

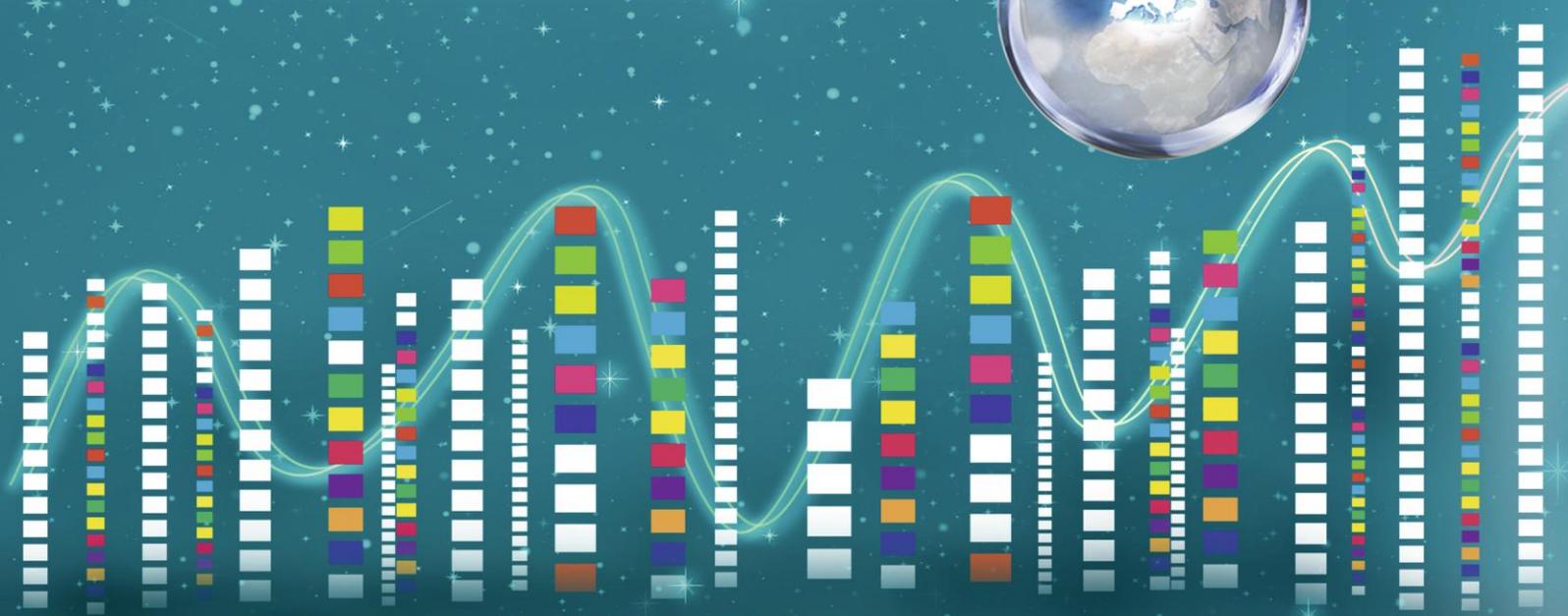


# Eurostars-2 final evaluation

## Evaluation study of the European Framework Programmes for Research and Innovation for an Innovative Europe

April 2023

Independent  
Expert  
Report



Research and  
Innovation

## Evaluation study of the Eurostars-2 programme

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***April 2023***

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## Executive Summary

### Background, objectives, and limitations

This ex-post evaluation presents the outputs and results achieved so far of the Eurostars-2 programme, which the European Union and the participating Eurostars-2 countries jointly finance. The evaluation of the Eurostars-2 joint programme<sup>1</sup> aims to provide an assessment and overall learnings from the Interim evaluation of the Eurostars-2 joint programme (2017). The analysis is based on evaluation questions (see ANNEX 2: Evaluation matrix) that were formulated by the European Commission and which focused on the relevance, efficiency, effectiveness coherence, EU added value and partnership-specific questions of Eurostars-2. The evaluation is part of the wider 'Study on the support to the innovation of the EU Research & Innovation Framework programme' that feeds into the ex post evaluation of Horizon 2020.

The evaluation builds on a broad set of qualitative and quantitative data such as desk research, stakeholder interviews, intervention logic, and secondary data. The EUREKA secretariat (ESE) provided Annual Reports and monitoring data of the Eurostars-2 programme. In addition, the evaluation is enriched by findings from two case studies on the Eurostars-2 programme performed as part of the 'Study on the support to the innovation of the EU Research & Innovation Framework programme'.

This final evaluation faces certain limitations. Between 2014 and 2020 there were 15 Eurostars-2 calls and around 1 546 projects were selected for funding. However, this final evaluation can only show a limited picture of the results and impacts of completed Eurostars-2 projects, as Eurostars-2 projects are normally of 36 months duration and many projects were extended due to the impact of the COVID-19 pandemic; thus only 52 % of all Eurostars-2 projects were completed by August 2022. In addition, the methodology and questions asked in the final reports (FIR) were changed after cut-off 5 of Eurostars-2 (February 2016) to further harmonise report templates for all ESE programmes. Several questions were therefore no longer available in the FIR from cut-off 6 onwards (see Table 4 on the available monitoring data in ANNEX 1: Evaluation questions and methodology). In addition, the market impact of Eurostars-2 projects is followed up through so-called market impact reports (MIR) which are requested from beneficiaries after project completion. The MIRs from 2019 and 2020 were available for this evaluation.

### Key findings

The following paragraphs sum up the main findings for each evaluation criterion. They are complemented by the conclusions and lessons learned provided in Section 4.

The references below to stakeholder opinions and consultation refer to a total of 18 interviews conducted with beneficiaries of different cut-offs in the Eurostars-2 programme coming from different Participating Countries, contact persons of national funding bodies (NFBs) and the ESE in Brussels.

### Relevance

Eurostars-2 addresses one of the key issues of European innovation policy namely to support transnational research cooperation of R&D-performing SMEs which are often not supported by national funding authorities. This limits knowledge spill-overs in the context of further establishing the ERA. By jointly working with Participating Countries and including the national funding bodies in the programme implementation Eurostars-2 provides a low-threshold offer for SMEs to engage in international cooperation in order to further develop their products and services. Of 12 968 participants who were and are part of consortia applying for Eurostars-2 funding in 15 cut-offs, 68 % of all participants involved were either R&D-performing SMEs or other SMEs.

The Eurostars-2 programme was perceived by interviewed stakeholders as a relevant support programme to tackle existing market failures of lacking SME innovation capacities due to higher risks

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<sup>1</sup> Based on Article 15 of decision No 553/2014/EU of the European Parliament and of the Council of 15 May 2014, the European Commission will conduct a final evaluation of the Eurostars-2 programme by 31 December 2022 at the latest.

and lacking resources. In this context, the Eurostars-2 support was relevant for SMEs to further develop their innovative products, processes and/or services through transnational knowledge sharing. The stakeholders interviewed for this study perceive the joint implementation of the ESE with the National Funding Bodies as relevant for inexperienced SMEs that have never participated in transnational or EU funding programmes.

Within the funding period of 2014-2020, the Eurostars-2 programme had to face the consequences of the COVID-19 pandemic which started at the beginning of 2020. Beneficiaries and SMEs reported that project activities had to be postponed as cross-border activities could not be performed as planned due to national lockdowns. In these cases, Eurostars-2 projects asked for project extensions and NFBs reacted flexibly to the situation by agreeing on general project extensions. The European Commission facilitated the creation of an extra call during the COVID-19 outbreak, which ensured the continuity of the programme.

## **Efficiency**

The European Union had dedicated EUR 287 million to the programme for the lifetime of Horizon 2020. Overall, approximately EUR 22 million was not spent by the partnership. It is expected that a further EUR 9.7 million will not be spent, leading to a total underspend of EUR 31.4 million. An attempt was made to counteract the resulting underspend by the EC having a 15<sup>th</sup> 'additional' call. Such a solution to optimise resource allocation seems feasible for the successor partnership. However, this requires monitoring and addressing underspend as a key priority for the successor partnership.

Compared to the Eurostars-1 programme, national funding rules have been further harmonised and administrative processes were more efficient. For instance, the time-to-contract decreased significantly during the implementation phase of the Eurostars-2 programme and reached an average duration of 6.6 months. Nevertheless, significant differences between Participating Countries still exist and this remains a key aspect that could be better addressed in the successor programme – the European Partnership on Innovative SMEs / Eurostars-3. Some points could still be improved in the future, e.g., information on the ESE website should be more user-friendly to avoid misunderstandings among applicants.

The case study on varying participation shows that the more funding a country provides, the higher the probability that these countries will have many projects in the ranking above the threshold. According to statements of beneficiaries, the creation of the ranking list is criticised as being not transparent. The decentralised approach allows countries to retain sovereignty over their funds despite the international nature of the programme. They can therefore set their priorities, funding rates, and decisions. Thus, countries with the strongest budgetary input also get the most participants.

The monitoring system of the Eurostars-2 programme is based on two streamlines. While the ESE monitored the projects at the project level, the NFBs were involved in the monitoring at the participant level. The Interim Evaluation (2017) recommended in this context that a stronger monitoring mechanism of the project's impact regarding product innovation as well as the long-term sustainability of the cross-national cooperation should be performed<sup>2</sup>. Overall, the strength of systems to share policy feedback and best practices could be improved, among other things, by closing existing data gaps. The ESE has already initiated a change in the monitoring system. The successor partnership will be better integrated into the Horizon monitoring framework and this exercise should be a priority to ensure that a better evidence and monitoring base exists.

## **Effectiveness**

Overall, the Eurostars-2 programme was effective in strengthening transnational research cooperation of R&D-performing SMEs with other SMEs or academia. A total of 1 546 projects were selected out of 5 891 project proposals during 15 cut-offs. Each project has run for up to 36 months. However, the current implementation state of play allows only limited insights as just 53% of the Eurostars-2 projects had been completed in August 2022 due to reasons indicated above. However, monitoring data confirm that the Eurostars-2 programme is rated highly by participants and that its continuity is seen as a benefit<sup>3</sup>. Collaboration across borders and knowledge transfer in particular are perceived as effective. In terms of the thematic focuses of the Eurostars-2 projects, there has been a strong focus on biological sciences and technologies (35%), followed by electronics, IT and telecoms technologies (22%).

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<sup>2</sup> European Commission (2017): Interim Evaluation of the Eurostars-2 Joint Programme.

<sup>3</sup> Based on data from FIR cut-off 1-5 provided by ESE.

A central objective of the Eurostars-2 programme was to support organisations to develop market-ready products, services and processes. Interviews with beneficiaries confirm that the Eurostars-2 programme succeeded in supporting R&D-performing SMEs to develop such processes, products or services. With regards to the rating of the overall technological achievements of beneficiaries of cut-offs 1-5, 89% of the beneficiaries either ranked their technological achievement as good or even excellent.

An analysis of the most commercialised results shows that the most commercialised results were products (53%), followed by services (28%) and processes (19%). Project results were mainly commercialised in Europe followed by North America and Asia.

## **Coherence**

The coherence of the Eurostars-2 programme within Horizon 2020 is confirmed by the set of stakeholders interviewed in the context of this report. With its transnational activities among stakeholders of the innovation ecosystem, the Eurostars-2 programme is helping to build up a European Research Area (ERA).

## **EU added value**

Stakeholders appreciate the mix of decentralised and centralised funding instruments. However, it should be noted that this mix of central and decentralised implementation leads to the issue of diverse rules at the national level, which was identified as a weakness in the Interim evaluation and persisted throughout Eurostars-2. It was also sometimes flagged as confusing for applicants.

For national authorities, the EU funding contribution of 33% is a relevant incentive to invest in the support programme. For many SMEs, the support programme is an important possibility to go international for the first time and to learn more about other EU markets. The Eurostars-2 programme thus not only offers the opportunity to strengthen the relationship with the consortium partners but also to discover and reach out to new markets and contacts.

Compared to other funding programmes, the Eurostars-2 programme offered the possibility to initiate a cooperative learning process with successful international partners that would not have been available on the regional or national level. Interviewed beneficiaries emphasise that the grant amount offered at the EU level is generally higher than at the national or regional level.

## **Partnership**

The ESE is broadly confirmed to be relevant for the successful implementation of the programme because of its broad, international network and excellent expert database with broad knowledge in different technological fields. The partnership will continue in Horizon Europe.

The partnership was implemented as an Art. 185 Partnership governed by a delegation agreement to the Eureka Association. As such, the partnership was restricted to partners that were also members of the Eureka network. In Horizon Europe the successor partnership is implemented as a co-funded European partnership and therefore new members can join the Partnership without an obligation to join the Eureka Network.

Overall, around 50% of the participants were newcomers to European-level funding and further, around 30% of the participating SMEs had no prior experience in international collaboration.

## 1. Introduction

### 1.1. Purpose of the study

The Eurostars-2 joint programme under Horizon 2020 was jointly undertaken by 33 Eurostars-2 Participating Countries and 4 Partner Countries and the European Union. The programme was based on Article 185<sup>4</sup> of the Treaty on the Functioning of the European Union and was implemented by the EUREKA Secretariat (ESE), Participating Countries and the European Union<sup>5</sup>. According to Article 15 of Decision No 553/2014/EU of the European Parliament and of the Council of 15 May 2014, the European Commission has to conduct a final evaluation of the Eurostars-2 programme by 31 December 2022 at the latest<sup>6</sup>.

The final evaluation is also part of the wider study on the support to the innovation of the EU Research & Innovation Framework programme which feeds into the ex post evaluation of Horizon 2020.

Overall, the final evaluation of the Eurostars-2 joint programme aims at:

- providing assessment and learnings from the Interim Evaluation of the Eurostars-2 Joint Programme (2017)<sup>7</sup>;
- providing a comprehensive, final assessment of the relevance, effectiveness, coherence, efficiency, EU added value and partnership of the Eurostars-2 joint programme;
- providing key findings and suggestions for improvement from the assessment to help to further develop the overall Eurostar programme in the future.

More specifically, the **evaluation is structured** into the following parts:

1. **Context and background to Eurostars-2 programme** – The first chapter aims at providing an overview of the historical background and development of the Eurostars-2 programme since its beginning in 2007. In addition, it outlines the overall objectives and functioning of the Eurostars-2 programme and provides an overview of the key learnings from the Interim Evaluation (2017).
2. **Implementation, state of play** – The second chapter provides an overview of the current state of play of the implementation of the Eurostars-2 programme. It showcases key information on Eurostars-2 such as the number of projects and the budget committed.
3. **Preliminary evaluation findings according to the evaluation criteria** – The third chapter is the key chapter of the evaluation by analysing the Eurostars-2 programme according to the seven evaluation criteria (relevance, efficiency, effectiveness, coherence, EU added value and two partnership-specific criteria).
4. **Emerging key findings and suggestions for improvement** – The fourth chapter summarises the key findings of the evaluation of the Eurostars-2 programme and provides an overview of possible suggestions for improvement in the future.

### 1.2. Scope of the study

The evaluation of the Eurostars-2 programme analyses the overall performance and impact of the funding programme in the funding period from 2014 to 2020 as well as the additional cut-off 15, which was introduced partially to provide support to SMEs during the COVID-19 pandemic but also to utilise some of the underspending and ensure that the funding was not lost to its intended recipients in R&D-performing SMEs in 2021. While the focus is primarily on the performance and impact of the Eurostars-2 projects, it must also be noted that only 53% of the Eurostars-2 projects are completed (August 2022)

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<sup>4</sup> Article 185 initiatives are long-term public-public partnerships (P2P) established on a voluntary basis by EU Member States that are also eligible for a substantial financial contribution from the EU Research Framework Programme. They aim at addressing common challenges in specific research areas by creating economies of scale and synergies between national and EU research programmes and investments.

<sup>5</sup> For more information on the Eurostars-3 programme see: <https://www.eurekanetwork.org/blog/eurostars-3-a-key-instrument-for-horizon-europe> (last accessed 16.5.2022).

<sup>6</sup> For more information on the decision see: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014D0553&rid=5> (last accessed 22.7.2022).

<sup>7</sup> European Commission (2017): Interim Evaluation of the Eurostars-2 Joint Programme. Available under: <https://op.europa.eu/en/publication-detail/-/publication/e6bbaa13-b867-11e7-ac8e-01aa75ed71a1/language-en> (last accessed 16.5.2022).

and that a significant number of projects are still running. Thus, insights on the impact of the Eurostars-2 programme such as the number of patents developed, or the number of FTE created through the support are limited.

As the programme was jointly undertaken by the 33 Participating Countries and four Partner Countries together with the European Union, the final evaluation covers all geographical areas in which the Eurostars-2 evaluation was put into place. As an Interim Evaluation (2017) has already been performed in the mid-term of the funding period with a focus on the quality and efficiency of the Eurostars-2 programme, the final evaluation builds on these findings. It focuses particularly on previous recommendations and how the Eurostars-2 programme in the meantime has considered these aspects. Moreover, the evaluation spotlights the impact generated by completed Eurostars-2 projects.

The evaluation builds on a set of qualitative and quantitative data such as desk research, stakeholder interviews, an intervention logic and monitoring data of the Eurostars-2 programme. In addition, findings from two case studies on the Eurostars-2 programme and a comparative report were integrated. This evaluation study was commissioned within the context of the larger 'Study on the support to the innovation of the EU Research & Innovation Framework Programme'. Based on that specific study design no survey dedicated to the participants was conducted for the Eurostars-2 evaluation. This limits the analysis to some extent, especially regarding the efficiency and effectiveness criteria. Given the fact that a large part of the funded projects are still ongoing statements regarding the impacts are provisional. Due to technical difficulties and unclear mandates, the existing data were made available considerably late in the project.

## 2. Background to the initiative

### 2.1. Baseline

The Eurostars-2 programme was part of the Horizon 2020 Framework Programme for Research and Innovation in the 2014-2020 funding period. Through the implementation of Horizon 2020, the European Union aimed, among other aims, to strengthen public-public partnerships and to support cross-border research and innovation. Eurostars-2 was a joint public-public partnership of the Participating Countries and Partner Countries of the Eurostars-2 programme together with the European Union. Adhering to Article 185 of the Treaty of the Functioning of the European Union, the involved stakeholders focused on the development of synergies of European support programmes and improved cooperation between national and regional research programmes following the principals of Horizon 2020 to increase the openness and transparency of scientific research. The co-funding contribution of the EU was up to EUR 287 million and came from the Horizon 2020 budget. For each funded Eurostars-2 project, the EU contribution was supposed to be one-third of the total project cost.

According to the decision of the European Council and the European Parliament, the Eurostars-2 pursued three objectives:

- **Promotion of research activities** that comply with the following conditions: the activities are carried out by a transnational collaboration of research- and development-performing SMEs among themselves or including other actors of the innovation chain (e.g. universities, research organisations); results of activities are expected to be introduced into the market within 2 years of the completion of an activity.
- **Increased accessibility, efficiency and efficacy of public funding for SMEs in Europe** by aligning, harmonising and synchronising the national funding mechanisms of Participating Countries.
- **Promotion and increased participation of SMEs without previous experience in transnational research**<sup>8</sup>.

The overall Eurostar programme has a long tradition having entered into force in 2008 under the name Eurostars-1 as a joint programme implemented between the ESE and the European Commission. The programme was financed at that time under Article 169 TFEU through co-funding from national budgets of Participating Countries with top-up funding from the European Union through Horizon 2020 funding<sup>9</sup>.

The Eurostars-1 programme was implemented between 2008 and 2013. Its objective was to support R&D-performing SMEs<sup>10</sup> to further develop their activities. R&D-performing SMEs were and are recognised as important stakeholders for the European knowledge-based economy facing global competition. Findings from the final evaluation of the Eurostars-1 programme show that the financial support successfully helped Eurostars-1 beneficiaries to develop new or improved products and services with which they could improve their competitive position and that 88% of the analysed Eurostars-1 projects developed their planned innovations<sup>11</sup>.

From the beginning, the Eurostars programme has been managed by ESE which was founded in 1985 to raise awareness and boost collaboration between companies and research institutes in the fields of innovation and technologies. A specific characteristic of ESE projects is their focus on civilian purposes applied by the private and public sectors<sup>12</sup>. To implement the strategies and manage the EUREKA network, EUREKA established a secretariat, the so-called ESE. According to Decision No 553/2014/EU of the European Parliament and of the Council of 15 May 2014, among the ESE tasks are:

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<sup>8</sup> DECISION No 553/2014/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 May 2014 on the participation of the Union in a Research and Development Programme jointly undertaken by several Member States aimed at supporting research and development performing small and medium-sized enterprises.

<sup>9</sup> European Commission (2014) Final evaluation of the Eurostars Joint Programme. Available under: [https://www.researchgate.net/publication/323644226\\_Final\\_Evaluation\\_of\\_the\\_Eurostars\\_Joint\\_Programme\\_Expert\\_group](https://www.researchgate.net/publication/323644226_Final_Evaluation_of_the_Eurostars_Joint_Programme_Expert_group) (last accessed on 13.06.2022).

<sup>10</sup> According to the Eurostar Programme Document (2007), R&D-performing SMEs are SMEs in which a minimum of 10 % of employed staff (based on full-time equivalents) are working with R&D and in which at least 10 % of the annual turnover is spent on R&D activities.

<sup>11</sup> European Commission (2014) Final evaluation of the Eurostars Joint Programme

<sup>12</sup> For more information on the Hannover declaration see: [https://www.eureka.dlr.de/media/content/Hanover\\_Declaration\\_1985.pdf](https://www.eureka.dlr.de/media/content/Hanover_Declaration_1985.pdf) (last accessed 20.5.2022)

- preparation of the annual budget of the call and its central organisation (e.g. eligibility check, evaluation and ranking of applications);
- the collection of information coming from National Funding Bodies (NFBs) for the transfer of the Union contribution,
- promotional activities,
- reporting to the Eurostars-2 high-level group and the Commission on the Eurostars-2 programme.

## 2.2. Description of the partnership and its objectives

Based on the framework of its predecessor programme, the Eurostars-2 programme was implemented in the 2014-2020 funding period by 33 Eurostars-2 Participating Countries and four Partner Countries (see Figure 1). Besides the participation of all EU Member States and COSME countries such as the EFTA countries (e.g. Iceland, Norway, Switzerland), other countries outside of the European continent such as Canada, the Republic of Korea, and South Africa have been Partner Countries in the Eurostars-2 programme<sup>13</sup>. The legal basis of the joint undertaking was Article 185 of the Treaty on the Functioning of the European Union (TFEU) (ex-Art. 169 TEC), which has been formally acted through Decision No 553/2014/EU of the European Parliament and of the Council of 15 May 2014 (“Eurostars-2 Decision”) entering into force on 27 June 2014.<sup>14</sup>

**Figure 1: Overview of Participating Countries and Partner Countries of the Eurostars-2 programme**



Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

Similar to the Eurostars-1 programme, eligible participants in the Eurostars-2 programme were R&D-driven SMEs and other organisations such as research institutes and universities from at least two different Eurostars-2 countries working on collaborative, cross-national innovation projects aiming at rapid commercialisation within 2 years of a process, service, or product<sup>15</sup>. Between 2014 and 2020, two yearly cut-offs were opened for interested SMEs and other eligible organisations. While 14 cut-offs were planned as part of the Eurostars-2 programme, an additional 15<sup>th</sup> call took place in 2021. This was funded from the underspend accumulated over the lifetime of the programme and ensured that the overall underspend was reduced to approximately EUR 31.4 million. Since the Eurostars-3 programme was not launched at the beginning of 2021, the additional call gave interested applicants a further opportunity to apply for the Eurostars programme.

<sup>13</sup> According to information received from ESE, Participating Countries were Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Israel, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Turkey and the United Kingdom. Partner countries were Canada, South Africa, Switzerland and South Korea.

<sup>14</sup> Decision No 743/2008/European Commission of the European Parliament and the Council of 9 July 2008 (OJ L 201, 30.7.2008, p.58). Available under: <https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:32008D0743> (last accessed 16.5.2022).

<sup>15</sup> EUREKA (2019): Eligibility guidelines for applications (July 2019; Version 5.0). For further information on eligibility criterion, please see Annex E.

### *Intervention logic of the Eurostars-2 programme*

The Eurostars-2 programme was a large international funding programme for R&D-performing SMEs in Europe. It aimed at encouraging SMEs as main project participants to collaborate with other innovation partners such as SMEs, research institutes or universities through R&D-driven projects with up to four consortium members. The overall objectives of the Eurostars-2 programme were mainly to provide financial support to SMEs to:

- support transnational market-oriented research projects initiated and driven by R&D- performing SMEs;
- encourage the development of new products, processes, and services by SMEs;
- promote technological and business development;
- boost the internationalisation of SMEs.

The programme's activities took a bottom-up approach to achieve these set goals. The regular calls were bottom-up and easily accessible. One central feature of the Eurostars-2 programme was the mix of a centralised and decentralised application and evaluation approach. While the ESE performed the evaluation of applications, the funding and its monitoring for each beneficiary were implemented by the NFBs.

The financial support of the Eurostars-2 programme aimed at leading to the following **outputs (short term)**:

- Development of international partnerships between SMEs and other stakeholders to work on R&D-driven projects to commercialise new products, processes, and services within two years after project completion;
- Extended international networks of stakeholders within the European and international innovation ecosystems.

**In the medium term, the following results** should have been facilitated:

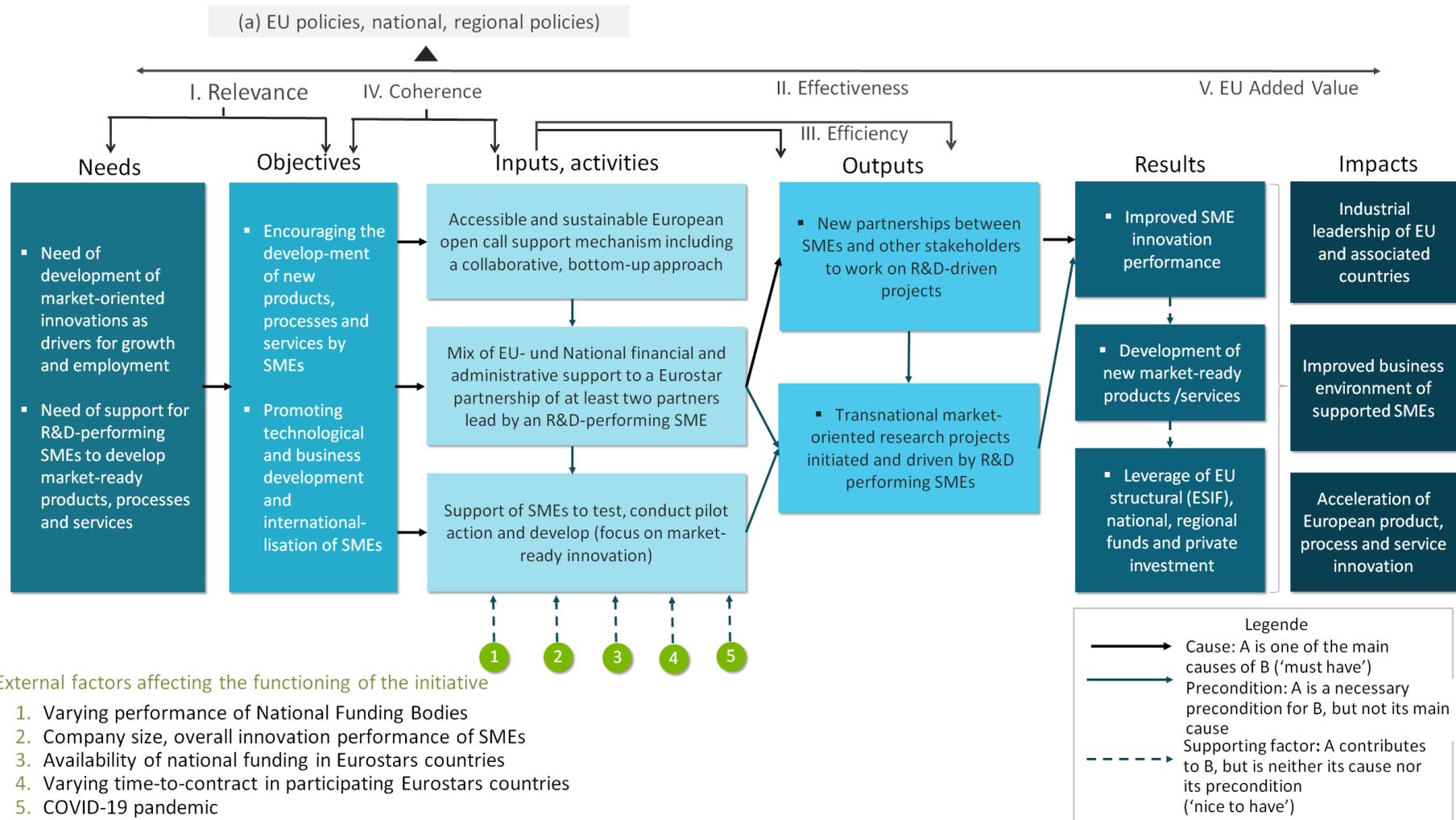
- Improved SME innovation performance;
- Development of new market-ready products/services;
- Leverage of EU structural funds (ESIF), national, regional funds and private investment.

**In the longer term**, the Eurostars-2 programme aims to contribute to the following points (**impacts**):

- Industrial leadership of EU and associated countries;
- Improved business environment of supported SMEs;
- Acceleration of European product, process, and service innovation.

Figure 2 summarises the intervention logic of the Eurostars-2 programme.

**Figure 2: Intervention logic of the Eurostars-2 programme**



Source: PPMI/Prognos/Idea Consult (2022) based on information from the ESE.

### 2.3. Learnings from the Interim Evaluation of the Eurostars-2 Joint Programme (2017)

The Interim Evaluation of the Eurostars-2 Joint Programme (2017) summarised the first findings of the Eurostars-2 programme with regard to the five evaluation criteria, i.e. relevance, efficiency, effectiveness, coherence, and EU added value<sup>16</sup>. Based on available relevant evidence, the Interim Evaluation (2017) gave recommendations on how to improve the funding programme consisting of:

- key issues identified in the Interim Evaluation,
  - recommendations related to programme implementation and
  - recommendations related to governance<sup>17</sup>.

These recommendations were divided into short-term, medium-term, and long-term recommendations, according to the perspective of their implementation. The most important recommendations are summarised below<sup>18</sup>.

**The key issues** focused on short-term improvements and consisted of the following recommendations:

- **To strengthen the EU value added** of transnational collaboration of SMEs with other SMEs and academia, the proposed project consortium should have obligatory representation of at least two R&D-performing SMEs from two different Participating Countries. In doing so, the distribution of activities between them should be fair and well-balanced with a budget (minimum 20% for each SME performing R&D, i.e. minimum 70% for both).
- To bring new products, services, or processes to market 2 years after project completion, the **two-year requirement should be a clear criterion** to be considered in the evaluation process. The subsequent market-readiness actions and measures should be monitored by the Participating Countries, who know their beneficiaries and their market potential much better.
- **Similar to the SME self-declaration, the eligibility criteria “R&D performing SME” should be assessed on the national level.**
- The **uniqueness of the Eurostars-2 programme** in the European market panorama needs to be preserved and strengthened in the European arsenal of innovative tools for SME support.

Recommendations **related to programme implementation** were divided into long-term and short-term perspectives. The short-term recommendations related to programme implementation were the following:

- Consideration by the European Commission of the issue of **providing EU replenishment for those Eurostars projects for which grant agreements were not signed within 1 year** of the cut-off period. It should be noted that Horizon Europe rules allow for the EU top-up to be used in this way and the consortium could consider implementing this recommendation if the problem persists in the successor partnership.
- **Shortening the time-to-contract** to avoid threats to the innovative potential of projects. Implementation of the calculation of the contract conclusion time at the project level when signing the consortium agreement, and not at the participant level when they sign their grant agreement with their respective NFB.
- **Collecting information from a centralised usage database**, which had to be constantly updated, to achieve an advantage in monitoring the overall implementation of the joint programme.
- Improvement of the **mechanism for collecting, selecting, and monitoring data** in the ESE database.
- Improvement in the **structure and content of Market Impact Reports (MIR)** evaluating the results of projects on efficiency, effectiveness and pragmatism in relation to market entry.
- Implementation of **monitoring the results of funded projects** (for example, Final reports (FIR)) and their market launch within two years of the completion of projects (MIRs) to better inform the Participating States and the European Commission.

The long-term recommendation related to programme implementation consisted of the following:

Challenges were caused between Participating Countries due to difficulties of aligning national rules with Art. 185 led to the question of whether Article 185 is still the most appropriate

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<sup>16</sup> European Commission (2017): Interim Evaluation of the Eurostars-2 Joint Programme.

<sup>17</sup> For an overview of the recommendations see: chapter 5.2

<sup>18</sup> For all recommendations, please refer to chapter 6.

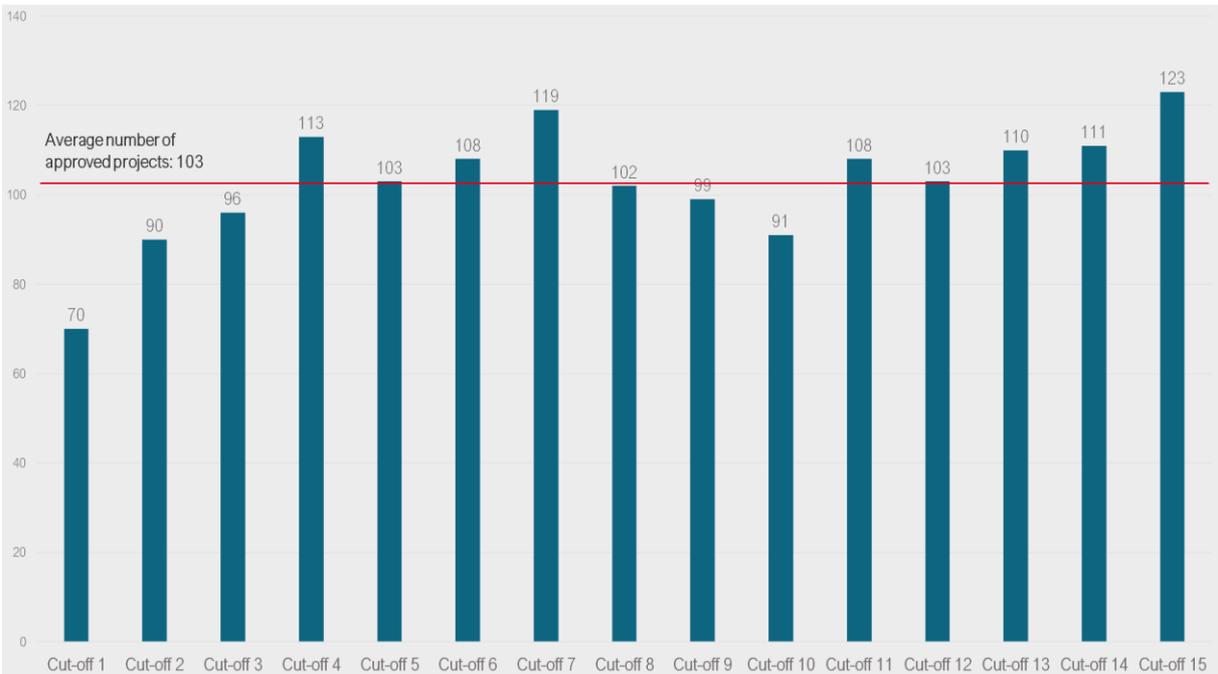
instrument for the Eurostars programme. It is recommended that the annual EU funding should foresee the management of the programme and that losses of EU funding earmarked to support SMEs should be avoided, including by monitoring underspend through the lifetime of the programme and appropriate adjustments in the budget if consistent national underspend continues to be a feature of the Eurostars programme.

### 3. Implementation state of play

This chapter presents the state of play of the implementation of the Eurostars-2 programme. The chapter gives an overview of the number of approved projects and their monitoring status, the type of organisations funded, the committed budget for the Participating Countries and the thematic focuses of the projects.

Between 2014 and 2021, 15 cut-offs took place, and 5 891 projects were submitted<sup>19</sup>. The number of funded projects in the period from January 2014 to December 2020 was 1 546, resulting from the joint calls which took place at least twice per year. Figure 3 shows the number of approved projects for the Eurostars-2 programme between 2014-2020 for each cut-off. While the number of applications per cut-off differed slightly, the average number of approved projects per cut-off was 103 projects. The countries with the highest number of applications were Germany (2 602 applications), the Netherlands (1 766 applications) and Denmark (1 542 applications). The countries with the lowest number of applications were Greece (8 applications), Malta (14 applications) and South Africa (40 applications). The average success rate of the Eurostars-2 was 27%. The average project duration was 30 months and project consortia mostly consisted of an average of two to three partners.

**Figure 3: Number of approved projects for the Eurostars-2 programme between 2014 and 2020**



Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

When looking at the implementation status of approved projects, projects from cut-offs 1-5 which started between 2014 and 2016 are mostly completed while for cut-offs 6-9, more than half of the projects have already been completed. In contrast, most of the projects from the cut-offs 10-15 that started between 2018 and 2021 are still ongoing (see

Figure 4). As of August 2022, 601 Eurostar-2 projects are still running (39%) and 800 projects were already completed (52%). The remaining 9% of the Eurostars-2 projects have been either withdrawn (8%), are on hold (1%) or on ethical conflict (0.1%). According to the Annual Eurostars-2 report (2021), withdrawals are mainly due to bankruptcy issues, feasibility issues as well as project changes. Main project changes in 2021 were related to prolongation requests (62%).

