

Executive Summary:

The GPrix project - 'Good Practices in Innovation Support Measures for SMEs: facilitating transition from the traditional to the knowledge economy (GPrix)'.

The GPrix project undertook a study on public support to innovation targeted at SMEs of the traditional sectors - often thought to be inactive in innovation. The ultimate goal of the GPrix project was: 'Which support measures can help local economic communities, with a strong basis of traditional industries, to prosper in the rapidly changing, increasingly open global economy?'

In order to answer such question, the project assessed current measures and its impact at local level close to SMEs managers of the traditional industries, trying to indentify good practices that were later benchmarked with other R&D&I measures at European level. The main objective was to develop a set of recommendations on how to design future programmes capable of addressing the specific needs of traditional sectors. These recommendations were validated by promoting an open dialogue with stakeholders in order to integrate as many different views as possible in the final reports.

Why is this important?

A great number of measures currently exist to directly or indirectly support innovation in Europe. These measures play a key role to help organizations to innovate better and faster, by addressing specific market and system failures hindering European companies, and in particular SMEs, to fully exploit their innovation potential. Innovation support programmes do play an important role in supporting traditional industrial sectors in Europe but to help them to truly compete globally, more attention should be paid to what services and practices best serve these SMEs to be constantly innovating in order to maintain a competitive edge.

Which sectors are covered?

The study covered the automotive, textiles, leather, food, ceramics and mechanical/metallurgy sectors, a groups of sectors that share common characteristics such as being long established industries, still major source of wealth creation and employment in the region, and most important, retaining the capacity to innovate. This approach doesn't follow the traditional classification of high-tech/low-tech firms which tends to overlook particularly innovative SMEs that do exist in the traditional industrial sectors of Europe.

Which regions are included?

The study covered 7 European regions all characterized by the relative weight of traditional sectors in their economies, including a large number of SMEs operating on those sectors: North/Central of Portugal, Limousin in France, Emilia-Romagna in Italy, West Midlands in the UK, Comunidad Valenciana in Spain, North Brabant in the Netherlands and Saxony-Anhalt in Germany.

Project Context and Objectives:

A great number of measures currently exist to directly or indirectly support innovation in Europe, including measures supporting technology transfer, incubation and access to finance. The INNO-Policy TrendChart currently identifies more than 400 horizontal and specific measures in support of innovation. These measures play a key role to help organizations to innovate better and faster, by addressing specific market and system failures hindering European companies, and in particular SMEs, to fully exploit their innovation potential.

In order to accelerate the catch-up processes in Europe it is important that lessons are learnt from such measures, in particular as regards their effectiveness, i.e. how well are the measures adapted to the local targets and how do they succeed in converting inputs into outputs.

The main objective of the GPrix project was to identify good practices in innovation support measures to SMEs from the traditional sectors in seven European regions by developing a methodological framework for collecting internationally comparable data on existing Research and Innovation support programmes/measures in the public sector. This data was used to create a variety of indicators that helped to take conclusions and provide recommendations for improving the design and implementation of research and innovation programmes supported by the public sector directed towards traditional industries.

The project developed a set of recommendations aiming to make a contribution to the future policies focusing on SMEs, namely on the design of the innovation support programmes focusing on the following traditional sectors, including the automotive, textiles, leather, ceramics, mechanical/metallurgy and food sectors. For comparative purposes, these were the sectors that were targeted in the seven regions addressed by the project.

The effectiveness of innovation support measures were evaluated using the following two concepts; additionality and composition:

1. Additionality is an important element in considering the effects of a Programme.
Additionality is the change due to the activity, as compared to what would have happened had the activity not been undertaken at all.
2. Composition is another key aspect of the programme as it refers to which R&D and innovation projects are stimulated.

In each of targeted regions, partners conducted a quantitative analysis complemented by a qualitative analysis to get the main characteristics of the measure in terms of relevance for the SMEs of the traditional sectors. Aspects such as relevance and impact in addressing a specific regional problem or need were analysed and the most innovative and effective ones were selected.

The quantitative analysis comes from the responses from an Innovation Survey targeting only SMEs of the traditional sectors while the qualitative analysis comes from interviews to selected companies which were the base of the case studies.

The questionnaire was intentionally design to provide comparable data across regions and taking into account the intended modes of analysis.

The qualitative analysis comes from the interviews and the resulting case studies. The methodology to conduct the interviews and the template were previously developed in WP1 to provide guidelines to

the all the consortium in order to produce case studies with the same structure and the same core of questions thus providing comparable results.

The culmination of the two methodological approaches offered analytical data of regional representation and importantly European variations and similarities. The combination, inter alia, offered strong representational case-studies set against a statistical backcloth of socio-economic variance to identify Good Practices in innovation support measures that could be easily replicated to other European countries in their regions or eventually integrated in the European policy on innovation support.

The GPrix project produced a comprehensive insight into the design, implementation and impact of SME research and innovation support programmes and services at regional, national and European level.

The project studied innovation support programmes in the 7 regions by implementing the methodology specially developed for this project, as follows:

1. SWOT analysis of each region (report on the regional economic fabric)
2. Development of indicators (specially targeting innovation in traditional industries)
3. An innovation survey to SMEs (econometric analysis; more than 300 completed responses)
4. Interviews with stakeholders (programme manager, SME managers)
5. Elaboration of Case Studies (in depth qualitative analysis of programmes)
6. Identification of Good Practices (for traditional sectors)
7. Impact Assessment of innovation measures on SMEs
8. Benchmark analysis at European level (effectiveness)

The study was complemented by organizing several workshops to promote an open dialogue with stakeholders at two levels, at the regional and European level by organising one Validation Workshop in each of the covered regions and by organising a European Validation Workshop.

The validation process was concluded through the organisation of a Final Conference held in Brussels with representatives of relevant regional and national authorities, industries and industrial research centres. The open dialogue and feedback from participants produce very interesting results, as we were able to discuss our recommendations in more detail. The comments and suggestions from the audience were later integrated in our final recommendations, trying to integrate other recommendations coming from other regions.

Finally, a set of recommendations were produced to help policy makers and programmes designers to integrate innovative approaches to innovation support capable of addressing the specific needs of the traditional industries.

Throughout the project implementation, partners promoted several synergies with other projects, in particular with the UNIC project (one of the two URBACT projects labelled as 'FAST TRACK' by the European Commission). The UNIC project is a thematic network built on the results from inter-regional cooperation of 9 European cities and regions with strong 'heritage' in traditional industries

(ceramics) impacted by economic transition - from a traditional economy towards a sustainable innovation economy. Both projects cooperate by exchanging information and later integration of the GPrix recommendations in the Local Action Plans developed within the UNIC project.

Within the context of this call (FP7-SME-2009-1), two other projects were financed (MaPEeR SME and RAPPORT) sharing the same overall goal, i.e., identify which R&D&I measures are more effective in supporting innovation in SMEs but those projects were targeting the most high-growth/high-tech and innovative SMEs while GPrix was looking specifically at traditional industries. This collaboration strategy was promoted by REA and intended to produce comparable and complementary results among projects. Therefore the Innovation Survey had a common set of questions and almost all events such as workshops and conferences were jointly organised in order to maximize the allocated resources and the outcomes of each individual project. The combined work of the 3 projects gives a complete picture of the impact of various forms of innovation support measures that currently exists across the EU.

