Promoting Innovation Management Techniques in Europe

Progress achieved by the Innovation Programme of the European Community

Assessment and scope of further actions

BY

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1. EXECUTIVE SUMMARY
1.1. Rationale

Most companies recognise the importance of innovation (e.g. launching new products and processes) for fostering their competitiveness, but many of them stumble when trying to undertake and it. Managing innovation in a firm is a complex and challenging task.

In this context, in 1996, the Community launched a series of projects to promote Innovation Management Techniques, hereafter called IMTs. In this initiative, IMTs were considered to be methodological approaches for improving the competitive position of firms through innovation. In order to be promoted, IMTs must have been tested in SMEs and available to firms internally or through specialised external advisors (e.g., enterprise consultants).

The rationale for Community promotion of IMTs was based on a number of observations and experiences:

- Empirical studies have shown that maximum benefit results from technological innovation when new technology is considered by firms as part of an overall business strategy.
- Proper application of innovation management techniques facilitates a company's ability to introduce appropriate new technologies in products or processes and to introduce the necessary organisational changes. Experience has shown that the use of these techniques in a company produces the best results when they are integrated during an early stage of an innovative project.
- Most SMEs do not possess the necessary in-house IMT knowledge and nor do they know how to implement IMTs. Although some Member States (e.g., The United Kingdom, France, Ireland, Denmark, etc.) have implemented some measures in this field, few national (or regional) programmes specifically address the promotion of IMT within an integrated business approach over the long-term, with the strategic aim of increasing industrial competitiveness. Even fewer existing national (or regional) programmes are concerned specifically with business innovation and technology management techniques.

- The projects promoted by the Community to foster IMTs between 1996 and 1999 were not intended to complement the various measures being undertaken at national or regional levels. The intention was to strengthen these measures, and to contribute to their effectiveness by identifying the best practices and promoting more widespread adoption of them as well as and by enhancing the visibility and profile of measures that promote IMTs.
- The approach proposed in this Community action (combining business innovation and technology with management techniques) was, where appropriate, to complement the diversity of existing innovation support infrastructures in Member States by adding a new approach.

In order to fulfil the above objectives, in the context of the Innovation Programme of the European Commission, the “Promotion of Innovation Management Techniques” (IMT) action line was set up in 1996, with the following specific objectives:

- to co-ordinate a series of projects aimed at strengthening the know-how of national and regional organisations that promote innovation management techniques for SMEs;
- to contribute to technological integration in the European Union by stimulating the exchange of knowledge and methodologies in this field.

This action line, which was undertaken and accomplished between 1997 and 1999, consisted of 23 specific projects and 6 “accompanying measures”, with the participation of a total of 90 organisations in 18 countries (EU plus Norway, Iceland, and Israel). A short description of this action line is accessible by internet on the CORDIS web-site (http://www.cordis.lu/imt/src/about.htm).

An external assessment of this action line was carried out during 1999 by Erydin Consultants, a French technology management consulting firm, in order to review the results achieved and to propose a renewed foundation for possible future schemes/actions in this field.
1.2. Main findings

1.2.1. Scheme design and delivery

In accordance with the first objective of the IMT action line, the 23 “specific projects” selected provided good opportunities for contracting organisations to improve their expertise in designing and managing IMT promotion actions, in training consultants for selected methodologies, and in testing these methodologies with SMEs.

The second objective was “to facilitate the voluntary harmonisation of practice and competencies across the European Union, to encourage the adoption of IMTs in SMEs, and to create a body of experience which, when properly disseminated, would have a demonstrative effect on the adoption of IMTs in companies”. This was the principal objective of the six projects classified as “accompanying measures” that made it possible for project partners to actually advance in this direction and to disseminate the results of their work.

However, the survey shows that the impact of this harmonisation and promotion work was real only on those who directly took part in it; although informed of the work done by the other projects, the partners of the specific projects themselves benefited little from it.

1.2.2. Validity of the objectives of this action line

The promotion of IMTs vis-à-vis SMEs requires awareness of the latter's' specific needs, implying a preliminary evaluation. This process was recommended for the implementation of the IMT action line, and was subsequently fully validated.

Analysis of the opinions formulated by representatives of the various types of organisation targeted by this action line reveals a broad consensus regarding the interest of promoting IMTs for certain categories of SME: those which already have a technology development strategy as well as the human and financial capacities to carry out innovative projects. However, in order to have a real impact on the tens of thousands of SMEs potentially concerned throughout the European Union, this promotion action should be carried out at regional level (subsidiarity principle). The know-how developed by this first series of Community actions must therefore be disseminated to the many development organisations that were not involved, but which could productively exploit it. This objective, insufficiently fulfilled by the first series of projects evaluated in this report, remains valid.

1.2.3. Experimental and transnational characteristics of the contractors

Although two thirds of the participants in this action line had already taken part in supporting schemes related to enterprises and innovation, the specific nature of this new Community action presented a challenge to all organisations involved in Community-supported IMT projects, considering the novelty and comprehensiveness of the proposed work programmes.

The six accompanying measures mentioned above had a strong transnational dimension, involving four countries for three of them, seven for another, and ten for the complementary measure involving information dissemination and exchange of experience among the various contractors participating in this action line. The specific projects supported by this action line were mainly conducted at national or regional level, covering eighteen countries in all.

1.2.4. Synergy and complementarity with national and regional initiatives in the field of innovation support

The work scheme suggested by the IMT action line was based on analysis of the innovation-related needs of SMEs, in order to deduce the innovation management techniques likely to be most useful for them. This bottom-up approach made it easy to integrate with other innovation support schemes at the regional or national level.
1.2.5. Selected innovation management techniques

Altogether, the various projects constituting this action line have promoted numerous techniques applicable to innovation management. Some of the management techniques selected by the contractors dealt more with good company management than with innovation issues per se. In the future, much more restrictive selection should be exercised in order to select methodologies congruent with innovation management.

The book “Innovation management techniques in operation. Building competitive skills in SMEs” is the result of a study commissioned by the European Commission to the Spanish Consultancy company SOCINTEC. The study analyses and describes a series of Innovation Management Techniques (IMTs) tested in SMEs by various national and regional organisations in several European countries, with the aim of validating their usefulness as innovation management tools.

The book is divided into two parts. The first and principal part contains a description of 10 selected methodologies, and the second part contains a brief summary of the pilot projects funded by the European Commission concerning the design and implementation of schemes that promote the selected IMTs described. This allows the reader to obtain more detailed information on topics of interest.

One characteristic of the 10 IMTs reviewed is that they have been compiled within an integral business framework. The IMTs reviewed are classified into 3 groups:

- **outward-looking** (“Benchmarking”, “Marketing of Innovation”, “Technology Watch”);
- **forward-looking** (“Creativity Tools”, “Quality Management”).

However, the innovation management techniques field has no clear limits. In the framework of this Community action, a team of English and German academics, led by the COTEC Foundation for Technological Innovation (Spain), prepared the “TEMAGUIDE”, an enterprise technology and innovation management guidebook, in which they selected, analysed, and defined a set of eighteen IMTs.

1.2.6. Innovation consultancy assignments in SMEs

In order to accumulate practical experience in SMEs, the selected projects had to carry out a limited number of innovation consultancy assignments in SMEs. These were to follow a modular approach: diagnosis and recommendations, specific analysis, and follow-up, with a maximum of 10 days of external consulting. The selected SMEs were mainly well-established firms interested in diversifying their range of products/services, or in integrating new working methods. Throughout the European Union, 760 SMEs, most of which employing 11 to 50 people, benefited from these operations.

In accordance with the suggested work programme, most contractors limited their innovation consultancy assignments to ten days per firm. More than half of them said that additional time would have been useful, in order to accompany the firms in the implementation of recommended actions or IMTs. A few contractors prolonged these innovation consultancy assignments, for which Community funding was limited to the first 10 days, relying on national or regional funding.

1.2.7. Impact and relevance of the scheme. Some data

The IMT promotion measures implemented by the various projects were aimed at sensitising SMEs, consultants, and business development organisations to the interest of using IMTs.

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3. This book was edited in 1999.

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The overall result estimates provided by the contractors of the 20 specific projects and 6 accompanying measures implemented in the 15 EU countries are given in Table 1.

Table 1: Overall result estimates in 15 EU countries

<table>
<thead>
<tr>
<th>Types of results / numbers</th>
<th>20 specific projects</th>
<th>6 accompanying measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Innovation consultancy assignments conducted in SMEs</td>
<td>760</td>
<td>16</td>
</tr>
<tr>
<td>- Other sensitised SMEs</td>
<td>2,700</td>
<td>2,800</td>
</tr>
<tr>
<td>- Enterprise consultants trained in the promotion and use of IMTs</td>
<td>390</td>
<td>100</td>
</tr>
<tr>
<td>- Enterprise consultants sensitised to the interest of using IMTs when dealing with innovation projects</td>
<td>745</td>
<td>700</td>
</tr>
<tr>
<td>- Development organisations working at the regional or national level and sensitised to the interest of using IMTs when dealing with innovation projects</td>
<td>230</td>
<td>1,340</td>
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</table>

This corresponds to the catalytic effect this action line aimed for.

Analysing the contents of these results, we noted that:

- the large majority of the results obtained by SMEs that benefited from the innovation consultancy assignments related to improvements of their operation;
- 65% of the enterprise consultants associated with specific IMT projects stated that they continued to use the acquired methods, at least partially, or by integrating them into the range of their SME services (however, half of these enterprise consultants said that they would have appreciated more information on the whole range of projects, as they could also have been interested in other methodologies);
- the actions carried out by the various contractors to promote their working methods had relatively little impact on the other organisations targeted (non-associated). In fact, the impact of the IMT action line was considerably stronger on those organisations or companies that actually took part in it (development organisations and consultants).

More than three-quarters of the contractors consider that their project would not have been conducted without the support of the European Commission, but almost all now wish to continue it and are engaged in national or regional negotiations aimed at finding the necessary funding.

1.3. Suggestions for the future

For the promotion of innovation management techniques in firms, especially in SMEs, there is no better guidance than the principle of subsidiarity. However, the exchange of experiences between initiatives undertaken at the national and regional levels must be stimulated. Also, where appropriate, successful ventures should be linked by means of existing European networks, if this helps in their dissemination.

In this respect the IMT projects reviewed in this report constitute an important reserve capital of experience, which remains to be exploited.
This may be done in the short term at Community level using three instruments that currently exist within the framework of the “Innovation and SMEs Programme” of the Fifth Framework Programme on Research and Development (1998-2002):

A. **Economic and Technological Intelligence - Accompanying Measures:**
   this continuously open call for proposals issued under the Fifth Framework Programme of Community Research concerns accompanying measures aimed at identifying SMEs' needs and anticipating market and technological trends.

B. **Innovation Projects:** their new specifications could include the use of IMTs by candidate firms.

C. **Innovation Relay Centres** (IRCs): these could include the promotion of IMTs in their work programme, in particular by organising training courses in those IMTs which have proved their effectiveness.

The fact that IMTs are being considered in the Fifth Community Framework Programme on Research and Development is a positive step that should be continued in future actions, and should provide new opportunities for further development in the framework of an integrated enterprise policy to be developed by the Community.
2. OVERALL EVALUATION
2.1. Project modalities and results

The Community IMT action line consisted of two types of project:

A. Projects that strengthen the know-how of organisations promoting IMTs

20 projects were carried out in the 15 European Union Member States and 3 in associated countries (Iceland, Norway, and Israel). The projects consisted of five principal tasks related to the preparation and execution of operations that promote innovation management techniques:

- identification of relevant innovation management techniques to be promoted;
- selection of a core group of experts, and training and quality control mechanisms;
- acquisition and accumulation of practical experience within SMEs;
- interface with national or regional innovation management schemes;
- communication and dissemination of results achieved.

B. Accompanying measures for fostering transnational exchange of knowledge and methodological practices regarding the promotion and use of IMTs in SMEs

Directly centred on comparing and harmonising practices in a specific domain, the 6 projects in this category may be divided into two groups:

- 5 projects aimed at evaluating groups of innovation management techniques;
- 1 project aimed at determining the best IMT promotion practices, as well as on the exchange of experience among participants in the various IMT projects undertaken.

A résumé of all the projects with their names and code numbers appears in Appendix 1. Their results are discussed in detail at the end of this chapter and in two sub-chapters devoted to:

- IMT promotion project contractors (chapter 3.1),
- Accompanying-measure contractors (chapter 3.2).

taking into account remarks and comments made by these contractors during our direct interviews with them.

On the one hand, these operations aimed at promoting IMTs, mobilised national and regional organisations that already had long experience with innovation support programmes, such as:

- Enterprise Ireland, national technology development agency (Ireland),
- Pera, contract research and technology management consulting firm (UK),
- Tekes, national technology development agency (Finland),
- RKW, national economic development agency (Germany),
- ICNN, innovation support centre network (Netherlands),
- Aster, regional development agency (Italy),
- Socintec, management consulting firm (Spain).

In addition, these operations also involved organisations for whom this was the first opportunity to participate in actions of this type, such as:

- the Universities of Kiel (Germany) and Nottingham (UK),
- the COTEC Foundation (Spain),
- Créat’iv, a regional technology development support agency (France),
- The Chambre des métiers du Grand-Duché (guild chamber of the Grand-Duchy) (Luxembourg),
- ITEC, a technology development institute (Portugal).

Nearly all the organisations that participated in these actions promoting innovation management declared that they were satisfied with the work accomplished, especially with the new ways of approaching companies, the operational tools used, and the training programmes they were able to develop based on their projects. Without necessarily fully realising it, in actual practice, they made notable progress in creating innovation support policies that involved supplementary partners, as well as in carrying out the corresponding actions.
2.2. Scheme design and delivery

2.2.1. Has the IMT action line fulfilled its initial objectives, and if so, to what extent?

A. Projects to strengthen the know-how of organisations promoting IMTs

The first objective of this category of “specific projects” was to seek to raise awareness of, and develop experience in, the design and monitoring of public support schemes promoting IMTs. This included:

- developing the best practices in the management of such projects;
- identifying and promoting good methodological approaches in IMTs for the benefit of SMEs;
- disseminating the results achieved, particularly to consulting companies and SMEs.

The terms of reference of this action line also specified the means for attaining these objectives:

- a number of innovation consultancy assignments in SMEs were to be envisaged by project organisers;
- these assignments were to be implemented by consultants receiving prior training to ensure that they would use the methodological approach(es) in the IMTs promoted by the project organiser.

The idea of this first project category was thus to elicit the co-operative efforts of two types of participant:

- one or several organisations responsible for planning and executing the promotion operation;
- management consultants assigned to work with selected SME candidates, analysing their needs and prescribing appropriate management techniques.

The projects selected in the framework of this action line corresponded well to its basic concept. They effectively permitted participating organisations to acquire experience in drawing up and managing IMT promotion actions and allowed consultants to train in the chosen methodologies, as well as to test them with SMEs.

The IMT action line also included a second group of objectives:

- facilitating the voluntary harmonisation of practice and skills across the European Union, to encourage the adoption of IMTs in SMEs;
- creating a body of experience which, when properly disseminated, would have a demonstrative effect on the adoption of IMTs in companies.

In order to facilitate methodological comparisons and cross-fertilisation within this set of projects, an “accompanying measure” was carried out by a group of partners in 10 countries (ACCESS project, see description in Appendix 1, chapter 1.1.B.5). This measure consisted of these organisations planning and conducting seminars, holding conferences, publishing newsletters, developing internet web sites, and carrying out a pilot comparative study of the various IMTs used. A consensus of the contractors revealed that while this information was of interest to them, it had little influence on how they conducted their own projects. There were three reasons for this:

- projects were conducted according to pre-defined work programmes included in contracts signed with the European Commission and were therefore difficult to modify;
- information disseminated concerning the projects undertaken mostly covered what each participant did; there was not enough discussion of underlying reasons or about how the operations were achieved;
- the real results of these projects became evident around the time they ended; it is therefore more likely that the lessons of contractors’ experiences might be felt during any future projects.

In order to fully benefit from the accompanying measures, it would have been preferable for them to have begun and ended at least six months after the other projects had.

The voluntary harmonisation of practices and skills that those responsible for this action line intended to achieve so as to encourage the adoption of IMTs by SMEs was thus only very partially accomplished in this category of project. The information received by participants in this action line was nevertheless able to influence the design of their future projects and to encourage them to undertake new co-operation (see chapter 3.1.7.E).
B. Accompanying measures for fostering transnational exchange of knowledge and methodological practice in the promotion and use of IMTs in SMEs

The projects in this second category, involving at least two independent organisations established in different Member States, were aimed at:

- strengthening European networks of organisations that manage public support schemes in order to stimulate the use of IMTs in SMEs;
- contributing to European cohesion by the dissemination and voluntary harmonisation of practices and skills;
- improving the professionalism of consultants involved in innovation consultancy assignments through the exchange of experiences and organisation of a number of international/interregional meetings focused on IMTs;
- illustrating the rewards that companies can reap from the adoption of new technologies via improved use of these techniques;
- promoting an overall approach to national and regional authorities and policy-makers in order to introduce similar initiatives at a national or regional level.

Directly centred on the comparison and harmonisation of practices in a particular domain, the accompanying measures effectively allowed members of each group to attain this objective and to communicate the results of their work. However, the evaluation we conducted among all potentially concerned categories of companies and organisations revealed that the impact of the harmonisation and promotion work was real only on those who directly participated. They are the only ones who state that they are ready to set up new projects making use of the results obtained.

Many organisations and consulting firms that did not participate in this action line have stated their interest in obtaining its results. All available channels should be used to provide them with summary documents prepared by participants. Setting-up methodology seminars that feature participants representing the most successful projects could also have a positive impact on these organisations.

2.2.2. Validity of the objectives of this action line

The orientation of this action line can be divided into three principal objectives:

- to allow participants to strengthen their abilities for devising and mastering methods for IMT promotion aimed at SMEs and their advisors;
- to facilitate the harmonisation of relevant practices and skills throughout the European Union;
- to create experimental know-how that, once disseminated, is capable of having a demonstrable effect on the adoption of IMTs in enterprises.

Obviously, these three objectives depend on a fourth one, the validity of which hardly requires discussion, namely:

- to strengthen the ability of SMEs to undertake and manage all aspects necessary for them to innovate with a maximum likelihood of success.

SMEs can strengthen their management capabilities in at least four additional ways:

- internal development,
- training,
- recruiting qualified personnel,
- access to specialised consultants.

The IMT action line chose to target and support projects that promote innovation management techniques (adoption of management methods) by relying on the fourth of the above-mentioned ways (access to specialised consultants). These promotion projects included preparatory actions (selection and adaptation of methodologies and consultants), demonstrations (innovation consultancy assignments and case studies), and information dissemination (promotional events and various publications).

The decision to use specialised consultants is justified by the fact that this puts operational competence at the immediate disposal of SMEs when needed. Nevertheless, SMEs must agree to use and pay for such outside help, which is where the various promotional and support measures made available in this action line may find their use.
Using competent outside help presumes that SMEs are able to identify their own needs and are aware of the range of skills available. This is why the preliminary needs evaluation procedure called for in this action line is also justified.

In order for an SME to effectively adopt new working methods, a diagnosis of its needs — even when completed by a detailed action plan — is insufficient. Only the actual implementation of know-how leads to its adoption (“learning by doing”). The back-up of senior enterprise management is indispensable in the pursuit of the desired results. This training parameter was undervalued in the present IMT action line. The data we obtained from various projects regarding some 760 consultancy assignments on behalf of SMEs only mention improvements in companies’ situations; they deal little with the acquisition of corresponding IMTs, which in fact, was probably not very complete or definitive.

Encouraging SMEs to use management consulting services is a time-consuming activity, requiring a large budget if the aim is to reach all categories of SME. Although it can have a very favourable impact on the competitiveness of enterprises that receive such services, it is not immediately profitable for those who practise it; public sector support is therefore entirely justified.

