

FOLLOW-UP OF SWEDISH PARTICIPATION IN EUROSTARS



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Follow-Up of Swedish Participation in Eurostars

by

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1 Summary and conclusions

This report is a presentation of an analysis conducted through a review of available data collected by means of a questionnaire and through a more in-depth study in the form of interviews with a sampling of participants in Eurostars projects. This has been done in order to create an overall picture of what was accomplished in the various projects.

The work of this assignment was performed by means of available documents on Eurostars, analysis of collected questionnaire data and interviews with participants in projects that are, or have been, part of the programme. Documentation in the form of the questionnaire used for the follow-up and data from the collection itself has been provided by VINNOVA. To complement this data, interviews were conducted with eleven project participants.

For a very large majority (90 per cent) of the participants, the development of new products or services was the aim of participation in Eurostars. Most have also pointed to the development of existing products or services.

The project gives companies access to financial resources, which for a small business can involve relatively significant sums. External funding for this type of activity is difficult to secure by means other than the kind of initiative that Eurostars represents. The funding model and the general structure were very well suited to the situation that existed when the project started.

Results from Eurostars are described both as being good and in line with its overall objective of quickly getting innovations to market. In addition to the product or service developed, several other interesting results have been highlighted by the participating companies. The project has given rise to new R&D collaborations and new contacts in academia and industry for the participating companies. Participation has given the companies access to technology and expertise, which is not normally provided to small enterprises. Individuals coming from companies to participate in the projects have developed their own expertise, and many companies have been able to recruit personnel as a result of their involvement in Eurostars. Thanks to project funding, more companies have received resources for employing personnel, but also for expanding their network, something which has also enabled international recruitment. Companies have increased their attractiveness and gained more qualified applicants for advertised positions.

Company representatives affirm that Eurostars is an excellent complement to other forms of possible support. Above all, it is considered a complement to other, larger Framework Programme projects that are described as difficult for smaller enterprises to access. In addition, it is considered capable of being the best match for a very special stage in the development of a product or process. Before and after this stage, there may

be other instruments that are better suited to handling the situation the company is in with respect to its development.

It does not seem unusual that companies make a kind of "career in the support sector", by first having an application for a programme rejected, and then increasing their expertise over time and qualifying first for Research&Grow (Forska&Väx), then Eurostars and then possibly something else thereafter.

Responses to the interview question of what would have happened to the project without the support of Eurostars can be broadly divided into two categories: 1) those indicating that the project would not have happened at all without Eurostars and 2) those indicating that the project would still have gone ahead, but not in the same form or scope, and not as fast.

The investigation shows that the vast majority of respondents proclaim to be satisfied with how their projects have developed. This has in most cases been carried out by an appropriate constellation of actors, also in numerical terms. In most cases, the collaboration between the companies in the various projects seems to have taken place without any major problems with competition.

However, some issues and problems of a legal nature have arisen. These concern rights to results and compensation, and here the companies might have been in need of support either through consultancy or fully developed agreements between the parties involved for application in the programme.

Although participation in Eurostars is for many the first experience of international R&D collaborations, they often have at least some experience of participating in projects that are to some extent similar to those implemented in Eurostars, not infrequently through Research&Grow. For several of them, participation in Eurostars has meant moving up a gear in relation to what they have previously been able to carry out. Contacts with partner organisations in the project have in almost every case existed before the project's inception. However, these contacts have often become deeper through Eurostars.

VINNOVA's contribution as national coordinator of Eurostars has been appreciated by the project participants. Several of the interviewees state that it was VINNOVA that first drew their attention to the possibility of applying for support within Eurostars, and they also express their appreciation of VINNOVA's work during the application process. It is considered to have contributed good information and been of general assistance in terms of knowledge and experience of what a good application requires.

Since most projects have not encountered any significant problems during the implementation of the project, there has not been reason to utilise VINNOVA's service in this regard. Officers at VINNOVA are otherwise generally perceived to be available, knowledgeable, service-minded and pragmatic. Several interviewees, however, are unclear about VINNOVA's role, particularly in relation to the Eurostars Secretariat.

These perceive VINNOVA's role as two-fold, both as a scrutinising agency and as an encouraging and supportive function.

The reporting requirements of the programme are perceived to be reasonable and not particularly burdensome, but some see dual reporting to both Eurostars and VINNOVA as unfavourable.

2 The programme and the assignment

2.1 What is Eurostars?

Eurostars may be described as part of the activities of EUREKA, which is a collaborative network of 41 member countries created to promote cooperation between companies and researchers in Europe relating to market-oriented research and technological development.

The objective of EUREKA is to strengthen the competitiveness of European industry in the world market. Its various projects see collaboration between small and large enterprises, institutions and agencies from at least two member countries, where the participants themselves are the ones who initiate and design the collaboration. Since its inception in 1985, close to 4000 EUREKA projects have been created and approved by the network.

In addition to the 41 member countries, the European Union is also a member and is represented by the European Commission. Each member country of EUREKA has a national office headed by a *National Project Coordinator* (NPC). Chairmanship of EUREKA rotates between the member countries, and the Secretariat is located in Brussels.

EUREKA is not a project-funded organisation, but the principle is that each participant funds its own part, possibly with the help of its respective country's national opportunities for support.

