COUNCIL OF THE EUROPEAN UNION

Brussels, 15 July 2013 (OR. en)

12336/13 ADD 1

RECH 350 COMPET 568 MI 643 IND 210

COVER NOTE

From:	Secretary-General of the European Commission, signed by Mr Jordi AYET PUIGARNAU, Director
date of receipt:	12 July 2013
To:	Mr Uwe CORSEPIUS, Secretary-General of the Council of the European Union
No. Cion doc.:	SWD(2013) 242 final
Subject:	COMMISSION STAFF WORKING DOCUMENT IMPACT ASSESSMENT Accompanying the document Proposal for a DECISION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the participation of the Union in a Research and Development Programme jointly undertaken by several Member States aimed at supporting research performing small and medium-sized enterprises

Delegations will find attached document SWD(2013) 242 final.

Encl.: SWD(2013) 242 final

EUROPEAN
COMMISSION

Brussels, 10.7.2013
SWD(2013) 242 final

COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT

Accompanying the document

Proposal for a
DECISION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on the participation of the Union in a Research and Development Programme jointly undertaken by several Member States aimed at supporting research performing small and medium-sized enterprises

{COM(2013) 493 final}
{SWD(2013) 243 final}

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1. INTRODUCTION

Small and medium-sized enterprises (SMEs) – firms with fewer than 250 employees, with annual turnover of less than €50 million, and independent of larger enterprises – make up the backbone of the European economy and have the potential to contribute significantly to creating more growth and jobs in the European Union (EU). SMEs represent more than 98% of all businesses in the EU[1].

Across the EU, there are around 20.7 million SMEs employing more than 87 million people (67% of the total employment, and in some key industries accounting for as much as 80% of all jobs), thus being responsible for the creation of one in every two jobs. In some regions, SMEs are practically the only private-sector employer. This underlines their social, in addition to their economic importance.

Amongst those SMEs, innovative R&D performing SMEs represent a very dynamic sub-group which can highly contribute to growth and jobs, even more if engaged in transnational R&D collaboration. To do this, the right conditions have to be in place: availability of funds to be invested in the high-risk R&D activities; the possibility to access and exchange knowledge beyond their national borders; the freedom to operate in any field considered valuable to them and a transnational competition which can favour excellence.

However, several problems prevent these conditions to be realised: a number of market failures prevent SMEs to easily access the necessary private funding for their R&D and existing national R&D programmes very seldom accommodate transnational collaborations and are not sufficiently synchronised and interoperable. Also a programme specifically dedicated to transnational R&D performed by R&D intensive SMEs, did not exist at EU level.

Based on this analysis, a concept for such a programme was developed which gave rise to the establishment of the 'Eurostars' Joint Programme (hereinafter "Eurostars"). In 2008, 32[2] European countries, wishing to have a coherent approach at European level in the field of R&D performing SMEs, took the initiative within the context of Eureka[3], to set up the joint programme Eurostars. The objective of this programme is to support R&D performing[4] Small and Medium-sized Enterprises (SMEs)[5] by co-financing their market-oriented trans-national research in bottom-up manner and by providing them with a legal and organisational

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1 EU SMES in 2012: at the crossroads. Annual report on small and medium-seized enterprises in the EU, 2011/2012. ECORYS, Rotterdam, September 2012. See http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/performance-review/files/supporting-documents/2012/annual-report_en.pdf

2 Eurostars initially included 26 EU Member States and 6 countries associated to the Seventh Framework Programme. With Malta joining Eurostars in October 2010, all EU Member States participate. The associated countries are: Croatia, Iceland, Israel, Norway, Switzerland and Turkey.

3 Eureka is a European Intergovernmental network, established by a Conference of Ministers of 17 countries and Members of the Commission of the European Communities in 1985, with the aims to supporting industrial research collaboration. It currently counts 40 member countries and supports also Individual projects, Clusters and Umbrella besides Eurostars.

4 Research-performing SMEs are SMEs that dedicate at least 10% of their turnover or 10 full-time equivalents to research and development activities.

5 SMEs are defined according to Commission Recommendation 2003/361/EC. OJ L 124, 20.05.2003, p. 36. See http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:124:0036:0041:en:PDF

framework which favour transnational competition leading to the selection of the best projects for funding.

With the Decision[6] of 9 July 2008 of the European Parliament and the Council, the European Union participates financially in Eurostars by way of Article 185 TFEU (ex Article 169 EC) with the aim to increase the impact of the joint programme. The EU pays a financial contribution amounting to a maximum of one third of the effective contribution of the participating Member States and the associated countries, within a ceiling of 100 M€[7] for the period 2008-2013. The original budget for Eurostars for the six year period 2008-2013 was 400 M€.

Eurostars is implemented through a dedicated implementation structure, the Eureka Secretariat (ESE), which is responsible for the execution of the programme, in particular for the organisation of the calls for proposals, the co-ordination of the eligibility, peer-review evaluation and selection of projects, the monitoring of projects and the allocation of the EU contribution.

The governance system of the programme involves also the Eurostars High Level Group (HLG), composed of 33 EUREKA High Level Representatives and an observer from the European Commission, competent *i.a.* to supervise the implementation of the Programme and to approve the raking list of Eurostars project to be funded; the Eurostars Advisory Group (EAG) advising the ESE on the execution of the Programme and the National Project Coordinators (NPCs) *i.a.* responsible for project generation at local level and follow-up. The National Funding Bodies (NFBs) are then responsible for providing funds to their own country project participants in the ranking list and for monitoring the project.

Such a system, the 'Eurostars model' (see Annex 1), combines a centralized management and decentralised entry points: central international and independent peer review evaluation of the projects (with a common set of evaluation and eligibility rules) run by the ESE in Brussels, combined with 'local' support to project participants in the application and in the funding phase provided by the NPCs and the NFBs based on a binding ranking list and national earmarked budgets. The model is designed to optimize the coordination among the national programmes for R&D performing SMEs while remaining close to final beneficiaries.

An interim evaluation[8], conducted in 2010 by a Group of Independent Experts chaired by Ms Laperrouze, former Member of the European Parliament and Vice-President of the ITRE Committee, recognised the value of Eurostars concluding that it is a good programme, which meets its objectives and adds value to European R&D performing SMEs. The same view is

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6 Decision No 743/2008/EC of the European Parliament and of the Council of 9 July 2008, on the Community's participation in a research and development programme undertaken by several Member States aimed at supporting research and development performing small and medium-sized enterprises. OJ L 201, 30.07.2008, p. 58. See http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:201:0058:0067:EN:PDF .

7 The EU contribution comes from the FP7 budget allocated to "Research for the benefit of SMEs" in the Specific Programme "Capacities" of the Seventh Framework Programme. Cf. Decision No 1982/2006/EC of the European Parliament and of the Council of 18 December 2006 concerning the Seventh Framework Programme of the European Community for research, technological development and demonstration activities from 2007 to 2013. OJ L 412, 30.12.2006. See http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:412:0001:0041:EN:PDF .

8 Full report: http://ec.europa.eu/research/evaluations/pdf/archive/fp7-evidence-base/other_fp7_panel_evaluations/eurostars_programme_interim_evaluation.pdf

expressed by the European Council, in its conclusions on 31 May 2011[9] on the Commission's interim evaluation report adopted in April 2011[10], when it "welcomes the view of the Group that Eurostars is well aligned with the objectives of Europe 2020, complements well the opportunities offered to SMEs in FP7 for international cooperation and has proven to be attractive to the target group by reaching successfully European R&D performing SMEs"; "welcomes the recommendation of the Group to continue with Eurostars beyond 2013" and "will consider its continuation in the overall context of the future Common Strategic Framework for Research and innovation Funding."

Since then, the programme has continued to raise an increasing interest from SMEs. The total number of applications was 2600 in September 2012. The success rate has at the same time gone down from 42% in 2008 to 19% in 2011 as the number of applications has increased over time[11]. The programme has therefore supported a good number of R&D performing SMEs in their transnational activity, but there is clearly still a possibility to increase the impact if certain conditions (operational and financial) are met.

Eurostars will come to an end in 2013, in line with the end of the 7th Framework Programme.

On 22 June 2012, the Eureka Ministerial Conference in Budapest endorsed a document (hereinafter "the Budapest Document") declaring the strong interest of Eureka in supporting the continuation of Eurostars in a reinforced version (hereafter 'Eurostars-2'). The Budapest document sets out a common vision and two main objectives for Eurostars-2: a 'structural-oriented' objective to deepen the synchronisation and alignment of the national research programmes in the field of funding (a central element towards the realisation of the ERA by the member countries) and a 'content-related objective' to support R&D performing SMEs engaging in transnational research and innovation projects and to become the preferred R&D performing SME platform in Horizon 2020.

The Eurostars countries have also started to express their financial commitments, which in January 2013 amounted to an overall countries' contribution to Eurostars-2 almost tripling the current Eurostars countries' commitments. The Budapest document invites the EU to participate in Eurostars-2.

The Commission proposal for Horizon 2020[12] allows for a continuation of Eurostars-2, by foreseeing a dedicated activity for research-intensive SMEs in 'Innovation in SMEs', which "will support the next stage in the Eurostars scheme implemented in partnership with Member States".

Within this context, this Impact Assessment examines the most appropriate course of action.

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9 Council of the European Union, Brussels, 1 June 2011, 11030/11, Interim evaluation of the Eurostars Joint Programme – Council conclusions. See http://register.consilium.europa.eu/pdf/en/11/st11/st11030.en11.pdf

10 Report from the Commission to the European Parliament and the Council, Interim Evaluation of the Eurostars Joint Programme, Brussels, 8 April 2011, COM (2011) 186. See http://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/communication_eurostars.pdf

11 215 applications in 2008 (one cut-off), 317 in 2009 (one cut-off), 595 in 2010 (two cut-offs), 745 in 2011 (two cut-offs) and 728 applications (two cut-offs) received in 2012

12 COM(2011) 809 final

2. PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

2.1. Organisation and timing

The Directorate-General for Research and Innovation is the lead DG for this initiative.

Preparation of the Eurostars Impact Assessment (IA) involved the following procedural steps:

- Developing a Roadmap describing the process (2012);
- Setting up an inter-service Impact Assessment Steering Group (IASG) to oversee the process (2012-2013);
- Consultation of stakeholders and interested parties through a variety of methods (2008 - 2012);
- Carrying out the IA analysis making extensive use of quantitative and qualitative evidence (2012-2013);
- Presenting the findings to a wide constituency of Commission DGs (IASG, Research & Innovation Family DGs, User DGs) as well as external experts (2013);
- Submitting the Eurostars IA report to the IAB.

Members of the IASG include: SG, DG BUDG, DG ENV, DG ENTR, DG CNECT, DG AGRI and DG ENER. Two IASG meetings in 2012 contributed at large to the planning and roadmap for the preparation of the IA report, in particular concerning the policy options and the relevance of Eurostars-2 to other DGs. The Art. 185 Coordination Group led by DG RTD contributed to the structure and argumentation of this IA.

2.2. Consultation of interested parties and expertise

An extensive number of consultations have been performed during the last three years on Eurostars and its future development. They have covered all affected stakeholders. Comments have been received *i.a.* on the definition of the main problems and barriers, on issues linked to subsidiarity and on possible future options and their impacts.

2.2.1. Consultation of Eurostars potential and actual final beneficiaries (SMEs and Research Institutes)

The opinions of the target population of Eurostars (namely SMEs but also research institutes, large companies…) have been collected through a number of surveys[13], case studies[14],

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[13] For instance, the survey conducted by ESE in the context of the Eurostars Impact Report in June 2012 (sent to 6209 Eurostars applicants, to which 853 (14%) answered. 60% of those from funded projects and 40% from not funded projects. Or the survey performed by ESE, in the context of the Eurostars Interim Report in May 2010 (sent to 3182 Eurostars registrants to the Eurostars application site, of which 442 (14%) answered. Out of those, 53% had submitted a project application of which 59% have been funded).

[14] Interviews of Eurostars participants: 37 interviews in 10 countries conducted by the independent experts in charge of the Eurostars Interim Evaluation in 2010

projects final reports[15]. These have addressed both those organisations concretely involved in Eurostars projects (either funded or not funded) or those simply registering to the Eurostars site.

The answers collected through the above consultations provide a wide picture of the motivations and barriers to participation in Eurostars projects, of the expectations and the problems that the programme should address, and of advantages and disadvantages of the programme. The stakeholders have expressed their opinion on the impact of the programme and of the projects according to their own experience (funded or not funded projects) in qualitative and quantitative terms, providing also indication of the additionality of the programme itself.

The answers show that participating organisations gain direct benefit both in terms of turnover generation and in terms of strategic impacts, such as access to new markets, creating new partnerships and increasing relevant company know-how. The three main motivations to participate in a Eurostars project according to the majority of the respondents are to develop new products, processes or services; to get public funding in support of R&D and to obtain support for a consortium with a real cooperative value. Barriers indicated by most of the respondents were Eurostars eligibility criteria, the funding rules and the preparation of the consortium agreements.

The additionality of Eurostars is also demonstrated: the majority of the projects would be abandoned without Eurostars funding, while those continuing without funding were characterized by smaller size of consortium, overall budget, R&D budget, number of countries involved, project ambitions on job creation and turnover growth.

2.2.2. Consultation of participating countries and implementing bodies (Eurostars National High Level Representatives –HLRs and National Funding Bodies –NFBs).

HLRs and of the NFBs are the main actors involved in the strategic and operational implementation of the Eurostars programme in each participating country: their opinion has been collected through surveys[16] and direct interviews[17] and is also embedded in the key documents which have led to the design of Eurostars-2 discussed in different governance bodies[18]. These consultations have focussed on issues linked to the implementation and impact of the ongoing programme and on the viability of the Eurostars and Article 185 model in the future, as well as its possible developments in the framework of the EU support landscape in terms of target groups, budget and implementation modalities.

The latest consultation of HLR/NPC was run in November 2012 and specifically addressed the main issues of the impact assessment (problem definition, subsidiarity, policy options and

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15 For instance, the analysis made by ESE in the context of the Eurostars Impact Report in June 2012 of 173 final reports of Eurostars participants (of which 72% were R&D performing SMEs).

16 For instance the survey by ESE in 2010 in the context of the Eurostars Interim Report in May 2010 to 32 HLRs of which 26 answered

17 Interviews conducted by the Independent Experts in charge of the Eurostars Interim Evaluation in 2010 to 17 national R&D Institutions in 10 countries.

18 Discussions at the Eurostars National Funding Body Annual Conference, organised by EUREKA every year since 2009, with 80 participants each in 2011and in 2012; Deliberations of 'Eurostars-2' Working Groups meetings (organised by EUREKA), leading to the Eurostars-2 blueprint endorsed in June 2011 by EUREKA HLRs and to the Budapest Document on Eurostars-2 endorsed in June 2012 by EUREKA Ministers

impact) related to a future Eurostars-2, with two third 28 EUREKA HLRs and/or NPCs replying.

The vast majority of the respondents to the last consultation agrees on the following:

- the option for Eurostars-2 as a "New reinforced partnership" is very suitable and would bring more impact in "enhancing competitiveness of R&D SMEs" ,
- the most relevant objectives of Eurostars-2 are the "Increased growth and competitiveness of R&D SMEs" and to "introduce new products, processes and services",
- the most relevant actions needed at EU level are "adding leverage effect to public and private funding to R&D performing SMEs" and to "ensure integration and coordination of national programmes supporting R&D performing SMEs",
- the most relevant problems Eurostars-2 can tackle are "the difficulty for R&D performing SMEs to reach the market" and the "market failures and barriers for SMEs".

2.2.3. Open consultations

A number of open consultations have been run through different means, both through online open surveys and through open events as follow-up to these on-line consultations. In particular, the Commission did run

- An open public consultation on Art. 185 and SME support measures as part of the public consultation on the "Green Paper on a Common Strategic Framework for EU Research and Innovation Funding" – European Commission, February – May 2011.