Such support is very unequal among the various countries of the European Union. For example, while common in Finland, it is very irregular in Portugal, Italy, and Greece. On the other hand, there is little need for it in Germany, where SMEs are sufficiently numerous and well-developed, amounting to a veritable consulting services market.

In order to be effective, such promotion must be well-conceived and skilful. Experience has shown that in this domain, not all organisations that provide enterprise development support are of the same level. **Comparison of promotion practices throughout Europe can lead to their improvement, on condition that it is carried out in an adequately documented manner, taking contextual differences into account.** This mission fits perfectly into the areas of competence of the European Commission.

Consultants, who work regularly with enterprises, generally have a good understanding of their needs. It is therefore in the interest of those in charge of development organisations to involve consultants in their promotion projects right from the conceptual level, in order to facilitate their implementation.

Analysis of the points of view of representatives of the various types of organisation targeted by this action line indicates a broad consensus with respect to the interest of promoting IMTs to certain categories of SME, i.e. those that have a technology development strategy and the human and financial resources required to carry out innovative projects. However, to have real impact on the tens of thousands of SMEs potentially concerned throughout the European Union, this promotion action should be carried out on the regional level (subsidiarity principle).

The know-how developed by this first series of Community actions must thus be disseminated to the many development organisations that were not involved but that could put it to good use.

This objective, insufficiently fulfilled by the first series of projects evaluated in this report, remains valid.

**The fact that certain public organisations are able to undertake promotion operations as well as provide enterprises with the consulting services they need may pose a problem.** Of course, this situation varies by country and region, particularly according to the density and quality of locally available consulting services. However, such practices impede the local development of such services, whose quality and density are factors in both economic progress and competitiveness. It appears desirable for a **sharp distinction to be made between the public and private sectors.**
2.2.3. Cost-effectiveness of the actions undertaken

An evaluation of the advantages of undertaking actions of the type implemented by these projects cannot be carried out in an absolute manner. Indeed, whereas the costs may be fairly well calculated, at least in organisations using analytical accounting procedures, the impact is much more difficult to quantify, with respect both to the number of real beneficiaries and to the results obtained, which are largely qualitative and more or less long-term.

We asked project co-ordinators to assess the effectiveness of the various types of promotion actions that they carried out in the framework of their projects, asking them to separately grade the impact of each action on SMEs, development support organisations, and consultants. The “impact grades” resulting from these assessments are given in chapter 3.1.7.C (Table 6). In an attempt to obtain an estimate of the cost-effectiveness ratio of various means of promotion, we weighted the impact grade by a cost coefficient (see Table 8 in chapter 3.1.7.C). Table 2 shows the results of this calculation.

Table 2: Cost-effectiveness of various promotion actions for each of the three target groups of this action line (in decreasing order)

<table>
<thead>
<tr>
<th>Promotion Action</th>
<th>Impact on SMEs</th>
<th>Impact on development support organisations</th>
<th>Impact on consultants</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMT-promotion flyers and brochures</td>
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<tr>
<td>IMT-user meetings (with exchange of experiences)</td>
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<tr>
<td>IMT training seminars</td>
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<tr>
<td>Publication of newspaper and magazine articles on IMT</td>
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<td>Enterprise IMT awareness-raising by specialist visits</td>
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<tr>
<td>IMT case studies</td>
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<td>Technical assistance in IMT</td>
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<tr>
<td>IMT internet site development</td>
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<tr>
<td>Practical guides for using IMT</td>
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<tr>
<td>Production of CD-ROM</td>
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<td>IMT radio or television programme</td>
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The means of promotion with the best cost-effectiveness ratio for all three targets selected in this action line were:
- IMT-promotion flyers and brochures
- IMT-user meetings (with exchange of experiences)
- IMT training seminars
- Publication of newspaper and magazine articles on IMT
- Publication of IMT case studies

In addition, the following means also had a good cost-effectiveness ratio for raising IMT-awareness in SMEs:
- enterprise IMT awareness-raising by specialist visits
- diagnosis of enterprise IMT needs by enterprise consultants.

At the present time, it appears that the only interest in having an internet site for promoting IMTs is to raise the awareness of enterprise consultants.
2.2.4. Experience and transnational characteristics of the contractors

The promotion of innovation management techniques was not an entirely new activity for the majority of the contractors who took part in this action line. Two thirds of them had already participated in operations related to innovation and enterprises before launching their IMT project.

The transnational dimension of this action line was ensured by the accompanying measures, involving four countries for three of them, seven for another, and ten for the accompanying measure concerning the promotion of information and exchanges of experiences among the various contractors participating in the action line (ACCESS project already mentioned in chapter 2.2.1.A).

2.2.5. Synergy and dovetailing with other Commission and Member State initiatives in the field of innovation support

The work plan proposed by the IMT action line, starting with an analysis of the innovation needs of SMEs in order to determine the management techniques likely to be most useful to them, is easily integrated into other sets of innovation support actions.

It is thus natural that most of the contractors noticed that their projects appeared to be complementary to other locally available business development measures, such as:

- the action programmes of Business Links in the United Kingdom, Enterprise Ireland in Ireland, and the Danish Technical Institute in Denmark.
- The numerous SME development aid systems able to financially support implementation of the recommendations of consultants involved in these operations.

Complementarity was also examined in the three design-related accompanying measures, which could also be proposed to enterprises in the framework of local action programmes. Plans are underway in the countries of most of the contractors associated with these projects that will allow them to continue to promote the use of design with the tools developed in their projects.

For example, in Finland, Ireland, and Israel the results of the projects undertaken, together with the information received on the results of other projects, have led national authorities to decide to launch innovation management techniques promotion initiatives.

This formal dovetailing with SME development support programmes was backed-up by strong potential synergy; working methods developed and innovation management techniques selected in the framework of this IMT action line are now available to serve as a basis for new initiatives.

On the level of European programmes, the IMT action line has good synergy with the RIS (Regional Innovation Strategy) and RITTTS (Regional Innovation and Technology Transfer) actions. As an example, we can point to the audit method developed by the PERA company for the MINT and IMT projects now being used for audits conducted in the framework of the RITTTS project in Scotland.

Some leaders in charge of national innovation policy have mentioned the usefulness that IMTs might present in supporting the exploitation of research results, especially for SMEs that were established for that purpose. This is a logical point of view, but since the enterprises involved are very small, it is unclear whether the innovation management techniques selected in this action line are ideally adapted to them.

2. One-third had participated in the MINT (Managing the Integration of New Technologies) operation, which preceded IMT in the actions of the European Commission. Several of them also mentioned the “Euromangement Programme” (quality and environment) as well as industrial design support actions, which were also financed by the European Commission. Finally, others mentioned national actions, notably BUNT (enterprise audit method prior to technological development actions), which originated in Norway and was copied in several European Union countries.
2.3. Project Management

Since the objectives of this action line have been validated, notably by experience acquired in projects that have succeeded in achieving them, we will now consider the various measures of the IMT action line, in order to see whether they are well-adapted to these objectives, as well as to the needs of targeted sub-groups.

2.3.1. Modes of project selection

The selection of projects for the present IMT promotion action line was carried out by the services of the European Commission, following the publication of a call for proposals in its Official Journal in December 1995. Participants had received a very detailed information package, which no doubt facilitated the drafting of their proposals, as well as comparison and selection of them by experts in charge of their evaluation.

Due to internal procedures, it took the European Commission around one year to issue contracts for the selected projects. Carrying out the objectives of the action line were set back the same amount of time.

In accordance with the functioning rules of the Fourth Community R&D framework programme of which this action line was a part, financing by the European Commission for the various tasks was limited to 50% of eligible managerial, promotional, and administrative costs and to 75% of eligible costs related to the execution of SME innovation consultancy assignments (with a ceiling of 600 euros per man-day for outside technical assistance and a maximum of 6,000 euros per eligible consultancy assignment). Institutions without analytical accounting could receive financing that covered up to 100% of their additional costs.

This **shared-cost financing mode** is used for research contracts. It is well-adapted to enterprises and organisations which, by virtue of carrying out research work, develop new, exploitable know-how in the exercise of their activities. It is also very good for organisations with public funds at their disposal that can thus obtain budgetary supplements for activities entering into the framework of their missions. However, for conducting promotional actions such as those of the IMT action line, this mode of financing has the undesirable effect of marginalising private companies which, although able to provide the necessary skills, can hardly be expected to finance the additional budget out of their own funds. Thus, only a small minority of private companies participated in these projects. They were companies that were accustomed to providing services to the public sector, and who hoped that they would later be able to exploit the experiences they acquired in their projects with their clientele.

2.3.2. Range of IMTs developed and promoted by contractors

The contractors selected, promoted, and applied a rather large number of partly overlapping management techniques whose scope was sometimes beyond innovation development.

The most numerous management techniques directly concerned research and the exploitation of new technologies:

- technology audit,
- technology watch,
- marketing of innovation,
- product design, creativity,
- stimulation and management of the innovation process,
- management of industrial property, etc.

However, techniques that contribute to the general competitiveness of enterprises were almost as numerous:

- company diagnostics,
- quality management,
- benchmarking,
- value analysis,
- re-engineering,
- project management, etc.
The intention of those who drew up this action line was to allow all the dimensions (which, of course, were not only technological) of innovative projects to be taken into account. Some of the management techniques selected appeared to go beyond this definition. Nevertheless, they all allowed the introduction of useful changes in enterprises, which, of course, may in itself be considered a form of innovation. However, much strict-er eligibility criteria for the selection of management techniques to be included in this action line would have made it possible to avoid certain projects that strayed too far from the objectives of the European Commission’s Innovation Programme.

In the future, much more restrictive criteria should be applied for selecting methodologies that are exclusively related to innovation management.

Appointed by the European Commission, SOCIENTEC (a Spanish consultancy firm) reviewed these techniques, selecting ten of them that it presented in detail in a study published by the European Commission (see Appendix 2).

Under the direction of the COTEC Foundation for Technological Innovation (Spain), a group of English and German academics have also prepared a technology and innovation management guide for companies known as the “TEMAGUIDE”, that presents 18 selected, analysed, and described innovation management techniques (see Appendix 2).

These studies relating to innovation management techniques have been added to the range of documents that the European Commission makes available to company advisors for the purpose of pro-moting innovation management in SMEs. (See references for these studies in Appendix 3: Available studies on innovation management techniques.)

2.3.3. SMEs selected for demonstration operations; modes of intervention

The SMEs that benefited from these “innovation consultancy assignments” financed under this action line were mainly well-established enterprises interested in diversifying their range of products/services or in the acquisition of new working methods. Some 760 SMEs in all 15 countries of the European Union benefited from these operations. These firms may be categorised according to staff size as follows:

- 1-10 persons: 15%
- 11-50 persons: 53%
- 51-500 persons: 32%

This action line therefore concerned very small enterprises relatively little.

Half the contractors fulfilled or even exceeded their objectives with respect to the intended number of innovation consultancy assignments carried out. However, many of them encountered difficulties in involving a sufficient number of SMEs, and 6 out of the 23 selected attained less than 80% of their goals. This low contractors success rate cannot be explained by the of lack of time of SME directors, who are always very busy with their short-term preoccupations, or by the excessive number of proposals to support their development projects that SMEs receive; these factors would also have affected the other contractors. The reasons, which are multiple, can be broken-down into three categories:

- lack of prior experience in such promotion operations;
- heterogeneity of the staff of these groups;
- the overly ambitious goals of some initial objectives (groups that chose to conduct only 15 or 20 innovation consultancy assignments found it easier to attain their objectives than those who planned to carry our more than 50).

The contractor with the lowest rate of success accumulated difficulties by expecting to select SMEs that had never benefited from other innovation support mechanisms, and to count on outside non-contractor networks for promoting his action and in selecting the SMEs concerned.

Most of the groups preferred to choose the target-SMEs from among their regular clientele, or from among companies that were known to consultant associates. The IMT promotion action of these groups, which aimed at a more limited target, proved to be more effective.
While acceptable for a pilot operation aimed at developing IMT promotion procedures, this practice of working with companies already known to contractors has the shortcoming of raising the awareness of only a very limited number of enterprises.

**Modes of intervention in SMEs**

The consultancy assignments in SMEs had two objectives:

- to test intervention methodologies designed to promote the selected IMTs, thus acquiring practical experience in that domain;
- to obtain concrete results in SMEs, notably by providing them with an action plan to facilitate the adoption of appropriate IMTs, as part of an overall innovation plan.

The reference terms of the IMT action line recommended employing a modular approach in carrying out these assignments, permitting international comparison and benchmarking of these operations, using three basic modules:

A. Business innovation diagnosis, including recommendations - basic module: 5 man-days

B. Specific analysis using structured innovation management techniques, including an implementation plan: 5 man-days

C. Follow-up assignment to monitor/support the implementation of recommendations (over 6 months): 5 man-days

This proposition limited the cost of consulting services from outside the enterprise to a maximum of 10 man-days, thereby suggesting participation in a maximum of two modules.

In accordance with the work programme proposed, most contractors in this action line limited their innovation consultancy assignments to around ten days per enterprise, since longer missions seemed to be too heavy for SMEs. On the other hand, more than half the contractors found this imposed duration to be too short to support enterprises in the implementation of the recommended actions (in fact, the third module seemed necessary to them).

A small number of them agreed to continue a few days beyond the time limit, and two kept going for a total of more than 20 days, using supplementary funds provided by regional or national SME development schemes.

Charges billed to the SME beneficiaries were very different, varying with the project: from zero to 8,000 euros per assignments, the vast majority being between 1,200 and 4,000 euros. Participants evaluated the real costs of these assignments to be between 4,000 and 20,000 euros per assignments, the vast majority being between 6,000 and 10,000 euros.

The maximum EC funding allowable for these consultancy assignments was 75%, with a maximum total cost of 6,000 euros per mission.
2.3.4. Methodologies for disseminating good practices developed in these projects

Participants in the various projects and accompanying measures used all the usual media for disseminating their work.

Table 3 gives the number of projects that used each type of promotion means.

Table 3: Number of IMT projects using each type of promotion means

<table>
<thead>
<tr>
<th>Means of promotion</th>
<th>Number of projects which used them</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Specific projects</td>
</tr>
<tr>
<td>- Publication of sheets, flyers, &amp; leaflets</td>
<td>18</td>
</tr>
<tr>
<td>- Publication of a practical guidebook</td>
<td>14</td>
</tr>
<tr>
<td>- Articles (press or conferences)</td>
<td>14</td>
</tr>
<tr>
<td>- Application case study presentations</td>
<td>12</td>
</tr>
<tr>
<td>- Internet web site</td>
<td>7</td>
</tr>
</tbody>
</table>

Only a small number of these projects produced and distributed a CD-ROM for the purpose of presenting their methodology and application case studies: 4 projects and 2 accompanying measures.

The partners in the 20 projects carried out in the 15 European Union countries organised more than 100 events of the types described above, while those participating in the 6 accompanying measures held 65.

In addition to these means of promotion, all contractors organised promotion/dissemination events:

- workshops/meetings/roundtables consisting of representatives from business and institutions, as well as consultants, including users’ reports of their experiences with the intervention method and the IMT being promoted;
- IMT training seminars (company heads and consultants);
- seminar and conference interventions on the topics of innovation and technology transfer.

Impact of various means of IMT promotion used on the three selected targets (contractors’ assessments of the action line)

We questioned a selection of project co-ordinators and participants from all projects and accompanying measures regarding their opinions on the effectiveness of the various means of promotion that they used, asking them to separately grade the impact of each on SMEs, development support organisations, and consultants. Comparison of the results of these assessments (see chapter 3.1.7.C and chapter 3.2.6.E) indicated the following estimates of the levels of impact on each of the three selected targets (see Table 4).
2.4. Impact of the scheme

We analysed the impact of the IMT action line on its targets. Full details of this analysis are presented in chapter 3, including the points of view of various types of contractors and associated partners concerned by these actions.

2.4.1. IMT promotion project contractors

In spite of the clear definition of the contents of this action line, “to reinforce the know-how of organisations supporting IMT promotion in SMEs”, practically all the partners in the selected projects concentrated their actions on implementing innovation management techniques in SMEs — far more than on the development of methods for promoting such techniques. Analysis of the results obtained however shows that most of them still made progress on two levels:

- capacity to co-ordinate the participation of specialists in several innovation management techniques;
- setting-up operations for promoting the intervention of such specialists in SMEs.

2.3.5. Beneficiaries of IMT promotion measures

The IMT promotion measures implemented in projects were intended to sensitise SMEs, consultants, and business development organisations to the advantages of using IMTs. The total result estimates provided by contractors in this EU action line are detailed in chapter 1.2.7 (impact and relevance of the scheme).

Interviews conducted with various contractors did not allow us to refine this analysis by type or enterprise activity sector, consultant, or development organisation. Contractors counted participants in each category of activity, but did not attempt to classify them into sub-categories in order to refine their own promotion policies.

### Table 4: Impact of various means of IMT promotion used on the three selected targets

<table>
<thead>
<tr>
<th>Means of promotion</th>
<th>Impact on SMEs</th>
<th>Impact on Development Organisations</th>
<th>Impact on Consultants</th>
</tr>
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<tbody>
<tr>
<td>IMT training seminars</td>
<td>++</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Application case study publication</td>
<td>-/+</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Meetings incl. IMT-user testimony</td>
<td>++</td>
<td>-/+</td>
<td>-/+</td>
</tr>
<tr>
<td>Technical assistance in implementing IMT</td>
<td>++</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Consultant diagnosis of enterprise IMT needs</td>
<td>++</td>
<td>--</td>
<td>--</td>
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<tr>
<td>Enterprise sensitisation by specialist visits</td>
<td>++</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Drafting of promotional flyers and pamphlets</td>
<td>-/+</td>
<td>-/+</td>
<td>-/+</td>
</tr>
<tr>
<td>Publication of practical IMT-use guides</td>
<td>-/+</td>
<td>-/+</td>
<td>-/+</td>
</tr>
<tr>
<td>Press articles (newspapers and magazines)</td>
<td>-/+</td>
<td>-/+</td>
<td>-/+</td>
</tr>
<tr>
<td>Internet web site development</td>
<td>--</td>
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<td>--</td>
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<tr>
<td>Production of CD-ROM describing IMT use</td>
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<tr>
<td>Radio and television programmes</td>
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Impact estimation coding:
- ++ (strong): mean grade > 6
- -/+ (medium): mean grade between 4 and 6
- -- (weak): mean grade < 4

(mean grade out of 10)
2.4.2. Accompanying measure contractors

Of the six projects classified as “accompanying measures”, five were centred on the analysis, harmonisation, and promotion of innovation management techniques.

These five projects effectively permitted contracting organisations to make progress in mastering the innovation management techniques they chose, in preparing tools for promoting these techniques, and in organising a series of events for promoting them.

However, the impact of these operations has remained limited to the rather low number of organisations and enterprises that had been directly contacted by the organiser (a few thousand organisations, consultants, and SMEs, mainly situated in the countries of accompanying measure contractors).

The sixth accompanying measure (the already mentioned ACCESS project) was meant to improve information and know-how exchanges among project participants in the action line. Overall, it has served that function. Its main weakness was that it ended too soon and was not able to learn all the lessons of the various projects’ numerous achievements. Considering the diversity of the experiences achieved, carrying out this objective would no doubt have necessitated the mobilisation of more substantial means.

2.4.3. Enterprise consultants involved in the IMT projects

These consultants, who numbered around 400, were the ones closest to the action line, since they underwent training and carried out consultancy assignments in enterprises in the framework of one of the projects. Sixty-five percent of them stated that they continued to use the methods they learned, at least partially, or by integrating them into the range of their services to SMEs.