There are four different types of EUREKA project:

- **Individual projects**, where there are no subject restrictions, and the participants themselves agree on the content, responsibility and division of costs. Applications for individual projects can be made continuously.
- **Clusters**, which are initiated and led by the industry in certain strategic areas.
- **Umbrellas** are a European network of national experts formed to generate EUREKA projects within a specific field of technology, for example by helping to identify suitable project partners.
- Eurostars, which is aimed primarily at small and medium-sized enterprises (SMEs, according to the EU definition) that conduct their own research. An R&D-performing SME assumes the role of project manager and under its own management, or together with other R&D performing SMEs, bears at least 50% of the project costs.

¹ An SME has no more than 250 employees, an annual turnover of no more than EUR 50 million and no more than 25 per cent is owned by another company.

In more detail, it can be said that Eurostars focuses on market-oriented R&D projects, mainly in small and medium-sized enterprises (SMEs) that conduct their own research. Its overall objective is to quickly get innovations to market. The results of the projects in Eurostars shall be on the market within two years of implementation. The total budget is approximately EUR 400 million, of which EUR 100 million comes from the European Commission and the rest consists of R&D funds from the European countries that have joined the programme. Together with matching funds from participating companies and organisations, Eurostars has an estimated total budget of approximately EUR 800 million. VINNOVA is the actor that coordinates Eurostars in Sweden.

To qualify as a Eurostars project, it must be market-oriented and carried out by actors from at least two member countries. The project shall lead to the market launch of a product or service based on innovative technology. It is further required that the project manager is an R&D-performing SME which dedicates at least ten per cent of its turnover or full-time equivalent to R&D, and that it, alone or together with other R&D-performing SMEs, is responsible for activities equivalent to at least half of the project cost. But other actors such as large enterprises and universities also have the opportunity to be involved in the projects.

The applications received by Eurostars are evaluated by an independent panel of international experts and ranked in terms of both technological innovation and market potential. The time from application to decision should be about four months. The programme opened in October 2007 and will run for six years. Applications to the programme are evaluated on two occasions each year.

VINNOVA may co-finance the involvement of Swedish participants in Eurostars projects provided that the initiatives primarily consist of the participants' own work. SMEs may apply for grants equivalent to 50 per cent of their costs, larger companies may apply for grants equivalent to 30 per cent of their costs and participating universities or research institutes may apply for grants equivalent to 100 per cent of their costs. The total co-funding that VINNOVA may provide for the Swedish part of a project is a maximum of 50 per cent of the cost with a SME participation, a maximum of 40 per cent of the cost without an SME and a maximum of SEK 5 million to the Swedish participants. During a project's planning stage, a travel allowance may be granted for the planning of meetings that take place overseas. This is limited to one occasion, two participants and actual travel and hotel costs up to SEK 25 000 per applicant party.

2.2 The assignment

The aim of the analysis undertaken and presented in this report is to create an overall picture of what was accomplished in the various projects funded within the programme through a review of available data collected by means of a questionnaire and of a more in-depth study in the form of interviews with a sampling of participants in Eurostars

projects. This report to VINNOVA has been designed to be used for both descriptive purposes and as a basis for considering how activities are to continue.

The work of this assignment was performed by means of a review of available documents on the Eurostars programme, analysis of collected questionnaire data and interviews with participants in projects that are, or have been, part of the programme. Documentation in the form of the questionnaire used for the follow-up and data from the collection itself has been provided by VINNOVA. Prior to the work, we planned to conduct ten interviews with project participants, but, in reality, eleven were conducted.

The assignment was carried out between May and September 2012 Peter Stern and Anders Håkansson of Faugert & Co Utvärdering AB, with the former acting as project manager. Contact persons at VINNOVA were Gunnar Sandberg and Kenth Hermansson.

2.3 Report outline

The remainder of this report will be given to the results that emerged in this investigation. Via questions about the companies' motives, their experience of participating in similar projects, what they see as the main barriers to development, the results they anticipate, collaboration with other organisations and whether personnel have been employed to implement the project, the report moves on to give an account of concrete results and effects, how well Eurostars matches the companies' R&D strategies, the consequences of Eurostars not having existed at all and, finally, a section on the effectiveness of the programme implementation.

The reader interested in gaining a quick and comprehensive view of the concrete results and effects of Eurostars will do well to start with Section 3.7 Results and effects. The overall summary and conclusions of the entire report can be found in Chapter 1 Summary and conclusions.

3 Investigation results

The presentation of results follows a thematic approach where the relevant results of the questionnaire survey and of the interviews are used to illustrate and discuss the issues treated in the investigation.

The questionnaire was sent to 44 companies that have participated in a Eurostars project. A total of 32 companies responded to the questionnaire, in whole or in part, yielding a response rate of 73 per cent, but unfortunately with substantial internal losses of between 25 and 30 per cent per question. This means that there is insufficient data to make systematic comparisons between various groups, such as various types of company with respect to size, focus, type of collaboration, etc., since all potential subgroups will be very small. Uncertainty regarding possible connections between various factors is thus very high.

Based on the responses submitted in the questionnaire survey, neither is it possible to point to any unequivocal or distinct patterns. Any hypotheses that may have existed on the relationship between the number of partner organisations and the propensity to recruit, or between the results anticipated by the companies and the outcome, are therefore not possible to substantiate.

