process included following steps:

- Selection, set-up of database and contracting of external consultants
- Free seminars for SMEs on the different possibilities within the community programmes (46 seminars organized within the period 2018-2020)
- Open call for proposals since the beginning of 2018 with simple application – registration form (google forms), short description (4 pages) of the project idea and its relevance to the chosen selected EU call
- Evaluation of the application by SBA committee
- If successful, the applicant receives 80 hours of expert consulting services from a professional to help him with the application for the selected community programme call

More than 90% of applications were for SME Instrument (Phase 1 and 2) / EIC Accelerator calls within Horizon 2020.

https://www.npc.sk/sk/services/poradenstvo-a-konzultacie/dlhodobe-odborne-projektove-poradenstvo

https://www.npc.sk/sk/services/poradenstvo-a-konzultacie/dlhodobe-odborne-projektove-poradenstvo/vyzva-int-dlhodobe-odborne-projektove-poradenstvo-/ (both Slovak only)

Mentoring scheme for grant applicants in HORIZON 2020	**SLOVAKIA**

This mentoring scheme is implemented by the Slovak Centre of Scientific and Technical Information. Via introduction of experienced mentors in the project proposal preparation process the scheme aims to:

- Enhance the skills of Slovak applicants in preparation of Horizon 2020 project proposals
- Increase the quality of project proposals in Horizon 2020 submitted by Slovak applicants

The scheme has been active since June 1st 2019. The mentoring can be provided in two forms: mentoring provided to applicant to enhance his/her project proposal and mentoring in a form of a speaker/trainer on specific targeted workshops. Provision of mentor for the project proposal has following procedure: project coordinators or single beneficiary who needs a mentor contact responsible NCP with the first draft of their project proposals. The NCP is the responsible person who decides whether the proposal is proper for mentoring or not, as the NCPs are experienced and well informed on the evaluation criteria and expectations of remote experts. NCP pre-screens the proposal and provides his/her feedback to the applicant. Only after that the proposal is suitable for mentoring. These mentors are expected to contribute to the quality of proposals within 4 weeks. The mentors are chosen from the mentors' database. Mentor is usually expert having experience with evaluation of Horizon 2020 projects and/or

Horizon 2020 project preparation and implementation. Applicants can bring their own mentor with required background. NCP intermediaries contact between proper mentor and applicant. Mentor then works with applicant using various modes of work (online, telephone, personal contact). Mentoring service is paid by CVTI SR only on condition of submission of the mentored project proposal to Horizon 2020/Horizon Europe. After submission, mentee is asked to provide his/her feedback in structured questionnaire, mentor is asked to fill in the report on mentoring specifying what parts of proposal needed attention and how mentor and mentee worked together. Report on mentoring includes also mentor´s timesheet.

https://www.cvtisr.sk/cvti-sr-vedecka-kniznica/projekty/narodne-projekty/sk4era-internacionalizacia-sk-vyskumu.html?page_id=23804

Instrument for support the potential applicants for NMPB Calls of Horizon 2020	 **UKRAINE**

The objective of this policy instrument is to provide the potential applicants and those research teams who demonstrated their capability in the NASU competitive programmes relevant to NMP themes with:

- the actual information on the open thematic calls,
- the results of evaluation procedure and main results of the corresponding thematic current and completed projects,
- consulting on preparation and submission of project proposal.

Funding of the special thematically oriented supporting projects within each competitive targeted programs of fundamental and applied research of the NASU is envisaged since 2016. These targeted programmes were the follows: “Reliability and durability of materials, constructions, equipment and structures" (2016-2017), “Fundamental problems of hydrogen and renewable energy and fuel cell technologies” (2016-2018) and current one «Development of scientific bases for hydrogen production, storage and use in autonomous energy supply systems» (2019-2021).

Deep analysis of the thematic priorities related to the NMP including JU Clean Sky II, Shift2Rail, Innovative Medicines Initiative JU, Fuel Cells and Hydrogen JU has been done, the concept of the new targeted programme “Resource materials” has been proposed.

Individual support of proposal preparation for the 2016-2017 open calls of Horizon 2020 had been provided.

The number of submitted project proposals increased compared to the FP7 up to 70. The success rate, however, appeared to decrease.

http://www.materials.kiev.ua/Hydrogen_2019-2021/index_en.html

https://www.nas.gov.ua/UA/Messages/Pages/View.aspx?MessageID=5035 (in Ukrainian only)

3.3 Good practices for enhancing participation in H2020 - institutional level

At institutional levels, there are specific schemes and tools to encourage participation in the Framework Programmes particularly at universities and larger research organisations. These are usually part of broader measures to support the internationalisation of the institution. An important prerequisite for the introduction of specialised support for participation in the Framework Programmes is the existence of a professional grant office

that provides researchers with a quality service in the preparation of the international cooperation project proposal and in its subsequent implementation. In view of the prestigious status of ERC grants and the interest of universities and research organisations to host ERC grant holders, targeted support for participation in the Framework Programmes is often specifically oriented towards supporting ERC grant applicants. An example of such a scheme is the ERC Support Scheme implemented by Masaryk University in Brno, or the more broadly oriented support scheme of the University of Luxembourg.

ERC Support Scheme	 **CZECHIA**
This supporting scheme implemented by the Grant office of the Masaryk University in Brno aims to motivate potential applicants to submit ERC proposals and to increase the success rate of applicants from Masaryk University in ERC grants. Since 2012, Central European Institute of Technology (CEITEC) at the Masaryk University in Brno has provided access to international consultants for all ERC applicants, with the following goals: • Assessing the potential of the principle investigator for ERC (e.g., review of CV); • Guiding the process of research project development (i.e., ambition and feasibility of the idea); • Aiding the principal investigator with proposal writing (i.e., several reviews of B1 and B2); • Assisting with preparation for interviews (e.g., mock interview training) if the applicant is successful in the first step of evaluation. In 2015, the ERC Support Scheme was adopted by the Research Office of the Masaryk University Rectorate, and has been available to the whole university, not only CEITEC. Costs of the external consultancy and trainings are fully covered by the central administration of the university. To be able to use the support, principal investigators need to be supported by the Dean/Director of the respective faculty/institute. Three principal investigators who benefited from the ERC support scheme were awarded ERC grants between 2013 and 2018.	
http://alliance4life.ceitec.cz/inventory-of-best-practice/	

Rapid Incentive Scheme (RISE)	 **LUXEMBOURG**
The Rapid Incentive Scheme is operated by the University of Luxembourg (UL). Its objective is to motivate potential applicants to submit H2020 proposals and to increase the success rate of applicants from University of Luxembourg. The UL rapid incentive scheme, UL-RISE provides funding in three strands. The UL-RISE, the RISE-MSCA and RISE-ERC to encourage applications for H2020 individual or collaborative, multi-partner projects with UL as coordinator or partner. The UL-RISE is open to all disciplines and sectors. While UL-RISE does not provide funding to other institutions, it encourages collaborative research across UL entities and joint actions with Luxembourgish and foreign partners. UL-RISE funding is granted on a competitive basis. While resubmission of European Commission (EC) rejected proposals are eligible, UL-RISE discourages the application of ideas that were unsuccessful. The UL-RISE covers funding for consumables, subcontracting and other costs related to proposal writing. The support provided within the RISE resulted in:	

- 123 UL-RISE applications approved out of 156 outlines evaluated
- 26 UL-RISE EC grants have been signed
- Success rate for projects supported by UL-RISE: more than 21%
- Success rate for ERC candidates supported by RISE-ERC: 20%

No web link available as this is an internal scheme

4. NEW INSTRUMENTS FACILITATING PARTICIPATION OF NEWCOMERS IN HORIZON EUROPE PROJECTS

This chapter presents an overview of new instruments for participation of newcomers or organisations from underrepresented regions introduced in the EU Horizon Europe (HE, 2021-2027) programme and it is based on a document review as well as on interviews with European Commission´s (EC) staff[10]. The majority of instruments has already been used in the previous EU Framework Programmes, namely in the last one: Horizon 2020 programme (H2020, 2013-2020) – see previous chapter (3) for details on good practices overview.

H2020 Advisory Group Report[11] on NMBP from 2018 has identified the main recommendations for helping to attract newcomers as follows:
a) to integrate „capacity building" of newcomers as an eligible activity;
b) offering incentives to promote the involvement of EU-13 participants;
c) designing call topics suitable for potential participants from EU-13;
d) offering cascade grants, funding or small tenders; and
e) mapping potential of new applicants by engaging citizens, national and regional stakeholders and policymakers.
These seem to be historically mainly reflected in H2020 NMBP WP2018-2020 within two concrete topics:
37: Incentivising newcomers (CSA) implemented by only one project of 1,5M EUR: FIT-4-NMP.
38: Citizens and industrial technologies (CSA) also implemented by only one project of 1,5M EUR: SocKETs.
Report states that 38,4 % of EU-based organisations involved in H2020 NMBP projects are newcomers; but out of 2573 programme participants from 28 Member States only 89 are from EU-13!

4.1 HE: FUNDING MECHANISMS

This sub-chapter introduces a list of new or updated funding mechanisms which may potentially be of use when attracting newcomers to take part in HE. HE still supports some specific topics, but it concentrates more on more open topics plus the support has developed from smaller to larger funding schemes. In H2020, *average size of a topic* was 15M EUR for 3-4projects; now in HE the average size became 25-40/50M EUR. There are vivid and ongoing discussions about the size when it comes to how suitable they are for newcomers: some say bigger projects are better for SMEs; and about the funding rates. It seems so far that the lower funding rates discourage SMEs. In HE now, there are pilots of certain topics of *lower funding rate* to see whether these are really less attractive for SMEs than the bigger schemes with 70/100% funding. This will become clearer after the first HE interim evaluation reporting period.

[10] A) Magda DE CARLI, European Semester & Country Intelligence (RTD.A.1): Head of Unit. EC, EU.
B) Nicholas Deliyanakis, Industrial Transformation (RTD.E.3), EC, EU.
C) Petra Szávics, Member of the *'Leadership in Enabling and Industrial Technologies, Nanotechnologies, Advanced Material and Advanced Manufacturing and Processing*' ("LEIT-NMP") Advisory Group, RTD, EC, EU.

[11] *Outreach to Newcomers and Societal Engagement in Industrial Technologies.* H2020 Advisory Group Report on Nanotechnologies, Advanced Materials, Biotechnology, and Advanced Manufacturing and Processing (NMBP): November 2018.

HE has been implemented in three pillars: Excellent Science, Global Challenges and Innovative Europe.

4.1.1 HE PILLAR 1 – Potentially effective tools

Pillar I is mainly designed for research organisations. Funding focuses on highest quality research in all fields to generate new knowledge information. The support of newcomers comes mainly through ERC grants.

ERC

ERC offers single beneficiary funding for basic research. Today it seems that the distinction between 'basic' and 'applied' research has become blurred, due to the fact that emerging areas of science and technology often cover substantial elements of both. As a result, the term 'frontier research' was coined for ERC activities since they will be directed towards fundamental advances at and beyond the 'frontier' of knowledge.

MSCA

In Horizon 2020, the Marie Skłodowska-Curie Actions programme (MSCA) supported the mobility and training of researchers in Europe. This mission continues under HE with, however, with some changes. EC aims to apply new criteria for the re-submission of proposals in order to simplify and improve success rates. In addition, greater emphasis will be put on the projects' impact and synergies with other actions (ERC, Research Infrastructures, EIC, etc.) and programmes (structural funds, Erasmus +…). The total budget for the 2021-2027 period has reached 6.6 billion Euros which represents a slight increase as compared to H2020.