<sup>19</sup> More information on additional monitoring data of the Eurostars-2 programme can be found in Annex F: Additional data.

**Figure 4: Monitoring status based on Project Progress Reports**



Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE (extraction date: 10.8.2022)

With regards to the budget committed in the 2014-2020 period, the Eurostars-2 programme had a total committed public budget of EUR 1.14 billion coming from the Annual Work Plans<sup>20</sup>. While the EU committed EUR 287 million (33.3%) to the financing of the projects, the remaining EUR 856 million (66.6%) has been committed by the Eurostars Participating Countries themselves through national funding resources<sup>21</sup>. The average project costs have been around EUR 1.4 million.

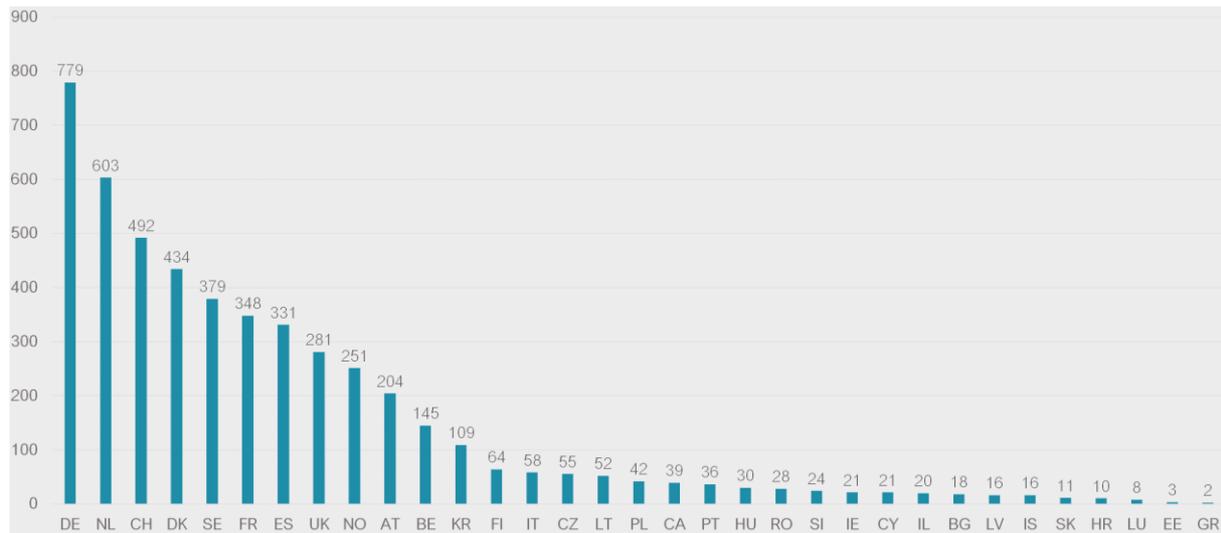
A comparison of the committed funding with the actual funding provided is only possible to a limited extent. This is because at the time of the report only the first six cut-offs had been closed. For all other cut-offs, the ESE still receives information on expenditures from NFBs, so a final comparison of the pre-committed budget to the actual funding provided is not possible. Nevertheless, it is already evident from the data of the first six cut-offs that there is a considerable discrepancy between the pre-committed budget and the actual funding provided of EUR 95 million (see Annex 6). The reasons for this discrepancy are manifold and were answered in different ways in the interviews. Besides others, one reason relates to the design of the programme. The fact that the ranking list is created independently means that it does not exactly match the NFBs' commitments, so not all funds are allocated. In addition, NFBs confirm that it is difficult for countries to set a fixed amount for Eurostars in advance, as these are checked (and possibly re-allocated) in the national budget right before the cut-off. Therefore, if the money is needed elsewhere, it may well be that less budget is available for Eurostars than originally committed (a more detailed discussion of the topic is provided in the case study on varying performances of NFBs).

Figure 5 gives an overview of the number of participants per country. Most of the participants came from Germany (779), followed by the Netherlands (603), Switzerland (492), Denmark (434) and Sweden (348). The countries with the fewest participants were Greece (2), Estonia (3), Luxembourg (8) and Croatia (10).

<sup>20</sup> European Commission (2017): Interim Evaluation of the Eurostars-2 Joint Programme. Available under: <https://op.europa.eu/en/publication-detail/-/publication/e6bbaa13-b867-11e7-ac8e-01aa75ed71a1/language-en> (last accessed 16.5.2022).

<sup>21</sup> The Union financial contribution for the co-funding of projects selected in cut-off 1-6 was 23.5 % and in cut-off 7-14 was 25.75 %,

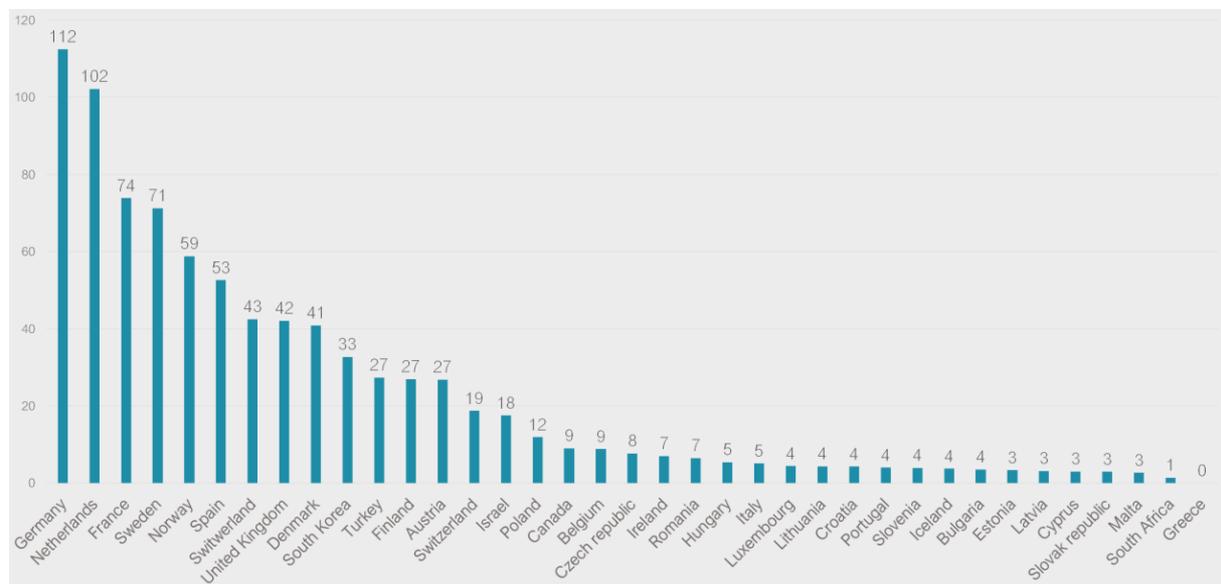
**Figure 5: Number of participants of the Eurostars-2 programme per country**



Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

Figure 6 shows the committed national budget by Participating Countries and Partner Countries for all 15 cut-offs in the 2014-2020 funding period. The committed grant amounts by the 33 Participating Countries and the four Eurostars-2 Partner Countries differed significantly for each country. While the highest grant amounts have been committed by Germany (EUR 112 million), the Netherlands (EUR 102 million) and France (EUR 74 million), no grants have been committed by Greece. The committed budget per participating state and partner country shows that five countries (France, Germany, the Netherlands, Norway and Sweden) committed almost half of the total committed national budget showing that the intensity of financial commitment by participating country differs significantly.

**Figure 6: Committed national budget by Participating Countries and Partner Countries\* for Cut-off 1-15 in EUR (million)**

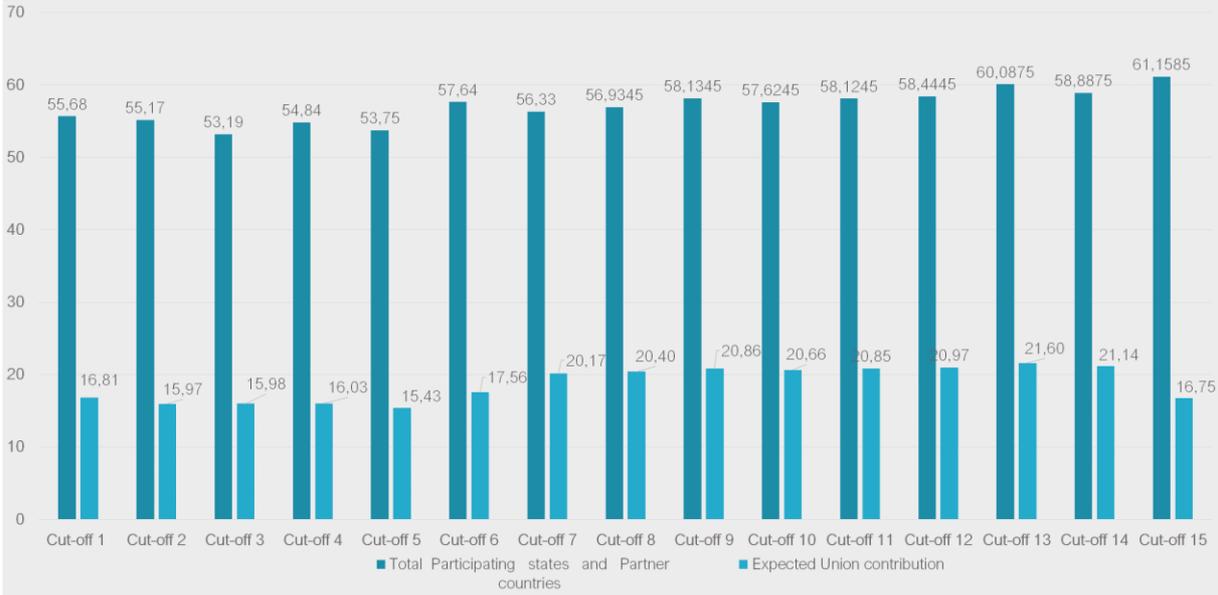


Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE. Switzerland, South Korea, Canada and South Africa were Eurostars-2 Partner Countries in the 2014-2020 funding period.

With regards to the committed budget of the Eurostars-2 programme, the total committed amount for cut-offs 1-15 was EUR 1.074 billion, with EUR 891.33 million of the funding coming from the official declaration of commitments by the Participating Countries and Partner Countries. Out of this amount, EUR 6.94 million was committed as alternative funding (loan)<sup>22</sup>. The committed budget of the Partner Countries consisting of Switzerland, South Korea, Canada and South Africa was around EUR 84.12 million. The total expected EU contribution for cut-offs 1-15 was around EUR 281 million. (see Figure 7).

<sup>22</sup> According to the Annual Report 2021 of the Eurostars-2 programme provided by the EUREKA secretariat.

**Figure 7: Committed budget by Participating Countries/Partner countries and EU for Cut-offs 1-15**



Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

## 4. Evaluation findings

This chapter presents the findings on the evaluation criteria for the Eurostars-2 programme in the 2014-2020 funding period. Findings are divided according to the six different evaluation criteria which are namely relevance, efficiency, the effectiveness. The coherence, the EU added value and the partnership of the Eurostars-2 programme.

### 4.1. Relevance of the Eurostars-2 programme

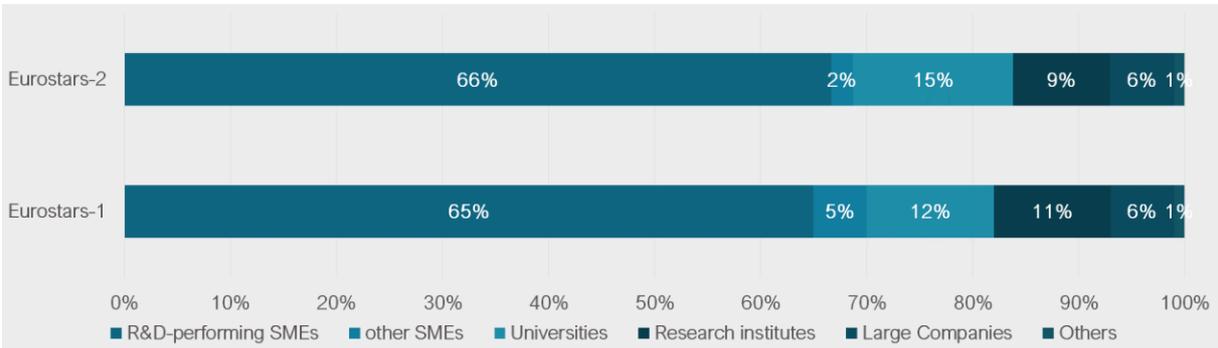
#### Relevance for the target group

By targeting R&D-performing small- and medium-sized enterprises (SMEs), the Eurostars-2 programme aimed at boosting innovation, growth, and competitiveness of the EU innovation ecosystem through applied research and development. The financial support of the Eurostars-2 programme contributed to the bottom-up and market-oriented development of new, innovative products, processes, and services. As part of the Horizon 2020 Framework Programme, the Eurostars-2 programme was relevant to strengthening public-public partnerships and supporting cross-border research and innovation. The available literature and the seven interviews with National Funding Bodies (NFB) confirm the existing need and demand for funding support for R&D-driven companies.

The almost constantly increasing number of applications by the 15 cut-offs is a good indicator showing that the programme’s objectives and support schemes were and still are relevant for the main target group, namely interested R&D-driven SMEs and other SMEs<sup>23</sup>. While the average success rate of Eurostars-2 applicants for all 15 cut-offs was 27%, the success rate has been significantly lower during the last four cut-offs with success rates of 19-25% showing that more and more SMEs and other organisations have applied for Eurostars-2 funding. The success rate remained similar to the Eurostars-1 programme (26%)<sup>24</sup>.

All interviewees perceive Eurostars-2 as a relevant programme supporting innovative SMEs. Reports from the seven interviewed NFBs mention that the Eurostars-2 programme is both highly relevant and unique from their perspective because of its thematic and geographical openness which makes it possible for SMEs to collaborate not only with partners within the European Union but also with business partners outside of Europe such as South Korea or South Africa. Interviews with beneficiaries of the Eurostars-2 programme confirm that the Eurostars-2 programme is also seen as very relevant from the beneficiaries’ side. According to the six interviewed SMEs, it has been very useful for them to learn from the expertise of their consortium partners. The cross-national R&D cooperation is seen as a relevant feature of the Eurostars-2 programme by many of the interviewees. The interviews with beneficiaries revealed that the respective companies would not have been able to implement their project without the knowledge transfer that took place through cross-national cooperation within the project.

Figure 8: Type of beneficiaries of Eurostars-1 and 2 Programme



Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE and from the final Eurostars-1 report (2014).

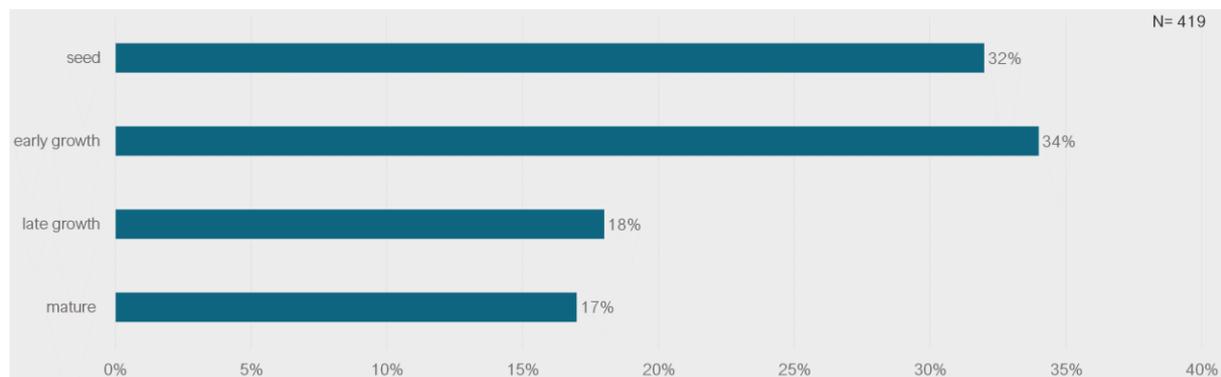
The annual Eurostars Report (2021) underlines that the Eurostars-2 programme was successful in reaching its main target group consisting of R&D-performing SMEs and other SMEs. Out of the total number of 12 968 participants who were and are part of consortia applying for Eurostars-2 funding in 15 Cut-offs, 68% of all participants involved were either R&D-performing SMEs or other SMEs. For the participating SMEs, it is still relevant to also involve other beneficiaries such as universities and other

<sup>23</sup> See Figure 26 in Annex F: Additional data.

<sup>24</sup> European Commission (2014): Final Evaluation of the Eurostars Joint Programme Expert group.

research-performing organisations to benefit from research findings and to further develop their products, processes or services.

**Figure 9: Growth stage of participating SMEs of the Eurostars-2 Programme**



Source: PPMI/Idea Consult/Prognos (2022), own calculation based on data enrichments from Dealroom.

Findings from the ‘Study on the effectiveness of public innovation support for SMEs in Europe’ (2021) show that newly established SMEs in particular have fewer financial resources available which might be an obstacle to innovation<sup>25</sup>. Thus, they have a higher need for financial support for innovation activities. Moreover, the costs for technological development through cross-border research activities are difficult to finance for early-growth and seed SMEs. Research activities are also linked to risks which are affordable for large companies but not SMEs with lower resources available for innovation activities. The Eurostars-2 programme tackles these existing market failures. In this context, data enrichments with Dealroom data for Eurostars-2 beneficiaries show that the Eurostars-2 programme was mainly attractive for SMEs in their seed- and early-growth phases (see Figure 9). In conclusion, the Eurostars-2 programme targets the relevant stakeholder groups which have higher financial needs due to the higher risks related to their research activities.

Within the funding period of 2014-2020, the Eurostars-2 programme had to face the consequences of the outbreak of the COVID-19 pandemic which started at the beginning of 2020. While 12 out of 15 calls had already taken place by then and most of the Eurostars-2 projects had already started their activities (77.2%), the pandemic mostly impacted on cross-border project implementation. With regards to the impact of the general work processes such as on-spot evaluation processes, the Independent Evaluation Panel (IEP) sessions, and meetings of the Eurostar Ethics Panel, new collaborative ways were put into practice to continue activities normally. Call management processes were flexible and adapted to the circumstances of the COVID-19 pandemic and internal as well as external physical meetings such as promotional events changed to online meetings. Constantly increasing numbers of submitted project applications during cut-offs 13-15 and the highest number of approved projects with a total of 123 projects show that the COVID-19 pandemic did not have any impact on the market needs of R&D-performing SMEs targeted by the Eurostars-2 programme.

It is important to note that Call 15 was an additional call to allocate unspent funds. A total of EUR 16.6 million in EU funding was dedicated to the 15<sup>th</sup> call, meaning that the total underspend for the lifetime of the programme was reduced to EUR 31.4 million. This not only solved the issue of underspending to some extent but can also be seen as an important support for SMEs in uncertain times. The topic of COVID-19 was not directly addressed in the call, but it gave SMEs the possibility of additional support.

With regards to the impact of the COVID-19 pandemic on Eurostars-2 projects, there are reports from beneficiaries and SMEs which explained that project activities had to be postponed as cross-border activities could not be performed as foreseen due to national lockdowns. In these cases, Eurostars-2 projects asked for project extensions and NFBs reacted flexibly to the situation by agreeing on general project extensions.

<sup>25</sup> European Commission (2021). Study on the effectiveness of public innovation support for SMEs in Europe. Available under: <https://op.europa.eu/de/publication-detail/-/publication/d031aa03-9295-11eb-b85c-01aa75ed71a1/language-en> (last accessed 19.8.2022).

*'The COVID-19 pandemic had an effect on Eurostars-2 projects working together with other countries in lockdown. In these cases, projects were extended and in general, this did not have such a big impact on the project results.'*<sup>26</sup>

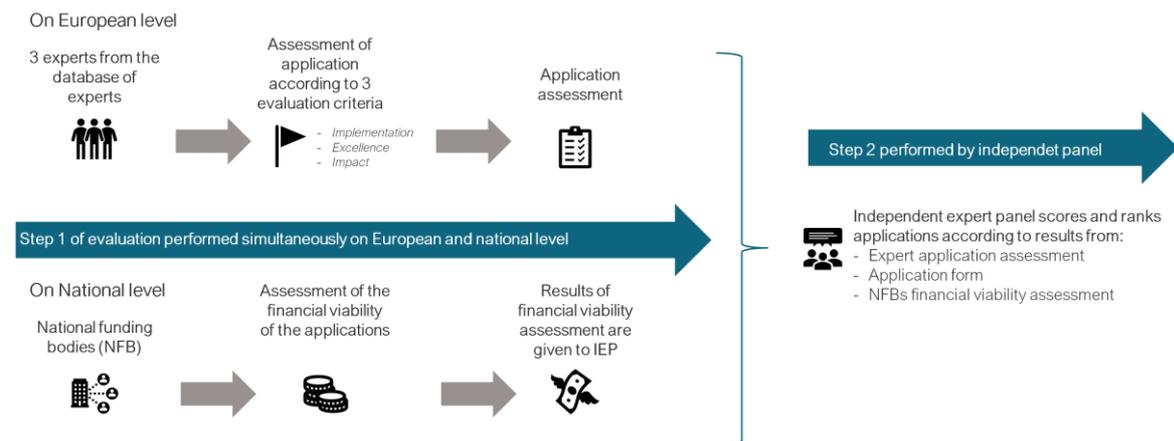
The ESE has a broad public network for R&D cooperation. The 7 NFBs interviewed for this report state that the ESE has a good track record in organising the Eurostars-2 calls and coordinating the NFBs<sup>27</sup>. In addition, the broad and stable network of the NFBs is relevant for the international implementation of the Eurostars-2 programme.

## 4.2. Efficiency of the Eurostars-2 programme

In this section, the efficiency of the Eurostars-2 programme is further elaborated by looking at how efficient the implementation process of the Eurostars-2 programme has been and what type of barriers and drivers have been identified by the beneficiaries and NFBs.

To allocate the budget to the submitted project proposals, project proposals were evaluated and selected on a centrally organised evaluation and selection process which was organised and coordinated by the ESE (see Figure 10) together with the support of the decentralised NFBs.

**Figure 10: Overview of the evaluation process of Eurostars-2 applications**



Source: PPMI/Idea Consult/Prognos (2022), own elaboration based on ESE presentation (2019).

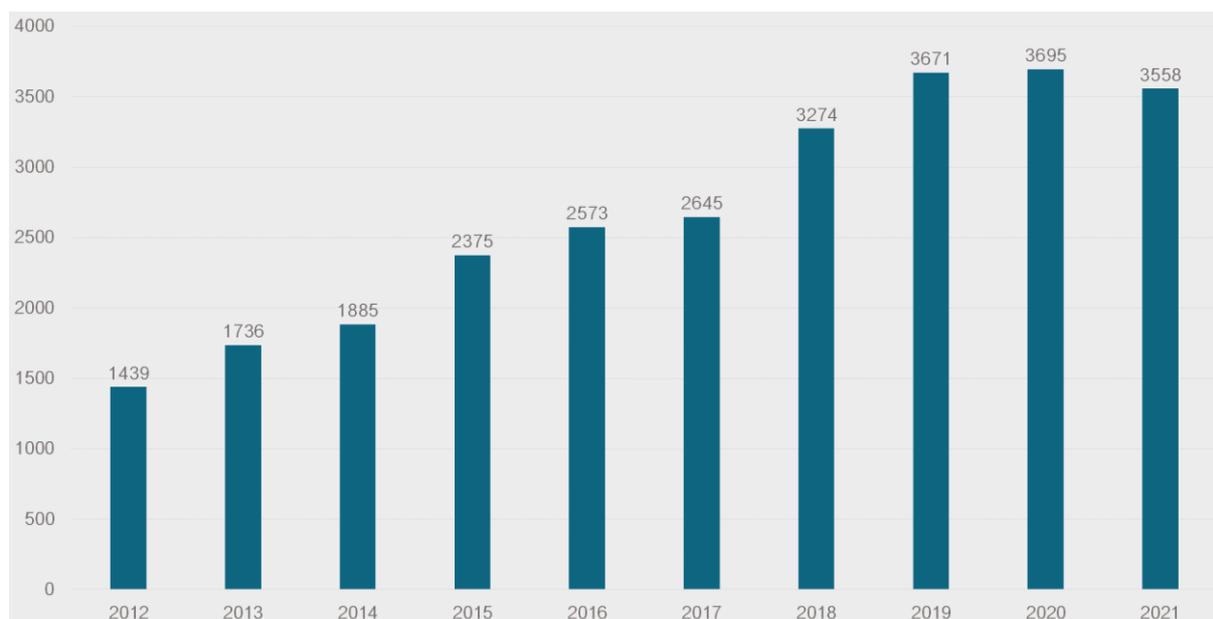
In the first step, all applications were assessed at the European level by three independent experts from the ESE expert pool according to the three evaluation criteria (implementation, excellence, and impact). At the same time, a financial viability check was conducted at the national level. In the second step, results from the European and national assessments were scored and ranked by an independent expert panel (see Figure 10). In total, the ESE database consisted of 3 558 experts (December 2021)<sup>28</sup>. The database of external experts has grown constantly between 2012 and 2019 (see Figure 11).

<sup>26</sup> Anonymised corresponding wording from interview with a representative of a Eurostars-2 NFB.

<sup>27</sup> European Commission (2019): European Partnerships under Horizon Europe: results of the structured consultation of Member States. Available under: <https://www.era-learn.eu/news-events/news/european-partnerships-under-horizon-europe-results-of-the-structured-consultation-of-member-states-1> (last accessed 19.8.2022).

<sup>28</sup> To be recruited to the expert database, applicants must fulfil different criteria such as (1) hold a higher education diploma (at least master's level), (2) have a minimum of ten years' professional experience, (3) come from a EUREKA member country and (4) be proficient in English.

**Figure 11: Number of registered experts in the ESE database between 2012 and 2021**



Source: PPMI/Idea Consult/Prognos (2022), based on the Annual Eurostars-2 report (2021).

As more fully described in the case study on varying participation rates, the final funding takes into account the quality of the projects and the funding committed to Eurostars-2 by the Participating Countries. This is because, according to the ranking list, NFBs commit to funding the projects. This means that if an NFB has a funding budget for 10 projects, then the first 10 projects on the list must be funded from that country. The information on how much budget is available per NFB is already available before the ranking is created. So, the more funding a country provides, the higher the probability that these countries will have many projects of the ranking above the threshold. According to the statements of some beneficiaries, the creation of the ranking list is criticised as being not transparent. Some NFBs also confirm this impression. However, it is also important to note that the ranking list is created by considering many factors and is very complex.

In summary, the different participation rates of countries in Eurostars-2 largely depend on how national priorities are set. Countries with a stronger focus on innovation provide more money for research and development, and also ensure high-quality advice that benefits applicants. The decentralised approach allows countries to retain sovereignty over their funds despite the international nature of the programme. They can therefore set their priorities, funding rates, and decisions. Thus, as a consequence, it is in the logic of the Eurostars-2 programme that the countries that provide the strongest input will also have the most participants.

Insights shared by the six beneficiaries and seven NFBs confirm that the Eurostars-2 programme is overall perceived as efficient in terms of its implementation processes to achieve its main objective. The mix of national and European funding is seen as efficient and funding amounts were high enough for successful project implementations. According to some of the six SMEs interviewed for this report, the Eurostars-2 programme is perceived as straightforward when it comes to the application and evaluation process compared to other central EU funding programmes. Information events organised by national funding bodies (e.g. in Denmark or Sweden) are perceived as helpful guidance in the simultaneous dual-application process on the European and national levels. Those SMEs perceive the Eurostars-2 programme as a good starting point for start-ups and SMEs to familiarise themselves with EU funding rules and processes, particularly for interested SMEs that have not previously applied for EU funding programmes. The centralised application evaluation process is generally confirmed to be well structured and transparent for applicants.

Nevertheless, findings from the Interim Evaluation (2017) and insights from interviews with NFBs show that the mix of centralised and decentralised implementation structures also leads to different funding rules and rates that apply in the different Participating Countries<sup>29</sup>. Even though the Participating Countries are constantly trying to align their national rules as reported by interviewed NFBs, differing numbers of applications and participants in the Participating Countries show that the full potential of the Eurostars-2 programme is not exploited in all Participating Countries. In this context, the case study on

<sup>29</sup> European Commission (2017): Interim Evaluation of the Eurostars-2 Joint Programme.

varying participation rates of Eurostars-2 Participating Countries shows that the main reason for the lower number of applications in some Participating Countries is due to different programme budgets and the lack of visibility of the Eurostars-2 programme. Findings from interviews with NFBs show that different supportive and promotional activities performed by some NFBs can be a central factor in boosting application and participation rates. For instance, the Swedish, Dutch and German NFBs explained during the interviews that they have implemented several successful promotional activities such as dedicated websites<sup>30</sup> or dedicated informative events for interested SMEs. However, promotional activities, like participation rates, are closely linked to budget amounts allocated by the Participating Countries which differed in the 2014-2020 funding from EUR one million (South Africa) to EUR 112 million (Germany)<sup>31</sup>.

### **Key barriers to the Eurostars-2 programme**

Findings from the final evaluation of the Eurostars-1 programme (2014) indicated that the biggest challenges in the 2007-2013 funding period had been difficulties in finding suitable partners, the administrative burden and bureaucracy associated with national as well as international funding and also the lack of transparency<sup>32</sup>. Performed interviews with Eurostars-2 beneficiaries show that only the administrative burden was still perceived as a key barrier to the Eurostars-2 programme and that interviewed beneficiaries did not experience difficulties in finding suitable partners. However, some reports understanding the application procedures was still an issue in some cases. Some interviewees reported that the complicated application processes lead to sub-contracting to external firms to help with the organization process and writing the actual project application. A few NFBs pointed out that some interested SMEs experienced language difficulties as the whole application process is in English. In some countries, adequate support from the NFBs helped to tackle these issues during the application process. However, it should be noted that these types of support varied for each participating state depending on the dedicated resources for the Eurostars-2 programme.

Moreover, another main barrier hampering the efficient implementation of the Eurostars-2 programme was the time-to-contract which represents the time between the cut-off date and the date of the grant agreement signature<sup>33</sup>. In the bilateral agreements between the NFBs and the ESE, the parties agreed to keep the time-to-contract to seven months meaning that the ESE would communicate funding results to the applicants of selected Eurostars-2 projects and their respective NFBs within four months and that NFBs would finalise the grant agreement within three months after the communication of the funding results by the ESE<sup>34</sup>.

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<sup>30</sup> For instance, the dedicated website by the German NFB. For more information see: <https://www.eurostars.dlr.de/de/1332.php> (last accessed 12.06.2022).

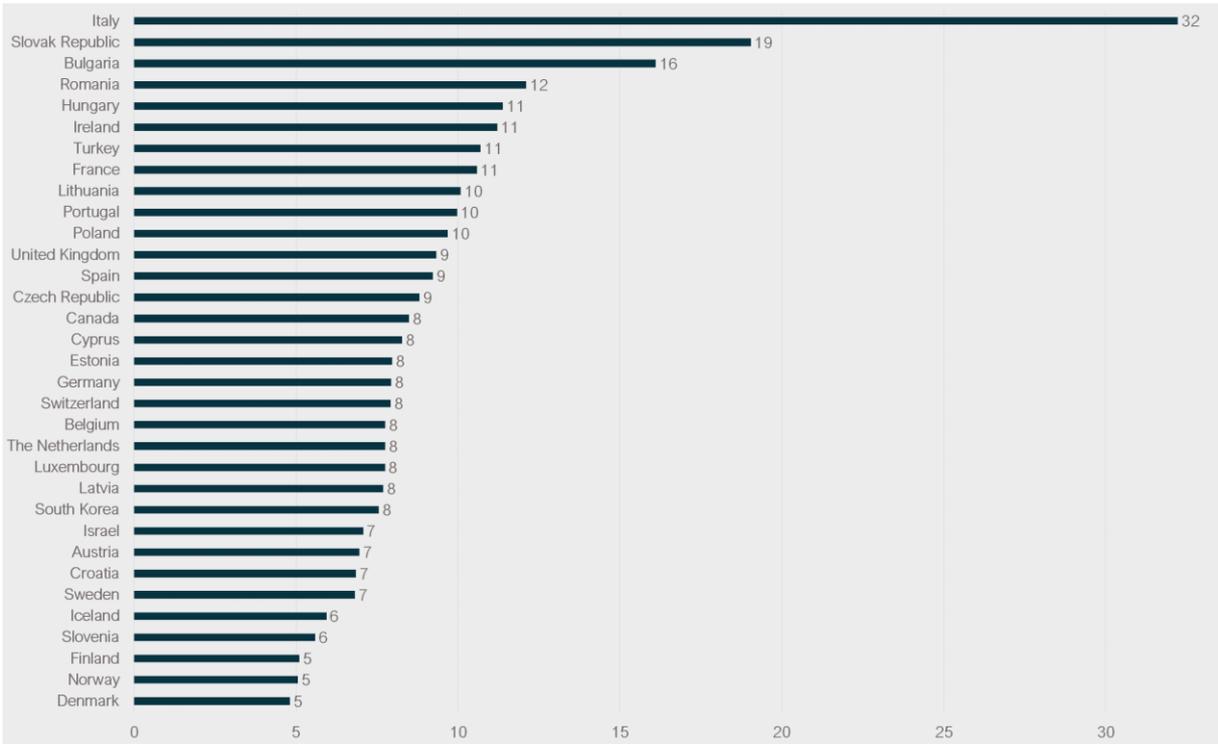
<sup>31</sup> Information is based on numbers provided by the ESE in June 2022.

<sup>32</sup> European Commission (2014): Final Evaluation of the Eurostars Joint Programme Expert group.

<sup>33</sup> It is also referred as 'Time-to-grant' in the Decision N°553/2014/EU and EU regulations.

<sup>34</sup> EUREKA (2021): Annual Eurostars-2 report.

**Figure 12: Average Time-to-contract of cut-off 1-15 for each participating state and partner country in months**



Source: PPMI/Idea Consult/Prognos (2022), own elaboration based on ESE presentation (2022).

Statistics show that the average time-to-contract in months decreased from cut-off 1 with an average time-to-contract of 9.7 months to 6.6 months for cut-off 14. In addition, As Figure 12 shows, the average time-to-contract still differs significantly in the different Participating Countries. As also further explained in the case study on the varying performance of NFBs, some NFBs such as Denmark, Finland, Iceland Norway, and Slovenia only needed an average of five months, while other countries needed more than a year on average such as Bulgaria, Italy and Slovakia. The reasons for the differences are manifold. Apart from incomplete data issues, other reasons were personnel and financial bottlenecks and country-specific challenges. Despite these reasons, reports show that these divergences appear to be a barrier to the operational performance of the Eurostars-2 programme. Further synchronisation of national rules is a key factor in aligning the time-to-contract in the different Participating Countries and Partner Countries.

Another main barrier referred to by interviewees was the user-friendliness of the ESE website which was perceived as a challenge for applicants. Major remarks were related to the fact that the specific national eligibility criteria were difficult to understand. This led to the circumstance that non-eligible organisations applied for funding. In this context, NFBs emphasised that misunderstandings concerning the application processes of the Eurostars-2 programmes occurred as applicants did not understand the difference between EU and national application rules presented on the ESE website and for example did not apply on the national level. Nevertheless, updates on the ESE websites and support services implemented by some NFBs on the national level, e.g. in France and Sweden, helped applicants obtain support to understand whether they would be eligible for the funding programme. Updates on the ESE website for the Eurostars-3 programme are perceived by interviewed NFBs as a central improvement concerning the communication of the funding programme and the user-friendliness of the website.

Lastly, depending on the topic of the projects, the COVID-19 pandemic and the introduced lockdowns in the majority of the Participating Countries and Partner Countries between 2020 and 2021 hampered the implementation process of the projects in some cases. In those cases, projects were extended to postpone certain activities. In other cases, the COVID-19 pandemic had no impact, as cross-border activities could be performed online. Overall, beneficiaries were satisfied with the flexibility of the ESE and NFBs in extending project deadlines where there were difficulties due to the COVID-19 pandemic.

**Key drivers of the Eurostars-2 programme**

As explained in Chapter 2 the Eurostars programme has already been implemented in the previous funding period 2007-2013. In addition, the ESE has a well-established network with European and worldwide partner organisations. This continuity is reported to be one main driver of the Eurostars

programme. While having been slightly adapted in recent years, the constant implementation and regular calls are appreciated by NFBs and beneficiaries. In addition, the implementation of the Eurostars-2 programme through Article 185 TFEU offered Participating Countries and Partner Countries higher sovereignty with regard to transnational funding for SMEs than for other support programmes implemented by the European Union.

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*While NFBs keep the sovereignty of their national funds, the Eurostars-2 programme offers the possibility for SMEs to go international with European partners. This feature is something that national and regional programmes cannot offer<sup>35</sup>.*

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The monitoring process of approved Eurostars-2 projects was performed by the ESE and the NFBs in the 2014-2020 funding period. While the ESE monitored the projects at the project level, NFBs were involved in monitoring at the participant level.

### Figure 13: Overview of Eurostars-2 reporting requirements



#### **Reporting on EU-level**

- **Project Progress Reports (PPR):** reports about technical progress made, sent at six-month intervals
- **Final report:** one-off report for completed projects
- **Market Impact Reports (MIR):** yearly reports after successful completion of the project



#### **Reporting on national level**

- **National reporting:** performed in addition to any European-level requirements

Source: PPMI/Idea Consult/Prognos (2022), based on Eurostars Guidelines for participants (2013).