3.1 The companies' motives for participating in Eurostars

A very large majority (90 per cent) of the respondents stated in the questionnaire that the development of new products or services was the aim of participation in the programme. Most have also pointed to the development of existing products or services (the percentages do not add up to 100 per cent as it was possible to give more than one response alternative). 32 per cent of the respondents also indicated that the development of the company's production processes was part of the aim of their participation in Eurostars. This is shown in Figure 1 below. The type of activities that the programme concerns is also not unfamiliar to any of the respondents; a full 97 per cent respond that their companies have engaged in the development of products, services or production processes (including methods for providing services) in the past three years.

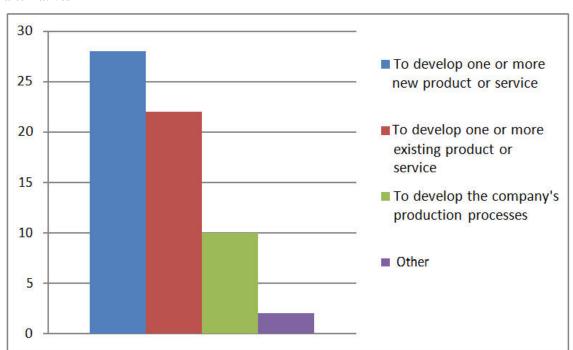


Figure 1 The companies' aim of participation in Eurostars. Number that indicated various response alternatives

In the interviews with the company representatives, the question was also asked of why they chose to apply for money in Eurostars, which gave rise to a number of quite diverse responses. The responses differ depending on where the company was in its own development of its products (goods and services) or processes, on the experience it had of participation in various forms of R&D&I programme and on the nature of the networks.

Here, for example, is a company that took on the task in quite an open-ended manner, while also appearing to be active:

We took the initiative to apply for support to develop a new product and saw Eurostars as a good opportunity with the right focus.

Another example shows an active company with what is obviously a good grounding in this area, and fairly well established contacts with relevant partners:

We have been involved in two rounds of Eurostars and at the moment, we are planning a third application that we hope is able to yield a project. [...] We also have quite a lot of overseas partners from previous occasions, which of course makes it all easier for us. I think applying for money in particular in Eurostars is the model of simplicity. The same rigid requirements that can be found in other programmes does not exist; it is in many ways designed for small businesses.

In other cases, the company itself seems to be somewhat less active. There is some other party that is the real driving force and that has taken the initiative to participate also on behalf of certain other partners:

We were contacted by a company, [name], regarding a project proposal that they presented to us. Do not know how they found us, possibly through [a research institute] that is the second Swedish participant in the second part of this project. We realised that the project might be able to develop our know-how and saw our involvement as an attractive proposition.

In this latter case, no specific reference is made to the development of a product or process, but participation is based on the notion of a fairly general development of the company's know-how. In other cases, the reference is much more clearly focused on the development of the company's products:

It was about getting more resources for the development of our products. We had an existing product that we wanted to develop. We saw an opportunity to apply for projects that were in the immediate area of our product in order to utilise the knowledge we gain there for implementation in our own product.

For some companies, VINNOVA has played a significant role in their participation:

We were tipped off with respect to this possibility by VINNOVA. Previously known by VINNOVA from a feasibility study project,

while that relationship is not so in other cases:

To get help with funding. To implement the ideas we had. It came from Norway. It was not VINNOVA. It was our Norwegian partner that wanted do something together. They had previously implemented a Eurostars project.

Some fairly clear incentives for participating in Eurostars emerge. The project gives companies access to financial resources, and for a small business, this can involve relatively significant sums. External funding for this type of activity is difficult to secure by means other than through programmes such as Eurostars. The programme's funding model and general structure were very well suited to the situation that existed when the project started.

3.2 Experience

The presentation in this section on the companies' experience of participating in international collaboration projects is based primarily on information from the interviews conducted.

As a rule, the participating companies have at least some experience of participating in projects that are to some extent similar to those implemented in Eurostars, not infrequently through Research&Grow. For several of them, participation in Eurostars has meant moving up a gear in relation to what they have previously been able to carry out:

We have been involved in projects within Research&Grow, but also in the Nutek era. However, we felt that we were not getting to the finish line with the Swedish projects that we were participating in. They were too small-scale to really get things to take off. We needed something more to get further,

or

We are in [sector]. The technology we had in this particular case did not achieve our performance objectives. The primary objective of the project was to develop the product so that it achieved that level. We had a customer with us in the project and other partners. We realised that we needed to achieve a higher performance.

Experience also brings with it a growing network and contacts that are or have become valuable for the opportunity to collaborate in this type of project or programme.

We have been part of a major project in the Framework Programme and made applications within some domestic programmes. So we are not entirely without experience. We knew the other participants from previous occasions.

This can be seen in contrast to a situation where the company, if anything, is in the early stages of a development or career as an knowledge and research intensive company that has international collaboration:

We have very little experience. This is the only project we have participated in. We have been part of an application before. [The partner] contacted us regarding an application for a project. We have collaborated with them in an earlier application. But we did not know them or other participants in the project very well. [The partner] has driven the project and was stated as the main applicant.