Project Results:

WHY DOING SUCH A STUDY?

Although traditional or mature sectors did not serve our national and regional economies as engines of growth, but rather represent sectors in decline, SMEs in traditional sectors still represent the majority of firms in Europe and accounts greatly to the number of jobs available in the region. Despite these facts, the policy focus has been mostly focussed on the support of the new and high-tech sectors which had much better growth perspectives.

The focus on R&D and high-tech SMEs follows the demand for high-tech products where the EU has a trade-deficit. In short R&D did not match industry needs (Soete, 2009). However R&D results and new technologies are not the sole sources of innovation (Mohnen, 2010) and today this policy needs to be complemented with specific measures targeting innovation in general as companies realized the importance of innovation even in traditional sectors.

In search for policy efficiency, R&D subsidies were provided to promising firms in promising sectors, in order to persuade them to take more risk, for the sake of the higher social return. Besides the rationale of providing (R&D and innovation) resources for the sake of static efficiency, a more systemic policy approach has been developed aiming for behavioural additionality (policy impact on change in behaviour, rationality, risk-perception, capabilities etc.) for the sake of dynamic efficiency.

The increase of demand driven and user-driven innovation and the fragmentation of value-chains in manufacturing sectors represent an increasing part (40%) of the value added in service activities;

Despite being neglected sectors, the traditional industry still holds many firms and offer employment, which has great value especially in regions where unemployment is becoming a major problem. Research and innovation policies adapted to their needs can support their efforts to move in a knowledge economy era. Bringing knowledge to these SMEs in traditional sectors will surely help them to be more competitive and jobs can be retained.

The process of innovation represents the confluence of technological capabilities and market-needs within the framework of the innovating firm. Contrary to the linear view on innovation, innovation and new value added can come from any activity of a firm. Especially for SMEs in traditional sectors innovation may not be based on new technological inventions from internal R&D, but rather on serving market-needs and the application of technologies developed externally.

In short, the central research question that this study wants to answer is:

Which innovation support programmes are most effective in generating regional economic impact from SMEs in traditional sectors in Europe?

RESEARCH QUESTIONS

To answer this general question, the project defined a set of more detailed questions to gather the information on the end-users-SMEs, as follows:

1. Q1: Which organizations have participated in national/regional R&D&I programmes and how can they be differentiated from those that have not participated, including both those who tried and failed and those who have never tried?
2. Q2: Why did these organizations take part in the R&D&I programmes and what benefits did they actually receive from their participation?
3. Q3: What role does the R&D&I project play in the overall innovation strategy of the organization? How do companies manage their RTD portfolios inclusive of regional/national R&D&I programmes?
4. Q4: What kinds of projects did the participating organizations undertake in the R&D&I programmes and how do these projects compare, or relate to, others that they undertook either independently or in collaboration with others but with no subsidy?
5. Q5: How do firm-level characteristics including resources/capabilities, internal organization and management influence the likelihood of R&D&I activities, including internationalisation and commercialisation activities.
6. Q6: How do industry and market characteristics affect the likelihood of development of research activities and respective uptake of results for innovation and commercialization?
7. Q7: What types of additionality with specific emphasis on R&D&I activities can be observed in regional/national programmes? What can be done to improve additionality?
8. Q8: What are the lessons for improving the R&D&I programmes in traditional sector industries?

METHODOLOGICAL FRAMEWORK

The GPrix project initiated producing a methodological framework to support the implementation of the project. This preparation work defined the concepts shared by all partners and developed the tools used throughout the study. Namely, the all concept of 'traditional sector' was redefined to accommodate recent changes on these industries and the concept of the evaluation of innovation was redesigned in order to better assess the impact of support measures on this type of industries.

EVALUATING INNOVATION

Innovation in industry is a matter of doing new things, or finding new ways of doing familiar things. Much of the discussion of innovation revolves around product innovation (the creation of new or improved goods and services) and process innovation (new ways of producing goods and services). However, there are also innovations in terms of interfaces between organisations and between suppliers and users of products (marketing, ecommerce, new systems for delivering goods and

services, after sales services, interactions between suppliers and users concerning product design and specification, etc.) Organisational innovations are sometimes differentiated from technological ones (though they often go hand in hand).

Another important distinction is between incremental innovations (minor modifications to products and processes) and more radical innovations (major changes in how processes are organised and how products work). Incremental innovations often emerge from the experience of making and delivering products; radical innovations often require Research and development or similar efforts to bring new knowledge to bear on the product or process. An idea or project is not an innovation unless it is applied in processes put onto the market, or used in the public sector. (In the business world, it is common to restrict use of the term to successful applications only: but we believe there can be much to learn from innovations that are unsuccessful in terms of attaining the expected markets, or even in terms of failing to meet technical specifications.)

The Linear Model of Innovation is based on the notion that predominantly, innovations emerge from the elaboration of increasingly practical applications of new fundamental knowledge. Innovation is typically triggered by discoveries made in research laboratories that are found to have potential use in creation of new products and processes. Stimulating innovation is then, largely a matter of pump-priming R&D: the new knowledge will be converted into innovation by entrepreneurs. Many innovation studies -and evaluations of R&D programmes -have cast doubt on this account, and a number of more complex models have been proposed. These incorporate, for example, all sorts of feedback loops, and the likelihood that innovation can be initiated at any point in what was earlier seen as a sequence or chain of activities -even by users. But while the linear mode is habitually criticised in the research literature, and has even been rejected in official documents, it is still implicit in a great deal of policy making.

Innovation Programmes (IPs) are measures, schemes, initiatives, etc. Funded by (any level of) government, aimed at the promotion, support or stimulation of innovation and innovation-related activities. They may operate either directly, through the provision of funding, information or other support; or indirectly, through facilitation of the innovation process (i.e. via fiscal or regulatory reform). Note that some Innovation Programmes may have innovation as a secondary objective, or as a means to an end such as greater energy efficiency, or regional development.

Research and Innovation Programme Evaluation (RIPE) is the evaluation of Innovation Programmes - each of these component terms has been defined above. While many of the tools and techniques that are used here derive from those employed in the evaluation of R&D programmes, the aims of Innovation Programmes are typically wider than those of R&D programmes, and there are fewer standard indicators that can be used for evaluation purposes. For instance, R&D programmes can be assessed in terms of contributions to knowledge like publications and patents; but IPs requires that their impacts on, for example, business practices and performance, are assessed.

A culture of evaluation is a term that is used to refer to how far evaluation practices are embedded into an institution's policy and programme design and implementation. In an advanced Evaluation Culture, evaluation is treated as a natural and inherent feature of programmes, and planned for at the outset of programmes. It is not just something that is simply added on at the end of the exercise - though to conduct any evaluation at all is one step up from an institutional framework in which there is simply no evaluation at all. In more advanced Evaluation Cultures, furthermore, evaluation is not just a way of assessing the performance of a particular programme. It has become a tool for informing the design of IPs, and indeed informing innovation policy, more generally.