In spite of this, these consultants were not sufficiently informed of the contents of the various IMT projects. Only 50% of them stated that they had been informed about other projects underway in the framework of the action line, and only 40% remembered having receiving at least one issue of the bulletin *IMT News*. This situation is all the more abnormal in that these consultants constituted an informed group particularly able to take advantage of the intervention methods, which 80% of them stated they found interesting and useful, and the 20% who received nothing stated they would have liked to have been better informed.

2.4.4. SMEs which took part in an innovation consultancy assignment

The vast majority of SMEs that made the effort to participate in this action line say they are satisfied with the progress accomplished; in working with an experienced consultant, they were able to identify avenues of progress and to prepare a plan of action, for the implementation of which, however, some of them would have liked to be able to continue receiving financial support.

None of the 9 SMEs that responded to our survey employed any specific innovation management techniques prior to working with an IMT consultant (however, one of them mentioned using a creativity tool, “brainstorming”). At the close of this operation, 4 of the 9 enterprises considered themselves to have become familiar with a management technique applicable to innovation that had been suggested to them and applied by their consultant.

The 5 other enterprises did not acquire any particular methodological knowledge. The consultant’s intervention served only to
demonstrate the possibilities of improving the performance of their enterprise, with no direct link to the exploitation of research results or to the management of innovation. This corresponded to their immediate needs.

This sample, while not very representative, confirms that the IMT promotion operations undertaken by the contractors often encountered difficulty in targeting enterprises that had needs that corresponded well to the IMTs they wanted to propose.

2.4.5. SMEs not involved in these projects

The contractual duration of these IMT promotion projects, in principle limited to two years, restricted the possibility of using the results obtained for new promotion schemes. It was therefore difficult to measure the impact on SMEs beyond those enterprises that benefited from the innovation consultancy assignment carried out by the consultants in them.

2.4.6. Enterprise consultants not involved in the IMT projects

In this evaluation we have considered only the group of consultants that provided innovation consultancy services. It is thus not surprising that 50% of them had already heard of other IMT promotion operations (including earlier actions of various services of the European Commission, such as MINT and Euromanagement) plus a few national operations. Eighty percent of these consultants are also those who stated that they regularly use formalised IMTs.

The impact of IMT promotion on the working methods of these consultants appears to be weak:

- 17% state that they have used the IMTs promoted to improve their working methods;
- 22% would like to know more about this action line;
- the others consider that this operation had no impact on their working methods, or do not state an opinion.

2.4.7. Economic development organisations not involved in the IMT promotion projects

This category of organisations manifested the least interest for this survey. Out of a total of 46 organisations approached, only 9 replied to our questionnaire, among which only 4 knew of the IMT projects and 3 found them to be interesting and based their own actions on them.

The overall impact of this IMT action line on non-associated organisations thus appears to be quantitatively weak (however, general promotion of this approach was not required by the contractors of the 23 projects in this action line).

Thus, there exists a potentially very wide field for exploiting the accumulated experience and methodologies developed by participants in this action line of the Innovation Programme.

2.5. Relevance of this action line

The levels of impact described above clearly indicate that the effect of the IMT action line was proportional to the degree of participation of the organisations and companies concerned (development organisations), or to the degree of effective involvement in its implementation (consultants). The effect on these contractors was very positive. They developed practical experience in IMT promotion and although more than three-quarters of them believe that their project would not have taken place without the support of the European Commission, nearly all now intend to pursue it and are taking steps on a national or regional level, in order to find the necessary financing. On the other hand, the effects of promotional actions carried out by contractors on various other target groups remained rather limited.

There may be a variety of reasons explaining the limited impact of the IMT action line on SMEs, consultants, and support organisations, starting with a lack of clarity or credibility of the messages disseminated, and including a lack of receptivity or competence on the part of the members of the target groups. We think one important reason may be that the IMT action line did not foresee the need for an awareness campaign comparing the performances of various IMT promotion methods.
The accompanying measure which was intended to promote exchanges among participants in IMT projects managed an internet web site during the action. It featured a forum designed to allow participants to compare their working methods, but they hardly used it. The seminars and conferences also organised in the framework of this accompanying measure mainly included descriptions of the participants’ projects, with few methodological comparisons.

The cause of this situation must be sought in the nature of the organisations participating in the action line. Those in charge of these organisations are not theoreticians of innovation support interested in comparing the effectiveness of various methods for promoting innovation techniques, then making their conclusions known, but practitioners concerned with providing concrete responses to the needs of enterprises. In carrying out their projects, they naturally concentrated their efforts on operational aspects, and did not have the time to (or did not know how to) proceed to the comparative methodology analysis stage.

The comparison work expected by those responsible for this action line is interesting, but difficult.

**Obviously, there is no “best” method for managing innovation. The correct method is the one that responds to the specific features of the enterprise and project at the time the assignment is taken on. The right steps thus address the logic of the request for assistance, that is, identification of the company’s needs and selection of specialists able to respond with a variable combination of services.**

Projects based on selecting a limited number of management techniques and promoting them to enterprises (“supply-side logic”) encountered greater difficulty locating the appropriate demand. In fact, such projects are of interest only if a fairly widespread pre-existing methodological defect is detected in a category of enterprise (examples of such approaches are technology watch and industrial design).

Nevertheless, our survey of the various target-groups included in the IMT action line has shown that the dissemination of good practices in this domain corresponds to a real need which was partially satisfied by the IMT action line between 1997 and 1999.

### 2.6. Suggestions for the future

The idea of promoting innovation management techniques for SMEs has met with **wide agreement among enterprise development specialists throughout the European Union.** The successful projects in this IMT action line constitute a reserve of experience that remains to be exploited.

The use of the results of IMT studies already carried out and promoted by the services of the European Commission (see Appendix 3) is a good way to attract the attention of development agencies and enterprise consultants. However, these studies do not replace the need to **establish direct relations between the various players.**

In possible future European Commission actions in this domain, we propose that they be **concentrated along three lines, as set out below.**

**A. Development**

In order to stimulate the development of IMTs and their methods of promotion/utilisation:

- **choose the most interesting experiences** throughout Europe;
- **support the organisation of conferences,** open to all promotion organisations and interested consulting firms, at which these techniques and methods may be presented and discussed.

**B. Training**

In order to disseminate IMTs, as well as proven methods for their promotion:

- **select** a few IMTs or intervention methods each year (3 to 5) that have had the best results;
- **support the organisation of training seminars** for the use of these techniques or methods (1 to 2 days) throughout the European Union.
At the close of the IMT action line (1997-1999), the techniques and intervention methods that we found to be most useful to promote are:

- TIPPS: Transnational Innovation Pilot Programme in SME’s (*Enterprise Ireland*; see Appendix 1, chapter 1.1.A.10)
- FINN-IMT: Innovation Management Techniques in Finland (*Tekes*, Finland; see Appendix 1, chapter 1.1.A.12)
- Programme to Create New Activities in SMEs: (*Créat’iv*, France; see Appendix 1, chapter 1.1.A.17)
- PRISM: Promoting Innovation in SMEs (*Pera*, United Kingdom; see Appendix 1, chapter 1.1.A.21)
- DENTOT: Design Engineering Tools and Techniques (*Socintec*, Spain; see Appendix 1, chapter 1.1.B.6).

### C. Promotion

To encourage SMEs to call upon the services of enterprise consultants:

- **harmonise the services**: define the basic rules common to various methods in enterprises and summarise them in a small manual for SME executives:
  - steps (usual content and maximum/minimum duration): diagnosis; project definition; assistance with implementation;
  - types of **financing** (possibility of variation according to region and type of enterprise);
- **inform** SME managers of the range of consulting services and fees for such services;
- **put SMEs and consultants into contact** (give enterprises the choice);
- **guarantee the quality of consultants’ services** (prior training in such interventions, satisfaction questionnaires to be filled out by the enterprises);
- **manage the subsidies** provided for the smallest enterprises.

In order to be effective, IMT promotion must correspond to the needs of an enterprise; thus it may be conducted advantageously in close relation to the exploitation of research.

**For promoting innovation management techniques in firms, especially SMEs, there is no better guide than the principle of subsidiarity.** However the exchange of experiences between initiatives taken at national and regional levels needs to be stimulated and also, where appropriate, the linking of networks of successful ventures at European level, if this helps with their dissemination and improvement.

In this respect Community action could be carried out in the short term, with three instruments that currently exist in the framework of the “Innovation and SME Programme” of the Fifth Framework Programme on Research and Development (1998-2002):

A. **Economic and Technological Intelligence Accompanying Measures**: this continuous open call for proposals issued by the Fifth Framework Programme of Community Research concerns accompanying measures aimed at identifying SME needs and anticipating market and technological trends.

B. **Innovation projects**: their new specifications could include the use of IMTs by applicant firms.

C. **Innovation Relay Centres** (IRCs): these could include the promotion of IMTs in their work programmes, in particular by organising training courses for those IMTs that have proved their effectiveness.

The fact that IMTs are under consideration in the Community’s Fifth Framework Programme on Research and Development is a positive move which should be continued in the future. It should provide new opportunities for further development in the framework of an integrated enterprise policy to be developed by the Community.
D. Practical arrangements for a possible new call for proposals

If a new call for proposals for the promotion of innovation management techniques is made, we suggest that it include the following practical arrangements:

- allow a larger number of working days for carrying out missions in enterprises (15 days instead of 10 and above all, to be able to change the duration according to the complexity of the needs identified and the actions to be undertaken in each enterprise;
- in order to establish acceptable subsidy levels, take differences in the local context more into account for the participants in the action line, such as maturity of the consulting market and financial resources of enterprises;
- allow a longer overall duration for projects (up to 3 years): to be effective, a large-scale promotion action first requires a few sample operations; also, innovation projects in SMEs often require three years of follow-up after launching;
- in determining seminar, conference, and co-ordination meeting expenses for the budget, take into account the higher level of expenses that delegates from outlying countries must pay, which are normally not covered.
3. ANALYSIS OF THE POINTS OF VIEW OF VARIOUS TYPES OF PARTNERS PARTICIPATING IN THESE ACTIONS
3.1. **Point of view of contractors of the promotion projects**

3.1.1. **Aim of the IMT promotion projects selected**

The aim of the projects selected for this chapter of the IMT action line was to contribute to increasing the know-how of organisations promoting IMTs in SMEs. This objective is presented in detail in chapter 2.2.1.A.

3.1.2. **Contractors' perceptions of the objectives of this IMT action line**

In spite of the clear definition of the aim of this action line, practically all the co-contractors participating in the 23 projects selected, in the framework of the IMT action line, centred their work on the *implementation* of innovation management techniques in SMEs much more than on the *development* of methods for promoting these techniques. However, these two dimensions coincided during the evaluation of the innovation management needs of enterprises.

3.1.3. **Impact of these projects on the contractors' skills. Defining and managing schemes aimed at SMEs**

An analysis of the results shows that most of the contractors made progress on two levels:

- their capacity to co-ordinate the intervention of specialists in several innovation management techniques;
- organising operations that promote the intervention of these specialists in SMEs.

The European Commission's call for proposals and financial support for these projects also strongly contributed to the application of **new innovation promotion dynamics in the regions concerned**. Eighty percent of the contractors stated that without such support they would not have undertaken their projects. At the end of 1999 these organisation reported that they wanted to continue and develop their projects and most were actively seeking regional or national funding for them (see chapter 3.1.8.D, “new regional or national initiatives”).

3.1.4 **Types of contractors and modes of financing**

Table 5 gives the shares of public financing in contractor’s budget. Eighty-five percent of the contractors of the 23 projects were either public or parapublic organisations. Seventy-one percent of them were more than 50% financed by public funds (state, or regional/local government), and the remaining 29% obtained more than half their budgets from sales of their services. Ten percent of the contractors were associative structures receiving membership dues that accounted for between 20 and 30% of their total budgets.

<table>
<thead>
<tr>
<th>Table 5: Share of public financing in contractor’s budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;90%</td>
</tr>
<tr>
<td>70 to 90%</td>
</tr>
<tr>
<td>50 to 70%</td>
</tr>
<tr>
<td>30 to 50%</td>
</tr>
<tr>
<td>10 to 30%</td>
</tr>
<tr>
<td>&lt;10%</td>
</tr>
</tbody>
</table>
The strong presence of public and semi-public organisations among contractors may be explained by the financing arrangements proposed by the European Commission for this action line: a maximum of 50% for promotion operations and 75% for consulting assignments in enterprises. These resources may be an appreciable budgetary complement for public and semi-public structures, but do not correspond to the usual financing modes of the private sector. The 4% who accepted them are special cases: enterprises that regularly co-operate with public organisations, for which they manage enterprise support activities.

3.1.5. Positioning of the projects

A. Novelty of the action

Two-thirds of the contractors in this action line had already participated in innovation and SME schemes prior to launching their IMT project. The operation most often mentioned was MINT (Managing the Integration of New Technologies), cited by one third of the contractors. This is not surprising, since this action had preceded IMT in the actions of the Innovation Programme of the European Commission. The other operations mentioned were BUNT (enterprise audit method prior to technological development), which originated in Norway; Euromanagement (quality and environment), which was supported by the former Commission Directorate-General in charge of SME policies; industrial design, occasionally supported by the Community Innovation Programme; and some national actions.

B. Project approach

An analysis of the approach to the IMT projects of the contractors who participated in the action line revealed their motives to be as follows (several replies possible):

- promotion of innovation: 89%
- general competitiveness of SMEs: 64%
- exploitation of R&D: 21%

C. Management techniques selected

The range of management techniques applicable to innovation selected by the contractors of these projects was quite wide.

A frequency analysis of the various techniques revealed the general approach of the projects:

- the most numerous management techniques applied directly to research and to the exploitation of new technologies: technology audit, technology watch, marketing of innovation, new product design, creativity techniques, management of industrial property, etc.;
- however, techniques contributing more to the general competitiveness of the enterprise were almost as numerous: enterprise diagnosis, strategic planning, quality management, benchmarking, value analysis, re-engineering, project management, etc.

The intention of the designers of this action line was to take all the dimensions of innovative projects into account, which, of course, are not only technological. It appeared that some of the management techniques selected by the contractors went beyond that limited definition.

All the management techniques allowed the introduction of useful changes within enterprises, which of course may be considered a form of innovation. **Stricter selection of eligible management techniques under this action line would have prevented anyone straying too far from the mission of the European Commission’s Innovation Programme.**

D. Partnerships

Overall, these 23 projects led to real co-operation among complementary organisations on the regional level.
In order to carry out their actions, most of the contractors effectively mobilised other types of player:

- for developing innovation management techniques: universities, institutes, enterprise consultants;
- for selecting enterprises that would be the recipients of “innovation consultancy assignments”: development agencies, chambers of commerce, technical centres, enterprise incubators, enterprise clubs, enterprise consultants.

The number of outside players involved in these operations was thus greater than the number of members in the original contractors’ groups.

3.1.6. Organisation of “innovation consultancy assignments”

A. Types and numbers of SMEs concerned

The SMEs that benefited from the “innovation consultancy assignments” financed under this action line were mainly well-established enterprises interested in diversifying their range of products/services or acquiring new working methods. Some 760 SMEs in all 15 countries of the European Union benefited from these operations. These firms may be categorised according to staff size as follows:

- 1-10 persons: 15%
- 11-50 persons: 53%
- 51-500 persons: 32%

Half the contractors fulfilled or even exceeded their objectives with respect to the intended number of innovation consultancy assignments carried out. However, many of them encountered difficulties in involving a sufficient number of SMEs, and 6 out of the 23 selected attained less than 80% of their goals. This low contractors' success rate cannot be explained by the lack of time of SME directors, who are always very busy with their short-term preoccupations, or by the excessive number of proposals to support their development projects that SMEs receive; these factors would also have affected the other contractors. The reasons, of which there are many, can be broken down into three categories:

- lack of prior experience in such promotion operations;
- heterogeneity of the staff of these groups;
- the overly ambitious goals of some initial objectives (groups that chose to conduct only 15 or 20 innovation consultancy assignments found it easier to attain their objectives than those who planned to carry out more than 50).

The contractor with the lowest rate of success accumulated difficulties by expecting to select SMEs that had never benefited from other innovation support mechanisms, and to count on outside non-contractor networks for promoting his action and selecting the SMEs concerned.

Most of the groups preferred to choose the target-SMEs from their regular clientele, or from companies that were known to associated consultants. The IMT promotion action of these groups, which aimed at a more limited target, proved to be more effective. However, as a result, there was a lack of SME sensitisation in the sectors concerned. While acceptable for a pilot operation for developing promotion procedures, this practice should be avoided in the future.

B. Associated enterprise consultants

In order to carry out their innovation consultancy assignments, contractors in this action line selected nearly 400 enterprise consultants, to whom they presented the intervention method and innovation management techniques that they wished to promote. For this purpose, 92 “training” sessions (average duration: two days) were organised for small groups of consultants throughout Europe. Only half of them later actually intervened in enterprises, each of whom carried out between 1 and 4 innovation consultancy assignments.
Sixteen contractors out of the 23 selected for this action line, have developed **pedagogical material**, which they are ready make available to other organisations (on terms to be negotiated).

Enterprise consultants involved in this action line had three different types of status:

- employees of contracting organisations: 30%
- employees of non-contractor promotion organisations: 15%
- independent consultants: 55%

It is useful to note that they cover a very wide variety of situations, from public organisations tending to do everything themselves (Sweden, Ireland, Spain, Portugal, and Italy) to those relying heavily on private consultants (Germany, United Kingdom, Finland, France, and Luxembourg). In particular it appears that public organisations themselves tend to use development aid funds in regions where they are abundant, and to depend on private structures in more economically developed regions.

**Duration and cost of innovation consultancy assignments**

In agreement with the proposed working programme, most of the contractors in this action line limited their innovation consultancy assignments to around ten days. Two of them found this period to be optimal; a longer period seemed to them to be too heavy for SMEs. On the other hand, more than half of the contractors found that ten days was too short for them to assist an enterprise with the implementation of the recommended measures (which was not the objective of the present action, but which appeared necessary to them). Some of them agreed to go over the limit by a few days, and two continued for a total of more than 20 days, using supplementary funding widely available for SME development at regional levels.

Charges billed to the SMEs were very different according to the type of project: from zero to 8,000 per mission, the large majority of them between 1,200 and 4,000 euros. The participants calculated the true costs of these missions to be between 4,000 and 20,000 euros, with a large majority between 6,000 and 10,000 euros.

### 3.1.7. Preliminary results of these projects

#### A. Designing actions for the promotion of innovation management techniques

The principles outlined in the call for proposals launching this action line allowed the selected organisations to design and implement new innovation promotion policies, and to include enterprise strategy and non-technological aspects of their projects. The organisations were thus able to develop diagnostic steps that allowed them to identify the real innovation needs of companies and to select management techniques best able to respond to such needs.

By testing these actions “in the field”, the organisations were able to observe their degree of effectiveness, and to experience any eventual difficulty in using them. Since they were informed of similar projects conducted by the other consultants, they were also theoretically capable of using them in their own action plans. However, since the projects were all carried out in parallel according to a contractually fixed plan, this mutually enriching process worked only very slightly for projects underway. It was not possible to draw all the lessons that arising from this multiplicity of experiences. They will serve in the future projects that most of the contractors hope to launch (see chapter 3.1.8.D).

#### B. Sensitisation to the use of innovation management techniques

Since most organisations targeted their actions on enterprises already known to them or to their enterprise consultants, the numbers of SMEs that they succeeded in sensitising was rather low. The total estimates of SMEs sensitised in all 15 countries of the European Union by the contractors of these projects amounts to 2,700, which is low. One of the contractors stressed that innovation promotion techniques cannot function in SMEs that do not already have a good management culture. Since these techniques cannot simply be “installed” by others, they are not well-adapted to such firms.
Qualitatively, the satisfaction survey carried out by contractors showed that the majority of these enterprises was satisfied, even very satisfied with the action undertaken. They anticipate a positive effect on their competitiveness, in the form of better strategic planning and diversification of their activities. Some of these enterprises allowed case studies to be drawn up to facilitate the sensitisation of other SMEs, should these promotion actions be implemented again.