The structure of the MSCA programme in five sub-actions under Horizon 2020 remains the same in Horizon Europe. However, for the purpose of clarification and simplification, these actions change names:

- Innovative Training Networks (ITNs) become "**Doctoral Networks**";
- Individual Fellowships (IF) are merged into a single action: "**Postdoctoral Fellowships**" with two destinations (Global and Europe);
- the Research and Innovation Staff Exchange (RISE) becomes the "**Staff Exchanges**";
- the **COFUND** programme (Co-funding of regional, national and international programmes) keeps its name;
- the European Researchers' Night is renamed **MSCA and Citizens**.

ERA-NETs / COFUND

ERA-NETs have already been mentioned in the Chapter 3. In 2002, European Research Area Networks (ERA-NETs) have been developed to consolidate the European Research Area. ERA-NETs are very important in the scientific fields of Nanotechnologies, Materials and Production (NMP) with more than 20 projects since FP6. In FP6 and FP7, important networks were created such as CROSSTEXNET, ERACOBUILD, EURONANOMED, INCOMERA, MANUNET, MATERA+, M-ERA.NET MNT-ERA.NET II, NANOSCI-EPLUS, SIINN etc. These networks have fostered the implementation of many transnational research projects across Europe. With Horizon 2020, the former ERA-NET and ERA-NET+ have merged into a single ERA-NET Cofund instrument with the central and compulsory element of implementing one substantial call with top-up funding from the Commission (for the period until 2025). The ERA-NET scheme encourages the coordination of Member States and Regions in funding transnational research project. Namely, it is a mechanism providing opportunities to funding organisations from individual EU Member States, Associated Countries and mostly also some non-European countries to launch joint international calls for proposals under some agreed theme. Applicants submit project proposals involving international consortia, with each funding organisation financing successful applicants from its own country which take part in projects selected within these international calls. A list of funding organisations taking part in a given call is usually published before the call is

launched. A comprehensive overview of NMP related ERA-NET initiatives has been done in the H2020 project called "Synergies in NMP Programming in the European Research Area" (SYNAMERA). It explored the landscape of national and regional research funding programmes and proposed an agenda to boost collaboration.

RESEARCH INFRASTRUCTURES (RI)

Horizon Europe plans to support world-class sustainable research infrastructures which are open and accessible to the best researchers from Europe and beyond. It will also encourage the use of existing research infrastructures, including those financed from funds under the EU's Cohesion Policy. Research Infrastructures will newly also contribute to achieving the 4 key strategic orientations of the *Horizon Europe Strategic Plan*. Historically RIs and related projects´ support are attracting local and regional innovative SMEs and subjects.

4.1.2 HE PILLAR 2 – Potentially effective tools

Pillar II - *Global challenges and European Industrial Competitiveness* is the most relevant for industry. It supports cross-European collaborative research and innovation projects where both industry and academia can be involved. The Pillar is divided into six thematically defined clusters and EU's Joint Research Centre which supports EU's R&I policy. It includes also funding from European Partnerships and JRC activities.

When it comes to NMP projects support, the main funding is based within Horizon Europe 2nd Pillar - *Cluster 4: Digital, Industry and Space* thematic calls that have been published since June 2021. When it comes specifically to the Space area: In H2020, there was the whole 2nd pillar on Leadership on Industrial and Enabling Technologies = digital technologies, NMBP, Space a few other elements – these have newly been incorporated in Cluster 4: Digital, Industry and Space – the aim of the EC is to put these together. In fact, some of the funding for Space is implemented by or at least with the ESA or EU Space Programme/Agency together with the EC.

Financial support to third parties (FSTP) as a proved instrument facilitating participation of new SMEs in Horizon 2020 and Horizon Europe projects (see chapter 3) has been identified in a number of the current Work Programme of Cluster 4 (1 in ICT topic, 5 in Digital and Emerging technologies for Green Deal topic, 14 in Human aspect of Digitalisation topic, 2 in Increased autonomy in key strategic value chains for resilient industry topic and finally 1 in Climate neutral, circular and digitised production topic) – see the following table for details:

TABLE 6 CLUSTER 4 WP FINANCIAL SUPPORT TO THIRD PARTIES CALLS. 6-2021

Topic identifier	s	Opening date	Closing date	Action	M€/ topic	M€/ total	# proj	TRL start	TRL end	Partnership	% Budget for FSTP	FSTP, Ths€ for project
2021-DATA-01-05	Future European platforms for the Edge: Meta Operating Systems	22.06.2021	21.10.2021	RIA	8-12	54	5	4	5		20%	150
2021-DIGITAL-EMERGING-01-09	AI, data and Robotics for the Green Deal	22.06.2021	21.10.2021	IA	3-5	27	7	3-5	6-7	AI, data, robotics	40	200
2021-DIGITAL-EMERGING-01-10	AI, Data and Robotics at work	22.06.2021	21.10.2021	IA	3-5	22	6	3-5	6-7	AI, data, robotics	40	200
2022-DIGITAL-EMERGING-01-05	AI, data and robotics for industry optimisation (including production and services)	23.11.2021	05.04.2022	IA	3-5	19	5	3-5	6-7	AI, data, robotics	40	200
2021-DIGITAL-EMERGING-01-12	European Network of Excellence Centres in Robotics	22.06.2021	21.10.2021	RIA	11,5	11,5	1	2-3	4-5		20	60
2022-DIGITAL-EMERGING-01-07	Increased robotics capabilities demonstrated in key sectors	23.11.2021	05.04.2022	IA	6	36	6	3-5	6-7	AI, data, robotics	20	200
2021-HUMAN-01-03	European Network of AI Excellence Centres: Pillars of the European AI lighthouse	22.06.2021	21.10.2021	RIA	9	9	1	2-3	4-5		20	60
2021-HUMAN-01-21	Art-driven use experiments and design	22.06.2021	21.10.2021	RIA	2,8	8,5	3	3	5		NA	80
2022-HUMAN-01-02	European Network of AI Excellence Centres: Expanding the European AI lighthouse	23.11.2021	05.04.2022	RIA	11,5	34,5	3	2-3	4-5		20	60
2021-HUMAN-01-04	Trust & data sovereignty on the Internet	22.06.2021	21.10.2021	RIA	12	12	1	NA	NA		80	150
2021-HUMAN-01-05	Trustworthy open search and discovery	22.06.2021	21.10.2021	RIA	8,5	17	2	NA	NA		15	150
2021-HUMAN-01-08	NGI International Collaboration - Transatlantic fellowship programme	22.06.2021	21.10.2021	CSA	2	2	1	NA	NA		70	60
2022-HUMAN-01-03	Internet architecture and decentralised technologies	23.11.2021	05.04.2022	RIA	11	22	2	NA	NA		NA	150
2022-HUMAN-01-07	NGI International Collaboration - USA and Canada	23.11.2021	05.04.2022	RIA	6	6	1	NA	NA		NA	100
2021-HUMAN-01-13	eXtended Reality modelling	22.06.2021	21.10.2021	RIA	4,8	14,5	3	2	5		20	300
2021-HUMAN-01-25	eXtended Collaborative Telepresence	22.06.2021	21.10.2021	IA	5-8	14	2	4	6-7		50	200
2021-HUMAN-01-06	Innovation for Media, including EXtended Reality	22.06.2021	21.10.2021	IA	8-9	26	3	4	8		70	500
2022-HUMAN-01-19	eXtended Reality Learning - Engage and Interact	23.11.2021	05.04.2022	IA	5-8	21,5	3	4	6-7		60	300
2021-HUMAN-01-19	Testing innovative solutions on local communities'-demand	22.06.2021	21.10.2021	CSA	5	5	1	NA	NA		NA	60
2021-HUMAN-01-20	Piloting a new industry-academy knowledge exchange focussing on companies' needs	22.06.2021	21.10.2021	CSA	2	2	1	NA	NA			60
2021-RESILIENCE-01-29	'Innovate to transform' support for SME's sustainability transition	22.06.2021	23.09.2021	CSA	10	5	2	NA	NA		50	50
2022-RESILIENCE-01-26	'Innovate to transform' support for SME's sustainability transition	12.10.2021	30.03.2022	CSA	10	5	2	NA	NA		50	50
2022-TWIN-TRANSITION-01-06	ICT Innovation for Manufacturing Sustainability in SMEs (I4MS2)	12.10.2021	30.03.2022	IA	30	4 - 8	3	5	7		50	60

4.1.3 HE PILLAR 3 – Potentially effective tools

Pillar 3 Innovative Europe covers support within European Innovation Council (EIC – see more below), European Innovation Ecosystems (which seems quite competitive for newcomers but on the other hand it can be interesting for them for building networks and national ecosystems) and European Institute of Innovation and Technology (EIT). It is now being considered to support the synergies of this type of financing with the one from structural funds.

EIC ACCELERATOR

The EIC Accelerator is the European Innovation Council's (EIC) flagship programme for SMEs. It was launched in September 2019 by the European Commission as a pilot in the perspective of Horizon Europe and replaces the SME Instrument (phase 1 and phase 2) introduced under Horizon 2020. Integrated into the 3rd pillar ("Innovative Europe") of Horizon Europe, the EIC aims to boost Europe's economic growth by bringing visionary ideas to market. To meet this objective, the EIC offers a range of complementary funding through the "EIC Pathfinder" (Novel ideas for radically new technologies), "EIC Transition Activities" (transformation of research results into innovation) and "EIC Accelerator" (deployment of innovation to market) programmes.

Like its predecessor, the EIC Accelerator is a funding instrument for SMEs and start-ups that develop breakthrough innovation projects with high growth potential. The projects must be high-risk and contribute to a radical transformation of the market. Winners receive funding and support in the form of mixed funding, which can amount to up to €2.5m in grants and €15m in equity investment. The EIC Accelerator remains the largest and most competitive public funding programme in Europe with success rates of less than 3%. It provides funding for an average of 30 to 40 companies per call, via 3 to 4 calls for projects per year. Under Horizon Europe, the EIC is expected to benefit from a total budget of around €10 billion over 7 years, with a large majority of the funds allocated to the EIC Accelerator programme. While the EIC Accelerator will continue to fund the deployment of innovative products or services developed by SMEs in all sectors (EIC Accelerator Open), the EIC wishes to strengthen its support for priority topics for the future of Europe. Thus, calls for "EIC Accelerator Challenges" projects will also be published to fund breakthrough innovations, particularly in the fields of digital, health and the

EU Green Deal. This is a significant step towards top-down and bottom-up calls for projects. The last EIC pilot call under Horizon 2020 closed in October 2020. *EIC Accelerator open* funding is for breakthrough innovations in any field of technology and application. *EIC Accelerator challenge* funding targets breakthrough innovations with major impacts on: Strategic Digital and Health technologies; and Green Deal innovations for the economic recovery. The first cut-off date for 2021 (for both Accelerator Open and Accelerator challenges) was in June and the second is on October 6.

EIC TRANSITION

The EIC Transition funds innovation activities that go beyond the experimental proof of principle in laboratory to supports both (i) the maturation and validation of your novel technology in the lab and in relevant application environments and (ii) the development of a business case and (business) model towards the innovation's future commercialisation. Grants of up to €2.5million and more are available to validate and demonstrate technology in application-relevant environment and develop market readiness. Single applicants (SMEs, spin-offs, start-ups, research organisations, universities) or small consortia (max 5 partners) may apply. As Transition funding is a new scheme of Horizon Europe, for 2021 it is restricted to applications based on results generated by the following eligible projects: (1) EIC Pathfinder projects (including projects funded under EIC pilot Pathfinder, Horizon 2020 FET-Open, FET-Proactive, FET Flagships and FET ERAnet calls); and (2) European Research Council (ERC) Horizon 2020 Proof of Concept projects.