The effectiveness of innovation support measures can be evaluated using the following two concepts; additionality and composition:

1. Additionality is an important element in considering the effects of a Programme.
Additionality is the change due to the activity, as compared to what would have happened had the activity not been undertaken at all.
2. Composition is another key aspect of the programme as it refers to which R&D and innovation projects are stimulated.

DEFINING A TRADITIONAL MANUFACTURING SECTOR?

The most common definition of a 'traditional manufacturing sector' is based in the distinction between 'high', 'medium' and 'low-tech' industries (e.g. OECD). This approach does not capture the complexities of traditional industries nor does it show the dynamic nature of the firms. For instance, some traditional industries may be low-tech but others are not (e.g., automotive). Indeed, once we define industry at a level meaningful to practitioners - say, at the SIC 4-digit level - characterization of whole industrial sectors as 'high', 'medium' or 'low-tech' may be misleading.

For example, pottery/ceramic products in SIC 262 includes sectors that may operate at different levels of R&D intensity (e.g., SIC 2621 -manufacture of ceramic household and ornamental articles - and SIC 2624 -manufacture of technical ceramics). Moreover, even the same 4-digit industry may include substantially different intensities with respect to R&D and other types of innovation activity (e.g., commodity earthenware producers and specialists in hotel ware).

Our preferred approach to defining 'traditional industry' is multi-dimensional, reflecting not only measurable characteristics but also a range of concerns or anxieties.

We define as 'traditional' those manufacturing industries with at least the majority of the following characteristics:

Long established. Traditional implies history. One interpretation would be that the industry should have been established at least during the inter-war years (1918-1939) if not before. This is sufficiently broad to include, say, the motor industry but to exclude, say, computing. Most of the industries in which we are interested have been established for much longer, such as leather.

Strictly speaking, age is both a necessary and sufficient condition for an industry to be classed as 'traditional', which suggests the major theme of longstanding processes or products. However, we are also interested in industries with at least some of the following characteristics:

Once a - even the - main source of employment at the sub-regional level (possibly even the regional level in certain cases).

In the mature or declining phase of the industry life-cycle, with recent decline typically associated with globalisation. Because these industries are long established, knowledge has diffused and enabled production to develop in and/or be relocated to new locations with lower costs. This applies to at least some of our industries (e.g., ceramics) although not necessarily to all (maybe food processing?).

Labour intensive, so that relocation of production to low-wage economies has particularly serious consequences for manual employment in the (sub) regional context. Of course not all aspects of production may be out-sourced to low-wage economies such as design and marketing. However, a key element of the traditional nature of the industries is that some or most of the repetitive, low-skilled, manual work is indeed out-sourced from EU countries.

Major sources of wealth creation and employment in regional (or, at least, sub-regional) economies. In spite of recent decline, the traditional industries in which we are interested continue to be important to regional or, at least, sub-regional economies.

Retain capacity for innovation, hence the potential to continue as important sources of wealth creation and employment. This issue can be linked to the core competencies where firms will retain what can add value (make strategy) and out-source what the market can produce more cheaply and/or efficiently (buy strategy). Conversely, traditional industries may be ones in which 'conditions of low technological opportunities limit innovative entry and restrict the innovative growth of successful established firms' (Breschi et al., 2000, p.393).

Recent and often dramatic decline is why we are especially concerned with traditional industries because traditional industries often remain important sources of wealth creation and employment in regional (or, at least, sub-regional) economies they are of concern to public policy; and capacity for innovation is likely to be both a feature of any industry that survives long enough to be classified as traditional and a necessary condition for a positive return on public sector support for these industries.

This potential for innovation may be more associated with particular industry groups (at the NACE/SIC 3-digit and/or 4-digit levels) firms than with the industry as a whole and, possibly, with SMEs rather than with larger and established industry leaders. Accordingly, we should also be careful to distinguish high-tech and dynamic industries or even firms within broadly defined traditional sectors.

Evidence of significant capacity to diversify from within a traditional industry towards new, high-growth activities: i.e., the possibility of high-tech and dynamic industry groups emerging within broadly defined traditional sectors. Sectors defined at the NACE/SIC 2-, 3- or even 4-digit level may be sufficiently heterogeneous to give rise to industry groups able to diversify into new technologies and products.

An example is the textile industry that as well as the 'rag trade' has also witnessed the growth of technical textiles. The general point is to note significant diversification from within traditional industries towards new, high-growth activities.

Additional characteristics, although not necessary conditions, of traditional manufacturing industries might also be:

Substantial contribution to regional (or, at least, sub-regional) exports, even if the industry has recorded a deteriorating trade balance as part of overall decline associated with growing competition from imports.

Geographically concentrated; traditional industries may or may not be geographically concentrated and so constitute a 'cluster'. This characteristic can vary between industries where economies of agglomeration are useful for some industries, such as ceramics, but not others.

AN EXAMPLE OF A TRADITIONAL INDUSTRY ACCORDING TO THE ABOVE CRITERIA

Example using the UK ceramics industry (sic 262).

Most of the UK ceramics industry is located in North Staffordshire, which is a sub-region within the West Midlands region of the UK.

1. Long established. A global industry since, at least, the early 19th Century.
2. Once dominant. The ceramics industry was once the main source of employment in North Staffordshire.
3. Recent decline. The most recent annual data from the Annual Business Enquiry, Subsection D1, shows that over the period 1995 to 2007 the following changes took place:
Number of enterprises, from 886 to 579
Total turnover, from £1,967 to £1,199 million
GVA (at basic prices) from £990 to £524 million
Total purchase of goods, materials and services, from £994 to £683 million
Total employment from 37,000 in 1998 to 15,000 in 2007.
4. Major source of wealth creation and employment in regional (or, at least, sub-regional) economies. In round terms, UK ceramics is still a £1.2 billion industry directly employing 15,000 and indirectly creating employment for many more. In particular, it is still at the centre of a ceramic supply industry, which is also an important traditional industry in the sub-regional economy of North Staffordshire.
5. Retain capacity for innovation. This is not a 'dying industry', in terminal decline. For example, in the tableware and giftware sub-industry (SIC 2621), 80 percent of the decline in turnover over the past decade or so has been accounted for by the decline and eventual bankruptcy of two major firms: Doulton; and Wedgwood, Stoke now has a cluster of medium and small firms, many of which are world class innovators in technology and/or design.
6. Substantial contribution to regional (or, at least, sub-regional) exports. Export and import data from >UK Trade Information< for SITC 666 (roughly equivalent to SIC 262) is as follows for 2008: Imports: £264 million; Exports: £190 million. 10 years ago, the industry was in surplus. Even so, this is an important contribution to UK, regional and, especially, sub-regional exports.

This new definition of 'traditional sector' is a reflection of the importance that these industries have in the regional economies, being still major sources of wealth and employment despite their recent decline. This approach led the consortium to include the automotive industry in the study since it shares many of the characteristics of 'usual' traditional sectors (long established, major employer, relocation threads, etc).