C. Impact of various means of promotion used on the three selected targets

We questioned project co-ordinators with respect to their assessment of the effectiveness of various types of promotion actions they had carried out in the framework of their projects, asking them to separately grade the impact of each action on SMEs, development support organisations, and consultants. The results of these assessments, based on 20 projects, produced the impact notes (graded from 10 to 1) given in Table 6:

**Table 6: Impact of various means of promotion used by specific project contractors on the three selected targets**

![Table 6: Impact of various means of promotion used by specific project contractors on the three selected targets](image)

This table shows that the means of promotion used in these projects were aimed first at SMEs, on which they had the most overall impact. These methods could also be used to sensitise and mobilise development support organisations and consultants, but without the same effectiveness as for SMEs.
The means of promotion that had the most impact on development support organisations and on consultants are listed in Table 7, in decreasing order of importance (grades from 10 to 1):

**Table 7: Means of promotion that had the most impact on development support organisations and on consultants**

<table>
<thead>
<tr>
<th>Means of promotion</th>
<th>Impact on Development Organisations</th>
<th>Impact on consultants</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMT training seminars</td>
<td>5.8</td>
<td>7.2</td>
</tr>
<tr>
<td>Publication of case studies</td>
<td>5.7</td>
<td>5.5</td>
</tr>
<tr>
<td>Publication of IMT user guides</td>
<td>5.0</td>
<td>4.5</td>
</tr>
<tr>
<td>Promotional flyers or brochures</td>
<td>4.8</td>
<td>4.8</td>
</tr>
<tr>
<td>Press articles (newspapers or magazines)</td>
<td>3.2</td>
<td>4.0</td>
</tr>
</tbody>
</table>

In an attempt to estimate the cost-effectiveness ratio of these various means of promotion, we divided the impact grade by a cost coefficient (CC) related to the order of magnitude of each means employed, using a scale of 10 to 1 (see Table 8):

**Table 8: Cost coefficients of the various means of promotion used by the specific project contractors**

<table>
<thead>
<tr>
<th>Means of promotion employed</th>
<th>Cost-coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Technical assistance in IMT implementation</td>
<td>10</td>
</tr>
<tr>
<td>- Practical guidebooks for using IMT</td>
<td>8</td>
</tr>
<tr>
<td>- Diagnosis of enterprise IMT needs by consultants</td>
<td>6</td>
</tr>
<tr>
<td>- Publication of IMT case studies</td>
<td>5</td>
</tr>
<tr>
<td>- Enterprise IMT awareness-raising by specialist visits</td>
<td>4</td>
</tr>
<tr>
<td>- Production of CD-ROM describing IMT use</td>
<td>4</td>
</tr>
<tr>
<td>- IMT training seminars</td>
<td>3</td>
</tr>
<tr>
<td>- IMT internet web site development</td>
<td>3</td>
</tr>
<tr>
<td>- IMT radio or television programme</td>
<td>3</td>
</tr>
<tr>
<td>- IMT-promotion flyers and brochures</td>
<td>2</td>
</tr>
<tr>
<td>- IMT-user meetings (with exchanges of experiences)</td>
<td>2</td>
</tr>
<tr>
<td>- Publication of newspaper and magazine articles on IMTs</td>
<td>2</td>
</tr>
</tbody>
</table>
The division of impact notes (Table 6) by cost coefficients (Table 8) allows promotion actions to be classified in order of decreasing cost-effectiveness for each of the three target groups of this action line (see Table 2 in chapter 2.2.3).

**Enterprise consultants**

The number of consultants trained to use IMT promotion methods is twice the number that actually took part in innovation consultancy assignments; around 400 for the entire European Union. Besides widening the range of their working tools, some of them were able to learn how to co-ordinate their interventions with other specialists, so as to take into account all aspects of an enterprise's projects. Overall, by virtue of the promotion actions they carried out, the contractors of these projects estimate having sensitised nearly 800 consultants, who constitute an important potential for multiplying the effect of this action line.

**Advantages of the programme for consultants**

reported by *VDI/VDE-IT* (Berlin, Germany)

- Most consultants found the programme to be helpful for introducing innovation management techniques in SMEs.
- Several consultants had the opinion that the IMTOS support, important changes in the without SMEs would not have taken place.
- Most consultants expressed the desire that a similar programme be continued in the future.

**SME development support organisations**

The impact of these projects on SME development support organisations was lower. Only a small number of IMT action line contractor organisations attempted to include this category of organisation in their participation, sometimes without success. Only the TIPPS (Transnational Innovation Pilot Programme, see Appendix 1, chapter 1.1.A.10), project conducted by *Enterprise Ireland*, seems to have succeeded in an operation promoting its methodology on a larger scale, which allowed it to reach 100 organisations throughout the European Union.

**Opinions of associated development agents**

reported by the *Créat’iv* development agency  
(Rennes, France)

The advantages of the overall approach of *Créat’iv*

- possibility of meetings and dialogues between various organisations in order to coordinate their actions (network organisation);
- acquisition and/or validation of knowledge in order to increase mission performance;
- enterprise club meetings as stimulating tools;
- structuring and simplification of the innovation process for company heads: interface with a single contact person and access to all institutional players with a single file;
- better personal and professional comprehension of other actors (assignments and function);
- organisation of stimulation campaigns.

**D. Complementarity with other regional and national initiatives aimed at promoting innovation**

Except for those in Greece and Luxembourg, all contractors found their IMT projects complemented other regional or national initiatives. This corresponds well to the global character of this approach, which starts with an analysis of SMEs’ needs in order to identify which management techniques will be most useful to them. For most contractors, such dovetailing was related to IMT actions carried out
or to financing proposed by other organisations. In some cases it could be exploited in order to complement the IMT action, by providing the means to back up an enterprise projects (Business Links in the United Kingdom). For others, such as Enterprise Ireland or the Danish Technological Institute, this complementarity appeared within the organisation itself, the IMT action simply reinforcing pre-existing actions. However, in a few regions of Germany, some leaders of the IMTOS project managed by the VDI/VDE-IT firm (see Appendix 1, chapter 1.1.A.19) noticed a problem of competition between their project and other SME aid mechanisms that targeted the same groups of companies and the same needs, permitting these SMEs to obtain the services of high-level innovation consultants without having to lay out funds themselves.

E. International co-operation

Altogether, the IMT specific projects carried out in the European Union covered all member-countries, but only 3 of them associated partners in several countries. Most of the others were regional in scope. The international dimension of this action line was contributed to by the overall accompanying measure for the projects (the ACCESS project), whose role was to structure exchanges of information and experience among participants in the various projects. By means of the different activities organised, participants were able to establish new contacts outside their groups. In practice, it was mainly project heads that stated they became aware of new promotion organisations. These contacts were not really useful for projects that were underway, since they were already completely structured. They were nevertheless appreciated since they enabled comparisons to be made between their activities and those of other organisations, where they found opportunities for new partnerships for setting up future projects in Europe.

3.1.8. Exploitation of the results of these projects

Comparison of the means of promotion used by the 20 projects analysed here produced the following results:

- publication of presentation flyers, technical sheets, and booklets describing the method used: 18 projects;
- publication of articles in newspapers and magazines; oral presentations in seminars and conferences: 14 projects;
- preparation and dissemination of a methodological guide: 14 projects;
- achievement of case studies of methodological applications in enterprises: 12 projects;
- development of an internet web site devoted to the project: 7 projects (most of these sites are no longer accessible);
- Preparation and distribution of a CD-ROM describing their methodology and tools: 4 projects.

Around one-hundred events were organised by the participants of these 23 projects to promote their actions:

- from 1 to 3 events: 10 projects;
- from 4 to 10 events: 5 projects;
- more than 10 events: 4 projects;
- did not reply: 4 projects.

A. Promotion tools available

This set of innovation management promotion projects has led to the formalisation of a vast ensemble of methodological tools (practical guides), pedagogical methods (training seminars), communication aids (documents for presenting the promoted methodology and techniques of management, case studies, articles, and various publications).

Sixteen IMT project co-ordinators stated that the pedagogical material they prepared is available for other users.
B. Exploitation plans

Nearly all the contractors of this action line would like to exploit their acquired knowledge and tools, while continuing the actions they undertook, or when they launch new ones. According to the networks they have at their disposal, they envisage this exploitation on the regional, national, European, or international level. The actions envisaged are similar to those they have already undertaken:

- publication of case studies and articles concerning best practices;
- association with new partners, mainly on the regional or national level;
- continued development of methods;
- dissemination of methodological guides;
- training of consultants;
- diagnosis, consulting, and project follow-up in SMEs.

C. Financing

All the participants were motivated to find new financing in order to carry out projects. Some have already begun, using their own means; others are actively seeking ad hoc sources of financing on the local, regional, national, or European levels in order to complete the financial contributions they intend to request from enterprises.

D. New regional and national initiatives

The global character of the IMT approach and its interest for SMEs have quite naturally inspired new regional and national initiatives for the promotion of innovation management techniques. Several projects have already been launched during 1999:

- in Austria: a new campaign of the WIFI (Wirtschaftsförderungsinstitut Österreich, national economic development agency for sensitising SMEs to innovation management techniques) (“Management, enterprise success, & technology”), using methodologies selected through the ACCESS project (see Appendix 1, chapter 1.1.B.5);
- in Finland: continuation of the Finn-IMT project of the national technology development agency Tekes (Teknologian Kehittämiskeskus) with national funding (see Appendix 1, chapter 1.1.A.12);
- in France: application of the results of the IMT project managed by the Créat’iv innovation agency of the Brittany region (see Appendix 1, chapter 1.1.A.17) in the framework of the “Crisalide Santé” operation, aimed at accompanying entrepreneurs in the health sector, by stimulating initiatives by means of a regional network of institutional partners;
- in Ireland: 1) continuation of the promotion of three IMTs (World-class Manufacturing, Inte-grated product development, and Design) started by Enterprise Ireland during the preceding IMT project (see Appendix 1, chapter 1.1.A.1), and 2) re-use of the TIPPS approach also developed by Enterprise Ireland (see Appendix 1, chapter 1.1.A.10) for evaluating companies for the “North American Partnership Programme” funded by the International Fund for Ireland;
- in Italy: introduction of innovation techniques in SMEs in the southern part of the country by Aster, a regional development company based in Bologna (see Appendix 1, chapter 1.1.A.4);
- in the United Kingdom: launching of project “INNOVATE”, a new initiative set up by Business Link Heart of England to promote innovation management techniques in Oxfordshire County, in co-operation with the Oxford Innovation consulting firm and based heavily on the methodology used in the IMT project ANIMATE (see Appendix 1, chapter 1.1.A.15);
- in Sweden: launching of a new project entitled “IFU Consulting Team” in three new regions (Sundsvall, Jönköping, and Eskilstuna). This project is similar to the SIMTI project developed by Almi Företagspartner AB and IVF (the Swedish Institute of Production Engineering Research) in the framework of the IMT action line (see Appendix 1, chapter 1.1.A.23).

Several other organisations also wish to continue the action undertaken, using new means:

- the Centre Time of the Ecole Supérieure de Commerce de Grenoble (France): promotion of diversification by innovation, in cooperation with professional organisations in the Rhône-Alpes region, as a continuation of the PARTNERS project (see Appendix 1, chapter 1.1.A.5);
- the TINA development agency (Germany): promotion of INWORK 2000, a problem-solving method that concentrates on objectives and the economical use of resources, a continuation of the INVENT project (see Appendix 1, chapter 1.1.A.2).
Other organisations are extending their actions to new regions:

- **the ICT - Instituto Catalán de Tecnología (Spain)**: transfer of the TIPPS project know-how (see Appendix 1, chapter 1.1.A.10) to technology institutes in five other Spanish regions;
- the Industry Department of the **Danish Technological Institute**: renewal of the MARKPRO project (see Appendix 1, chapter 1.1.A.18) with a new group of enterprises in North-Jutland;
- **the Socintec consulting company (Spain)**:
  - promotion of TEMAGUIDE (see Appendix 1, chapter 1.1.B.4) in several Spanish regions, in co-operation with the Association of Technopoles;
  - promotion of design engineering techniques developed in the context of the DENTOT project (see Appendix 1, chapter 1.1.B.6) in two new regions of Spain: Castilla y León in 1988, and Vizcaya in 1999;
- **the Luxembourg innovation development agency Luxinnovation**: extension of technology watch and environmental management promotion, as developed in the PROTEGIL project (see Appendix 1, chapter 1.1.A.9) in the Greater Saar-Lor-Lux region;
- **the PERA consulting company**: utilisation of the enterprise audit method promoted by their PRISM project (see Appendix 1, chapter 1.1.A.21) for initiating a Regional Innovation Strategy (RIS) operation in Scotland (**United Kingdom**).

Finally, others plan to transform their regional projects into national ones:

- **the ITEC technology institute in Portugal**: continuation of the TEC+ pilot scheme (see Appendix 1, chapter 1.1.A.16) nationwide with the AUDITEC project (Promoting the Use of Technology and Innovation Audits by Technology Infrastructures) prepared with the support of the General Directorate of Industry of the Ministry of Finance within the PEDIP II (Specific Programme for the Development of Portuguese Industry), and
- **the Oxford Innovation consulting firm in the United Kingdom**: utilisation of innovation management techniques developed in the ANIMATE project (see Appendix 1, chapter 1.1.A.15) in the “National Benchmarking Programme”.

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**The impetus given by the European Commission has thus opened the way towards new developments in innovation management in SMEs throughout Europe.**

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### 3.1.9. General perception of this action line

#### A. Relevance of this call for proposals

The analysis undertaken revealed that of the contractors of the 23 projects selected:

- 60% stated that without this financing, they simply would not have been able to conduct their project;
- 30% would have conducted it anyway, but on much more limited geographical and methodological levels;
- 10% had other sources of funding (national or European), and would have conducted their projects, but less rapidly.

#### B. Information on the various projects

Ten percent of the main contractors and 50% of the associated contractors feel that they were insufficiently informed about the activities of the other action line contractors. This difference may be partly explained by the fact that 20% of the contractors associated at regional levels apparently did not receive (or did not read) the action line information bulletin (**IMT News**), and 30% did not participate in the conferences organised by the co-ordination group (ACCESS project, see Appendix 1, chapter 1.1.B.5).

The majority of the other contractors’ perception of **IMT News** was good or excellent, as was that of the co-ordination conferences. The few criticisms concerned the overly general character of the information presented, the excessive use of English, and the excessive presentation of the activities of members of the co-ordination group in comparison with those of other contractors. Instead of simply providing descriptions of what
the others were doing, some participants would have liked more explanation of how they proceeded (detailed methodologies) and on the results obtained.

Opinions concerning the internet site developed by the co-ordination group were not as good. 25% of the contractors had not even visited it, and the majority of those who knew it graded it between “average” and “good”. Since it received less than 1,500 visits in 18 months, its audience remained very limited. We ourselves visited it three times, and found that its contents contributed hardly anything more than IMT News did, and that it did not evolve sufficiently. Nor were projects contractors sufficiently mobilised for the internet site to succeed: the forum initiated by the main co-contractor VDI/VDE-IT for debating various methodological aspects for promoting innovation management techniques did not function, due to lack of contractors’ feedback.

Outside the context of these initiatives, several contractors appreciated the publications of the Commission Directorate on Innovation related to innovation management techniques.

D. Recommendations to Commission Services

Should a new action of this type to be launched, the contractors have expressed the following desiderata and recommendations intended for the Commission:

- Provide more flexibility in implementing the proposed work programme; the real situation in enterprises is always more complex than one thinks, and to be more efficient, the pursuit of objectives may necessitate substantial modifications in the initial programme.
- Allow a greater number of working days for assignments in companies (15 days instead of 10) above all so that work time can be adjusted to suit the complexity of the needs of each enterprise and the actions to be carried out.
- Take differences between the local contexts of action line participants into account: maturity of the consulting market, financial resources of enterprises, etc.).
- Allow more total time for carrying out projects (3 to 5 years). To be effective, a large-scale promotion action requires first conducting a few sample operations. In addition, innovation projects in SMEs often require at least three years’ follow-up.
- Organise European-level enterprise consultant training schemes in order to allow consultants to benefit from methods developed in various countries.
- Reduce the report-writing work required by the Commission by providing participants with a drafting-guide, especially for the financial aspects, right from the beginning of the contract, so that they know how to structure their information in the manner requested by the contract.
- Take into account the higher expenses delegates from outlying countries must pay, but which are not normally covered by the EU, in order to participate in seminars, conferences, and co-ordination meetings.

C. Management

Management of public funds of course requires rigorous respect of the rules, thus a certain formality. However, the majority of participants agree that the report writing required by the Commission is too heavy, and payment rather slow, especially at the end of contracts.
3.2. Point of view of contractors of the accompanying measures

3.2.1. Objectives of the accompanying measures

The objective of projects selected under this chapter of the IMT action line was to contribute to the development of exchanges of knowledge and good practices for the promotion and utilisation of IMTs in SMEs. The details of this objective appear in chapter 2.2.1.B.

3.2.2. Perception of the objectives of these accompanying measures among contractors

The six projects selected as accompanying measures in this action line may be divided into two categories:

- five projects centred around innovation management techniques, including analysis of the best practices for using them, case studies of their application in SMEs, setting-up promotion media, (reference manuals, examples of utilisation, CD-ROMs and/or internet sites, and organisation of promotional events (seminars, conferences, intervention in promotional events). Of these five projects, only one examined a set of management techniques applicable to innovation (the TEMAGUIDE, see Appendix 1, chapter 1.1.B.4). The other four projects concentrated on a specific domain:
  - three of them on various industrial design techniques (see Appendix 1, chapters 1.1.B.2, 1.1.B.3, and 1.1.B.6), and
  - one on technology watch techniques (see Appendix 1, chapter 1.1.B.1);
- one project centred on the comparison of tested IMT promotion practices and the exchange of good experiences (the ACCESS project, already mentioned, see Appendix 1, chapter 1.1.B.5).

In practice, projects in the first category differed very little from the 23 others aimed at increasing the know-how of organisations promoting IMT. This results in part from the tendency of these 23 projects, already noted in chapter 3.1.2, to concentrate part of their efforts on the innovation management methods they promoted. The accompanying measures did not include innovation consultancy assignments in enterprises, but most of these projects carried out case studies of the IMT applications promoted. These measures also included a greater number of promotion actions (publications, seminars, and conferences) than the other IMT promotion projects.

The ACCESS project, which organised the dissemination of information on the contents and state of progress of the various IMT promotion projects, is the one that best corresponded to the definition of the accompanying measures of this action line.

3.2.3. Impact of these projects on contractors’ skills

The five projects that centred around innovation management techniques really allowed the contracting organisations to make progress in mastering the techniques they selected and in devising tools for their promotion. However, the impact of these promotion operations remained rather limited due to the reduced number of bodies and enterprises that were directly contacted by the organisers (a few thousand enterprise consulting organisations and SMEs, mainly located in the countries of the accompanying measure contractors).

The activities of the ACCESS project were generally appreciated by members of this consortium, as well as by the majority of the IMT project participants who made the effort to take part in them.

3.2.4. Types of participant and their modes of financing

Table 9 gives the shares of public financing in the contractor’s budget. Seventy-seven percent of accompanying measure contracting organisations were public or semi-public establishments, but only 46% of the total were more than half-financed by public funds (state, regional, or local government). Twenty-three percent were private service companies whose budgets derived entirely from sales.
3.2.5. Project positioning

A. Novelty of the action

As for the 23 specific projects, two thirds of the accompanying measure contractors had already participated in promotion operations for innovation management techniques before taking part in the IMT action line.