SEAL OF EXCELLENCE

The Seal of Excellence that was already mentioned in the chapter 3.2 is in the HE Pillar 3 used as a certification awarded to individual SMEs that apply for EIC Transition or EIC Accelerator funding and are assessed to meet the relevant funding criteria. In the case of the EIC Accelerator, *Seals of Excellence* may be awarded if the applicant is an SME (including start-up), the proposal has passed the applicable thresholds for the first two award criteria (excellence and impact) but does not demonstrate sufficient level of risk or the need for Union support under the third award criterion, and if the activity would be eligible under an innovation action. The Seal of Excellence provides access to Business Acceleration Services and facilitates funding from other sources. It is only awarded to those applicants who give consent to sharing the data about their application with other eligible funding bodies[12].

EIT REGIONAL INNOVATION SCHEME (EIT RIS)

EIT RIS has been designed for modest and moderate innovators countries (most of them from the EU-13). It was introduced in 2014 to advance the innovation performance of more countries and their regions across Europe, especially countries with moderate or modest innovation scores as defined by the *European Innovation Scoreboard*. Since its establishment, the EIT RIS, which is steered by the EIT and implemented by its Knowledge and Innovation Communities (KICs), has successfully lead to a significant expansion of EIT Community activities to more countries and regions across Europe, contributing to a pan-European spread of EIT Community engagement opportunities and networks. The overarching objective of the EIT RIS is to contribute to the advancement of the innovation performance of the targeted countries and their regions by strengthening the capacity of their innovation enablers

[12] Note: The grant component of projects awarded a Seal of Excellence is exempted under the General Block Exemption Regulation from State Aid notification requirements under the same funding rates as those applicable to the EIC. The investment component of projects awarded a Seal of Excellence may be supported by other funders, including public funders as long as this does not constitute a State Aid.

and actors and linkages among them (such as business accelerators, incubators, start-ups, scale-ups, businesses including SMEs, agencies, educational and research institutions and their infrastructures, etc.) through the dissemination of the KTI approach, the cornerstone of the EIT intervention logic. More specifically, during the 2021-2027 period, the EIT RIS shall aim to improve the innovation capacities of the local ecosystem, via capacity building activities and closer interactions between the local KT innovation actors and their activities; support attracting and facilitating the integration of potential *new partners in the EIT KICs* and link local innovation ecosystems to pan-European innovation ecosystems, including through the establishment of Co-Location Centres (CLCs) and RIS Hubs, as part of a "place-based" innovation approach; be used as a bridge towards relevant Research and Innovation Smart Specialisation Strategies (RIS3s);
- leverage additional private and public funding, with particular attention to European Structural and Investment Funds (ESIF).

4.2 WIDENING

Widening Participation and Spreading Excellence actions under Horizon Europe contribute to building research and innovation capacity for countries lagging behind. They will strengthen their potential for successful participation in transnational research and innovation processes, promote networking and access to excellence.
Widening WP 2021-2022 will implement concrete measures in support of Widening participation and strengthening the ERA (European Research Area) and is divided in two components: I: Widening Participation and Spreading Excellence; II: Strengthening the European Research Area. Synergies will be pursued with the programme parts on European Innovation Ecosystems and the European Institute of Innovation & Technology (EIT).
Widening aims at reforming and enhancing the European R&I system through support of: Scientific evidence & foresight; Open Science; Policy Support Facility; Attractive researcher careers; Citizen science; Responsible Research & Innovation and Gender equality.

Support to Widening countries already appeared **in H2020 (2014-2020)** for the first time in EU FPs. In principle, Widening countries in H2020 had to be coordinators: 15 MS (13 NMS + PT and LU) + Associated Countries (AC). Continuation of Widening in **HORIZON EUROPE (2021-2027)** brings cross-cutting widening measures and instruments under the so-called Advancing Europe Package – a set of additional support schemes to boost participation of less research performing countries. Widening countries in HE must be coordinators in Widening instruments projects: 15 MS (13 NMS + PT and EL) + 9 EU Outermost regions + AC. Research costs are eligible (i. e. small research projects are allowed in Twinning & ERA Chairs projects). More emphasis is put on developing management capacities and there is a more integrated policy approach and enhanced synergies with European Structural and Investment Funds (ESIF), transnational missions, smart specialisation strategies, ERA. Further simplification & harmonisation of rules across funding systems has been implemented.

Cross-cutting widening measures include:

HOP ON FACILITY

The Hop on Facility enables the accession of one additional partner from a Widening Country to a consortium funded under HE Pillar 2 with a valid Grant Agreement (project type: RIA) but lacking a Widening Country partner. The Hop On proposal must be submitted by the coordinator of the consortium. The Call opens on 4 January 2022 with deadlines of 20 April 2022 and 10 November 2022; Overall indicative budget: M€ 40; EU budget per project: M€ 0,2 – 0,5; **Expected no. of projects: 80.**

RECOGNITION OF PARTICIPATION

The Recognition of Participation is a Certificate for coordinators from Widening Countries. It is issued on request by the EC after the completed implementation of the project or after successful mid-term review.

MATCH-MAKING

Match-Making is a benchmark of existing matchmaking tools and possible top-up. It brings synergies with existing platforms, e.g. Funding & Tenders Portal and EURAXESS, joint Brokerage Events with clusters (Pillar II) – systematic approach in implementing Widening calls into HE agenda; bringing applicants from Widening countries to HE. It includes Study visits of Widening applicants to advanced partners – mutual learning (e.g. research management) + match-making.

PRE-PROPOSAL CHECKS

Newly, transnational and national seminars dedicated to proposals writing for applicants in Widening Countries will be provided as well as Pre-screening standards and best practices - materials, guides, training plans for applicants; and Trainings on Widening issues dedicated to Pillar II applicants.

NCPs

The network of National Contact Points (NCPs) is traditionally helping the EC to attract newcomers as well as the advanced FP participants to be successful with their project proposal and idea. A new vision of the EC is to unite the FPs NCPs (previously 3 NCPs for NMBP, for ICT-Idealist and for Space-Cosmos) and bring their good practices under one umbrella.

Widening instruments are:

TEAMING FOR EXCELLENCE

Main aim of TfE is to support/create centres of excellences as role models to stimulate excellence, new investments and reforms of national research and innovation systems, i.e. institution building, new centres of excellence or substantially upgrade existing ones (2 phases abolished). It is a two-stage evaluation process to gain a complementary funding from other sources at least equal to the requested HORIZON grant. A preparatory research project may include up to 10% of research component.

TWINNING

Twinning aims to develop excellence in chosen research and innovation domain, increase visibility of the research institutions and universities, and upskill its staff. The institutional networking shall support namely newcomers in enabling the transfer of knowledge and skills and exchanging best practices; raising of research profile of the company / institution and its staff; and there is a special focus on strengthening the research management and administrative skills as well. A research component up to 30% may include exploratory research project (dedicated WP), but at least 70% of the research activities must be allocated to the coordinator.

ERA CHAIRS

ERA Chairs are formulated to support universities or research organisations from eligible countries to attract and maintain high quality human resources and help excellent scientists and their teams to become game changers in their field. The main aim is to bring outstanding academics with proven research excellence and management skills to universities and research institutions. Newly, the coordinator can opt between two modes / forms: a joint

application with current employer of the future ERA Chair (any country in the world except the country of the coordinator) or proposal submission as a single applicant (with identified future ERA Chair holder). Research costs are eligible up to 10%.

European Cooperation in Science and Technology (COST)

COST is a cross-border scientific network helping excellent researchers and innovators get access to the European and international networks. COST is not a new initiative, but newly 80% of COST actions must have significant widening dimension.

European Excellence Initiative

The main aim of this new instrument (EEI) is the capacity building to strengthen networks of HEIs and cooperation with surrounding ecosystems; inclusion of research activities with a centre of gravity in widening countries; and preparing for the full roll-out of the European Universities initiative (pending the evaluation of European Universities pilot). At least 2 HEIs from Widening country (or different WCs) and at least 2 internationally-leading institutions from 2 different MS or AC shall take part to the project. Entities benefiting from the European Universities initiative pilot funding of H2020 can participate but are excluded from funding.

Excellence Hubs

The main aim of another new instrument called Excellence Hubs is to bridge innovation division by teaming up innovation ecosystems in Widening Countries and beyond and creating better linkages between academia, business, government and society. At least two different place-based R&I ecosystems in at least two different Widening Countries shall take part. Excellence hub shall include four different categories in each ecosystem: academic institutions, business entities, public authorities or authorised agencies and societal actors.

ERA FELLOWSHIPS (MSCA)

As also mentioned above, the main aim of this widening instrument is to enhance the creative and innovative potential of researchers holding a PhD, wishing to acquire new skills through advanced training, international, interdisciplinary and inter-sectoral mobility. It is a part of a wider initiative Fostering Balanced Brain Circulation – BBC. Proposal submitted to MSCA Postdoctoral Fellowships 2021 (HORIZON-MSCA-PF-2021) – tick the box Coordinator (host organisation) must be established in a Widening country.

4.3 SOCIETAL ENGAGEMENT

One of the remaining challenges is lack of communication – not only towards society, but also education of SMEs and industry is needed. This task obviously needs to be implemented by more subjects than the EC itself. These can be considered as barriers for newcomers, but maybe not very specific to NMP research and innovation projects. Projects like FIT-4-NMP shall support so called “Industry/Technology with Heart” concept, i.e. products and technologies in line with people´s needs – Industry 5 (Technology-Society interaction).

Societal engagement (stressing the human side, not only technical issues of KETs like nano, advanced materials, but also artificial intelligence or internet) is a more and more visible aspect of HE Cluster 4 topics, especially focused on newcomers and EU-13. Even in Space, there is a lot of funding put on how to make space services available to as many SMEs as possible (incl. aerospace companies making launches) and a lot of funding on the use of these space services. A lot of other examples of this shift towards societal needs and values in the Cluster 4

of HE can still be identified and many of them are based in the NMP report. EC has also started to use new communication tools like tweeting topics to attractive for the newcomers to improve the newcomers´ rates.

Cooperation projects under the *Vanguard Initiative* and on the *industrial modernization smart specialisation platform* might also be relevant tools for newcomers to see to what extent organizations from these MS are involved in interregional innovation projects and to what extend these activities reflect the societal needs and values. The Vanguard Initiative is an alliance that gathers 39 of the most advanced industrial regions in Europe, focused on stimulating industrial innovation and building European value-chains based on complementarities in regional smart specialisation strategies. By connecting innovation ecosystems and sharing knowledge and facilities across its member regions, the Vanguard Initiative facilitates interregional collaboration, stimulates interregional innovation investments, strengthens open innovation, and speeds up the introduction and market-uptake of new products and innovations in Europe.

5. POLICY MEASURES AND RECOMMENDATIONS

Main directions of policy interventions

The survey of policy makers conducted in the FIT-4-NMP project (results are described in Deliverable 4.1) suggested 5 main directions for interventions that can help increase the participation of newcomers in HE projects. These 5 areas include:

- Funding instruments aimed at strengthening the availability of funding for project preparation.
- Training aimed at increasing competences and skills for the preparation of competitive projects.
- Consultancy providing expert professional support for administrative issues and guidance for preparing and managing Horizon Europe projects.
- Building networks activities that will help to establish new contacts and links with existing European collaborative networks.
- Capacity building interventions aimed at promoting research and innovation capacities for participation in the Framework Programmes.

Policy interventions and measures in these 5 areas aim at removing the main barriers to the participation of companies, universities and research organisations, and in particular newcomers, in HE projects. These interventions aim at eliminating both the barriers related to motivations to submit project proposals and barriers related to readiness to prepare competitive project proposals.

As the review of existing policy interventions and good practices for strengthening participation in the H2020 programme has proved, there are already policy measures implemented at European, national, regional and institutional levels. Selected examples of these interventions applied in countries and regions with generally lower participation in the Framework Programmes were described in Chapter 3. Building on these experiences, the following section summarises and describes the different instruments that we consider effective for strengthening the participation of newcomers in HE and specifically in the NMP area. These tools are grouped into the 5 areas outlined above (see Table 7).