THE METHODOLOGY STEP-BY-STEP

The Project has developed the following methodology:

1. Step 1 - Conceptual framework: Background research, design of overall conceptual framework, indicators, target populations, measurement of concepts.
2. Step 2 - Draft of Pilot Questionnaire and interview guidelines: Developing one or more pilot questionnaires and interview guidelines.
3. Step 3 -Pilot testing: Interviews, testing and study of potential respondents. The feasibility study will be undertaken in two stages: 1) interviews and cognitive testing of a group of potential respondents (public sector institutions); and 2) small scale testing of a pilot questionnaire (developed in Step 5) with interviewees.
4. Step 4 -Developing final versions of survey tools, questionnaires and interview guidelines
5. Step 5 -Large scale implementation of survey: Each region will conduct a large scale pilot survey among SMEs and public sector institutions.
6. Step 6 -Analysis of results: based on data collection, drawing on and incorporating work from all Steps.
7. Step 7 -Development of policy recommendations for better structuring national/ regional support R&D&I programmes
8. Step 8 - Mapping user needs: form expert/stakeholder group in each region/country (hold one validation workshop to discuss the preliminary conclusions regarding Research and Innovation support programmes/measures.
9. Step 9 -European scale validation of recommendations developed and conclusion of the policy recommendation.

IMPLEMENTATION

Assessment of innovation support measures in target regions

After this preparation work, the project moved into a more operational phase with the implementation of the Innovation Survey, the development of the case studies, identification of the good practices and the elaboration of recommendations for improving the future design of innovation support programmes. While these tasks were being implemented, the consortium intensify the contacts with stakeholder, mainly with SMEs and Programmes Manager thus promoting a dynamic and effective open dialog in order to improve and validate the project findings under work package 4 ('Open dialogue, validation and active dissemination of results').

After completing the analysis of the region, the project move into the design of the Innovation Survey targeting only SMEs of the traditional industries. The main objective was to assess the impact of those measures in the innovation activities performed by the SMEs, in particularly 'Additionality', i.e., would they have taken the same or similar steps in innovative activities without the public support received?

The survey was developed in the 7 languages of the regions and was made available online and in paper version; a common hurdle in implementing such a survey is the difficulty to get accurate and complete responses from SMEs but in this particular project it was even harder because the potential sample was reduced to SMEs of the traditional industries and these firms are less used to this type of approach; Another barrier found was the way these SMEs perceive innovation. For instance, many non-technological innovations are performed everyday in these industries although they are not considered as such by SME managers because they see innovation more connected to R&D and product development. The common sentence 'No, we don't innovate much' seldom heard from firms in the traditional industries usually hides a much more complex reality inside the company where incremental innovation is performed in an everyday basis.

The efforts of the consortium to reach these SMEs were rewarded by the amount of complete responses received (more than 300) making it an important output of the project and a major source for data analysis regarding the impact of support measures in traditional industries. The project based its recommendations in the econometric analysis of this database but the consortium is considering putting the database available to other researchers in order to fully exploit the interesting data it contains. Further analysis in different contexts could enrich the outputs already created within this project.

The following outputs were produced:

1. Methodological framework;
2. Set of indicators for impact assessment of R&D&I programmes in traditional industries;
3. a characterisation of the economic fabric on each of the targeted regions;
4. a profiling of the SMEs in the region together with a SWOT analysis;
5. impact assessment of those measures in the SMEs;
6. 50 case studies based on interviews to SME managers;
7. 10 regional workshops to involve stakeholders in the process.

Benchmarking measures at European level

In parallel, the project worked in the development of a broader benchmark analysis of effectiveness of R&D&I support measures around Europe (WP2). The main objective was to compare the good practices found in innovation measures of the 7 regions of the consortium with other programmes and initiatives found in other European regions having similar characteristics. The main output of this WP is a report describing the effectiveness of SME support measures in Europe from the perspective of traditional industries.

Developing recommendations on more effective innovation support measures

Based on this previous work, together with intense contacts with stakeholders developed a set of recommendations on WP3. The main objective is to influence the design of future support measures

specifically targeting the characteristics of these SMEs of traditional sectors. The final report on recommendations is in fact the main output of the project because it merges in a single document all our findings based in the analyses of the Innovation Survey, Impact Assessment, on the Case Studies, on interviews with programmes managers and SMEs staff and many inputs from contacts with other projects and stakeholders throughout the project.

This actively promoted open dialogue was very important to tune our final recommendations to the actual needs of the traditional industries. Following this strategy, the final recommendations were validated and disseminated at European scale through workshops and conferences, namely in the organisation of the Final Validation Workshop and the Final Conference both held in Brussels. Many of the comments and suggestions coming from these contacts were later integrated in the final document called 'Report on recommendations to report

WHAT WE FOUND

In our study, the gross effects are most misleading if interpreted as indicating causal effects of programme participation on firms' innovation behaviour. In the context of a population of mainly innovating SMEs, our estimated programme effects suggest that support programmes have a zero or even slightly negative effect on the innovation of SME participants but a positive effect on randomly selected SMEs. Moreover, consistent with this finding, analysis of the unobserved effects captured by our model suggest that the more likely a firm is to participate in a support programme the less likely that firm is to innovate as a consequence. Conversely, firms that are less likely to participate would be more likely to innovate as a consequence (i.e. were they to participate).

These results are consistent with evidence from interviews with programme managers in all seven EU regions covered by the GPrix project as well as with both published and unpublished documentary sources (which were generously shared with the project team). Namely, the selection procedure adopted by programme managers is typically one of extreme 'cream skimming' or 'cherry picking'; in other words, firms are selected for programme participation on the basis of observed characteristics that are positively associated with innovation. The firms selected for innovation support are those most likely to innovate irrespective of programme support. The reasons for this selection strategy are two-fold, involving both incentive and scope to 'cream skim'.

1. The first is similar to that already identified by Arild Aakvik in 2000: 'Governmental evaluations of training programs in most countries typically are based on post-program outcome measures. Such an evaluation strategy gives caseworkers an incentive to select the most employable for training.'
2. The second is that there are many obstacles -notably bureaucratic -to SME participation in support programmes. These are well documented by the GPrix project as well as by other projects. When the result of these is lack of interest by SMEs in support programmes, programme managers and case workers are forced to actively recruit which, in turn, gives more scope to 'cream skim'.

Yet the consequences of a 'cream skimming' selection strategy are perverse. Raw means of innovation by participants and nonparticipants will overstate the effects of participation. Indeed, the raw means may indicate positive effects where the true impact is zero or even negative. Our results suggest that

cream-skimming of firms on the basis of characteristics positively associated with innovation is less effective in promoting innovation than randomly selecting participants.