B. Project orientation

An analysis of the approach of the accompanying measures developed by the contractors revealed their motives to be as follows (several responses possible):

- innovation promotion: 78%
- general competitiveness of SMEs: 29%
- R&D exploitation: 7%.

C. Management techniques selected

Of the five accompanying measure projects centred on of innovation management techniques there were:

- three projects involved in the selection and promotion of industrial design techniques:
  - the EDIT project (European Design Innovation Tool) developed a method for managing design in SMEs, surveyed the best practices, then prepared the tools and dissemination media for it, which was implemented by the partner network for this project (see Appendix 1, chapter 1.1.B.3);
  - the DENTOT project (Design Engineering Tools & Techniques) selected 11 techniques for aiding product design, plus 3 generic techniques, then demonstrated the advantages of these techniques for the success of innovative projects, with the aim of helping SME managers choose the design methods best adapted to the specific features of their projects (see Appendix 1, chapter 1.1.B.6);
  - the MAP-IMT project (Accompanying measures to promote Industrial Design Methods in SMEs) developed a “harmonised method” for promoting industrial design applied to innovation (see Appendix 1, chapter 1.1.B.2);

- one project (REVEIL) studied the promotion of technology watch techniques (see Appendix 1, chapter 1.1.B.1);

- another project sought to group enterprise management techniques that, while not really specific to innovation, could be useful to it (TEMAGUIDE), selecting 18 of them, plus 20 strategic analysis tools, going well beyond the limits of management techniques specific to innovative projects (see Appendix 1, chapter 1.1.B.4).
D. Partnerships

The five accompanying measures on innovation management techniques involved local partners other than the original contractors:

- to select and carry out innovation management technique application case studies in SMEs (technical centres, development agencies, SMEs, consultants);
- to describe selected innovation management techniques and formalise the steps in promoting them (teaching establishments, technical centres, consultants);
- to implement promotion steps: brochures, seminars and conferences (enterprise incubators, consultants, press and media, speakers of various origins).

3.2.6. Project organisation

A. Case studies

Except for the ACCESS project, of which it was not the aim, and the DENTOT project (Design Engineering Tools & Techniques), which favoured co-operation between enterprise advisors and design specialists, the four other accompanying measures performed application case studies of management techniques in SMEs:

- EDIT (European Design Innovation Tool): 16 measures in the enterprises of 7 countries in order to test the promotion method developed;
- MAP-IMT (Accompanying measures to promote Industrial Design Methods in SMEs): 4 studies of industrial design application cases in SMEs: rapid prototyping, technology transfer, strategy, overall design);
- REVEIL (technology watch competence network): analysis of information practices analysis and technology watch in 5 SMEs;
- TEMAGUIDE: 12 case studies illustrating the various selected management techniques.

These case studies were disseminated in the networks of the four groups, but in rather limited numbers (compared to the population of enterprises and enterprise advisors potentially interested in these subjects):

- EDIT (European Design Innovation Tool): the final report of the co-ordinator of this group does not mention the number of copies of these studies to be disseminated;
- MAP-IMT (Accompanying measures to promote Industrial Design Methods in SMEs). These four case studies were presented in a single brochure of which 1,000 copies were printed (500 in French and 500 in German) as well as in a CD-ROM, distributed by the project partners;
- REVEIL (Technology watch competence network): these case studies on 5 SMEs were included in three issues of the project newsletter, 1,500 of each of which were distributed by mail;
- TEMAGUIDE included 12 case studies and the description of all the selected management techniques: 250 copies were distributed in English by each of the 4 partners in the study (Spain, England, and Germany). The full report is available on COTEC's internet site: www.cotec.es.

B. Seminars and conferences

All the accompanying measures utilised these types of meetings to communicate the results of their work. The co-ordinators of these projects counted the numbers of the following participants:

- EDIT: 3 conferences (Lisbon, Stockholm, and Eindhoven); 29 seminars (Spain, France, Portugal, Netherlands, Germany, Norway, and Sweden, 1,340 persons), plus contributions at 5 other seminars and conferences (one in Brussels and four in Spain);
- DENTOT: 4 seminars in which specialists in 4 domains presented their working methods to a professional audience (Nottingham: 29 persons; Bilbao: 85 persons; Aarhus: 35 persons; Berlin: 20 persons);
- MAP-IMT: 4 workshops (Lorraine, Belgian Luxembourg, Luxembourg, Sarre), each of which included between 30 and 40 people (company heads, engineers, executives and technicians, technical advisors, and consultants). Another promotional event took place in Luxembourg in September 1999;
- REVEIL: 3 workshops for company heads, consultants and institution representatives (Marseilles: 50 persons; Barcelona: 126 persons, Luxembourg: 57 persons);
- the TEMAGUIDE was the subject of a seminar in Madrid, in order to test the method, as well as of presentation in 4 conferences.
The ACCESS project organised general conferences and 4 specialised seminars open to all IMT project participants, a few associated enterprise consultants, SME heads chosen as case studies, and to innovation policy heads. In all, these 7 meetings assembled more than 700 people (speakers included), which is a good result for a group of 90 contracting organisations.

C. Summary reports

Three partners of the EDIT project (European Design Innovation Tool) published presentation brochures for the design management method that they developed.

- **DDI**, the state enterprise for the development of design and innovation (Spain), has published “La mejora de la Gestión del proceso de diseño en la PYME”, [improvement in the management of the design process in SMEs], 144 pages, written in Spanish with an English résumé;
- **CDMP** (the Midi-Pyrénées Design Centre, France) has published a brochure in English and French describing the tool and results obtained during the project;
- **NDC**, the Norwegian Design Council, has published a brochure on EDIT in Norwegian.

**DENTOT** (Design Engineering Tools & Techniques) has published a 171-page manual in English describing 11 techniques for aiding product design, plus 3 generic techniques (concurrent engineering, “benchmarking”, and value analysis).

**MAP-IMT** (Accompanying measures to promote Industrial Design Methods in SMEs) has published an 80-page manual in French and German presenting the principles of a harmonised method for the “promotion of industrial design applied to innovation”.

**REVEIL** has published a 46-page guidebook to good practices in technology watch, in French.

The 370-page **TEMAGUIDE** manual, in English, mainly covers initiation to technology and innovation management techniques selected by this project. It can be used by enterprise consultants and company executives, but the extent of the subjects covered renders it difficult to read by SME heads, who usually lack the time to do so and who mainly seek rapidly operational methods; however, practical cases presenting the implementation of these techniques may interest them.

D. Other promotion media

**Descriptive flyers** have been published for all seminars and conferences organised by the contractors of these measures and sent to the regular correspondents of these organisations. This rather wide distribution was able to attract the attention of those who received them, but only those who made the effort to participate in the corresponding events were really sensitised to the use of the techniques promoted by the projects.

Four groups also published **specific bulletins:**

- **EDIT** (European Design Innovation Tool): 4 issues of a 4-page bulletin (distribution not indicated by the co-ordinator);
- **DENTOT** (Design Engineering Tools & Techniques): 4 issues of a 4-page bulletin of which 5,000 copies were distributed in 21 countries;
- **REVEIL** (European technology watch network): 3 issues of a 4-page bulletin (distribution not indicated by the co-ordinator);
- **ACCESS**: 9 issues presenting the evolution of IMT action line projects, plus 2 special issues dealing with analyses of the innovation management techniques used by the various partners; 3,000 of each of these bulletins were printed and distributed via the 90 IMT action line contractors, as well as to the participants in IMT action line seminars and conferences.

**IMT Internet sites**

The Commission Directorate in charge of Innovation operates an internet site on innovation management techniques which has attracted great interest among various players in this field (IMT contractors, enterprise consultants, development authorities, etc…): http://www.cordis.lu/imt/src/p-study.htm
This internet site was complemented by a series of sites set up by some IMT contractors:

- EDIT: www.edit.org (no longer accessible);
- MAP-IMT anticipated for the end of 1999; presents the contents of a CD-ROM;
- TEMAGUIDE: the full report is available on the internet site of COTEC, co-ordinator of this project: www.cotec.es;
- ACCESS: www.iwt/imt/: this site provided an overview of the activities carried out by the contractors of this accompanying measure, as well as a summary of its various seminars and conferences; it was closed at the end of 1999.

E. Impact of various means of IMT promotion used on the three selected targets

We questioned a selection of project co-ordinators and participants involved in the accompanying measures regarding their assessment of the effectiveness of the various means of promotion that they used, asking them to separately grade the impact of each on SMEs, development support organisations, and consultants. Comparison of the results of these assessments based on an average of 5 accompanying measures produced the following estimates of the levels of impact on each of the three selected targets (graded from 10 to 1) (see Table 10):

<table>
<thead>
<tr>
<th>Means of promotion</th>
<th>Impact on SMEs</th>
<th>Impact on Dev't Org's</th>
<th>Impact on Consultants</th>
</tr>
</thead>
<tbody>
<tr>
<td>- IMT training seminars:</td>
<td>++</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>- case study publication:</td>
<td>-/+</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>- meetings incl. IMT-user witnesses:</td>
<td>++</td>
<td>-/+</td>
<td>-/+</td>
</tr>
<tr>
<td>- technical assistance in implementing IMT:</td>
<td>++</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>- consultant diagnosis of enterprise IMT needs:</td>
<td>++</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>- enterprise sensitisation by specialist visits:</td>
<td>++</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>- drafting of promotional flyers and pamphlets:</td>
<td>-/+</td>
<td>-/+</td>
<td>-/+</td>
</tr>
<tr>
<td>- publication of practical IMT-use guides:</td>
<td>-/+</td>
<td>-/+</td>
<td>-/+</td>
</tr>
<tr>
<td>- press articles (newspapers and magazines):</td>
<td>-/+</td>
<td>-/+</td>
<td>-/+</td>
</tr>
<tr>
<td>- internet site development:</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>- production of CD-ROM describing IMT use:</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>- radio and television programmes:</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Impact estimation coding:
- ++ (strong): mean grade = 6
- -/+ (medium): mean grade between 4 and 6
- -- (weak): mean grade < 4
Five means stand out because of their balanced impact on the three selected targets:

* good impact (mean grades from 6.0 to 8.0):
  - meetings that include the participation of IMT-user witnesses;
  - IMT training seminars;
  - case study publications;

* medium impact (mean grades from 4.0 to 4.7):
  - press articles (newspapers and magazines);
  - promotional flyers and brochures.

Two other IMT promotion means seemed to have an impact, but a more selective one:

- technical assistance in the implementation of IMTs: good impact on SMEs;
- publication of practical guides on IMT utilisation: good impact on development organisations and consultants.

Finally, two means had medium impact on development organisations and on consultants, and a weaker one on SMEs:

- publication of a CD-ROM describing IMT use;
- internet web sites.

### 3.2.7. First results of these projects

#### A. Numbers of SMEs sensitised to the use of innovation management techniques

The ACCESS project was centred around the participants in various IMT action line projects. The dissemination of methods for promoting these innovation management techniques outside this circle was done through two means:

- the *IMT News* bulletin;
- the internet web site developed by *IWT* (Belgium) (no longer accessible).

The five other accompanying measures were also concerned by this question, to which their participants, however, did not provide precise replies. Their estimations are heterogeneous:

- EDIT, basing its responses on the numbers of participants at its seminars and conferences, believes to have sensitised around 2,000 persons (SME heads, consultants, and economic development agents);
- DENTOT, basing its responses on the list it developed for its promotion operations, believes it sensitised around 5,000 persons;
- MAP-IMT counted 60 SMEs, around one-hundred consultants and designer, and 40 economic development agents;
- REVEIL counted around 200 SME heads, consultants, and economic development agents;
- TEMAGUIDE group members estimate having sensitised around 500 SME heads, consultants, and economic development agents.

#### B. Complementarity with other regional and national initiatives aimed at promoting innovation

The contractors of the three design-related accompanying measures all found that these initiatives satisfactorily complemented other public initiatives by design promotion agencies (France, Belgium, Spain), or by other enterprise development support organisations (United Kingdom, Germany, Luxembourg). It was thus possible to propose these techniques for the management or implementation of the designs promoted, in the framework of local action programmes. Plans are underway in most of these countries to continue design promotion actions, using the tools developed in these projects.

The REVEIL project seems, above all, to have enabled its participants to refine their technology watch promotion methods for enterprise use and thus better fulfil their objectives in this domain, but without directly dovetailing with other regional or national initiatives.
The TEMAGUIDE, which proposes a wide choice of innovation management techniques, is mentioned as being complementary to the activities of “Business Links” in the United Kingdom. The consulting firm Socintec is also planning a training/information project in Spanish technology parks, using financing provided by these parks and by a national programme.

In Ireland, Finland, and Israel, the information received from the ACCESS project has led national authorities in these states to decide to launch initiatives for the promotion of innovation management techniques.

3.2.8. General opinion of this action line

A. Relevance of the call for proposals

The contribution of the European Community was the determining factor in carrying out these accompanying measures.

The ACCESS project, which included a strong dimension of contractors working on other projects, obviously could not have been carried out without Community financing; this is also true of the REVEIL and MAP-IMT projects, whose members felt they had too little return on their investment for them to undertake the projects alone.

It would have been possible for some of their partners to partially carry out the three other projects, EDIT, DENTOT, and TEMAGUIDE, but only on a national scale, without international co-operation.

The tools for promoting innovation management techniques developed by these projects are intellectually and financially difficult to develop by a single organisation. The contribution of the Commission to these projects thus appears to be very useful.

B. Information on the various projects

The ACCESS project contractors, whose role was to organise information exchange among the participants of the various projects included in the action line, were obviously the most well informed. However, the ACCESS project coordinator observed that co-operation with the heads of other projects could have been better (it was not always easy to obtain information from them).

Among the other contracting organisations of the accompanying measures, the satisfaction rate was lower. Whereas the project co-ordinators stated they were well-enough informed, half the associated partners found that they were not informed enough. They all appreciated the IMT News bulletin, from the point of view of both its structure and its content, but their interest in the conferences and seminars of the ACCESS project was more limited; half of them did not participate, partly because their contracts did not cover the required travel expenses. The others appreciated the contacts they were able to make during such meetings, notably in order to develop new partnerships, but many of them found that most of the contributions lacked methodological content. It is true that since they themselves were drawing up documents to present various IMTs, they constituted a particularly critical audience in this field.
However, the contractors in this category of project do not all seem to have actively sought information on other IMT promotion projects. Half of them never visited the web site developed by the ACCESS project, and the others did not find it to be very useful (except for CENTRIM, which, while seeking innovation management techniques that could be included in the TEMAGUIDE, appreciated the information relayed by the site).

C. Management

The various tasks imposed by the work plan of the action line fully satisfied the contractors, except for the administrative reports, which some found too complicated. The contractors also make some criticisms of the Commission regarding its payment schedule and for its administrative rigidity (bureaucracy), compared with its intransigence concerning the respect of project deadlines.

D. Recommendations to the Commission's services

If the Commission launches another action of this type, the contractors of accompanying measures felt it should take into consideration the following remarks and suggestions:

On the administrative level:

- improve and simplify the language used by the Commission;
- simplify the structure of the proposals and the activity reports (especially the budgetary chapters);
- make decisions more rapidly.

The remarks of the ACCESS project contractors are more basic:

- This action line should contribute to improving and disseminating the best innovation management techniques in the countries of the European Union. Therefore, starting with experiences carried out in the various countries, the five best techniques should be selected and disseminated by means of seminars, leaving participants enough time to implement them and to see the benefits in their countries.

- In Germany, the SME consulting market is 90% private, with no subsidies. Company incubators are the principal exception, for enterprises in a transitional phase (as, for example, the conversion of defence industries, which accounts for between 2 and 3% of the market). The European Commission has no role to play in this market.

- It could be interesting for public intermediaries to create a “snowball effect” by grouping enterprise consultants and putting them into action. A new activity could then be addressed directly to consultants for the development of tools and methods of intervention, the identification of common denominators (base rules, harmonisation of services) and training.

- A new IMT project could possibly consist of asking the intermediaries to organise the following overall procedure:
  - harmonisation of working methods and enterprise consultant training;
  - communication of the results to a large audience;
  - promotion of the use of enterprise consultants on innovation by SMEs;
  - guarantee of the quality of their services.

These measures would all be more useful to SMEs than providing them with subsidies for contracting consulting services.
3.3. Point of view of enterprise consultants involved in IMT promotion projects

3.3.1. Status and activities of consultants selected

The consultants involved in the various IMT projects were locally selected by the partners of these projects to conduct SME diagnostic and innovation consulting operations, which were included in the action line project programme. These consultants were highly diverse, both from the point of view of status and by the type of service they usually provide for companies. This great diversity is explained by:

- the variety of management techniques promoted by the various projects (already stated in chapter 2.1.5): projects limited to the promotion of design or to environmental quality management techniques needed consultants specialised in these areas, whereas projects that promoted a range of wider techniques selected general consultants who were more capable of carrying out complete diagnosis of the enterprise;
- the diversity of modes of intervention of promoting organisations, as well as their internal resources: organisations that possessed strong competence in enterprise analysis tended to select consultants who execute, rather than those (the majority) who subcontracted the design, management, and execution of schemes in enterprises;
- the quantity of additional financial resources that these bodies were able to mobilise, which could provide them with funds beyond the European Commission subsidy, in order to pay their consultants the market rate.

The levels of specialisation of these consultants with respect to innovation and SMEs are given in Table 11 and Table 12.

Table 11: Percentage of the activity of the selected consultants devoted to innovation

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Consultant</th>
<th>50%</th>
<th>50%</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;90%</td>
<td>20</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>70-90%</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50-70%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-50%</td>
<td>10</td>
<td></td>
<td></td>
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<tr>
<td>10-30%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;10%</td>
<td>25</td>
<td>15</td>
<td></td>
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</tbody>
</table>

Table 12: Percentage of the activity of the selected consultants devoted to SMEs

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Consultant</th>
<th>75%</th>
<th>25%</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;90%</td>
<td>35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70-90%</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50-70%</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>30-50%</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-30%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;10%</td>
<td>5</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>
Promotion of innovation management techniques is not a frequent activity for consultants; only 5% of them had already participated in such actions.

3.3.2. How enterprise consultants participated in these operations

A. Design of the operations

Around 15% of the consultants participated in defining the intervention methodology used by contractors, and in co-ordinating project operations, in co-operation with the promoting organisations. This indicates that nearly all the projects involved at least one consultant in carrying out these tasks.

B. Training seminars

The consultant co-ordinators often also played the role of trainer, presenting the IMTs selected to other consultants. The corresponding training, which was organised by more than 90% of the projects, lasted between 1 and 2 days and in general was highly appreciated by participants (above all because of the tools proposed to them and the possibility of later using them with client companies).

Enterprise Consultants were receptive to acquiring new working methods on innovation management by participating in methodology training seminars.

C. Number and duration of Innovation Consultancy Assignments (ICAs) conducted

The consulting firms selected for carrying out the ICAs conducted between 1 and 25 missions each, the majority being between 3 and 8.

The duration of the ICAs, according to the terms of reference of this action, were not to exceed 10 days of work. Most of the projects conformed to this limit, some of them even sharing the budgeted time between two consultants (one generalist and one specialist). This working time was considered adequate by those who limited themselves to preparing a diagnosis and an action plan. On the other hand, the allotted time seemed too short to those who wanted or hoped to accompany enterprises in the implementation of recommendations.

D. Cost of ICAs

The fees billed by consultants amounted to around 1,200 and 6,000 euros per ICA, according to the extent of the project and the services they rendered. Since they did not manage the projects, they had no precise idea of the total cost of the ICAs. The consultants estimated the amount of time personnel in the beneficiary enterprises spent on these operations to vary between 3 and 20 days, which demonstrates the involvement of companies in these consultancy assignments.