However, in addition to these specific tools, it is essential to emphasise systemic reforms at national, regional, and institutional levels that will help to create long-term systemic conditions for high quality research and innovation activities that have the potential to contribute effectively to addressing societal challenges at European level.

TABLE 7 OVERVIEW OF POLICY INTERVENTIONS

		Level of implementation			
		HE programme level	**NCPs and other intermediaries**	**National/regional authorities**	**Institutional management**
Type of policy intervention	**Funding instruments**	Cascade grants Incentives for newcomers Hop-on mechanism ERA-NET Cofunds		Seal of excellence schemes Grants for project preparations (kick-start grants) PoC grants for FP results	Grants for project preparations
	Training	Mutual-learning communities NCP projects	E-learning platforms Targeted training programmes Mutual-learning communities	Mutual-learning communities	Mutual-learning communities
	Consultancy	Pre-proposal check	Quality check of proposals Administrative support and guidance		Professional grant offices
	Building networks	Match-making	Brokerage events Leveraging cluster initiatives	Visibility and attractiveness of potential newcomers	Strategic partnerships
	Capacity building	Demonstrating impact of FP projects	Systematic mapping of potential newcomers Demonstrating impact of FP projects	Secondment of national experts to Horizon Europe	

Funding instruments

Main barriers addressed
• **Success rates in Horizon 2020 are too low to make applying worthwhile**

- **Easier access to national resources for funding R&D projects**
- **Limited financial resources to prepare a proposal**
- **Inability to get co-funding for Horizon 2020/Horizon Europe projects**
- **Long time between proposal submission to contract signing**

Policy instrument	Short description	Level of implementation
Cascade grants	Cascade funding (CF) has been specifically created for businesses as European Commission´s mechanism aiming at distributing funding to create new companies and increase their scalability, create new SMEs or mid-cap companies and all that under the development of the digital innovation scheme. Financial support to third parties (FSTP) as a proved instrument facilitating participation of new SMEs in Horizon 2020 and Horizon Europe projects has been identified in 22 topics of the current Work Programme of Cluster 4.	HE Programme
Incentives for newcomers	When implementing HE in the NMP area (and other topics), consideration could be given to strengthening the emphasis on the involvement of newcomers in the evaluation of project proposals. It is clear that the main objective of the HE programme is to facilitate collaboration and strengthen the impact of research and innovation in developing, supporting and implementing EU policies while tackling global challenges. In this context, emphasis should be placed on maximising the EU's innovation potential, including the potential of newcomers. Individual project proposals by newcomers and consortium project proposals involving newcomers could thus be given a score advantage when assessing the implementation criteria of project proposals.	HE Programme
Hop-on mechanism	Hop-on mechanism means an accession of one additional partner from a Widening Country to consortium funded under Pillar 2 with a valid Grant Agreement without any Widening Countries partner. Proposal in Hop On must be submitted by the coordinator of a consortium funded under HORIZON Pillar 2. Call shall open on 4 January 2022 with deadlines of 20 April 2022 and 10 November 2022.	HE Programme

ERA-NET Cofund	The ERA-NET Cofund scheme encourages the coordination of Member States and Regions in funding transnational research project. Namely, it is a mechanism providing opportunities to funding organisations from individual EU Member States, Associated Countries and mostly also some non-European Countries to launch joint international calls for proposals under some agreed topic. Applicants submit project proposals involving international consortia, with each funding organisation financing successful applicants from its own country which take part in projects selected within these international calls. A list of funding organisations taking part in a given call is usually published before the call is launched.	HE Programme National/regional funding bodies
Seal of Excellence	Seal of Excellence represents a quality label awarded by the EC to proposals which has been assessed in a H2020 call for proposals and are deemed to comply with the quality requirements of H2020 but could not be funded due to budgetary constraints. The use of the Seal of Excellence is strongly emphasized by the EC under Horizon Europe programme. In this context, the Commission promotes synergies between the R&I Framework programmes and European Regional Development Fund (ERDF). Seal of Excellence is a relatively successful instrument for funding high quality project proposals submitted by individual investigators (researchers or companies). The Seal of Excellence provides access to Business Acceleration Services and facilitates funding from other sources.	HE Programme National/regional funding bodies
Grants for project preparations (kick-start grants)	There are basically two types of financial incentives to prepare and submit project proposals to the HE: • Compensations for costs - reimbursement of the costs of project proposal preparation is usually linked to the achievement of a certain threshold in the quality assessment of project proposals in the HE programme. • Grants for project preparation - support is provided in advance to cover the costs associated with project preparation. The advantage for applicants is that they receive	National/regional funding bodies Universities/Research organisations

	funding for the preparation of project proposals regardless of the outcome of its evaluation in HE.	
Proof of Concept grants for HE project results	New funding instruments should be introduced (at national/regional or EU level) to strengthen the opportunities for effective use of R&D outputs resulting from FP projects. For example, introducing proof of concept scheme (similar to ERC PoC) would enable follow-up activities leading to successful implementation of R&D results achieved in FP projects. Such opportunities increase the attractiveness of FP participation and remove motivational barriers. They may also increase the likelihood that projects are selected, as partners can show more convincingly that there are opportunities and resources available for exploitation of results.	HE Programme National/regional funding bodies

Training

Main barriers addressed		
• **Limited in-house internal skills on drafting proposals or project management** • **Lack of awareness about the EU research and innovation framework programme**		
Policy instrument	**Short description**	**Level of implementation**
Mutual-learning communities	Promoting the exchange of experiences through the creation of communities can be implemented at several levels: At the HE level, it is useful to use existing tools such as the mutual-learning exercises implemented within the Policy Support Facility to facilitate the exchange of experiences between policy-makers in different areas of research and innovation policy. At national and regional level, it is useful to stimulate communication and exchange of experiences between research and innovation agencies (e.g. the	HE Programme National/regional funding bodies Universities/Research organisations

	TAFTIE network) and between regional innovation centres (e.g. through the S3 platform). Innovation hubs can also play an important role in facilitating the exchange of experiences between successful H2020/HE enterprises and newcomers. At institutional level, it is useful to establish mechanisms for sharing experiences between successful H2020/HE research teams and other research groups within the institution.	
NCP mutual-learning projects	NCP mutual-learning projects have long facilitated the sharing of experience between NCPs in providing information and consultancy support on the Framework Programmes. These projects could now emphasise the sharing of practical experience on measures and best practice tools to support SME participation, with an emphasis on newcomers.	HE Programme
E-learning platforms	In addition to the traditional information, training and awareness-raising events on the Framework Programmes, e-learning platforms dedicated to specific aspects of the functioning of HE are a good tool for disseminating practical information for participation in the Framework Programmes. These e-learning platforms allow training to be delivered to a wide range of stakeholders in a short time and thus are a suitable instrument for training potential HE participants from enterprises.	NCPs and other intermediaries
Targeted training programmes	Targeted training programmes focusing on selected aspects of H2020/HE are also a proven tool. In particular, there is experience with training on financial and legal aspects of H2020/HE, or training for ERC grant applicants. Towards newcomers, it is advisable to increase the emphasis on the implementation of targeted training on competitive project writing.	NCPs and other intermediaries

Consultancy

Main barriers addressed		
• **Limited in-house internal skills on drafting proposals or project management**		
Policy instrument	**Short description**	**Level of implementation**
Pre-proposal check	Expert assessment of the initial project idea is particularly important for SMEs and research organisations with limited experiences with the Framework Programmes. NCPs and other intermediaries (e.g. EEN staff) can expertly assist in assessing whether a research or innovation project idea is relevant to one of the HE call topics and how it relates to the objectives of the working programme. Early assessment of a project idea can save the applicants a lot of time and steer the project proposal to reflect correctly the HE objectives.	NCPs and other intermediaries
Quality check of proposals	Assessing a project proposal before its submission by the NCP and other intermediaries helps to improve the quality of the project proposal and thus its chances of success. It is particularly important to assess the consistency of the project proposal, its correct targeting towards objectives of the call and other elements of the project proposal that are subject to the evaluation process.	NCPs and other intermediaries
Administrative support and guidance	For newcomers with no experience in HE project administration, expert support for administrative processes during the project proposal preparation and implementation phase is very useful. The fact that project promoters can rely on expert administrative support from NCPs removes potential motivational barriers to submitting project proposals by less experienced applicants.	NCPs and other intermediaries
Professional grant offices	In the case of larger institutions, especially universities and research organisations, it is advisable to establish professional grant offices to provide continuous professional administrative support to HE project applicants and investigators. This will allow	Universities/Research organisations

	researchers to concentrate on the technical side of the project. Experiences have proved that running professional grant offices in universities and research organisations increases the success rate of project proposals.

Building networks

Main barriers addressed		
• "Closed clubs" (e.g. EU public-private partnerships) • Newcomers seeking funding without well-developed networks • Imbalance between control and trust of beneficiaries • Concerns about sharing valuable knowledge with consortium partners		
Policy instrument	**Short description**	**Level of implementation**
Visibility and attractiveness of potential newcomers	It is usually very difficult for newcomers, and especially for SMEs, to make themselves visible among existing European cooperation networks. It is therefore useful to create targeted events to present SMEs and newcomers. It is appropriate to invite selected top innovators to these events and to create a space for interaction between them and potential newcomers. Specific tools can be brokerage events (see below) or targeted pitches to introduce newcomers and their skills.	NCPs and other intermediaries
Brokerage events	Systematic linking partners into joint projects is of particular importance for newcomers to the Framework Programmes who have not built up long-term links and trust in established European consortia. Although the European Commission's portal can be used to find partners, a more effective option is targeted matching of potential partners according to the expertise offered and demanded. Intermediaries play an indispensable role in creating a platform (space) for the first contact between potential partners. Proven platforms in this context are brokerage events, where, on the basis of pre-submitted profiles of individual partners, individual companies and research organisations have the opportunity to hold a series of meetings with potential partners in a short period of time. The cooperation between NCPs and EEN is very useful in this case.	NCPs and other intermediaries
Leveraging cluster initiatives	Cluster initiatives are an important tool for involving newcomers in research and innovation activities at European level. The knowledge and innovation	National/regional funding bodies

	capacity of cluster initiatives is usually higher than that of individual enterprises, which enhances their visibility and attractiveness for cooperation at European level. In this context, it is useful to link national and regional cluster initiatives, technology platforms and other sectoral cooperation platforms with European platforms and existing partnerships. Targeted promotion of clusters and similar national platforms at professional conferences and trade fairs can be an effective instrument here.	NCPs and other intermediaries
Match-making	Match-Making is a benchmark of existing matchmaking tools and possible top-up. It brings synergies with existing platforms, e.g. Funding & Tenders Portal and EURAXESS, joint Brokerage Events with clusters (Pillar II) – systematic approach in implementing Widening calls into HE agenda; bringing applicants from Widening countries to HE. It includes Study visits of Widening applicants to advanced partners – mutual learning (e.g. research management) + match-making.	HE Programme

Capacity building

Main barriers addressed		
• **Irrelevance of programme topics and goals to own research agenda** • **Preference to participate in other European or international programmes** • **Negative experiences gained from previous unsuccessful project proposals**		
Policy instrument	**Short description**	**Level of implementation**
Demonstrating impact of FP projects	Activities aimed at demonstrating the benefits and impact of H2020/HE projects both for the participants themselves and for society can effectively contribute to increasing interest in participation in HE projects. This should be done through various forms of dissemination activities focused on success stories of H2020/HE projects, such as publications, promotional videos, podcasts, presentations at conferences, etc. These demonstration activities should be implemented especially in regions with relatively low participation in FP projects (underrepresented regions).	HE Programme NCPs and other intermediaries
Secondment of national experts to Horizon Europe	The active involvement of national experts in the preparation of work programmes and individual HE calls, as well as in the evaluation processes, can effectively contribute to gaining experiences with the Framework Programmes. The direct involvement of national experts helps to increase awareness of the context and processes leading to the setting of HE objectives. National experts involved in these processes at HE level can then effectively act as HE ambassadors in individual countries and regions.	National/regional funding bodies
Systematic mapping of potential newcomers	Systematic mapping of the potential of newcomers allows to identify suitable companies and research teams for participation in HE. Identification of potential newcomers is a prerequisite for targeted work and support provided by NCPs and other intermediaries. Regional innovation centres and EEN partners, which work intensively with innovative firms on a daily basis, can play an important role here.	National/regional funding bodies NCPs and other intermediaries

	Intensive cooperation between EEN and NCPs is essential here as well.	
Strategic partnerships	For research organisations and universities from underrepresented regions, it is useful to form long-term strategic partnerships with research organisations and universities with extensive experience in FP projects. These strategic partnerships can facilitate the mutual mobility of PhD students and researchers, the implementation of small-scale joint projects (e.g. COST) and the strengthening of trust between these organisations. Mutual trust is a prerequisite for future cooperation in HE projects.	Universities/Research organisations

CONCLUSIONS AND NEXT STEPS

Following-up on the description of the main barriers to the participation of newcomers in H2020 NMP projects identified through the questionnaire survey carried out by the FIT-4-NMP project (see Deliverable 4.1), this study aimed to identify policy measures and examples of good practice in removing these barriers and promoting the participation of newcomers in the Framework Programmes.