1.3.1 RECOMMENDATIONS

Next, the 10 final recommendations are presented:

Recommendation 1: Implement best practice evaluation of programme effectiveness

Part 1 of Deliverable 3.3 (below) explains and documents the characteristics of best practice programme evaluation as well as the lack of best practice evaluation of innovation support programmes. In brief, either innovation support programmes are not evaluated or, where they are, evaluation studies fall short of best practice. Typical practice, even when evaluation studies are commissioned, is to commission a descriptive report. Often, these are informative on the process of the programme (for example, containing evidence on what firms like/dislike about a programme). However, methodological shortcomings such as failure to use a comparison group or to address selection bias mean that existing studies are inadequate for evaluating programme effectiveness. The corollary is that existing studies are not able to measure additionality and, hence, contribute little or nothing to the assessment of value for money.

The recommendation from the GPrix project is that best practice evaluation should be required for all major innovation support programmes. This implies several subsidiary reforms:

1. the costs of evaluation should be built into programme budgets;
2. best practice evaluation design should inform data gathering before, during and after programme participation; and
3. training is necessary to raise the awareness of programme managers of best practice evaluation so that they can better
 - a. specify requirements when commissioning evaluation and
 - b. assess the quality of subsequent evaluation reports.

To these ends,

1. best practice evaluation standards should be agreed and set out by the EU (and disseminated beyond the circles of experts already in the know), and
2. best practice evaluation should be made a condition of EU support for national/regional innovation support programmes.

In the absence of rigorous evaluation, there is no basis on which to judge programme effectiveness; i.e., there is no rigorous evidence that support programmes deliver additionality (innovation outcomes that would not have occurred in the absence of public support). Accordingly, there is no reliable basis for identifying best practice with respect promoting innovation. This conclusion has major implications for the GPrix policy recommendations. Although there is insufficient evidence to identify particular programmes as 'best practice', the GPrix project did generate sufficient evidence to identify principles for best practice support policy and support programmes.

Recommendation 2: One size does not fit all - make innovation support consistent with traditional sector innovation models

There are different innovation models. SME innovation in traditional manufacturing industry is not based on R&D but, far more often, on the application of tacit knowledge and know-how to design -in particular, to technical design but also, in consumer goods, to aesthetic design. Correspondingly, their support needs are different from SMEs in, say, emerging technologies, where the emphasis may be on R&D and the legal protection of intellectual property. A broad innovation concept is appropriate for support programmes aimed at SMEs in traditional sectors, along the lines propounded by the Oslo Manual. This should embrace both technological and non-technological innovation as well as the diffusion and applications of ideas and incremental rather than radical innovation. In brief, different innovation models suggest different support programmes or, at least, a broader more inclusive emphasis in existing innovation support programmes.

Recommendation 3: The need for institutional stability.

In the UK the institutional landscape of business support is constantly changing. This contrasts with other EU partner countries, notably Germany. In this section, we refer to the UK and Germany to highlight the benefits of institutional stability in the provision of business support. In the UK, there are many programmes, which tend to be fragmented and subject to politically-driven change. Programmes are frequently dropped and new ones launched. Even when programmes have existed for sufficient time to achieve some degree of recognition among the business community they are prone to confusing name changes (e.g., from Teaching Company Scheme to Knowledge Transfer Programme). This is associated with radical changes in delivery organisations. Most recently, Regional Development Agencies (RDAs) have been abolished.

The instability of both programmes and delivery organisations in the UK causes confusion among SMEs and even trade associations, which lack the capacity to keep up with the shifting landscape of business support. The first, most direct consequence is that SMEs do not know about programmes. Indirect and possibly more serious consequences are that relationships cannot be created between business support institutions and SMEs, which contributes to a low-trust, low-information environment. Conversely, the transactions cost of gaining SME involvement in programmes is higher than it would otherwise be. In turn, this favours the perverse selection procedures of business support programmes that lower their effectiveness (i.e. reduce their additionality) (see Recommendation 8, below). The corresponding proposal -at least for the UK - is for fewer and more stable delivery organisations and programmes. In addition, 'one-stop shops' of the type introduced by Advantage West Midlands (the RDA for the West Midlands) shortly before its abolition can help to secure SME participation in business support programmes.

The need for institutional stability in innovation support programmes for SMEs in traditional sectors applies, in particular, to the UK. Of course, flexibility may be necessary to be able to introduce new programmes and delivery organisations, and/or to modify existing ones, as firms face new competitive challenges and the economy restructures. Yet evidence from the GPrix case studies suggests that the characteristic complexity and instability of UK business support constitutes a substantial barrier to SME involvement. In particular, institutional instability makes it difficult for programmes to gain reputation and for relationships to be established. Both GPrix and MAPEER case studies reveal that relationship building matters: to use quotes from MAPEER, 'SMEs don't read paperwork!'; and

'Personal contact -the only thing that works'. This evidence points to one explanation for the contrast between the rate of programme participation in the German sample (66%) and in the UK sample (33%) (respectively, the highest and lowest among the countries represented in the GPrix sample). Namely, the well-known stability of German business support institutions contrasts with the characteristic instability of UK business support institutions. In turn, we hypothesise that German SMEs have more and better information about support programmes, that German programmes are better able to establish reputation and, consequently, that relationships between programmes and SMEs are better formed in the German institutional environment than in the UK institutional environment (see Part 2, Section 3.1.6, below).

Recommendation 4: Support non-technological innovation, including marketing

In the GPrix case studies, many firms reported the need for assistance with marketing. Some lacked the resources to employ a marketing specialist and complained that programmes had a blinkered focus on technological innovation. The corollary is that to promote SME innovation in traditional sectors there should be more emphasis on non-technological innovation, especially marketing.

The GPrix team recognise that marketing support, like design support, may raise problems from the perspective of competition law. The closer support is to particular products, the more one firm may be being supported in relation to others. However, legal difficulties in definition need not be a bar to establishing principles for support programmes.

Recommendation 5: Recognise exporting as innovation

In the GPrix survey, respondents were asked to identify (a maximum of) their two most useful innovation support measures. Around 10 per cent responded with export promotion programmes. This was an unexpected result, because export promotion was not mentioned in the GPrix Questionnaire among the guidance notes on innovation: all the examples for respondents of types of innovation followed the Oslo Manual (2005) and the Community Innovation Survey, in which marketing innovation is restricted to varieties of marketing techniques but excludes entry into new markets. Hence, if anything, there was a bias against responding with these programmes.

The view that exporting may be regarded as a species of innovation goes back at least to Schumpeter (1942; emphasis added):

The fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumers goods, the new methods of production or transportation, the new markets, the new forms of industrial organisation that capitalist enterprise creates ... that incessantly revolutionises the economic structure from within...

This perspective is consistent with both case study interviews and survey data from the GPrix project, both of which suggest that SMEs in traditional manufacturing regard exporting as innovatory activity.

The corollary is that for SMEs in traditional manufacturing exporting should be recognised as a dimension of innovation and supported as such. In other words, innovation and export promotion should be part of a joint strategy and, hence, made available to SMEs in a related rather than in a

fragmented manner. (This would facilitate, for example, joined up and timely support to enable firms to undertake changes to products and/or processes required to enter new export markets.)