A couple of statements that further describe how the companies' attitude is adapted to the circumstances are:

Our collaboration started maybe a year or two before the project began. We do not have much experience, we have applied for Research&Grow before and did not get it,

and

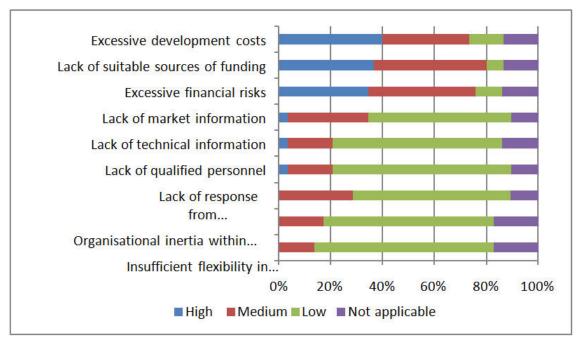
We have applied for quite a lot with VINNOVA previously. We knew all the parties well from previous occasions. It was a fairly simple project idea. It was pretty clear as to who would do what.

For most companies, participation in Eurostars is their first experience of international R&D collaborations, even if most of them nevertheless have experience of domestic R&D projects, mainly Research&Grow. Contacts with partner organisations in the project have in almost every case existed before the project's inception. However, these contacts have often become deeper. The initiatives for the projects have come both from the Swedish participating companies and from overseas partners, sometimes in quite close collaboration. The party that has taken the initiative to the project has generally been the one to pursue the shaping of objectives and the implementation of the project.

3.3 Barriers to development

In the questionnaire, the representatives responding for the companies have also had to take a position on what constitutes significant factors in cases where they encountered difficulties in the development of products, services or production processes. The response alternatives that they have thus taken a position on can be found in Figure 2, ranging from "excessive development costs" to "insufficient flexibility of regulations/standards".

Figure 2 Factors that constituted barriers to the development of products, services or production processes. Percentage expressing whether the factor has had an influence to a high, medium or low degree, or whether it is not applicable



The figure shows that three factors stand out due to a very high percentage of the respondents stating that these constitute barriers to development to a high degree. The factors concerned are "excessive development costs", "lack of suitable sources of

funding" and "excessive financial risks", which are all said to constitute barriers to development to a high degree by more than a third of the company representatives that responded to the question.

Furthermore, for each of these apparently most tangible barriers to development, the proportion of respondents who state that they constitute a barrier to a high or medium degree is greater than 70 per cent. The other factors are considered to constitute a barrier to the development of products, services or production processes to a significantly lesser degree.

3.4 Anticipated results

In the questionnaire, the respondents were also asked to report on the main result anticipated from the Eurostars project. The result of this can be found in Figure 3, which presents the proportions that gave various response alternatives. Consequently, 60 per cent of the respondents anticipate that the project will lead to the development of a new generation of a product or service, while 31 per cent anticipate the development of a completely new product or service. The remaining 9 per cent anticipate that the project will result in the improvement of an existing product or service (see Figure 3).

Thus none of the respondents gave one of the two remaining response alternatives; that the project will lead to the development of new or existing production processes.

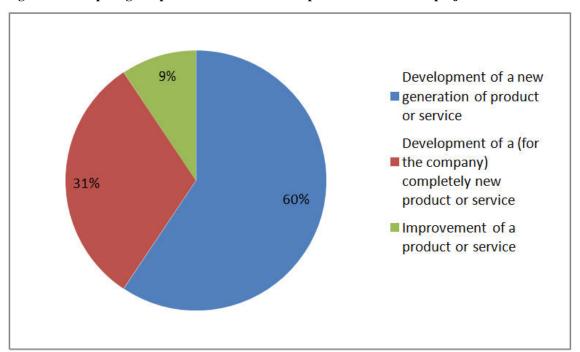


Figure 3 Participating companies' main results anticipated from Eurostars projects

The responses to the question on anticipated results thus differs markedly from that on the aim of the companies' participation, with nearly a third of the respondents stating that the aim of their participation was to develop the company's production processes.

Here it is possible that there may be differences in notions about what might be anticipated before the start of the projects and after they have started when it begins to be clearer what is taking place and what it is reasonable to achieve.

In an assessment of the commercial market potential for the product or service that is anticipated to result from the project, more than 90 per cent of those who responded to the questionnaire assess the potential to be great in new export markets. More than 80 per cent assess the potential to be great in existing export markets. Close to 50 per cent of the respondents assess the potential to be great in an existing Swedish market, while 40 per cent assess it to be great in a new Swedish market. All this is shown in Figure 4.

New export markets

Existing export markets

Existing Swedish market

New Swedish market

0% 20% 40% 60% 80% 100%

Great Low No No assessment

Figure 4 The companies' assessment of the commercial potential in various markets for the product that may result from the project

In response to the survey question on how the new product or service relates to the company's other activities, several companies believe that it will become part of their core activities at the same time as helping to expand or develop their existing product range.

3.5 Collaboration with other organisations

The companies participating in the projects within the framework of Eurostars appear to have a relatively strong tradition of collaboration with other organisations. As many as 97 per cent of those who gave a response to the survey question state that they have had collaboration with other organisations in the past three years. A total of 1021 partnerships were reported by the participating companies, 461 in Sweden and 560 overseas. These break down into various types of collaborative categories as shown in Figure 5 below.