Good practices were identified through a search of relevant CSA projects, interviews with NCPs and EC policy experts and through the identification of specific examples by individual partners of the FIT-4-NMP consortium.

The main barriers that are actively addressed by specific tools and actions include:

- Barriers related to the motivation of newcomers to submit project proposals
  - Success rates in Horizon 2020 are too low to make applying worthwhile
  - Easier access to national resources for funding R&D projects
  - Lack of awareness about the EU research and innovation framework programme
  - Long time between proposal submission to contract signing
  - Preference to participate in other European or international programmes
  - Negative experiences gained from previous unsuccessful project proposals
  - Concerns about sharing valuable knowledge with consortium partners
  - Imbalance between control and trust of beneficiaries
- Barriers related to the readiness of newcomers to engage in the preparation of project proposals
  - "Closed clubs" (e.g. EU public-private partnerships)
  - Limited financial resources to prepare a proposal
  - Newcomers seeking funding without well-developed networks
  - Inability to get co-funding for Horizon 2020/Horizon Europe projects
  - Limited in-house internal skills on drafting proposals or project management
  - Irrelevance of programme topics and goals to own research agenda
  - Imbalance between the small and large indicative project sizes in the calls for proposals

Tools and measures to support the participation of newcomers in H2020 NMP projects are divided into 5 areas, namely:

- Funding instruments
- Training
- Consultancy
- Building networks
- Capacity building

The study shows that it is useful to implement the different tools at several levels, namely at the HE programme level, at the national/regional level, at the level of NCPs and other intermediaries, and also at the institutional level. The effects of these measures can be expected to increase if the proposed measures are implemented at all the levels mentioned.

Next steps

As a next step, the results of the analysis of good practices described in this paper will be disseminated among relevant stakeholders at various levels of implementation:

- European Commission representatives responsible for the implementation of HE in the NMP and Widening area.
- Representatives of national and regional authorities responsible for research and innovation policy and funding in prioritised underrepresented regions.
- NMP NCPs responsible for Destinations 1 and 2 under Cluster 4 “Digital, Industry and Space” in prioritised underrepresented regions
- Representatives of innovation centres and other intermediaries in areas relevant to the thematic focus of the NMP in prioritised underrepresented regions.

Efforts will be made to inspire representatives at each relevant level of implementation to put in place appropriate measures to support the participation of newcomers in HE projects in the NMP relevant topics.

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ANNEX – EXAMPLES OF GOOD PRACTICES BY COUNTRY

In this annex, examples of good practices described in the report are structured and summarised by country.

CZECHIA

Title of the initiative/action	International Mobility of researchers – MSCA Individual Fellowships, complementary funding based on the Seal of Excellence
Responsible body	Ministry of Education, Youth and Sports
Country	Czechia
Objective	To fund proposals which were highly scored (obtained a score of 70 % or above) in the call for Marie Skłodowska-Curie Actions Individual Fellowships within Horizon 2020 but were not funded under that call due to insufficient H2020 budget.
Short description	It is a national programme financed through the Operational Programme Research, Development and Education (OP VVV, OP RDE) and in line with so-called Seal of Excellence, quality label awarded by the European Commission. It enables to support not only arrivals to the Czech Republic, i.e. fellowships carried out at Czech host institutions, but also departures from Czech host institutions abroad, to any host institution in an EU Member State or Associated Country to Horizon 2020 (in that case, there is a mandatory 6-month return phase in the Czech Republic). The organisations for research and knowledge dissemination according to the definition of the Framework for State Aid in Research and Development and Innovation (2014/C 198/01) and based in the Czech Republic are eligible for funding. This programme is open only to European Fellowships (Global Fellowships consisting of outgoing phase in a third country are not eligible). The grant is calculated based on seniority (two categories of junior and senior researchers).
Achievements/Impact	It importantly increases chances to be funded and in general the success rate of MSCA IF applicants. It is an alternative funding scheme which stimulates interest of Czech researchers in applying to MSCA Individual Fellowships as well as the interest of international researchers choosing the Czech Republic as host institution for their fellowship. It makes the Czech Republic more attractive destination for research and innovation.
Lessons learned	Since the first call opened in 2017, in total 126 arrivals to the CR and 40 departures from the CZ were funded within four calls. The MEYS has announced continuation of the programme under the new Operational Programme Jan Amos Comenius (OP JAK, OP JAC).
Source	Ministry of Education, Youth and Sports
Link	https://opvvv.msmt.cz/vyzva/vyzva-c-02-20-079-mezinarodni-mobilita-vyzkumnych-pracovniku-msca-if-iv.htm
Author(s)	TC CAS

Title of the initiative/action	**Supporting awareness of open calls and services of Open Innovation Test-beds (OITB) and Digital Innovation Hubs (DIH) for the benefit of local SMEs/mid-caps**
Responsible body	National Information Centre for European Research (NICER, c/o Technology Centre CAS), selected OITBs and DIHs
Country	Czechia
Objective	Facilitate access of companies to technologies and services provided by networks of pilot lines and demonstration facilities and additional services (e.g. coaching of business development) and in certain DIHs also to financial support provided by the DIH consortia through their open calls.
Short description	Promotion of OITB/DIH information events linked to open calls on the dedicated Technology Centre web, targeted information dissemination to potential applicants to these calls. Matching of open calls and potential applicants based on known focus of OITB/DIHs and profiles of individual companies.
Achievements/Impact	Examples of OITB/DIH consortia and their open calls promoted by NICER, to which attention has been drawn by targeted dissemination: SmartEES (DIH) – resulted in financial support (FSTP) of one CZ applicant BOWI (DIH) - financial support (FSTP) of one CZ applicant ELG - European Language Grid (DIH) - financial support to two contracts with a CZ provider TETRAMAX (DIH)– two internal collaborative projects with CZ participation FORMPLANET (OITB) – results not yet available, the first call has just been opened MANUELA (Pilot lines) – results not yet available, call in progress
Lessons learned	• Targeted dissemination and subsequent communication with companies provably led to increased participation and success in open calls • Participation in open calls and communication with OITB/DIG leads to establishing new viable contacts and subsequent applications to consortial projects • Largely positive feedback from companies participating in open calls
Source	Funding and Tenders Portal – overview of open and expected calls of OITB/DIHs, web portal of TC CAS
Link	Competitive calls and calls for third parties on the Funding and tenders Portal: https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/ Web TC CAS – www.h2020.cz
Author(s)	TC CAS

Title of the initiative/action	Implementation of ERA-NET calls by national funding agencies
Responsible body	Ministry of Education, Youth and Sports (MEYS), Technology Agency of the Czech Republic (TACR)
Country	Czechia
Objective	Providing additional participation opportunities in areas related to the NMBP programme
Short description	Several ERA-NET calls have been made available to Czech participants since 2017 • QuantERA calls 2017 and 2019 (implemented by MEYS) • QuantERA II call 2021 2019 (implemented by TACR and MEYS) • M-ERA.NET calls 2019 and 2020 (implemented by TACR) • EuroNanoMed calls 2019 and 2020 (implemented by TACR) + several other ERA-NETs (implemented by TACR) not directly linked to the NMP programme (e.g. CHIST-ERA, ERA-MIN, BioDivClim, AquaticPollutants) National information events organized with publications of calls (shared with the (National Information Centre for European Research – NICER, a unit of Technology centre CAS which hosts all NCPs for the H2020/HE FPs); continuous monitoring of participation; partner search tool developed for the TACR website linked to the partner search tool of the individual ERA-NETs.
Achievements/Impact	Increased participation of CZ stakeholders (with respect to H2020 calls), higher success rate of proposals / Establishing working relations within the European communities, exploited in subsequent H2020 calls. Funded projects documented in the websites of respective ERA-NET consortia.
Lessons learned	The interest and success of proposers in the first call of Quant-ERA triggered the activities of TACR towards other ERA-NETs. Smaller project consortia and more bottom-up approach of ERA-NET calls is more convenient for CZ participants. Established collaboration links are exploited in participation of H2020/HE calls.
Source	Close collaboration of NICER with TACR and MEYS
Link	e.g. https://www.tacr.cz/en/era-net-cofunds/
Author(s)	TC CAS

Title of the initiative/action	ERC Support Scheme
Responsible body	Grant office of the Masaryk University in Brno
Country	Czechia
Objective	To motivate potential applicants to submit ERC proposals and to increase the success rate of applicants from Masaryk University in ERC grants
Short description	Since 2012, Central European Institute of Technology (CEITEC) at the Masaryk University in Brno has provided access to international consultants for all ERC applicants, with the following goals: • Assessing the potential of the principle investigator for ERC (e.g., review of CV); • Guiding the process of research project development (i.e., ambition and feasibility of the idea); • Aiding the principal investigator with proposal writing (i.e., several reviews of B1 and B2); • Assisting with preparation for interviews (e.g., mock interview training) if the applicant is successful in the first step of evaluation. In 2015, this ERC Support Scheme was adopted by the Research Office of the Masaryk University Rectorate, and has been available to the whole university, not only CEITEC. Costs of the external consultancy and trainings are fully covered by the central administration of the university. To be able to use the support, principal investigators need to be supported by the Dean/Director of the respective faculty/institute.
Achievements/Impact	Three principal investigators who benefited from the ERC support scheme were awarded ERC grants between 2013 and 2018.
Lessons learned	Professional assistance to ERC applicants is essential. To make such a supporting scheme operational, strong commitment of the university management as well as of the faculty/institute management is extremely important. This scheme works well in environment with a well-established grant office.
Source	Alliance4Life project
Link	http://alliance4life.ceitec.cz/inventory-of-best-practice/
Author(s)	TC CAS

LATVIA

Title of the initiative/action	Latvian NCP support to Start-ups and SMEs to H2020 SME Instrument programme
Responsible body	H2020 Latvian NCP (State Education Development Agency)
Country	Latvia
Objective	To increase successful project proposals to Horizon 2020 SME Instrument programme.
Short description	Preparation of a quality project application requires considerable resources and efforts. The best results are achieved when the applicant receives individually tailored consultations according to the company's business profile and knowing technical details. Preferably that in the process are involved several NCP experts, involving - at least one industrial expert and expert on legal aspects on administration issues. The NCP experts do not write project applications, but give advice how to balance different project proposal parts and to which aspects to pay more attention.
Achievements/Impact	11 successful SME Instrument Phase I applications and 2 successful SME Instrument Phase II applications from Latvia.
Lessons learned	The applicant should be highly motivated to participate in the programme and be ready to invest considerable efforts in proposal preparation. Start-ups and SMEs are less interested in general info seminars. If the project proposal is relatively well evaluated, but is not supported, it is worth to considerably elaborate the proposal and re-submit to the next cut-off date. For re-submitted proposals the success rate is higher than for initial proposals.
Source	Consultations with the Horizon 2020 Latvian NCP.
Link	https://viaa.gov.lv/lat/zinatnes_inovacijas_progr/apvarsnis_2020_red/petniec_kontaktinfo/
Author(s)	LTC