  In this public consultation, two sets of questions provided the possibility to give opinions on Eurostars and its future in the following Framework Programme, namely those referring to Art. 185 and those referring to the SME support. Eurostars was addressed or mentioned in 70 of the 849 position papers responding to the Green paper.

  According to an analysis made on the "mentions of Eurostars in the green paper consultation", there were 107 mentions of Eurostars by 70 organizations out of 849 position papers (e.g. 8%). The mentions were positive for more than 80% of the organisations. The negative quotes (10%) were mainly on the synchronization issues. Other negative remarks were on Member States commitments, harmonization of funding rules, budget level and time to contract. These issues in the report have been mentioned in the chapter of 'lessons learnt' from the interim evaluation (through its recommendations) and in the 'achievements' chapter.

  The above issues have been addressed during the lifetime of Eurostars 1 and will continue to be addressed in Eurostars-2 with the reinforced partnership option through the measures to be put in place for the achievements of the operational objectives.

The Green paper open consultation was followed-up by two open Workshops on "Innovation in Small and Medium Enterprises" in Brussels[19]. The purpose was to go deeper in the debate launched with the Green paper consultation.

- The public Workshop on 21 June 2011 was addressed mainly to experts in R&I and SMEs matters coming from European and national SME and industry associations and from SME support organisations and wider stakeholders such as R&I institutions and academia. The Workshop had 70 participants.

- The public Workshop on 12 July 2011 was addressed to Member States via the FP7 SME Programme Committee, participants from governmental bodies suggested by ERAC[20] and SME National Contact Points. The Workshop had 80 participants.

The above consultations asked for opinions on Eurostars in the overall context as well as more specifically on its scope and on the way to enhance synergies between national and regional research and innovation programmes, including by way of Art. 185.

The workshops' discussions led to two main conclusions on the scope of a future Eurostars-2: firstly, Eurostars-2 should continue with the same target group (R&D performing SMEs); secondly, there was no support by the workshop participants to the idea of enlarging the scope of Eurostars also to non R&D performing SMEs since the number and size of national programmes supporting other kind of SMEs (as Research for the benefit of SMEs) was not sufficient to form a critical mass and to set up a joint programme according to art 185 TFEU. .

Other public consultations, such as the public consultation on the ERA framework (European Commission, September – November 2011)[21] with its part on cross-border operation in research (in particular joint research programmes such as Eurostars), and the following public Annual Joint Programme event in November 2011, were organized to collect experiences and opinions to formulate recommendations for the design of future versions of instruments (ERA-NETs, ERA-NET PLUS initiatives, Art. 185 initiatives and JPIs) capable of realizing the ERA and tackling societal challenges. A specific session of the event was dedicated also to Eurostars.

2.2.4. Interim evaluation in 2010

An interim evaluation has been conducted in 2010. Further description of this interim evaluation is given in Chapter 3 below.

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19 Workshops reports are published on the web: http://ec.europa.eu/research/horizon2020/pdf/workshops/innovation_in_small_and_medium_enterprises/summary_reports_workshops_on_21_june_and_12_july_2011.pdf#view=fit&pagemode=none

20 ERAC: European Research Area Committee, advising to both the Commission and the Council, composed of delegations of all Member States, Associated countries to the Framework Programme

21 See http://ec.europa.eu/research/era/consultation/era-summary-reports_en.htm

2.3. Consultation of the IA Board

The Impact Assessment Board gave the following overall opinion to the draft IA (version of 4 February 2013):[22]

"The report should be improved in several important respects. Firstly, it should put Eurostars-2 more clearly in the context of research for SMEs and describe how it differs from and complements other support programs, such as the new SME Instrument. It should then focus the problem definition on the policy choices concretely available for Eurostars-2, given that key parameters have been already set in the Horizon 2020 program. This analysis should be better informed by evaluation findings. Secondly, the report should define more specific objectives, so that it will be possible to evaluate if the implemented Eurostars-2 has generated the intended effects. Thirdly, the report should focus the options on how to improve the effectiveness and efficiency of Eurostars-2 programme management and governance. The expected administrative cost reductions for beneficiaries and authorities should be quantified. Finally, the report should better present the stakeholder views explaining which stakeholders were more critical, on what issues and how these concerns have been addressed."

3. PROBLEM DEFINITION

3.1. European SMEs – problem definition and the need for intervention at EU level

In the context of increasing globalisation, economic growth and job creation in Europe crucially depend on a renewal of the European economic fabric towards sectors which are tomorrow's markets and where Europe can build sustainable competitive advantages based on its highly educated workforce.

The growth of innovative and knowledge-intensive firms is a key channel through which such structural change can happen. However, there is lack of such firms' dynamics in Europe. This is especially visible when the EU is compared to the US: in the US more than in the EU many knowledge-intensive firms were able in the last decades to develop, grow rapidly and become key economic players, thanks to the success of their research and innovation activities (EC 2007, O'Sullivan 2007, Cincera & Veugelers 2010).

The lack in Europe of such fast-growing firms (Bravo-Biosca, 2011) is a key bottleneck to European economic performance, as fast-growing firms play a central role in the overall employment growth and in the productivity growth[23] (Acs, Parsons, & Tracy 2008, Audretsch 2002, Autio, 2007, Birch et al. 1997, Henrekson & Johansson 2008, Hölzl 2006, Storey 1994). It is thus essential for fostering growth and jobs creation in the EU that more European SMEs turn into growing innovative firms and are able to become major economic players on knowledge-intensive global markets, thanks to successful research and innovation activities.

The research intensity of SMEs and the role of SMEs in the lack of innovation dynamism in the EU vs. US is further elaborated on in Annex 1.

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22 Ref. Ares(2013)276825 – 01/03/2013

23 A key channel for productivity growth is the re-allocation of jobs from low productive firms to more productive ones: it has been estimated that difference in firm growth dynamics between the US and the EU could account for over two-thirds of the EU underperformance vs. the US in productivity growth in recent decades (Bravo-Biosca, 2010)

To be successful, research and innovation activities require more and more the cooperation of a multiplicity of actors. Taking into account notably the increasing complexity of technological development, fewer firms are able to "go it alone" (von Hippel 1988, Thether 2002, Becker and Dietz 2004).

This is of course even more the case for SMEs. R&D collaboration is essential for them:

- to access expertise which cannot be efficiently generated in-house, such as new technological knowledge and technologies which are complementary to their own field of specialisation,
- to reduce and sharing costs, as well as risks linked to technological/market uncertainties, to achieve scale and scope economies,
- to increase the speed of reaction to rapidly evolving markets and technological opportunities.

In Europe, as the increasing technological complexity requires more and more access to expertise which are not available inside national borders, R&D collaboration very often need to be transnational. Moreover, concerning specifically SMEs, the key importance of transnational R&D collaboration has also to be seen in relation to the fact that their internationalisation is central to their successful development and growth[24]: international R&D collaboration has a key role to play to enhance SMEs access to markets beyond their national borders, notably by enabling them to absorb market-related tacit knowledge and know-how of their partners (Hladlik 1988, Teece 1992, Sakakibara 1997).

Furthermore, the existence of market and systemic failures leading to a socially sub-optimal level of private funding of R&D and justifying public support to R&D activities is well documented (EC, 2011). For SMEs depending on external funding, specific market failures inhibiting the adequate provision of private funding are exacerbated.

For example, commercial banks generally perceive the financing of R&D projects conducted by SMEs as too complex and risky. Three reasons are often cited. Firstly, the financing partners of SMEs face an *information asymmetry* between themselves and the companies. The providers of funding do not have the same level of information and understanding with regard to the technology concept of R&D projects in SMEs and are thus not able to appropriately assess the complex technologies and the associated risks. Secondly, the *market risk* which is linked to new, innovative products and services following the R&D is difficult to evaluate because market acceptance cannot be verified and is difficult to estimate. Thirdly, banks find it difficult to finance R&D and innovation projects, because of the *lack of collateral* caused by the high share of soft investments, for example the salary for researchers, and the tailor made equipment, as for example laboratories.

This “financing gap” is all the more important in a fast-changing knowledge-based economy because of the speed of innovation. Innovative and R&D performing SMEs with high growth

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24 In 2009, the Commission launched a study (Internationalisation of European SMEs. DG Enterprise/EIM Business & Policy Research. See http://ec.europa.eu/enterprise/policies/sme/market-access/files/internationalisation_of_european_smes_final_en.pdf) to map the level of internationalisation of European SMEs, to identify which are the main barriers and advantages of internationalisation and to propose policy recommendations. Among the conclusions were: (1) SMEs active beyond national boundaries create more jobs and report an employment growth of 7% versus only 1% for SMEs active only in domestic markets; (2) International SMEs are more innovative; 26% of internationally active SMEs introduced products or services that were new for their sector in their country, for other SMEs this is only 8%.

potential, many of them in high-technology sectors, have played a pivotal role in raising productivity and maintaining competitiveness in recent years. But R&D and innovative products and services need investment to flourish. If SMEs cannot find the financing they need, brilliant ideas may fall by the wayside and this represents a loss in potential growth for the economy.

Taking into account both

- that SMEs can take out from transnational R&D collaboration particularly important benefits for their development and growth[25],
- that the market failures inhibiting the provision of adequate private funding for R&D carried out by SMEs are also particularly important,

it is not surprising that many empirical studies have found out that public support to transnational R&D collaboration of SMEs is a particularly effective type of public support (see i.a. Ortega-Argilés, Vivarelli and Voigt, 2009; Moncada-Paternò-Castello and Cincera, 2012).

However, public intervention exclusively at Member States level is currently inappropriate because of both the levels of support provided and the lack of interoperability and synchronization between Member States programmes. National research and innovation efforts are considerable fragmented and compartmentalised and there is almost no support for transnational collaboration: according to estimates by the Commission, trans-nationally coordinated public funding in Europe represented around 12% of national GBAORDs[26] in 2010, of which 7.6% for FP7 activities, 2.5% for the activities carried out by the ESA, 1% for other transnational performers (such as EUREKA) and 0.8% for joint programmes implemented by Member States, including those supported by or co-funded by the European Commission, such as Article 185 activities.[27]

The most important barriers to an efficient intergovernmental approach in this area is that only very few national programme cycles are synchronised and use a joint international peer review. The low level of cross border co-operation in research and innovation programmes implies that Europe is not using opportunities to enhance the quality and impact of its research and innovation. Inventions resulting from international cooperation have on average a higher impact than purely national ones. Better coordination of policies would help to target public investments more efficiently and reduce fragmentation.

To summarize, considering the identified problems, there is a clear case for EU intervention: markets alone do not deliver a sufficient level of R&D, in particular not by R&D performing SMEs; market failures create a "financing gap" where R&D performing SMEs do not have access to sufficient funds and Member States acting alone will not be able to make the required public intervention. The total investments in R&D of some Member States are comparatively low and are absent when referring to support to transnational collaboration.

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25 See also research undertaken by JRC, IPTS, Economics of the Industrial Research and Innovation – IRI action

26 GBAORD = Government Budget Appropriations or Outlays on Research and Development.

27 Commission Staff Working Document, Impact assessment, Accompanying the document Communication from the Commission, A reinforced European Research Area Partnership for Excellence and Growth. Brussels, 17.7.2012. SWD (2012) 212 final. See http://ec.europa.eu/research/era/pdf/era-communication/era-impact-assessment_en.pdf

There is therefore a need for EU intervention which can bring a clear added value: this means an action which can have a positive effect on the funding at national level (leverage on public funding), and that can encourage at the same time stronger integration and harmonisation, reduce the degree of fragmentation and inefficiencies and allow for Member States to jointly support trans-national collaboration in R&D by SMEs.

Considering the current Member States' proposal to act through Eurostars-2 jointly in the area of R&D performing SMEs, an EU intervention through an art 185 is a possibility to consider as it could add value to the initiative of the Eurostars countries by joining efforts in achieving societal and economic objectives.

The EU's right to act in this area is set out in Article 185 TFEU[28]. Public-public partnerships are acknowledged to contribute to the realisation of ERA, through their contribution in aligning and synchronising national programmes.

In the Horizon 2020 Communication[29] it is *i.a.* stated that:" Partnership approaches on the basis of Articles 185 and 187 of the Treaty will also be continued".

The proposal for a Regulation establishing Horizon 2020[30] sets out in Article 20.2 (b) a number of criteria for how public-public partnerships shall be identified. Eurostars-2 complies with those since it provided (a) a clear definition of the objectives to be pursued in conformity with the objectives of Horizon 2020 and broader Union policy objectives indicated in chapter 2.2; (b) financial commitments of the participating countries, (c) the added value of action at Union level as mentioned below and (d) the critical mass, with regard to the size and the number of programmes involved.

The Communication "A Reinforced European Research Area Partnership for Excellence and Growth", adopted on 17 July 2012[31], encourages the further use of these initiatives.

Eurostars has centralized management with decentralized entry points, thus respecting the principle of subsidiarity. While Member States are the 'founders' and the drivers of the programme, the EU's role and contribution is key for the alignment and synchronisation of the relevant national research and innovation programmes to continue and strengthen the joint programme structure, featuring scientific, management and financial integration.

3.2. Lessons learned from the current Eurostars

Following the above reasoning, in 2008 several member Sates wishing to have a coherent approach at European level in the field of R&D performing SMEs and to act effectively, took the initiative within the framework of Eureka to set up a joint research and development programme named 'Eurostars' for the benefit of R&D performing SMEs, in order to obtain a

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28 Article 185 TFEU (ex Article 169 TEC) reads: " In implementing the multiannual framework programme, the Union may make provision, in agreement with the Member States concerned, for participation in research and development programmes undertaken by several Member States, including participation in the structures created for the execution of those programmes."

29 See http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0808:FIN:en:PDF

30 Proposal for a Regulation of the European Parliament and of the Council establishing Horizon 2020 – The Framework Programme for Research and Innovation (2014-2020), Brussels 30.11.2011, COM(2011) 809 final. See http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0809:FIN:en:PDF .

31 See http://ec.europa.eu/euraxess/pdf/research_policies/era-communication_en.pdf .

critical mass in terms of management and financial resources and the combination of additional expertise and resources available in various countries across Europe. In order to increase the impact of Eurostars, the EU decided to join the programme and this was accepted by the Eurostars countries.

An interim evaluation has been conducted in 2010, two years after the start of the programme. This evaluation was carried out by a Group of Independent Experts chaired by Ms Laperrouze, former Member of the European Parliament and Vice-President of the ITRE Committee. The European Commission communicated the results of the evaluation to the European Parliament and the Council of the European Union in April 2011[32].

The interim evaluation concluded that: "Eurostars is a good programme, which meets its objectives and adds value to European R&D performing SMEs. For this reason the Group of Independent Experts believes that Eurostars should not only be sustained but preferably its budget should be increased in the future. However, in spite of good progress, some scope for further improvement also remains". Twenty-four recommendations, both operational and policy-oriented were proposed for improving the programme both in a short-term and in a long-term (in case of a follow up to Eurostars 1). The main recommendations, shared by the Commission in its report and welcomed by the Competitiveness council conclusions of 31 May 2011, were mainly focussing i.a. on the respect of the Eurostars rules by all participating countries, shorter time to contract, efficiency and transparency of the evaluation process and quicker progress towards more scientific, management and financial integration, including a better synchronisation of funding.

While those recommendations implying a structural reform are to be addressed in the follow-up of Eurostars (see chapter 5.3), a number of recommendations (more short-term) have already been taken into account during the on-going programme, to the extent allowed by the scale and scope of the current Eurostars as defined by the legislative framework (they are also taken into account in the definition of the baseline scenario in chapter 5.1).

Also thanks to these improvements, four years after its launch, the Eurostars Programme has proven to be an attractive Programme for R&D-performing SMEs and has also contributed to address the problems mentioned in chapter 3.1, which were in fact at the origin of its creation. This means that the model proposed by Eurostars brought the expected benefits, but it is also clear that there is quite some room for improvements (as already indicated by the interim evaluation) to increase its efficiency and effectiveness.