3.3.3. Results observed in enterprises

Nearly all the consultants, with few exceptions (less than 5%), felt that their diagnoses and recommendations were well-received by the enterprises, and that they led to new action useful to them. The types of results considered were very diverse, as were the subjects covered by the various IMTs being promoted:

- “served to demonstrate the underlying capacities of enterprises to really become innovative”;
- “internal improvement in organisation by the implementation of formalised management (quality or environment);
- “became aware of design shortcomings”;
- “increase in profits due to design change”;
- “building international partnerships for developing their technologies and markets”;
- “market culture and change of commercial approach”;
- “technology watch and marketing”;
- “most of the enterprises were too centred on themselves; the project persuaded them to open up to the outside”;
- “better integration of innovation with the other strong-points of the enterprise”;
- “development of new products”;
- “improvement in production planning”;
- “improved productivity”.

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3.3.4. General perception of the action line

A. Information on the various projects

For the selected enterprise consultants, information concerning the various projects of this action line was somewhat insufficient, although they were a public that could have put such information to very good use.

Distribution of the responses of the consultants to this question:

- informed about other projects undertaken in the framework of this action line: 50%
- remember having received the bulletin IMT News: 40% - found the bulletin interesting and useful: 80% of those who received it - feel that it would be a good idea to have such a bulletin (?): 30%
- participated in a general conference: 40% - found conference to be interesting and useful: 80% of those who participated in it - would have liked to participate in such a conference: 15%
- know the internet site of the IMT action line: 40% - actually used the site: 60% of those who knew it - found the site useful: 80% of those who used it - would like to know of such a site (?): 20%

B. Continuation of the use of promoted IMTs

The enterprise consultant-trainers, who introduced or developed the methods used in the various projects, of course intend to continue using them in the future.

Among the consultants who carried out Innovation Consultancy Assignments (ICA) in the framework of this action line:

- 65% stated that they continue to use the methods learned, at least partially, or by integrating them into the range of their services to SMEs;
- 25% stated that they do not use them;
- 15% did not reply to the question.

C. New partnerships

Through these IMT promotion projects, the selected consultants made the acquaintance of other consultants in their regions (during training seminars), or in other countries (for those who participated in accompanying measure conferences or seminars).

Sixty percent of the consultants stated that they found new partners with whom to co-operate, either locally, by taking advantage of their complementarity (the most frequent case), or by including them in their international enterprise partner search network (preparation of European research projects, technology transfer, or product exportation).

D. Continuation of IMT promotion to SMEs

Without exception, the consultants selected for these operations all felt it useful to continue to promote the use of IMT in SMEs. They are open to co-operation with the public sector for such operations.

On the other hand, replies to the question concerning which IMTs are the most important ones to promote in the future, were very diverse; consultants tended to advance techniques in their own field of competence. However, two of the consultants questioned about this had a more holistic vision:

- “all IMTs are important, as long as they are used wisely; it is thus preferable to use a general upstream IMT approach”;
- “what is important is to have a network of enterprise consultants who can provide SMEs with all the combinations of skills they might need”.

3.3.5. The most effective IMT promotion means

The selected consultants graded the various promotion means (from 10 to 1). The results of these estimates are given in Table 13:
Table 13: Impact levels of various means of IMT promotion used (consultants’ estimates)

<table>
<thead>
<tr>
<th>Means of promotion</th>
<th>Impact on SMEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>• diagnosis of enterprise needs by consultants:</td>
<td>8.5</td>
</tr>
<tr>
<td>• meetings including IMT-user testimony:</td>
<td>8.4</td>
</tr>
<tr>
<td>• sensitisation of enterprises by specialist visits:</td>
<td>8.4</td>
</tr>
<tr>
<td>• technical assistance for IMT implementation:</td>
<td>8.3</td>
</tr>
<tr>
<td>• IMT training seminars:</td>
<td>7.3</td>
</tr>
<tr>
<td>• publication of case studies:</td>
<td>6.5</td>
</tr>
<tr>
<td>• publication of practical IMT user guides:</td>
<td>6.5</td>
</tr>
<tr>
<td>• production of a CD-ROM describing IMT use:</td>
<td>5.2</td>
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<td>• promotional flyers or brochures:</td>
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<td>• internet site:</td>
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<td>• press articles (newspapers or magazines):</td>
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<tr>
<td>• radio or television programmes:</td>
<td>2.9</td>
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3.3.6. Final remarks of the selected consultants

Most of the selected consultants would like to see this type of action, which they found useful for enterprises and profitable for consultants, continue, or be renewed. Their criticisms, and the improvements they would like to see, concern:

- promotion of this action to local institutions and enterprises, which should be extended;
- dissemination of a selection of the best parts of IMTs promoted by projects of this action line;
- remuneration of consultants participating in the operation was too low, for projects which limited their fees to Commission ceilings;
- the enterprise subsidy level, which is too high and falsifies companies' perceptions of the true costs of consulting services (subsidies facilitate the sale of SME audit services, but it is then difficult to sell them complementary services at regular prices);
- the bureaucracy for these projects, which is too heavy.
3.4. **Point of view of SMEs that benefited from an innovation consultancy assignment**

This is the category that least responded to our survey, which is not surprising, since SMEs are inundated with forms to fill out and are little motivated to do so unless they see a possibility of a “return on investment”. Since the sample that was analysed consisted of only 9 replies, out of the 800 SMEs that benefited from consulting services in the framework of this action line, the following comments have only indicative, qualitative value. Nevertheless, they are pertinent, since they represent 8 countries and 8 different projects and come from enterprises of quite different sizes (from 7 to 210 persons).

3.4.1. **Access of SMEs to this IMT promotion**

A. **Source of information on the operation in which they participated**

- the promoting organisation: 55%
- a selected consultant: 33%
- an enterprise that had already participated: 11%
- other: 11%

B. **Principal objective for participating in this operation**

(several choices possible)

- exploitation of R & D: 44%
- promotion of innovation: 55%
- competitiveness: 55%

3.4.2. **Practical considerations for carrying out these operations**

The duration of the innovation consultancy assignments (around 10 days) was found to be inadequate by 8 of the 9 enterprises analysed. One of them nevertheless stated that the duration was sufficient for the diagnosis, but too short for implementing the proposals.

The time it took to carry out the projects was quite variable: from 2 to 6 months for seven enterprises, and around a year for the other two (with no other comment).

The working time devoted by enterprise personnel was more or less proportional to the time it took to complete the project: 3 to 16 days for seven of them, 20 and 60 days for the other two. It seems that the longest times corresponded to enterprises that went further than the others in implementing the recommendations of their consultants.

The skills and working methods of the consultants were found to be good and well-adapted by 8 out of the 9 enterprises.

3.4.3. **Results observed by the enterprises**

None of these nine enterprises used any special innovation management techniques prior to participating in this operation (however, one of them mentioned having used a creativity tool, “brainstorming”).

At the end of this operation, four of the nine enterprises felt they had familiarised themselves with a particular innovation management technique. The IMTs they cited were:

- **Method for evaluating the feasibility of new product development projects** (Finland)
- **Benchmarking** (Ireland)
- **Total Quality Management** (Italy)
- **Problem-solving method and technique** (Luxembourg)

The five other enterprises did not acquire any particular methodological knowledge. The intervention of the consultant served only to demonstrate the possibilities for improving the functioning of the enterprise, which corresponded to their immediate need.
The practical results of these operations cited by the SMEs were very diverse:

- “company strategy”;
- “demonstration of a certain logic in our R&D strategy and confirmation of our priority axis”;  
- “better position enterprise communication by targeting the activity and stressing the strong-points”;
- “benchmarking has confirmed the sound basis of some of our commercial practices”;  
- “objective evaluation of the status of quality in the company”;
- “instrument for planning new improvement actions”;  
- “reduction in delivery times to clients”;
- “proposal for managing the entire maintenance sector”;
- “improvement in competitiveness due to a better purchasing policy”;  
- “providing an English-language description of the activities of our company” (Greek enterprise that considered the operation as having failed).

While it was possible for enterprises to use most of these results, they are rather far removed from the exploitation of research results and innovation management, which were supposed to constitute the central axis of the action line.

3.4.4. General perception of this action line.

Overall assessment by SMEs with respect to their participation in these operations.

- positive; results were practical: 44%
- useful, but insufficient practical results (lack of time to apply them): 22%
- nothing new obtained: 11%
- no comment: 22%

A. Continued promotion of the IMTs in SMEs

Eight SMEs of the nine found it would be useful to pursue such promotion operations.

With respect to which IMTs the SMEs considered most important to promote, four enterprises proposed those from which they benefited, four others did not answer, and the ninth one considered that the information they had concerning the IMTs was insufficient to allow them to answer this question (which, in fact, seemed to be the general case).

B. The most effective IMT promotion means

SMEs that benefited from IMT promotion operations graded their promotion means according to their impact levels (from 10 to 1). These results are given in Table 14.

<table>
<thead>
<tr>
<th>Means of promotion</th>
<th>Impact on SMEs</th>
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<tr>
<td>sensitisation of enterprises by specialist visits:</td>
<td>7.8</td>
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<tr>
<td>technical assistance in implementing IMTs:</td>
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<td>7.2</td>
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<td>internet site:</td>
<td>6.7</td>
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<tr>
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<td>meetings including IMT-user testimony:</td>
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</table>
3.5. **Point of view of national innovation policy managers**

This part of the survey integrates the points of view of nine managers of national organisations responsible for innovation support policy (four ministries and five ministerial agencies in eight EU countries).

These nine leaders represent government ministries or public organisations responsible for research and/or technology development in enterprises. Seven of them are members of the Management Committee of the Innovation Programme of the European Commission, and the other two both have a colleague who is on that Committee. They are therefore familiar with the innovation support activities conducted under the European Commission's auspices. Their organisations support innovation in diverse ways (regulations, financing, support structures), but they are not all directly involved in operations conducted at the company level. Only six of them claim to know them well.

The European dimension of the IMT action line also interested several of these leaders:

- “diversity in the methods of promotion and of IMTs in different countries”;
- “possibility to compare IMTs used by various national organisations, to select the right tools for our national activities, and to co-operate with organisations in other countries”;
- “complementary to our own initiatives”.

The usefulness of the European Commission's action was nevertheless contested by one national representative, who said that this action should have been interrupted because of the large number of national initiatives of the same type.

### 3.5.1. **Interest of IMT promotion operations**

The promotion of innovation management techniques is a new activity for most of these national organisations. Before the launch of the IMT action line, only three of these organisations had conducted similar activities (Austria, United Kingdom, and Ireland).

All leaders consulted found it interesting to promote the use of innovation management techniques among SMEs:

- “It's a new road toward developing innovation support services for SMEs”.
- "The management of innovation strengthens its impact on company competitiveness”.
- “This provides enterprises with an opening to other European programmes, especially CRAFT”.

3.5.2. **Impact on SMEs**

Only two of these managers had received feedback regarding the impact of IMT projects on the SMEs involved:

- “They led to the renewal or improvement of strategies for technological development or innovation in the SME beneficiaries”.
- “They illustrated the benefits that derive from the methodological input of consultants. They are useful for changing the attitudes of managers”.

A third manager underlined the methodological impact of these projects:

- “Our participation in the IMT action led to faster and more complete development of an appropriate toolbox, and the tools we developed were transmitted to other organisations”.

A fourth was more doubtful:

- “These projects have a direct impact on enterprises that serve as case studies, but their indirect impact on the SME environment is weaker, for two reasons:
  - the ‘consultant-orientation’ of numerous projects;
  - the disconnection from technical operations of SMEs.”
3.5.3. Continuation of IMT promotion

All the managers consulted were favourable to continuing the promotion of innovation management techniques in their countries. However, their objectives and the methods envisaged were not all the same:

- “We are continuing our IMT promotion programme in 1999 with our own resources”; (half those questioned).
- “It is important for enterprises to become more aware of the importance of management for innovation and productivity”.
- “Experience clearly shows that IMT promotion must continue, especially the exchange of experiences, the identification of good practices, and the setting up initiative networks”.
- “You cannot promote IMTs in a way that is disconnected from the implementation of innovative projects”.
- “IMT promotion must be carried out in close connection with technology transfer and innovation projects”.
- “IMT promotion must be carried out in the framework of wider programmes. It could be included in the thematic programmes of the Fifth PCRD”.
- “These techniques should be applied for the exploitation of RTD results (especially the extra-ordinary flow of the European Research Framework Programme). Link the IMT action line to the activities of the new clusters of research projects”.
- “Capitalisation of SME experience must be favoured to traditional consulting”.

Their opinions are also varied with respect to which IMTs should be given priority as regards promotion:

- “Develop a toolbox that allows taking the individual needs of enterprises into account, using the most appropriate tools”.
- “Research project management (CRAFT projects)”.
- “Validation of technology transfer projects”.
- “Benchmarking”.
- “Methods for stimulating work-sharing and technological development”.
- “Competence building and knowledge management”.
- “IMTs that strengthen competitiveness. When companies attain the world class level of competitiveness, they generate sufficient profits for R&D”.
- “R&D and innovation management”.

3.5.4. The most effective IMT promotion means

The managers consulted graded the various promotion means (from 10 to 1). The results of these estimates are given in Table 15.

<table>
<thead>
<tr>
<th>Means of promotion</th>
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</table>
3.5.5. Comments and suggestions

The public managers interviewed recommended disseminating the results of this action line by all the means available, particularly in order to make instruments that have already been developed known to companies and their intermediaries:

- by the publication of brochures or on the internet;
- by consultant networks, research centre associations, technology brokers, university research/industry interfaces, science parks and technopoles, Innovation Relay Centres, etc.

A few complementary work approaches were also suggested to the Commission:

- “We now have a long list of well-identified instruments, but it is still necessary to specify the field of application of each of them (state of evolution of the company and corresponding needs)”.
- “Numerous instruments have been developed for carrying out audits, but some are still missing for preparing and developing enterprise strategy”.
- “Try to improve innovation management techniques and disseminate them in the other countries. At present, each country does its ‘own thing’. Choose the five best techniques and disseminate them widely, but also hold seminars and take the time to evaluate the benefits obtained in each country”.
- “Look at how institutions that support enterprises can become efficient by using a mode of economic functioning more like that of the private sector”.
- “In Spain, the CRAFT programme functions well in SMEs because they do not need to lay out money to pay the technical centre that does the work. How can we develop a market for innovation support services?”.

Overall, these national innovation policy leaders are broadly in favour of continuing co-operation among organisations in the various Member States for developing and promoting innovation management techniques.
3.6.  Point of view of organisations that represent SMEs

This part of the survey consists of the information received from fourteen organisations in eight countries of the European Union that provide general services to SMEs in their regions, including eight professional associations and six services specialised in European affairs (services in chambers of commerce and regional development agencies).

3.6.1.  Knowledge of these IMT promotion activities

Among the representatives of these fourteen organisations, only five (35.7%) remember having heard of IMT promotion activities supported by the European Commission (from an organisation in their region, from their ministry, from Cordis, or from specialised Commission bulletins).

The nine other organisations appear to know nothing about IMT promotion actions supported by the European Commission. They have no comments to make concerning the interest of such actions; however, two of them would like to know more about this subject.

3.6.2.  Impact on SMEs

None of the fourteen organisations had heard of the impact of these IMT promotion operations on enterprises.

To be able to interest a larger number of SMEs, those in charge of IMT promotion campaigns should co-operate with organisations that represent the SMEs of their region (as did the PARTNERS project, conducted in France by the Ecole Supérieure de Commerce de Grenoble in co-operation with the Union Départementale des Industries Mécaniques).

3.6.3.  Continuation of IMT promotion

All those who commented on this subject (65%) were in favour of continuing the promotion of IMTs among SMEs. Two remarks:

- “These operations should be controlled better”.
- “These operations apparently don't attract the smallest SMEs”.

Since most of them are not specialists in this kind of management techniques, they did not have opinions regarding which techniques were important to promote. A few quotes:

- “methods of R&D transfer to SMEs”;
- “setting up teams, managing change, creativity”;
- “stimulation of innovation in the enterprise”.

3.6.4.  The most effective IMT promotion means

Managers in charge of these organisations graded the various IMT promotion means (from 10 to 1). The results of these estimates are given in Table 16.
Table 16: Impact levels of various means of promotion of IMTs used (estimates by managers of organisations that represent SMEs)

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<thead>
<tr>
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<tr>
<td>• publication of practical IMT user guides:</td>
<td>7.3</td>
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<tr>
<td>• case study publication:</td>
<td>7.0</td>
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<tr>
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<td>• internet site:</td>
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3.6.5. Comments and suggestions

- “IMT promotion by professional organisations could reach a larger audience”.
- “For SMEs, the image of actions for technological development/technology transfer supported by the European Commission is very confused. Co-ordinating them and using existing networks such as the IRCs would provide benefits”.
3.7. Point of view of innovation management consultants not involved in IMT promotion projects

Eighteen consulting firms established in nine countries of the European Union responded to our survey. They are all small companies (between one and ten consultants). Their levels of specialisation with respect to innovation and SMEs are given in Table 17 and Table 18.

Table 17: Percentage of the activity of our sample of innovation management consultants devoted to innovation

Table 18: Percentage of the activity of our sample of innovation management consultants devoted to SMEs

The revenue of the majority of them (67%) derive from innovation consulting, and 73% of them obtain more than half their revenue from SMEs. Overall, they have good experience with innovation consulting in SMEs.

3.7.1. Knowledge of IMT promotion activities

Fifty-percent of the consultants in this sample had already participated in IMT promotion operations, either in the framework of prior European Commission programmes, as part of national or regional operations, or in order to promote their own set of tools (only 11%). They had also heard of the IMT action line from the Innovation Programme bulletins, from CORDIS, or from regional or national organisations with which they co-operate.

The other half of this sample had never participated in an operation of this type, or even heard of one.
Fifty percent of these consultants (the same as the “informed” consultants) stated that they also regularly used formalised IMTs. The others work using “common sense, experience, 20 years of logic and innovative projects”.

Impact on SMEs

These consultants, who were not involved in the IMT action line, had no feedback on its impact on SMEs.

Impact on the working methods of these consultants

Three of these consultants (17%) stated that they had used the promoted IMTs to improve their own working methods. Four others (22%) would have liked to know more about the action line. The others felt that this operation had no impact on their working methods, or did not comment.

3.7.3. Continuation of IMT promotion

Fifty-six percent of the consultants not involved in the action line and who responded to our survey were favourable to continuing IMT promotion operations for SMEs. Four specific remarks:

- “This promotion should not be conducted in an isolated manner. IMTs should be a part of the market/product strategy of the enterprise and innovation should be considered a process (continuous) rather than a project”.
- “Have IMTs promoted indirectly by regional technology transfer organisations and by means of courses/seminars meant for students”.
- “Involve private organisations more and institutions less”.
- “Have IMTs promoted by consultants specialised in innovation management, who could be trained in IMT”.

Eleven percent of this sample of consultants was against continuing IMT promotion actions in SMEs:

- “It would be more useful to use this money to organise one- or two-day courses aimed at new graduates in science and in engineering”.
- “Most SMEs do not have anyone to serve as an interface with consultants, and have difficulty in evaluating the quality of the services”.

Consultants favouring the use of formalised IMTs found that they had a series of advantages for them:

- “effectiveness” (cited several times);
- “commercially viable and profitable; very agreeable to use”;
- “improve our competitive position in regional or sectoral innovation projects; reduce intervention costs for enterprises”.

and for their clients:

- “effective and reasonably priced”;
- “stimulate intellectual activity”;
- “improve performance”;
- “introduction to the innovative process”.

3.7.2. Perception of IMT promotion actions supported by the European Commission

The opinions expressed by those who knew of them were quite varied. The majority appreciated the IMT action line:

- “there is always something interesting in these initiatives”;
- “support several national innovation programmes”;
- “actions of general interest”;
- “integrate well into our range of activities and service to SMEs”.