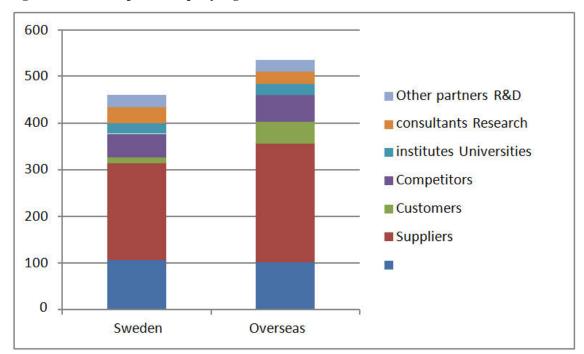


Figure 5 Number of partnerships by organisation in Sweden and overseas

This figure shows that the distribution between collaborative categories is very similar for both Swedish and overseas organisations. The greatest deviations are that the categories "customers" and "competitors" constitute relatively larger shares of the overseas partners in comparison with the Swedish.

Here, the material also gives another minor deviation. This relates to the companies which indicated either that their participation in Eurostars aims to develop their production processes or that the aim was to develop an existing product and which also have more partnerships with organisations overseas. However, the companies whose aim was to develop a new product or service do not deviate from the pattern in Figure 5.

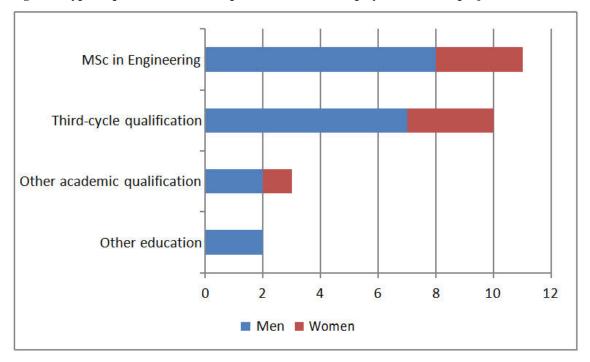
3.6 Personnel employed for the project

58 per cent of the company representatives who responded to the question state that new personnel were employed to work in the project. In total, 26 individuals were employed for this, seven women and 19 men, and of these, 14 individuals, of which four women, have gained permanent employment. Figure 6 shows how the level of education is distributed among those employed to work in the projects.

An overwhelming majority of the new employees have either a Degree of Master of Science in Engineering or a third-cycle qualification (a total of 80 per cent). Among the individuals with these qualifications are also all the women who were employed, apart from one who has a different kind of academic qualification.

It is not possible to discern any clear correlation between the propensity to hire new employees in connection with the project and any other circumstances, such as that the company has a greater number of partnerships with other organisations in Sweden or overseas.

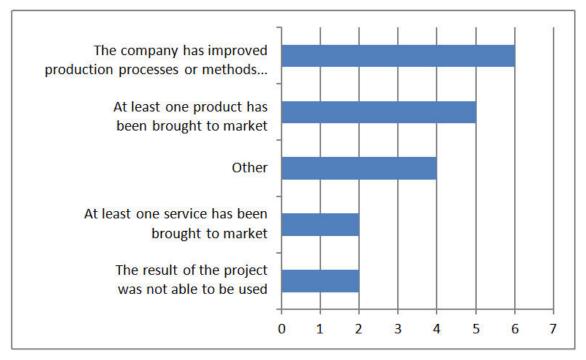
Figure 6 Type of qualification with respect to individuals employed to work in projects



3.7 Results and effects

The result from the survey question about the types of results achieved in the Eurostars project is found in Figure 7.

Figure 7 Results achieved so far in the Eurostars projects according to the questionnaire. The bar shows the number of responses per response alternative



A very important factor to keep in mind when interpreting these results is that

90 per cent of the respondents gave the response alternative "The project is still in development". It thus appears even more evident that the questionnaire responses do not reflect any end results from the projects included in the programme, but that in most cases they represent an indication of what has been achieved so far. It was also possible for the respondents to give more than one response alternative.

Six of the respondents state that the result of the project means that the company has improved its production processes or methods for providing services. In five cases, at least one product has already been brought to market, and in two cases at least one service. Two representatives of the responding companies believe that the result of the project was not able to be used, while four point to a result other than the response alternatives provided.

The open-ended responses from the respondents reveal yet more descriptions that were not among the fixed response alternatives in the questionnaire. There are therefore more, and different, results to those found in Figure 7. The following quotations provide some examples:

For [Company name], Eurostars funding has meant that we have been able to strengthen the company's expertise in research and development. We have developed software that could form the basis of new products,

Eurostars has meant a considerable improvement in quality and a clearly increased market focus for the company. It has also enabled a very close partnership with [Company name] to be built. This partnership will lead to interesting new products outside the framework of the Eurostar programme in the future,

or

The funding has made work possible in an area that we otherwise would have had to leave to others to work with. We would have got into an impossible situation of competition from the beginning because it is a very niche sector and there is only room for a few players.