We note also that one of the most commonly noted delivery organisations mentioned by UK respondents is UK Trade and Industry (UKTI), which is a long-established institution promoting UK exports and which is correspondingly well known and generally trusted by SMEs in traditional manufacturing industries. This is consistent with our emphasis on institutional stability as one of the keys to SME participation in innovation support programmes (see Recommendation 3, above).

Recommendation 6: Extend innovation support to business groups

Many manufacturing enterprises belong to groups of related businesses; indeed, around 20 per cent of responses to the GPrix questionnaire are from enterprises that are legally part of larger firms while being operationally autonomous. According to GPrix case study evidence, group membership has typically been the means of enterprise survival, either by overcoming weaknesses in management or by providing a solution to the succession problem. Yet, while behaving economically as SMEs their legal status renders them ineligible for SME support programmes. The corresponding GPrix proposal is that any company owned by a larger group but operating as a separate entity should be entitled to the same help as an independent SME.

The GPrix team recognise the practical difficulty of distinguishing business groups from conglomerates that do not preserve the operating autonomy of constituent enterprises. Moreover, this proposal would involve a blurring of boundaries that may not be possible -or permissible -on legal grounds. Accordingly, we advance two alternative proposals to the same end:

1. either institute separate programmes for firms belonging to business groups;
2. or/and provide innovation support through tax credits that would not discriminate between firms of different sizes.

This second proposal is consistent with the GPrix proposals on R&D tax credits (see Recommendation 10, below).

Recommendation 7: Innovation support programmes should be demand led

This principle for policy design is implicit in some of the previous recommendations: in particular, making innovation support consistent with traditional sector innovation models; supporting non-technological innovation, including marketing; and recognising exporting as innovation.

The strategic thinking behind existing innovation programmes often does not match SME needs in traditional sectors. For example, although recent reforms might help, R&D tax credits have not helped traditional-sector SMEs with innovation models based on design and/or marketing and, hence, with broad innovation needs. Conversely, both the GPrix project and the MAPEER project found SME respondents to be overwhelmingly favourable to explicitly demand-led support programmes such as Innovation Voucher schemes, which can be used to assess innovation potential and to scope/initiate customised projects. Alternatively, a 'one stop shop' can help SMEs to avoid having to navigate the

complexity of supply-driven support: SMEs take their needs to a single point of contact and are matched with the most appropriate support programme(s).

Recommendation 8: The selection process of firms into innovation support programmes should be more inclusive.

The GPrix survey sample is broadly representative of SMEs in the sectors under study and, by implication, of SMEs in traditional manufacturing industries in general. Within the GPrix sample, nearly all firms innovate (around 95% having undertaken activities encompassed by a broad definition of innovation within the period 2005-09). The main finding of the GPrix econometric analysis is that, in the context of a population of mainly innovating SMEs, support programmes have a zero or even slightly negative effect on the innovation of SME participants but a positive effect on randomly selected SMEs. Moreover, the more likely a firm is to participate in a support programme the less likely that firm is to innovate as a consequence. Conversely, firms that are less likely to participate would be more likely to innovate as a consequence (i.e. were they to participate).

These results are consistent with evidence from interviews with programme managers in all seven EU regions covered by the GPrix project as well as with both published and unpublished documentary sources (which were generously shared with the project team). Namely, the selection procedure adopted by programme managers is typically one of extreme 'cream skimming' or 'cherry picking'; in other words, firms are selected for programme participation on the basis of observed characteristics that are positively associated with innovation. The firms selected for innovation support are those most likely to innovate irrespective of programme support. The reasons for this selection strategy are two-fold, involving both incentive and scope to 'cream skim'.

1. The first is similar to that identified by Aakvig et al. (2000, p.45) in relation to an active labour market programme: Governmental evaluations of training programs in most countries typically are based on post-program outcome measures. Such an evaluation strategy gives caseworkers an incentive to select the most employable for training.
2. The second is that there are many obstacles -notably bureaucratic -to SME participation in support programmes. These are well documented by the GPrix project as well as by other projects (e.g. MAPEER). When the result of these is lack of interest by SMEs in support programmes, programme managers and case workers are forced to actively recruit which, in turn, gives more scope to 'cream skim'.

Yet the consequences of a 'cream skimming' selection strategy are perverse. Raw means of innovation by participants and nonparticipants will overstate the effects of participation. Indeed, the raw means may indicate positive effects where the true impact is zero or even negative. Our results suggest that cream-skimming of firms on the basis of characteristics positively associated with innovation is less effective in promoting innovation than randomly selecting participants.

These findings have direct implications for programme selection procedures. The GPrix recommendation is that the selection process of firms into innovation support programmes should be reformed. There is potential for improving the overall innovation outcomes of innovation support programmes for SMEs in traditional manufacturing industry by selecting typical firms with the most to gain from support rather than selecting those with the greatest propensity to innovate but the least to gain from support. Of course, some transparent criteria for participation -thus some continued

selection on observables - will still be needed to ensure that participating firms meet minimum thresholds for benefitting from support programmes (for example, by screening out 'hobby' or 'life-style' businesses). If this can be achieved then movement from cream-skimming towards a more -but not completely - inclusive selection process should enhance the effectiveness of innovation support programmes for SMEs in traditional manufacturing industries.

To reform the selection process by making it more inclusive requires many more firms to select from. Without greater awareness on the part of SMEs and correspondingly higher levels of interest, programme managers will continue to have to target and recruit firms in order to spend their programme budgets. Consequently, a corollary of moving away from cream-skimming is the need to remove participation obstacles; in particular, by making application, selection and reporting procedures less bureaucratic. Increasing the number of firms wanting to participate in innovation support programmes will increase the scope for reforming the selection process in favour of typical rather than special SMEs.

The GPrix survey results suggest reforms of programme procedures that will encourage participation. These are set out in the next recommendation.

Recommendation 9: Make it easier for SMEs to participate in support programmes

Question 31 on the GPrix questionnaire survey asked respondents not directly about their own experience of programme participation but for their view on SME needs in general: 'What are the specific needs for SMEs to enable them to participate in innovation support programmes?' The main need identified was procedural simplicity and transparency (according to those responding with 'High importance' and 'Very high importance', which were the extreme categories on a five-point Likert scale). Bureaucratic procedures are a barrier to entry; they impose a fixed cost on programme participation.

Also highly rated was 'Short time to contract'. Timeliness is hugely important: in case study interviews, SME owners and managers made the point that delay increases the risk that 'another firm may get to market first'. Moreover, a common theme was that the need for timeliness can be a source of tension between SMEs and Universities. Other needs noted as important were 'Guidance during the project' and 'Mentoring/Coaching'. Regular contact with programme managers/case officers combined with mentoring/coaching could increase the effectiveness of support measures.

In brief, procedural principles for encouraging traditional sector SMEs to participate in innovation support programmes are essentially two-fold:

1. Simple and speedy procedures
 - a. Reduce bureaucracy!
 - b. Do quickly!
 - c. Pay quickly!
2. Provide guidance during the project
 - a. Mentoring
 - b. Coaching

Participation depends on SME awareness. In turn, SME awareness is related to the stability of programmes and of the institutions delivering them (see Recommendation 3, above). Greater

institutional stability will allow relationships to be formed and, with this, the personal contacts and recommendations that can secure SME participation and commitment.