Others were more critical:

- “The former SPRINT programme was useful. The present programmes include too many inefficient participants from the public sector”.
- “Little interest; too theoretical and too far from the reality of the terrain”.

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The other 33% did not comment.

With respect to the IMTs to be given priority in promotion schemes, the opinions of the consultants diverged:

- “SMEs mostly need check-lists”;
- “marketing and project management” (cited twice);
- “specification of technology requirements (technology audits)”;
- “tools for aiding reflection, for the development of creativity, or for implementing quality procedures”;
- “holistic IMTs; it is important to look at innovation as a key element in the development of standards for business excellence”;
- “IMTs that cover the entire innovation cycle; a systematic approach is necessary to change the behaviour of SMEs”;
- “an upstream thinking tool: preparation for innovation; and a downstream tool: implementation of an innovation plan”;
- “SMEs need solid support to manage their technological development, their research, and their marketing”.

3.7.4. The most effective means of IMT promotion

These consultants graded the various IMT promotion means (from 10 to 1). The results of these estimates are given in Table 19.

Table 19: Impact levels of various means of promotion of IMTs used (innovation management consultants’ estimates)

<table>
<thead>
<tr>
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<tr>
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<tr>
<td>radio or television programmes:</td>
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</table>
3.7.5. Comments and suggestions

For this category of private consultants not involved in IMT projects, the comments and suggestions mainly concerned the modes of cooperation between the public and private sectors:

- “The excessive number of European programmes is disturbing the market. They seem to mainly support inefficient organisations in the public sector and to inhibit the natural growth of good consulting firms. We don’t need lawyers and accountants financed by the European Commission. A new innovation support profession is developing.”
- “The positioning of ‘business links’ in the United Kingdom must be better defined in order to facilitate their co-operation with consultants. They feel very uncomfortable once a year when it is time to renew their subsidies, and cannot carry out their work correctly. This has led them to develop their own consulting services and to compete with consultants, which is unhealthy”.
- “We have already tried to develop new methods, working with universities, but this has been too slow. We prefer to develop them with clients and with service providers”.
- “SMEs that do not pay the total costs of a job are not very interested in its result”.
- “It is the enterprise (SME) that should benefit from the aid; in order to be able to decide what interests it and to choose its consultants. Do not add any bureaucratic intermediaries (national, regional, or local).
- “Place private consultants on the front line rather than at the operation level, in order to allow them to participate in the design of operations, and to carry out the projects at a good level”.

These consultants are also interested in the contents of and approaches to IMT projects:

- “Multiply networks for disseminating the results of IMT projects. Their financing is public, and their results should be too, allowing all interested professionals to benefit”.
- “Disseminate the practical results of these projects, in terms of working methods and concrete examples; the description of work accomplished is only of anecdotal interest (this is a weak point of the IMT news bulletin)”.
- “I hope that a mechanism can be found to continue the development of IMTs and to institute some kind of continuing improvement programme for the most used IMTs”.
- “The European Commission planners should consider adding knowledge management — human, not techniques — to the IMT concept”.
- “Favour the transfer of IMTs by young graduates hired by companies, by teaching them the corresponding know-how before they leave the university”.

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3.8. Point of view of organisations not involved in IMT promotion projects

In order to complete the analysis of the perception of the IMT action line by its potential users, we interviewed a series of innovation promotion organisations, of types comparable to the contractors of the selected projects, but not involved in these projects. Of a total of 46 organisations questioned, only 9 replied to our questionnaire. This low response-rate was mainly accounted for by the science parks and technopoles, of which only 1 out of 22 replied. The responses received came from seven countries of the European Union.

3.8.1. Awareness of IMT promotion activities

The organisations that responded to our survey felt concerned with IMT promotion, which clearly appeared to be among their functions. Seven of them stated that they knew of initiatives of this type on the regional, national, or European level. Among the European operations, the IMT action line was mentioned four times.

Five of these organisations themselves conducted IMT promotion operations of various types:

- marketing, value analysis, design, project management, strategy;
- technology watch, market identification, technology search, enterprise structuring as a function of innovation;
- management of change;
- utilisation of key technologies, economic intelligence.

3.8.2. Perception of IMT promotion actions supported by the European Commission

Six of these organisations believed that they knew of the activities of the European Commission’s Innovation Programme, but only four of them actually knew of the IMT action line. They had been informed of it by Innovation Programme publications (bulletins, CORDIS), and by a brochure presenting the project (one case), publicity for an IMT conference (one case), and internet pages of the national technology promotion organisation (one case).

Three organisations stated that they found the following operations to be interesting:

- “methods for measuring the performance of, and exchange of the practices among SME managers”;
- “much information and numerous useful contacts”;
- “recognition and validation of the position of our organisation”.

These three organisations were inspired by IMT promotion actions they knew about in order to:

- “develop our own regional IMTs, adapted to local requirements”;
- “activate enterprise clubs around IMTs”;
- “promote economic intelligence”.

Only one had heard of the impact of these promotion operations on SMEs:

- “improvement of production processes and acceleration of growth”.

3.8.3. Continuation of IMT promotions

In spite of the rather weak impact of the IMT action line on organisations that were not involved in them, these organisations were nearly all in favour of continuing the promotion of IMTs in enterprises.

Only four of these organisations had precise views on which IMTs to give priority to in promotion measures:

- “train ‘innovation champions’: development of supervision, exchanges of personnel”;
- “technology audit”;
- “technology prospectives”;
- “creativity, in order to find valid innovative applications”;
- “reduction in the time it takes to exploit knowledge”;
- “risk management; knowledge management”.

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3.8.4. The most effective means of IMT promotion

The contacted managers of these organisations graded the various means of IMT promotion (from 10 to 1). The results of these estimates are given in Table 20.

Table 20: Impact levels of various means of promotion of IMTs used
(estimates by managers of development support organisations not associated to this action line)

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<td>consultant diagnosis of enterprise needs:</td>
<td>7.1</td>
</tr>
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<td>IMT training seminars:</td>
<td>6.2</td>
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<tr>
<td>Meetings including IMT-user witnesses:</td>
<td>6.2</td>
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<tr>
<td>Technical assistance in implementing IMT:</td>
<td>5.2</td>
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<tr>
<td>Sensitisation of enterprises by specialist visits:</td>
<td>4.8</td>
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<tr>
<td>Publication of practical IMT user guides:</td>
<td>4.8</td>
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<tr>
<td>Case study publication:</td>
<td>4.3</td>
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<tr>
<td>Press articles (newspapers or magazines):</td>
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<tr>
<td>Radio or television programmes:</td>
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<tr>
<td>Development of an internet web site</td>
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<tr>
<td>promotional flyers or brochures:</td>
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<tr>
<td>production of a CD-ROM describing IMT:</td>
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</table>

3.8.5. Comments and suggestions

The comments of managers of these organisations not involved in the Innovation Programme IMT action line, indicate that they would have preferred to be involved, or at least better informed of their contents:

- “Dissemination of the results, especially on the IMT internet site, is very insufficient”.
- “Publish a general synopsis on the subject of IMT”.
- “Further involve regional technology centres and innovation support networks. If they are functionally involved in IMT development, they will be more inclined to use and promote them. They will also benefit from the transfer of good practices during these developments”.
4. APPENDICES
Appendix 1

Résumé of the various projects
supported by the IMT action line and useful contacts
1.1. Short description of the IMT projects and accompanying measures supported by the Innovation Programme of the European Commission from 1997 to 1999.

The following pages provide a brief of each IMT promotion project and accompanying measure supported by the Innovation Programme of the European Commission from 1997 to 1999.

Contact data will also allow the reader to get in touch with the project leader, in order to request additional information not included in these briefs.

A. Promotion of Innovation Management Techniques (IMT specific Projects)

A.1. “AIMS” - Applied Innovation Management for SMEs

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<td>• FORBAIRT</td>
<td>IRL</td>
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<td>PRO 04/17</td>
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Résumé:

A.1.a. “AIMS”: Applied Innovation Management for SMEs (PRO 004)

The AIMS project was related to the application of World Class Business techniques, normally applied in large organisations, to SMEs. Translating these techniques to SMEs represented an important effort, but the concepts of the methodologies proved to be just as useful and applicable in small companies as they are in large corporations. In order to allow companies to reduce consultancy costs and to exchange experience, an interesting experience on clustering companies from different industrial sectors has been carried out.

This methodology was tested on 12 Irish SMEs, active in industrial sectors, by 6 consultants specially selected and trained. For each company, it begun by an initial diagnostic, leading to the definition of an improvement project. The implementation of these projects allowed to search, find and validate the following tools and methodologies:

• Just in time manufacture
• Total quality management
• Employee involvement
• Business process re-engineering
• Financial measures
• Supplier development
A.1.b. “IDEAS”: Integrated Product Development Expertise Applied to SMEs
(PRO 017)

This project was associated with the previous one (AIMS). Both were run by the same
contractors along the same lines (clustering industrial companies and beginning by an initial
diagnosis). The IDEAS project aimed to stimulate Irish SMEs to become more innovative
by structuring the product development process as early as possible and integrating the
design of both product and manufacturing processes. In order to test this methodology on 12
Irish SMEs, the corresponding IMTs have been selected:

- Quality function deployment
- Functional analysis
- Creativity techniques
- Concept analysis/Decision matrices
- Failure mode/Criticality/Effect analysis (FMCEA)
- Value analysis
- Project auditing
- Stage-gated project planning.

Project Leader: • Mr John J. MURPHY, Manager
Manufacturing Consultancy Services
Enterprise Ireland
Glasnevin
IRL-DUBLIN 9
Tel.: 353-1-808 2562 Fax: 353-1-837 9338

A.2. “INVENT” - Method for targeted economic-oriented research in SME
invention management

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<tbody>
<tr>
<td>T.I.N.A. (Technologie und Innovations Agentur Brandenburg GmbH)</td>
<td>D</td>
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<td>PRO 006</td>
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<tr>
<td>PAETEC Wirtschaftskademie Berlin</td>
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<td></td>
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<tr>
<td>Brandenburgische Technische Universität Cottbus</td>
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Résumé:

Through this project, the partners aimed to redefine and improve the invention techniques
previously developed by the former East Germany Invention School, and to spread this
knowledge to consultants, teachers and company managers through training. 14 innovation
consulting assignments were carried out in SMEs by selected and trained consultants, who
also considered complementary issues such as quality, design and marketing. Other
initiatives included searches in patent databanks, publishing a handbook and producing a
CD-ROM.

Project Leader: • Prof. Dr. Klaus-P. SCHULZE
T.I.N.A. - Technologie und Innovations Agentur Brandenburg
Haus der Wirtschaft, Schlaatzweg 1
D-14473 POTSDAM
Tel.: +49-331-277 8278 Fax: +49-331-277 8101

68
A.3. “IMPACQT” – Diagnosis of SMEs and implementation of productivity, creativity and quality techniques in order to have an impact on SME competitiveness

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<tr>
<td>Steinbeis Europa Zentrum - Stuttgart</td>
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<td>PRO 008</td>
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<tr>
<td>IECS - Strasbourg - Université R. Schuman</td>
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Résumé:

The objective was to have an impact on SME competitiveness, even when they are working under time and resource pressures, by implementing several specially selected IMTs. Project partners carried out 32 innovation consulting assignments in the Upper Rhine (Germany), France and Germany, with 10 consultants specially trained in selected IMTs to be applied (technology watch, creativity stimulation, business process re-engineering, quality function deployment and lean production).

Project Leader:  
• Dr. Ing. Günther WÜRTZ  
Steinbeis Europa Zentrum  
Haus der Wirtschaft, Willi-Bleicher-Straße, 19  
D-70174 STUTTGART  
Tel.: +49-711-1234 010 Fax: +49-711-1234 011

A.4. “MAIN” - Management of Innovation (in Italian SMEs)

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<td>ASTER (Agenzia per lo Sviluppo Tecnologico dell’Emilia Romagna)</td>
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<td>Centro Sviluppo S.p.A.</td>
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<td>CESTEC - Centro Lombardo per lo Sviluppo Tecnologico e Produttivo delle Piccole e Medie Imprese S.p.A.</td>
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<td>CESVIT - Agenzia per l’Alta Tecnologia S.p.A.</td>
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<td>AREA TS - Consorzio per l’Area di Ricerca di Trieste</td>
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<td>Consorzio Ventuno</td>
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<tr>
<td>ENEA - Ente per le Nuove Tecnologie, l’Energia et l’Ambiente</td>
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<td>ITC - Istituto Trentino di Cultura</td>
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<td>SITECH - Servizi per l’Innovazione Tecnologica s.r.l.</td>
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Résumé:

The purpose of this project was mainly to facilitate the improvement of the competitiveness of companies through the promotion of several IMTs, in the mechanical, electronic, food and plastic sectors. 53 innovation consulting assignments were carried out in several Italian regions, with the aim of:

- Providing experience to all actors involved in the action;
- Starting “imitation” mechanisms based on best practice towards other SMEs;
- Promoting the creation of a skilled environment in the area, able to supply suitable services for each specific case;
- Establishing effective methodologies for the identification and selection of consulting services, which will improve the application of IMTs.

Project Leader:  
- Mrs Leda BOLOGNI  
ASTER  
Via Morgagni 4  
I-40122 BOLOGNA  
Tel: +39-051-236 242 Fax: +39-051-227 803

A.5. “PARTNERS” - Promotion of Innovation Management Techniques in the field of sub-contracting

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<td>ECOLE SUPERIEURE DE COMMERCE DE GRENOBLE</td>
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<td>CRCI-ARIST (Chambre régionale de Commerce et d’industrie Rhône-Alpes)</td>
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<td>ANRT (Association Nationale de la Recherche Technique)</td>
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<td>UDIMEC (Union des industries métallurgiques électriques et connexes de l’Isère)</td>
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<td>INFYDE (Information y Desarollo S.L.)</td>
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<tr>
<td>ZENIT (Zentrum für Innovation und Technik in Nordrhein-Westfalen GmbH)</td>
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<tr>
<td>CENTRO SVILUPPO S.p.A.</td>
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Résumé:

This project aimed at validating the applicability of several IMTs to foster innovation and competitiveness in SMEs from the sub-contracting sector. 23 innovation consulting assignments were carried out in several French regions, with a common structure in two steps:

- Strategic assessment or choice for an innovation project, and preparation of an action plan (5 days);
- Follow-up process, including the transfer to the SME of those specific IMTs selected by the company and the consultants, which were:
  - INNOTEC: global analysis and diagnosis
  - INNOSTRAT: strategy analysis
  - CREATEC: Creativity method
  - INNOVEIL: technology watch
  - PROJECT: project management
  - MARKINNOV: marketing of innovation.

Project Leader:  

Mr Claude OTRAGE  
ECOLE SUPERIEURE DE COMMERCE DE GRENOBLE  
Centre TIME, 12 rue Pierre Sémand  
BP 127  
F-38003 GRENOBLE CEDEX 01  
Tel.: 33-476 706 027 Fax: 33-476 706 099

A.6. “Innovation Management Techniques Iceland”

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<td>ICETEC (Technological Institute of Iceland)</td>
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Résumé:

The main objective of the project was to introduce the original Norwegian BUNT/FRAM methodology to consultants and into the SME environment in Iceland as a tool to promote and conduct innovation. This methodology provides an overall business view of a company and then assists in reducing costs, increasing efficiency and becoming more customer oriented. Eventually, this IMT is acquired by the company so that it can continue using it in the future.

Project Leader:  

Mr Karl FRIDRIKSSON  
Head of Department of Innovation Productivity  
ICETEC  
Keldnaholt  
IS-12 REYKJAVIK  
Tel: +354-587 7000 Fax: +354-587 7406
A.7. “Promotion of the use of Innovation Management Techniques among SMEs which normally do not have access to other supporting schemes”

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<tr>
<td>APRODI (Association pour la promotion et le développement industriel)</td>
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<td>PRO 013</td>
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Résumé:

The objective of the project was to increase the number of SMEs absorbing new technologies and the number of innovative SMEs through the use of a tool conceived to take into account the needs of SMEs which normally do not have access to other supporting schemes. Its specificity was the use of action-training and of the CICERON diagnosis methodology, based on three theoretical principles:

- Differentiate between operational needs (optimisation of costs and resources, quality management, …), and innovation needs (resources required to innovate, research on new process, management evolution, …);
- Follow a 7 step process, from R&D to memory and experience;
- Once the innovation process is on the move, the gaps between knowledge and needs become smaller and smaller, which makes satisfaction and interest in new innovations grow.

Project Leader:  

- Mr Jacques EGUIMENDYA  
  APRODI  
  17 rue Hamelin  
  F-75764 PARIS  
  Tel.: +33-147 275 149 Fax: +33-147 275 150

A.8. “IMT-NL” - Innovation Management Techniques in the Netherlands

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<td>Stichting Innovatiecentra Netwerk Nederland</td>
<td>NL</td>
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Résumé:

This Dutch project aimed at gaining a better insight into the merits and possibilities of using IMTs in SMEs. A team of 12 consultants was selected to undergo a programme of training in the selected IMTs:

- Knowledge analysis method, whose objective is to induce SMEs to consider SMEs to consider knowledge as one of their means of production, making them aware of its value;
- Triation, an idea generation technique used to improve areas such as quality, production, human resources management, etc;
- Technology calendar, which analyses the company in a systematic way taking into account technology evolution and consequences for the technological and product company’s strategy.

These consultants achieved a total of 45 innovation consulting assignments in the Netherlands.

Project Leader:  
Mr E.G. LOUZADA, Manager External Relations  
STICHTING INNOVATIECENTRA NETWERK NEDERLAND  
Koninginnegracht 61-62  
NL-2514 AE DEN HAAG  
Tel.: +31-70-356 7676 Fax: +31-70-356 7699

A.9. “PROTEGIL” - Promoting Innovation Management Techniques in the Great-Duchy of Luxembourg

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<td>Luxinnovation</td>
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<td>Centre de Recherche Public Henri Tudor - CRP-HT</td>
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<td>Luxcontrol S.A.</td>
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<td>Centre de Commerce du Grand-Duché de Luxembourg</td>
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<td>Chambre des Métiers du Grand-Duché de Luxembourg</td>
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<td>Fédération des Industriels Luxembourgeois A.S.B.L. - FEDIL</td>
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Résumé:

The aim of this project was to develop and reinforce competence and experience in promoting and using a selection of 4 IMTs in order to increase competitiveness of Luxembourgish SMEs:

- Technology Watch and industrial property rights, based on the TWIPS (Technology Watch Innovation Protection System) method;
- Quality Assurance, which allows SMEs to use simple but useful tools to improve quality processes;
- Environmental management, designed to inform and train SMEs in environmental regulations;
- Industrial design, to improve SME’s design skills in product design, environmental design, and corporate design identity.
15 consultants were trained in these techniques, and 8 of them achieved 18 innovation consulting assignments.

**Project Leader:** • Mr Gilles SCHLESER

**LUXINNOVATION**

7 rue Alcide de Gasperi

L-1615 LUXEMBOURG

Tel.: +352-436 263 Fax: +352-432 328

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### A.10. “TIPPS” - Transnational Innovation Pilot Programme in SME’s

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<td>FORBAIRT</td>
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<tr>
<td>ICT (Institut Català de Tecnologia)</td>
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<td>NIMTECH (The North West Regional Technology Company Ltd)</td>
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<td>ELKEPA (Greek Productivity Centre)</td>
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**Résumé:**

This project was focused on improving product development in SMEs and was implemented in 8 stages:

- Internal Innovation Audit, completed by the company using a self-assessment document (management, marketing, strategy, R&D, operations and quality);
- External Capability Audit, undertaken by selected consultant at the company (SWOT analysis considering the functional areas evaluated previously);
- Product Portfolio Analysis, by the consultant;
- Diagnostic report, by the consultant;
- Technology Watch, undertaken by the company with the guidance of the consultant;
- Action Plan, produced by a team from both the consulting company and the analysed company and proposing an ideal project, keeping in mind the constraints and the possibilities of the company, including the analysis of internal and external routes for reaching the goals.