The respondents also tend to highlight results that are important for the development of their networks and for a general increase in knowledge and expertise:

The project has led us into contact with several competent people in companies that we initially did not know/work with. This is true of both subcontractors and practitioners of various services. These contacts have helped to move the project forward. The expertise within the company has been increased as a result of the project,

Through Eurostars, the company has been able to expand its network, while establishing a unique test that will have a major impact on the company's continued development,

or, as one of the more eloquent respondents, also with an interest for flexibility and responsiveness, puts it:

The project has led to a greater insight into technology that is normally the reserve of larger companies and more high-tech companies. The project has shown that technology can have other areas of use and that all research moves products/services on, but perhaps not in the way you think it should. Mistakes in one project can lead to great success in another. If you have a keen awareness of the test results and are willing to test and follow up every trail that arises, maybe the result will be found in a place you did not anticipate from the beginning. A project like Eurostars, with a lot of participants, where many are not so "chained down", has great advantages. With analysis resources that a small business like us does not currently possess, you can gain a better understanding, which in turn drives all development forward. Your perspective broadens and you become more open to bringing in institutes and the academic side of things in the future.

The importance of the ability to employ someone with specific expertise to work in the project is illustrated by the following:

We have been able to hire a chemist with a PhD who works full-time on development. Collaboration with potential customers is easier because we discuss research and development. We connected well with manufacturers of [product], both in Sweden and overseas, which facilitates targeted research.

The advantage here lies partly in the company's acquisition of knowledge and expertise, but also in what it came to signify both for the contacts with other relevant actors and the direction of future operations.

In the interview material, the respondents provided even more nuanced descriptions of their results and of what constitutes success of various kinds, even though they have not always achieved all the objectives they anticipated. The following statement contains several of these dimensions:

This project is truly a success. We have published things. However, we have not sorted out a patent because of legal hassle. They are hard to get. What we have developed is based on a product that we already had. I have been invited to lecture in the United States, Canada, Norway and Germany. It is beginning to spread. Larger companies are knocking on the door, wanting to license our product. We have hired a new person full-time. So we have doubled our workforce (from one to two). We also have people who are employed on a project basis and we hire various subcontractors.

A not entirely unusual situation is where the project has played an important role, but that its activities have not in themselves had sufficient time to allow for the completion of all the desired development, as follows:

We did not get all the way. We got three quarters of the way. But then we added our own research after the project ended to get the product we wanted. We have strengthened our profile and our brand. We are able to describe our problems in a more scientific and complete way. We have gained greater credibility with respect to our customers. Our university contacts have been very successful. We work very closely with KTH. We have ongoing degree projects and are trying to get an industry-employed doctoral student. We also continued the project with other funding. We have made recruitments. We have brought in consultants for all kinds of services. Not only thanks to the project, however.

In other cases, the work was focused on achieving things in the even longer term. The project itself could not be expected to lead directly to the development of a product or process, but rather to the initiation of further activities, in this case, also through the establishment of the right kind of contacts:

We have extended our contacts within the consortium, but also externally. Contacts with universities in both Norway and England. We recruited personnel who have worked in the project, but they have been employed on a project basis and have for various reasons not gone on to a permanent job. In the original plan, the project was to lead to the initiation of a clinical trial. That was one of the objectives. We are there now, and it follows logically that we start up the study.

Another variation is when products have found their way to market even before the project is completed. The circumstances must in these cases probably be viewed as somewhat exceptional, which the following quotation must also be considered to illustrate:

We were so highly ranked in the evaluation made of the projects. It gave us an extra stimulus. Experts have reviewed our application and been impressed. Academic contacts, particularly with Chalmers, have developed. We have some hardware products that have already found their way onto the market, thanks to an acute need. And we are only half-way through the project. We have started production to some extent, and on that front, we have brought in a couple of people, and now we have reason to increase the workforce in the future. This is just a part of what is to come. We have unique expertise, and the way the area [...] is developing, it is going to be worth a great deal.

For the participating companies, there is also the aspect of making development efforts possible, purely financially. From their perspective, participation in the Eurostars project means moving up a gear in terms of their own resources:

Initially, we had no external funding. Then we could only work on development "when we could afford it". With external funding, we were able to have a person working at least half-time in the project. The product is extremely close to getting to market. The first clinical trials are to be conducted now; we have an agreement with a hospital in Göteborg. What remains is to find the capital to build up our manufacturing. The Swedish patent is finalised. We have a patent on the way in a number of countries and design protection in some other countries. We have probably put in 700 000 kronor of our own money into protecting the product.

Several company representatives who are participating or have participated in projects where the result has not yet become a product that can be launched on the market nevertheless describe how advances in the project are steps along the way. They are also able to report what they perceive to be the next step as well as the opportunities and barriers that lie ahead. It is also possible to understand that the road is not always dead straight, but that sometimes it is even a case of taking two steps forward and one step back:

The main product is with the start-up company in England. The equipment cannot be considered ready for the market. It needs to be redesigned before it is a finished product. We count on being able to go ahead with this using our own funding. That we get a development assignment from [Company name]. We also hope we can use this project as a reference in order to get other development projects. We also hope that the project leads to us getting other commitments with respect to [the company]. We have an idea for a patent. But we do not intend to hand it over to [the company] before we know that they will be moving forward with us. We have had the most contacts with [a research institute] and [the company]. The other companies have been a little too far from our main activities, so there we have not had as much benefit from developing our network. So it is a case of both yes and no. We had maybe wanted to get more out of networking. We recruited a person that we employed on a project basis. He did not work out, unfortunately,

and

We have gained contacts on the marketing side. Contacts with potential customers. We already had a patent previously. In the process, we have filed a patent application. We have also given up an application. We have published and gone to conferences. New projects, yes definitely! But maybe not with these companies. This is quite natural when developing a basic technology. Before you have come all the way to a commercial product, there are a load of steps which inspire ideas for new projects. This is totally natural.