The main achievements of Eurostars are the following (more data in Annex 2).

- Higher than expected number of applications submitted and of projects funded

2600 applications were submitted during the 8 first Cut-offs and more than 70% of the 8635 Eurostars applicants were R&D performing SMEs and SMEs. The number of applications has been increasing consistently, from 215 applications submitted in 2008 to 728 in 2012. Since 2008, 613 projects were selected for funding. From 90 projects funded per year in 2008 and 2009, the Programme has grown to 135 projects funded in 2010, 145 in 2011 and 139 in 2012

[32] Report from the Commission to the European Parliament and the Council, Interim Evaluation of the Eurostars Joint Programme, Brussels, 8 April 2011, COM (2011) 186. See http://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/communication_eurostars.pdf.

(see Annex 2 – table 1). The average Eurostars project is composed of three participants from two countries, and costs 1.4 M€.

- SMEs are predominant in the consortium composition

SMEs are representing around 70% of participants and 80% of total project costs of projects funded. 41% of these SMEs have less than 9 employees, and 42% have between 10 and 49 employees. In one third of the funded projects, the consortia are exclusively composed of SMEs. Collaboration with Universities and/or Research organisations is also present in the portfolio, with a bit less than 30% of the consortia involving one University or Research organisation with SME(s) and 15% of the consortia involving more than one University and/or Research Organisation with SMEs (see Annex 2- table 4).

- Successful bottom-up approach

The Eurostars Programme is bottom-up and has received applications in different technology fields, mainly in ICT 31%, Biotech 28% and Industrial Technologies 14% (see Annex 2- table 3). A progressive increase of the share of Biotech projects can be observed over the years (20-25% in the first Cut-offs to 30-35% in the last Cut-offs) in parallel to a steady decrease of ICT projects (30-40% in the first Cut-offs to 20-25% in the last Cut-offs). Main market areas represented in the pool of funded projects are Medical-Health Related 28% and Industrial Products-Manufacturing 20% and Computer related 8%. The share of market areas within the Eurostars portfolio remains stable over the years. (see Annex 2 – table 3)

- Integration of national programmes and decreasing time to contract

Thanks to Eurostars, 12 national programmes have been newly created to follow the Eurostars rule and 14 have been adapted to this purpose. They have accepted the use of a central independent evaluation and accepted to fund the projects according to a common ranking list issued by this central evaluation. For this reason, it can be argued that the Eurostars Programme has reached a good degree of integration in terms of management and scientific integration: central submission and registration process, central evaluation process with common criteria and a central selection decision.

The average time from the submission of the project application to the communication of the evaluation results is currently 3.7 months. A decrease of the Time to Contract (for more than 14 months for the projects submitted in the 3rd call (issued in 2009) to 9 months for the 6th call (in 2011)[33] (see Annex 2- table 2) has been obtained, but improvements have to be made in terms of time to contract. Countries categorized as "Top 5 performers" can reach a time to contract of less than 6 months but they represent only between 10% and 20% of the participants.

- The "Eurostars model"

[33] This is the last Cut-off available for reference. The full data set is not yet available for the following Cut-off dates.

The model, which offers a centralized management[34] with decentralized entry points[35], has optimized the coordination among the national programmes for R&D performing SMEs while remaining close to final beneficiaries. The model is based on one central submission point, a common set of eligibility rules, an international and independent peer review, while the funding is based on a binding ranking list and national earmarked budgets (see Annex 1). This allows for transnational competition favouring excellence of the projects selected.

- Higher than planned public funding

Eurostars has succeeded in mobilizing an important amount of resources, both public and private, as well as a substantive number of actors. Twenty five countries participated in the first Eurostars Cut-off, compared to thirty three countries as of today. All Eurostars participating countries have been involved in at least one project funded. (see Annex 2 – table 5)

To cope with increasing demand, Eurostars participating countries made efforts to fund as many projects as possible. Six countries increased their initial earmarked budget through an official decision by their government 'a priori'. In addition, 17 countries laid down additional funds on top of their earmarked budget 'ad hoc' in occasion of the different calls in the period 2008-2012 (12 of those countries did it systematically for each call in that period). (see Annex 2- table 6)

Therefore, the current Eurostars programme which was originally funded to a level of 400 M€, of which 300 M€ came from national funding bodies in the Eurostars participating countries and 100 M€ from FP7, is reaching an overall public funding of 500M€, of which 400M€ coming from the Eurostars countries. Those efforts made it possible to maintain a reasonable success rate, which has remained above 20% since the beginning of the Programme, giving an average success rate of 28%.

- Indications of preliminary impacts

There are three key indicators for measuring effect of the Eurostars programme on economic growth and job creation for the participants:

  - The additional turnover that participants generate thanks to the projects they participate in and the products they develop
  - The job creation that the Eurostars R&D activity helps to stimulate
  - The number of products that are developed thanks to Eurostars-funded projects

Participants of Eurostars projects coming to an end are systematically requested to provide the Eurostars Final Reports. The table below summarizes the information collected from 343 participants until the end of 2012.

For each of the above mentioned indicators, a distinction is made between what is achieved during the time the R&D part of the product development is running (see the 'Achieved

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34 The EUREKA secretariat in Brussels is the dedicated implementation structure of Eurostars.

35 The network of EUREKA National Project Coordinators (NPCs) / National Funding Bodies, assure deep local support in terms of promotion, assessment and monitoring, based on their proximity and an extensive experience in funding SMEs.

impact' column of the table below) and what are the estimations based on the obtained results for the three years after the Eurostars-funded R&D phase is completed (see 'Expected impact' column).

	Number of participants who provided valid data	**Achieved Impact during the life-time of the project**	Expected Impact three years after the projects has finished	Impact ratio, achieved : expected
Additional turnover	209	**€ 52.69 M**	€ 497.56 M	1 : 9
Job creation	270	**437 jobs**	1036 jobs	3 : 7
Products developed*	209	**117 products**	73 products	3 : 2
*Not all products were reported with their projected time to market, which is why 34 products are not counted as either "achieved" or "expected".				

Based on the first project impact reports received, and when comparing the above outputs of the programme (achieved and expected) with the public funds invested by the end of the programme (100M€ from the EU and 400M€ from the Eurostars countries), the programme appears to contribute to considerable positive economic effects for the participating undertakings. With 1 M€ of public funds, 9.8 M€ of **additional turnover** is expected. 80% of this effect is generated by a small proportion of the companies involved (12%). When submitting an application, R&D performing SMEs expect on average to double their annual turnover and to increase their number of employees by 60%.

For each Eurostars project around 3 **products, processes or services** are expected to reach the market within 2 years. Based on the first 65 projects completed, the participants declared to have created 174 products, processes or services. This shows that Eurostars is also a very good programme **for knowledge transfer** making possible translating research and ideas into actual new products/processes/services.

The Eurostars programme has already started to produce some interesting **success cases** in terms of Eurostars projects with a good result and impacts, some of which are presented in Annex 3.

3.3. Eurostars-2 in the context of research for SMEs and on the European Research Area

The political support for actions in favour of R&D performing SMEs and also for instruments contributing to ERA is growing:

The Europe 2020 Communication puts[36] forward three mutually reinforcing priorities: Smart growth (developing an economy based on knowledge and innovation), Sustainable

[36] Communication from the Commission, Europe 2020, A strategy for smart, sustainable and inclusive growth, Brussels, 3.3.2010, COM (2010) 2020 final, p. 5. See http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:2020:FIN:EN:PDF

growth (promoting a more resource efficient, greener and more competitive economy and Inclusive growth (fostering a high-employment economy delivering social and territorial cohesion). One of the five headline targets of Europe 2020 is that 3% of the EU's GDP should be invested in R&D, while "Innovation Union" is one of the seven Flagship Initiatives. To improve the business environment for SMEs is stressed several times in the Communication.

The Innovation Union Communication[37] further highlights the importance of SMEs in creating jobs and economic growth. The Communication i.a. states that: "The Framework Programme's contribution to nurturing fast growing SMEs must be boosted." And furthermore that: "Too few of our innovative SMEs grow into large companies." It is also stated that: "Major progress has also been made in developing partnerships to jointly implement research funding with Member States and with industry[38]." The Communication further states that the Commission will design future EU research and innovation programmes to ensure simple access and stronger involvement of SMEs, in particular those with a high growth potential. Further use should be made of partnerships with Member State agencies, building in particular on the experience of the Eureka Eurostars initiative.

In addition, a number of priorities of the European Research Area (ERA) were set out in the 2012 Commission **Communication on the completion of ERA**[39]. In particular, the Communication stresses the need for (1) More effective national research systems, (2) Optimal transnational co-operation and competition, (3) Optimal circulation, access to and transfer of scientific knowledge. The Communication also includes Article 185 initiatives "which combine EU, national and regional efforts into single European programmes" amongst those Framework programmes and Commission' initiatives that have positively contributed in building ERA and that are considered an important vehicle to obtain the above mentioned ERA objectives. The Commission will therefore "pursue, stimulate and participate in Public-Public Partnerships […] to address grand challenges and to leverage Member States' contributions and ensure close coordination with relevant activities under Horizon 2020".

This has led the Commission to include in its Horizon 2020 proposal, within the chapter dedicated to support to SMEs 'Innovation in SMEs'[40], also the support to a specific programme dedicated to R&D performing SMEs, in their market-oriented transnational research activities, clearly stating that this programme will be implemented by an Article 185 TFEU initiative building on the Eurostars Joint Programme. This programme, in combination with the activities under the 'Leading and Enabling Technology' objective, will contribute to the goals of the Industrial Leadership part to speed-up development of the technologies and innovations that will underpin tomorrow's businesses and help innovative European SMEs to grow into world-leading companies.

Under Horizon, other schemes and actions address SMEs.

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37 Communication from the Commission, Europe 2020 Flagship Initiative, Innovation Union, Brussels, 6.10.2010, COM(2010) 546 final. See http://ec.europa.eu/research/innovation-union/pdf/innovation-union-communication_en.pdf

38 Partnerships based on EU Treaty articles 185 and 187 (Joint Technology Initiatives).

39 Communication from the Commission, A Reinforced European Research Area Partnership for Excellence and Growth, Brussels, 17.7.2012, COM(2012) 392 final. See http://ec.europa.eu/euraxess/pdf/research_policies/era-communication_en.pdf

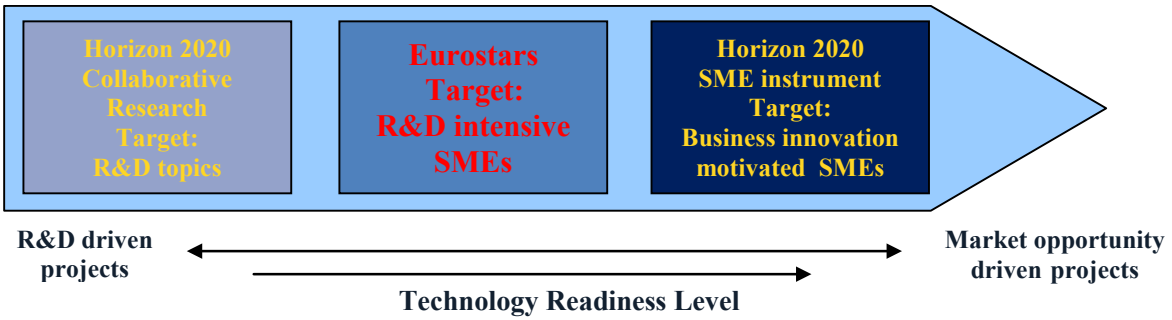
40 Proposal for a COUNCIL DECISION establishing the Specific Programme Implementing Horizon 2020 - The Framework Programme for Research and Innovation (2014-2020) Chapter 3.2.1 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0811:FIN:en:PDF

For instance, the new SME instrument in Horizon 2020 addresses innovative SMEs (not necessarily R&D performing SMEs) displaying a high level of technology readiness and engaging in the last phase of innovation activities. It will be used consistently across all societal challenges as well as for the enabling and industrial technologies, allowing SMEs to put forward their most innovative ideas for addressing Union-level challenges. The new instrument will meet the needs of those SMEs providing innovative solutions to specific challenges, irrespective of whether these are high-tech and research-driven or social and service-driven innovations. It aims to fill the equity gap after the start-up and seed part (up to 1 million €), which is largely covered by national and regional support, and before innovative companies become attractive for venture financing (from 5 million €).

The new 'Access to risk finance' instrument in Horizon 2020 will also have a strong SME focus, as called for by the European Council. For the Debt facility, the SME focus will be strengthened by working with financial intermediaries at national and regional levels. The Equity facility will focus on early-stage investments, while having the possibility to make expansion and growth-stage investments in conjunction with the equity facility under the Programme for the Competitiveness of Enterprises and SMEs. The Equity facility and the SME-related component of the Debt facility will be implemented as part of two EU Financial Instruments that provide equity and debt to support SMEs' R&I and growth, in conjunction with the equity and debt facilities under the Programme for the Competitiveness of Enterprises and SMEs (COSME). The 'Access to Risk Finance' specific objective will support the SMEs in Part 3 of the SME Instrument to scale-up the project results for commercial exploitation and economic impact.

R&D performing SMEs can continue to participate to the *more traditional collaborative projects* under the H2020, which will however follow the intervention logic of the societal challenges and/or specific focus areas.

The strategic positioning of these different instruments can be illustrated as follows:



As showed in this graph, the strategic positioning of the above mentioned measures/actions in terms of to the support they provide in different phases of the developments of the SMEs research/business idea with relation to the market, is different and complementary.

These differences and complementarities can be defined along many other dimensions, as summarized in the table below:

DIMENSIONS	Collaborative R&D	Eurostars	SME instrument	Financial instruments for SMEs

- SME/projects supported				
Eligibility	All R&D actors (no specific to SMEs) Larger consortia	**SPECIFIC TO R&D performing SMEs** (mostly spin-offs, start-ups and young companies)[41] Small consortia	All innovative SMEs (not necessarily R&D performing) usually well established Single company support possible	Innovative SMEs (including R&D performing SMEs)
Approach	Top down	Bottom-up	Embedded in challenges	Bottom-up
Technology Readiness Level of the project	Low to medium	Medium	High	Medium to very high
Strategic positioning of the programme	Fully R&D driven projects	Mainly R&D driven project	Market opportunity driven projects	Commercial
- Modalities to support				
Type/amount of support provided	Grants	Mainly grant Around 1M€ per project	Grants 1 to 5 M€	loans/risk capital Higher amount (up to 7,5M€ loans)
Level	EU	National/EU	EU	National
Integration		**Integration/** **harmonisation** **/alignment of national research funding programmes**		

Eurostars-2 will aim at supporting research performing SMEs by co-financing their market oriented research projects in any field. As the table shows, each instrument has ideally its own specific target given by a combination of the type of SMEs/project targeted (eligibility conditions, technology readiness level, openness of the topics) and the modalities of implementation (type of support, source of support).

Eurostars is thus different from the other initiatives providing SME support and at the same time it is complementary to them. In addition, while all these instruments are responding to particular needs of a certain type of SMEs, however none of them combine a specific focus to

[41] R&D performing SMEs in Eurostars is defined as having at least 10 Full Time Equivalents or at least 10% of its turnover invested on R&D.

transnational R&D performing SMEs with the integration and harmonisation of national programmes (see last row of the table) as Eurostars does through the use of Article 185.

4. OBJECTIVES

4.1. General objective

Chapter 3 above has *i.a.* identified two major problems: (1) Insufficient European investment in R&D, in particular by R&D performing transnational SMEs, and, (2) Fragmentation of Member States' R&D programmes aimed at R&D performing SMEs. In order to tackle these problems, while taking into consideration the other R&D support programmes for SMEs and the lessons learned from the current Eurostars, the following general objective for Eurostars-2 has been set:

GO. Stimulate economic growth and job creation by enhancing the competitiveness of R&D performing SMEs through transnational R&D collaboration.

4.2. Specific objectives

In order to achieve the general objective above, two specific objectives have been set.