On the project level, the ESE asked the project leaders of each project for a Project Progress Report (PPR) every six months. Through the PPR, the ESE monitored closely the progress of running Eurostars projects. After the completion of the projects, beneficiaries had to elaborate in final reports (FIR). Furthermore, the actual market impact of the terminated projects was followed up through Market Impact Reports (MIR)<sup>36</sup>.

Overall, interviewed beneficiaries and NFBs see the reports as important to learn more about the progress of the projects. According to interviewed beneficiaries, the workload related to reporting to the NFBs and the ESE was perceived as feasible and easy to understand. According to one NFB, the main focus of their final project reports is on the spending of the funding but not the tangible results. The Interim Evaluation (2017) recommended that a stronger monitoring mechanism of the project's impact with regards to product innovation as well as the long-term sustainability of the cross-national cooperation should be performed<sup>37</sup>. However, interviewed NFBs and beneficiaries assess the follow-up of the actual project's impact with regards to the successful introduction of a product, process or service on the market within 2 years after the project's completion through the MIR as rather difficult. Even though the ESE and some NFBs report that they try to gather more information on the success of the finished projects after 2 years, it is often challenging to receive feedback from former beneficiaries after the funding period has been finished and incentives are lacking to further report on the outputs of the projects. While 1 219 MIR requests were sent out to former beneficiaries in 2020, only 482 responses (40%) were received by the ESE by January 2021<sup>38</sup>. The response rate of the MIR which were sent out in 2019 was significantly higher at 65%<sup>39</sup>. Overall, provided data from FIR show that Eurostars-2 beneficiaries do not necessarily fill out all questions of the reports and thus monitoring data do not give a complete and good overview of the actual outputs. Besides the fact that there may be more responses

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<sup>35</sup> Anonymised corresponding wording from interview with a representative of a Eurostars-2 NFB.

<sup>36</sup> New online Market Impact Reports (MIRs) for Eurostars-2 projects were introduced in early 2019. Features of the new MIRs include personalized and dynamic online survey delivered by email, shorter survey with reduced text entry, automatic notifications to relevant EUREKA staff upon survey completion and for success story participation, real-time dashboard updates and participants will be able to update answers from previous years, instead of restarting

<sup>37</sup> European Commission (2017): Interim Evaluation of the Eurostars-2 Joint Programme.

<sup>38</sup> EUREKA (2021). Annual Report 2020. Eurostars-2.

<sup>39</sup> EUREKA (2020). Annual Report 2019. Eurostars-2.

to come, the COVID-19 pandemic could also impact the significantly lower response rate in 2020 compared to 2019.

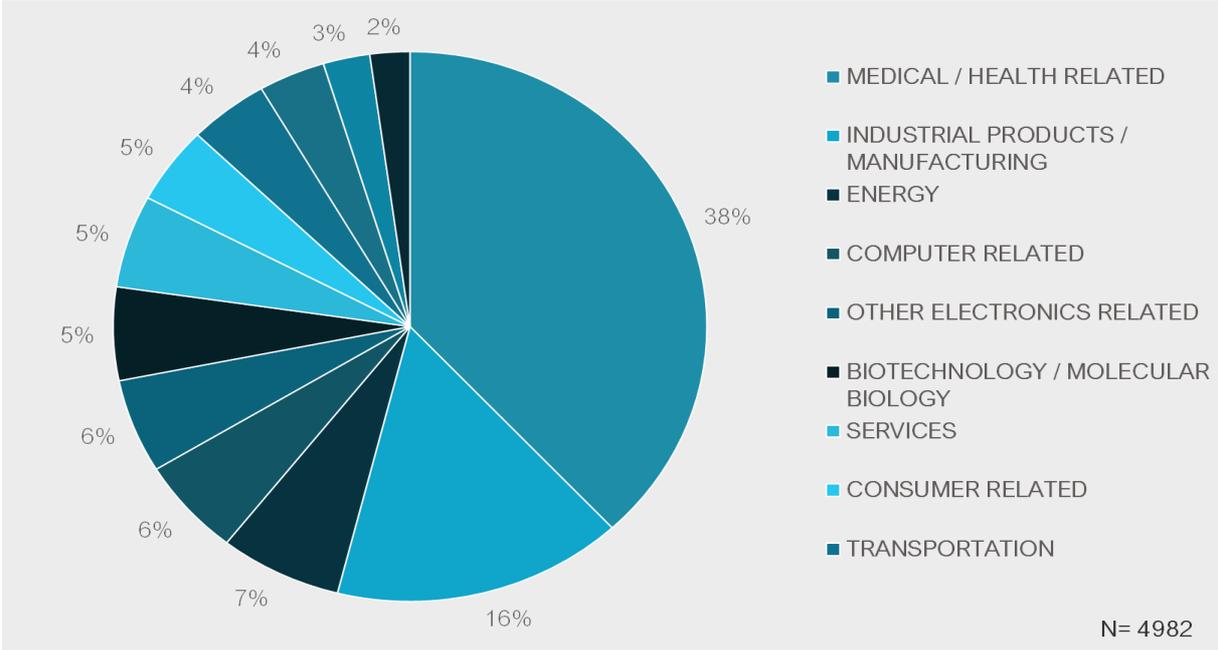
The ESE and NFBs put a dedicated Eurostars-2 communication strategy in place including different communication channels such as digital communication via the ESE website and social media posts as well as public events organised in person or online. With regards to communication of the Eurostars-2 programme, the ESE website was, apart from the specific national website, the main reference point<sup>40</sup>. On the blog website, success stories of Eurostars-2 projects gave, from time to time, insights about good practices and results achieved<sup>41</sup>. In addition, NFBs also published on their websites successful Eurostars-2 projects. For instance, the German NFB (DLR) shared success stories of Eurostars-2 projects on their website to inform the Eurostars-2 community about successful projects<sup>42</sup>. Other relevant communication channels were social media posts on LinkedIn, Facebook and Twitter of Eurostar’s success stories and dedicated calls between Eurostar Participating Countries and webinars.

**4.3. Effectiveness of the Eurostars-2 programme**

This section presents preliminary findings on the effectiveness of the Eurostars-2 programme such as the main results and outcomes from the projects as well as the contribution of Eurostars-2 projects to achieving European Union policy priorities and the Sustainable Development Goals.

As outlined in Chapter 3, the main beneficiaries of the Eurostars-2 programme were R&D-performing SMEs (66%). By supporting transnational consortia, the Eurostars-2 programme aimed at increasing the number of cross-regional research activities and partnerships of SMEs with other organisations such as other SMEs or research organisations. The most common transnational collaborations were e.g. for cut-offs 11 and 12 between project partners from Germany-Switzerland (9% of projects), Germany-Netherlands (9% of projects) and Switzerland-Netherlands (8% of projects).

**Figure 14: Markets addressed by Eurostars-2 projects in the 2014-2020 funding period**



Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

The transnational partnerships followed a bottom-up approach meaning that the Eurostars-2 programme required no thematic and technological focus. Different technological areas were addressed through the Eurostars-2 programme in the 2014-2020 funding period. In terms of thematic focuses of the Eurostars-2 projects, there was a strong focus on biological sciences and technologies (35%), followed by electronics, IT and telecoms technologies (22%). Figure 14 shows the different markets addressed by Eurostars-2 projects in the 2014-2020 funding period. While around 38% of the projects focused on the medical and health-related market, other different markets were addressed by the Eurostars-2

<sup>40</sup> For more information see: <https://www.eurekanetwork.org/> (last accessed 13.6.2022).

<sup>41</sup> For more information see: <https://www.eurekanetwork.org/Blog/> (last accessed 13.6.2022).

<sup>42</sup> For more information see: <https://www.eurostars.dlr.de/de/1313.php> (last accessed 13.6.2022).

programme such as industrial products/manufacturing, computer-related markets and biotechnology markets.

Findings from the final reports of completed Eurostars-2 projects of cut-off 1-5 show that 94% of beneficiaries of completed Eurostars-2 projects perceived the programme as effective and only 6% saw potential for improvement. Interviews with beneficiaries confirm that Eurostars-2 funding was relevant to taking the first steps to elaborate further their innovation which would have been difficult for smaller enterprises without the public funding support.

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*'Without the Eurostars-2 support, it would not have been possible to collaborate with our academic partners and further develop our service'<sup>43</sup>.*

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Key benefits of participation in the Eurostars-2 programme mentioned in the final impact reports of cut-offs 1-5 were mainly the possibility for SMEs to collaborate with academia (28%) as well as the increased visibility and reputation (25%) (see Figure 15).

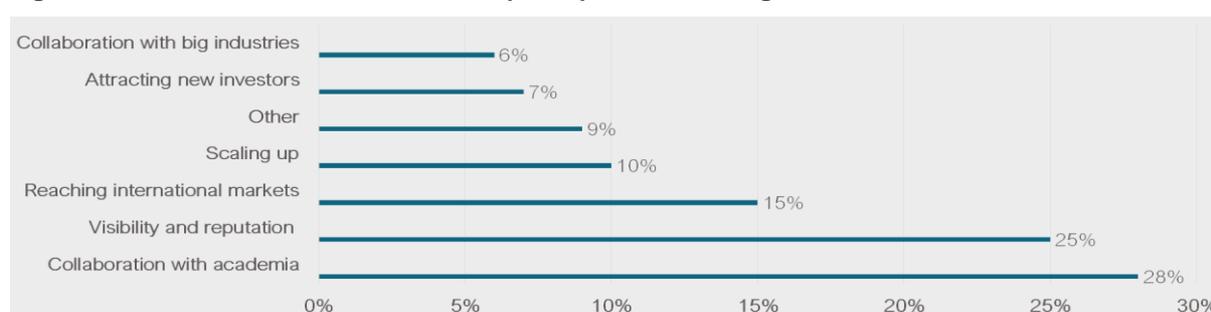
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*'It was an excellent collaboration between the partners. For the young scientists involved, it was a great introduction to a collaboration between academia and SMEs. The project results are more than could be expected for this ambitious high-risk three-year project (...)'<sup>44</sup>.*

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Moreover, the findings from the interviews show that the elements of cross-regional cooperation between different organisations combined with the bottom-up approach were recognised as one of the central key drivers of the Eurostars-2 programme giving interested organisations the flexibility to find suitable partners outside of their country to collaborate with. The initiated knowledge transfer between partnerships worked out very well in many cases. In addition, some SMEs explained that the Eurostars-2 support was perceived as a de-risking factor and success label for private investors making the projects more attractive for private investments.

**Figure 15: Main benefits of the Eurostars-2 participation according to beneficiaries**



Source: PPMI/Idea Consult/Prognos (2022), based on the Annual Eurostars-2 report (2021) and Market Impact Reports ("How did your organisation benefit from participating in the project? Please select all that apply:").

Overall, interviewed NFBs and beneficiaries are satisfied with the implementation processes and arrangement. Insights from the final reports of the cut-offs 1-5 show that the satisfaction rate of the outcome of the project was high at 75%. However, there are reports from beneficiaries that some points could still be improved. As already explained, the time-to-contract varied between the Participating Countries and should be speeded up in the future to allow successful project consortia to start their activities as fast as possible. Moreover, information on the ESE website should be more user-friendly to avoid misunderstandings among applicants, as outlined in section 3.2.

With regard to the project results, one central objective of the Eurostars-2 programme was to support organisations in developing market-ready products, services and processes. Figure 16 gives an overview of the types of innovations developed by Eurostars-2 beneficiaries indicated in the Market

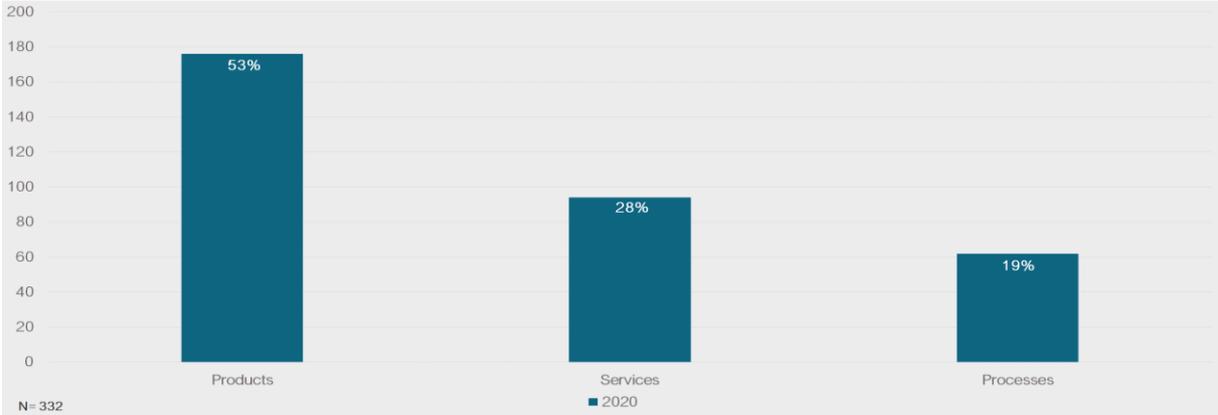
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<sup>43</sup> Anonymised corresponding wording from interview with Eurostars-2 beneficiary.

<sup>44</sup> Anonymised feedback from beneficiary of Eurostars-2 project in final impact report.

Impact Reports from 2020. It shows that the most commercialised results were products (53%), followed by services (28%) and processes (19%).

**Figure 16: Overview of types of commercialised results reported in market impact reports submitted in 2020**

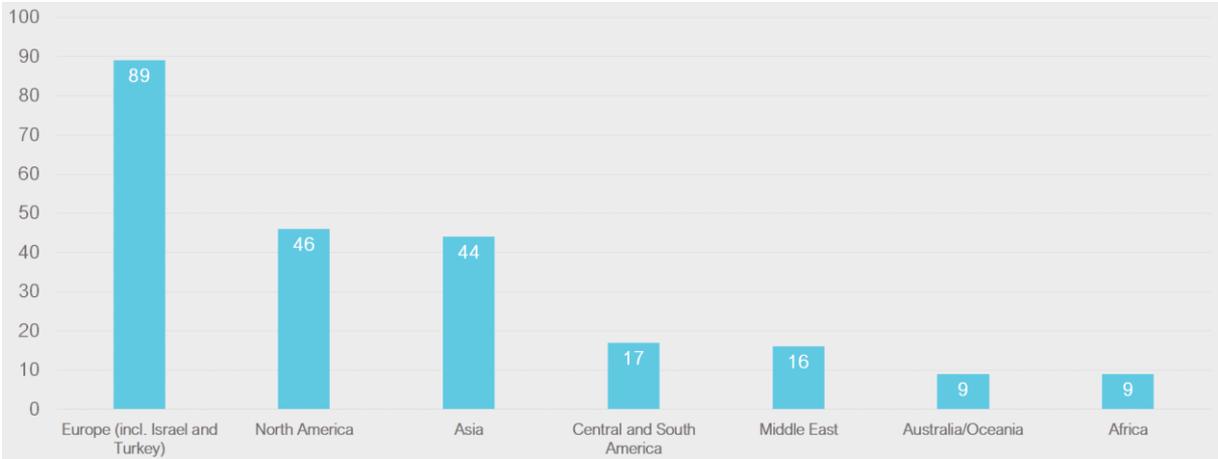


Source: PPMI/Idea Consult/Prognos (2022), based on Market Impact Reports submitted by former beneficiaries in 2020.

Interviews with beneficiaries confirm that the Eurostars-2 programme succeeded in supporting R&D-performing SMEs to develop new processes, products or services. Beneficiaries were able to develop patents and prototypes that led to the growth of the company, and other beneficiaries received private investments after the project’s completion to further develop their project.

With regards to the rating of the overall technological achievements of beneficiaries of cut-offs 1-5, 89% of the beneficiaries either ranked their technological achievement as good or even excellent. Reasons indicated in the final reports of why technological achievements were not satisfying were e.g. changes in the regulatory environment requiring a technical change and a different approach to market entry or technological problems that could not be solved during the project implementation. Project results were mainly commercialised in Europe, followed by North America and Asia (see Figure 17).

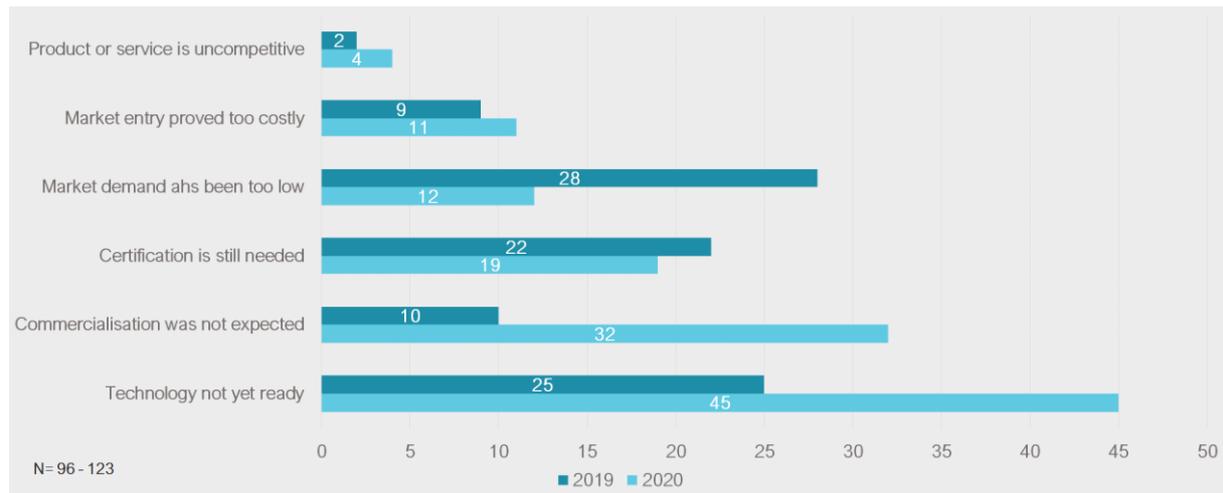
**Figure 17: New geographical markets reached reported in MIR 2020**



Source: PPMI/Idea Consult/Prognos (2022), based on Market Impact Reports submitted by former beneficiaries in 2019 and 2020.

While not all beneficiaries intended to commercialise their product, process or services after project completion, different reasons for not commercialising the results were reported in the MIR submitted in 2019 and 2020 (see Figure 18). The main reasons depended on the individual project.

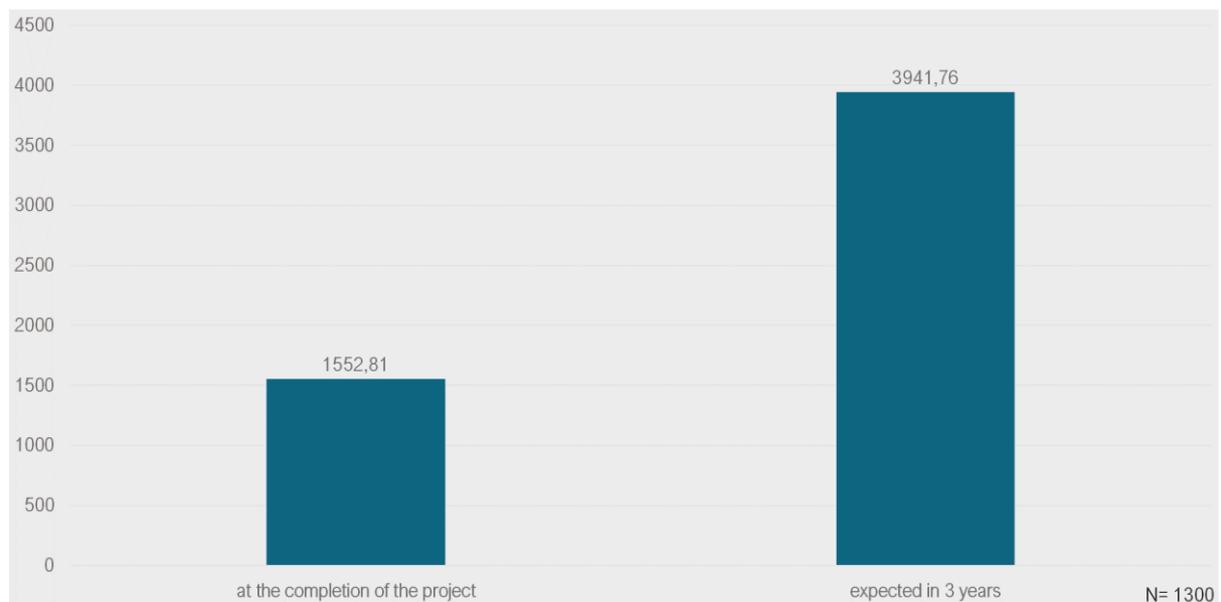
**Figure 18: reasons for not commercialising results reported in MIR 2019 and 2020**



Source: PPMI/Idea Consult/Prognos (2022), based on Market Impact Reports submitted by former beneficiaries in 2019 and 2020.

Findings from the final reports of cut-offs 1-5 show that 75% of the Eurostars-2 beneficiaries were satisfied with the outcome of their project and 86% stated that they planned to continue the collaboration of their partnership even after funding ended. Overall, the number of full-time equivalents that resulted from Eurostars-2 partnerships after the completion of the projects reached the overall programme objective of 1500 FTEs (Figure 19).

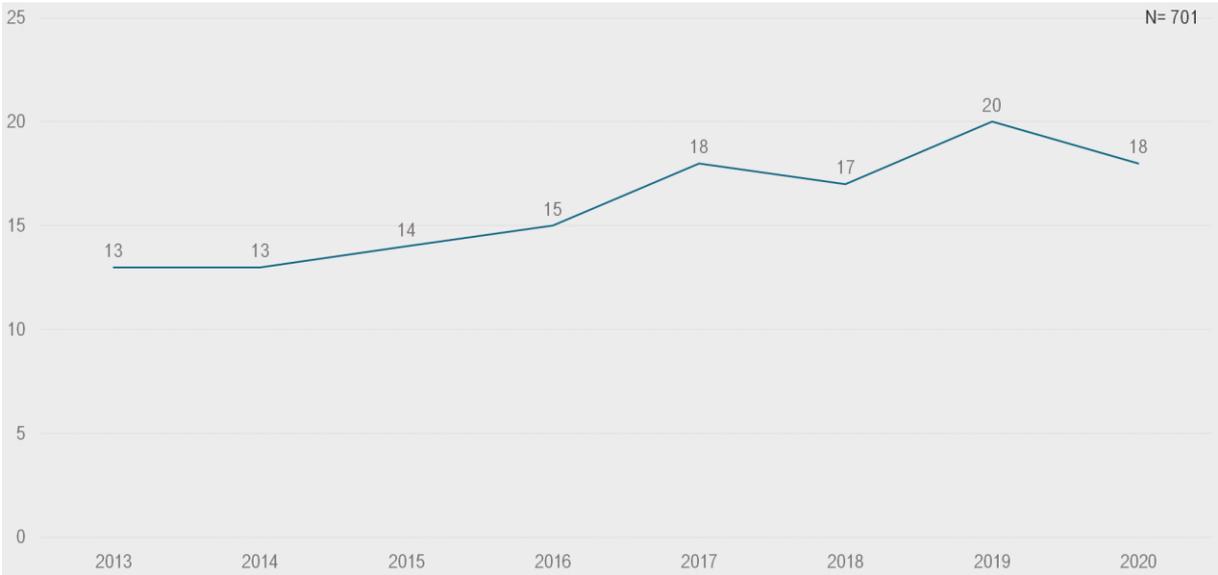
**Figure 19: Number of FTE resulting from Eurostars-2 projects (cut-off 1-5)**



Source: PPMI/Idea Consult/Prognos (2022), based on final reports submitted for cut-off 1-5.

Figure 20 shows that the average number of employees of Eurostars-2 beneficiaries developed positively and increased from 13 employees in 2013 to 18 employees in 2020. However, there is still limited insight as no comparison with a control group could have been performed due to missing data on unsuccessful applicants of the Eurostars-2 programme.

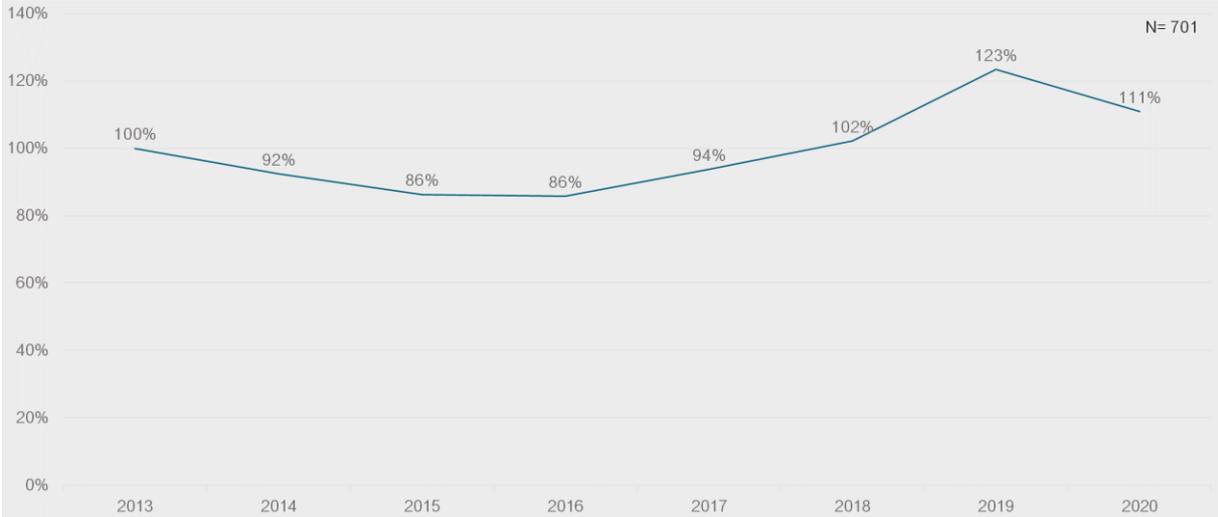
**Figure 20: Average employee number per beneficiary of the Eurostars-2 programme**



Source: PPMI/Idea Consult/Prognos (2022), based on data enrichments from Orbis.

With regards to the development of the average operating revenue of Eurostars-2-funded SMEs, Figure 21 gives further insights. In 2019 (before the beginning of the COVID-19 pandemic), the average operating revenue was 23% higher than in 2013 while the operating revenue decreased slightly in 2022 to 11% more than in 2013.

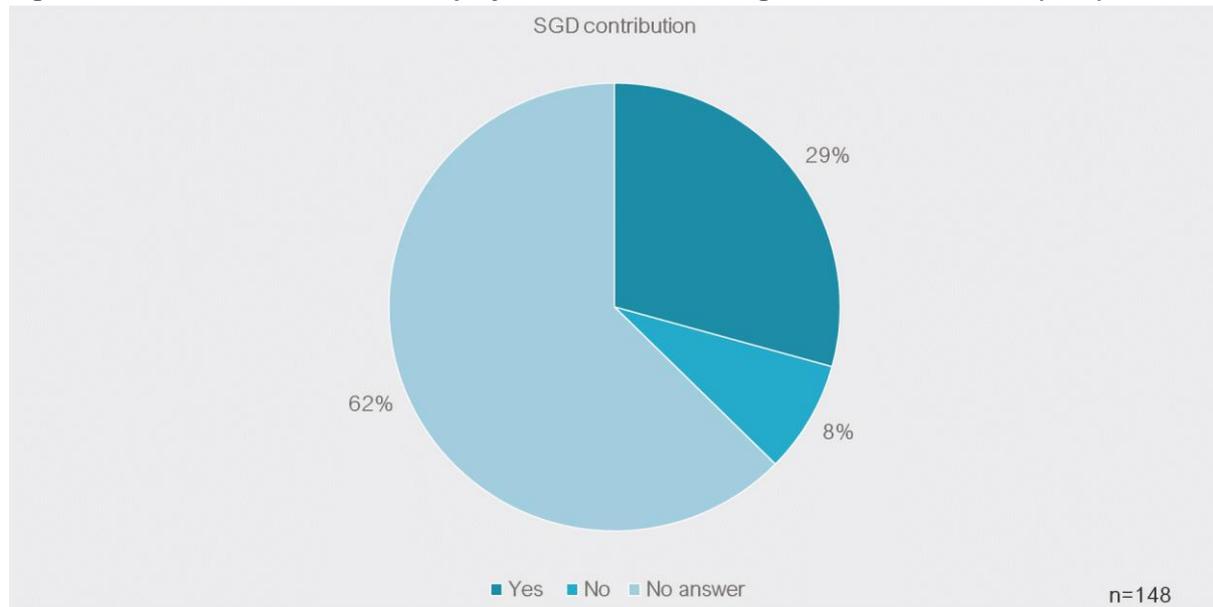
**Figure 21: Average of operating revenue (turnover) between 2013 (=100%) and 2020**



Source: PPMI/Idea Consult/Prognos (2022), based on data enrichments from Orbis

According to interviews performed with SMEs, the Eurostars-2 projects contributed to the EU policy priorities such as the twin transition (green and digital transition) and the Sustainable Development Goals (SDGs). Some SMEs explained that their project focused on resource efficiency by measuring the soil to help farmers optimise water resources. With their developed service, farmers can see the graphics of the moisture of the soil and irrigation to better plan water use in their fields. Data from final reports provided by the ESE show that 29% of beneficiaries confirmed that their project contributed to one or more of the objectives of the SDGs. However, 62% did not provide any answer (see Figure 22).

**Figure 22: Contribution of Eurostars-2 projects to SDGs according to beneficiaries in FIR (2020)**



Source: PPMI/Idea Consult/Prognos (2022), based on data from FIR (2020) provided by the ESE. The original question was 'Do the project results contribute to one or more Sustainable Development Goals?' Indicated reasons why projects did not contribute to the SDGs were technology-related roadblocks, the latest market developments, problems with funding/finance and changes in the company strategy.

#### **4.4. Coherence of the Eurostars-2 programme**

This section focuses on the coherence of the Eurostars-2 programme within the Framework Programme as well as the coherence among the different partnerships.

According to the Interim Evaluation (2017) of the Eurostars-2 programme (2017), the programme is one of several funding programmes aiming at boosting growth, jobs and innovation in Europe implemented by the EU. By having been implemented under Article 185 TFEU, the programme combines national and EU rules and is considered a niche programme that addresses SME needs which are not covered by national or regional funding programmes. By strengthening the transnational cooperation between the Member States, the Eurostars-2 programme focused on establishing the European Research Area on two levels. On the one hand, NFBs cooperated with the ESE while putting into place a cross-regional funding scheme which would not be possible in this broad scope by national funding programmes. On the other hand, SMEs successfully transferred their knowledge across borders within Europe and even in some cases worldwide. The high satisfaction rate outlined in chapter 3.2 proves that the Eurostars-2 programme was successful within Horizon 2020 to further support research excellence and the leadership of European industry stakeholders.

Overall, Article 185 TFEU supported synergies in terms of cross-border learning between NFBs and SMEs. Reports show that the EU contribution is an incentive for NFBs to participate in the Eurostars-2 programme.

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*"A decisive factor of the Eurostars-2 programme is the EU co-funding as it is an incentive for national authorities to take part in the jointly undertaken and to improve their national funding processes."<sup>45</sup>*

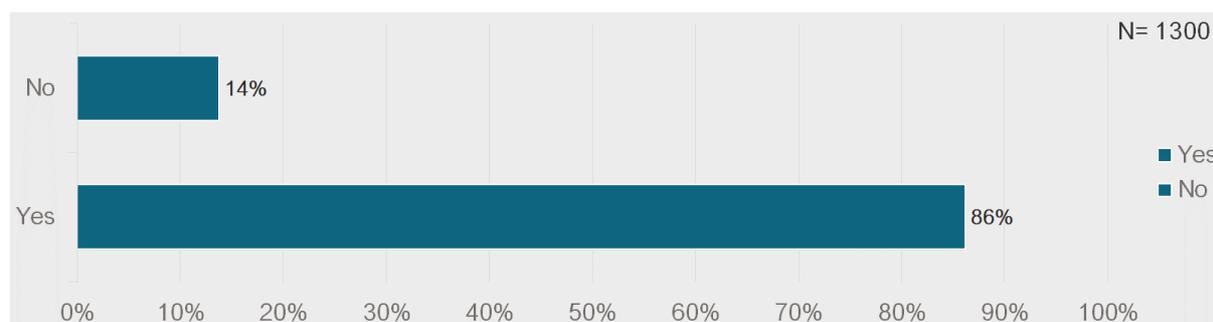
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While NFBs and the ESE endeavoured to further align National and European funding rules, NFBs report that there are still delays in the project starts as the time-to-contract still differs from each participating state and partner country. Findings from the 15 interviews show that NFBs and beneficiaries also perceive a high level of coherence and sustainability among partnerships. This is also confirmed in the final reports of cut-offs 1-5 (see Figure 23).

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<sup>45</sup> Anonymised corresponding wording from interview with Eurostars-2 beneficiary.

**Figure 23: Sustainability of partnership indicated in final reports from cut-off 1-5**



Source: PPMI/Idea Consult/Prognos (2022), based on final reports from cut-off 1-5.

Communication and coherence within the partnerships are perceived by interviewed beneficiaries as good.

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*“The communication within the partnership communication is easy and the cooperation was a perfect complementarity between partners as everyone was focusing on different activities.”<sup>46</sup>*

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Moreover, several interviewed SMEs confirmed that the Eurostars-2 programme has been a good starting point to develop a product, process, or service through public funding support as the success rate has been relatively high compared to the EIC Accelerator. One beneficiary has been successful in a second step in receiving funding from the EIC Accelerator and sees synergies between both programmes. However, as emphasised in the Interim Evaluation (2017), both programmes must keep their unique characters in the future.

#### **4.5. European Added Value of the Eurostars-2 programme**

In the following sub-chapter, the different aspects of the EU added value are further elaborated to learn more about the EU added value of the Eurostars-2 programme compared to EU, national or regional support programmes.

The Eurostars-2 programme was an Article 185 initiative consisting of national funding efforts that funding contributions from the European Commission have topped up. From the perspective of interviewed beneficiaries, this mixed centralised and decentralised approach is unique and perceived as an EU added value. The Eurostars-2 programme is recognised as an important and well-established support programme for SMEs in the European Research Area, allowing different types of organisations to collaborate with international partners while having the well-known local NFBs as a national contact institution. For many SMEs, the support programme is an important possibility to go international for the first time and to learn more about other EU markets. The Eurostars-2 programme is thus not only offering the opportunity to strengthen the relationship with the consortium partners but also to discover and reach out to new markets and contacts. Especially companies that do not have a huge number of resources have the possibility through the programme to collaborate with other companies and develop new intellectual properties and leverage skills that they do not have in their home countries.

Another important factor of the programme is the open innovation and bottom-up approach giving SMEs with different sectoral backgrounds the possibility to apply for funding. Therefore, as already recommended in the Interim Evaluation (2017), the uniqueness of the Eurostars-2 programme needs to be preserved due to its unique mix of decentralisation and centralisation. Beneficiaries perceive the Eurostars-2 programme as an important support instrument to strengthen the European Research Area and beyond. As national and regional support programmes do often not allow cross-border cooperation, the Eurostars-2 programme has been in the 2014-2020 funding period a successful niche programme for SMEs and other organisations wishing to engage in transnational collaboration.

Compared to other funding programmes, the Eurostars-2 programme offered the possibility to initiate a cooperative learning process with successful international partners with competencies that would have been unavailable on the regional or national level. Moreover, interviewed beneficiaries emphasise that

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<sup>46</sup> Anonymised corresponding wording from interview with Eurostars-2 beneficiary.

the granting amount offered at the EU level is generally higher than at the national or regional level. Therefore, more activities could be performed through the Eurostars-2 programme.

#### 4.6. Partnership of the Eurostars-2 programme

The following sub-chapter focuses on partnership as an essential part of the Eurostars-2 programme. On the one hand, the chapter gives further insights into the leverage of R&I contributions mobilised through the Eurostars-2 funding. On the other hand, the chapter looks at the openness of the Eurostars-2 partnerships and the possibility of involving new partners in the projects.

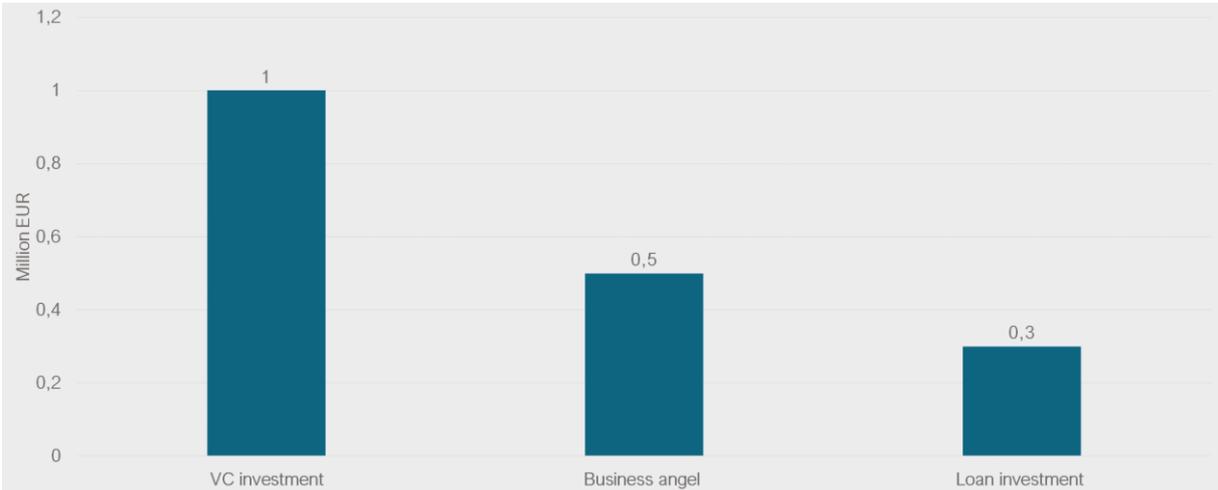
##### **Additionality**

The question of the additionality of the project activities cannot be answered based on the available data. Within the framework of the MIR, the ESE indeed asked about the additional private income generated due to the Eurostars-2 funding.