The interview material also reveals that the projects' contribution to the creation of networks is considered significant. The following statement describes this as "'soft' results":

In addition to the product that has been developed, some other "soft" results have arisen in the bargain. We have had exchange with people from the company that we collaborated with. The arrangement itself, with two or more companies in Europe, is a smart idea to make Europe smaller. Israel in particular forms its own little cluster in the field of computer security. It has a very high concentration of IT security companies. This expands our network. And being able to demonstrate a collaboration like that stands us in very good stead. Have not recruited specifically for the project. But we have recruited, and the project was a partial explanation for the decision.

In other parts of the interview material, the respondents focus on the programme's concrete objectives and give responses in line with the questionnaire's fixed response alternatives, whether or not they see themselves as part of new R&D projects in the future:

The main benefit that we see it is that we have achieved technological improvements to our existing product. We have been able to extract knowledge from the project that our product has benefited from. New R&D projects are not something we are focusing on. It depends a great deal on what the project entails. Unfortunately, we have not had that much benefit from the contacts we gained through the project.

and

The objectives we have set, we are well on course to achieving. This has led to better scientific results. The Norwegian company has been able to modify its product according to what the project has shown so far, which has led to an improvement of the product. The Swedish company too has been able to use the results. The contacts between academia and companies have been strengthened through collaboration based on various issues, the development of software. There are also other research teams that have seen what we have done and are going to take it further. We will definitely continue, the results are that interesting, better than we had anticipated.

The overall picture is that the results from the programme are both good and in line with its overall objective of quickly getting innovations to market. In addition to the product or service developed, several other interesting results have been highlighted by the participating companies. The project has given rise to new R&D collaborations and new contacts in academia and industry for the participating companies.

Participation has given the companies access to technology and expertise to which small enterprises do not normally have access. Individuals coming from companies to participate in the projects have developed their own expertise, and many companies have been able to recruit personnel as a result of their involvement in Eurostars. Thanks to project funding, more companies have received resources for employing personnel, but also for expanding their network, something which has also enabled international recruitment. Companies have increased their attractiveness and gained more qualified applicants for advertised positions.

3.8 R&D needs and strategies in Eurostars and the companies

The company representatives that have made statements in the interview material affirm that Eurostars is an excellent complement to other forms of possible support. As described above, quite a number of the companies have experience of other programmes, so they have something to compare with. Consequently, Eurostars is considered a complement to other, larger Framework Programme projects that are described as "hopeless for a small company like us to access".

The programme is reported to work very well with the R&D strategy and the R&D needs that companies have:

It fits in extremely well and arrived at just the right time from our perspective. We have been quite alone in the market. Without the project support, things would have been delayed and we would have lost valuable time. Developments are moving at a fast pace in this sector. In two years, an enormous amount has happened. We have started up the manufacturing of certain parts. I have been in other projects in the past, and they have been slower and more basic. This project has a drive out onto the market. When I read through the criteria, I thought it was a perfect match for a company like ours.

There are differences in perceptions among the companies as to what it is that actually constitutes the programme's main strengths. Some of these differences appear to be related to differences in these very R&D strategies or needs. The following two quotations illustrate this very thing. Note, however, that both the respondents are very satisfied, albeit on slightly different grounds:

It fits in well. With the right project, it is great. The project has to have a certain rigour in its research. We have been involved in some other projects in completely different sectors, but there it was often in collaboration with a university.

and

For us, the structure and size of the projects have suited us eminently. Less money for more companies is better in my opinion as an entrepreneur. Otherwise massive amounts of money go to a small number. That may limit the projects that fall under Eurostars. But most companies should be able to achieve quite a lot for that money. If not, they are probably carrying a few too many pounds.

In addition, Eurostars is described as a programme capable of being the best match for a very special stage in the development of a product or process. Before and after that stage, there may be other instruments that are better suited to handling the situation the company is in with respect to its development. It does not seem unusual that companies make a kind of "career in the support sector", by first having an application for a programme rejected, and then increasing their expertise over time and qualifying first for Research&Grow, then Eurostars and then possibly something else after that. Consequently, the response of one company to the question of whether Eurostars fits into its R&D strategy is:

Yes and no. It fits quite well for the structure that we have currently had. The phase the company was in when we applied. At that point, we had the main product development already completed and we did not have money to proceed ourselves. In our current position, it is harder to find a Eurostars project that suits us. We have other needs. The next step is to conduct clinical studies. Which we would prefer to do "in peace" for competitive

reasons. It is also more expensive, which means we need more money than is available in Eurostars.

However, it is also important to point out that other companies are undergoing other types of development that do not seem quite as straight and cumulative, as evidenced by the following:

I have been invited to participate in some major EU projects. They are much larger and more complex. You do not know all the people you do business with. Eurostars has felt good. Its size is just right. And it also feels easier in terms of reporting. Co-financing for small businesses is quite a difficult aspect. For the foreseeable future, our chances of taking any more projects would not be that great as things stand now.