SO1. Promote transnational market-oriented research activities for R&D performing SMEs in any field, leading to the introduction of new or improved products, processes or services in the market by the participating SMEs.

SO2. Contribute to the completion of the ERA and increasing the accessibility, efficiency and efficacy of public funding for R&D performing SMEs in Europe by aligning, harmonising and synchronising the national funding mechanisms.

4.3. Operational objectives

To reach the specific objectives above, the following operational objectives have been identified.

OO1. Three years after the end of each project, for each 1 M€ of public funding (from EU and participating Eurostars countries), on average, the turnover of the participants should increase by at least 10 M€, at least 25 new jobs should be created and three new or improved products, processes or services should be on the market.

OO2. Scientific integration[42] of national programmes: Ensure excellence and impact of the projects selected through international (EUREKA wide) competition and the application of a single evaluation and selection process.

OO3. Management integration of national programmes: Further improve operational excellence and accountability for the programme by reducing the time to contract while maintaining an optimal frequency of calls per year.

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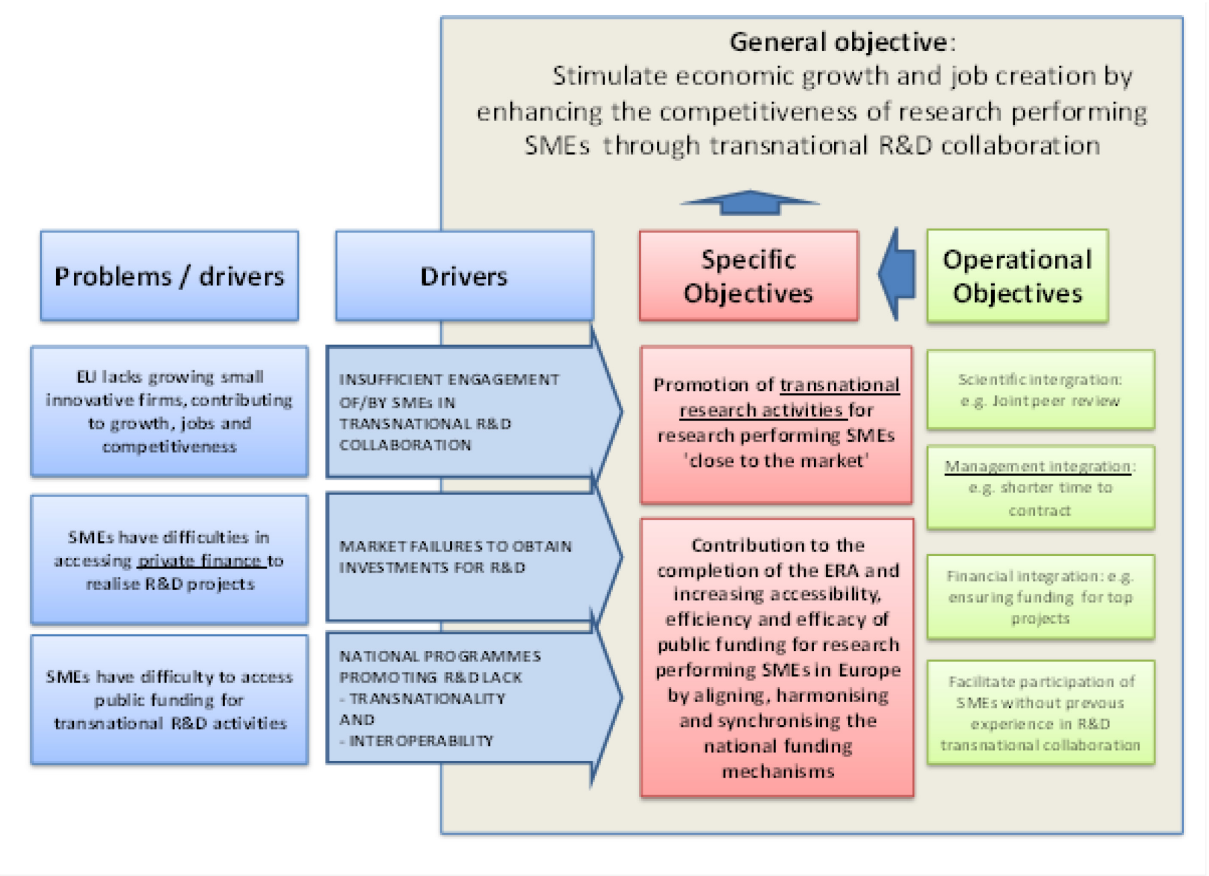
[42] Scientific integration is achieved through common definition of objectives and implementation of activities such as the centralised calls for proposals and project monitoring.

OO4. Financial integration of national programmes: Harmonisation of national funding rules and application of a binding ranking list.

OO5. Facilitate the participation of R&D performing SMEs without previous experience in transnational R&D activities.

The relation between problems, general objective, specific objectives and operational objectives for Eurostars-2 can be summarized as follows:



5. POLICY OPTIONS

Eurostars is a joint programme of Member States organised under the umbrella of the EUREKA initiative. Therefore the Commission's choice of the options has been limited to those options that the discussions and consultations with Member States and other stakeholders found to be realistic. The following three options came out of these consultations. Other options have not been further analysed or ranked, as they did not get sufficient support from the Member States.

5.1. Options

Option 1 – The business as usual (BAU) option (Baseline)

This option is the continuation of the existing Eurostars Joint Programme during the next programming period (2014-2020) in its current format, implementation modalities and overall budget. The EU participation and financial contribution would be the same as for Eurostars 1 (the EU financial contribution is up to 100 M€ under FP7). This option is set as baseline.

12 out of the 20 Operational Recommendations from the interim evaluation have been fully implemented in Eurostars 1 by the end of 2012 (mostly linked to the efficiency and transparency of the central evaluation, selection of industry experts, feedback to participants, etc). The above mentioned actions have led already to the positive achievements mentioned in the IA report: shorter time to contract, higher transparency of the process and higher quality in the evaluation process. However, there is still scope for improvements.

Option 2 – The zero option (no EU intervention in Eurostars-2)

Under this option EUREKA Member States would have to continue the programme on their own and the EU would not join the initiative. The EU participation and financial contribution to Eurostars will be stopped after the end of its current funding phase (by the end of 2013). Member States will be left to decide whether to continue Eurostars and to what extent to pursue the scientific, managerial and financial integration.

Option 3 – The Reinforced partnership option

The reinforced partnership option means that the existing Eurostars would be continued in the next programming period as an Art.185 initiative in an improved format based on the full implementation of the recommendations made in the interim evaluation report, an enhanced degree of integration and with an extended scope and scale.

Strongly encouraged by the Commission services, EUREKA Member States have set up a Eurostars-2 Steering Committee and five working groups which are looking at improvement measures in each of the programme stages (Promotion, Eligibility, Evaluation, Funding and Monitoring/Impact) to address the recommendations of the interim evaluation (including the integration of the programmes) and overall to improve performance on the basis of the experience until now. These improvements to be implemented in Eurostars-2 aim at obtaining shorter time to contract, more standardization of rules and processes, lean-administration and higher synchronisation and integration. These groups have elaborated draft guidelines for Eurostars-2 which will be formally adopted by the EUREKA relevant governing board in 2013, ready to be implemented under the new programme.

This reinforced partnership (improved effectiveness and efficiency of Eurostars-2 management and governance for the ultimate benefit of SMEs) will be achieved by a number concrete measures pushing the Eurostars participating countries to:

- respect a common set of eligibility criteria;

- standardize the financial viability check[43];
- improve the common set of evaluation criteria (which shall better reflect the market orientation[44] and be more aligned to those of Horizon 2020);
- avoid double reporting at national and European level for participants;[45]
- ensure the necessary funding to cover for at least all the projects positioned in the 50 first places of the common ranking list, by increasing substantially the financial contribution of each participating countries;
- ensure a Time to Contract per project of less than 7 months.

This will be strongly pursued by introducing national milestones and back-up action plans into the Bilateral Agreements between Eurostars participating countries and the EUREKA Secretariat focusing on constant improvements in the underlying national programmes in order to further synchronise and reach a shorter time-to-contract[46].

As mentioned under the BAU option, 12 out of the 20 Operational Recommendations from the interim evaluation have been fully implemented in Eurostars 1 by the end of 2012. The remaining eight Operational recommendations (plus four Policy recommendations) involve more 'structural' long-term changes. This would not be implemented in short term under Eurostars 1, but can only be fully implemented in the Reinforced partnership option.

These recommendations have therefore been taken into consideration when formulating the operational objectives for Eurostars-2 (see chapter 4 above). They refer to:

- the objective of simplifying and harmonising the procedures through the introduction of concrete milestones in the bilateral agreements between the Eureka Secretariat and the national Funding Bodies (to be restructured and renegotiated) (recommendation 16 – operational objectives OO3-OO5);

- the respect of eligibility criteria (including standard financial viability checks) recommendation 17, operational objectives OO3-OO5);

- the better synchronisation allowing for a virtual common pot operating as a real common pot (meaning no holes in the ranking list) and excellent projects funded (recommendation 22, operational objective OO3-OO5)

Other recommendations, such as the role of the Commission in furthering objectives of harmonisation and synchronisation are also addressed in the reinforced partnership option. Compared to the BAU option, the reinforced partnership option entails that the Commission will be consulted on the milestones in the bilateral agreements and will approve the annual Eurostars-2 work plan of the ESE.

The ESE, in agreement and collaboration with the Eurostars countries, will also make sure to:

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43 Based on the interim evaluation recommendations 12 & 17 and in line with the Eurostars 2 Blueprint endorsed by EUREKA HLRs in June 2011.

44 In line with the Eurostars 2 Blueprint endorsed by EUREKA HLRs in June 2011.

45 Based on the interim evaluation recommendation 18 and in line with the Eurostars 2 Blueprint endorsed by EUREKA HLRs in June 2011.

46 Based on the interim evaluation recommendation 16 and in line with the Eurostars 2 Budapest document.

- maintain a single entry point for proposals' submission and central and common open calls for proposals with a minimum of two cut-off dates per year, with clear and accessible information on common and national rules to the applicants;

- maintain a central evaluation of proposals, making it faster and fully transparent and including the selection of technical experts/evaluators with a sound market orientation and financial background;

- address, through targeted campaigns, R&D performing SMEs which have never before been involved in transnational publicly funded R&D projects and substantially increase their participation in the programme;

- harmonize the feedback to applicants across countries within an agreed deadline[47].

In order to enlarge the programme and to support a higher number of R&D intensive SMEs with growth potential according to SO1, Member States envisage increasing substantially the financial volume of the programme. Consequently and in order to incentivise and support further the above mentioned improvements the EU financial contribution should be raised accordingly.

Furthermore the international reach of the programme shall be increased by associating third countries (without the right to access to EU funding).

5.2. Discarded option: EU financial support only via ERA-NET

This option would require an ERA-NET to coordinate the research programmes of the Member States. EU funds would be used to support networking activities, including joint activities. However, this would not have the same level of stability, dedicated implementation structure and integration as reached by Eurostars 1 through the use of Art 185. It will also be much worse in terms of visibility of the initiative dedicated to SMEs. Therefore this option is discarded as it would represent a step backwards compared to the results obtained until now and would therefore not offer a valid alternative to the actual running of a jointly executed programme.

6. ANALYSING THE IMPACTS

6.1. Impact on administrative burden and simplification potential

The current Eurostars programme has demonstrated that initiatives based on art. 185 are suitable vehicles to align, synchronise and harmonise national programmes. Best practices exchange and mutual learning lead to improved, simplified administrative procedures and in turn decreased administrative burden for the participating SMEs. As example, during the implementation of Eurostars 1 it turned out that time-to-contract in the various participating national programmes differs considerably, between a few weeks to more than 14 months. The peer pressure through Eurostars and the collective will to decrease administrative burden for SMEs have led to the creation of a working group to exchange best practices and the suggestion to introduce national milestones and action plans into the Bilateral Agreements

[47] Based on the interim evaluation recommendation 15 and in line with the Eurostars 2 Blueprint endorsed by EUREKA HLRs in June 2011.

between Eurostars participating countries and the EUREKA Secretariat for Eurostars-2 in order to reach a shorter time-to-contract.

In principle, all three options contain such simplification potentials. However, alignment and harmonisation, and changes in administrative procedures in general, come with an initial cost. National programmes need to analyse their systems and change them where necessary. Existing rules, regulations and guidelines need to be changed. Whereas the benefit for SMEs is immediately obvious, the benefit for the administrations is not always immediate but only gradually over time. The likelihood and intensity of change increase with the increase of perceived incentives. In that sense it can be estimated that the decrease in administrative burden and the implementation probability of simplification to the benefit of SMEs increases from Zero Option (Option 2) to BAU option (Option 1) and is the largest in Reinforced partnership option (Option 3): the EU participation, subject to a number of conditions, is an important lever.

Option 3 provides a strong incentive to the member States and leverage to the Commission to foster integration of national research programmes (in line with ERA), which is an impact that the other instruments do not have. The integration and alignment of national programmes, as well as standardisation of certain procedures is necessary, since national programmes still strongly differ in certain aspects which a key for the performance of the Eurostars programme and for the overall ERA objectives. For example:

- national procedures to provide funding to SMEs are still very complicated in certain Member States and very long (Time to contract in Eurostars differs greatly country to country- from a few weeks to more than 14 months);
- financial viability checks are very different;
- reporting is still asked also at national level, while should be centralised;
- funding rules are still quite different in terms of eligibility of costs, eligibility of partners and funding rates

While a full standardisation would be against the spirit itself of art 185, an alignment of these practices, based on mutual learning and exchange of good practice, would be very positive. Already Eurostars countries have 'delegated' to a central structure the evaluation and accepted to respect the ranking list issued by the independent evaluators.

However, still there is a strong potential to improvements and the role of the Commission is key in avoiding national 'influences' against an effective integration. This control is exercised through the participation to the governance bodies, to key working groups and through the regular monitoring (annual report, etc).

To quantify the expected administrative cost reductions for beneficiaries and authorities of the Reinforced partnership option is not easy. One needs to recall the Eurostars model: centralized evaluation, decentralized implementation through local administrations.

Eurostars-2, Reinforced partnership option, foresees to have:

- a common Financial Viability Methodology;

- a common Reporting system;
- a balanced Funding which would notably allow to guarantee funding for at least the top 50;
- a funding Tool Box.

Once the common Financial Viability Methodology is in place, member states will be released from their national administrative task which will be performed centrally by ESE. One can assume that the administrative burden to check the financial viability centrally by one body rather than through 33 Members States will reduce the overall administrative burden.

The common Reporting System foresees only one report and not two as today (one done by ESE and one by the NFB), so the benefit would be very clear for the NFBs with no administrative burden anymore. The task being done centrally by the ESE, this would put more pressure on ESE but, overall, the decrease would be significant. It will entail a cost reduction for the SMEs that would only have to do one report instead of two. So the administrative burden would be clearly decreased.

The balanced Funding and funding Tool Box will allow having more efficient funding process thanks to the peer pressure and implementation of best practice.

In conclusion, the expected administrative cost reductions for beneficiaries and authorities of the Reinforced partnership option are assumed to be substantial. However, at this stage, no qualitative quantification exists.

6.2. Critical mass

The EU Framework Programmes have proven very successful in creating research relationships involving SMEs across Europe and in promoting a cross-fertilisation of ideas. However, the programmes are constantly largely oversubscribed and not sufficient in size to satisfy the existing demand and to generate the necessary impacts due to a lack of similar activities and/or a lack of synchronisation at Member State level.

The current Eurostars programme, through its bottom-up approach and the 'Eurostars' model proposed, has demonstrated that it responds well to the needs of a certain type of SMEs by covering an empty niche in the panorama of existing SME support schemes (as shown by the increasing number of SMEs applying to the programme). Due to its specificity, Eurostars has therefore demonstrated that it can work towards creating the necessary critical mass of SMEs investing and performing R&D, by encompassing the full scope of knowledge intensive technologies required to accelerate the development and introduction of major technological advances. This has been achieved by mobilizing 34 countries, which are actively participating to Eurostars 1.