However, filling out these questions is not obligatory for project participants, so in the end, only a little information on additionally generated funds was provided. This information is not sufficient to conduct a quantitative analysis.

Based on the interviews with beneficiaries, it emerged that the successful implementation of a Eurostars-2 project is perceived as a quality label by private investors. One interviewed SME explained that in its experience, investors perceive the previous public funding support as a de-risking factor and proof of quality making the project more attractive for private investments. The SME explained that the Eurostars-2 project helped the company to develop a patent and later attracted around EUR 5 million in private investments. Most of the interviewed NFB share the same opinion and indicate that many companies often get private funding on top after having finished their project. However, NFBs explain that it is complicated to follow up with finished projects to learn more about the success stories of private investments. Moreover, additional data are missing to further analyse the private investments in Eurostars-2 projects.

**Figure 24: Type and the average amount of investments indicated by Eurostars-2 beneficiaries of cut-off 1-5**



Source: PPMI/Idea Consult/Prognos (2022), based on data from final reports of cut-off 1-5 delivered by ESE.

Figure 24 shows the average amount of investments indicated by the Eurostars-2 beneficiaries of the cut-off 1-5 in their final reports. Only a minority of 3,3% to 8% of the beneficiaries indicated in their final reports that they received private investments. The highest average amount of private investments with EUR 1 million was venture capital followed by investments from business angels (EUR 500.000) and loan investments (EUR 300.000). The highest investment amount was a venture capital investment of EUR 2 million.

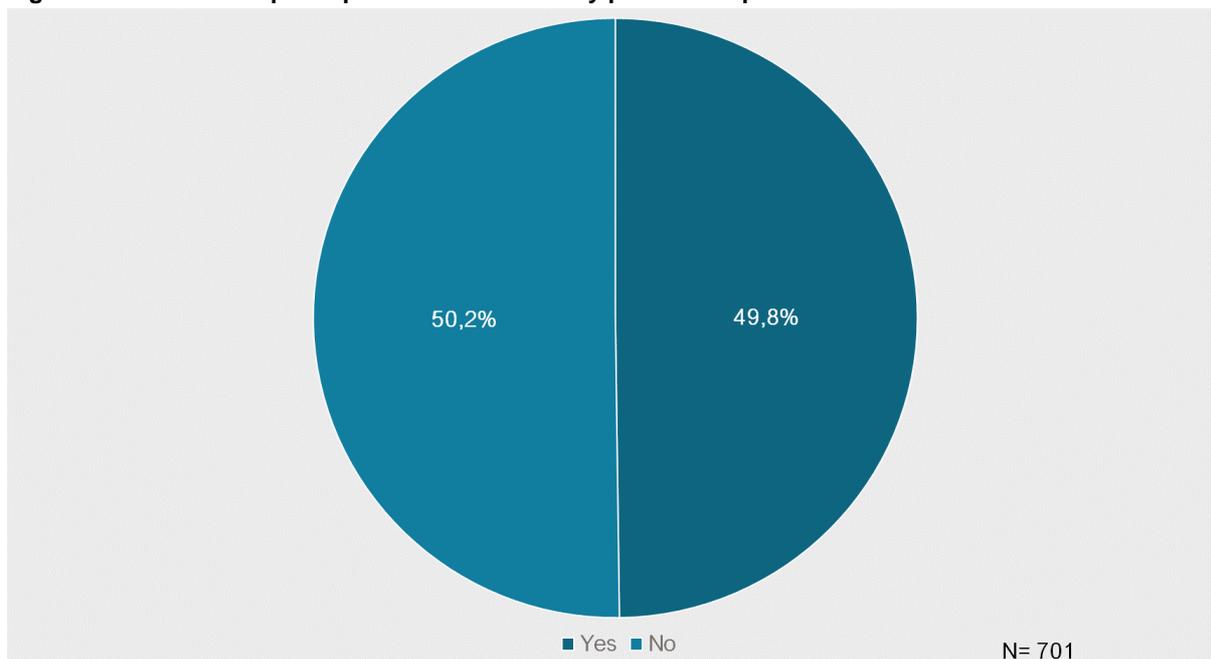
To further boost successful ESE projects, the ESE InnoVest Programme was introduced in 2017<sup>47</sup>. The new programme was set up in cooperation with the European Business Angels Network (EBAN), the European Business and Innovation Centre Network (EBN) and Tech Tour. Its objectives have been to facilitate matching investment-ready companies with investors and to increase the investment awareness of SMEs that have participated in ESE projects. The programme has only been open to SMEs coming from the ESE national authorities financing the programme<sup>48</sup>. Due to their participation in the InnoVest Programme, the two Eurostars participants Ascatron (Swedish SME) and Synoste (Finish Startup) have raised investments from international investors to develop their business further<sup>49</sup>.

### **Transparency and openness**

As already outlined in section 4.1 on the relevance of the Eurostars-2 programme, NFBs and beneficiaries perceived Eurostars-2 as a niche programme that was also interesting for SMEs with no previous experience in securing public funding. In this context, Figure 25 shows the percentage of Eurostars-2 participants differentiated by the organisations that have been newcomers to the Horizon 2020 programme and those with previous experience. By attracting around 50% of newcomers to the Horizon programme, the Eurostars-2 programme achieves to attract inexperienced SMEs and other organisations to participate in an EU-wide funding programme. Findings from the Market Impact Reports from 2020 show that 30% of SMEs had no prior international collaboration experience before participating in the Eurostars-2 programme.

Based on findings from interviews with NFBs and beneficiaries, the openness of partnerships and the flexibility of introducing amendments to the project depends significantly on national rules and differs by each NFB. For instance, one Danish Eurostars-2 beneficiary reported that their national NFB was very flexible and even allowed the project to change the overall topic of the project even after the signature of the grant agreement. However, none of the interviewed beneficiaries integrated new participants into the project consortium during the project implementation.

**Figure 25: Eurostars-2 participants differentiated by previous experience in Horizon 2020**



Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE enriched with company data (eCorda).

<sup>47</sup> For further information see: <https://eurekainnovest.eu/about/overview.html> (last accessed 13.6.2022).

<sup>48</sup> EUREKA national authorities financing the programme have been Denmark, Finland, Germany, Norway, Portugal, Slovenia, Spain, South Korea, Sweden and Switzerland.

<sup>49</sup> For more information on the two success stories see: <https://eurekainnovest.eu/about/success-stories.html> (last accessed 14.6.2022).

## 5. Conclusions and lessons learned

In the previous chapter, the final evaluation has focused mainly on the analysis of the Eurostars-2 programme according to the evaluation criteria in the 2014-2020 funding period. This chapter is split into two parts. In the first part, the chapter summarises the emerging key findings from the previous chapter. The second part outlines suggestions for further improvement of the Eurostar programme for the ongoing 2021-2027 funding period.

### 5.1. Conclusions

This section gives an overview of the emerging key findings based on the performed analysis. To have a better overview of the key findings, the section is divided into the topics of target group and scope of the programme, governance and project management, and outputs and results of completed Eurostars-2 projects.

#### Target group and scope of the programme

Based on interviews with six beneficiaries, seven NFBs and one EU official, the Eurostars-2 programme is overall recognised as a relevant and important support programme for SMEs to develop new and innovative products, processes, and services. While a strong focus of the funded projects has been on biological science and technologies (35%) and electronics, IT and telecoms technologies (22%), the technological openness and the bottom-up approach are perceived by interviewees as one of the major benefits of the Eurostars-2 programme. According to interviewed SMEs, the geographical openness, and the possibility to collaborate with partner organisations from a broad range of the 33 Participating Countries and four Partner Countries is one of the added values of the Eurostars-2 programme compared to regional or national funding programmes which often also have lower funding rates. The increasing number of applications throughout the 15 cut-offs indicates the existing relevance of the programme for the target groups. For some interviewed stakeholders, the Eurostars-2 programme is an attractive but less known niche programme giving SMEs inexperienced in going international for the first time the chance to collaborate with partners outside their own country.

#### Governance and management

Overall, findings from the final evaluation (2014) show that the governance of Eurostars-2 by the ESE is recognised as an adequate governance structure with the NFBs. According to interviewees, the governance structure is complex but adapted to the needs of the Eurostars-2 programme.

Interviews with NFBs show that application and participation rates differ in the different Participating Countries and Partner Countries. As outlined in more depth in the case study on participation, this is largely explained by the programme's design, which means that the budget allocated at the national level is a strong determinant of the number of projects funded with beneficiaries from a given country. The countries that provide the strongest input have the most participants.

The centralised evaluation process of applications is generally confirmed to be well structured. However, it is also sometimes criticised for being non-transparent by applicants. According to some interviewees, complicated application processes lead to sub-contracting of external firms to help with the application process and to write the actual project application according to interviewees.

#### Outputs and results of Eurostars-2 projects

Due to the lack of information and data on project results and impacts of Eurostars-2 projects, only insights from interviews and desk research as well as limited insights from the MIR are integrated into the final evaluation giving only selective and limited insights into the actual outputs and results. With regards to the project implementation and results, interviews with beneficiaries show that the Eurostars-2 programme indicates that Eurostars-2 projects seem to be successful in developing new processes, products or services. To follow up on the achievements and success of the projects, a final report and market impact reports are requested periodically for three years from the Eurostars-2 projects by the ESE. However, these reports have certain limitations as some organisations participating in the Eurostars-2 programme do not have any market impact (e.g. universities) and beneficiaries stop replying after having received their final payment. Overall, interviews with beneficiaries show that SMEs have successfully developed new patents and prototypes and received private investments after project completion.

## 5.2. Lessons learned

Overall, the Eurostars-2 programme has successfully supported innovations developed by international project consortia with a focus on SMEs. However, several lessons learned can be drawn from the final evaluation.

The following table gives an overview of the recommendation of the Interim Evaluation and whether recommendations have been introduced in the meanwhile:

**Table 1. Overview and assessment of recommendations of the Interim report (2017)**

Type	Recommendation of the Interim report (2017)	Assessment of recommendation within the final evaluation (2022)
Recommendations on key issues	At least two R&D-performing SMEs from two different Participating States should be mandatory in the proposed project consortium with a fair distribution of activities and a well-balanced budget ( <i>short term</i> )	Within the Eurostars-3 programme, having at least two R&D-performing SMEs within a project consortium is still not mandatory. However, the budget of the SMEs from the Participating Countries (excluding any subcontracting) must be 50% or more of the total project cost.
	Two-year requirement to bring product/process/service to the market should be a clear criterion to take into consideration in the evaluation process ( <i>short term</i> )	As part of the evaluation process of the Eurostars-3 programme, proposals are evaluated with regards to their impact including the availability of a clear and realistic commercialisation plan. A two-year requirement is not part of the evaluation process.
	Keep the uniqueness of the Eurostars programme ( <i>short term</i> )	It is still recommended to keep the uniqueness of the Eurostars programme (see chapter on lessons learned).
	R&D-performing SMEs as eligibility criteria should be assessed at the national level as is done for the SME self-declaration. Today, this action is pursued by ESE. ( <i>short term</i> )	No evaluation can be made due to missing information.
Recommendations on project implementation	Consider short-term grants to the EU top-up of those Eurostars projects for which grant agreements have not been signed within 1 year of the cut-off period. ( <i>short-term</i> )	No evaluation can be made due to missing information.
	Shorter time-to-contract will avoid jeopardising the innovation potential of projects. ( <i>short term</i> )	The time-to-contract decreased significantly during the implementation phase of the Eurostars-2 programme and reached an average duration of 6.6 months. Nevertheless, significant differences between Participating Countries still exists and this remains a key aspect that could be better addressed in the successor programme of the European Partnership on Innovative SMEs / Eurostars 3
	Information from the centralised ESE database should be constantly updated and would constitute an advantage to monitor the overall implementation of the Joint programme. Data collection, selection and monitoring mechanisms in the ESE Database should be improved. ( <i>short-term</i> )	The methodology of the FIR and MIR as well as the data collection processes have been simplified. Data on the projects are now gathered through an online survey. It is still recommended to improve data monitoring and to improve the overall monitoring of the Eurostars programme.
	Improve the structure and content of MIR reports in order to assess projects' results on efficiency, effectiveness and pragmatism with regards to-go-to-the-market. ( <i>short-term</i> )	The methodology of the FIR and MIR has been adapted. A statement on the improvement of the assessment of the project results through the new MIR reports cannot be made at this point.

	Put in place a follow-up of the results of funded projects (i.e. FIRs) and their introduction into the market within 2 years of project completion (MIRs) to better inform Participating Countries and the European Commission. (short-term)	A follow-up mechanism through FIRs and MIRs is in place, but it is recommended to improve further the data quality (e.g. mandatory fields in FIR and MIR to increase response rate for questions).
	Management of the programme should foresee the total annual EU funding as requested in the Annual Work Plan (AWP) and avoid losses of EU annual funding (long term)	An additional 15 <sup>th</sup> call was introduced to avoid losses of EU annual funding and underspending. This approach should be applied in the future in similar cases.
	Participating Countries should first receive MIRs and assess them on efficiency, effectiveness and pragmatism to-go-to-the-market. Their assessment per project should be addressed to the ESE as an element for the payment of the EC top-up. (long-term)	No 38rganizatin can be made due to missing information.
<b>Recommendations on the governance</b>	A 38rganizatioe (from EUREKA) Eurostars governance agenda should be set up. (short-term)	No evaluation can be made due to missing information.
	An in-depth and representative survey of the barriers encountered by under-represented Participating Countries should be carried out (short term)	No survey has been performed as part of the final evaluation. It is recommended to perform a survey to investigate further the barriers encountered.
	Revise the current evaluation process as it is too fragmented and the evaluation criteria are too numerous and narrow to have a realistic overview of the project's quality (short term)	No evaluation can be made due to missing information.
	Check the appropriateness of Article 185 TFEU for the implementation of the Eurostars programme (long-term)	The Eurostars programme is no longer implemented under Article 185 TFEU.

Source: PPMI/Idea Consult/Prognos (2022), based on Interim report.

Based on the recommendations given in the Interim Evaluation (2017) and progress and improvements made since 2017, the following suggestions for improvement of the Eurostar programme can be defined:

**Improve the monitoring and data collection for the partnership:** Due to a lack of information and data on project results and impacts of Eurostars-2 projects, only insights from interviews and desk research are integrated into this final evaluation, giving limited insights into the actual results and impacts. In addition, the Interim Evaluation (2017) noted the insufficient accuracy and lack of up-to-date information in the ESE database. A more updated monitoring and data collection for the successor partnership should be much improved so that a fuller evaluation of the impacts of that programme can be achieved. It should be noted that ESE has already changed its monitoring system in response to the recommendations of the Interim Evaluation. It will be interesting to see to what extent the new monitoring increases data timeliness and availability in the context of Eurostars-3. Also, in Horizon Europe, it is intended to have a better integration of the partnership data to the Horizon monitoring tools, which should help in this regard. Proper implementation of this integration should be a priority for ESE in Horizon Europe.

**Address the uncertainty of getting funding for selected projects when the contribution of Participating Countries has been exhausted by other projects:** This was a key weakness identified in the Interim Evaluation. Due to the lack of information and data noted above this aspect was not fully examined in this final evaluation. However, since the selection process for the partnership did not change in the interim period, the issue likely persisted throughout Eurostars-2. Evaluations of the successor programme should pay particular attention to this aspect to see if it has been addressed in the updated programme. Key in this regard should be an examination of projects that could have been funded based on their evaluated score, but were not, due to a lack of national funding. One proposal in this context would be the introduction of a reserve list, which would allow projects that were not funded due to a lack of national funding to be subsequently funded with unused funds.

**Address the divergence in national rules and increase transparency to applicants:** The uniqueness rests on the funding of transnational collaborative projects led by R&D-performing /

innovative SMEs. However, consortium members for a given project face different rules for application depending on their country of origin. In addition, funding is allocated based on the position on the ranking list and according to the availability of national funding. Further convergence of the rules could take place and the particular link between the availability of national funding and the provision of grants could be better explained to applicants.

**Increase synergies between the Eurostar programme with other EU funding instruments:** The Eurostars-2 programme has been perceived as an attractive funding programme with a high success rate for SMEs applying for the first time for EU funding apart from their national or regional funding programmes. As outlined in the comparative report, the Eurostars programme could strengthen its synergies with other EU funding programmes (e.g. EIC Accelerator). The success rate of Eurostars companies in that pilot will provide important evidence of the potential for future synergies between the two programmes.

**Increase the geographic diversity of participation and run a dedicated survey on this challenge:** The findings show that 5 out of the 33 Participating Countries and four Partner Countries contribute around 49% of the total committed national budget of the Eurostars-2 programme. As outlined above and in the case study on varying participation, due to the programme's design, there is a strong correlation between budget allocation and participation at the national level. Thus it should be examined if the geographic diversity could be improved to offer European SMEs equal chances to participate in the Eurostars programme. To find reasons for the imbalance, the recommendation from the Interim Evaluation to run a dedicated survey remains up-to-date. In addition, the geographic diversity could be improved through changes in the design or implementation of the programme (e.g. a rebalancing of the focus on maximising national returns versus funding excellence), an increase in the (financial) commitment of some Participating Countries and Partner Countries or some mixture of these and other measures.

**Increase the visibility of the Eurostars-2 programme in Participating Countries:** While some Participating Countries offer different types of support services and promotional activities that increase the visibility of the Eurostars-2 programme on the national level, other NFBs do not have the financial and human resources to promote the programme on the national level. To create an equal level of visibility of the Eurostars programme in all Participating Countries, a suggestion would be to agree across all NFBs on a certain minimum level of promotional activities that should be performed nationally. Consideration could also be given to more centralised communications activity and better coordination of communications and social media activities by ESE.

**Continue efforts to speed up the time-to-contract:** As emphasised in the Interim Evaluation (2017), the time-to-contract should be shortened and harmonised between NFBs. Adaptions of the time-to-contract in the 2021-2027 funding period are perceived as an important step, yet this aspect could be monitored and improved upon in the successor partnership.

**Additional calls and reserve list:** A major problem of Eurostars is that the funds are not fully utilised. To counter this problem, an additional call was introduced using unused funds. Such an approach is highly recommended and should be used to counteract underspending. The already mentioned introduction of a reserve list could also positively influence and lead to even more SMEs being supported.

## ANNEX 1: Evaluation questions and methodology

The final Eurostars-2 evaluation follows a mixed-method approach by combining quantitative and qualitative data collection and analysis methods. The desk research was a starting point to get the first insights on the Eurostars-2 joint programme. In addition, information was enriched by expert interviews with relevant stakeholders. Monitoring data provide additional evidence on the actual results and impact of the Eurostars-2 programme. Moreover, findings from the Interim Evaluation and the Eurostars-2 case studies, which are also part of the 'Study on the support to the innovation of the EU Research & Innovation Framework programme', gave additional insights.

The evaluation is based on 12 40rganizaon questions linked to the EU evaluation criteria. Table 2 gives an overview of the six evaluation criteria of this evaluation.

**Table 2: Evaluation criteria and relevant questions**

Evaluation criteria	Judgement criteria
Relevance	This refers to the assessment of the relationship between the needs of society /target groups – and the initiative's objectives.
Coherence	Coherence covers the assessment of the initiative compared to other EU initiatives and policies and, if possible, to relevant national and regional policies. Internal coherence is considered as coherence with the evaluated cluster support initiatives. External coherence is considered as coherence with national/regional support and other EU-level programmes.
Efficiency	This part assesses the relationship between the resources used (i.e. inputs) and the outputs achieved.
Effectiveness	The effectiveness criterion assesses how successful the different initiatives have been in terms of achieving or making progress towards the set objectives.
EU added value	Assessment of whether the initiative's achievements could have been achieved without EU intervention (by national actions by the member states) and why action on the EU level is required.
Partnership	The partnership criterion deals with all questions related to the partnership of entities within the frame of the Eurostars-2 programme, such as private funding and openness of partnerships

Source: PPMi/Prognos/Idea Consult (2022) based on desk research.

### Desk research

The desk research provides a first comprehensive overview of the Eurostars-2 programme and allows learning more about the developments of the Eurostars programme since the 2007-2013 funding period and the interim findings and recommendations of the Interim Evaluation (2017). Table 3 provides an overview of selected, relevant literature for the evaluation of the Eurostars-2 programme:

**Table 3: Selection of relevant literature**

Title	Author	Year
FINAL EVALUATION OF THE EUROSTARS JOINT PROGRAMME	EUROPEAN COMMISSION	2014
INTERIM EVALUATION OF THE EUROSTARS-2 JOINT PROGRAMME	EUROPEAN COMMISSION	2017
IMPACT ASSESSMENT OF EUREKA NETWORK PROJECTS AND CLUSTER PROJECTS	EUROPEAN COMMISSION	2017
COMMISSION STAFF WORKING DOCUMENT ON IN-DEPTH INTERIM EVALUATION OF HORIZON 2020	EUROPEAN COMMISSION	2017
ANALYSIS OF IMPACT OF COMPLETED EUROSTARS-1 PROJECTS – FINAL REPORT	EUROPEAN COMMISSION	2017
META-EVALUATION OF ARTICLE 185 INITIATIVES – REPORT OF THE EXPERT GROUP	EUROPEAN COMMISSION	2017
EUROSTARS – GUIDELINES FOR PROJECT PROGRESS REPORTS 2018 – 2020	EUREKA	2018
EUROSTARS – ELIGIBILITY GUIDELINES FOR APPLICATIONS	EUREKA	2019

Source: PPMi/Prognos/Idea Consult (2022) based on desk research.

## Monitoring data

In addition to the desk research, information is gathered through monitoring data on the Eurostars-2 programme (see Table 4) provided by ESE.

**Table 4: Overview of provided monitoring data (by 25 August 2022)**

Type of provided data by EUREKA secretariat	Data when data were provided
List of contact details for some National Funding Bodies	20 April 2022
Data on the number of applications for each cut-off	29 April 2022
Data on the countries of origin of the applicants	29 April 2022
Data on the number of funded projects for each cut-off	29 April 2022
Data on the total projects budget for each cut-off	29 April 2022
Data on the consortium composition for the 2014-2020 funding period	29 April 2022
List of contact details for 10 Eurostars-2 beneficiaries	29 April 2022
List of all approved Eurostars-2 projects	1 June 2022
Data on the committed budget for each Participating State and Partner country for each cut-off & the committed EU contribution	14 June 2022
List of Eurostars-2 projects with their evaluation status	15 July 2022
Data on the time-to-contract per country for cut-off 1-15	20 July 2022
Excel list with answers from the final reports of all projects from cut-off 1-5	29 July 2022
Annual Reports of the Eurostars-2 programme from 2014-2021	1 August 2022
Excel list with answers from the Market Impact Reports from 2019	10 August 2022
Excel list with answers from the final reports from 2020	10 August 2022

Source: PPMi/Prognos/Idea Consult (2022).

Since around 39% of the Eurostars-2 projects are still running (August 2022) and it is mainly projected from cut-offs 1-5 that are completed, insights from final reports are from cut-offs 1-5.

## Interviews with relevant stakeholders

Another important source for the information collected on the Eurostars-2 programme has been the stakeholder interviews. The interviews followed a semi-structured approach and were conducted via videoconferences. The interviews with representatives of the European Commission, the ESE and the National Funding Bodies allowed the project team to learn more about the administrative functioning of Eurostars-2. By speaking with programme beneficiaries such as SMEs, experiences on the actual outputs and results of the programme were collected. Overall, 15 interviews were conducted with beneficiaries of different cut-offs in the Eurostars-2 programme from different Participating Countries, contact persons of National funding bodies and the ESE secretariat. A list of the interviews and the interview guide is attached in Annex 3.

## Eurostars-2 case studies

As part of the study on the support for innovation of the EU Research & Innovation Framework programme ('Framework Programme'), two case studies are elaborated on the Eurostars-2 programme. One case study focuses on the varying participation rates between the different Participating Countries and the causality behind this phenomenon. The objective of the case study is to provide possible explanations. The second case study analyses the varying performances of the National Funding Bodies of the different Participating Countries and the reasons for the variations. The findings of the two case studies provide further evidence on the performance of the Eurostars-2 programme and are integrated into the final evaluation of the Eurostars-2 programme.

## ANNEX 2: Evaluation matrix

The following evaluation matrix includes the different evaluation questions per criteria (as set in the tender specifications).

Evaluation element	ID	Evaluation question	Source of information			
			Desk research	Monitoring data	Interviews	Case Studies
Relevance	RV6	<i>To what extent have the objectives of the partnerships been, and are still relevant regarding the challenges and needs addressed in this area by the Framework Programme?</i>	X	x	x	
	RV6	<i>How flexible have partnerships in this area proved to be, in updating the Strategic Research Innovation Agendas, or equivalent strategic documents, adjusting objectives, activities and resources to changing market and/or policy needs?</i>	X	x		
Efficiency	EFF1	<i>What can be learned in terms of implementation processes from the experience of applicants and participants? What were the key barriers and drivers towards progress they have experienced at the application stage and during the implementation of the projects, and their consequences for the researchers and organisations involved?</i>		X	x	
	EFF2	<i>How could programme implementation processes and arrangements be improved or what else could be done to maximise the benefits of the Framework Programme implementation?</i>	X	x	x	x
	EEF3	<i>To what extent have the Framework Programme monitoring and evaluation systems and feedback to policy processes been efficient to ensure evidence-based policymaking in this area? Were adequate systems put in place to share lessons learnt from implementation and results achieved between Framework Programme interventions in this area? To what extent does the programme communication/valorisation strategy allow identifying, 42 realisation42 upon and (possibly) transferring good practices/results?</i>	X	x	x	
Effectiveness	EFC1	<i>What are the main results and (expected) outcomes and impacts from the projects supported in this area? Is the delivery of the projects' results altogether leading to the achievement of the programme's objective(s) in this area? What is needed to be able to reach the objectives and by which timeframe?</i>		X	x	x
	EFC2	<i>To what extent has the Framework Programme in this area contributed to achieving the European Union policy priorities and the Sustainable Development Goals (SDGs)?</i>			X	

	EFC5	To what extent have the partnerships achieved their objectives and the objectives of the Framework Programme in this area?		X	x	
Coherence	CH4	What is the level of coherence among partnerships, and between partnerships and the Framework Programme activities in this area? Are partnerships more effective in achieving synergies, compared to other modalities of the programme?		X	x	
EU added value	EAV1	What is the EU added value of the Framework Programme interventions in this area? What would have happened if the Framework programme had not existed? Could the stakeholders have implemented their research and innovation in another way, including through other EU, national or regional support?	X	x	x	
	EAV2	What is the value resulting from partnerships in this area that is additional to the value that could result from interventions carried out at the regional or national level?	X	x	x	
Partnership – Additionality	-	How many private and/or public R&I contributions have been <sup>43</sup> realised on EU priorities thanks to partnerships? What is the partnerships' budget leverage factor, in <sup>43</sup> realising additional resources, on top of the contribution from partners? How do partnerships facilitate the creation and expansion of R&I networks that bring together relevant and competent actors from across Europe, thus contributing to the <sup>43</sup> realisation of the ERA?		X	x	
Partnership – Transparency and openness	-	How open are partnerships to new participants? Are there procedures/mechanisms in place to expand the partnership to involve new members at partnership and project level, as well as gradually engage a broader set of stakeholders across Europe? Are there open and transparent processes for consulting all relevant stakeholders and constituent entities in the identification of priorities? What is the level of openness in use of research result? To what extent are partnerships (notably with industry participation) accessible for SMEs?		X	x	

## ANNEX 3: Stakeholder interviews

### List of interviews

The table below reports the list of interviews that have been performed based on contact details provided by the European Commission. Information has been anonymised due to data protection regulations.

**Table 5: List of interviewees**

	Type of stakeholder	Role in the Eurostars-2 programme	Country	Date of the interview
1	EU official	DG RTD	Belgium	18 May 2022
2	EUREKA secretariat	Implementation Body	Belgium	14 June 2022
3	EUREKA secretariat	Implementation Body	Belgium	13 July 2022
4	Lead partner	National funding body	Germany	29 April 2022
5	National investment bank	National funding body	France	27 April, 2022
6	Innovation agency	National funding body	Netherlands	10 May 2022
7	Innovation agency	National funding body	Sweden	23 May 2022
8	National ministry	National funding body	Italy	27 April 2022
9	Innovation agency	National funding body	Ireland	26 April 2022
10	Innovation agency	National funding body	Croatia	27 April 2022
11	SME	Beneficiary	Denmark	9 May 2022
12	SME	Beneficiary	Denmark	10 June 2022
13	SME	Beneficiary	Netherlands	13 May 2022
14	SME	Beneficiary	Sweden	9 May 2022
15	SME	Beneficiary	Spain	17 May 2022
16	SME	Beneficiary	Austria	1 June 2022
17	EU official	DG RTD	Belgium	14 Sep. 2022
18	EU official	DG RTD	Belgium	4 Oct. 2022

### Example interview guide with Eurostars-2 beneficiaries

#### Introduction

Please briefly **introduce your organisation and your role** in the context of the Eurostars-2 programme!

- .....

#### Relevance

To what extent have been and are still the **objectives of the eurostars-2 partnerships relevant** (e.g. cooperation between SME to boost competitiveness, growth and job creation, development of new technologies) regarding the challenges and needs addressed in the EU and Horizon 2020 associated countries? (RV6)

- .....

#### Coherence

What is the **level of coherence among partnerships**, and between partnerships of the Eurostars-2 programme? (CH4)

- .....

#### Efficiency

How efficient and cost-effective have the **implementation processes of the Eurostars-2 programme** been in terms of project implementation and management processes with the special focus on Article 185 TFEU<sup>50</sup>? (EFF1)

<sup>50</sup> Article 185 initiatives are long-term public-public partnerships (P2P) established on a voluntary basis by EU Member States that are also eligible for a substantial financial contribution from the EU Research Framework Programme. They aim to address common challenges in specific research areas by creating economies of scale and synergies between national and EU research programmes and investments.

- .....

To what extent has **Article 185 supported or hampered the implementation processes** of the Eurostars-2 programme? (e.g. long time-to-contract)

- .....

What can be **learned in terms of project management processes** from the experience of participants due to the mix of centralised and decentralised organisation? (EEF1)

- .....

How can the **implementation processes and time-to-contract be speeded up**? How can programme procedures be better synchronised between the different structures involved (national and EU-level)? (EFF2)

- .....

To what extent have the Eurostars-2 Programme monitoring and evaluation systems and feedback to policy processes been efficient to ensure evidence-based policymaking in this area? (EEF3)

- .....

**Effectiveness**

What are the **main results and (expected) outcomes** and impacts from the Eurostars-2 projects supported in this area? (EFC1)

- .....

To what extent has the Framework Programme in this area contributed to achieving the European Union policy priorities and the Sustainable Development Goals (SDGs)? (EFC2)

- .....

To what extent has your project(s) been successful in introducing **new products/processes/services to market** within two years of project completion? (EFC5)

- .....

**EU added value**

What is the **EU added value of the Eurostars-2 programme**? (EAV1)

- .....

What is the **value resulting from Eurostars-2 partnerships** that is additional to the value that could result from interventions carried out only at the EU, regional or national level? (EAV2)

- .....

**Partnership**

How much **private and/or public R&I contributions** have you mobilised on EU priorities thanks to Eurostars-2 partnerships?

- .....

How **open** are the Eurostars-2 partnerships **to new participants**?

- .....

Do you have **any further remarks**?

- .....

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## ANNEX 5: List with eligibility criteria of the Eurostars-2 programme

Table 6: Eligibility Criteria of the Eurostars-2 programme

Number	Eligibility criterion
1	The project leader is an R&D-performing SME.
2	The project leader is from a Eurostars Country; i.e. a Eurostars Participating state or a Eurostars Partner country.
3	The project contains at least two legal entities that are independent of one another.
4	The consortium is a partnership hosted by at least two different Eurostars countries (i.e. a Eurostars Participating state or a Eurostars Partner country), where at least one of the countries is an EUREKA Full Member or Partner Country.
5	The budget (excluding subcontracting) of the R&D-performing SME(s) located in Eurostars Participating state(s) or Partner Country(ies) is equal to at least 50.00% of the total project budget.
6	No single entity is responsible for more than 75.00% of the project budget.
7	The participant(s) from a given country may not be responsible for more than 75.00% of the total project budget.
8	The project duration is 36 months or fewer.
9	Market introduction is within 24 months of the project's completion.
10	The project meets the EUREKA criteria and must have a civilian purpose.
11	Each of the participating organisations in the consortium is a legal entity in the host country.
12	None of the participating organisations have convictions for fraudulent behaviour, other financial irregularities or illegal business practices.
13	None of the participating organisations have been declared bankrupt or are in the process of being declared bankrupt.

Source: PPMI/Idea Consult/Prognos (2022), based on Eligibility guidelines for applications of ESE(July 2019; Version 5.0).

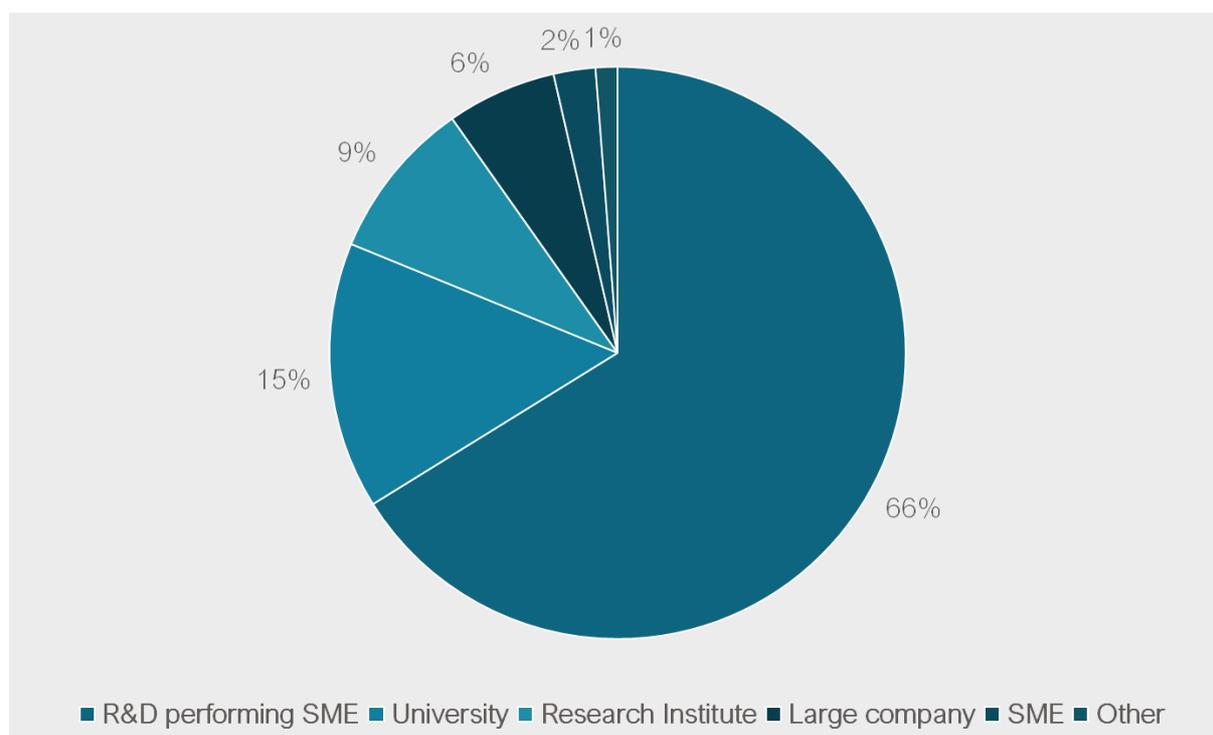
## ANNEX 6: Additional data

**Figure 26: Overview of submitted and funded projects of the Eurostars-2 programme**

		Number of projects submitted	Number of projects approved	Number of projects withdrawn	Number of projects to be monitored
2014	Cut-off 1	299	70	5	65
	Cut-off 2	356	90	7	83
2015	Cut-off 3	266	96	9	87
	Cut-off 4	333	113	7	106
2016	Cut-off 5	299	103	3	100
	Cut-off 6	375	108	11	97
2017	Cut-off 7	402	119	10	109
	Cut-off 8	415	102	10	102
2018	Cut-off 9	359	99	11	88
	Cut-off 10	325	91	6	85
2019	Cut-off 11	372	108	7	101
	Cut-off 12	426	103	3	100
2020	Cut-off 13	449	110	11	99
	Cut-off 14	572	111	5	106
2021	Cut-off 15	643	123	5	118

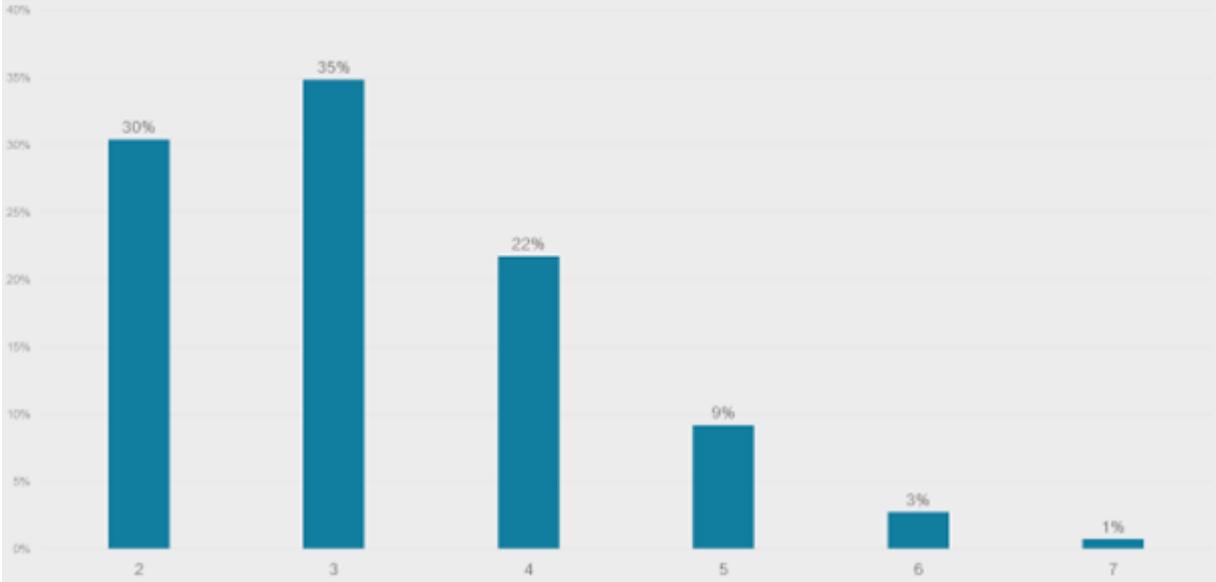
Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

**Figure 27: Share of Eurostars-2 participants by organisation type**



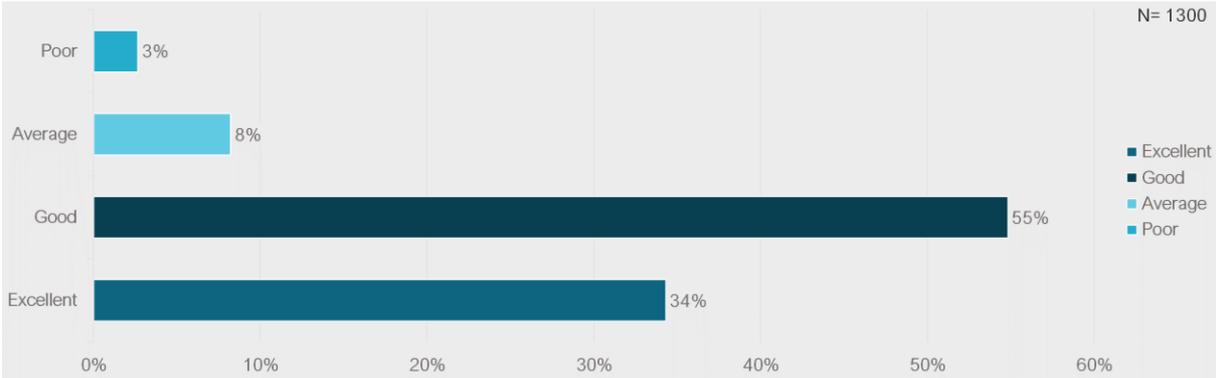
Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE. N = 4982.