Title of the initiative/action	Part of the policy measure "Support to International Cooperation Projects in Research and Innovation"
Responsible body	Ministry of Education and Science of the Republic of Latvia
Country	Latvia
Objective	To promote the development of bilateral and multilateral cooperation projects of the ERA and participation in international research, networking and twinning activities.
Short description	Among the other measures this policy measure also include support to project application writing for Horizon 2020 calls. The support is supplied retrospectively – after the project proposal is submitted to the Horizon 2020 programme call and evaluated. The support can be received only for high quality project proposals. If the project proposal/application of SME or research organisation receives quality rating higher than the threshold of the respective call, then the applicant can receive reimbursement of expenses spent for preparation of the application. In case, if the Latvian applicant is coordinator of the project, then the reimbursement is 9 000 EUR. In case, if the Latvian applicant is partner of the project, then the reimbursement is 6 000 EUR.
Achievements/Impact	According to the NCP estimation, such support motivates participants to increase quality of the project proposals.
Lessons learned	In the case of the project coordinator, such reimbursement unlikely cover the costs of the proposal preparation, but nevertheless companies and research organisations are very interested in this support.
Source	Consultation with the Horizon 2020 Latvian NCP.
Link	https://likumi.lv/ta/id/291823-darbibas-programmas-izaugsme-un-nodarbinatiba-1-1-1-specifiska-atbalsta-merka-palielinat-latvijas-zinatnisko-instituciju
Author(s)	LTC

LITHUANIA

Title of the initiative/action	SME instrument phase 1 Support Scheme
Responsible body	Agency for Science, Innovation and Technology, MITA
Country	Lithuania
Objective	Lithuania has implemented funding schemes to support innovation champions that could not be funded under the Horizon 2020 SME Instrument. MITA has implemented 'Seal of Excellence' friendly actions Programme and offered the possibility for funding SMEs which submitted high quality project proposals in H2020 (eligible/ranked high) but were not funded due to budget exhaustion.
Short description	A new voucher R&I call was launched in 2018 and funded by European Structural & Investment Funds (ESIF). It consisted of a voucher scheme (State aid/de minimis) for SME instrument Phase 1 proposals. Companies that receive 'Seal of Excellence' but no funding from the EC, can get funding for their projects from MITA. Budget: € 500 000,00 until 07/01/2020 or budget exhaustion; Max. € 35 714,50 per project for SME Instrument-Phase I. The maximum aid intensity for Enterprises (SME Instr.) cannot exceed 50%. Non-competitive procedure employed / First-In-First-Served until Budget Exhaustion. Internal Evaluation by MITA Staff.
Achievements/Impact	The overall budget is 500 000€ which is meant to support 14 SME Instrument Phase 1 'Seal of Excellence' proposals in total. This Lithuanian scheme is a concrete example of operational synergies between Horizon 2020 and the ESIF. SoE are extremely important for the growth and visibility of SMEs
Lessons learned	Great opportunity to fund high calibre projects (minus the hassle and cost of the evaluation procedure!). Need for fast time to contract for SME Instrument-Phase I Proposals. Delays in the grant award process due to national distribution of funding authorities. Harmonising international instruments applications and evaluations with national ones is not easy. Need to study, understand and improve all relevant synergies and procedures for managing the funding, monitoring and auditing the SoE projects efficiently.
Link	https://www.esinvesticijos.lt/lt/paraiskos_ir_projektai?invitation=134&contract_date%5Bfrom%5D=1990-01-01
Author(s)	MITA

LUXEMBOURG

Title of the initiative/action	Rapid Incentive Scheme (RISE)
Responsible body	University of Luxembourg
Country	Luxembourg
Objective	To motivate potential applicants to submit H2020 proposals and to increase the success rate of applicants from University of Luxembourg
Short description	The UL rapid incentive scheme, UL-RISE provides funding in three strands. The UL-RISE, the RISE-MSCA and RISE-ERC to encourage applications for H2020 individual or collaborative, multi-partner projects with UL as coordinator or partner. The UL-RISE is open to all disciplines and sectors. While UL-RISE does not provide funding to other institutions, it encourages collaborative research across UL entities and joint actions with Luxembourgish and foreign partners. UL-RISE funding is granted on a competitive basis. While resubmission of European Commission (EC) rejected proposals are eligible, UL-RISE discourages the application of ideas that were unsuccessful. The UL-RISE covers funding for consumables, subcontracting and other costs related to proposal writing.
Achievements/Impact	• 123 UL-RISE applications approved out of 156 outlines evaluated • 26 UL-RISE EC grants have been signed • Success rate for projects supported by UL-RISE: more than 21% • Success rate for ERC candidates supported by RISE-ERC: 20%
Lessons learned	Professional assistance to ERC applicants is essential. To make such a supporting scheme operational, strong commitment of the university management as well as of the faculty/institute management is extremely important. This scheme works well in environment with a well-established grant office.
Source	University of Luxembourg
Link	No link available as this is an internal scheme
Author(s)	Luxinnovation

POLAND

Title of the initiative/action	International Online Brokerage Events Organised in Cooperation with the European Commission and Thematic NCP Networks
Responsible body	The Institute of Fundamental Technological Research of the POLISH ACADEMY OF SCIENCES (IPPT PAN) as Polish NCP and partner of the SEREN4 project, and in particular as the WP Leader responsible for the organisation of brokerage events.
Country	Online events addressed to all EU and Associated Countries. Events organised from Poland.
Objective	Organisation of international brokerage events related to the last Secure Societies Calls under H2020 fully online.
Short description	IPPT PAN as a partner of the SEREN4 project and in particular as the WP Leader responsible for the organisation of brokerage events, the task team organized in 2020 two official international brokerage events related to the last Secure Societies Calls under H2020 fully online.
Achievements/Impact	7 April 2020: Almost 750 participants from 46 countries, 738 bilateral meetings with 584 participants. 30 participants from Poland (6 of whom from universities) who attended 121 B2B meetings took part in the whole event. 12 May 2020: Nearly 690 participants from 38 countries, 320 bilateral meetings, in which 411 participants took part. The whole event was attended by 34 participants from PL (9 of whom from universities) who had nearly 50 B2B meetings with foreign participants.
Lessons learned	Successful events - in comparison to two similar physical events organised in 2019 (in Brussels and Riga), the number of participants who have actively participated as well as the number of bilateral meetings have doubled in 2020. The success factors were: Availability online; Wide participation; High quality partner profiles.
Source	NCP Academy 2: Best Practices Catalogue for Horizon 2020 National Contact Points. Annex: How to Deal with the Covid-19 Situation. p.16
Link	https://ancd.gov.md/sites/default/files/NCP%20Academy%202%20Best%20Practices%20Covid-19%20Annex_FINAL.PDF?fbclid=IwAR0bws8gvfU_-64Q7CTriFuhukCQI3GjAtzFvZTJZcTC_2XAqn5EqreUILk
Author(s)	Technology Partners

Title of the initiative/action	POIR Granty na Eurogranty (Grants for European Grants, Smart Development Operating Programme)
Responsible body	Polish Agency for Enterprise Development (PARP), launched in April, 2021. The objective of PARP's activity is the implementation of economic development programs, supporting innovative and research activities of small and medium-sized enterprises (SMEs), regional development, export growth, human resource development and the use of new technologies in economic activity. PARP is involved in the implementation of national and international programmes financed from the EU structural funds, state budget and multiannual programmes of the European Commission. PARP is active in formulation and effective implementation of state policy in the areas of entrepreneurship, innovation and adaptability of staff, striving to transform into a key institution responsible for creating an environment supporting entrepreneurs. Pursuant to the principle "Think Small First", in all its activities the Agency puts a particular emphasis on the needs of the SME sector.
Country	Poland
Objective	Financial assistance to cover the expenses related to preparing a project for implementation within an EU Programme. The purpose of the scheme is to allow for reimbursement of the costs of preparing a European grant proposal, i.e. a project to be carried out under one the European Union Programmes, and in particular Creative Europe, LIFE, and other European Union programmes managed centrally by the European Commission, including Horizon Europe and the Single Market Programme.
Short description	**Eligible participants:** Micro, small and medium-sized enterprises with their headquarters or a branch in Poland that intend to apply for funding under calls announced within EU Programmes, acting as: • a single applicant, • a project coordinator, partner or member of a consortium jointly applying for funding. **Eligible funding allocation:** • Funding the cost of a consulting service that assists in proposal preparation • Funding the costs of a feasibility study • Funding the organisation of meetings, including partner searches and business trips • Funding the preparation of a European project proposal in line with the requirements defined by the call organiser and costs relating to any necessary adjustment of the proposal, including remuneration of employees in the part in which this remuneration is directly related to the preparation of the project planned for implementation within one from EU Programs, as well as costs related to the presentation of the proposal to the project evaluation committee appointed by the call organiser. • Funding the translation of the proposal documentation submitted to the call organiser. **Maximum level of project eligible costs:**

	Maximum level of eligible costs for preparing a European project proposal **with a feasibility study**, for proposers who apply: • Individually – is 280 060,00 PLN; • As part of a consortium: for a coordinator or work package leader – is 239 310,00 PLN. Maximum level of eligible costs for preparing a European project proposal **without a feasibility study**, for proposers who apply: • Individually – is 64 000,00 PLN; • As part of a consortium: for a coordinator or work package leader or as a consortium member (partner) – is 23 250,00 PLN.
Achievements/Impact	Total: 49 projects with funding of PLN 8,6 million
Lessons learned	Not available yet
Source	Web page of the implementing agency
Link	https://www.parp.gov.pl/component/grants/grants/granty-na-eurogranty#wyniki_i_archiwum
Author(s)	Technology Partners