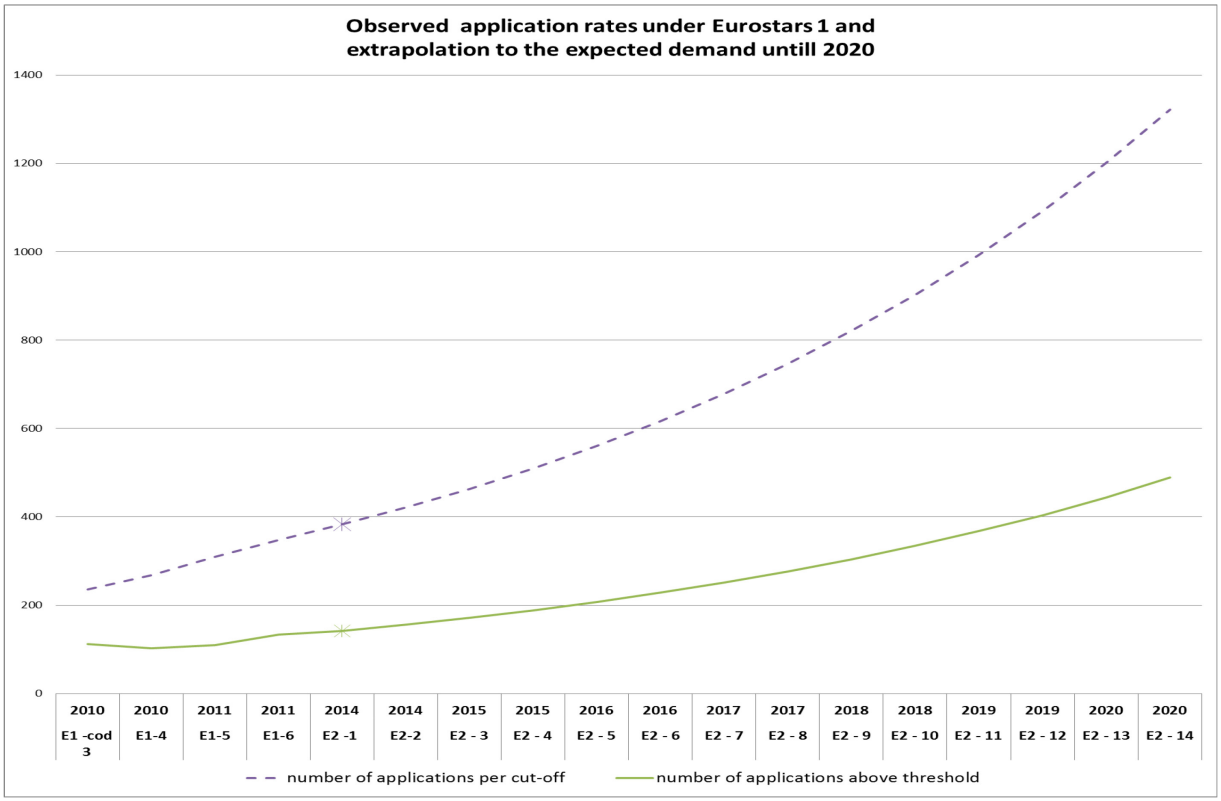
Between 2 and 6% of the 20.7 million SMEs in Europe constitute the potential target group[48] for Eurostars (i.e. R&D intensive SMEs with capacity for transnational cooperation, amounting to roughly 400.000 SMEs as a lower target). By the end of 2012 about 6.000 SMEs have applied for support to Eurostars 1, i.e. about 1,5% of the potential target group has been reached. Therefore a sufficiently large demand can be assumed. In average 37% of the

[48] E.g. NESTA Research Summary, October 2009

submitted projects were above threshold and therefore fundable. Although the number of applications has constantly increased over time, the percentage of projects meeting the quality targets remained the same. Taking into account this existing demand from the target group and the observed constant increase in applications, it can be predicted that about 26.000 SMEs would apply for Eurostars-2.

With a constant quality threshold of 37% about 9.600 SMEs would become fundable and the necessary public funding in order to support these projects would amount to more than 2.2 billion € for the period 2014-2020.

Therefore there is a clear need for increasing the available public funds including a sufficiently strong intervention by the EU. The image below visualises the predicted increases.



Although the continuation of the current programme (option 1 BAU) would maintain its impact in terms of critical mass, its current scope and scale does not seem sufficient any more. EUREKA Member States have already started to increase their financial contributions under the current programme, but incentives for national programmes with respect to further efficiency and effectiveness gains have been absent due to the impossibility of the European Union to match those additional funds. This has also led the Eurostars countries to reduce the promotion campaigns for Eurostars, which can also explain the steady number of applications in 2012.

With respect to the "Zero Option" (Option 2), the argument is that it will allow to a lesser extent gathering the critical mass, but more importantly the EU would not have the lever to sufficiently contribute to increase efficiency and effectiveness, not addressing the administrative burden for SMEs as outlined above.

It is argued that the Reinforced partnership (Option 3) will contribute considerably more than the BAU option to obtain the critical mass necessary for the programme to show the intended impacts. It would also allow more encouraging success rates for potential beneficiaries.

6.3. Leverage effect

Option 1 - BAU Option

If EUREKA participating countries would provide the same annual budget for the period 2014-2020 as for 2008-2013, around 300 M€ national funds would be pooled, giving a total budget of public funding of 400 M€ for the seven-year period 2014-2020. The part from the EU would amount to 25% of the total public funds, as in the original Eurostars 1 budget.

In Eurostars 1, for 1 M€ of public funds, 1.22 M€ of private funds have been injected into the projects. The private funding in Eurostars-2 – given the same relationship between public and private funding as in Eurostars 1 - would then be some 488 M€. Total funding (public plus private) would amount to 888 M€. Based on the current information available for Eurostars 1[49], it is assumed that the turnover in the funded Eurostars participants would increase with some € 4 billion and some 10,000 new jobs would be created (three years after the end of each project). Furthermore, under the BAU option, some 1,560[50] new products or improved products, processes or services would be on the market (three years after the end of each project).

These data are used as a reference by keeping well in mind that this is a rough approximation due to the lack of linear relation between level of funding and results/impact of the project.

Option 2 - The Zero option

With this option, as there would be no EU budget contribution to the programme, the overall public budget would very probably be lower than in the BAU option, or in the worst case reduced to zero. This has been clearly observed[51] in EUREKA activities which are organised without EU funding, where not only project numbers but more importantly the national financial investments have been in decline over years. In addition, and even more important, effect on alignment and synchronisation of programmes, which finally represent a simplification to SMEs intending to operate within the internal market and beyond, have been very limited or absent.

The impact on overall R&D investments would be lower than in the BAU option. Consequently, the potential impact in terms of economic growth, jobs and competitiveness would be modest, or possibly, non-existent.

Option 3 – The Reinforced Partnership option

As of mid-January 2013, EUREKA Member States amount their budget provisions for the period 2014-2020 to 861 M€. The Commission is proposing to maintain the current intensity of EU contribution of 25% of the overall public funding. Therefore, the EU contribution will

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49 Based on the final reports of the 136 completed projects handed in by 343 participants to those projects (out of 416)

50 Based on the figures from Eurostars 1 (see footnote 50): 1M€ of public funding gives on average 3.9 new or improved products, processes or services.

51 Source: EUREKA Secretariat

amount to 287M€[52], leading to a total public funding for Eurostars-2 for 2014-2020 of just under 1.2 billion €.

While acknowledging that linear extrapolations are not suitable and that in the line of financial crisis the leverage is difficult to anticipate, we can still base our analysis on some indicative data. Based on the same ratio between public funds (participating countries and EU) and private funds as in Eurostars 1 (€ 1 public funds gives € 1.22 private funds), the overall public funding invested in Eurostars projects would leverage private funding of some 1.4 billion €. Total funding (public and private) would be around 2.5 billion €.

The impacts of the Reinforced Partnership option, as compared to the BAU option, would be higher in two aspects:

- Impacts in terms of increased investment in R&D as well as in number of new jobs and growth created in the participating SMEs.

- Impacts in terms of pooling of Eurostars participating countries' funds, 'scientific, financial and management integration' and synchronisation of national funding and thus contribution towards ERA.

For indicative purposed, by applying the same funding-impact linear relation currently experienced by Eurostars 1, the turnover in the participating SMEs is expected to increase with some € 12 billion and around 30,000 new jobs will be created (10 M€ of increased turnover and 25 new jobs for each 1 M€ of public funding, three years after the end of each project). For both turnover and jobs, that is almost three times higher than under the BAU option. Furthermore, some 4,500 new or improved products, processes or services will be on the market (three years after the end of each project).

6.4. Innovation Impact

SMEs are key drivers of innovation [53] serving as an important conduit for knowledge spill-overs[54]. The last twenty years have shown that entire sectors have been renewed and new industries created driven by innovative SMEs. SMEs have brought new ideas and developments to the market making them an economic success while at the same time responding to societal and environmental challenges.

It has been shown that SMEs involved in transnational R&D projects benefit more from that cooperation than big companies in terms of exploitation, growth and jobs created[55]. The impact study on participation of SMEs in FP5 and FP6[56] confirms that transnational R&D projects had a positive impact on the R&D and technological capabilities of the small firms. Such funding increases their capacity to generate, absorb and use new knowledge and it promotes their internationalisation. However, the impact studies also highlights that the

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52 Since the final budget from Eurostars countries is not yet definitive, the EU contribution is indicated with reference to the information provided by Eurostars countries in January 2013.

53 OECD SME and Entrepreneurship Outlook 2005.

54 SME Performance Review Annual Report 2008.

55 The impact of publicly funded research on innovation: An analysis of European Framework Programmes for Research and Development. PRO INNO Europe Paper No. 7.2009.

56 Impact assessment of the participation of SMEs in the Thematic Programmes of the Fifth and Sixth Framework Programmes for RTD – DG Research, 2010

Framework Programmes lacked a dedicated strategy fostering SME participation and fully mobilizing the SME potential in research, development and innovation.

Eurostars had been initiated in order to provide such support to R&D intensive SMEs in a dedicated manner and at the same time overcoming some of the observed fragmentation of the existing national SME support schemes.

In this sense all three options contribute to innovation impact. A larger dedicated programme as described in the Reinforced Partnership Option 3 will necessarily lead to a higher number of innovations in a shorter time and, therefore, have a higher economic impact, in particular with respect to the competiveness of European SMEs.

6.5. Economic Impact

Based on their overall importance in the economy, their role in job creation and growth production, SMEs contribute considerably to the economic growth of Europe[57].

Of particular importance are the R&D intensive SMEs due to their high innovation potential and the gap between economic performance in the EU and other regions of the world is often explained by the respective lack and/or lacking growth of such firms[58].

Programmes strengthening the innovation capacities of such SMEs and incentivising their innovation level will therefore have an effect on the whole European economy. They also contribute to the generation of new jobs through the better performance of the industry with more successful products and resulting higher demand. Coordination and streamlining of such programmes throughout Europe will have an even more pronounced effect. The integration and harmonisation of national programmes therefore plays again a critical role in ensuring higher impacts.

Within this line of argumentation, the implementation of Eurostars through the reinforced partnership option (Option 3) will generate substantial benefits for the European economy such as strengthening the European industry in the global competition, creation of new jobs and contribution to the increase of the European GDP. In particular, technologies developed in the framework of Eurostars will contribute to help the European industry to maintain its competitiveness.

As pointed out under the BAU option, the number of applications has been increasing steadily over the period 2008-2012. As a result, the success rate (*i.e.* funded vs. submitted) has been going down from 42% in 2008 to 19% in 2011. Given the current and projected number of applications, the BAU option would imply that the success rate would continue to fall. This would probably lead to reduced attractiveness of the programme after some time, because some SMEs would not even find it worthwhile to apply, and the number of applications would start to go down with probable loss of excellent projects, and related decreased impact on growth. The reinforced partnership option could reverse the falling success rate and keep or even increase the attractiveness of the programme for the best.

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57 See footnote 1.

58 Veugelers, R. and Cincera, M. (2010) Young leading innovators and the EU's R&D intensity gap', Policy Brief 2010/09, Bruegel, Brussels, http://iri.jrc.ec.europa.eu/docs/papers/2010/2010_JRC60284_WP7.pdf

6.6. Social Impact

Social impacts mainly relate to employment and labour markets, in terms of creation of high-skill jobs, as well as to making the public administration more efficient, in particular decreasing administrative burden for SMEs. In addition, the knowledge and innovative solutions that result from Eurostars projects (see for instance the success stories in Annex 3) are clearly contributing to increase the socioeconomic welfare.

6.7. Sensitivity analysis

The contribution of Eurostars to economic growth and job creation (cf. the General Objective of Eurostars) depends on, besides the management and the scientific integration, *i.a.* on the funding contributions from the participating Eurostars countries, the EU and the private funding from the participants.

The relationship between the public funding and the economic impacts in terms of increased turnover, new jobs and new or improved products, processes or services described above under the BAU option and the Reinforced Partnership option, is estimated on the basis of the experiences from Eurostars 1. Reduced funding would lead to reduced turnover, jobs, etc.

The relationship between public funding and private funding (1.22) is also based on the experience from Eurostars 1. In the current economic climate, SMEs will likely reduce their R&D investments. For the calculations of increased turnover, new jobs and new or improved products, processes or services on the market, this figure is probably the most critical. If for example the relationship goes down from 1.22 to 1, the total funding under the Reinforced Partnership option would be reduced by around 250 M€ compared to a relationship of 1.22. Given that each project on average costs around 1.5 M€, it means that an amount equivalent to some 166 projects would not be available.

7. COMPARING THE OPTIONS

7.1. Comparison of the options

The following table presents the assessment of the different policy options compared to the option Business as Usual (taken as *Baseline*). This option is chosen as reference because it presents the current situation and has proven to be efficient means for supporting transnational R&D collaboration by R&D performing SMEs.

-	=	+
Disadvantage compared to reference	Same impact as reference	Benefit compared to reference

Criteria \ Option	Business as Usual (Option 1) *Baseline*	Zero Option (Option 2)	Reinforced Partnership (Option 3)
Effectiveness			
Critical mass	=	-/=	+
Impact on SMEs	=	-/=	+
Leverage effect	=	-/=	+
Innovation impact	=	-/=	+
Economic impact	=	-/=	+
Social impact	=	=/-	+
Lesser administrative burden for SMEs	=	-/=	+
Best practice and mutual learning of national programmes	=	=/-	+

7.2. Comparison of the options in terms of effectiveness, efficiency and coherence

Effectiveness is defined as the extent to which options achieve the objectives proposed. Table 1 clearly indicates that, while the BAU option could be a viable alternative, the *Reinforced partnership option* (option 3) meets the set objectives best.

Efficiency is defined as the extent to which objectives can be achieved for a given level of resources/at least cost (cost-effectiveness). The economies of scales created by the use of the same experienced implementation structure to implement a similar programme with higher budget will also lead to more efficient procedures and reduced administrative burden. For instance, given a constant demand (i.e. target group – see chapter 6.2), evaluation and management costs remain roughly identical while under the *Reinforced partnership option* more SMEs will benefit from the support (higher success rate).

Coherence is defined as the extent to which options are coherent with the overarching objectives of EU policy. While both the *BAU* and *the Reinforced partnership option* are coherent with the general objectives of EU2020, the Innovation Union flagship initiative and the accomplishment of the ERA, the reinforced option, by improving the overall implementation of the programme (integration of national programmes, quicker and more transparent procedures and most importantly involvement of SMEs new to transnational R&D collaboration that will reinforce their competitiveness), will ensure the achievement of those general objectives to a higher extent: the degree of coherence is considered higher.