**Figure 28: Size of project consortia of cut-off 1-15**



Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

**Figure 29: Rating of overall technological achievement by beneficiaries (Cut-off 1-5)**



Source: PPMI/Idea Consult/Prognos (2022), based on final reports of beneficiaries of cut-off 1-5 delivered by ESE.

**Table 7: Declaration of commitments (cut-off 1-6)**

<b>NFB Country</b>	<b>Cut-off 1</b>	<b>Cut-off 2</b>	<b>Cut-off 3</b>	<b>Cut-off 4</b>	<b>Cut-off 5</b>	<b>Cut-off 6</b>	<b>Grand Total</b>
<b>Austria</b>	1 384 300.00	3 267 300.00	1 486 000.00	2 963 700.00	3 057 393.00	2 585 534.00	14 744 227.00
<b>Belgium</b>	1 167 229.62	1 367 747.54	4 130 692.87	2 383 294.97	1 551 416.08	2 505 081.90	13 105 462.98
<b>Bulgaria</b>	393 360.31		780 005.59	1 018 801.27			2 192 167.17
<b>Canada</b>						1 730 923.52	1 730 923.52
<b>Croatia</b>					194 837.58	138 365.47	333 203.05
<b>Cyprus</b>			146 203.20		156 328.00	364 800.00	667 331.20
<b>Czechia</b>	349 425.20	476 826.26	628 635.92	1 496 599.64	963 147.44	786 279.82	4 700 914.28
<b>Denmark</b>	3 084 813.80	3 084 356.19	3 990 545.72	6 582 123.19	5 902 754.83	7 367 278.18	30 011 871.91
<b>Finland</b>	905 700.00	1 634 750.00	1 177 000.00	60 000.00	649 000.00	1 797 580.00	6 224 030.00
<b>France</b>	3 724 104.00	6 820 013.00	3 353 050.00	4 927 308.00	7 180 517.00	4 569 897.00	30 574 889.00
<b>Germany</b>	2 950 301.00	8 565 209.81	10 994 658.99	13 891 799.66	9 988 220.41	10 576 072.67	56 966 262.54
<b>Hungary</b>		906 378.01	246 130.89	415 787.52	324 734.25	219 933.21	2 112 963.88
<b>Iceland</b>		330 110.04	224 074.69	632 822.38	336 649.96	391 986.06	1 915 643.13
<b>Ireland</b>				327 018.00		94 927.00	421 945.00
<b>Israel</b>		370 297.34	82 417.58			562 163.87	1 014 878.79
<b>Italy</b>		153 000.00		1 026 418.75			1 179 418.75
<b>Latvia</b>		241 684.49		192 920.40	441 166.18		875 771.07
<b>Lithuania</b>		812 624.00	381 046.00	1 338 401.32	1 461 563.00	139 407.00	4 133 041.32
<b>Luxembourg</b>	148 000.00	312 183.00	299 000.00		286 000.00		1 045 183.00
<b>Norway</b>	5 246 679.24	3 994 191.81	1 934 266.76	5 133 517.60	7 667 079.46	4 286 206.30	28 261 941.17
<b>Poland</b>		328 560.66	703 089.56	838 061.38	359 670.00		2 229 381.60
<b>Portugal</b>				262 669.80		500 000.00	762 669.80
<b>Romania</b>	182 220.49	159 974.56	949 841.03			826 076.94	2 118 113.02
<b>Slovak Republic</b>	77 800.00	275 848.40	209 650.00		144 240.00	203 560.00	911 098.40
<b>Slovenia</b>		292 527.20			1 089 544.50	450 000.00	1 832 071.70
<b>South Korea</b>	1 088 183.14	1 535 547.31	3 285 865.00	1 587 988.59	1 719 610.74	5 344 708.83	14 561 903.61
<b>Spain</b>	4 833 904.58	2 467 659.48	4 498 684.08	4 082 277.37	4 209 434.20	5 045 735.20	25 137 694.91
<b>Sweden</b>	3 930 369.58	4 443 364.88	5 197 738.38	5 136 441.85	6 563 130.47	4 342 392.40	29 613 437.56
<b>Switzerland</b>	6 294 366.10	5 272 277.47	8 191 032.21	5 920 959.64	5 725 674.29	6 164 452.89	37 568 762.60
<b>The Netherlands</b>	3 899 689.00	8 731 974.00	8 286 114.00	8 895 804.00	7 970 493.00	6 840 488.00	44 624 562.00
<b>Türkiye</b>	915 208.95	2 041 180.04	284 670.57	867 029.80	974 912.27	1 007 479.18	6 090 480.81
<b>United Kingdom</b>	5 122 920.20	3 940 083.65	4 145 927.95	3 414 422.88	3 711 039.72	3 817 087.06	24 151 481.46
<b>Grand Total</b>	<b>45 698 575.21</b>	<b>61 825 669.14</b>	<b>65 606 340.99</b>	<b>73 396 168.01</b>	<b>72 628 556.38</b>	<b>72 658 416.50</b>	<b>391 813 726.23</b>

Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

**Table 8: Declaration of expenditures (cut-off 1-6)**

<b>NFB Country</b>	<b>Cut-off 1</b>	<b>Cut-off 2</b>	<b>Cut-off 3</b>	<b>Cut-off 4</b>	<b>Cut-off 5</b>	<b>Cut-off 6</b>	<b>Total</b>
<b>AT</b>	1 056 841.00	3 073 499.00	1 246 681.00	2 921 167.00	2 477 300.00	2 266 888.00	13 042 376.00
<b>BE INNOVIRIS</b>	159 975.20	803 921.00				641 770.82	1 605 667.02
<b>BE VLAIO</b>		229 641.54	750 052.10	849 071.00	278 558.96	389 506.00	2 496 829.60
<b>BE SPW</b>	660 755.91	248 891.11	3 008 940.72	1 339 770.77	523 326.43	790 645.61	6 572 330.55
<b>BG</b>	231 792.27		696 708.88	485 467.35			1 413 968.50
<b>CA</b>							-
<b>CH</b>						5 419 291.05	5 419 291.05
<b>CY</b>			140 264.44		145 368.00	313 446.05	599 078.49
<b>CZ</b>	322 148.57	476 826.26	586 304.44	1 385 137.29	961 955.17	786 279.82	4 518 651.55
<b>DE</b>	2 839 288.07	7 698 302.28	10 112 181.93	12 312 168.00	8 638 678.96	9 770 413.04	51 371 032.28
<b>DK</b>	2 957 970.86	2 505 165.58	3 463 275.66	6 425 959.95	5 084 475.27	6 323 315.54	26 760 162.86
<b>ES</b>	4 046 081.22	2 267 924.29	3 981 025.19	3 658 677.16	3 545 180.68	4 769 512.43	22 268 400.97
<b>FI</b>	471 093.00	1 171 750.00	520 032.00	60 000.00	649 000.00	1 699 866.50	4 571 741.50
<b>FR</b>	3 368 880.06	5 699 184.13	2 888 783.15	4 339 500.23	6 102 710.37	3 963 180.02	26 362 237.96
<b>GR</b>							-
<b>HR</b>					190 059.82	138 253.78	328 313.60
<b>HU</b>		873 364.51	177 344.29	322 017.62	322 991.91	191 608.98	1 887 327.31
<b>IE</b>				220 578.51		46 692.50	267 271.01
<b>IL</b>			4 263.02			379 326.33	383 589.35

<b>IS</b>		325 605.90	171 792.48	615 749.45	336 649.96	298 713.71	1 748 511.50
<b>IT</b>		153 000.00		866 598.06			1 019 598.06
<b>KR</b>							-
<b>LT</b>		466 597.93	282 475.04	1 317 726.20	833 424.17	107 624.64	3 007 847.98
<b>LU FNR</b>		265 000.00	254 000.00		243 000.00		762 000.00
<b>LU MoE</b>		114 925.19					114 925.19
<b>LV</b>		238 892.02		192 920.40	433 072.78		864 885.20
<b>MT</b>							-
<b>NL</b>	3 784 182.00	8 339 820.00	7 837 992.00	7 955 941.00	7 359 359.00	6 628 461.00	41 905 755.00
<b>NO</b>	3 894 130.57	3 480 493.37	1 817 902.52	4 960 747.19	6 560 601.48	3 087 667.62	23 801 542.75
<b>PL</b>		317 991.26	601 899.25	820 015.30	167 205.95		1 907 111.76
<b>PT</b>				151 365.03		332 065.25	483 430.28
<b>RO</b>	172 490.19	155 290.70	900 042.24			794 539.49	2 022 362.62
<b>SE</b>	3 331 464.14	4 168 177.21	4 921 941.69	4 704 743.80	6 103 679.00	3 984 871.70	27 214 877.54
<b>SI</b>		292 062.49			1 073 888.74	382 055.56	1 748 006.79
<b>SK</b>	77 800.00	275 848.40	192 821.00		144 220.00	203 560.00	894 249.40
<b>TR</b>	149 144.17	820 790.70	107 800.76	95 986.57	157 590.62	417 555.31	1 748 868.13
<b>UK</b>	3 668 552.24	2 808 301.30	3 057 193.51	2 403 112.96	2 515 458.58	3 254 194.90	17 706 813.49
<b>ZA</b>							-
<b>Total:</b>	<b>31 192 589.47</b>	<b>47 271 266.17</b>	<b>47 721 717.31</b>	<b>58 404 420.84</b>	<b>54 847 755.85</b>	<b>57 381 305.65</b>	<b>296 819 055.29</b>

Source: PPMI/Idea Consult/Prognos (2022). Based on data delivered by ESE

**Figure 30: Participants by geographical origin and organisation type (Alphabetical order)**

Country	R&D-performing SME	SME	Large Company	University	Research Institute	Other	Total
Austria	109	6	23	32	33	1	204
Belgium	106	2	15	10	12	-	145
Bulgaria	13	1	3	-	-	1	18
Canada	34	2	2	-	1	-	39
Croatia	9	1	-	-	-	-	10
Cyprus	13	3	1	3	1	-	21
Czechia	42	1	4	7	1	-	55
Denmark	253	8	18	80	59	16	434
Estonia	3	-	-	-	-	-	3
Finland	44	1	8	10	1	-	64
France	244	9	14	48	28	5	348
Germany	465	20	26	119	149	-	779
Greece	2	-	-	-	-	-	2
Hungary	23	2	1	4	-	-	30
Iceland	17	-	-	1	2	-	20
Ireland	9	2	4	6	-	-	21
Israel	15	-	1	-	-	-	16
Italy	42	2	3	9	2	-	58
Latvia	6	2	2	1	5	-	16

Lithuania	43	3	-	-	6	-	52
Luxembourg	-	-	1	3	3	1	8
Norway	179	3	14	27	22	6	251
Poland	37	4	1	-	-	-	42
Portugal	21	-	3	7	5	-	36
Romania	15	-	5	6	2	-	28
Slovakia	9	1	-	-	1	-	11
Slovenia	19	3	2	-	-	-	24
South Africa	3	2		1	-	-	6
South Korea	61	1	7	19	17	4	109
Spain	267	14	48	1	-	1	331
Sweden	220	9	21	98	26	5	379
Switzerland	284	5	37	112	50	4	492
Netherlands	393	4	25	143	24	14	603
Turkey	33	2	8	-	-	-	43
USA	-	-	1	-	-	1	2
Ukraine	-	-	1	-	-	-	1
United Kingdom	262	4	8	4	1	2	281
<b>Total</b>	<b>3295</b>	<b>117</b>	<b>307</b>	<b>751</b>	<b>451</b>	<b>61</b>	<b>4982</b>

Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

**Figure 31: Participants by country and role**

Country	Role in the project consortium			
	Project leader	Project partner	Withdrawn	Total number of participants
AUSTRIA	40	162	2	204
BELGIUM	28	114	3	145
BULGARIA	3	14	1	18
CANADA	10	26	3	39
CROATIA	5	5	-	10
CYPRUS	4	17	-	21
CZECH REPUBLIC	15	40	-	55
DENMARK	136	280	18	434
ESTONIA	-	3	-	3
FINLAND	15	48	1	64
FRANCE	117	222	9	348
GERMANY	152	595	32	779
GREECE	-	2	-	2
HUNGARY	7	21	2	30
ICELAND	11	8	1	20
IRELAND	4	14	3	21
ISRAEL	9	7	-	16
ITALY	18	39	1	58
LATVIA	2	13	1	16
LITHUANIA	17	34	1	52
LUXEMBOURG	-	8	-	8
NORWAY	123	123	5	251
POLAND	11	30	1	42
PORTUGAL	6	30	-	36
ROMANIA	3	25	-	28
SLOVAK REPUBLIC	3	8	--	11
SLOVENIA	13	11	-	24
SOUTH AFRICA	-	6	-	6
SOUTH KOREA	17	89	3	109
SPAIN	148	170	13	331

SWEDEN	120	248	11	379
SWITZERLAND	158	325	9	492
THE NETHERLANDS	243	344	16	603
TURKEY	13	27	3	43
U.S.A.	-	2	-	2
UKRAINE	-	1	-	1
UNITED KINGDOM	92	169	20	281
Total	1543	3280	159	4982

Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

Figure 32: Consortia composition of Eurostars-2 participants in the 2014-2020 funding period

Projects	SE	DK	DE	NL	FI	UK	SK	CZ	PL	BE	FR	AT	CH	ES	NO	BG	CY	RO	TR	IT	PT	KR	LU	LT	IL	UA	SI	LV	HU	IS	IE	US	HR	CA	GR	ZA	EE	
SE	271	44	42	49	17	31	0	2	2	13	28	9	50	12	51	0	4	0	6	5	5	6	0	4	0	1	2	2	1	0	0	0	0	8	1	0	2	
DK	44	245	46	39	7	19	1	2	5	9	21	5	27	15	33	1	0	1	6	5	4	3	0	8	4	0	1	1	0	6	0	0	0	2	0	1	0	
DE	42	46	471	119	6	40	4	14	4	23	49	68	103	55	22	8	2	4	5	6	5	12	3	9	2	0	4	0	6	0	1	0	1	7	0	0	0	
NL	49	39	119	413	8	66	1	7	5	40	60	20	80	32	26	1	2	2	6	9	3	11	2	4	1	0	1	3	3	2	4	1	1	7	0	2	0	
FI	17	7	6	8	57	7	0	0	0	2	5	1	4	5	9	0	0	1	1	0	0	4	0	1	0	0	1	0	0	2	0	0	0	3	0	0	1	
UK	31	19	40	66	7	245	0	5	6	6	24	7	30	35	33	2	1	0	3	2	6	3	0	1	1	0	1	2	3	2	3	1	1	6	0	1	1	
SK	0	1	4	1	0	0	10	3	0	0	2	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
CZ	2	2	14	7	0	5	3	43	2	5	4	6	2	3	2	2	0	0	1	0	0	2	1	1	0	0	0	0	2	0	0	0	0	0	0	0	1	0
PL	2	5	4	5	0	6	0	2	40	2	3	2	9	7	4	0	0	4	0	2	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
BE	13	9	23	40	2	6	0	5	2	115	25	4	19	8	5	1	0	0	0	1	0	1	1	0	0	0	1	1	0	0	0	0	0	1	1	0	0	
FR	28	21	49	60	5	24	2	4	3	25	270	13	55	50	13	1	1	2	1	6	9	6	2	4	5	0	2	2	2	2	1	0	0	9	0	0	1	
AT	9	5	68	20	1	7	2	6	2	4	13	141	21	16	6	0	1	2	3	2	1	2	1	4	2	0	2	2	1	2	1	0	0	1	2	0	0	0
CH	50	27	103	80	4	30	1	2	9	19	55	21	365	24	17	1	0	1	4	15	2	8	1	8	3	0	7	2	2	3	4	1	1	4	1	1	0	
ES	12	15	55	32	5	35	0	3	7	8	50	16	24	247	11	3	5	8	8	6	6	6	1	3	0	0	1	1	4	0	2	0	1	2	0	0	1	
NO	51	33	22	26	9	33	0	2	4	5	13	6	17	11	190	0	3	2	0	2	0	6	0	1	1	0	0	2	1	2	1	0	0	4	0	1	1	
BG	0	1	8	1	0	2	1	2	0	1	1	0	1	3	0	15	2	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	2	0	0	0	0	
CY	4	0	2	2	0	1	0	0	0	0	1	1	0	5	3	2	13	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
RO	0	1	4	2	1	0	0	0	4	0	2	2	1	8	2	0	0	20	1	2	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
TR	6	6	5	6	1	3	0	1	0	0	1	3	4	8	0	0	0	1	32	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IT	5	5	6	9	0	2	0	0	2	1	6	2	15	6	2	0	0	2	0	48	3	0	0	0	1	0	0	0	1	0	1	2	1	1	0	0	0	
PT	5	4	5	3	0	6	0	0	0	0	9	1	2	6	0	0	1	0	0	3	31	1	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0
KR	6	3	12	11	4	3	0	2	0	1	6	2	8	6	6	0	1	0	1	0	1	57	0	2	0	0	0	1	2	0	0	0	0	1	2	0	0	0
LU	0	0	3	2	0	0	1	0	1	2	1	1	1	1	0	0	0	0	0	0	0	0	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LT	4	8	9	4	1	1	0	1	1	0	4	4	8	3	1	0	0	0	0	0	1	2	1	41	1	0	0	3	0	0	0	0	0	0	0	0	0	0
IL	0	4	2	1	0	1	0	0	1	0	5	2	3	0	1	0	0	0	0	1	0	0	0	1	15	0	0	0	0	0	0	0	0	0	0	0	0	0
UA	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
SI	2	1	4	1	1	1	0	0	0	1	2	2	7	1	0	0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	1	0	3	0	0	0	0	
LV	2	1	0	3	0	2	0	0	0	1	2	1	2	1	2	0	0	0	0	1	1	1	0	3	0	0	0	12	0	0	0	0	0	0	0	0	0	0
HU	1	0	6	3	0	3	1	2	0	0	2	2	2	4	1	1	0	4	0	1	0	2	0	0	0	0	0	0	23	0	0	0	0	0	0	0	0	0
IS	0	6	0	2	2	2	0	0	0	0	2	1	3	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	1	0	0	0	
IE	0	0	1	4	0	3	0	0	0	0	1	0	4	2	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	14	1	0	1	0	0	0	0	
US	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	
HR	0	0	1	1	0	1	0	0	0	0	0	1	1	1	0	2	0	0	0	1	0	1	0	0	0	3	0	0	0	0	0	10	0	0	0	0	0	
CA	8	2	7	7	3	6	0	0	0	1	9	2	4	2	4	0	0	0	0	1	1	2	0	0	0	0	0	0	0	1	1	0	38	1	0	1	0	
GR	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	
ZA	0	1	0	2	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
EE	2	0	0	0	1	1	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	

Source: PPMI/Idea Consult/Prognos (2022), based on data provided by the ESE.

## **ANNEX 7: Case Study on Varying Participation Rates**

### **Introduction**

#### **General information on the Eurostars-2 programme**

The Eurostars-2 programme was implemented within the Horizon 2020 to promote the development of new products, processes and services and their market entry with a special focus on R&D-performing SMEs. During the 2014-2020 funding period, the programme was managed by the EUREKA Secretariat (ESE) on behalf of the European Commission on the EU level and by national funding bodies on the level of the Participating States and Eurostars-2 partner countries. The programme has been financed under Article 185 TFEU through co-funding from national budgets of Participating States with top-up funding from the European Union through the Horizon 2020 funding for a total amount of EUR 1.14 billion.

Its governance structure is unique. While the ESE has been responsible for organising the evaluation process within a centralised approach and has managed the EU funding contribution to the Eurostars-2 projects, the Eurostars-2 programme also included a decentralised approach. The responsibility for the management of the national grant lay in the hands of the national funding bodies (NFBs). The NFBs have also managed the projects on the level of the Participating States during the whole project life cycle, starting from the application and granting process to the market launch of the developed product, process, or service. Maintaining national funding sovereignty in conjunction with establishing transnational partnerships was, and is, one of the key characteristics of the Eurostars-2 programme.

#### **Background of the case study**

The following case study focuses on the varying participation rates of SMEs between the different participating countries of the Eurostars-2 programme and the causality behind these differences. The rate describes the ratio of the number of applications and the number of participants in Eurostars-2. Even if the applications are evaluated centrally by the ESE, the NFBs make a significant contribution to the number of applications and successful applications. They do this by raising the programme's visibility in the respective countries or offering support services in the application process. To learn more about the reasons for varying participation rates, countries with relatively high rates such as Germany, the Netherlands, Denmark, and countries with relatively low participation rates such as Croatia, Ireland and Italy, are examined in more detail in this case study. The overall aim of the case study is to identify good practices in the application process on the one hand and on the other hand, it examines which challenges have influenced participation in the programmes.

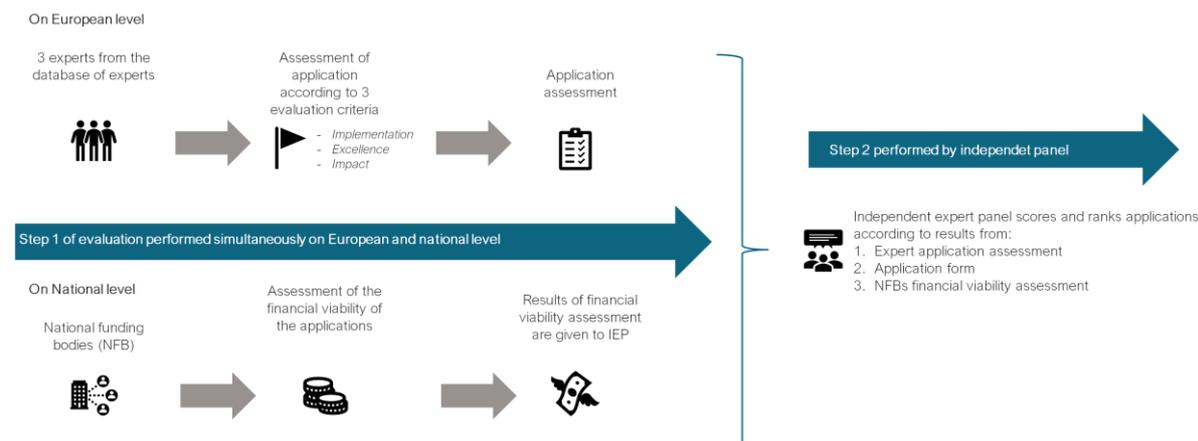
#### **The methodological approach of the case study**

The case study is based on 15 interviews held with responsible NFBs, the ESE and beneficiaries of the Eurostars-2 programme coming from different Participating States. In addition, monitoring data are primarily used as a quantitative supplement and to get an overview of the number of applications and their success rate. Country-specific data are used for this, since varying participation rates are not only explained by the work of the NFBs, but also depend significantly on country-specific characteristics, e.g. total population, GDP per capita or R&D expenditure.

#### **Context and problem definition**

Based on Article 185 TFEU, the Eurostars-2 programme has been implemented as a decentralised funding programme. This means that project applications have been evaluated not only centrally by the ESE, but also by NFBs. Understanding the application process of Eurostars-2 is therefore elementary to understanding the varying participation rates. Figure 33 gives an overview of the evaluation process at the national and European levels.

**Figure 33. Overview of the application process of the Eurostars-2 programme**



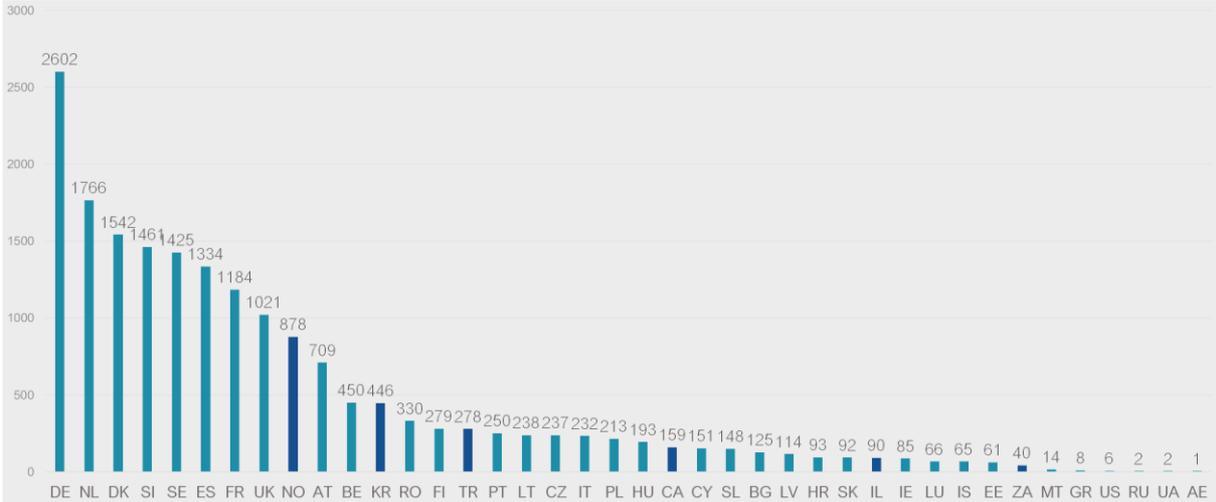
Source: PPMI/Idea Consult/Prognos (2022), own elaboration based on EUREKA presentation (2019).

The first step in the application process was to ensure that suitable SMEs seeking funding were aware of the programme. In this context, the overall promotion of the programme by the NFBs in the Participating States has been crucial to making the programme known to potentially interested SMEs. The visibility of the programme was usually in the hands of the NFBs, as they communicate externally through various channels and advise domestic companies to find relevant funding opportunities, for example. In addition to the visibility of the programme, it is also a matter of explaining the advantages and disadvantages of the programme to interested companies. If a company has decided to participate in the Eurostars-2 programme, the first step is to find suitable consortium partners. A consortium should consist of at least two parties that are completely independent of each other and come from two different Eurostars-2 Participating States or Eurostars-2 partner countries. The search can be carried out either by the companies themselves or with the help of the NFBs. To receive EU and national funding, companies must meet several criteria<sup>51</sup>. The ESE evaluates the submitted application by performing a completeness check and an eligibility check<sup>52</sup> and the assessment is conducted by three independent experts. Simultaneously, the NFBs conduct a financial viability assessment of the companies and report the results to the Independent Evaluation Panel (IEP). Bringing it all together, an independent team of experts performs a ranking and only projects that are above a certain threshold are recommended. The funding of the projects follows the ranking until the designated national budget is exhausted. Ethical criteria are also evaluated in the final step.

<sup>51</sup> Eligibility criteria for the Eurostars-2 programme are the following: the project leader is an R&D-performing SME from a Eurostars-2 country, at least two participants, autonomous entities, legal entities from at least two Eurostars-2 countries, SMEs that are in the driving seat – an international balance, having a project duration of maximum three years and market introduction within 2 years.

<sup>52</sup> This eligibility check is made on the basis of three evaluation criteria: implementation, excellence and impact. The implementation criteria describe the quality and efficiency of the project, i.e. the quality of the consortium, added value through co-operation, realistic and clearly defined project management and planning, and a reasonable cost structure. The excellence criteria concern the degree of innovation, new applied knowledge, level of technical challenge, and technological achievability and risk. Finally, the impact criteria concern market size, market access and risk, competitive advantage, commercialisation plans and time to market.

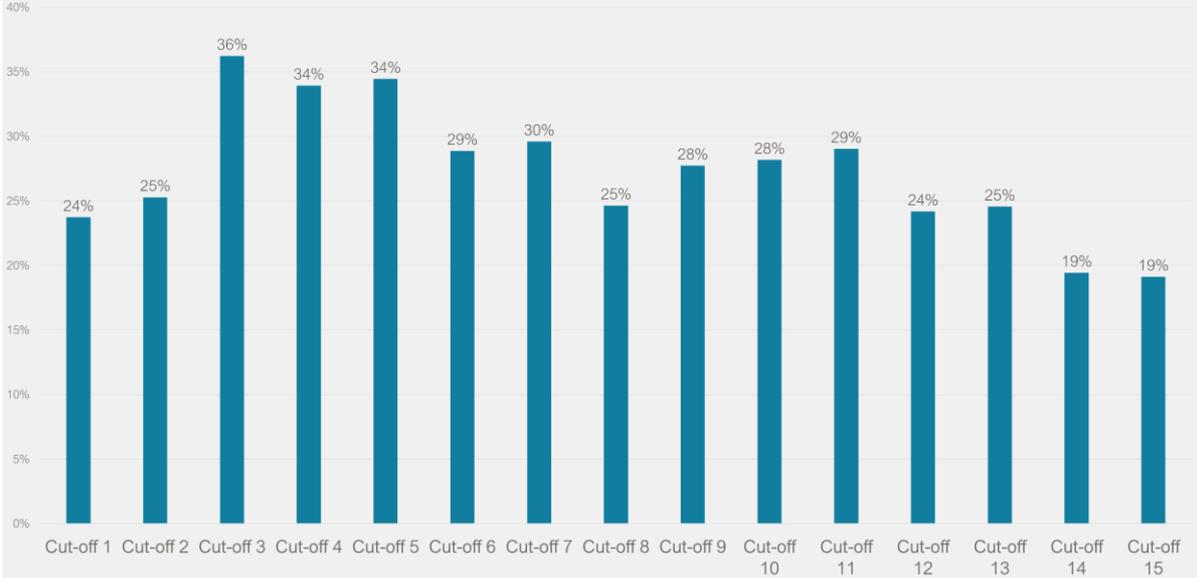
**Figure 34: Number of applications to the Eurostars-2 programme per country (cut-offs 1-15)**



Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

Figure 34 shows that the number of applications to the Eurostars-2 programme by the Participating States varied significantly. The top five applicants per country have been Germany (2602), the Netherlands (1766), Denmark (1542), Slovenia (1461) and Sweden (1425). The reason for the substantial differences in the number of applications between the countries can mainly be traced back to countries such as Germany, Spain and France having larger populations, which means that more applicants are likely to apply. In addition, the influence of other economic and social factors such as GDP per capita, total population, the number of patents or further qualitative aspects (awareness of European funding programmes, motivation/willingness to apply for European funding programmes) on the number of applications are also likely to have an impact on the application 61rganiour.

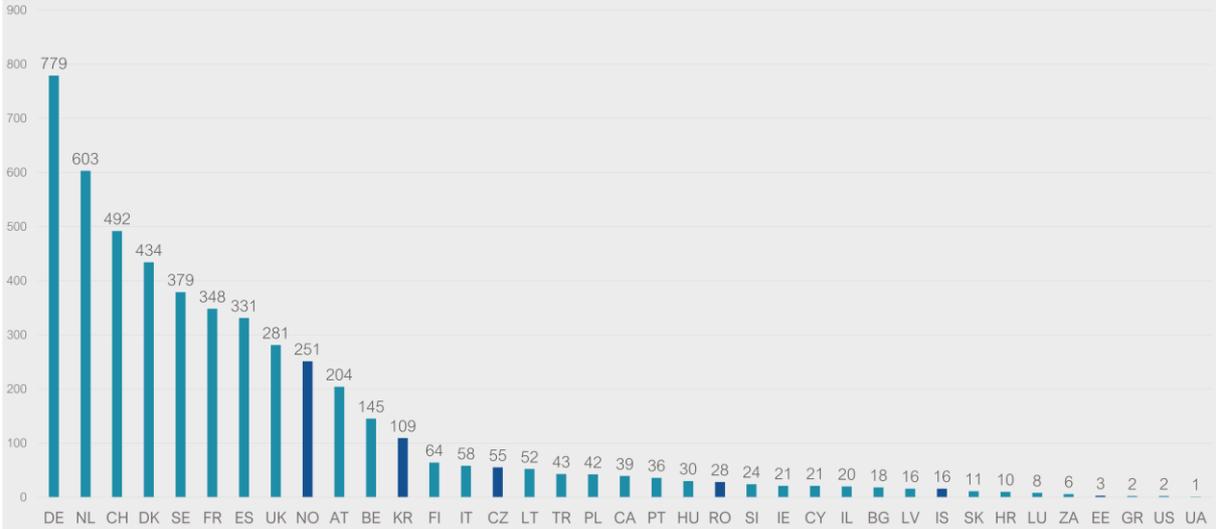
**Figure 35: Success rate of Eurostars-2 applicants per cut-off**



Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

The next step is to investigate how many of the applications were successful. The success rate of Eurostars-2 applicants has varied across the different cut-offs and the Participating States. The overall success rate for all Participating States was around 27% (see Figure 35). This high success rate, also in comparison to other Horizon 2020 funding programmes is, according to interview statements, one of the main factors for the application.

**Figure 36: Number of participants of the Eurostars-2 programme per country (cut-offs 11-25)**



Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

Figure 36 shows that the country with the most participants in the Eurostars-2 programme is Germany (779), followed by the Netherlands (603), Switzerland (492), Denmark (434) and Sweden (348). The countries with the fewest participants, in addition to non-European countries (United Emirates, USA, South Africa), are Greece (2), Estonia (3), Luxembourg (8) and Croatia (10). In general, the picture is relatively similar to the number of applicants.

**Detailed methodology**

The case study will focus on the efficiency and partnership questions to analyse the varying participation rates in the different Member States. Those questions are answered based on quantitative and qualitative methodological approaches such as desk research, analysis of monitoring data and expert interviews. Quantitative monitoring data from the ESE is analysed and enriched with stakeholder interviews. The quantitative analysis determines to what extent the indicators total population, GDP per capita, R&D expenditure and the number of patents correlate with the number of applications and the number of participants in the Eurostars-2 programme.

To learn more about the application and granting process in the different Participating States, interviews with three NFBs with high participation rates (Germany, Denmark and the Netherlands) and three interviews with NFBs with low participation rates (Ireland, Italy and Croatia) have been performed. In addition, interviews have been held with beneficiaries of the Eurostars-2 programme, namely R&D-driven SMEs, and one interview has been performed with the ESE.

According to the interim evaluation, the level of scientific collaboration could also play a key role in the success rate; this was mentioned during the interviews. Factors such as the provision of accompanying support measures to facilitate the application process could also have a positive impact on the success rate. In addition, aspects such as the awareness of European funding programmes, the motivation to apply or comparable funding programmes at the national level was included in the interviews. Questions on the cost of the application were also addressed and analysed, although the data are not complete for this.