Recommendation 10: Simplify and broaden the scope of R&D tax credits

In addition, the findings of the GPrix econometric evaluation reinforce case study evidence in giving rise to the final GPrix recommendation; namely, to simplify and broaden the scope of Research and Development (R&D) tax credits. In effect, the proposal is to transform the R&D tax credit -arguably the product of a narrow, technical model of innovation -into an innovation tax credit consistent with a broader concept of innovation, which includes both technological and non-technological innovation.

The proposal for a broader innovation tax credit to replace or supplement R&D tax credit is consistent with other principles and recommendations supported by GPrix research into innovation and innovation support for traditional sector SMEs. First, there is the need to broaden the scope of innovation support measures to match the innovation models of SMEs in traditional sectors. In many EU countries R&D tax credits are by far the largest innovation support programme (e.g. in the UK amounting to £1 billion in 2009-10). Yet this mode of innovation support is taken up by very few SMEs in traditional manufacturing sectors. GPrix case study evidence, which is supported by GPrix survey evidence, suggests that R&D tax credits are not easily compatible with the innovation models of SMEs in traditional manufacturing industry. Few such firms have R&D departments or even undertake R&D in a sufficiently narrow sense to qualify for tax credits. Instead, their innovation models are based on design, especially technical design, as well as on tacit knowledge and advanced craft skills. Accordingly, to help SMEs in traditional sectors, R&D tax credits should be reformed in two ways:

1. broaden eligibility to include innovation by design (especially technical design) and marketing activities (especially exporting); and
2. simplify application procedures to increase SME take up.

Secondly, a broader innovation tax credit is consistent with promoting demand-led support (OECD, 2011, p.1):

Tax incentives for R&D are often considered to have some advantages over direct support for R&D. They are a market based tool that aims at reducing the marginal cost to firms of R&D activities, leaving firms to decide on which R&D projects to fund.

Thirdly, if tax credits were to replace most or, at least many existing programmes then this would contribute to simplification of innovation support. In turn, long-term institutional stability would enable easier provision of advice and practical assistance, thereby increasing SME take up of innovation support (see Recommendation 3, above). Moreover, if the effects of institutional stability on R&D tax credits were to apply to innovation support more broadly, then institutional stability will increase not only SME take up but also the effectiveness of innovation support (OECD, 2011, p.7):

The stability of the R&D tax incentive over time may also play a role: expectations that R&D incentives are permanent, proxied by their stability over time, seem to strengthen the impact of the policy on R&D investment

Fourthly, the GPrix econometric evaluation adds a value for money argument for innovation support delivered through tax credits. Compared to direct support programmes, fiscal incentives are potentially more inclusive and so potentially increase the effectiveness and, hence, the value for money of public innovation support.

Governments face the question of which policy tools are best suited to incentivise innovation. R&D tax incentives are non-discretionary, and available to all (potential) R&D performers and therefore are industry, region and firm neutral. Grants, on the other hand, can be directed to specific projects and missions (OECD, 2011, p.9).

Broad innovation support through the tax system will reduce the prevalence of 'cherry picking' firms for support. In turn, the GPrix evaluation suggests that more inclusive selection of firms will enhance programme effectiveness (i.e. increase additionality).

This small introduction to our findings are further developed and detailed in the final reports. These are available on the project website at: www.gprix.eu

Potential Impact:

POLICY IMPLICATIONS

In our study, the gross effects are most misleading if interpreted as indicating causal effects of programme participation on firms' innovation behaviour. In the context of a population of mainly innovating SMEs, our estimated programme effects suggest that support programmes have a zero or even slightly negative effect on the innovation of SME participants but a positive effect on randomly selected SMEs. Moreover, consistent with this finding, analysis of the unobserved effects captured by our model suggest that the more likely a firm is to participate in a support programme the less likely that firm is to innovate as a consequence. Conversely, firms that are less likely to participate would be more likely to innovate as a consequence (i.e. were they to participate).

These results are consistent with evidence from interviews with programme managers in all seven EU regions covered by the GPrix project as well as with both published and unpublished documentary sources (which were generously shared with the project team). Namely, the selection procedure adopted by programme managers is typically one of extreme 'cream skimming' or 'cherry picking'; in other words, firms are selected for programme participation on the basis of observed characteristics that are positively associated with innovation. The firms selected for innovation support are those most likely to innovate irrespective of programme support. The reasons for this selection strategy are two-fold, involving both incentive and scope to 'cream skim'.

1. The first is similar to that identified by Aakvig et al. (2000, p.45) in relation to an active labour market programme: «Governmental evaluations of training programs in most countries typically are based on post-program outcome measures. Such an evaluation strategy gives caseworkers an incentive to select the most employable for training.»
2. The second is that there are many obstacles -notably bureaucratic -to SME participation in support programmes. These are well documented by the GPrix project as well as by other projects. When the result of these is lack of interest by SMEs in support programmes, programme managers and case workers are forced to actively recruit which, in turn, gives more scope to 'cream skim'.

Yet the consequences of a 'cream skimming' selection strategy are perverse. Raw means of innovation by participants and nonparticipants will overstate the effects of participation. Indeed, the raw means may indicate positive effects where the true impact is zero or even negative. Our results suggest that cream-skimming of firms on the basis of characteristics positively associated with innovation is less effective in promoting innovation than randomly selecting participants (Aakvig et al., 2000, pp.44-45).

These findings have direct implications for policy makers.

1. Best practice evaluation should be required for all major innovation support programmes. As Aakvig et al. (2000, p.45) note in relation to training programmes: 'Caseworkers are seldom able to estimate treatment effects. Thus guidance on who should participate should be based on results from research rather than by rules-of-thumb.' Even where consultants are engaged to evaluate programmes, the evidence from the GPrix research is that evaluation is never conducted according to best practice guidelines. Sometimes, this is the fault of consultants who either do not know of best practice or, when they do, ignore it. Conversely, when consultants suggest best practice evaluation -in particular, the use of a comparison group -lack

of knowledge on the part of programme managers can make them disinclined to incur the expense of sound evaluation. Accordingly, while endorsing the general advice of Aakvik (2000), to spread best practice evaluation, to do so will require several more supporting reforms:

- a. the cost of evaluation should be built into programme budgets;
 - b. evaluation design should inform data gathering before, during and after programme participation; and
 - c. training should be required to raise the awareness of programme managers of best practice evaluation so that they can better specify requirements when commissioning evaluation and assess the quality of subsequent evaluation reports.
2. The selection process of firms into innovation support programmes should be reformed. There is potential for improving the overall innovation outcomes of innovation support programmes for SMEs in traditional manufacturing industry by selecting typical firms with the most to gain from support rather than selecting those with the greatest propensity to innovate but the least to gain from support. Of course, some transparent criteria for participation -thus some continued selection on observables - will still be needed to ensure that participating firms meet minimum thresholds for benefitting from support programmes (for example, by screening out 'hobby' or 'life-style' businesses). If this can be achieved then movement from cream-skimming towards a more -but not completely - inclusive selection process should enhance the effectiveness of innovation support programmes for SMEs in traditional manufacturing industries.
 3. To reform the selection process by making it more inclusive requires many more firms to select from. Without greater awareness on the part of SMEs and correspondingly higher levels of interest, programme managers will continue to have to target and recruit firms in order to spend their programme budgets. Consequently, a corollary of moving away from cream-skimming is the need to remove participation obstacles; in particular, by making application, selection and reporting procedures less bureaucratic. Increasing the number of firms wanting to participate in innovation support programmes will increase the scope for reforming the selection process in favour of typical rather than special SMEs.