Title of the initiative/action	**Granty na granty - promocja jakości III (poprzednio Granty na granty I i Granty na granty II) (Grants for Proposals – promotion of quality III, formerly Grants for Proposals I and Grants for Proposals II)**
Responsible body	Ministry of Science and Higher Education
Country	Poland
Objective	The initiative was established to assist higher educational and scientific institutions in increasing their success rate in applying for grants financed with funds from the European Union budget for the implementation of projects under the European Union research programs and to involve employees of these entities in the preparation of high-quality proposals for these grants.
Short description	Eligible participants: HEIs; Polish Academy of Sciences (PAS) research institutes; RTOs; Lukasiewicz Research Network institutes; international research institutes established on the basis of separate acts and operating in the territory of the Republic of Poland; other entities involved primarily in independent and ongoing research which conduct research and disseminate knowledge; any support awarded as part of the present undertaking shall not constitute State aid. Principles: Support within the undertaking is intended for those higher educational and scientific institutions that, in a project proposal submitted in response to a call by the European Commission, another entity authorized by it or the European Research Council, published on the so-called Participant portal under the current financial perspective in the: • Research Fund for Coal and Steel research programme, • Euratom research and training programme, • The European Union's Horizon 2020 framework programme, within the following pillars: Excellent Science, Industrial Leadership, Societal challenges; and the following specific objectives: Spreading Excellence and Widening Participation, Science with and for Society, • The European Union's Horizon 2020 Programme, acted as: • coordinator of a project submitted by an international or domestic consortium, • coordinator of a specific portion/specific portions of a project submitted by an international or domestic consortium (WP leader), • a single applicant, • a single applicant in ERC grant applications, • applicant for the status of a beneficiary of the Marie Skłodowska-Curie COFUND type project; • applicant for the status of an institution hosting a researcher carrying out an ERC project, and received, as part of the final EC evaluation, at least the Threshold level, and in the case of the ERC grant call, the A-level assessment in the 1st stage of the competition

	with an invitation to the 2nd stage of the competition or to the 3rd stage of the ERC SyG competition (in the case of the ERC competition - PoC - final grade A). The financial support available within the undertaking consists of: • reimbursement of costs related to development of a project proposal incurred within 12 months of its submission in response to a EC or ERC call or costs supported by financial documentation from that period and relating to: • investigation of the subject matter of the project proposal, • preparation, completion or correction of the project proposal, • the applicant's participation in conferences and brokerage or networking events related to developing the project proposal, • organising or participation in working meetings of the consortium or project management team (WP leaders); • financing a one-off bonus for the applicant's employees (as at the date of submitting the application) who were involved in the project proposal development process, in the gross amount constituting the total cost of the allowance borne by the applicant without indirect costs. Such financing may only cover bonuses the rules of which are set out in the corporate collective labour agreement or in the corporate remuneration regulations of the applicant. The application deadline is within 60 days of receiving the final evaluation of the project proposal by the EC or invitation to the 2nd stage of the competition for an ERC grant. The amount of support Coordinator of a project submitted by an international or domestic consortium - 30 000 PLN Coordinator of a specific portion/specific portions of a project submitted by an international or domestic consortium (WP leader) - 10 000 PLN Single applicant - 20 000 PLN Applicant for the status of a beneficiary of the Marie Skłodowska-Curie COFUND type project 20 000 PLN Applicant for the status of an institution hosting a researcher carrying out an ERC project - 20 000 PLN
Achievements/Impact	Between 2016 and 2021 the instrument was used to finance 477 applications submitted by 132 entities for a total amount of PLN 7,6 million.
Lessons learned	The Ministry did not perform an evaluation of the instrument. During the course of its application a change was introduced consisting of substituting the prefinancing of funds by their reimbursement.
Source	Information available on the Ministry's website. TP's practice as applicant.
Link	https://www.gov.pl/web/edukacja-i-nauka/granty-na-granty-promocja-jakosci-iii
Author(s)	Technology Partners

Title of the initiative/action	Innovation Coach
Responsible body	A joint project of the Ministry of Development Funds and Regional Policy in partnership with the Polish Academy of Sciences Institute of Fundamental Technological Research (IPPT PAN). The project was initiated in September 2019 and its continuation is planned in the upcoming financial perspective.
Country	Poland
Objective	The Innovation Coach Project is path II of the STEP Instrument (Sprawdzimy Twój Eksperymentalny Pomysł na Projekt – Checking Your Experimental Project Idea) carried out by the Ministry of Development Funds and Regional Policy in partnership with the Polish Academy of Sciences Institute of Fundamental Technological Research (IPPT PAN). The project is intended for entrepreneurs who would like to conduct research and development work but do not know how to initiate this activity and have no experience in acquiring R&D&I funding. The prerequisites for participation in the project is a lack of experience in applying for public R&D funding (national or EU, e.g. Horizon 2020 calls) and a readiness to implement innovative solutions in the enterprise.
Short description	Participation in the project consists of the following steps: • Step 1 – registration of the enterprise at www.innovationcoach.pl and determination of proficiency in acquiring EU funding for R&D&I. • Step 2 – assignment of a coach from the EU Research Programme Centre team. • Step 3 – joint evaluation of the enterprise's R&D&I potential and resources by the coach and entrepreneur. • Step 4 – coach's recommendations on directions and paths of implementing innovation in the enterprise and possibilities of obtaining innovation funding from the European Union. The project offers support to all organisations at any stage through: • Info days – which will provide additional information about the Innovation Coach project – pathway I of the STEP Instrument – and the funds available to enterprises under the Polish Smart Development Programme and Horizon 2020. • Consultation for entrepreneurs – provided by experts from the EU Research Project Centre and aimed at identifying the enterprise's needs and potential. • Innovation coaching service – provided by qualified industry experts. The service aims at identifying an enterprise's potential in the area of implementation of innovative solutions, and analysing its business surroundings and strengths and weaknesses. The result of coaching will be the preparation of individual recommendations by the expert for the enterprise including an idea for the implementation of innovation developed together with the entrepreneur, as well as an indication of how to finance it with the use of European funds. • R&D workshops – which will allow the entrepreneurs to familiarise themselves with the specifics of conducting and structuring research and development projects, creating financial models, the principles of intellectual property protection or the possibility of obtaining funding for the implementation of their business ideas from the European Union.

Achievements/Impact	The activities performed within the project were as follows (data for 2019-2020): • Enterprises registered in the IC database – 5944 • Consultations provided – 2141 • Coaching sessions – 342 • Workshops for enterprises – 25 • Info days – 12 • Registered coaches/trainers – 200
Lessons learned	The Project has demonstrated Polish enterprises' broad interest in participation. The beneficiaries of the Project include companies from a variety of industries, such as agri-food, clothing and textile, chemical, medical and pharmaceutical, transport and logistics, energy, renewables, electronics, construction and architecture, creative, educational and many more. The enterprises represent all regions of Poland and different sizes (though they are mainly SMEs). The Project's pilot edition was thoroughly scrutinized both within the EU Research Project Centre and by external evaluators. The evaluation was explicitly positive and led to several modifications in the new edition, including the extension of the innovation coaching service and a new approach to the area of communication. Some constraints in implementing the initiative are due to the COVID-19 pandemic. A heightened level of anxiety observed on the global and Polish market caused entrepreneurs to focus on current remedial action. In order to support the companies, the information component of the Project was extended to include information connected with the COVID-19 Anti-Crisis Shield implemented by the Ministry of Development Funds and Regional Policy. In addition, the project activities needed to be moved online, which has not had a negative impact on its quality, in some cases even providing added value (such as cooperation between an entrepreneur and coach from distant regions). Globally, the initiative has proved that there are many Polish enterprises that would like to conduct research and development work but do not know how to initiate it. Aiming at this particular group has great potential for boosting this activity and in consequence in acquiring R&D&I funding by more companies.
Source	Web page of the Innovation Coach project
Link	https://www.innovationcoach.pl/
Author(s)	Technology Partners

Title of the initiative/action	Seal of Excellence
Responsible body	Polish Agency for Enterprise Development
Country	Poland
Objective	Support for SMEs in: • actions confirming the technology and commercial potential of a product/service/technology, • conducting a feasibility study.
Short description	For micro-, small and medium-sized enterprises that: • have headquarters or a branch in Poland, • obtained the Seal of Excellence certificate in SME Instrument Phase I in Horizon 2020 or have acquired proprietary copyrights and the right to authorize the exercise of derivative copyrights to a project that has received the Seal of Excellence Allocation: • actions confirming the technology and commercial potential of a product/service/technology, including: risk assessment, market research, user research, intellectual property management, innovation strategy development, partner search; • development of a feasibility study. Maximum funding level: PLN 210 000 for a project worth PLN 300 000 (maximum support level 70%).
Achievements/Impact	2018 call: • No. of submitted / selected proposals: 12/12 • Funding awarded: PLN 2,5 million 2017 call: • No. of submitted / selected proposals: 18/18 • Funding awarded: PLN 3,7 million
Lessons learned	Not available yet
Source	https://en.parp.gov.pl/
Link	https://www.parp.gov.pl/component/grants/grants/granty-dla-seal-of-exellence#terminy https://www.parp.gov.pl/component/grants/grants/granty-dla-seal-of-exellence#wyniki_i_archiwum
Author(s)	Technology Partners

Title of the initiative/action	Seal of Excellence (2/1.1.1/2020)
Responsible body	National Centre for Research and Development - applied R&D funding agency
Country	Poland
Objective	The Seal of Excellence competition intended for micro-, small and medium-sized enterprises that have received a Seal of Excellence. This means that the only eligible proposals are those that received a positive evaluation under the SME Instrument (phase II, covering the funding of R&D) of the H2020 EU framework programme but were unable to obtain EU co-financing due to unavailability of funds. The projects must be performed outside the Mazovian Province (less developed regions). The funding may be allocated to industrial research, development work (required in each project) and pre-implementation work.
Short description	Call open only to proposals that: • were submitted under the SME Instrument, phase II (Horizon 2020) within 18 months of the submission to the NCRD and • received the a Seal of Excellence certificate under the SME Instrument, phase II (Horizon 2020) – but did not obtain co-financing due to unavailability of funds. A project obtaining funding under the call must fall under at least one National Smart Specialisation (NSS). Funding: • Maximum level of project eligible costs: 50 000 000 euro • Minimum level of project eligible costs: No minimum level of eligible costs Call schedule: from 14 January 2020 to 30 September 2020 The call was divided into 7 rounds.
Achievements/Impact	• 7 projects were awarded a total funding of PLN 26,8 million (for a total value of projects of PLN 40,0 million). • 2 projects were declined funding of PLN 15,0 million (for a total value of projects of 21,4 million).
Lessons learned	Not available yet
Source	https://www.gov.pl/web/ncbr-en
Link	https://www.gov.pl/web/ncbr/seal-of-excellence-21112020
Author(s)	Technology Partners

ROMANIA

Title of the initiative/action	**Program 3: European and international cooperation, Subprogramme 3.2. Horizon 2020 – National Plan for Research-Development and Innovation for the period 2015 - 2020 (PNCDI III)**
Responsible body	The Executive Unit for the Financing of Higher Education, Research, Development and Innovation (UEFISCDI)
Country	Romania
Objective	The main objectives are to support participation of Romanian research organizations in Horizon 2020 projects – ERA-NET/ERA-NET Cofund, to strengthen the national RDI system by intensifying collaboration in European research excellence and to increase Romania's visibility in the field of research and innovation
Short description	The programme funds transnational projects, including projects in NMP domain, following the calls for proposals: - MANUNET III calls (ERA-NET on Advanced Manufacturing Technologies): 2017, 2018, 2019, 2020 - M-ERA.NET calls (ERA-NET on research on materials science and engineering): M.ERA.NET2 -2018, 2019, 2020, M.ERA.NET3-2021 - FLAG-ERA calls: FLAG-ERA-II-2017, FLAG-ERA-III-2021 - EuroNanoMed III calls (EUROpean network of transnational collaborative RTD projects in the field of NANOMEDicine): 2017, 2018, 2019, 2020, 2021 - ERA-MIN calls (ERA-NET Cofund on Raw Materials): ERA-MIN2-2017, 2018, 2019, ERA-MIN3-2021 igible organisations: Public or private universities, national RDI institutes, other public or private research organisations, SMEs or large companies, public administrative units, nongovernmental organisations, according to national and transnational calls eligibility criteria
Achievements/Impact	Increase participation of Romanian organizations in international projects Increase the number of joint scientific publications and international patents Exploit collaboration links with project partners for further participation in Horizon 2020 and Horizon Europe calls for proposals
Lessons learned	The transnational projects represent instruments for European collaboration, useful for sharing technologies and knowledge; increase organisations' visibility; encourage multidisciplinary cooperation between academia, research organisations and companies across Europe; promote technology take-up and transfer to companies.
Source	UEFISCDI website; direct participation of IMT Bucharest in projects funded by the agency
Link	https://uefiscdi.gov.ro/p3-cooperare-europeana-si-internationala
Author(s)	IMT Bucharest