# Detailed evidence found for specific evaluation question aspects and indicators covered by a given case study

## Efficiency

The programme’s efficiency with regard to the application and the subsequent selection process is one of the central questions in investigating the causes of varying participation rates. Figure 34 shows that some countries have a very high number of applications for Eurostars-2, whereas other countries receive very few applications. The reasons for these differences can vary and will be discussed in more detail in this section. First, we will examine the differences in the number of applications, followed by a closer look at the selection process. Although the selection process is largely organised centrally, there are national differences in efficiency.

**Table 9: Correlation analysis**

	Applications	Participants	Population	GDP	RDExp	Patents
Applications		0.96***	0.55**	0.26	0.53*	0.64***
Participants			0.54**	0.36	0.62**	0.65***

Source: PPMI/Prognos/Idea Consult (2022) own calculation based on ESE and World Bank information.

Figure 35 shows that Germany has the highest number of applications for the Eurostars-2 programme, followed by the Netherlands, Denmark, Slovenia and Sweden. Table 9 shows how the number of applications correlate with other social and economic indicators, such as GDP per capita, total population, R&D expenditure and patents.

Table 9 shows that the number of applications correlates most strongly with the number of patents. Specifically, the value of 0.64 signals a medium-strong correlation. This means that especially from countries where many patent applications are registered, many people have applied to the Eurostars-2 programme. The number of patents is an indicator that is commonly used to characterise the innovative capacities of countries. Therefore, it could be argued that particularly innovative countries participate in Eurostars-2. The reason could be that in these countries, a special focus is put on such funding programmes. Furthermore, we also see a significant medium-strong positive correlation of 0.55 between the total population and the number of applications. This is also not surprising, because in countries with more people, more applications will be received. It is also not surprising that the R&D expenditure factor has a weak but positively significant influence on the number of applications. The coefficient GDP per capita, on the other hand, shows no significant correlation with the number of applications.

In addition, interviews were conducted with NFBs with very high numbers of applications, as well as with NFBs with very low numbers, to find out what causes varying numbers of applications.

It was confirmed that the main reason for low applications is the lack of attention to the Eurostars-2 programme. Especially in relation to other Horizon 2020 programmes, Eurostars-2 is still seen as a ‘niche programme’. To counteract this, it is recommended to promote the programme more strongly and to focus more on the benefits of the programme because these are undoubtedly present, as all NFBs confirm. The most significant argument cited is the high success rate of up to 30%. However, to further support this argument, it should be kept in mind that if applications increase, the success rate will decrease. Nevertheless, some countries still have room to increase their Eurostars-2 applications, as also confirmed in the interviews. While some NFBs do not do any additional promotion of the programme, leaving it up to SMEs to identify Eurostars as a suitable funding programme, other NFBs have their own communication plan to promote Eurostars. This includes setting up their own website or planning events where the opportunities of the programme are emphasised.

According to the interviews, other reasons for the low number of applicants are the fact that alternative national and European funding programmes promise better funding.

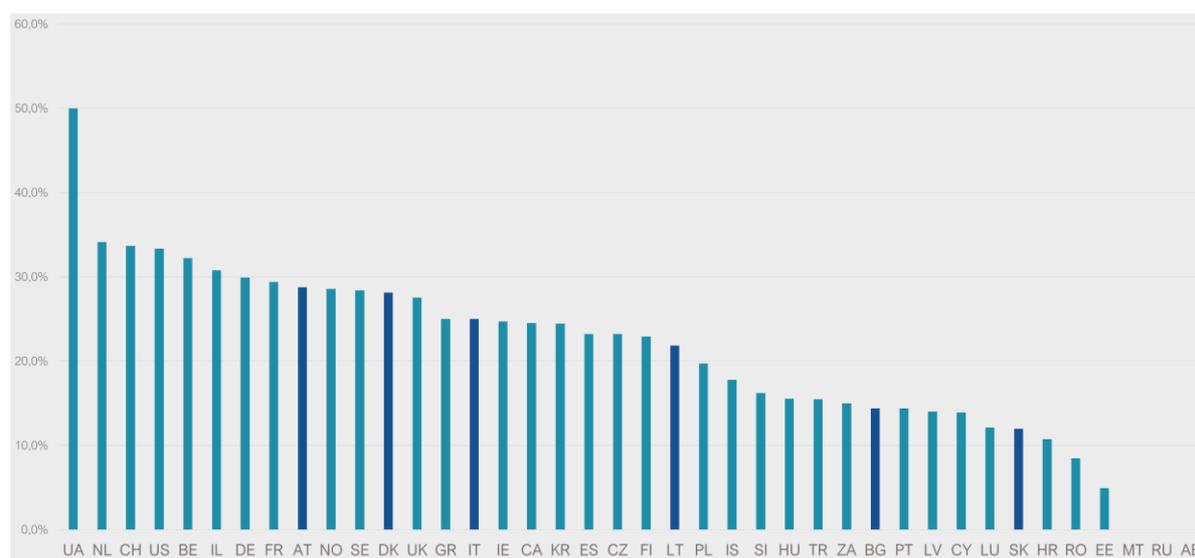
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*'EUREKA was seen as, I suppose, slightly less of a priority for companies compared to some of the programmes under the Horizon Europe umbrella.'* Representative of NFB

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As a result, we see that the number of applications depends not least on factors such as the population, the number of patents or R&D expenditures. This suggests that especially countries with a strong focus on innovation have a high number of applications to Eurostars-2. Nevertheless, the interviews confirm that measures to increase the awareness of Eurostars-2 can also increase applications.

**Figure 37: Success rate of the Eurostars-2 programme per country (cut-offs 1-15)**



Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

To discover the cause of the varying participation rates in Eurostars-2, it is not enough to look only at the number of applications submitted, but the success rate of the applications should also be examined. Figure 37 shows the success rates of the different countries and reveals significant differences. While some countries such as the Netherlands and Switzerland have very high success rates of over 30%, other countries such as Slovakia, Croatia, Romania and Estonia have significantly lower success rates of less than 15%.

Similar to the number of applications, the number of participants correlates with R&D expenditure and patents. The population also correlates significantly positively with the number of participants in Eurostars-2 (see Table 9).

From the interviews, it also appears that causal factors for these differences in success rates include a lack of support services from the NFBs and strong deviations from national application processes. While some NFBs closely support SMEs from the beginning, other NFBs interpret their role rather passively.

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*'We do not do a lot of promotion of the programme and only the information on the webpages; it's up to the SMEs to check the website.'* Representative of NFB

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It is interesting to note that some NFBs take over the application advice completely themselves (e.g. Germany, Austria), while others hire external consultancies for this purpose (e.g. Denmark, France, Spain, the Netherlands). As part of this support, one example is the offer of writing sessions for applications. Since the application is also perceived by the applicants as demanding and complicated, this support (whether internal or external) offers a significant added value according to the beneficiaries. Another key factor in the success of the application is the experience with such applications. The applications are much easier for SMEs with funding experience, where sometimes an experienced project partner can be helpful. National funding applications vary greatly from country to country, and funding experience therefore tends to relate to countries with similar funding applications. This is because especially in countries where such detailed applications are not common, applicants have great

difficulties in applying. However, there are problems with successful application processing not only on the part of the applicants but also on the part of the NFBs themselves. In this context, it was pointed out in the interviews that a suitability check within a few weeks is a major challenge since most SMEs are completely unknown to the NFBs at the time of application.

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*‘There was a lot of misunderstanding around the funding mechanisms. And so, a lot of ineligible companies were applying without understanding. I suppose most of them thought they would be funded directly from EUREKA, not understanding that there was a national funding programme in place.’ Representative of NFB*

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Another factor that should not be underestimated in a successful application is the costs. SMEs in particular must keep a close eye on the costs of the application, as they often have a very tight budget. Excessively high costs for application and programme participation can therefore prevent certain SMEs from applying at an early stage. Of course, these costs are also compared to the expected funding. The high success rate of the application plays a key role in the considerations of the applicants.

Statements on the costs of the application can be made on the basis of the interviews and the data analysis. Firstly, it should be noted that the costs of the application and the amount of funding vary from country to country, and are therefore a factor in varying participation rates. The only requirement is that R&D-performing SMEs receive at least 50% of the project budget and that an institution may not receive more than 75% of the project budget. The exact amount of funding is left up to the NFBs themselves.

**Table 10: Costs and funding of Eurostars-2 participants (cut-offs 1-5)**

Cut-off	Costs of the projects on average (€)	Public funding received by company on average (€)	Private funding (own resources) on average (€)
1	481 800.69	223 829.04	257 082.67
2	525 227.87	277 353.31	349 220.52
3	571 704.40	280 748.19	308 004.96
4	480 392.71	231 943.55	294 121.83
5	611 566.03	319 191.26	415 504.77
1 to 5	535 766.81	268 092.80	328 740.56

Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

Table 10 above shows the average costs incurred during the course of the project. These average almost EUR 500 000 and increase across the cut-offs, with the exception of cut-off 4. The consideration of project costs in the evaluation of Eurostars-1 was only based on total costs and not as an average value. A comparison is therefore only of limited significance, as the exact number of participants is not clear. Nevertheless, it can be seen that the costs are approximately on a similar level compared to Eurostars-1. While the total costs of cut-offs 1-10 is EUR 1.130 million from Eurostars-1, the total cost of cut-offs 1-5 from Eurostars-2 is about EUR 590 000, slightly more than half as much.

However, looking at the costs alone is not very meaningful and only becomes more significant when looking at the funding in Table 10. From this, it can be seen that the funding also increases with increasing costs; however, public funding only partially covers the costs. According to interview statements from the NFBs, budgetary issues are primarily decisive in determining the amount of the funding budget. Applicants have to declare their costs in advance, which means that these are often underestimated, and since the NFBs only cover the actual costs, this creates a gap. Also worth mentioning in terms of costs is that, as described above, some SMEs have to resort to external advice when applying. This incurs additional costs, even though some NFBs (e.g. France) cover a portion of them. In some countries alternative funding programmes exist that promise a higher funding amount, and this also has a negative impact on the number of participants. On the other hand, the Eurostars-2 programme promises an enormous incentive in some countries thanks to higher funding than comparable national funding programmes (e.g. in Denmark or Austria).

In addition to public funding there is also private funding. From Table 10, it becomes apparent that, apart from the cut-off 1, the sum of the public and private funding exceeds the costs on average. This could mean that funding is sufficient for beneficiaries. Statements from programme participants confirm that private funding is easier to generate once public funding has already been promised. Funding received from Eurostars-2 can then certainly be seen as a cause for higher private funding.

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*'Funding was more than enough because of additional big private investment.'* Eurostars-2 beneficiary

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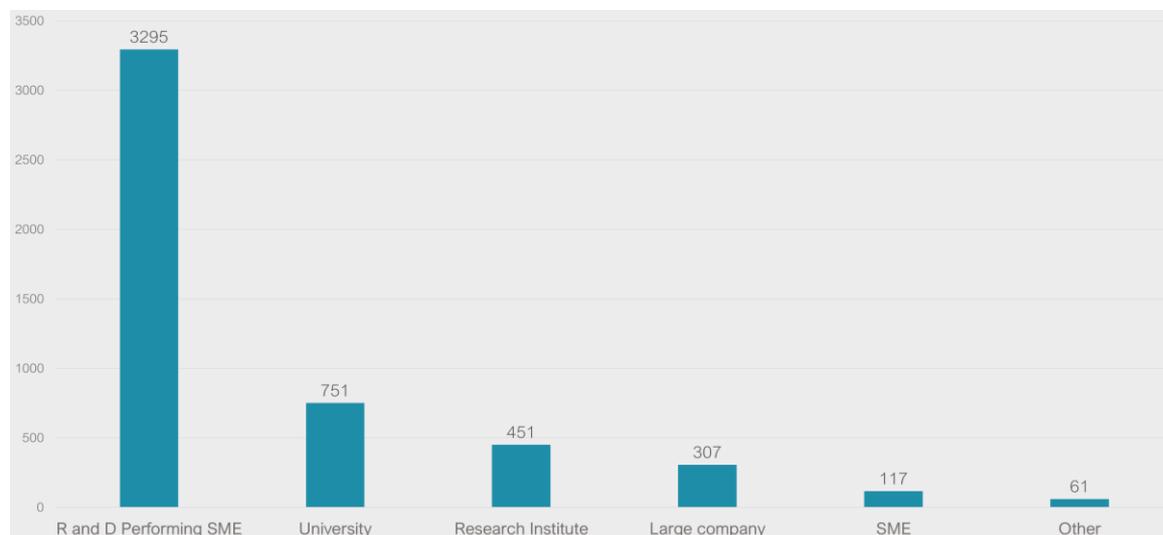
To contextualise the cost analysis, it is nevertheless important to mention that the analysis is based on average values and that the coverage of costs varies greatly from one organisation to another. The share of own resources in private funding is also not fully addressed in the analysis. Furthermore, the analysis is limited to the first five cut-offs of Eurostars-2. No cost data are currently available for the further ten cut-offs.

## Partnerships

Due to the decentralised approach of Eurostars-2, existing partnerships are a key feature in the analysis of the number of participants. The legal basis of these partnerships in Eurostars-2 is based on Article 185 TFEU. A network analysis will help to understand how consortia are composed and which countries cooperate with which other countries; among other things, this will help to understand how open the partnerships are to new participants. In addition, beneficiaries and NFBs were also asked how the collaboration between ESE, NFB and project partners worked. The focus will be on how the partnerships have impacted participant numbers.

To do this, it is crucial to understand the mechanism that decides which participants will receive funding. After an SME has decided to participate in Eurostars-2, suitable international partners are first sought for the joint consortium. Some applicants already have partners, while others need help in finding them. Very few NFBs offer a large network of partners. This is usually limited to a few countries where good relations exist (e.g. Germany and the Netherlands, or Norway and Sweden). According to interview statements, the SMEs also generally have their own networks with neighbouring countries. Thus, it is not surprising that the composition of the consortia in Eurostars-2 usually goes through a few partner countries. In addition, the European Enterprise Network offers support in the search for partners.

**Figure 38: Number of participants of the Eurostars-2 programme of each organisation type**



Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

When looking for a suitable partner, it is also necessary to consider what type of organisation it is. Since R&D-performing SMEs are the main addressees of the programme and are also predefined as consortium leaders, it is not surprising that they represent a majority (3 295) of the organisation types, followed by universities (751) and research institutions (451) (see Figure 38).

Once the partner search is completed, the project proposal is evaluated at central level by the ESE and at national level by the NFB, then ranked. This ranking takes into account not only the quality of the projects, but also funding aspects. This is because NFBs commit to funding the projects according to the ranking list, so if an NFB has a funding budget for 10 projects, then the first 10 projects on the list must be funded from that country. The information on how many projects can be funded per NFB is already available before the ranking is created. So the more funding a country provides, the higher the probability that these countries will have many projects in the ranking above the threshold. According to

the statements of some beneficiaries, the creation of the ranking list is criticised as very non-transparent, an impression also confirmed by some NFBs. However, it should be noted that the ranking list is created taking into account many factors and is therefore highly complex.

### **Critical success factors and perceived barriers**

From the analysis, some reasons for the different participation rates of the countries taking part in Eurostars-2 have emerged. Based on quantitative and qualitative analyses, success factors and barriers to successful applications were identified.

On the basis of the quantitative analysis, it was found that both the number of applications and the final number of participants depend on the size of the population. In addition, R&D expenditure and the number of patents also play a key role, which indicates that particularly innovative countries have participated in the Eurostars-2 programme.

Interviews with NFBs as well as beneficiaries also revealed several success factors that increase the number of programme participants. The number of applications is primarily about creating awareness of the Eurostars-2 programme. Increased communication and advertising should emphasise programme strengths more (e.g. high success rate, amount of funding), which can also be done through workshops or websites. Beneficiaries also emphasise that the existing bottom-up approach and the associated broad applicability of the programme have a positive effect on the number of applications. Besides the number of applications, however, the success of the applications can also be improved by certain measures. In this context, the support service during the complicated application process was frequently mentioned as a success factor. This can be ensured by both the NFBs and external consulting firms. A factor that also affects the success rate of applications is that applicants are familiar with such application processes. This can be due to the applications being very similar to national funding applications, or that the SME or a partner in the consortium is experienced in writing funding applications.

In contrast, the number of applications is significantly lower if SMEs are not aware of the programme, or national funding programmes have more favourable funding lines. This gives the impression that some NFBs pay less attention to the Eurostars programme compared to Horizon Europe, for example. It should be noted, however, that available resources vary widely among NFBs, in terms of both personnel and funding. Additional resources mean that a higher focus can be placed on the support of applications and the probability of success increases significantly. In addition, widely divergent national grant applications are a significant barrier to successful application submission. Finding partners can also be a major challenge in the application process for beneficiaries. Support in this regard, for example, through networking events, represents a useful instrument for improving the applicant's chances of success.

### **Conclusions and overall lessons learned**

In summary, the different participation rates of countries in Eurostars-2 largely depend on how national priorities are set. Countries that focus heavily on innovation invest more money in research and development, ensuring high-quality advice that benefits applicants. The decentralised approach allows countries to retain sovereignty over their own funds despite the international nature of the programme. They can therefore set their own priorities, funding rates and decisions so the countries that provide the strongest input also gain the most participants. Centralised evaluation may seem a little too complex and non-transparent, but it is also difficult to design because of the circumstances.

As a result, the consortia are highly international, even beyond the European area, and have a high R&D-performing SME ratio.

## **ANNEX 8: Case Study on varying performance of NFBs**

### **Introduction**

As mentioned before, the main objective of Eurostars-2 is to promote new products, processes and services and their market entry with a special focus on R&D performing SME. A decentralised approach was used to achieve this goal, leaving national funding bodies (NFBs) with substantial authority to act.

Generally, the governance system of Eurostars-2 involves three main bodies: the Eurostars-2 High-Level Group (EUREKA/Eurostars-2 HLG), the Eurostars-2 Advisory Group (EAG) and the national funding bodies (NFBs). While the EUREKA Secretariat (ESE) evaluates the application centrally, the NFBs are the most important stakeholders at the national level and support Eurostars-2 to synchronise further and financial flexibility. The case study focuses on whether Eurostars-2 is successful in close-to-market research and in bringing new products and services to the market, taking into account the varying performance of NFBs. Two striking features have emerged that will be examined in more detail: first, the differences between total NFB commitment to participant costs and funding, and second, the high heterogeneity of times-to-contract between the different NFBs.

The first issue reveals that some countries have transferred lower amounts than what was committed at the beginning of the year. This has resulted in EU contribution losses, and fewer participants and projects funded than initially planned. ESE considers the reason for this to be the design of the programme. As independent external experts evaluate the applications, the resulting ranking may not exactly match the NFB's commitments. As a result, not all contributions can be used. Based on the interviews with the NFBs another reason for this is that before a funding commitment is made for a new call, the national budget department must first confirm that the money is actually available. If there are unforeseen events that affect the budget, it can therefore happen that the money has to be used elsewhere and less money remains for the Eurostars funding. Data on discrepancies between promised and actual transferred funds are not available, so that statements from interviews with NFBs and ESE officials serve as a main reference. The second aspect relates to the synchronisation of funding, which leads to delays in signing contracts. This in turn can jeopardise the fast introduction of new products and services into the final market. Strong differences in time-to-contract between the different NFBs are evident from the data analysis. According to interview statements, the reasons for the differences vary in nature, but are generally due to the relatively complex application process with participants from different countries. Although the harmonisation of processing times has improved, differences in processing times between countries lead to delays.

### **Context and problem definition**

Due to the decentralised approach and the resulting continued sovereignty of the national funding agencies, the evaluation of the performance in achieving the goals is of particular interest. To this purpose, it must first be determined which tasks lie within the area of responsibility of the NFBs.

By agreeing to participate in the Eurostars programme, countries commit to supporting national projects funded under the Eurostars programme. The level of funding is thereby up to the NFBs themselves and depends primarily on national budgetary issues. The ESE, as the central coordinator, determines objectives and implementation with the NFBs through bilateral Eurostars-2 agreements.

As described in the case study on the varying participation rates, the operational activity of the NFBs begins with the enquiry from the SMEs looking for a suitable funding programme. After clarification of the relevant national and international funding programmes and a decision in favour of an application for Eurostars, it is the responsibility of the NFBs to support the applicants in their application. This can also happen with the support of external consulting service providers. Whether with or without support, the applications are then reviewed by the ESE; the NFBs are responsible for the financial viability assessment. Before the call is published, the exact amount of funding is requested again and after this assessment has taken place, there is an obligation to provide this amount of money. The payment of the funding is done according to the ranking list, which is based on central evaluation of the ESE, and is binding for the national funding bodies.

The time between the cut-off date and the date of signature of the grant agreement is referred to as 'time-to-contract'. It is also referred to as 'time-to-grant' in the Decision No 553/2014/EU and EU regulations. The value of the time-of-contract varies from NFB to NFB and should be minimised as far as possible. While the time-to-contract for Eurostars-1 was still 11.2 months on average, the value has

already fallen to 7.1 months on average during the first four cut-offs of Eurostars-2. According to the interim evaluation, this goal was achieved by, among other things, countries accepting the English Eurostars-2 application form in their national applications and others adapting their national application process. Shortening the time-to-contract also ensures the goal of national synchronisation. This is because having all consortia partners sign the contracts on time enables a joint project to start.

When projects are started, the NFBs are in close contact with the projects. They help with questions and serve as contacts for the projects. They thus also bear a significant part of the responsibility for the success or failure of the projects – not least through the distribution of funding. This is usually linked to how high the costs of the projects are. Even before the project begins, the costs of the projects are estimated, then the NFBs transfer this to the beneficiaries on the basis of the actual costs. Since it is relatively difficult to estimate the costs in advance, projects often require more funding than initially thought or receive less than initially stated, because the costs were lower than indicated. When the funding is paid out is also depends on the NFBs.

When evaluating the performance of the NFBs, it should be noted that the success or failure of a project does not only depend on the performance of one NFB. Rather, several NFBs (at least two) are involved in a project, so their performance must also be considered when looking at the projects. It is therefore possible that one NFB solves all requirements quickly and carefully, while the NFB of the project partner acts only very slowly and superficially. This can lead to the complete project being delayed. In total, over 30 countries and 40 different funding agencies participated in the Eurostars-2 programme.

## Detailed methodology

The methodological approach was based on a mix of quantitative and qualitative methods. The focus of the evaluation was on efficiency and effectiveness questions.

The initial basis for this was desk research, which focuses in particular on the results of the interim evaluation of Eurostars-2 and the evaluation study of Eurostars-1. Furthermore, we used information from annual reports of Eurostars-2 and from the final reports of the Eurostars-2 participants. These reports were also used as data sources for the quantitative analysis.

In the quantitative analysis, we tried to focus on country-specific data. The key indicator in the efficiency analysis of the performance of the various NFBs is the time-to-contract. However, country-specific budget data also provide useful indications.

In addition, statements about NFB performance are based on the interviews conducted with ESE officials, NFBs and the final beneficiaries. During the interviews, it was asked how the efficiency of the cooperation between NFBs, ESE and projects was assessed. In the process, drivers and barriers were surveyed from all three perspectives. In addition to an official from ESE, interviews were conducted with NFBs that transferred lower amounts than committed (e.g. France – Bpifrance, Sweden – Vinnova (Sweden's Innovation Agency), Netherlands – Netherlands Enterprise Agency (RVO), Italy – Ministry of Education, University and Research (MIUR)). These interviews should also answer the question of different funding levels. At the effectiveness level, NFBs were asked what factors were responsible for success and to what extent supervised projects were successful. In addition, beneficiaries were asked about their main outcomes and what factors were critical to them.

## Detailed evidence found for specific evaluation question aspects and indicators covered by a given case study

### Efficiency

Making general statements about the efficiency of NFBs' performance is challenging, as the reasons for a lack of efficiency vary greatly from one to another. It should be emphasised that the quantitative analysis should be considered only as one building block in answering the efficiency question. In addition to the quantitative analysis, our approach is to identify best practices on the efficiency of the administration and management of the programme based on the interviews with the NFBs. In doing so, we also aim to emphasise potentials for possible efficiency improvements. Supplementary interviews with participants from different countries and the ESEs provide further complementary information on the efficiency of the NFBs' performance.

Generally, it can be stated that the programme’s structure promises great sovereignty for the individual countries on the one hand. Still, on the other hand, success or failure is also strongly linked to their performance. The interviews also confirm this. Because several different international parties are involved in a project, there is an enormous need for coordination.

When asked how the cooperation between the beneficiaries, the NFBs and the ESE worked, the feedback was exclusively positive. While the exchange between NFBs and beneficiaries was still regular during the application process, the exchange frequency diminished somewhat as the project progressed. The intensity of support during the application process differed from NFB to NFB (see case study – varying participation rates). While some NFBs provide full support for the application process, others refer applicants to external consulting firms and cover part of the costs (e.g. France), and some offer no support at all. This advisory service should be provided by the NFB itself as far as possible. If resources are not sufficient, the example of other well-performing NFBs such as France, Denmark or the Netherlands shows that good external consultancy can also support the application process. In general, offering support services in the application process promises a high level of success and should therefore be offered by every NFB to increase efficiency. Depending on the occurrence of complications, the regularity of the exchange also varied in the further course of the project. Where problems have arisen, however, they have been fully resolved. The flexibility of most of the NFBs in the face of changing conditions is particularly emphasised.

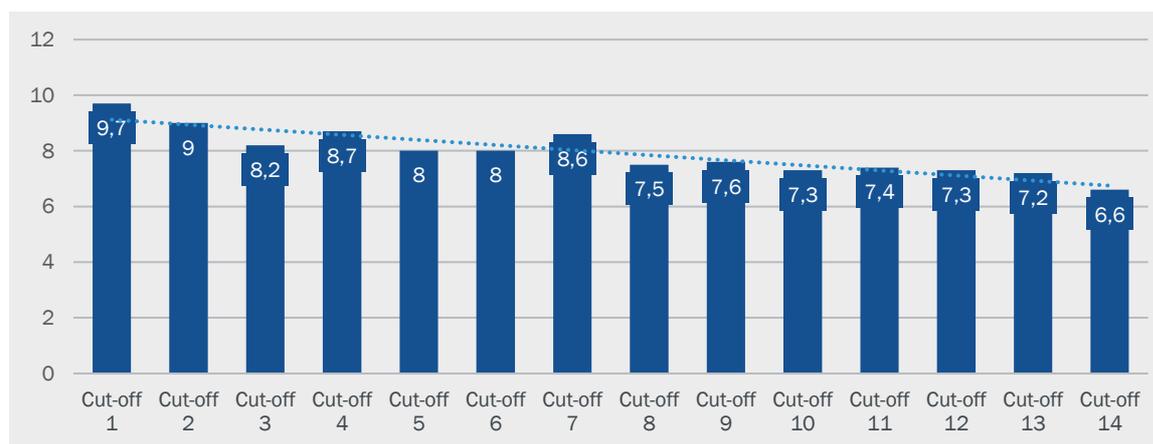
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*‘The collaboration was really good and easy. The NFB was very good and understanding.’*  
Eurostars-2 beneficiary

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According to the interviews, the exchange between beneficiaries and ESE is reduced to a minimum, but there is a more regular exchange between ESE and NFBs. The NFB and ESE representatives described this exchange as very positive. In addition, according to statements by NFBs, there are also regular meetings in committees between the various NFBs, especially the main countries such as Germany, the Netherlands, Spain, Austria and Switzerland. This exchange is described as the ‘core of the success’ of Eurostars-2. It shows that national institutions can also interact across national borders. An expansion of these meetings to include less integrated NFBs should therefore be a goal to increase efficiency. Within the framework of these meetings best practices can be exchanged, or existing problems can be addressed.

**Figure 39: Average time-to-contract per cut-off over time in months**



Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

The ‘time-to-contract’ indicator is the key quantitative indicator in the efficiency analysis of NFBs. It describes the processing time required by an NFB from application to receipt of the grant agreement. Gradual harmonisation of the processing times of the individual NFBs is therefore one of the greatest challenges. This is because widely varying processing times of the NFBs in the application phase lead to significant delays in the start of the project. The project cannot begin until the applications of all project partners have been completed. These delays even lead to the implementation of the new products or services on the market being delayed to such an extent that it is already a competing product on the market. Therefore, gradually adjusting and shortening the time-to-contract of NFBs is a key goal in increasing efficiency. Figure 39 shows that the average time is gradually decreasing and thus confirming

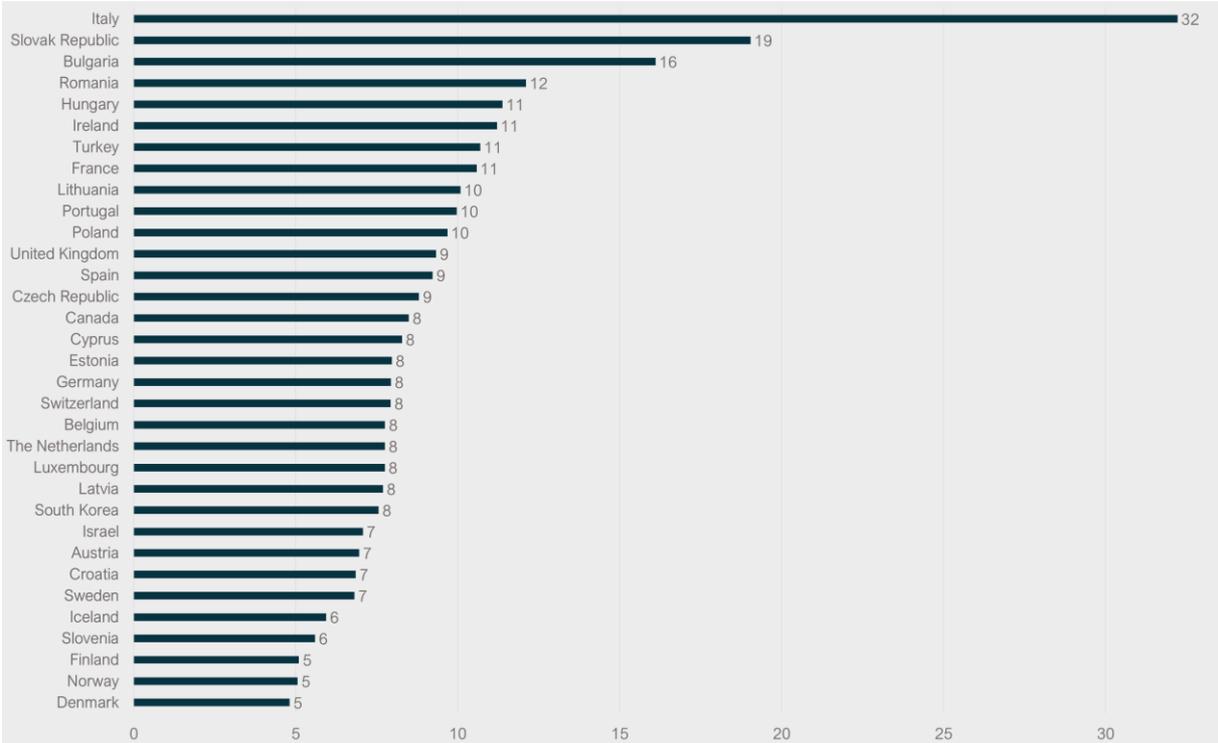
the positive trend. At the beginning of Eurostars-2, the average time-to-contract was still 9.7 months and this has fallen over the years to an average of 6.6 months<sup>53</sup>. This decreasing trend can be seen as positive, and is also confirmed from the interviews. Both the NFBs and the beneficiaries confirm that there has been significant progress in the harmonisation of the time-to-contract in the course of the Eurostars-2 programme. Nevertheless, the interviews also draw attention to the problem of existing differences in time-to-contract between countries. The discrepancy was gradually reduced, so the processes are now more closely coordinated. According to interview statements, the decisive factor for this is EU co-financing. This provides incentives for national funders to address and improve their own processes.

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*'... tighter timeline improved a lot but still needs to be [done] more digitally.'*  
*Representative of NFB*

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**Figure 40: Average time-to-contract of cut-offs 1-15 for each participating state and partner country in months**



Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

Figure 40 shows that there are significant differences in time-to-contract between the various countries. While Italy needed an average of over 32 months, other countries such as Finland, Norway and Denmark only needed an average of just under 5 months. The reasons for the differences were many and varied. Apart from incomplete data issues, reasons of personnel, financial bottlenecks and country-specific challenges were referred to. In Italy, for example, the long time-to-contract is due in part to the fact that a mafia check must first be carried out to determine whether the applying company has been in contact with the mafia. Such country-specific regulations make it difficult to harmonise the processing time.

It is also helpful to investigate the contribution of NFBs to these delays. There are three stages on the way to signing the contract:

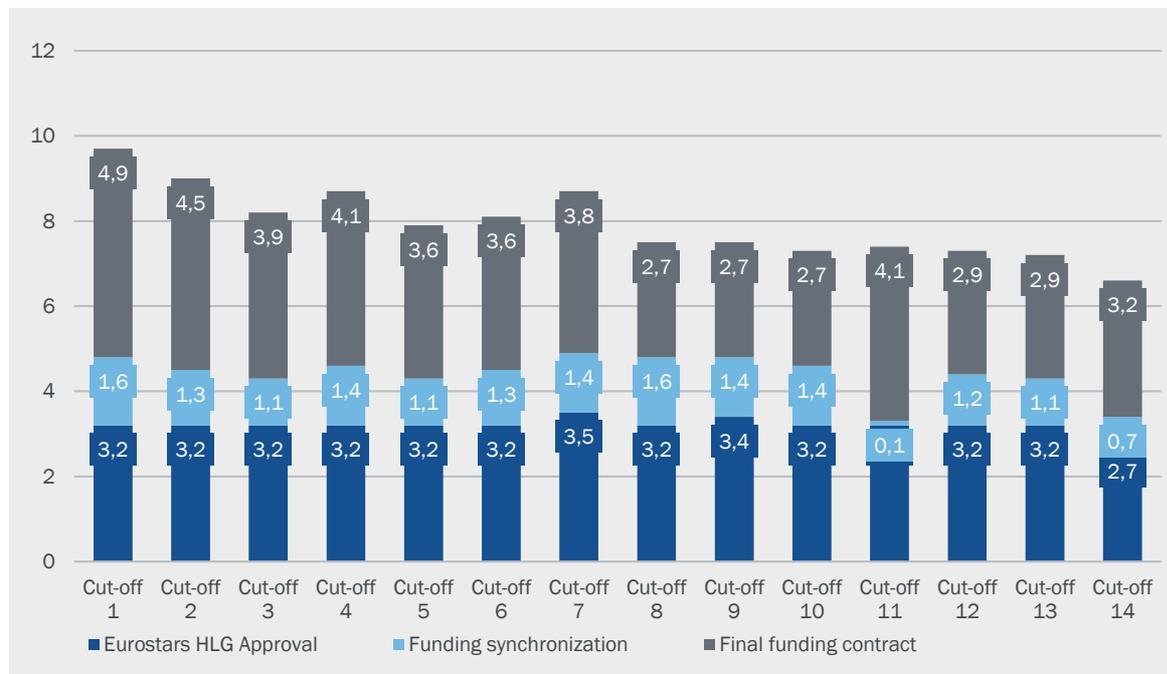
- (1) Central evaluation: time elapsed between the cut-off date and the date of approval of the ranking list by the Eurostars HLG.

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<sup>53</sup> Value for cut-off 14 as data for cut-off 15 were not available at the time of preparation.

- (2) Funding synchronisation: time elapsed between approval of the ranking list and the delivery of the funding status to the applicants.
- (3) Conclusion of the funding contract: time elapsed between receiving funding status and the signature of the grant agreement.

**Figure 41: Stages for time-to-contract in months per cut-off (average)**



Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

Figure 41 shows the average duration of the stages described above. This shows that the reduction in time-to-contract is primarily due to national funding processes. In contrast, central evaluation and synchronisation, which are mainly the responsibility of the ESE, are relatively stable over time.

Besides the high heterogeneity of times-to-contract, the differences between total NFB commitment to participant costs and funding are investigated in more detail. Once the ranking list is drawn up, NFBs and national participants agree on a funding commitment; afterwards, the NFB communicates the funding commitment to the ESE. The resulting Declaration of Commitments (DoC) is the official document that sets out the allocation of funding. If the DoC has not yet been received by the NFBs, the funding allocation is estimated by the ESE<sup>54</sup>. The ESE then calculates the actual EU contribution based on the actual payments, the Declaration of Expenditure. The maximum share paid on top by the EU was 33.3% per cut-off. The underlying problem was that some countries transferred smaller amounts than had been committed at the beginning of the year (e.g. France, Sweden, the Netherlands). This led to losses in EU contribution and to fewer participants and projects being funded than originally planned. An overview of the difference between the commitments and the expenditures for the first six cut-offs is shown in the annex. This shows that after the first six cut-offs there is already a difference of almost EUR 95 million<sup>55</sup>.

However, to investigate why the funding may not occur at the promised level, the interviews with ESE officials and NFBs are the most useful sources of information. According to statements by ESE officials, the reason for this lies in the programme's design. The ranking with the beneficiary projects is created independently and therefore does not meet the budget commitments of the NFBs. As a result, the allocation of contributions never works out perfectly. But Eurostars-2 reacted to this by using leftover contributions in Call 15. Another problem, according to NFBs, was that countries cannot commit to a fixed amount in the long term. This is because the funding allocated to the Eurostars programme must first be approved by the national budget before each call. If the intended funds are not available because

<sup>54</sup> There is no information on how often this is the case.

<sup>55</sup> The data is limited to cut-offs 1-6; these are the only relevant values as they were closed at the end of 2021. Regarding other cut-offs, EUREKA still continuously receiving expenditures from NFBs, as projects are still running.