In addition, the findings of this evaluation are consistent with another GPrix policy recommendation; namely, to simplify and broaden the scope of Research and Development (R&D) tax credits. Greater emphasis on innovation support through the tax system will reduce the prevalence of 'cherry picking' firms for support. In turn, the GPrix evaluation suggests that by supporting all eligible firms, programme effectiveness will be enhanced (i.e. additionality increased).

In many EU countries R&D tax credits are by far the largest innovation support programme (e.g. in the UK amounting to £1 billion in 2009-10). Yet R&D tax credits are not easily compatible with the innovation models of SMEs in traditional manufacturing industry. Both the GPrix questionnaire survey and the GPrix case studies support other research in finding that few such firms have R&D departments or even undertake R&D in a sufficiently narrow sense to qualify for tax credits. Instead, their innovation models are based on design, especially technical design, as well as on tacit knowledge and advanced craft skills. Accordingly, to help SMEs in traditional sectors, R&D tax credits should be reformed in two ways:

1. broaden eligibility to include innovation by design (especially technical design) and marketing activities (especially exporting); and
2. simplify application procedures to increase SME take up.

In effect, the proposal is to transform the R&D tax credit -arguably the product of a technical and narrow model of innovation -into an innovation tax credit consistent with a broader concept of innovation, which includes both technological and non-technological innovation.

The proposal for a broader innovation tax credit to replace or supplement R&D tax credit is consistent with other principles and recommendations supported by GPrix research into innovation and innovation support for traditional sector SMEs. In brief, these are as follows.

1. Broaden the scope of innovation support measures to match the innovation models of SMEs in traditional sectors.
2. Favour demand-led support which, in turn, has the advantage of being market-led rather than bureaucratically-led.
3. Simplify innovation support for SMEs; fund fewer and more stable programmes. In turn, reducing the number of support programmes is more likely to increase take-up by SMEs if two further GPrix recommendations were to be implemented:
 - a. long-term institutional stability of the innovation tax credit, facilitating recognition, trust and investment in the fixed costs of application; and
 - b. advice and practical assistance in making applications, especially for first-time applicants.
4. An innovation tax credit would end discrimination against enterprises that belong to groups and so, although operating much like SMEs in an economic sense, do not satisfy legal definitions for participation in many SME support programmes.

Finally, to these principles and recommendations the GPrix evaluation adds a value for money argument for innovation support delivered through tax credits. Broad innovation support through the tax system will reduce the prevalence of 'cherry picking' firms for support. In turn, the GPrix evaluation suggests that more inclusive selection of firms will enhance programme effectiveness (i.e. increase additionality).

POTENTIAL IMPACT

SMEs of the traditional sectors represent the vast majority of companies in Europe and still represent a major source of employment in the EU. These sectors have suffered many big changes in recent years but it's clear that firms in these sectors show a great evolution in their capacity to innovate and public support can play an important role here to face their current challenges on competitiveness.

The continuously increasing budget for funding makes the evaluation of the impact of support measures an important factor in formulating better support measures with emphasis in the relation between spending and innovation. Innovation is now becoming the differentiating factor, and innovation-led growth the target for support measures addressed to companies, and in particular SMEs.

To furthermore increase the level of information on relevant supportive measures, dedicated information and networking events should be realized in the first place. Potential beneficiaries, especially target groups, should be directly addressed and supplied with all relevant information. This might be in form of personal assistance, support through help desks and hotlines, through various media as well as by benefitting from networks.

Special programmes for 'first time innovators' are good, but have to reach their target group. Micro enterprises without R&D often do not know that there is special support for them. Programme managers do not make 'activating' marketing, they just provide information (website, brochures). But to reach this special, uninformed target group the pure information providing approach is not enough, because if you do not know there are special offers for your company you will not seek for them. The use of promoters (SME associations in traditional sectors) or direct marketing can have an important impact here.

Macroeconomic level impact

Impacts concerning macro level from more effective support measures as those sought under GPRIX mainly consist of the following:

1. Socio-economic benefits. These can be the result of successful structural adjustment, increased competitiveness, and higher employment levels (e.g., new jobs creation).
2. Increased European cohesion. Strategic Partnerships are a mechanism of networking among partners in different European regions with different scientific and technological infrastructures and different industrial specializations, including peripheral and smaller EU countries.

Mesoeconomic level impact

Effects on this level include:

1. Increased industrial competitiveness. This can be the result of increased overall RTD expenditure, faster rates of innovation, and enhanced linkages between industry, universities and government laboratories that facilitate knowledge transfer.
2. Cross levelling of knowledge. Formal and informal interactions generated by strategic partnerships help create and disseminate knowledge sustaining the dynamics of a sector or a sub-system. Interaction encourages information flows and establishes common practices.

Microeconomic level impact

The impact of more effective measures to participating firms can be summarized to:

1. Continuity of RTD effort, access to finance. Strategic partnerships attract public funds (including government subsidies).

2. Access to complementary resources and skills. Successful projects lead to new products, services or production process where its successful market introduction requires the co-specialised assets of other organizations, achieving economies of scope and scale.
3. Sales expansion and growth, through innovative products as a result of RTD efforts.
4. Increased market power, higher profit margins, co-opting competition. Higher market power for strategic participants may be the outcome of locking-in technology standards, mutual forbearance (less competition) due to multi-market and multi-project contact with partners, and collusion to foreclose markets to new entrants. Market power translates to higher profit margins.
5. Strategic flexibility, market access, and the creation of investment 'options'. Strategic partnerships allow greater strategic flexibility by permitting firms to have a foothold in new technologies and markets with potential for profitability without requiring excessive resource commitment.

As Mr. Bernd Reichert said in a recent news note (Head of the SMEs Unit at the DG for Research and Innovation in http://ec.europa.eu/research/sme-techweb/newsletter/issue12/news_en.html) 'Ultimately, Europe has to look at its competitive advantage compared to other parts of the world. Our competitiveness edge is in know-how, and this know-how requires a new understanding of innovation, one which takes into account the importance of non-technological innovation.'

Mr. Reichert vision is directly tied with the project findings that emerged from the study undertaken by the GPrix consortium as for instance in recommendation 4 - 'Support non-technological innovation, including marketing' - '...programmes had a blinkered focus on technological innovation. The corollary is that to promote SME innovation in traditional sectors there should be more emphasis on non-technological innovation, especially marketing.'

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<http://www.nber.org/papers/T0262>

List of Websites:

<http://www.gprix.eu>