Title of the initiative/action	**Operational Program Competitiveness 2014-2020 Axis 1, Action 1.1.3 Creating synergies with Horizon 2020 – Structural funds**
Responsible body	Intermediate Body for Research, Ministry of Research, Innovation and Digitization
Country	Romania
Objective	Increasing Romanian participation in research at EU level
Short description	"Action 1.1.3 Creating synergies with Horizon 2020" aims to support Research, Development and Innovation projects which participate directly in the Horizon 2020 program calls / which are complementary to Horizon 2020 funded projects / which aim at strengthening the administrative capacity of RDI Romanian institutions. Type of funded projects: 1. Support projects for research organisations: **Support Centres** for international R&D projects, with the role to increase the capacity of Romanian organisations to participate in European calls for proposals. The centres offer support to potential participants, including companies, who prepare and submit applications in various calls funded by Horizon 2020. 2. Research-innovation projects for both research organizations and enterprises: - **RO-ECSEL** finance eligible RDI activities of the Romanian participants in the projects selected for funding by ECSEL Joint Undertaking following the calls for Horizon 2020 programme. - COMPLEMENT projects fund R&D and innovation activities additional to projects funded under the Horizon 2020 Joint Technology Initiatives (JTIs) - RO-EIT projects strengthen the participation of Romanian entities in activities funded by the European Institute of Innovation & Technology (EIT) - RO-ESFRI-ERIC RDI projects strengthen the participation of Romanian entities as partners in pan-European research infrastructures such as the European Research Infrastructure Consortium (ERIC) 3. Investment projects for R&D infrastructure of research organizations: - **ERA-CHAIRS** projects fund investments for the development of R&D infrastructure in research organizations funded by ERA Chairs Horizon 2020 calls, while Horizon 2020 will fund staff and administrative costs. - **TEAMING** projects: Horizon 2020 will fund the preparatory phase of the project, in order to develop R&D capacity through a teaming process with a successful institution from another Member State. In the second phase of teaming, the structural funds will finance investments in the development of R&D infrastructure in the Romanian institution. 4. Research-innovation projects for companies: FINALIST-IMM
Achievements/Impact	The impact of these projects is expected to be high measured in increased number of EU proposals, increasing of EU success rate for Romanian proposals, large dissemination measures, training sessions for writing proposals and for managing contracted EU projects, building new and modern infrastructures, cooperate in large European groups, enlarge the scientific cooperation and contribution to the development of European Research Area.

	The action "Support projects for research organisations: Support Centres" counts 11 funded projects aimed to increase Romanian participation in European projects – some centres are active in NMP related domains (materials, environment, energy).
Lessons learned	The implementation of these projects is helping the Romanian Organisations in participating in EU proposals. However, the bureaucratic procedures of Structural Funds are still a barrier in accessing and running these type of projects and the time consumed is very often exceeding the reimbursement level.
Source	Ministry of Research, Innovation and Digitization website; Structural funds website; direct participation of IMT Bucharest in projects funded in the frame of this action
Link	https://www.poc.research.gov.ro/ro/articol/4150/competitii-actiunea-1-1-3-crearea-de-sinergii-cu-orizont-2020; https://www.fonduri-structurale.ro/program-operational/4/programul-operational-competitivitate
Author(s)	IMT Bucharest

SLOVAKIA

Title of the initiative/action	Open public call "Support for preparation of research and development projects of the EU Framework Program for Research and Innovation by 2020 - Horizon 2020"
Responsible body	Slovak Research and Development Agency
Country	Slovakia
Objective	Stimulate the participation of Slovak research and development organizations in Horizon 2020
Short description	Those applicants who passed the threshold (Evaluation Summary Report) with their proposals in the working programme of H2020 in 2018-2020 can ask for the financial support of 3000 € (project coordinator) or 2000 € (project partner). The support was realised through open call, launched by Slovak Research and Development Agency with the allocated amount of 400 000 €. The support is aimed to cover part of the costs for the preparation of project proposal in the form of flat-rate refund.
Achievements/Impact	Overall 24 applicants were supported in technical sciences; 17 applicants in natural sciences; 13 applicants in social sciences; 2 applicants in medical sciences; 1 applicant in humanitarian Science and 1 applicant in agricultural science. The support covers the manpower costs for about two months and is recognized as a compensation for the effort.
Lessons learned	What worked well? This reward partially healed the disappointment of applicants who just missed the victory. What were the challenges encountered and their solutions? For most applicants this was not a sufficient motivation to write another proposal. Lesson learned from the initiative? For some applicants, the experience gained might have been inspiring for next attempt.
Source	Slovak Research and Development Agency
Link	https://www.apvv.sk/grantove-schemy/programy/archiv/pp-h2020.html?tab=older_documents (Slovak only)
Author(s)	IMSAS

Title of the initiative/action	Call for participation to EU Community Programs
Responsible body	Slovak Business Agency
Country	Slovakia
Objective	Enhance the participation of Slovak SMEs in the directly managed EU programmes – "community programmes" (such as Horizon 2020, Erasmus +, Creative Europe, Life+, COSME and others)
Short description	The support to SMEs was realised through open call for proposals, launched by SBA, for 80 hours of expert consulting services to support the application process. Support was under *de minimis* scheme and the whole set-up process included following steps: • Selection, set-up of database and contracting of external consultants • Free seminars for SMEs on the different possibilities within the community programmes (46 seminars organized within the period 2018-2020) • Open call for proposals since the beginning of 2018 with simple application – registration form (google forms), short description (4 pages) of the project idea and its relevance to the chosen selected EU call • Evaluation of the application by SBA committee • If successful, the applicant receives 80 hours of expert consulting services from a professional to help him with the application for the selected community programme call
Achievements/Impact	More than 90% of applications were for SME Instrument (Phase 1 and 2) / EIC Accelerator calls within Horizon 2020. Between 2018 and 2020, 74 applications were supported by SBA out of 148 submitted which represents 50%. Among the supported applications 2 were funded by SME Instrument Phase 1 (and 3 more in further resubmissions), 6 received the Seal of Excellence and along with 4 others above 12 points were eligible for state support up to 50 000 EUR. This is a great achievement considering low rate of participation in EU programmes and only 14 successful SME Instrument applications in the years 2014 – 2017.
Lessons learned	*What worked well?* • Rising awareness on community programmes and EU funding possibilities through seminars and consulting services • Getting referred by SMEs that were satisfied with our services to other SMEs • Selecting and providing highly skilled experts to help SMEs increase their chances to have successful applications *What were the challenges encountered and their solutions?* • Challenge: limited number of experienced experts • Solution: continuous search for new experts and enriching the database *Lesson learned from the initiative?* There is a demand and need for more comprehensive and complex support, including post-application consultations and planning of next steps.
Source	Slovak Business Agency
Link	Call for SMEs seated in Bratislava region(Slovak only) Call for SMEs seated outside of Bratislava region(Slovak only)

Author(s)	IMSAS

Title of the initiative/action	**Mentoring scheme for grant applicants in HORIZON 2020**
Responsible body	Slovak Centre of Scientific and Technical Information.
Country	Slovakia
Objective	Via introduction of experienced mentors in the project proposal preparation process the scheme aims to: 1. Enhance the skills of Slovak applicants in preparation of Horizon 2020 project proposals 2. Increase the quality of project proposals in Horizon 2020 submitted by Slovak applicants
Short description	The scheme has been active since June 1st 2019. The mentoring can be provided in two forms: mentoring provided to applicant to enhance his/her project proposal and mentoring in a form of a speaker/trainer on specific targeted workshops. Provision of mentor for the project proposal has following procedure: project coordinators or single beneficiary who needs a mentor contact responsible NCP with the first draft of their project proposals. The NCP is the responsible person who decides whether the proposal is proper for mentoring or not, as the NCPs are experienced and well informed on the evaluation criteria and expectations of remote experts. NCP pre-screens the proposal and provides his/her feedback to the applicant. Only after that the proposal is suitable for mentoring. These mentors are expected to contribute to the quality of proposals within 4 weeks. The mentors are chosen from the mentors' database. Mentor is usually expert having experience with evaluation of Horizon 2020 projects and/or Horizon 2020 project preparation and implementation. Applicants can bring their own mentor with required background. NCP intermediaries contact between proper mentor and applicant. Mentor then works with applicant using various modes of work (online, telephone, personal contact). Mentoring service is paid by CVTI SR only on condition of submission of the mentored project proposal to Horizon 2020/Horizon Europe. After submission, mentee is asked to provide his/her feedback in structured questionnaire, mentor is asked to fill in the report on mentoring specifying what parts of proposal needed attention and how mentor and mentee worked together. Report on mentoring includes also mentor´s timesheet.
Achievements/Impact	Since 2019 61 experts have expressed their interest to be included into the mentors' database. Their background was as following: 6 with experience as evaluator &applicant, 13 with background of evaluators, 15 with background of applicants, 32with no relevant experience with Horizon 2020. In 2019 15 in total, out of which 10 were mentoring of project proposals (ERC, MSCA IF, MSCA Cofund, SME Instrument and Twinning) and 5 were specialized consultations provided on targeted workshops (ERC, SME Instrument, technology transfer). Mentors reported 262 hours of work in total. In 2020 5 mentoring services were provided (Innovation Action, EIC Accelerator, MSCA), with 133 hours reported by mentors. Success of the scheme can be measured only by the feedback from mentees, which was in majority of cases very positive (with average score 5 out of 5, in one case 4 and 2).

Lessons learned	In order to increase the chances of having really high quality proposals as a result of mentoring, the allocated capacity of mentoring has been continually increased since the beginning of the scheme (no. of hours to be spent on each project proposal). Questionnaire for mentee was adapted in order to gain more structured information from mentee on the quality of service and mentor´s approach. Template of the report on mentoring (to be filled by each mentor) was redesigned in order to gain more information on critical points of each proposal and applicant and details on how they were solved and addressed in proposal. Internal processes have been adjusted in order to smooth the administration of the scheme.
Source	SK4ERA project
Link	https://www.cvtisr.sk/cvti-sr-vedecka-kniznica/projekty/narodne-projekty/sk4era-internacionalizacia-sk-vyskumu.html?page_id=23804
Author(s)	IMSAS

UKRAINE

Title of the initiative/action	Instrument for support the potential applicants for NMPB Calls of Horizon 2020
Responsible body	National Academy of Sciences of Ukraine (NASU)
Country	Ukraine
Objective	To ensure the potential applicants and those research teams who demonstrated their capability in the NASU competitive programmes relevant to NMP themes with: - the actual information on the open thematic calls, - the results of evaluation procedure and main results of the corresponding thematic current and completed projects, -consulting on preparation and submission of project proposal.
Short description	Funding of the special thematically oriented supporting projects within each competitive targeted programs of fundamental and applied research of the NASU is envisaged since 2016. These targeted programmes were the follows: “Reliability and durability of materials, constructions, equipment and structures" (2016-2017), “Fundamental problems of hydrogen and renewable energy and fuel cell technologies”(2016-2018) and current one «Development of scientific bases for hydrogen production, storage and use in autonomous energy supply systems» (2019-2021). Deep analysis of the thematic priorities related to the NMP including JU Clean Sky II, Shift2Rail, Innovative Medicines Initiative JU, Fuel Cells and Hydrogen JU has been done, the concept of the new targeted programme “Resource materials” has been proposed. Individual support of proposal preparation for the 2016-2017 open calls of Horizon 2020 had been provided.
Achievements/Impact	The results of the analysis had been presented for EU GD R&I as input paper within RI-LINKS2UA project as well as at NMBP Program Committee, some initiatives has been accepted and would be included in Horizon-Europe calls. The number of submitted proposals increased compared to the FP7 up to 70, but success rate appeared to decrease.
Lessons learned	Mentioned instrument allowed to shift internal projects to the calls topics formulated by EC, and convert their results into proposals for H 2020 calls. Meanwhile lack of external mentors and advisers caused pour result. The special unit focusing on proposal reparation involving experienced advisers from EU countries would help to improve the situation.
Source	The state budget of the NAS of Ukraine
Link	http://www.materials.kiev.ua/Hydrogen_2019-2021/index_en.html

	https://www.nas.gov.ua/UA/Messages/Pages/View.aspx?MessageID=5035 (in Ukrainian only)
Author(s)	NASU