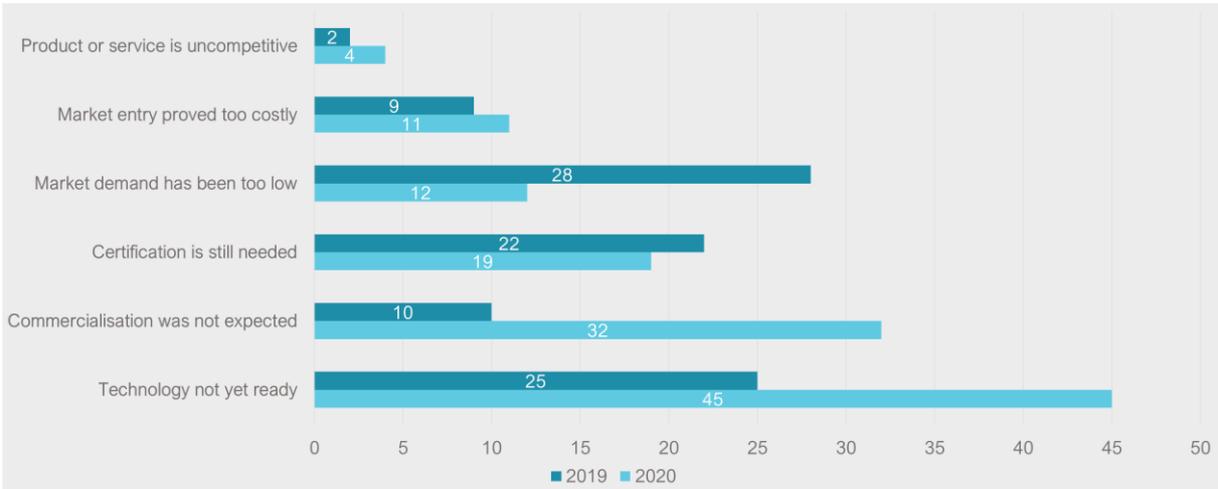
the money is needed elsewhere, fewer projects can be financed. Another problem, which was discussed in the interviews with the NFBs, is that the promised funding also serves projects from previous rounds of calls. It would have been interesting to see how much the funding commitments deviate from the actual funding amount in the further course of the programme and in turn, what effects this has on the realisation of projects. Unfortunately, however, no data are available in this regard. The reason for missing data is primarily because when the report was compiled, these data were not completely transmitted. A more centralised, digital monitoring could help to transmit data more quickly.

**Effectiveness**

When considering the effectiveness of Eurostars-2, this case study will focus less on the actual results achieved and more on the extent to which the performance of the NFBs has contributed to the results achieved. This will focus on what other factors have driven progress in the projects. The basis for the evaluations is primarily the statements from the interviews with the NFBs and the beneficiaries, and on the data from the final report in which participants were asked about their experiences after finishing their project. These reports are centrally processed by the ESE and are to be completed by each project participant. The result is a central evaluation of the project results, measured by homogeneous evaluation criteria. These data certainly paint a positive overall picture. Despite the challenges described in harmonising time-to-contract, 82% of projects in the Eurostars-2 programme start as planned.

Furthermore, it can be stated that most participants were very satisfied with the results they achieved. Thus, 79% of the participants say that they have successfully achieved their project results and 89% of the participants even rate their technological achievements as excellent or good<sup>56</sup>. A differentiation of the results at country level is not possible due to the limited data. However, a more detailed examination of the results is part of the overall evaluation and will not be mentioned here. Instead, we will examine which factors influenced this positive overall picture and what role the NFBs played in this.

**Figure 42: Reasons for not commercialising results**

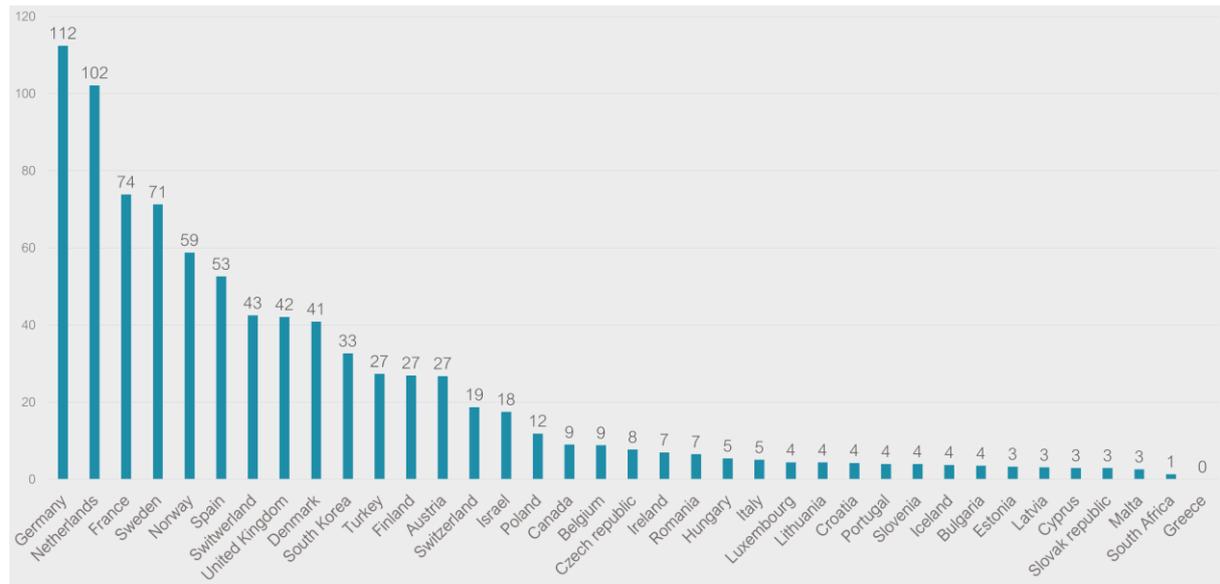


Source: PPMI/Idea Consult/Prognos (2022), based on Market Impact Reports submitted by former beneficiaries in 2019 and 2020.

Figure 42 shows the reasons that hindered successful commercialisation. As the most common reasons, the participants answered that the technology was not yet ready, certification is still needed and the market demand has been too low. These results explain the failure of commercialisation primarily by the lack of maturity of the technology and by misjudgements in the market. These are difficult to attribute to the performance of NFBs and could also be due to individual misjudgements or programme design. Thus, statements from the interviews with the beneficiaries and NFB representatives about the contribution of the NFBs to the success or failure of the projects are particularly helpful.

<sup>56</sup> Data are from the Final Impact Reports from cut-offs 1-5.

**Figure 43: Committed national budget by participating states for cut-offs 1-15**



Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

The greatest consensus is that the provision of funding is the principal success factor. The amount of funding depends to a large extent on the available budget that the countries provide for the Eurostars programme. Figure 43 shows the strong differences in financial resources between the different countries. It seems reasonable to assume that NFBs with the highest annual budgets, such as Germany or the Netherlands, are the NFBs with the most extensive support for project participants. In addition, statements from interviews with beneficiaries confirm that funding received through Eurostars also leads to further (private) funding being generated. This can be explained by the fact that once public funding has been committed, it promises more certainty for future investment decisions.

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*‘Reasons for this high amount of private funding was the fact we received Eurostars-2 funding in first place but also the product itself and the communication.’ Eurostars-2 beneficiary*

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Another key success factor in achieving the project goals that was mentioned in some interviews, is the high flexibility of the NFBs. Since projects had to plan in advance how costs and other resources will be used, it often happened that unforeseeable events influence the progress of the project. In this case, it is vital that NFBs react flexibly so that project results are not jeopardised. Such flexible behaviour of NFBs was mentioned, for example, in the context of Covid. Since some partners were not able to work, project durations were simply extended.

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*‘We didn’t reach results from application but NFBs were flexible [...] realistic but keen in fostering progress’. Eurostars-2 beneficiary*

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Another point that plays a role in evaluating the performance of the NFBs is the follow-up of the projects even after the project period has ended. This is interesting not least in that it provides information about the market success of the innovation and raises awareness of the programme through success stories. According to statements from the interviews, some NFBs engage in such follow-up of projects. However, most NFBs do not follow up due to lack of resources but also lack of digital solutions. There is definitely potential for expansion here, for example through the use of digital tools for follow-up.

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*'Would it make sense to introduce a follow up monitoring of results after two years? From the point of view of logistics, it is complex; people move on and the company would not be interested in being followed.'* Representative of NFB

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Other success factors mentioned, such as the high market proximity, the bottom-up approach or the internationality of the funding programme, can only be attributed to a limited extent to the performance of the NFBs. However, the internationality especially can be promoted by the NFBs by maintaining international networks and exchanging with other NFBs.

### Critical success factors and perceived barriers

In summary, the case study identified some promising success factors that can optimise the performance of NFBs and thus contribute to improving the Eurostars programme.

- (1) **Support in application process:** It has been found that offering a support service in the application process can be of great benefit to applicants. This is especially the case if the application process differs strongly from the national one, or if there is no experienced partner in the consortium. If the NFBs' own resources are not sufficient to offer an appropriate consultation, it is possible to outsource this through external consulting companies.
- (2) **Exchange with other NFBs:** According to interview statements with NFB executives, the exchange of experiences between NFBs offers enormous added value. In particular, the NFBs that perform well regularly exchange information and confirm the importance of this exchange. The goal should therefore be to involve the other, smaller NFBs in a regular exchange as well. Offering exchange platforms for the NFBs of Eurostars would be useful.
- (3) **Harmonisation of the time-to-contract:** Shortening and gradually adjusting the time-to-contract will continue to be one of the key success factors of Eurostars. This is because it promises that a project can start more quickly and an innovation can therefore reach the market sooner. Although harmonisation has already improved greatly in recent years, this path must be pursued further.
- (4) **Strengthen efforts in follow-up:** The analysis showed that the results achieved were very positive for the project participants. These good results should be followed up at the end of the project period, not least to raise awareness of the programme. In doing so, the NFBs could use digital tools to expand the follow-up despite the lack of resources.
- (5) **Strengthen national funding structures:** It has been found that national funding structures have a significant impact on the success of the programme. Most NFBs that do not provide sufficient support to their SMEs do so due to lack of financial resources. To make the programme more efficient, regional structural funds should therefore be expanded to increase the performance of the NFBs.
- (6) **Use of non-allocated EU contributions:** Similar to Call 15 of Eurostars-2, the use of non-allocated contributions in an additional call is a suitable means to increase the use of non-allocated contributions and to distribute the remaining funds among the projects. After all, the aim must be to pass on the maximum contributions to the projects.

These are general success factors that can optimise the performance of NFBs. Nevertheless, our analysis has also shown that there are country-specific criteria, for example on the budget, on which the performance of NFBs have only limited influence.

### Conclusions and overall lessons learned

The case study shows that the performance of the NFBs is very much related to the resources they devote to the Eurostars programme. This makes it difficult to make general statements about the performance of each NFB.

Nevertheless, it is undisputed that NFB performance impacts project outcomes. Success factors emerged from the analysis that are applicable to all NFBs. Most of these points have already been addressed by the NFBs but should continue to be explored in greater depth. The result shows that countries with a high commitment also benefited strongly from the Eurostars-2 programme. This could be an incentive for smaller countries to increase their funding for Eurostars.

To achieve better comparability between the performance of the NFBs in the future, greater use should be made of comparative indicators. In addition to efficiency criteria such as time-to-contract, impact indicators should also be collected on a mandatory basis for each NFB. This would enable better allocation of input and output to the respective NFB.

## Annex

Figure 44: Time-to-contract for each NFB country (cut-offs 1-15)

NFB Country	Cut-off 1	Cut-off 2	Cut-off 3	Cut-off 4	Cut-off 5	Cut-off 6	Cut-off 7	Cut-off 8	Cut-off 9	Cut-off 10	Cut-off 11	Cut-off 12	Cut-off 13	Cut-off 14	Cut-off 15
Denmark	5.5	5.2	5.4	6.1	5.1	4.8	5.3	5.3	4.1	5.3	4.2	4.4	4.1	3.4	4.0
Norway	5.7	5.0	3.6	5.3	3.9	6.3	4.3	4.2	4.0	4.2	3.9	4.3	4.0	8.9	8.2
Finland	3.6	5.8	6.3	7.7	3.9	4.8	4.9	4.2	5.8	4.2	3.7	4.7	5.9	4.6	6.3
Slovenia		10.0			6.6	4.9	5.7	3.6			5.3		5.1	4.3	4.9
Iceland		6.2	3.9	8.3	7.1	4.4			7.3	6.7	5.9		5.0		4.8
Sweden	10.5	7.7	7.9	5.6	5.5	5.0	7.7	6.0	6.1	8.1	6.4	5.8	7.4	5.4	7.1
Croatia					6.7	9.9	6.4	6.8			7.2			5.4	5.5
Austria	9.1	7.6	7.4	6.4	8.7	6.4	6.5	6.7	7.2	6.1	6.1	6.2	6.6	6.0	7.3
Israel		8.2	9.6			11.0	7.0		2.7		4.3		6.7		
South Korea	7.5	9.1	6.4	6.2	5.4	7.6	6.2	6.4	8.5	8.5	6.7	8.1	8.3	10.9	
Latvia		18.6		7.9	10.6		9.2				4.1	4.1	4.0		3.0
Luxembourg		10.6	8.7		6.6			4.8				12.7		6.2	4.8
Netherlands	6.7	7.5	7.8	8.3	8.4	7.1	7.5	7.2	8.9	7.3	7.8	6.7	7.9	7.8	9.4
Belgium	6.8	7.4	6.3	5.9	7.6	9.4	8.0	9.6	10.1	9.3	9.1	7.0	7.3	5.6	7.0
Switzerland	10.1	9.4	8.3	6.3	6.4	9.9	12.2	10.0	7.0	7.4	7.2	7.0	6.6	4.6	6.7
Germany	7.1	8.4	8.4	8.5	7.4	7.7	8.4	8.1	7.9	8.6	8.3	8.3	7.7	7.0	7.2
Estonia															8.0
Cyprus			10.6		8.1	12.2	12.9			6.9	1.6	5.7			
Canada						9.9	7.0	7.6	12.2	7.6					6.7
Czechia	20.8	14.9	9.1	7.7	7.1	7.9	6.8	6.9	6.9	5.8	6.7	8.2	6.4	8.3	
Spain	12.4	10.6	9.7	9.4	9.4	9.2	9.8	7.8	7.8	7.8	7.4	8.9	10.3	9.2	8.9
UK	12.3	11.9	11.1	8.9	10.4	10.1	7.8	9.1	7.8	8.3	9.4	8.6	8.3	7.4	8.6
Poland		8.2	9.9	7.7	16.5		11.5	8.2	6.6	7.5	8.8	9.4	12.9	8.1	10.6
Portugal				8.5		11.1	11.3		14.4		8.2		6.4		
Lithuania		9.8	11.4	9.0	10.1	10.7	10.0	11.5	14.8	9.0	8.1	9.2	8.8	9.0	9.9

France	13.4	9.3	11.1	9.9	12.9	12.6	10.9	10.6	9.7	10.1	9.5	10.0	9.4	9.1	10.4
Turkey	10.4	10.6	11.6	15.6	20.5	12.0	10.4	10.1	7.2		7.0	12.0	7.6	7.0	7.9
Ireland				7.9		12.3	10.8			11.0			17.1	9.3	10.1
Hungary		19.8	14.0	16.2	9.4	9.0	5.7		12.0	13.7	8.2	11.9	8.0	8.8	
Romania	21.8	14.5	9.0			8.9		7.1	21.3	14.9	9.3	7.3	7.0		
Bulgaria	14.5		21.4	23.3						7.3	14.0				
Slovak Republic	30.6	24.6	18.9		7.4	14.5	45.6				11.9			8.9	9.2
Italy		45.6		37.3			39.1		29.1	29.4	19.2	25.9			

Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

**Figure 45: Declaration of commitments (cut-offs 1-6)**

NFB Country	Cut-off 1	Cut-off 2	Cut-off 3	Cut-off 4	Cut-off 5	Cut-off 6	Grand Total
Austria	1 384 300.00	3 267 300.00	1 486 000.00	2 963 700.00	3 057 393.00	2 585 534.00	14 744 227.00
Belgium	1 167 229.62	1 367 747.54	4 130 692.87	2 383 294.97	1 551 416.08	2 505 081.90	13 105 462.98
Bulgaria	393 360.31		780 005.59	1 018 801.27			2 192 167.17
Canada						1 730 923.52	1 730 923.52
Croatia					194 837.58	138 365.47	333 203.05
Cyprus			146 203.20		156 328.00	364 800.00	667 331.20
Czechia	349 425.20	476 826.26	628 635.92	1 496 599.64	963 147.44	786 279.82	4 700 914.28
Denmark	3 084 813.80	3 084 356.19	3 990 545.72	6 582 123.19	5 902 754.83	7 367 278.18	30 011 871.91
Finland	905 700.00	1 634 750.00	1 177 000.00	60 000.00	649 000.00	1 797 580.00	6 224 030.00
France	3 724 104.00	6 820 013.00	3 353 050.00	4 927 308.00	7 180 517.00	4 569 897.00	30 574 889.00
Germany	2 950 301.00	8 565 209.81	10 994 658.99	13 891 799.66	9 988 220.41	10 576 072.67	56 966 262.54
Hungary		906 378.01	246 130.89	415 787.52	324 734.25	219 933.21	2 112 963.88
Iceland		330 110.04	224 074.69	632 822.38	336 649.96	391 986.06	1 915 643.13
Ireland				327 018.00		94 927.00	421 945.00
Israel		370 297.34	82 417.58			562 163.87	1 014 878.79
Italy		153 000.00		1 026 418.75			1 179 418.75
Latvia		241 684.49		192 920.40	441 166.18		875 771.07
Lithuania		812 624.00	381 046.00	1 338 401.32	1 461 563.00	139 407.00	4 133 041.32
Luxembourg	148 000.00	312 183.00	299 000.00		286 000.00		1 045 183.00
Norway	5 246 679.24	3 994 191.81	1 934 266.76	5 133 517.60	7 667 079.46	4 286 206.30	28 261 941.17

Poland		328 560.66	703 089.56	838 061.38	359 670.00		2 229 381.60
Portugal				262 669.80		500 000.00	762 669.80
Romania	182 220.49	159 974.56	949 841.03			826 076.94	2 118 113.02
Slovak Republic	77 800.00	275 848.40	209 650.00		144 240.00	203 560.00	911 098.40
Slovenia		292 527.20			1 089 544.50	450 000.00	1 832 071.70
South Korea	1 088 183.14	1 535 547.31	3 285 865.00	1 587 988.59	1 719 610.74	5 344 708.83	14 561 903.61
Spain	4 833 904.58	2 467 659.48	4 498 684.08	4 082 277.37	4 209 434.20	5 045 735.20	25 137 694.91
Sweden	3 930 369.58	4 443 364.88	5 197 738.38	5 136 441.85	6 563 130.47	4 342 392.40	29 613 437.56
Switzerland	6 294 366.10	5 272 277.47	8 191 032.21	5 920 959.64	5 725 674.29	6 164 452.89	37 568 762.60
The Netherlands	3 899 689.00	8 731 974.00	8 286 114.00	8 895 804.00	7 970 493.00	6 840 488.00	44 624 562.00
Türkiye	915 208.95	2 041 180.04	284 670.57	867 029.80	974 912.27	1 007 479.18	6 090 480.81
United Kingdom	5 122 920.20	3 940 083.65	4 145 927.95	3 414 422.88	3 711 039.72	3 817 087.06	24 151 481.46
<b>Grand Total</b>	<b>45 698 575.21</b>	<b>61 825 669.14</b>	<b>65 606 340.99</b>	<b>73 396 168.01</b>	<b>72 628 556.38</b>	<b>72 658 416.50</b>	<b>391 813 726.23</b>

Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

**Figure 46: Declaration of expenditure (cut-offs 1-6)**

NFB Country	Cut-off 1	Cut-off 2	Cut-off 3	Cut-off 4	Cut-off 5	Cut-off 6	Total
AT	1 056 841.00	3 073 499.00	1 246 681.00	2 921 167.00	2 477 300.00	2 266 888.00	13 042 376.00
BE INNOVIRIS	159 975.20	803 921.00				641 770.82	1 605 667.02
BE VLAIO		229 641.54	750 052.10	849 071.00	278 558.96	389 506.00	2 496 829.60
BE SPW	660 755.91	248 891.11	3 008 940.72	1 339 770.77	523 326.43	790 645.61	6 572 330.55
BG	231 792.27		696 708.88	485 467.35			1 413 968.50
CA							
CH						5 419 291.05	5 419 291.05
CY			140 264.44		145 368.00	313 446.05	599 078.49
CZ	322 148.57	476 826.26	586 304.44	1 385 137.29	961 955.17	786 279.82	4 518 651.55
DE	2 839 288.07	7 698 302.28	10 112 181.93	12 312 168.00	8 638 678.96	9 770 413.04	51 371 032.28
DK	2 957 970.86	2 505 165.58	3 463 275.66	6 425 959.95	5 084 475.27	6 323 315.54	26 760 162.86
ES	4 046 081.22	2 267 924.29	3 981 025.19	3 658 677.16	3 545 180.68	4 769 512.43	22 268 400.97
FI	471,093.00	1 171 750.00	520 032.00	60 000.00	649 000.00	1 699 866.50	4 571 741.50
FR	3 368 880.06	5 699 184.13	2 888 783.15	4 339 500.23	6 102 710.37	3 963 180.02	26 362 237.96
GR							-
HR					190 059.82	138 253.78	328 313.60
HU		873 364.51	177 344.29	322 017.62	322 991.91	191 608.98	1,887,27.31
IE				220 578.51		46 692.50	267 271.01
IL			4 263.02			379 326.33	383 589.35
IS		325 605.90	171 792.48	615 749,45	336 649.96	298 713.71	1 748 511.50
IT		153 000.00		866 598,06			1 019 598.06
KR							-
LT		466 597.93	282 475.04	1 317 726.20	833 424.17	107 624.64	3 007 847.98
LU FNR		265 000.00	254 000.00		243 000.00		762 000.00
LU MoE		114 925.19					114 925.19
LV		238 892.02		192 920.40	433 072.78		864 885.20
MT							-
NL	3 784 182.00	8 339 820.00	7 837 992.00	7 955 941.00	7 359 359.00	6 628 461.00	41 905 755.00
NO	3 894 130.57	3 480 493.37	1 817 902.52	4 960 747.19	6 560 601.48	3 087 667.62	23 801 542.75
PL		317 991.26	601 899.25	820 015.30	167 205.95		1 907 111.76
PT				151 365.03		332 065.25	483,430.28
RO	172 490.19	155 290.70	900 042.24			794 539.49	2 022 362.62

SE	3 331 464.14	4 168 177.21	4 921 941.69	4 704 743.80	6 103 679.00	3 984 871.70	27,214.877.54
SI		292 062.49			1 073 888.74	382 055.56	1 748 006.79
SK	77 800.00	275 848.40	192 821.00		144 220.00	203 560.00	894 249.40
TR	149 144.17	820 790.70	107 800.76	95 986.57	157 590.62	417 555.31	1 748 868.13
UK	3 668 552.24	2 808 301.30	3 057 193.51	2 403 112.96	2 515 458.58	3 254 194.90	17 706 813.49
ZA							-
<b>Total:</b>	<b>31 192 589.47</b>	<b>47 271 266.17</b>	<b>47 721 717.31</b>	<b>58 404 420.84</b>	<b>54 847 755.85</b>	<b>57 381 305.65</b>	<b>296 819 055.29</b>

Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

## ANNEX 9: Comparative study on SME Instrument / EIC Accelerator Pilot and the Eurostars-2 programme

### Introduction

This is a comparative report on the Eurostars-2 programme and the SME Instrument / EIC Accelerator Pilot. The overall objective of the comparative report is to further explore the potential and effectiveness of SME support through the implementation of long-term public-public partnerships (P2P) through Article 185 initiatives and EU grant support. The comparative report identifies the drivers and barriers of different SME support schemes. The results of the comparative report are also integrated into the final evaluation of the Eurostars-2 programme and the evaluation study of the European Framework Programmes for Research and Innovation for an Innovative Europe.

### Methodology

The comparative report relies on desk research, literature review, interviews with relevant stakeholders, and monitoring data provided by the EUREKA secretariat and other data sources such as final reports and audit reports. Both programmes are two central EU SME support programmes with a significant funding allocation and a number of participants, and the comparative report only reflects some characteristics of both programmes.

### Limitations

The study team is aware that due to the different focus and objectives of both programmes<sup>57</sup>, the report's significance is limited. Nevertheless, the aim is to draw lessons learnt from the comparison. The initially envisaged approach of comparing Eurostars-2 with a national SME funding programme proved not feasible due to the lack of a transnational character of national funding programmes and the lack of data availability. The agreed scope limitation to a maximum of 10 pages makes a detailed comparison of the two programmes more difficult.

### Context

It is recognised that SMEs have a significant role within the innovation system. This is because SMEs are considered particularly innovative, not least in terms of disruptive innovations. For example, 20% of patent applications in the field of biotechnologies can be traced back to SMEs<sup>58</sup>. Therefore, the support of particularly innovative SMEs is also the focus of several European Framework Programmes. The Horizon 2020 Framework Programme of the European Commission introduced a broad range of support programmes to increase SME further-innovation capacities, such as the INNOSUP support initiatives, the Eurostars-2 programme and the SME Instrument (since the 2018 EIC Accelerator Pilot). These specifically address those SMEs that promise rapid growth, high development ambitions and international impact. After all, funding these SMEs also means high growth potential for the overall economy.

Public intervention is motivated by the fact that European SMEs are confronted with different challenges with regard to their innovation activities. Several characteristics, such as SME size, sector of activity and internal SME resources, can hamper the development of innovations. The *Study on the effectiveness of public innovation support for SMEs*<sup>59</sup> in Europe by the European Commission (2021) flags the following eight obstacles to innovation for SMEs:

- Financing difficulties
- Shortage concerning the recruitment of qualified, skilled staff
- Lacking experience and knowledge on how to implement innovation processes effectively

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<sup>57</sup> While the Eurostars-2 programme was implemented under Article 185 TFEU as a partnership programme to promote the development of new products, processes and services of R&D-oriented SMEs, the SME Instrument / EIC Accelerator Pilot was an SME support initiative of the Horizon 2020 programme with the aim to support innovation managed and deployed by innovative SMEs and to help them from their idea to create innovation (Phase 1) and to deploy it (Phase 2).

<sup>58</sup> OECD (2017), "Towards an OECD Strategy for SMEs", OECD Working Party on SMEs and Entrepreneurship.

<sup>59</sup> European Commission (2021): Study on the effectiveness of public innovation support for SMEs Available under: <https://op.europa.eu/en/publication-detail/-/publication/d031aa03-9295-11eb-b85c-01aa75ed71a1/language-en> (last accessed 09.09.2022).

- Lacking knowledge of the market
- Restrictions related to bureaucratic hurdles
- Smaller (international) networks of partners
- Difficulties in the uptake and exploitation of new developments in specific sectors
- Lesser market power than larger actors

## Detailed Methodology

The following section outlines the specific methodology. This chapter briefly presents and discusses the intervention logic of the SME Instrument / EIC Accelerator Pilot and the Eurostars-2.

### *The SME Instrument / EIC Accelerator Pilot Intervention Logic*

The SME Instrument (SMEI) was an SME-support initiative of the Horizon 2020 programme with the aim to support innovation managed and deployed by innovative SMEs and to help them from their idea to create innovation (Phase 1) and to deploy it (Phase 2). The SME Instrument targeted SMEs within the EU and an additional 16 associated countries. In September 2019, the SME Instrument was replaced by the EIC Accelerator Pilot supporting SMEs to deploy innovation to market. While the focus of the comparative report is on the SME Instrument, there might be elements of the EIC Accelerator Pilot in the comparative report.

The legal frameworks for the SME Instrument were (1) Regulation (EU) No 1290/2013 of the European Parliament and of the Council of 11 December 2013, laying down the rules for participation and dissemination in “Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020)” and (2) Regulation (EU) No 1291/2013 of the European Parliament and of the Council of 11 December 2013 establishing Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020); Article 22 refers specifically to the SME Instrument<sup>60</sup>. The Directorate General for Research and Innovation of the European Commission (DG RTD) was responsible for policy development. The programme was implemented by the Executive Agency for Small and Medium Enterprises (EASME). From April 2021, this task was taken over by the successor, the European Innovation Council and SMEs Executive Agency (EISMEA).

The funding and support provided in **Phase 1** of SMEI consisted of a lump sum of EUR 50 000 for the development of feasibility and commercial potential studies of innovative ideas of SMEs. As a result of the phase 1 project, the supported SME should have developed a high-potential innovation project including a European and/or growth-focused strategy. Phase 1 projects had a maximum duration of 6 months. A Phase 1 project could apply for Phase 2 after successfully finishing the first project-phase. However, interested SMEs could apply directly to Phase 2 if their project was mature enough and beyond the creation of the business plan. In **Phase 2** of the SME Instrument, the overall objective was to bring the conceptual idea developed in Phase 1 (or independently) to a market-ready product, service or process. SMEs could apply either as a single applicant (mono-beneficiary) or under the work programme 2014-2016 within an SME consortium led by one SME (multi-beneficiary). Activities supported under Phase 2 included e.g. the prototyping, validation, demonstration and testing of the developed product or service. Supported TRL levels must have been higher than 6. The funding provided in Phase 2 of the SME Instrument was grant-only support to innovative SMEs between EUR 0.5 and EUR 2.5 million. Under the EIC Accelerator Pilot (as of WP 2018), the equity support scheme started for the cut-off date starting from June 2019. The duration of Phase 2 projects was between 12 and 24 months. **Phase 3** focused on the commercialisation of services and products of SMEs through an EIC Community Platform. Support was provided through training, networking and partnering events or links to investors.

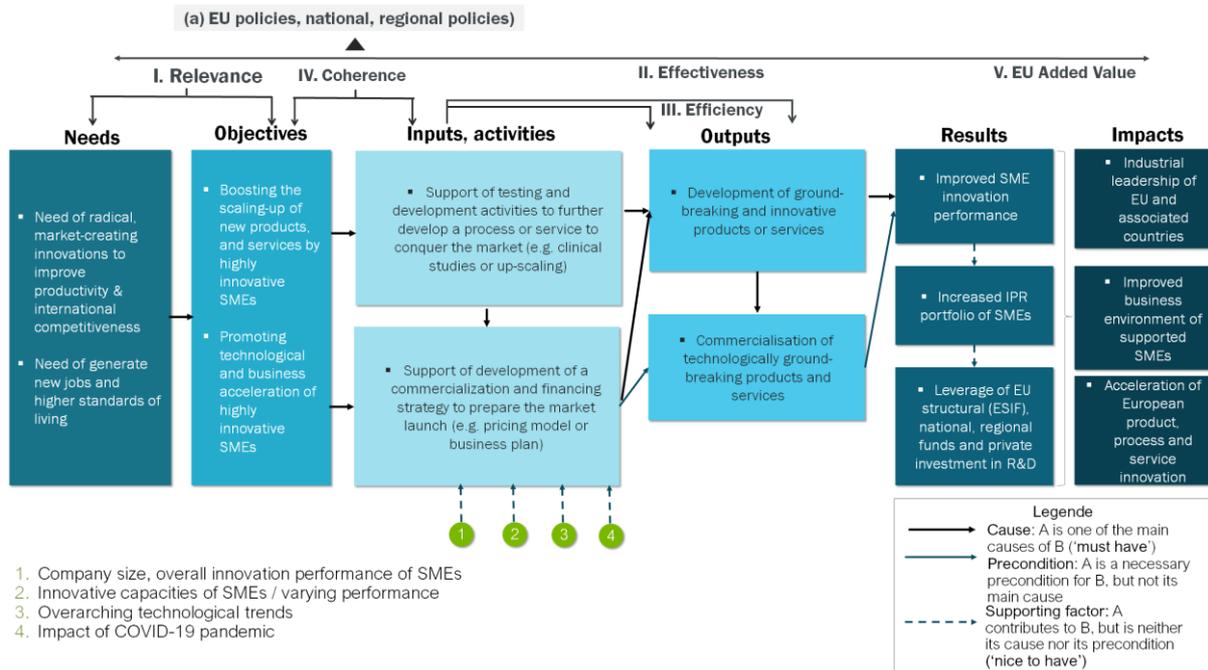
The following comparative report and the intervention logic mainly focus on phase 2 as this phase included support for prototyping, validation, demonstration and testing of the developed product or service. Of the three phases, Phase 2 is therefore the most fitting phase for a comparison with the

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<sup>60</sup> European Court of Auditors (2019), EU Support for SME Innovation: The SME Instrument. Available under: [https://www.eca.europa.eu/lists/ecadocuments/ap19\\_06/ap\\_sme\\_en.pdf](https://www.eca.europa.eu/lists/ecadocuments/ap19_06/ap_sme_en.pdf) (last access 12.10.2022).

Eurostars-2 programme, which also aimed at offering financial support for SMEs to bring a new product/service/process to market within two years<sup>61</sup>.

**Figure 47: Intervention logic of Phase 2 of the SME Instrument / EIC Accelerator Pilot**



Source: PPMI/Idea Consult/Prognos (2022).

### The Eurostars-2 Intervention Logic

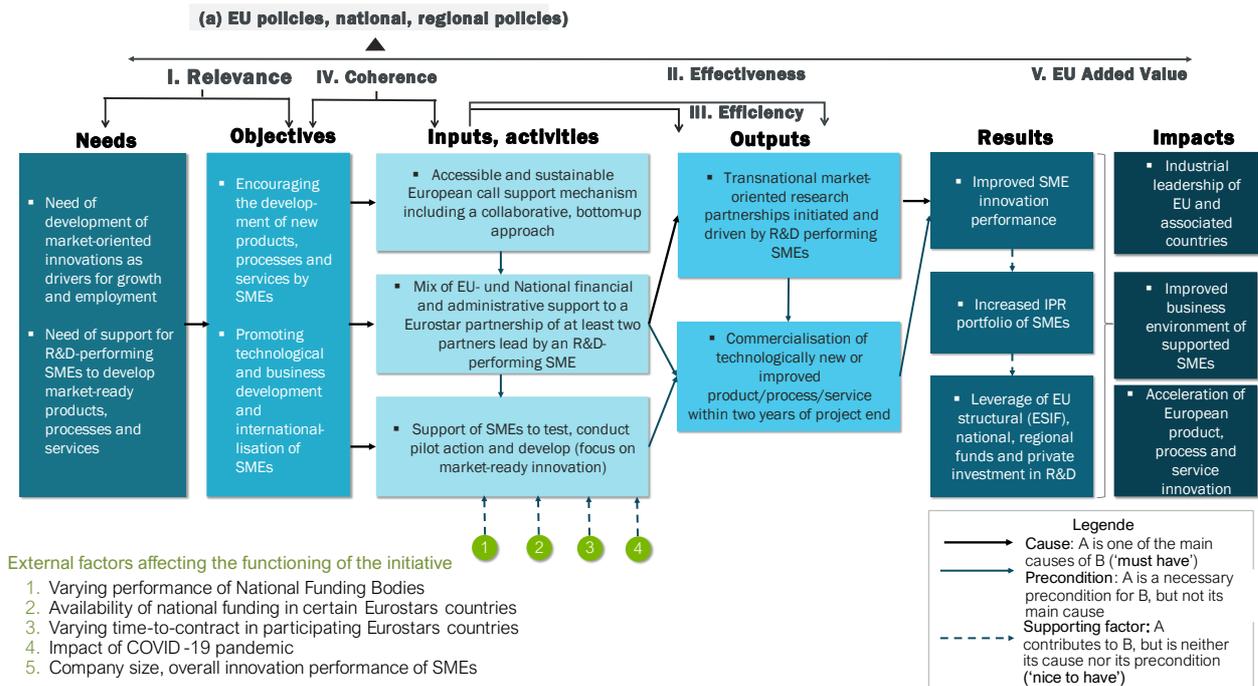
The Eurostars-2 joint programme under Horizon 2020 was jointly undertaken by 33 Eurostars-2 participating states and four partner countries and the European Union. The programme was based on Article 185 of the Treaty on the Functioning of the European Union (TFEU) and was implemented by the EUREKA Secretariat (ESE), participating countries and the European Union.

The objective of the Eurostars-2 programme is to promote the development of new products, processes and services of R&D-oriented SMEs. Supporting such market-oriented innovations is one of the drivers of growth and employment and thus elementary in a functioning economy. The programme is based on a cooperative bottom-up approach and is characterised by a very decentralised governance structure. This means that the ESE, as the central institution, is only responsible for evaluating the applications and compiling the ranking list of successful applicants. Whereas promoting the programme, consulting and monitoring of the projects is mainly in the hands of the responsible national funding bodies (NFBs). While this means that the NFBs have a high degree of sovereignty, it also implies that the success of the project depends to a considerable extent on the performance of the NFBs. Thus, for example, delays in the time-to-contract of one NFB can have an impact on the outcome of an entire project. Also, the lack of availability of funding at the national level can prevent the realisation of a project. The EU has a rather passive role, but nevertheless contributes 33.3% funding in addition.

Usually, a consortium consists of 2-3 participants from at least two different countries. This transnational partnership aims to bring a new product/service/process to market within two years.

<sup>61</sup> While the focus of Eurostars-2 projects is to bring products/processes/services to market, it must also be noted that only 53% of the Eurostars-2 projects were completed at the time of the report (November 2022) and that a significant number of projects are still running. Thus, insights on the impact of the Eurostars-2 programme such as the number of patents developed, or the number of FTE created through the support are limited.