The table below assesses the options in terms of effectiveness, efficiency and coherence:

Options	Option 1 - BAU	Option 2 No EU intervention in Eurostars	Option 3 Reinforced partnership option
Effectiveness	Only few countries had specific support programmes for R&D intensive SMEs, but created them in order to form Eurostars. There is a positive effect on the long-term sustainability of public finances related to closing Europe's innovation gap.	Same as option 1 with a considerable risk that achieved effects will decrease over time.	Expected greater effect compared to Option 1: success of Eurostars 1 encourages further determination of Member States (including the less performing ones) and peer pressure.
	There is effective exploitation of results and job creation as the programme is close to the market.	Identical to smaller effect compared to Option 1.	Greater effect compared to Option 1
Efficiency	National programmes work towards harmonisation and synchronisation. Introduction of best practices and mutual learning.	Same as option 1 with a considerable risk that achieved effects will decrease over time.	More efficient compared to Option 1 due to improvements in the implementation.
	Assuming constant demand (i.e. overheads), the number of projects funded would remain the same as in Eurostars 1.	Assuming constant demand (i.e. overheads) the number of projects funded would probably shrink considerably over time due to reducing the efficiency of the programme.	Assuming constant demand (i.e. overheads), more projects will be funded, therefore more innovations in SMEs can be supported. Excellence is increased as rank lists of projects can be better served and high-ranking proposals are not dropped due to lack in national support or due to shortcomings in interoperability.
Coherence	Synergies with the current policies would be guaranteed through to the link to EU2020 and Horizon 2020.	The absence of the EU in the programme would render policy coherence less obvious.	Identical to Option 1.

7.3. Preferred option

Based on the assessment, Option 3 (Reinforced Partnership) provides the best means to achieve the defined objectives. In addition, it generates very good synergy with other SME related activities under Horizon 2020 and can be built up upon achievements and experience already gained in Eurostars 1.

Option 3 allows a higher level of integration and harmonisation of national programmes with a clear added benefit decreasing administrative burdens for SMEs due to sharing of best practices and mutual learning, all this becoming explicit aspects that are embedded in the programme.

It helps to overcome the so-called "market failures" SMEs face when intending to innovate and entering into or developing new markets.

It fosters to move the pre-competitive research closer to market by accelerating market introduction of new technologies keeping Europe competitive. Furthermore, the current economic and financial situation makes investment in technology even more necessary for growth and competitiveness.

This option is also preferred according to the results of the stakeholder consultations as described in chapter 2.2.

Therefore it is recommended to implement this option as the most adapted to achieve the defined objectives in Chapters 4 and 0.

Scope

Eurostars-2, developed according to the reinforced partnership option, will support excellent innovation in R&D intensive SMEs in an enlarged and improved manner and, thereby, addressing the most promising technologies capable of improving the EU industry competitiveness.

It will build on the successful features of Eurostars 1 such as a single central evaluation used by a large number of national support programmes allowing for more competition to identify the best transnational R&D projects. But Eurostars-2 will be reinforced by improved features based on the lessons learned leading to a stronger integration, harmonisation and synchronisation of national programmes beneficial to SMEs in general as well as European innovation landscape as a whole. By that token, it would also facilitate the participation of newcomers and in particular SMEs without previous experience in collaborative R&D.

Structure

Whereas the overall governance structure of Eurostars has proven sufficiently efficient and effective under Eurostars 1 and is deemed also sufficient for the reinforced option including an increased EU financial participation, important improvements will be introduced, for instance a common financial viability verification for SMEs and an improved redress procedure to increase the transparency of the evaluation system. In addition, new implementation of targets and milestones will be incorporated in the programme.

Budget

The current estimation is that EUREKA Member States' contribution to Eurostars-2 would amount to 861 M€. The driving force behind this financial commitment to innovation and SMEs, in particular in the current period of scarce public funds and reduction in various Member States of R&D spending, is not surprisingly triggered by the expectation of a similarly ambitious intervention by the EU, in the order of 287 M€.

8. MONITORING AND EVALUATION

8.1. Monitoring

Three different kinds of measurement will be maintained during the programme:

- evaluation on whether the programme produces the required results in terms of the benefit and the competitive position of the participating SMEs;
- continuously checking that public money invested is well spent by following the objectives on scientific, management and financial integration;
- monitoring that the evaluation and selection process is transparent and fair.

The evaluation of the progress against the criteria above will be executed at technical, managerial and financial levels using a limited set of headline indicators (see table below).

The managerial monitoring is executed by the governing bodies of Eurostars. A clear management and communication structure ensures the appropriate day-to-day management of the project and helps in the strategic planning process.

The main governing body of Eurostars is the High-level Group consisting of the High-level Representatives of each EUREKA Member State participating in Eurostars. The Commission as representative of the EU currently has an observer status, which will become an enhanced observer status with the right to approve the annual Work Programme. This status complies with the Secretariat-General Guidelines (Commission guidelines on participation on private-law bodies).

One key element is to ensure that a fair and transparent evaluation and selection process is in place. A well-established selection process can attract R&D performing SMEs new to transnational R&D activities.

Ex-post audits to the beneficiaries and the National funding Bodies of the participating EUREKA Member States are conducted by the Dedicated Implementation Structure according to the common rules.

Operational objectives	**Indicator**	**TARGET by the end of the programme**
Indicators on implementation at programme level		
Leverage on public funding	Overall national public funding committed and effectively spent by participating Eurostars countries on Eurostars projects	Eurostars countries should contribute with at least 75% of the total public funding
Leverage on private funding	Amount of private co-funding in the projects Number of R&D performing SMEs funded through the Eurostars programme	4.2 M€ private investment for 1 M€ EU contribution > 4,000 R&D performing SMEs
Indicators linked to the operational objectives		
OO1. Scientific integration		

	Number of countries to comply with the single set of eligibility criteria	100% of participating Eurostars countries
	Number of Member States to accept a common financial viability check	100% of participating Eurostars countries
	Number of Member States to accept one common project reporting (the financial reporting needs to remain at national level)	100% of participating Eurostars countries
OO2. Management integration		
	Number of Eurostars countries with same funding rates for participating SMEs	75% of participating Eurostars countries
	Number of Member States to accept that eligible costs are based on a common definition of R&D (e.g such as the one given in the OECD"s Frascati Manual)	100% of participating Eurostars countries
	Overall average time to contract (TTC)	TTC in line with Financial Regulation
OO3. Financial integration		
	Number of participating Eurostars countries to guarantee funding for their participants in the Top 50 projects	100% of participating Eurostars countries
	Number of participating Eurostars countries to accept and reach progressive integration with milestones set in the Bilateral agreements	100% of participating Eurostars countries
	Number of participating Eurostars countries to accept that eligible costs are based on a common definition of R&D	100% of participating Eurostars countries
OO4. Facilitate participation of new SMEs		
	Number of SMEs which have previously not participated in transnational collaborative research projects	>50% of the R&D performing SMEs

8.2. Impact monitoring

The impact of Eurostars as a programme is to be measured i.a. through the increase of total turnover for participating organisations [59] three years after the end of the programme. The target is to obtain with 1 M€ of public funds, 9.8 M€ of additional turnover. With 520 M€ of public funds in Eurostars 1, the total increase in turnover for participating organisations is estimated at 5.1 billion €. The impact target for Eurostars-2 is forecasted at 12 billion €.

[59] developed from the first Eurostars impact report and a EUREKA impact study with 2441 participants.

Further **output indicators** concern job creation, market introduction of new products, processes and services as well knowledge production (measured by patent applications). Since they mainly are **referring to impact after the end of the Eurostars projects** (usually three years after), these indicators will be collected systematically from the outset.

	Indicators	**TARGET by the end of the programme**
Turnover increase	Additional turnover in Eurostars participants generated thanks to the project	10 M€ per 1 M€ public funding
Jobs created	Number of additional employees hired as a consequence of the activities generated by the Eurostars project	25 new jobs per 1 M€ public funding
Products/process/services	Number of new or improved products, processes and/or services generated by the Eurostars project and introduced in the market after three years by the end of the project	3 per project
Increase of knowledge base for R&D intensive SMEs	Patent applications and patents	3 patent applications per 10 M€ public funding

The table below summarizes rough estimations of the possible achievements with respect to the three options:

	BAU	**ZERO**	**Reinforced option**
1M€ public funding leads to 10M€ additional turnover and 25 extra jobs by the end of each project	4 b€ 10,000	< 4 b€ < 10,000	12 b€ 30,125 jobs
3 product/ processes/ services per project three years after the end of the project	1,560	< 1,560	4,700
3 patent applications per 10 M€ public funding	150	< 150	360

8.3. Evaluation

An interim evaluation of the Eurostars-2 Joint Programme will be carried out by independent experts three years after the start of the Programme. This means that an assessment of Eurostars-2 will take place in 2017. The evaluation will cover the relevant criteria identified in the proposal for Horizon 2020 for assessing potential initiatives under Article 185 as well as the quality and efficiency of the implementation of the Programme, including scientific, management and financial integration. The evaluation shall also give recommendations *i.a.* on the most appropriate ways to further enhance integration. The Commission shall communicate the conclusions of the evaluation, accompanied by its own observations, to the European Parliament and the Council. If appropriate, the Commission can also put forward proposals for amendments of the EU participation in the Eurostars-2 Programme.

An independent ex-post evaluation will be carried out at the end of the EU participation, and no later than 2023, reviewing the performance, quality and impact of the Eurostars programme and of Eurostars projects.

9. ANNEXES

Annex 1: SMEs & R&D: comparing the EU and the US

Annex 2: Eurostars model

Annex 3: Eurostars 1- Key results

Annex 4: Eurostars 1 - Success stories

Annex 5: Papers and studies quoted in the present Impact assessment report

Annex 6: List of main consultation/expert report documents cited throughout the entire IA document and their weblink.

Annex 7: Glossary and abbreviations.

ANNEX 1: SMEs & R&D: COMPARING THE EU AND THE US

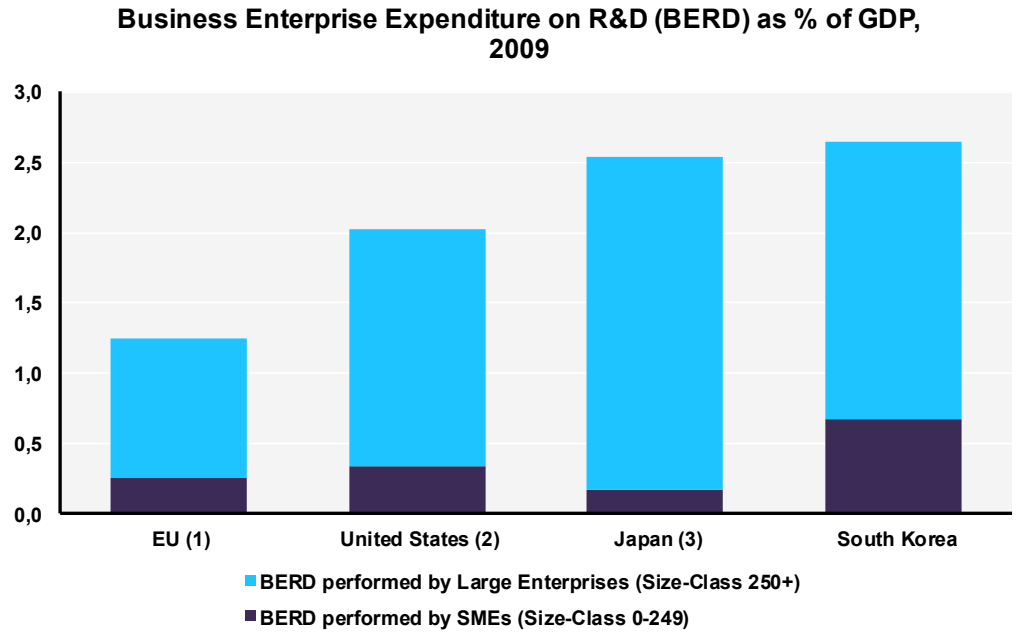
Research intensity of SMEs

The EU is lagging behind key competitors as regards the research intensity of SMEs. This can be shown in two steps:

1. Comparison of the overall level of R&D expenditure performed by SMEs in the EU and in the US
2. Estimation of the R&D intensities of the SMEs in the EU and in the US

Comparison of the overall level of R&D expenditure performed by SMEs in the EU and in the US

The graph below shows the business R&D expenditure (BERD) performed by SMEs[60] and larger firms in the EU-25 and in the US, Japan and South Korea, as % of GDP.



Source: DG Research and Innovation - Economic Analysis Unit
Data: Eurostat, OECD
Notes: (1) EU: Some data were estimated.
(2) United States: BERD does not include most or all capital expenditure.

[60] SMEs are here defined as firms with less than 250 employees.

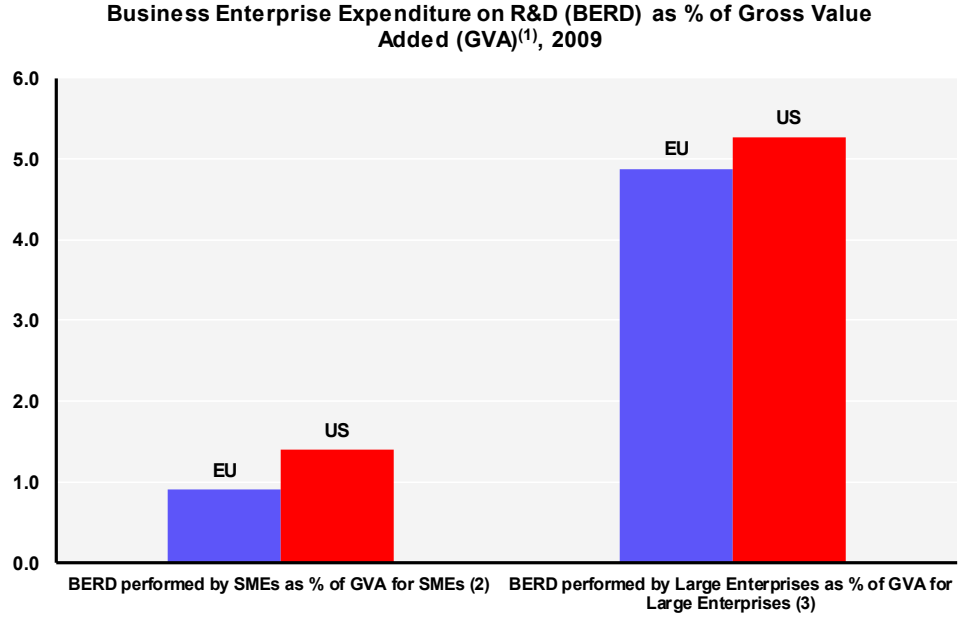
(3) Japan: BERD by size class is underestimated.

In the EU R&D spending by SMEs, which represents 20% of all business expenditure on R&D, amounted in 2009 to 0.26% of GDP, compared to 0.34% in the US and 0.68 % in South Korea.

Estimation of the R&D intensities of the SMEs in the EU and in the US

The gap to the US is even higher if the fact that SME's have a larger share of economic activities in the EU than in the US is taken into account. Due to this structural difference between the two economies, the best way to compare the level of R&D efforts of the SMEs in the EU and in the US is to estimate their average R&D intensities (share of the total SMEs R&D expenditures on the total SMEs added-value).

As shown on the graph below, these estimations of the R&D intensities reveal a clear R&D intensity deficit of European SMEs vs. their US counterparts. This deficit is larger than for the large companies.



Source: DG Research and Innovation - Economic Analysis Unit

Data: Eurostat, DG ENTR, OECD

Notes: (1) Gross Value Added does not include Agriculture, Hunting, Forestry, Fishery and Financial Intermediation.

(2) SMEs: EU - Size-Class 0-249; United States - Size-Class 0-299.

(3) Large Enterprises: EU - Size-Class 250+; United States - Size-Class 300+.

(4) The values are estimates.