3.9 If there had been no support from Eurostars

Responses to the interview question of what would have happened to the project without the support of Eurostars can be broadly divided into two categories: 1) those indicating that the project would not have happened at all without Eurostars and 2) those indicating that the project would still have gone ahead, but not in the same form or scope, and not as fast.

This is expressed in various ways by the respondents. In the former category, where the project probably would not have happened without the support, they are more or less sure of their situation:

Would not have happened.

or

Without Eurostars, the project would not have happened or at least it would not have been implemented in the same way. In any case, it would have been dependent on external funding.

and

I do not believe it would have gone ahead. The input we have is important to them. And Academy – Industry Partnership requires this type of funding to be realised.

The latter category of respondents who believe that the project would still have gone ahead in some form, also expresses itself with varying degrees of certainty:

It would have gone ahead, but on a different scale, and we would not have invested as much capital,

We might not perhaps have started the project at the moment, but it would still have been implemented in some form, and

We would have developed our product anyway but in some other way.

A variation of the estimated consequences is one where time plays a somewhat greater role:

The product already existed but we have gone further. Without the support of Eurostars, everything would have taken much longer. We would not have had the opportunity that we have now to start a partnership with an accomplished [overseas] research milieu,

Doubtful. It would have definitely taken longer. The security of having VINNOVA with us.

or

It would have existed on paper, but it would not have come as far as it has now.

And finally, we have the assessment that perhaps can be said to sum up the intermediate case between these two main categories of responses:

It would not have been implemented within the foreseeable future.

3.10 Effectiveness

3.10.1 Project implementation

The interview material shows that the vast majority of respondents declare themselves satisfied with how their projects have developed. This has in most cases been carried out by an appropriate constellation of actors, also in numerical terms, "if more companies had been involved, the project would have been more difficult to implement". In most cases, the collaboration between the companies in the various projects seems to have taken place without any major problems with competition.

However, some issues and problems of a legal nature have arisen, concerning rights to results and compensation, where the companies might have been in need of support either through consultancy or fully developed agreements between the parties involved for application in the programme. Commitment has also not been equally great among all the participants in the programme, which at least in part can be assumed to be related to the fact that they have been different in terms of who has taken the initiative and who has been the driving force in the project, as described above.

3.10.2 Opinions of VINNOVA's work

In its capacity of national coordinator for Eurostars, VINNOVA has been met with great appreciation by the project participants. Several of the interviewees state that it was

VINNOVA that first drew their attention to the possibility of applying for support within Eurostars, and they also express their appreciation of VINNOVA's work during the application process. It is considered to have contributed good information and been of general assistance in terms of knowledge and experience of what a good application requires.

Since most projects have not encountered any significant problems during the implementation of the project, there has not been reason to utilise VINNOVA's service in this regard. Officers at VINNOVA are otherwise generally perceived to be available, knowledgeable, service-minded and pragmatic.

Several interviewees, however, are unclear about VINNOVA's role, particularly in relation to the Eurostars Secretariat. These perceive VINNOVA's role as two-fold, both as an scrutinising agency and as an encouraging and supportive function. The reporting requirements of the programme are perceived to be reasonable and not particularly burdensome, but some see dual reporting to both Eurostars and VINNOVA as unfavourable.

3.10.3 The view on Eurostars as a programme

As a kind of concluding and overarching description of the project participants' view on Eurostars as a programme, it may be said that many of the participating companies appreciate the clear focus that exists within the programme on product development and applied research. The programme corresponds in a positive way to the needs of R&D support that the companies in question have.

To be granted funds and to be ranked highly is regarded as a confirmation that the project idea is interesting, something which provides an extra stimulus to the participants. A frequent comment is that a prerequisite for running a successful project is that the project participants know each other from previous occasions. A small business, without extensive international experience or qualifications, may find itself in a vulnerable position when it is time to formulate legal agreements between companies and other organisations from different countries, and therefore require support in such contexts.

Appendix A – Interviewees

Dan Axelsson, Cinside AB

Göran Bergqvist, Advanced Technology Solutions Scandinavia AB

Per Kaijser, Scandinavian Centriair AB

Joakim Karthäuser, SiOx Machines AB

Anders Kjellander, BlockMaster AB

Thorleif Lavold, Biomotif AB

Arne Puhasmägi, Nordic Medcom AB

Anders Sivard, BitSim AB

Sven-Erik Strand, Lund University

Björn Sundman, PicSearch AB

Johannes Swartling, SpectraCure AB

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- 04 Utan nät Batterimarknadens utvecklingsmöjligheter och framtida tillväxt
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- 03 Life science companies in Sweden Including a comparison with Denmark
- 04 Sveriges deltagande i sjunde ramprogrammet för forskning och teknisk utveckling (FP7) -Lägesrapport 2007-2010, fokus SMF. Only available as PDF. For brief version see VA 2011:05
- Sammanfattning Sveriges deltagande
 i FP7 Lägesrapport 2007-2010
 Fokus SMF. Brief version of VA 2011:04

- 06 Effektanalys av forskningsprogram inom material från förnyelsebara råvaror
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- O6 Sammanfattning Effektanalys av stöd till strategiska utvecklingsområden för svensk tillverkningsindusytri. Brief version of VA 2010:05, for brief version in English see VA 2010:07
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- 09 Replaced by VI 2012:02
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- 12 Replaced by VI 2012:14
- 13 Replaced by VI 2012:04

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