Figure 48: Intervention logic of the Eurostars-2 programme



Source: PPMI/Idea Consult/Prognos (2022).

## Results & Findings

This chapter provides the results and findings of this comparative report for the evaluation criteria under the study with a focus on relevance and effectiveness. The sub-chapter builds on the desk research (document and data analysis) and monitoring data to provide insights into the effectiveness of the programmes in achieving the innovation and commercialisation objectives.

### The SME Instrument / EIC Accelerator Pilot

The SME Instrument / EIC Accelerator Pilot<sup>62</sup> was the biggest and sole support programme specifically for SMEs-only under H2020 that covered the entire innovation cycle by “supporting start-ups and SMEs to commercially exploit innovations born of research”<sup>63</sup>. The overall success rate for cut-offs running between 2014 and 2019 was around 5 % and around 6 000 applicants applied every year.

Between 2014 and 2018, the SME Instrument received 31 000 applications in total, of which around 2 500 small and medium companies received funding<sup>64</sup>. While the SME Instrument had 13 wide topic-specific calls such as Space, ICT, Nanotechnologies and others<sup>65</sup>, the EIC Accelerator Pilot changed to bottom-up calls as from 2018, to provide more flexibility to the applicants.

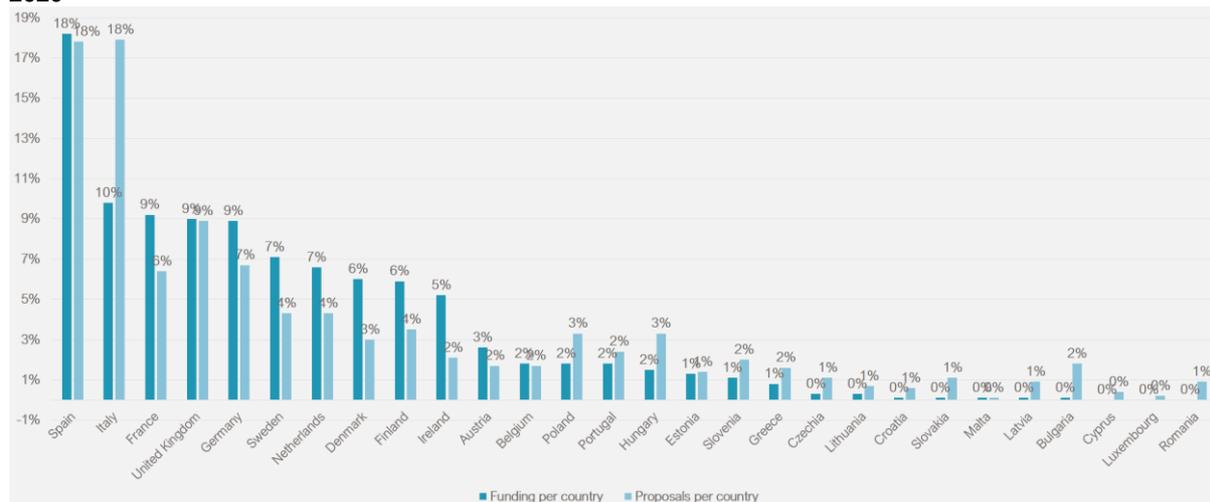
<sup>62</sup> The SME Instrument was re-designed in the 2014-2020 funding period and changed from the SME Instrument (2014-2017) to the EIC Accelerator Pilot (2018-2020).

<sup>63</sup> European Court of Auditors (2019): EU Support for SME Innovation: The SME Instrument. Available under: [https://www.eca.europa.eu/lists/ecadocuments/ap19\\_06/ap\\_sme\\_en.pdf](https://www.eca.europa.eu/lists/ecadocuments/ap19_06/ap_sme_en.pdf) (last access 12.10.2022).

<sup>64</sup> European Commission (2017): Accelerating innovation Horizon 2020 SME Instrument impact report.

<sup>65</sup> Applicants could apply for grants under 13 thematic topics: Open and Disruptive innovation (ODI) in the ICT industry, Nanotechnology and Materials (NMP), Space, Biomarkers and related diagnostics (Health), Food and food-related applications (Food), Blue growth, Energy, Transport, Eco-innovation and raw materials (Eco-innovation), Critical infrastructures (Security), Industrial biotechnology (Biotech), E-government (INSO – 9) and New Business Models (INSO – 10).

**Figure 49: Funding and proposals per country as a percentage of the total SME Instrument Phase 2, 2014-2020**

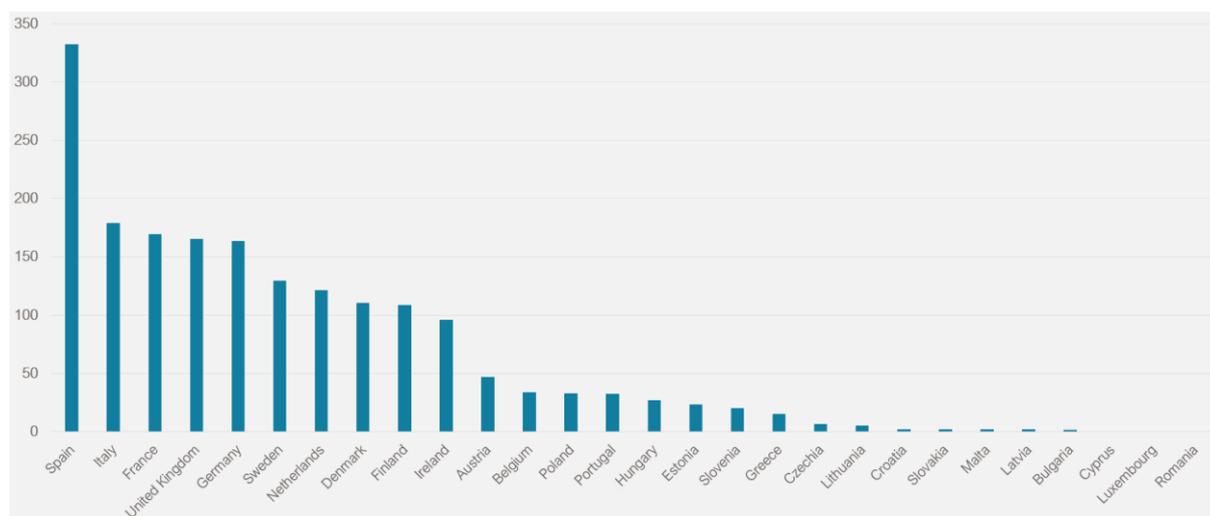


Source: PPMI/Idea Consult/Prognos (2022), based on data from the Special Report (2020) of the European Court of Auditors.

When looking at the top 10 countries of origin of beneficiaries of the SME Instrument between 2014 and 2020, Figure 49 shows that Spanish SMEs were the most represented beneficiaries with 18 % followed by Italy (10 %) and France (9 %). In total, beneficiaries came from the EU-27 and other Horizon 2020 countries such as Iceland, Israel, Norway, Serbia, Turkey, Ukraine and Switzerland. It is worth noting that Spain and Italy were also the countries that submitted by far the most proposals, with 18 % each, with Spain being clearly more successful. France, Germany, Sweden and the Netherlands, were also very successful in approving the submitted proposals. These are all countries that are particularly innovative according to the EU Innovation Score Board. This suggests that countries with weaker national funding structures are less successful in their applications, but their SMEs apply significantly more due to a lack of alternatives.

In total, 1 440 projects were funded in the 2014-2020 funding period under Phase 2 out of which most funding was allocated to Spanish beneficiaries (EUR 332.5 million) followed by Italy (EUR 179.1 million) and France (EUR 169.3 million) (see Figure 50). It is striking that the funding reflects a high concentration on a few countries. In fact, the first four funded countries account for almost 50 % of the funding.

**Figure 50: Funding of the SME Instrument per country in million EUR, 2014-2020**



Source: PPMI/Idea Consult/Prognos (2022), based on data from the Special Report of the European Court of Auditors (2020).

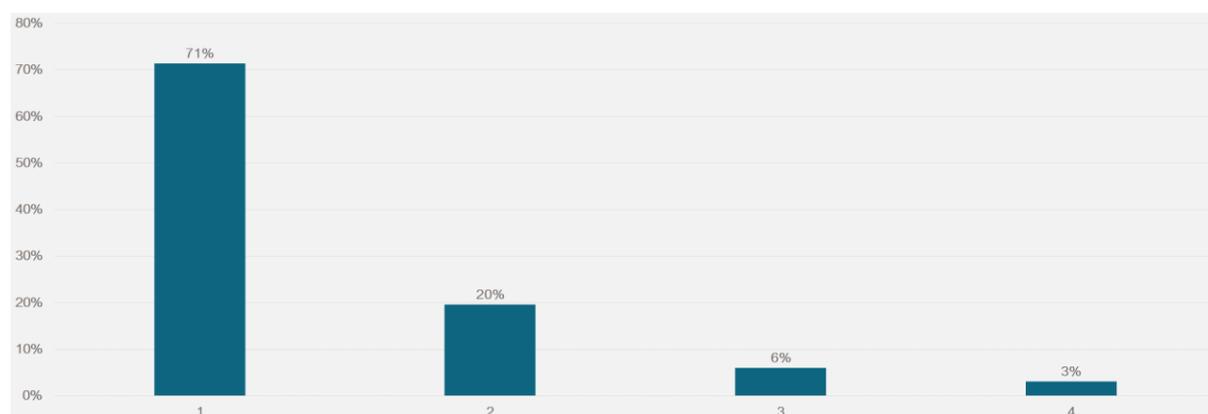
With regards to the thematic background of beneficiaries, the top 5 industries were health (943), energy (797), enterprise software (602), transportation (332) and food (317).

The geographical coverage of applicants and beneficiaries varied significantly. According to the special report (2020) of the European Court of Auditors, the most important factors responsible for the varying rates were: different innovation ecosystems, number of SMEs in the country, availability of national SME

strategy, and disparities in the promotion of the SME Instrument / EIC Accelerator Pilot (via, e.g. by the NCPs and the EEN). For instance, a strong correlation exists between the success rate of beneficiaries by Member State and the ranking of the Member State according to the European Innovation Scoreboard. Moreover, the European Court of Auditors (2020) mentions that an active national innovation agency has a positive influence on the number of national applicants and beneficiaries. For instance, Spain has a high number of beneficiaries and also an active national innovation agency which supported SMEs to apply for the SME Instrument / EIC Accelerator Pilot.

While SMEs could apply for Phase 2 as multi-beneficiaries under work programme 2014-2016, it became a mono-beneficiary support programme from 2016 onwards. Figure 51 shows that despite the possibility to apply with more than one consortium member, around 71 % of projects were projects with a single beneficiary followed by a consortium of two SMEs in 20 % of the Phase 2 projects.

**Figure 51: Number of beneficiaries of Phase 2 Projects of the SME Instrument / EIC Accelerator Pilot, 2014-2020**



Source: PPMI/Idea Consult/Prognos (2022), based on data from the EIC Accelerator data hub (extraction date: 9.8.2022).

With regards to the age of the SMEs that benefitted from the SME Instrument / EIC Accelerator Pilot, around 54 % of organisations were only up to 5 years old, followed by 20 % of organisations aged 6-10 years; 26 % of SMEs were more than 10 years old. Findings from the special report (2020) of the European Court of Auditors show that the type of companies which were targeted changed during the implementation from more mature companies to younger companies and start-ups because of the bottom-up approach which had been implemented in 2018<sup>66</sup>. With regards to size, the majority of beneficiaries were micro-enterprises (1 to 9 employees) with around 59 % followed by small enterprises with 32% (10 to 49 employees). Only 9 % of the beneficiaries were medium enterprises (50-249 employees).

Beneficiaries of the SME Instrument had a short average time to get the next investment, which was on average 9 months<sup>67</sup>. According to the SME Instrument impact report (2017), beneficiaries of Phase 2 of the SME Instrument increased their turnover by around 250 % and SME employment increased by around 122 %<sup>68</sup>.

### *The Eurostars-2 programme*

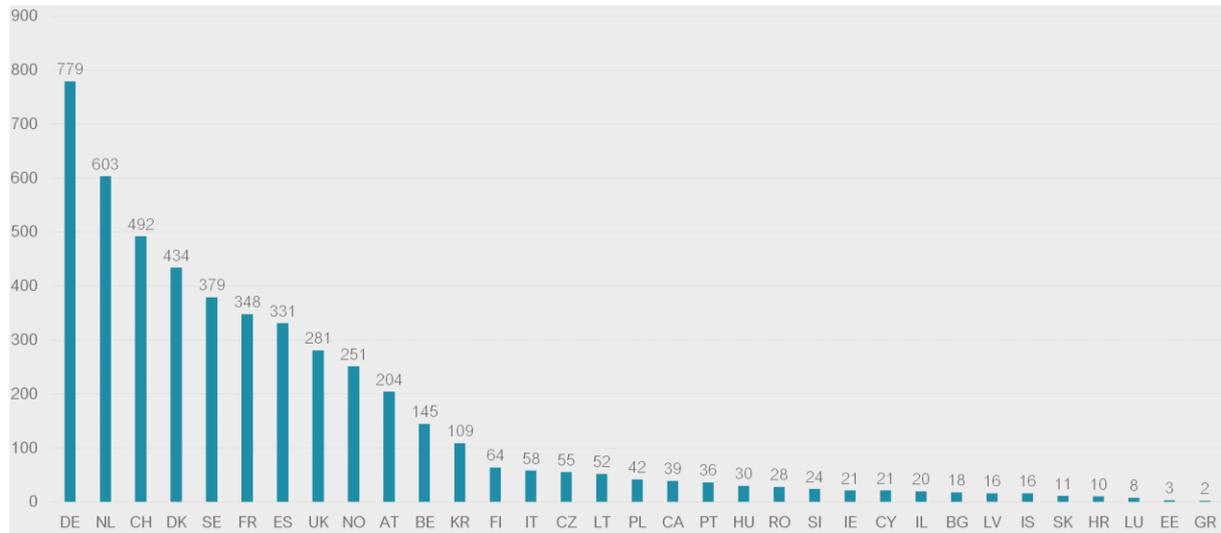
In the period from 2014 to 2021, 15 cut-offs took place in which a total of 5 891 projects were applied. Of these, 1 546 projects were applied successfully. This corresponds to an average success rate of almost 27 %. Looking at Figure 52 the countries with the largest number of participants are Germany (779), the Netherlands (604), Switzerland (492), Denmark (434) and Sweden (348). Whereas the fewest participants come from Croatia (10), Luxembourg (8), Estonia (3) and Greece (2). In total, 33 different countries participated in Eurostars-2. It is important to emphasise that the number of participants depends primarily on the available budget provided by the participating countries (cf. case study ≠ varying participation rates).

<sup>66</sup> European Court of Auditors (2020): Special report. The SME Instrument in action: an effective and innovative programme facing challenges.

<sup>67</sup> European Commission (2017): Accelerating innovation Horizon 2020 SME Instrument impact report.

<sup>68</sup> European Commission (2017): Accelerating innovation Horizon 2020 SME Instrument impact report.

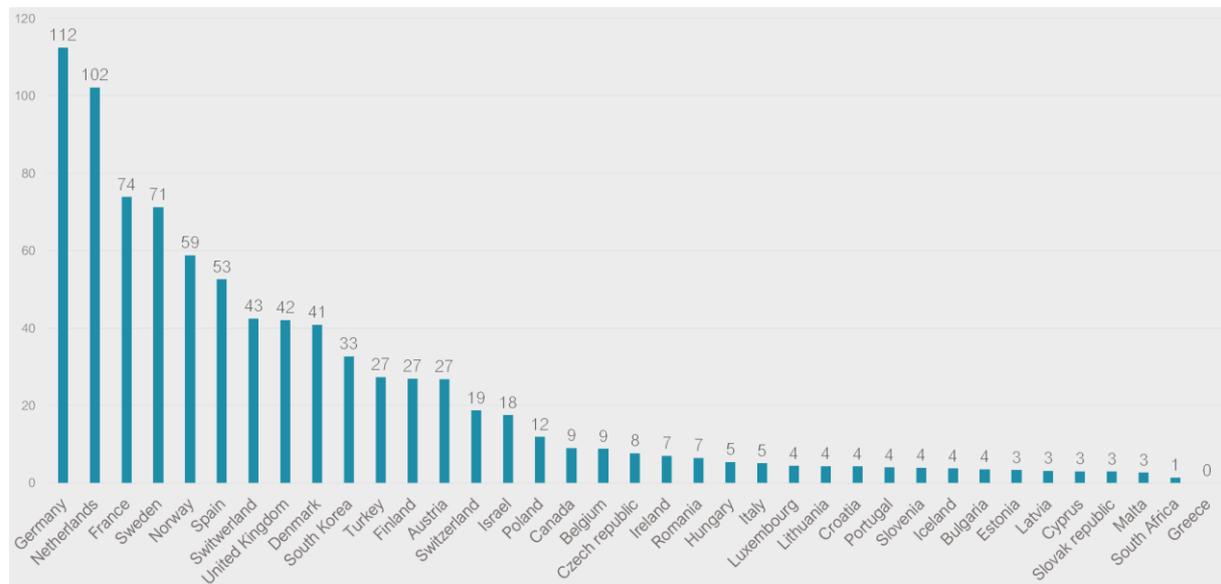
**Figure 52: Number of participants of the Eurostars-2 programme per country**



Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE.

The unique feature of the programme lies in its decentralised design. While the application is evaluated centrally, the success of the project is strongly linked to the performance of the NFBs. In this context, the budget available to the countries for the Eurostars programme plays a very important role. From the perspective of the EU, this means that high public funding is generated with relatively low financial contributions.

**Figure 53: Committed national budget by participating states and partner countries\* for Cut-off 1-15 in EUR, million**



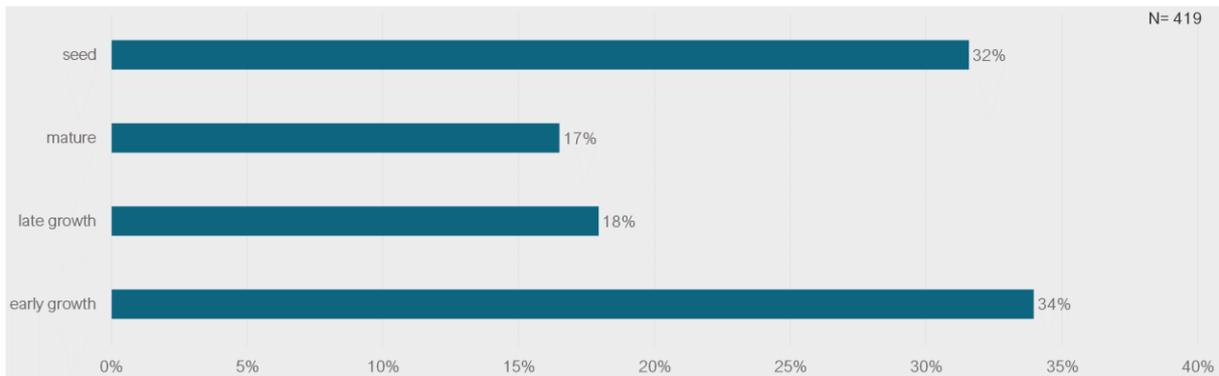
Source: PPMI/Idea Consult/Prognos (2022), based on data delivered by ESE. Switzerland, South Korea, Canada and South Africa were Eurostars-2 partner countries in the 2014-2020 funding period.

Figure 53 shows that Germany had the highest committed national budget with EUR 112 million, followed by the Netherlands (EUR 102 million) and France (EUR 74 million). These discrepancies reflect the commitment of the countries. It is noticeable that five countries (France, Germany, the Netherlands, Norway and Sweden) were responsible for almost half of the total budget. In total the committed budget in the Eurostars-2 programme was EUR 1.074 billion composed of EUR 891.33 million of funding commitments by the participating countries and the partner countries (Canada, South Africa, South Korea and Switzerland).

The analysis also examined who is being addressed by the programme. Looking at the composition of the consortia, it is hardly surprising that the largest proportion of the funding beneficiaries are those primarily addressed at R&D-performing SMEs (66 %). The fact that two thirds of the target groups were reached is a positive result. Other SMEs (2 %), universities (15 %), research institutes (9 %) and large companies

(6 %) on the other hand, account for a significantly smaller share. On average, a consortium consists of 2-3 consortia members, which is a key difference with the SME Instrument / EIC Accelerator Pilot.

**Figure 54: Growth Stage of participating SMEs of the Eurostars-2 Programme**

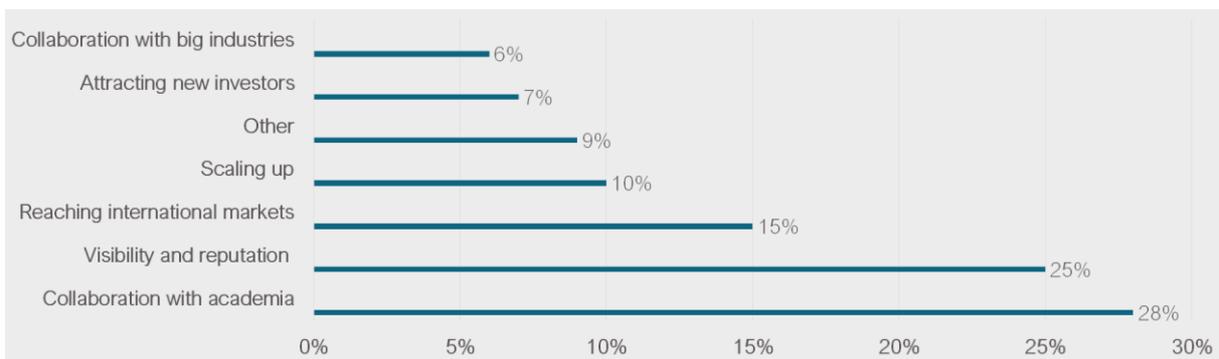


Source: PPMI/Idea Consult/Prognos (2022), own calculation based on data enrichments from Dealroom.

Enrichments with Dealroom data for Eurostars-2 beneficiaries show that the Eurostars-2 programme was mainly attractive for SMEs in their **seed- and early-growth phases** (see Figure 54). A phase that is not only characterised by high risks for SMEs, but also by a high demand for financial resources. The internationalisation of business also plays an important role in this phase.

Most of the participants of the Eurostars-2 programme were medical or health-related companies (38 %), followed by companies from the manufacturing (16 %) and energy (7 %) sectors. Based on the analysis so far, we can profile who is being addressed by the programme. Furthermore, the results achieved by the projects will also be examined in more detail.

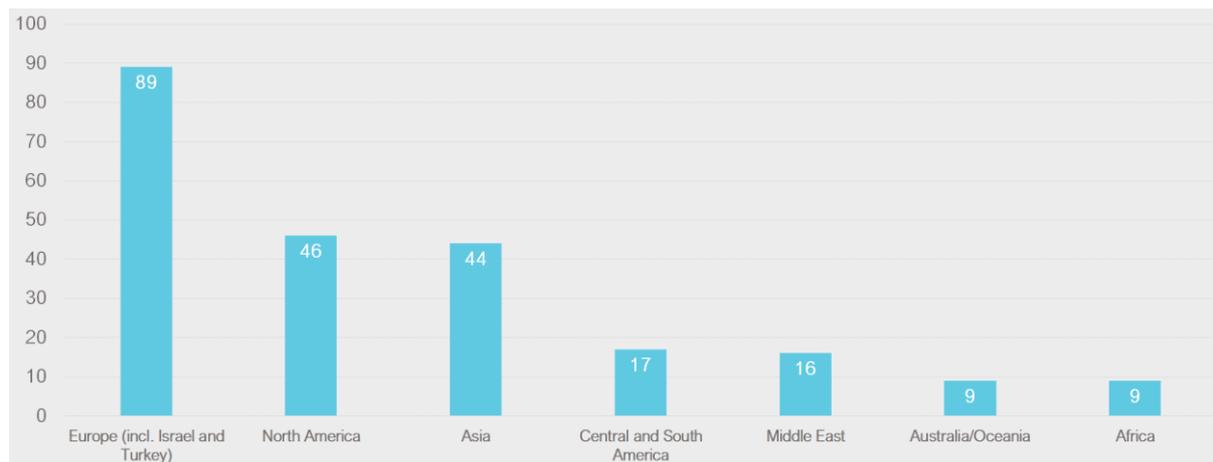
**Figure 55: Main benefits of the Eurostars-2 participation according to beneficiaries**



Source: PPMI/Idea Consult/Prognos (2022), based on the Annual Eurostars-2 report (2021) and Market Impact Reports ("How did your organization benefit from participating in the project? Please select all that apply:").

From Figure 55, it appears that the main benefit of participating in Eurostars-2 comes from the collaboration with academia (28 %) as well as from the visibility and reputation (25 %). The possibility of reaching international markets is also a benefit for 15 % of respondents.

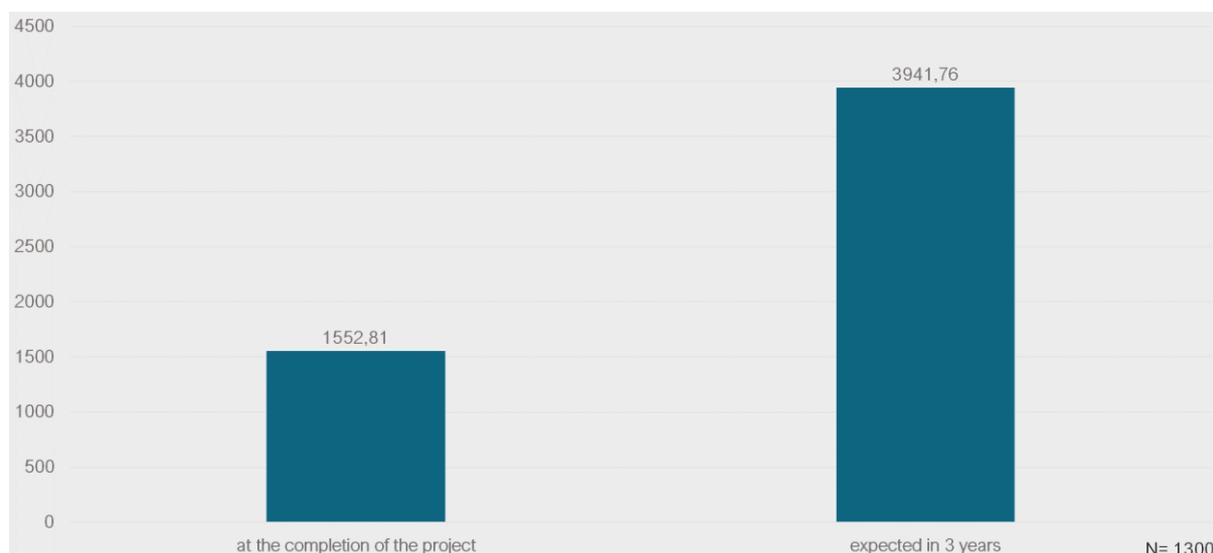
**Figure 56: New geographical markets reached reported in MIR 2020**



Source: PPMI/Idea Consult/Prognos (2022), based on Market Impact Reports submitted by former beneficiaries in 2019 and 2020.

The Market Impact Reports show that internationalisation has mostly taken place within Europe. But project results were also commercialised in North America and Asia (Figure 56).

**Figure 57: Number of FTE resulting from Eurostars-2 projects (cut-off 1-5)**



Source: PPMI/Idea Consult/Prognos (2022), based on final reports submitted for cut-off 1-5.

The last important indicator in the analysis of the results of Eurostars-2 is the number of jobs created as a result of the funding. This was over 1 552 FTEs at the end of the projects and an expected value of over 3 941 FTEs after 3 years (57)<sup>69</sup>.

In summary, the analysis provides a comprehensive picture of which actors were addressed by Eurostars-2 and the consequences of their participation.

### Critical success factors and barriers

This section presents the critical success factors of the programmes under study and the most significant barriers that arose from desk research, monitoring data and interviews. In the next section, these findings are processed, and general lessons and conclusions are drawn for the future. It is important to note that a comparison of the success factors and barriers of the two funding programmes is limited by differences in programme priorities. Therefore, we will take a closer look at success factors and barriers according to specific areas of interest.

<sup>69</sup> Number indicated are based on information provided by Eurostars-2 beneficiaries in their final reports. Indicated numbers are only self-estimations by Eurostars-2 beneficiaries of the cut-offs 1-5.

**Governance:** The unique governance structure of Eurostars-2 offers advantages and disadvantages. The decentralised approach leaves a **high degree of sovereignty to the NFBs**. Only the evaluation of applications is carried out centrally by the ESE. Therefore, the functionality of the programme depends to a considerable extent on the performance of the NFBs. In return, the NFBs are strongly dependent on the available budget allocated from the national budget. The described governance structure is generally perceived as positive by NFBs and beneficiaries. This shows that cooperation between national institutions across national borders is possible. However, the governance structure also poses a challenge when it comes to **synchronising the different national funding rules and processes** between the various NFBs. This leads, **e.g. to long time-to-contracts** in some participating states. In contrast, the SME Instrument / EIC Accelerator Pilot is centrally organised. It is implemented by the Executive Agency for Small and Medium-sized Enterprises (EASME, now: EISMEA) while the responsibility for programme policy development lies with the European Commission's Directorate-General for Research and Innovation (DG RTD).

**Excellence:** In principle, Eurostars-2 has proven to be a successful funding programme, which among others is characterised by excellent transnational research consortia<sup>70</sup>. The Eurostars-2 funding is provided to meet two objectives – funding high-quality projects and ensuring national returns are maximised, whereas the SME Instrument / EIC Accelerator Pilot provided funding based fully on the quality of the proposal regardless of national specificities. The main objective of the programme is to support SMEs that have the potential to become the next flagship across Europe. Therefore, fewer projects are funded. Whereas Eurostars-2 funds more projects with less budget. To verify excellence, both programmes use external independent evaluators who assess the applications. In addition, the EIC Accelerator Pilot also incorporated a pitching session to better target the funding with Excellence (of the project and of the SME ability to implement it).

**Internationalisation:** Reaching international markets, especially for SMEs, was one of the main benefits for participants in Eurostars-2. The requirement that **consortium partners must be from at least two different countries** contributes to internationalisation. As a result, participants from 33 participating countries and 4 partner countries are taking part in the programme. These partner countries include even participants from countries outside Europe, such as Canada, South Africa and South Korea. Internationalisation is also an important objective of the SME Instrument / EIC Accelerator Pilot. Applications for funding are open not only to SMEs from EU Member States, but also to 16 additional associated countries<sup>71</sup>.

**Funding:** SME Instrument / EIC Accelerator Pilot, funding is significantly higher compared to Eurostars-2. In Phase 2, **grants from EUR 0.5 million to EUR 2.5 million** can be awarded, with a co-financing rate of 70 %. SME Instrument / EIC Accelerator Pilot projects not only receive higher per-capita funding, but this is also **paid entirely from the EU budget**. Moreover, EIC projects have acquired a significant amount of private equity after the end of the funding. For Eurostars-2, the funding amounts are comparatively lower. **NFBs and the EU share the financial responsibility**. While a large part of the funding is provided by the NFBs, there are additional EU contributions of a maximum of 33.3 % in addition. One problem that has arisen is that the **maximum EU contributions were not entirely allocated**. This is partly due to the design of the programme. Since the ranking list with the beneficiaries is created independently and therefore does not meet the budget commitments of the NFBs. As a result, the allocation of contributions never works out perfectly. Eurostars-2 reacted to this by using leftover contributions in an additional 15<sup>th</sup> call.

**Openness:** The thematic openness as well as the openness towards new participants can also be mentioned as a strength of Eurostars-2. The **bottom-up approach** of the programme promises a wide variety of topics and addresses many different markets. Furthermore, the funding programme is open to new organisations. Almost half of the participants in Eurostars-2 were newcomers. This means that Eurostars is particularly attractive for inexperienced SMEs that have not received funding before. As a reason for applying, many beneficiaries named the **high success rate of around 27 %** that the funding programme promises. Also, for the SME Instrument / EIC Accelerator Pilot, the **introduction of bottom-up** calls in 2018 changed the situation in which companies had to select a specific topic and eased the administrative workload according to the special report (2020) of the European Court of Auditors. This led to greater thematic openness of the programme and resulted in the participation of projects from many different sectors in the programme<sup>72</sup>.

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<sup>70</sup> For a deeper analysis of the Eurostars-2 programme, please refer to the Final Report of the Eurostars-2 programme.

<sup>71</sup> see list of countries eligible for funding: [https://ec.europa.eu/research/participants/data/ref/h2020/other/wp/2018-2020/annexes/h2020-wp1820-annex-a-countries-rules\\_en.pdf](https://ec.europa.eu/research/participants/data/ref/h2020/other/wp/2018-2020/annexes/h2020-wp1820-annex-a-countries-rules_en.pdf) (last update: 11/28/22)

<sup>72</sup> The proportion of newcomers in the SME Instrument / EIC Accelerator Pilot is not known

**Technological Readiness Level (TRL):** The aim of both programmes is to promote innovation by SMEs. Similar to the national funding, Eurostars addresses R&D-performing SMEs in the early stage by developing prototypes (up to TRL 6). Within two years, participants of Eurostars-2 must therefore guarantee a market launch. This **two-year requirement** is an important feature to boost market introduction. In contrast, SME Instrument / EIC Accelerator Pilot supports SMEs that already have a functioning prototype (from TRL 6). The idea is that national funding covers the development of such a prototype and the subsequent market introduction and commercialisation is covered by the programme.

## Conclusions & overall lessons learnt

In summary, similarities and differences between the two funding programmes, the Eurostars-2 and the SME Instrument / EIC Accelerator Pilot, were identified. These can generally be explained by the different legal framework and requirements of both programmes. While SME Instrument / EIC Accelerator Pilot is a pure EU programme under the framework of Horizon 2020, Eurostars-2 is based on Art. 185 of the Treaty on the Functioning of the European Union and was implemented by the ESE, participating countries and the European Union. Moreover, both programmes had different priorities and target groups. It is important to keep in mind that both programmes are two important SME support programmes of the EU with a significant funding allocation and number of participants and that the comparative report only reflects some characteristics of both programmes.

**Eurostars-2**, on the one hand, addresses R&D-performing SMEs and relies to a considerable extent on the support of the NFBs. The decentralised structure not only leads to the need for higher coordination between the involved stakeholders (EU, EUREKA secretariat, NFBs), but also puts the success of the programme to some extent in the hands of the NFBs. The allocated national budget has a considerable influence on the number of projects funded. This means that countries that commit to Eurostars can also expect a significant added value. Eurostars-2 is considered a niche programme with a relatively high success rate. This makes the programme particularly attractive for small, less experienced businesses. As a result, Eurostars offers a wide range of innovative projects from many different countries and thus enables many SMEs to enter the international markets.

The **SME Instrument / EIC Accelerator Pilot**, on the other hand, is a much more extensive funding programme, both in terms of funding and the number of applicants. The administration took place on a central level through EASME (now: EISMEA). Innovative SMEs are the target group and especially those with very high growth potential within the EU, and that are, as from Accelerator Pilot, a high-risk project. The objective of the programme is to promote these innovative SMEs by closing the financing gap for high-risk early-stage projects and expanding marketing by the private sector. The main priority is placed on breakthrough innovation and deep-tech innovation. The focus of the programme is therefore more on excellence. Accordingly, the selection process for applicants is also more demanding, chances of success are significantly lower and the funding amount per project is significantly higher.

Due to the described differences in the legal framework and objectives of both programmes, a comparison appears to be only partly meaningful with obvious limitations. Instead, it is more appropriate to consider both programmes as complementary and suitable for their own target groups. Typically, Eurostars participants are still internationally inexperienced and benefit enormously from networking and internationalisation of business. While Eurostars promotes all R&D-performing SMEs in the early stage, the EIC Accelerator continues to focus on high-potential SMEs. Such high-potential SMEs will continue to be supported under the umbrella of the EIC accelerator. As part of the EIC Accelerator, funding does not just mean financing, but access to a range of tailor-made EIC Business Acceleration Services (BAS) at any stage of development of activities and of the EIC research and innovation cycle. To enhance the coherence between both funding schemes under the Horizon Europe framework programme, a pilot Plug-in scheme has been introduced with which Eurostars-2 projects can be evaluated with regards to their suitability for EIC Accelerator support<sup>73</sup>. The objectives of the Pilot Plug-in scheme is to help Eurostars-2 projects and other eligible funding programmes to check whether their project might have a chance of receiving funding from the EIC Accelerator. It is important to note that applications of Eurostars-2 projects that were successful in the Plug-in scheme evaluation are evaluated in the same manner as other applications.

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<sup>73</sup> For more information on the Pilot Plug-in scheme see: [https://eic.ec.europa.eu/eic-funding-opportunities/eic-accelerator/fast-track-and-plug-schemes-eic-accelerator\\_en](https://eic.ec.europa.eu/eic-funding-opportunities/eic-accelerator/fast-track-and-plug-schemes-eic-accelerator_en) (01/12/2022).

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The purpose of this Evaluation study Eurostars-2 is to feed into the ex-post evaluation of Horizon 2020, due end 2023. The study will evaluate and identify what worked well and what did not work well, lessons to be learned and recommendations on how the Framework Programme can be improved for the short and longer-term. The results of the evaluation will translate in a report and make recommendations based on available relevant evidence, covering all aspects of the interim evaluation as set out in the legal basis and respecting the better regulation Guidelines of the Commission.

*Studies and reports*