The role of SMEs in the lack of innovation dynamism in the EU vs. US

The role of the SMEs in the lack of innovation dynamism and more specifically in the overall EU/US R&D intensity deficit has to be assessed from a double perspective:

From a static point of view, the graph and the figures presented in the section 1 show the existence of EU/US R&D intensity deficit, larger for SMEs than for larger firms.

However, the role of SMEs in the deficit is even much more important *from a diachronic point of view*. It has indeed to be considered that some of the large US companies which are now key contributors to the US BERD were in fact SMEs 20 years ago and that the lack of a similar development in the EU plays a significant role in the EU/US R&D intensity deficit (EC 2007, O'Sullivan 2007).

This can be shown through analysing the data of the EU industrial R&D investment scoreboard[61], as done notably by Veugelers and Cincera[62]. The scoreboard data set covers the top R&D investors worldwide, labelled by Veugelers and Cincera as "leading innovators". Through identifying in this data set the companies created after 1975, it can be shown that the so-called "yollies" (young leading innovators: yollies are "*firms that have in a relatively short term have grown into world leaders on the basis of their R&D efforts, while still remaining independent*"[63]) are much more numerous and play a much more important role in the US than in Europe, as shown in Figure 1 below. Yollies represent more than half of the total population of US-based leading innovators vs. only 20% of the EU-based leading innovators. Yollies' shares in R&D investment, sales and employment of the total population of leading innovators is more than the triple for the US-based yollies compared to their EU-based counterparts. These figures reflect the fact that, in the US more than in the EU, in the last decades, many new, R&D-intensive firms, active in high-tech sectors were able to develop, grow rapidly and become key economic players.

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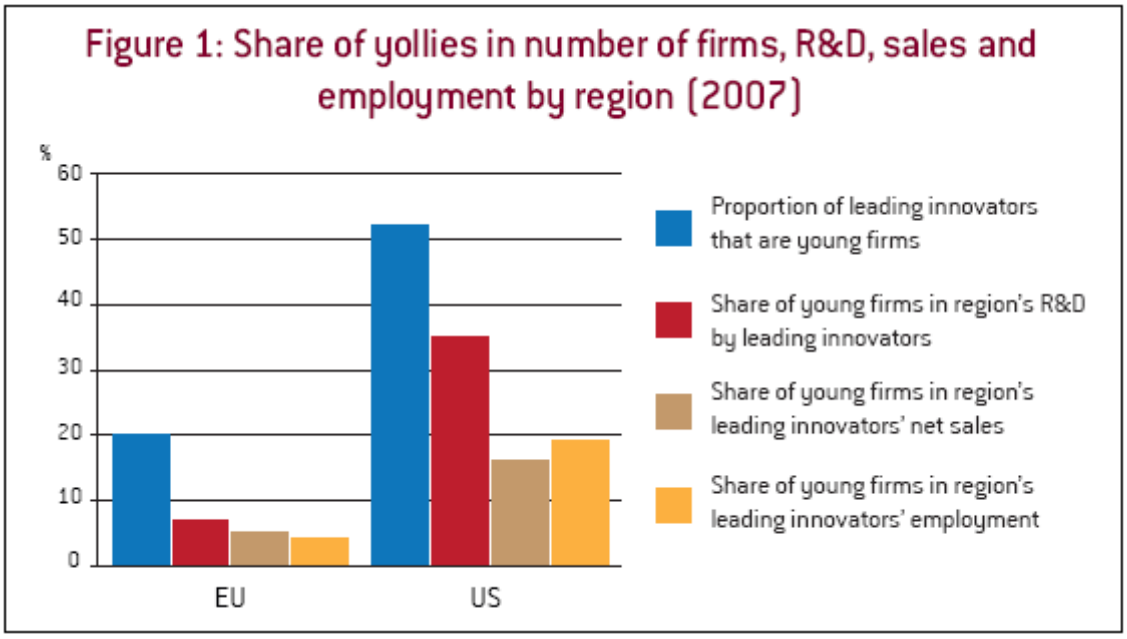
61 *The EU industrial R&D investment scoreboard*, European Commission (DG-JRC and DG-RTD), http://iri.jrc.ec.europa.eu/home.html

62 Veugelers R. and Cincera M. (2010), "Europe's missing yollies", Bruegel policy brief

63 Veugelers R. and Cincera M. (2010), "Europe's missing yollies", Bruegel policy brief



Source: Veugelers R. and Cincera M. (2010), "Europe's missing yollies", Bruegel policy brief

In addition, other evidence observed in regard to R&D performing SMEs compared to US SMEs suggest the greater dynamism of US high-R&D intensive sector, namely:

a) The average firm size of the top R&D investors among EU-based companies is larger than that of the firms based in US (Ortega-Argilés and Brandsma 2010);

and

b) There is a greater concentration of smaller firms operating in high R&D intensive industries in the US compared to the EU, and the R&D intensity of such smaller US firms is higher (Moncada-Paternò-Castello *et al.,* 2010, Moncada-Paternò-Castello, 2010).

ANNEX 2: THE EUROSTARS MODEL

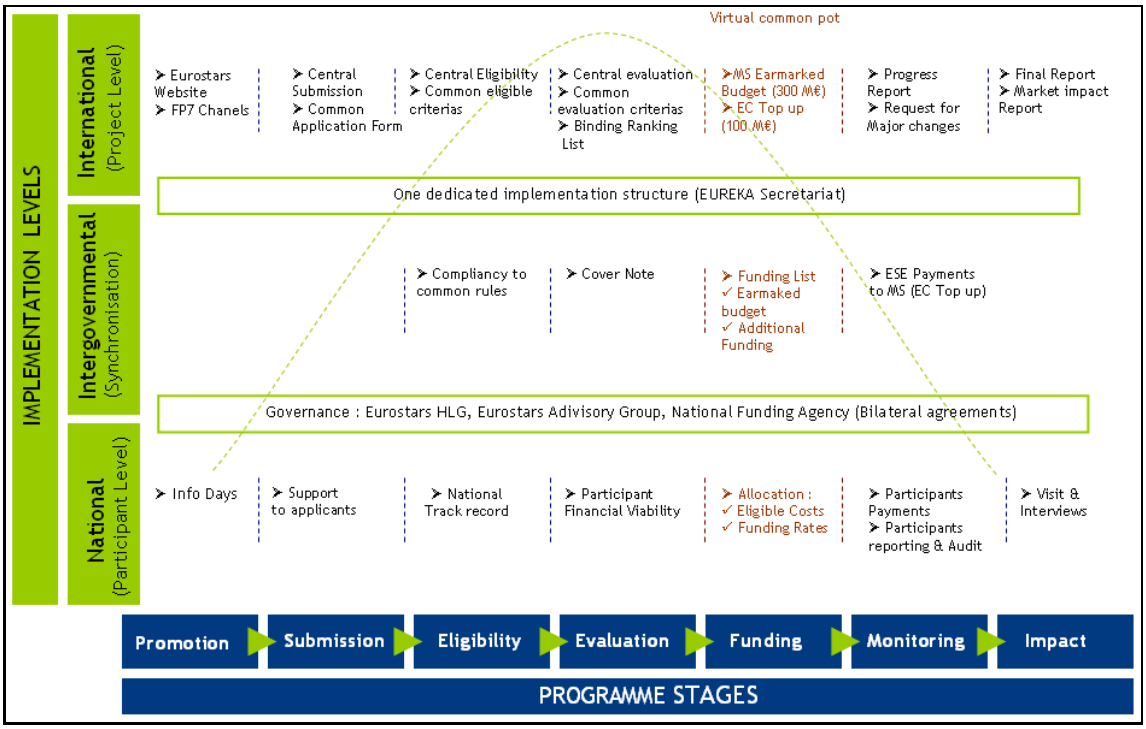
The Eurostars model unites members states R&D funding programmes while keeping their diversity and funding sovereignty.

Eurostars members keep their R&D peculiarities (e.g. national funding rules) while complying at the same time with a common set of eligible and evaluation criteria. On the Funding, Eurostars members fund directly their participant, while complying with a set of common funding principle (e.g earmaked budget, respecting the order of the ranking list).

At the implementation level, the Eurostars model is tailored made to reach the optimum balance between applicant supports, equal treatment of proposals and funding bodies cooperation. In this perspective, each stage of the programme requires a different level of implementation:

- ✓ At the promotion and submission stages, the most efficient support to applicants is provided by EUREKA National Project Coordinators.
- ✓ At the eligibility and evaluation stages, the equal treatment of proposals is ensured trough a centralised, independent and transparent process, implemented by the EUREKA Secretariat.
- ✓ At the funding stage, the cooperation among funding bodies is allowed through an optimized virtual common pot (earmarked budget for the six years program and capacities to get additional funding based on the success in the yearly cut offs).
- ✓ At the monitoring and impact stages, the most efficient support to participant is provided by EUREKA Funding Bodies.

Graph 1 - The Eurostars Model: an Efficient & Balanced Model of R&D Joint Programming



Detailed explanation of each stage implementation

At the promotion stage, potential applicants receive information at regional and/or national level, through the organization of regional/national info days organized by EUREKA National Project Coordinators (NPC). At the international level, the Eurostars website, implemented by the EUREKA Secretariat, provides a single point of information on the program. The FP7 channels (e.g. SME Tech web) also promote the programme at the international level.

At the submission stage, the applicants are put in contact with their regional/national EUREKA NPC. Once registered through the Eurostars website, each applicant receives an e-mail with their NPC contact details and the NPCs receive an email with the applicant contact details. For each potential project consortium, there is one application form, one single guideline to applicants, a central submission point (Eurostars website) and one common submission deadline.

At the eligibility stage, the applications are reviewed against common eligible criterias and can be declared ineligible only due to missing documents or failing to one of the common eligible criteria (e.g. consortium leader has to be an R&D SME). The EUREKA National Funding Bodies can declare an applicant ineligible only on the basis of national track record (e.g. no legal entity, bankrupt)

At the evaluation stage, each eligible application is remotely and independently assessed by two technical experts, selected by the EUREKA secretariat. All eligible applications along with their technical expertise are then ranked by an Independent Evaluation Panel. The binding ranking list is formally endorsed by the EUREKA High Level group.

At the funding stage, each members states indicates up to which project above threshold they have funds for, based on their earmarked budget and additional funding. Based on all Member states indications, the EUREKA secretariat produce the funding list (all projects for which alt least one partner can be funded). The funding list is approved by the EUREKA High Level Group. Letters to successful applicants are then being sent and EUREKA NPCs & applicants have to sign a final funding agreement (based on national funding rules).

At the monitoring stage, each applicant receives payments from their national funding body. The Leader of the consortium sends the consortium agreement, which is a prerequisite to receive funding, and a progress report, every six months, to the EUREKA Secretariat. In order to receive EC contribution, each member states sends a declaration of commitment and expenditures to the EUREKA secretariat.

At the impact stage, National Project Coordinators visit and or/interviews some of their funded participants. At the end of a project, the consortium leader sends a final report to the EUREKA Secretariat. One, two and three years after project completion, the consortium leader sends a market impact report to the EUREKA secretariat.

ANNEX 3: EUROSTARS 1- KEY RESULTS

Table 1: Programme performance I

General indicators	COD1 (2008)	COD2 (2009)	COD3 (2010)	COD4 (2010)	COD5 (2011)	COD6 (2011)	COD7 (2012)	COD8 (2012)	TOTAL
Submission and evaluation									TOTAL
N° of registrations	1061	1746	1249	1078	1361	1266	987	852	**9600**
N° of applications submitted	215	317	279	316	343	402	365	363	**2600**
N° of applicants	673	1115	963	1061	1102	1304	1181	1236	**8635**
% of R&D SMEs and SMEs	74%	73%	71%	71%	72%	72%	71%	73%	**72%**
Total budget (M€)	301	445	390	421	495	556	512	512	**3632**
N° of applications complete	191	285	253	287	325	361	314	335	**2016**
% of applications complete	89%	90%	91%	91%	95%	90%	86%	92%	**90%**
N° of applications eligible	189	245	236	268	309	348	293	314	**2202**
% of applications eligible	88%	77%	85%	85%	90%	87%	80%	87%	**85%**
Threshold									TOTAL
N° of applications above the threshold	133	111	112	102	110	133	115	112	**928**
% applications above the threshold vs eligible	*70%*	*45%*	*47%*	*38%*	*36%*	*38%*	*39%*	*36%*	***42%***
Total budget (M€)	206	171	168	130	164	189	170	154	**1354**
Approval - funded									TOTAL
N° of applications funded	90	90	85	64	71	74	71	68	**613**
% applications funded vs eligible	48%	37%	36%	24%	23%	21%	24%	22%	28%
% applications funded vs above threshold	68%	81%	76%	63%	65%	56%	62%	61%	**66%**
N° of participants	288	321	289	212	230	246	238	237	**2061**
% of R&D SMEs and SMEs	74%	73%	69%	67%	68%	68%	64%	68%	**69%**
Total budget (M€)	128	129	128	81	107	100	111	95	**878**
Estimated public funding (M€)	60	58	57	36	41	47	48	47	**394**
N° of countries with funded projects	27	29	26	24	27	29	21	23	-

Table 2 : Programme performance II

Call management performance	COD1 (2008)	COD2 (2009)	COD3 (2010)	COD4 (2010)	COD5 (2011)	COD6 (2011)	COD7 (2012)	COD8 (2012)	TOTAL
Evaluation									TOTAL
Number of expertises performed on time (subm. to IEP)	376	483	471	536	618	694	586	628	**3764**
% of expertises performed on time (submitted to IEP)	99,5%	98,6%	99,8%	100%	100%	99%	100%	100%	**100%**
Projects with difference expertises : large variations*	17	17	26	25	45	35	28	26	**27**
Funding list - approval									AVERAGE
Top 20 funded projects	20	20	20	18	19	20	20	20	**20**
Top 40 funded projects	39	40	40	37	35	36	39	35	**38**
Top 60 funded projects	53	60	54	45	51	48	53	50	**52**
Top 80 funded projects	64	74	70	56	60	59	65	56	**63**
Number of VETO	1	1	0	3	1	1	1	0	-
Planning									AVERAGE
Time to evaluation results (in months)	3,8	3,8	3,6	3,8	4,0	3,4	3,5	3,4	**3,7**
Time to funding results (in months)	5,6	5,6	4,9	5,2	5,5	5,4	5,1	4,7	**5,3**
Time to contract (months)									TOTAL
Median - project	13,2	13,2	14,1	13,2	11,2	9,2	8,4	-	**12**
% info available	100%	84%	84%	93%	78%	71%	9%	-	**75%**
Median - participant	10,4	11,6	11,3	9,4	9,3	8,8	6,2	-	**10**
% info available	100%	93%	91%	97%	91%	84%	41%	-	**86%**
% Contracts finalized within less than 9 months	19%	23%	30%	37%	43%	58%	-		
Median - participant - Top 5 countries	7,5	7,3	7,02	7,8	6,6	5,3	5,9	-	-
N° participants involved - Top 5 countries	29	33	59	33	48	43	47	-	-
% participants involved vs all participants	10%	10%	20%	16%	21%	17%	20%	-	-

** A scoring difference of 2 or more on two or three different evaluation criteria*

Table 3: Project portfolio – Funded projects Cut-off 1-8

Main technological area	N°	%
Electronics, IT and telecoms technology	191	31%
Biological sciences / technologies	173	28%
Industrial manufacturing, material and transport	85	14%
Other industrial technologies	32	5%
Technology for protecting man and the environment	28	5%
Energy technology	28	5%
Agriculture and marine resources	27	4%
Chemistry, physical and exact sciences	21	3%
Measurements and standards	18	3%
Agrofood technology	10	2%
Total	*613*	*100%*
Main Market area	**N°**	**%**
Medical / health related	172	28%
Industrial products / manufacturing	122	20%
Computer related	48	8%
Biotechnology / molecular biology	39	6%
Communications	39	6%
Energy	36	6%
Other electronics related	35	6%
Consumer related	30	5%
Agriculture, forestry and fishing	28	5%
Services	23	4%
Transportation	22	4%
Construction and building products	19	3%
Total	*613*	*100%*
Project profile	**Average**	
Average Total costs (M€)	1,4	
Average N° of participants	3,4	
Average N° of countries involved	2,4	
Average duration (months)	29,2	
Type of Consortium	Average	
SMEs only	36%	
SME with 1 R&U	28%	
SME with more than 1 R&U	15%	
SMEs with Large companies & Others	20%	

Table 4: Participant profile - Funded projects Cut-off 1-8

Type of participant	Average
R and D Performing SME	65%
SME	4%
Large company	7%
Research Institute	11%
University	12%
Other	1%

N° of employees	R&D SME	SME
0 - 9	41%	28%
10 - 49	42%	48%
50 - 249	16%	24%
+ 250	0%	0%

Costs structure	R and D SME	SME	Large company	University	Research Institute	Other	Grand Total
Personnel	56%	54%	55%	63%	58%	55%	**57%**
Overheads	16%	17%	16%	15%	23%	17%	**17%**
Travel	3%	4%	4%	3%	3%	5%	**3%**
Materials	13%	17%	17%	13%	12%	12%	**13%**
Other	2%	2%	3%	2%	2%	6%	**2%**
Non-R&D subcontracting	2%	2%	1%	1%	1%	1%	**2%**
R&D subcontracting	7%	4%	5%	2%	1%	3%	**6%**
% of total costs per type of participant	76%	3%	5%	8%	8%	0%	100%

Table 5: Countries participation – Cut-off 1-8

Country participation in E* projects	Projects eligible Cut-off 1 to 8	Projects above threshold Cut-off 1 to 8	Projects funded Cut-off 1 to 8	Quality rate: % projects above the threshold vs eligible	Funding rate: % projects funded vs above threshold	Overall success rate: % projects funded vs eligible
AT	201	82	56	41%	68%	28%
BE*	105	50	37	48%	74%	35%
BG**	16	0	0	0%	0%	0%
CH	177	79	69	45%	87%	39%
CY	64	14	8	22%	57%	13%
CZ	101	34	30	34%	88%	30%
DE	692	331	186	48%	56%	27%
DK	206	102	68	50%	67%	33%
EE	47	19	15	40%	79%	32%
ES	600	184	107	31%	58%	18%
FI	114	39	30	34%	77%	26%
FR	453	207	162	46%	78%	36%
GR	139	43	37	31%	86%	27%
HR*	12	2	1	17%	50%	8%
HU	102	27	18	26%	67%	18%
IE*	36	15	10	42%	67%	28%
IL	146	55	42	38%	76%	29%
IS	21	9	6	43%	67%	29%
IT*	311	108	77	35%	71%	25%
LT	47	15	13	32%	87%	28%
LU*	9	2	2	22%	100%	22%
LV	18	4	2	22%	50%	11%
MT***	5	1	1	20%	100%	20%
NL	294	151	101	51%	67%	34%
NO	232	98	62	42%	63%	27%
PL	74	26	19	35%	73%	26%
PT	165	58	38	35%	66%	23%
RO	88	21	16	24%	76%	18%
SE	274	141	99	51%	70%	36%
SI	88	27	19	31%	70%	22%
SK	28	9	5	32%	56%	18%
TR	107	25	18	23%	72%	17%
UK*	348	152	93	44%	61%	27%
All projects	**2202**	**928**	**613**	**42%**	**66%**	**28%**

** Participation as of Cut-off 2* *** Participation as of Cut-off 4* **** Participation as of Cut-off 6*

Table 6 : National funding

Increased of Earmarked budget

Country	Initial earmarked (first year of participation)	*Increase of earmarked budget*	Increased budget
AT	1.500.000	+ *2.500.000*	4.000.000
DK	500.000	+ *2.500.000*	3.000.000
NL	2.000.000	+ *3.000.000*	5.000.000
NO	2.000.000	+ *3.000.000*	5.000.000
SE	1.500.000	+ *2.500.000*	4.000.000
UK	1.333.333	+ *333.333*	1.666.666

Additional funds in top of earmarked funds

Country	Total earmarked 2008-2012	Total national funding 2008-2012*	Additional national funds 2008-2012
BE	6.000.000	9.211.924	+ 3.211.924
CH	10.000.000	15.319.275	+ 5.319.275
CZ	5.000.000	5.625.187	+ 625.187
DE	25.000.000	47.083.805	+ 22.083.805
DK	10.000.000	13.425.782	+ 3.425.782
EE	2.500.000	3.328.750	+ 828.750
FR	25.000.000	31.546.037	+ 6.546.037
NL	19.000.000	20.588.527	+ 1.588.527
NO	19.000.000	21.856.141	+ 2.856.141
SE	15.000.000	20.935.148	+ 5.935.148
TR	5.000.000	6.299.711	+ 1.299.711
UK	6.333.331	14.193.716	+ 7.860.385

ANNEX 4: EUROSTARS 1 - SUCCESS STORIES

The Eurostars Success Stories campaign is an on-going public relations initiative, designed to increase the visibility of Eurostars activities, and the effect of products developed in projects on the everyday life of European citizens. Nine Success Stories have been published on the Internet and in printed publications since the start of the campaign.

i. Eurostars MonthlyC2

The Product: Monthly C2, a **contact lens** using a revolutionary new material, soft silicone hydrogel and designed by computer with nanometer-precision002E

The Story: Precilens, a declining company, saved by an innovation-minded entrepreneur, who used Eurostars funding to turn his company into a high-tech SME.

The Market: Precilens opens itself up to a client base just about twelve times larger than before – nearly **90% of a market worth 4.5 billion euros**.

The Impact: The company's turnover will reach **8 million euros** in 2012. **50 jobs** have been saved in the company.

ii. Eurostars VIDEOSTAR

The Product: The Phoenix software package addresses a specific need of the film and audio-visual industries - the rapid **restoration of video-archives**.

The Story: Digital Vision diversifies its portfolio of services and grows from local to global with Eurostars. It has now offices in Stockholm, London and Los Angeles.

The Market: In the EU, an estimated 40%-70% of existing video material is in danger of disappearing by 2025.

The Impact: The company's annual net revenue is now of **10 million euros**. The company has grown tenfold since 2006 and recently hired its **60th employee**.

iii. Eurostars EASTBRED

The Product: A non-genetically-modified new breed of harvest crops adapted to the dryer weather conditions brought on Europe by **climate change**.

The Story: A Turkish farming-SME called ProGen uses its geographical location as an advantage to help Europe harness climate change.

The Market: There is an expanding market for harvest-crops and food products adapted to global warming.

The Impact: Eurostars helped the company to generate an additional turnover of **330,000 euros** and hire **7 new highly qualified engineers**.

iv. Eurostars Arrayvolution

The Product: A **genome sequencer** built on concepts developed at the MIT, will help understand a malady's cause and adapt medical prescription to the patient.

The Story: FlexGen, a spin-off of the Leiden University Medical centre in Netherlands uses academic knowledge to bring a new product on the market.

The Market: Main customers are hospitals and pharmacogenetic specialists in Europe, the United States and Canada. The market is worth 1 billion euros per year.

The Impact: Thanks to Eurostars it should reach **8 million euros** in two years. **20 new jobs** will be created thanks to the project.

v. Eurostars ISTAR

The Product: Needle-free **injection** is a revolution for patients needing self-injection. The device is called Zeneo.

The Story: A small biotech company called CrossJect attracts big investors and find the right partner for production on the mass scale.

The Market: First sales are planned for 2014; **150 million units** are to be produced.

The Impact: It will reach **8 million euros** in 2012. CrossJect now plans to **double its staff**.

vi. Eurostars IM-ITSHT

The Product: Plastic injection process used for the building of car parts but also **iPhone shells**.

The Story: RocTool, an SME that has been maturing for several years finally sees doors open for a product targeting the heavy industry.

The Market: Roctool supplies its technology on the basis of a licensing-out model to Eastern-Asian mass-manufacturing companies.

The Impact: After seven profitless years, RocTool's turnover is now of **4 million euros** a year. **18 new jobs** had been created at the completion of the project.

vii. Eurostars TaniXing

The Product: A **leather tanning agent** made from a by-product of olive oil production.

The Story: A small business called N-Zyme, saved its academic project partner from bankruptcy and helped to bring back the leather tanning industry to Europe.

The Market: N-Zyme signed a contract with blue-chip company BMW to participate in the construction of its green-manufactured electric car - the BMWi.

The Impact: The company's turnover will reach **2 million euros** in 2015. 3 jobs have been saved and 5 news ones created.

viii. Eurostars INSIDER

The Product: RAE, a device which adapts the principle of data-mining to GPS and **helps taxi companies to work more efficiently**.

The Story: Correlation Systems, a company in isolated Israel reaches new markets in Eastern Europe thanks to Eurostars.

The Market: The trend for geo-location applications is rapidly expanding, an example: New York taxi e-hailing app 'Uber' now reaching cities worldwide.

The Impact: The additional turnover expected in two years is of **10 million euros**. 8 new jobs were created in the company.

ix. Eurostars PhenoCrop

The Product: Patented non-genetically-modified traits in crops, developed thanks to an **automatized monitoring system for greenhouses**.

The Story: KeyGene leads a 'green gene revolution', helping companies worldwide to adapt crops to local environmental conditions and increases its output capacities drastically.

The Market: The company now contends with the biggest corporations in the world on a market estimated to nearly **30 billion euros**.

The Impact: Turnover will reach **3,6 million euros** in 2014. 5 new jobs were created.

ANNEX 5: PAPERS AND STUDIES QUOTED IN THE PRESENT IMPACT ASSESSMENT REPORT

Acs, Z. J., Parsons, W., & Tracy, S. 2008. High-Impact Firms: Gazelles Revisited, in S. O. Advocacy (Ed.), *SBA Reports*. Washington, D.C.: SBA Office of Advocacy.

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Moncada-Paternò-Castello, P. (2010). "Introduction to a special issue: New insights on EU–US comparison of corporate R&D". *Science and Public Policy*, 37(6), pages 391–400; July 2010.

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ANNEX 6: LIST OF MAIN CONSULTATION/EXPERT REPORT DOCUMENTS CITED THROUGHOUT THE ENTIRE IA DOCUMENT AND THEIR WEBLINK.

The following documents can be found at: http://download.eurekanetwork.org/exante/

- **EUROSTARS II - Results of the Ex-ante consultation towards EUREKA HLRs & NPCs (14 December 2012)**
- **EU Summary EU Analysis Green Paper on a Common Strategic Framework programme for EU and R&I funding (2011)**
- **E! Summary Analysis Green Paper Eurostars Analysis**
- **EU Summary Reports Open Workshops on Innovation in SMEs June&July 2011, following Green paper consultation**
- **E! Eurostars-2 Blueprint (June 2011)**
- **E! Budapest Document final (June 2012)**
- **Eurostars Interim report by ESE (2010) including survey to Eurostars registrants and Eurostars participants**
- **Eurostars Impact Report June 2012 (including survey conducted to Eurostas applicants and analysis of Eurostars final reports)**
- **Eurostars National Funding Bodies Meeting 2009, 2010, 2011, 2012**
- **Eurostars Annual Reports for 2008, 2009, 2010, 2011**

The following documents can be found at: http://ec.europa.eu/research/sme-techweb/index_en.cfm?pg=publications

- **Eurostars Programme Interim Evaluation Report by Independent expert group (December 201O)**

- **European Commission's Report on Interim Evaluation of Eurostars (April 2011)**

ANNEX 7: GLOSSARY AND ABBREVIATIONS

Term	Definition
Article 185 TFEU	Article 185 of the Treaty on the Functioning of the European Union [ex Article 169 of the Treaty establishing the European Community (TEC)] enables the EU to participate in research programmes undertaken jointly by several Member States, including participation in the structures created for the execution of national programmes.
EAG	Eurostars Advisory Group is composed of EUREKA National Project Coordinators (NPCs) from the participating countries. It is chaired by the Head of the EUREKA Secretariat. The Eurostars Advisory Group advises the Eurostars Secretariat on the execution of the Eurostars programme and provides advice on its implementation modalities, such as funding procedures, the evaluation and selection process, synchronisation between the central and national procedures and project monitoring. It advises on the planning for the cut-off dates of the yearly call for proposals. It also advises on the progress of the execution of the Eurostars programme, including the progress towards further integration.
ERA	European Research Area is composed of all research and development activities, programmes and policies in Europe which involve a transnational perspective. Together, they enable researchers, research institutions and businesses to increasingly circulate, compete and co-operate across borders. The aim is to give them access to a Europe-wide open space for knowledge and technologies in which transnational synergies and complementarities are fully exploited. See also ERA COMMUNICATION adopted 17 July 2012
ESE	The Eureka Secretariat (ESE), based in Brussels, is an international association acting as the central support unit for the network. The ESE manages the EUREKA project database and undertakes marketing, communications and network-development activities. It is also responsible for the implementation of the Eurostars programme. The ESE is responsible for: Establishment of the yearly call budget, central organisation of common calls for proposals and reception of the project proposals, central organisation of the eligibility checks as well as evaluation of project proposals, central organisation of the selection of project proposals for funding, as well as project monitoring and follow-up, receipt, allocation and monitoring of the EU financial contribution, collecting the accounts on the distribution of funding by the national funding bodies in the participating States to the partners in Eurostars projects, promotion of the Eurostars programme, reporting to the EUREKA HLG, the Eurostars HLG, the EUREKA Network and the Commission on the Eurostars programme.
EUREKA	EUREKA is an intergovernmental network launched in 1985, to support

	market-oriented R&D and innovation projects by industry, research institutes and universities across all technological sectors. It is composed of 40 members, including the European Community.
Eurostars member countries	Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom.
FP7	The 7th Framework Programme of the European Community for research, technological development and demonstration activities.
Gross Value Added (GVA)	GVA is a measure of the value of goods and services produced in an area, industry or sector of an economy. The relationship between GVA and Gross Domestic Product (GDP) is as follows: GVA = GDP + subsidies – taxes on products.
HLG	The Eurostars High Level Group is composed of the EUREKA High-Level Representatives of the States participating in the Eurostars Joint Programme, with a representative of the European Commission as observer. The Eurostars HLG supervises the implementation of the Eurostars programme. It also participates in the nomination of the members of the Eurostars Advisory Group; the approval of the operational procedures to run the Eurostars programme; the approval of the call planning and call budget; and the approval of the ranking list of fundable Eurostars projects.
Horizon 2020	Horizon 2020 is the European Commission proposal for the next EU Framework Programme for Research and Innovation.
ITRE Committee	Industry, Research and Energy Committee of the European Parliament
NFB	The National Funding Bodies (NFBs) of Eurostars are those agencies designated at national level to deal with the administration of the financial support to the national participants of a Eurostars project
NPCs	Eurostars National Project Coordinators supports: The promotion and information on the Eurostars programme in the EUREKA Member States, possible advice to the applicants, aspects of eligibility checks of project participants and the monitoring of Eurostars projects.
R&D performing SME	The Eurostars Programme defines an R&D - performing SME as an SME that dedicates at least 10% of its turnover or 10 full-time equivalents (FTE) to research activities.
Small and Medium-sized Enterprises -SMEs	Enterprises with: • Employees < 250 • Turnover < EUR 50 million, and/or, • Balance sheet total < EUR 43 million, and, • Autonomous: < 25% of shares or voting rights owned by "partner enterprise". See more details in: EU recommendation 2003/361 .

Subsidiarity	The principle of subsidiarity is defined in Article 5 of the Treaty on European Union. It ensures that decisions are taken as closely as possible to the citizen and that constant checks are made to verify that action at Union level is justified in light of the possibilities available at national, regional or local level. Specifically, it is the principle whereby the Union does not take action (except in the areas that fall within its exclusive competence), unless it is more effective than action taken at national, regional or local level. It is closely bound up with the principle of proportionality, which requires that any action by the Union should not go beyond what is necessary to achieve the objectives of the Treaties.
Success rate (in %)	Number of submitted applications divided by approved applications (multiplied by 100).