A total of 60 innovation consulting assignments were carried out in 4 countries, seeking to share experiences that will be applicable in different innovation environments.

**Project Leader:** • Mr Ray McSHERRY, Head, Technology Transfer & Partnerships

**Enterprise Ireland**

Glasnevin

IRL-9 DUBLIN

Tel.: +353-1-808 2000 Fax: +353-1-808 2331
A.11. “MINTIN” - The Merging of Innovation Management Techniques in Norway

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<th>PARTNER(S)</th>
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<tr>
<td>• National Institute of Technology</td>
<td>N</td>
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<td>PRO 027</td>
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Résumé:

The FRAM methodology developed in Norway and used by this project represents a way to create both result-oriented management and leadership in SMEs. This project aimed at helping SMEs to strengthen their long-term business prospects through innovation consulting assignments by:

- Developing a common agreed and tested approach combining experience from former programmes and projects in Norway;
- Training 12 consultants in the BUNT and FRAM techniques, but also include tools dealing with customers and suppliers integration, product improvement, process development and simplification;
- Carrying out 35 company assignments;
- Producing written training material suitable for presentation in broader areas
- Organising regional meetings to spread the results.

Project Leader:  
• Mr Geir KUVÅS, Project Manager  
NATIONAL INSTITUTE OF TECHNOLOGY  
PB 2608  
St. Hanshaugen  
N-0131 OSLO  
Tel.: +47-2286 5000 Fax: +47-2220 1801

A.12. “FINN-IMT” - Innovation Management Techniques in Finland

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<th>PARTNER(S)</th>
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<tr>
<td>• Teknologian Kehittämiskeskus - TEKES</td>
<td>FIN</td>
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Résumé:

Building on the results of the former MINT programme, this project aimed to utilise and disseminate existing national or European IMTs that have proven to perform well when implemented in SMEs. Four IMTs had been selected to be tested:

- Business strategy and technology analysis;
- Strategy module (for hi-tech companies);
- Deep technology analysis;
- Systematic product development.

To implement these IMTs, 40 consultants with broad experience both in technological and management issues and an excellent record on consulting in SMEs were selected and trained. They conducted a total of 40 innovation consulting assignments.
A.13. “PRIISME” - Promoting IMTs in Israeli SMEs

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<td>• SBAI - Small Business Authority of Israel</td>
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<td>• The Jerusalem Institute for Israel Studies</td>
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<tr>
<td>• VDI/VDE-IT (Verein Deutscher Ingenieure Technologiezentrum Informationstechnik GmbH)</td>
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Résumé:

The objectives of this IMT project were planned to be fulfilled by dealing with three different levels: the companies, the consultants, and the public agencies. At the company level the project was expected to facilitate and improve the effective use of IMTs in SMEs in the fields of marketing of new products, technology audit and design. All 30 Innovation Consulting Assignments were carried out in Israeli SMEs. At the consultant level the project was aimed at enhancing the competence and general knowledge of consultants dealing with IMTs and to intensify the use of standards by private consultants providing IMT services. About 12 consultants benefited directly from this project, by receiving structured training by means of special training workshops and seminars. At the public level it aimed at creating a substantial body of knowledge and experience regarding the use of IMTs in SMEs and by creating the demand for IMTs to elevate the awareness of policy makers regarding the importance of such a framework. For all levels the project was aimed at increasing the level of co-operation between Israeli and European related agencies.

Project Leader: • Mr Nathan YUVAL, IMT Project Manager

SBAI - Small Business Authority of Israel
Gruzenberg, 14
Tel-Aviv 65811
ISRAEL
Tel.: +972-3-5107 555 Fax: +972-3-510 7557

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<td>• Consiglio Nazionale delle Ricerche - Ufficio Trasferimento Innovazioni Brevetti - Normativa Tecnica</td>
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<tr>
<td>• Consiglio Nazionale delle Ricerche – Istituto di Studi sulla ricerche e documentazione scientifica</td>
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Résumé:

This project had the following main objectives:

• to improve the know-how and skills of consultants in promoting and monitoring the implementation of IMT’s through their application in specific industrial cases;
• to make SMEs aware of the possibilities offered by IMTs in planning and implementing long-term business strategy;
• to define IMTs best practices for specific industrial sector’s SMEs

For this project, it was decided to select SMEs only located in industry clusters, because:

• clusters are an important (and peculiar) part of Italian industry, whose success is studied world-wide;
• individual SMEs can be more easily contacted and selected through the local industrial association (or R&D centre or agency);
• each industry cluster is characterised by a well-defined business sector, so that it is possible to go deeper in the analysis and discussion of the specific problems related to the application of IMTs in that business area, arriving to identify specific IMT methodologies more easily and quickly applicable to that industry sector SMEs.

A total of 39 innovation consulting assignments were carried out in SMEs of 8 selected industrial clusters.

Project Leader:  
• Mr Guido FRIGESSI DI RATTALMA
  ARI
  Viale Gorizia, 25/C
  I-00198 ROMA
  Tel.: +39-06-884 8831 Fax: +39-06-855 2949

A.15. “ANIMATE” - Action for Innovation Management Techniques in Smaller Firms

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<tr>
<td>• OXFORD INNOVATION</td>
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<td>PRO 032</td>
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<tr>
<td>• TCD - University of Cranfield</td>
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Résumé:

The ANIMATE project was dealing especially with technology-based companies across the United Kingdom. Its main objective was to develop, test, adapt and disseminate a set of IMTs applicable to a wide range of SMEs, placing special emphasis on developing a methodology that can be used by SMEs with or without external facilitation.

Although the project was addressed to technology-based SMEs, the Innovation Action tool-kit which was used for this project is a very structured methodology that can be used in a self-diagnosis way. However, the use of self-diagnostic tools may lead the company to underestimate or even mismatch the results and consequently the actions required to correct the situation. In fact, the action was carried out under the supervision of 56 specially trained consultants, who helped companies correctly interpret results and thus take the right actions to improve the situation.

A total of 54 innovation consulting assignments have been carried out, mainly with technology-based companies with fewer than 100 employees (and some with less than 15 employees).

Project Leader:  • Dr David Richard KINGHAM, Managing Director  OXFORD INNOVATION  Mill Street  UK-OX2 OJX OXFORD  Tel.: +44-1865-794 585 Fax: +44-1865-209 044

A.16. “TEC+” - Technology & Innovation Audit for the Development of the Portuguese Industry

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<td>• ITEC – Instituto Tecnológico para a Europa Comunitária</td>
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<td>PRO 036</td>
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<td>• CPIN – Centro Promotor de Inovação e Negócios</td>
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<td>• NET - Novas Empresas e Tecnologias S.A.</td>
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<td>• CIEBI – Centro de Inovação Empresarial da Beira Interior</td>
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<td>• CEIA – Centro de Inovação Empresarial do Alentejo</td>
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Résumé:

This project was addressed to the mould and automotive part suppliers in Portugal, two sectors of increasing importance in recent years. It enabled interactions and synergies between the various agents operating in the Portuguese innovation system –companies, universities, technology infrastructures, public laboratories, and governmental institutions–and worked as a pilot action to the future inception of a National Programme of Technology Audits.

A total of 24 innovation consulting assignments were carried out by 20 specially trained consultants.
A.17. “Programme to create New Activities in SMEs”

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<td>• CREAT’IV</td>
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Résumé:

This project was based on a wide and very active regional innovation network, in which companies are encouraged to present ideas on industrial and service activities to CREAT’IV, the Brittany regional innovation agency.

Former actions carried out in Brittany have demonstrated the efficiency of IMTs. The specific objectives of this project were to:

• identify SMEs in which innovation consulting missions can take place;
• prepare a guide book for company managers;
• select and create a central working group of 10 experts in IMT deployment in SMEs;
• encourage SMEs to put into practice IMTs, and connect this activity with regional and national innovation schemes;
• produce an educational support facilitating the transfer of experience from CREAT’IV to operators involved in the innovation process.

A total of 20 innovation consulting assignments were carried out by specially trained consultants in Brittany.

Project Leader:  • M. Jean-Luc HANNEQUIN

CREAT’IV
Centre Européen
Espace Performance - Bâtiment F6
F-35769 SAINT-GREGOIRE Cedex
Tel.: +33-299 237 900 Fax: +33-299 237 811

A.18. “MARKPRO” - Implementation of Market Oriented Product Innovation in Danish SMEs”

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<td>• Industry, Danish Technological Institute</td>
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**Résumé:**

The overall objective of this project was to help Danish SMEs to become more innovative and thus more competitive through the implementation of a series of Innovation Management Techniques. Responsible for the implementation of these techniques were 11 IMT consultants who, following a selection procedure, participated in a 3 day seminar to be trained in market orientation and product development methodologies.

The consultants carried out 14 assignments in Danish SMEs spread over 4 regions (North and South Jutland, Funen and Zealand). The assignment work was in modular form and dependent upon the enterprises situation, entailing diagnosis, specific analysis and follow-up.

**Project Leader:** • Mr Erik Lahn SØRENSEN  
_DTI - Danish Institute of Technology_  
Industry Centre for IT systems  
Gregersensvej  
DK-2630 TAASTRUP  
Tel.: 45-4350 4350 Fax: 45-4350 4422

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**A.19. “IMTOS” – Implementing IMTs at Operative Level and Strategic Level of SMEs**

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<td>VDI/VDE-IT (Verein Deutscher Ingenieure Technologiezentrum Informationstechnik GmbH)</td>
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<td>RKW-Rationalisierungs-Kuratorium der Deutschen Wirtschaft e.V.</td>
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<td>Technologie-Transfer-Zentrale Schleswig-Holstein (ttz SH)</td>
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**Résumé:**

This project identified, selected and promoted IMT methodologies and, using 25 specifically selected and trained consultants implemented them in 95 German SMEs as strategic tools to improve innovative performance.

The IMTs to be tested and promoted were applied after a diagnosis carried out by means of the fully tested IMT “Innovation Factor Analysis”. Three IMTs were selected for validation in this project:

• Total quality management;
• Customer-oriented product development;
• Change management for successors in family-owned SMEs.

**Project Leader:** • Mr Udo HOPPE  
_VDI/VDE-IT_  
Rheinstrasse 10B  
D-14513 TELTOW  
Tel.: +49-3328-435 178 Fax: +49-3328-435 212
A.20. “Programme of Innovation Management Promotion in SMEs. Application to Regions with Traditional Sectors”

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<td>Instituto de Fomento Regional - IFR</td>
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Résumé:

The objectives of the project were to develop a methodology to analyse and apply the integration of innovation and technology in SMEs. The project was directed at SMEs acting in traditional sectors, a widely-spread particularity of industrial SMEs in the Spanish region of Asturias.

A total of 18 innovation consulting assignments were carried out in SMEs by 6 specially trained consultants in order to test and refine, where appropriate, the methodology developed.

Project Leader:  
• Mr Carlos GARCIA MORILLA  
  IFR - Instituto de Fomento Regional  
  Parque Tecnológico de Asturias  
  E-33420 LLANERA - ASTURIAS  
  Tel.: +34-98-526 0068 Fax: +34-98-526 4455

A.21. “PRISM” - Promoting Innovation Management Techniques in SMEs

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<td>Salford University Business Services</td>
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Résumé:

The overall objective of this IMT project was the development, testing and application of a range of innovation consulting tools intended to improve the competitiveness of UK SMEs. Specific achievements of the project were:

• the development of consulting tools for:  
  - diagnostic analysis of innovation potential,  
  - improving “customer focused” manufacturing capability,  
  - company self-assessment,  
  - asset marketing,  
  - benchmarking;

• the training of 19 consultants in the application of the tools;

• the practical application of the IMT tools in 50 UK SMEs through modular assignments designed to allow companies to use external consultants to facilitate the introduction of the selected IMT and to assist with the implementation of innovation activities;

• to promote issues related to Innovation Management through the wide dissemination of the results of this IMT project.
A.22. “PROSEGISIS” - Hellenic Innovation Management Techniques Initiative Project

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<td>• Patras Science Park</td>
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<td>• Thessaloniki Technology Park</td>
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<td>• CLOTEFI - Clothing Textile and Fiber Technological Development S.A.</td>
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<td>• CERECO - Ceramics &amp; Refractories Technological Development Company S.A.</td>
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<td>• ETAT - Food Industrial Research &amp; Technological Development Company S.A.</td>
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Résumé:

The overall objectives of the PROSEGIS project was to develop and promote Innovation Management Tools to Greek SMEs in order to improve their competitiveness. It focused on three managerial areas for interventions: strategy, marketing and internal capabilities.

Diagnosis were carried out using the TOMOGRAPHIA tool, a computerised, multi-response diagnostic tool specially designed to meet the requirements of Greek companies.

A total of 70 innovation consulting assignments were conducted on selected companies by 26 specially trained consultants.

Project Leader: • Dr A. Athanasopoulos, Project Manager

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Research Centre (RC AUEB)
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GR-10434 ATHENS
Tel.: +30-1-820 3430 Fax: +30-1-820 3563

A.23. “SIMTI” - Swedish Implementation and Integration of Management of Technologies and Techniques for Innovation

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<td>• Almi företagspartner AB</td>
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<td>• IVF - The Swedish Institute of Production Engineering Research</td>
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Résumé:

The main objectives of this project were:
• to facilitate technology transfer among Swedish SMEs, as well as between Swedish and other European SMEs;
• to develop a national scheme for technology analysis and technology transfers at SME management level.

The project was geared at improving SMEs in Sweden’s, and in the long run, their export potentials in the global market. A total of 54 Swedish companies were selected by specific “size” and “sectorial” criteria, and based on the knowledge of ALMI consultants and IVF researchers within the 22 subsidiaries of ALMI regional companies and the 4 IVF offices all over the country. Other research institutes were also given opportunities to participate in the project in collaboration with the ALMI technology consultants, after specific choice.

Much emphasis was devoted to the selection of the companies in order to optimise the target group. The project concentrated on companies willing to assimilate new technologies and management techniques. Technology and management analysis of SMEs focused on overall leaderships for innovation and technology developments related to rapidly changing environments.

26 consultants, including the core group of consulting experts, carried out most of the work according to licensed methodologies at the company level.

Project Leader:  
• Mr Anders LINDBERG  
Almi företagspartner AB  
Klubbhusgatan 13  
S-55303 JÖNKÖPING  
Tel.: +46-8-402 0900 Fax: +46-8-406 0300

B. Accompanying Measures to the Promotion of IMTs

B.1. “REVEIL” - Sensitising SMEs to the Use of Technology Watch Techniques

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<td>Centre de Recherche Public Henri Tudor</td>
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<td>Universitat Politècnica de Catalunya</td>
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<td>IMPIVA (Instituto de la Mediana y Pequena Industria Valenciana)</td>
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Résumé:

This activity aimed at providing a reference approach for the sensitisation of SMEs to the interest of technology watch, and to put into practice technology watch systems tailored to SMEs. Three workshops were organised in order to debate case studies related to this topic. 3 newsletter were published on this issue, as well as a guide book on good practices including the results and conclusions of the workshops.
**Project Leader:**  
Mr Serge QUAZZOTTI, Administrateur Délégué  
Centre de Recherche Public Henri Tudor  
6, Rue Coudenhove-Karlegi  
L-1359 LUXEMBOURG  
Tel.: +352-425 9911 Fax: +352-436 523

**B.2. “MAP-IMT” - Accompanying measures to promote Industrial Design Methods in SMEs**

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<td>• Pôle Universitaire Européen de Nancy-Metz</td>
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<td>• PROMOTECH</td>
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<td>• Zentrale für Produktivität und Technologie Saar e.V. (ZPT)</td>
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**Résumé:**

The objective of the project was to stimulate transnational exchange of data and methods concerning the promotion of industrial design methods, in particular through the creation of practical and conceptual tools. The work programme included 4 parts:

- Examination and analysis of the various methods used by each contractor to promote industrial design for SMEs, in order to put into action these promotion methods. An harmonised method for the promotion of industrial design has been prepared.
- Transnational workshops. Four themes were discussed:
  - design and rapid prototyping
  - design and technology transfer
  - design and strategy
  - global design
- Creation and realisation of a CD-ROM intended to promote and introduce industrial design methods in SMEs.
- Elaboration of cases studies directed towards industrial production, aiming to organise training workshops and promotion actions.

**Project Leader:**  
Mr Jean-Pierre GROJEAN  
Pôle Universitaire Européen de Nancy-Metz  
Cours Léopold, 39  
F-54052 NANCY  
Tel.: +33-383 176 740 Fax: +33-383 176 765
B.3.  “EDIT” - European Design Innovation Tools

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<td>CDMP - Centre de Design Midi-Pyrénées</td>
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<td>BCD - Barcelona Design Center Foundation</td>
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<td>Norwegian Design Council</td>
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<td>SVID - Swedish Industrial Design Foundation</td>
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Résumé:

This activity aimed at strengthening the knowledge of design management in SMEs and at providing with a common approach to create the necessary awareness among SMEs and design promotion agencies at European level. The work programme included the following tasks:

- Elaboration of a common methodology, and identification of selected design best practices.
- Training workshop.
- Evaluation of results and refinement of the methodology for dissemination.
- Creation of dissemination tool and material. Three types of media were designed as a base for the dissemination phase: a seminar / workshop concept, written material and Internet Web site. A periodical newsletter called EDIT-News was published at European level with main project results and events of design management.
- Dissemination of results and methodology at national and European level. Two major events were organized: a presentation to design centers and promotors (Eindhoven) and a Design Conference in Stockholm.

Project Leader:  

Mrs Irène GIL, Consultant  
Sociedad Estatal para el Desarrollo del Diseño Industrial  
Pº de la Castellana, 141 - 1º  
E-28046 MADRID  
Tel.: +34-91-572 1083 Fax: +34-91-571 1564


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<td>IRIM (University of Kiel)</td>
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<td>CENTRIM - University of Brighton</td>
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Résumé:

This activity prepared a methodological toolkit, to be used both by newcomers as well as by existing practitioners in the field of technology management. The toolkit is the result of the exchange of knowledge and experiences in this field coming from relevant European experts and from actual practice by a group of selected European SMEs.

The content of the toolkit developed in the project will be made up of two modules:

- Module 1: a set of 12 case-studies where Technology Management best practices can be understood from the business point of view, and where its benefits, costs, strengths and weaknesses can be practically demonstrated.
- Module 2: a description and analysis of Technology Management best practices which are already developed and tested in the real business world.

It shows the use of 18 most relevant best practices, covering the whole field of Technology Management, primarily from the following areas:

- Technological Strategy
- New Product Development
- Technology Transfer
- Technology Assessment

It is implemented in a multimedia platform using hypertext to enable high levels of interactivity. Available as a CD-ROM, it is ready to be installed on an Internet Web site.

The dissemination programme included:

- 3 Pilot workshops with SMEs and SME intermediary organisations in Spain, Germany and UK.
- Presentations and awareness campaigns targeted to organisations in charge of SME business development in the rest of the EU.

Project Leader:  

- Mr Manuel ZAHERA  
  Fundación COTEC  
  c/ Marqués de Urquijo, 26-1º  
  E-28008 MADRID  
  Tel.: +34-91-542 0186 Fax: +34-91-559 3674
B.5. “ACCESS” - Accompanying Measures for the IMT projects

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<td>IAT - Instituto Andaluz de Tecnologia</td>
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Résumé:

This key activity of the action line aimed at promoting and organising transnational activities and exchanges of experience between the selected projects. The work programme was divided into five work packages:

- Work package 1 was to co-ordinate the project.
- Work package 2 focused on European and transnational conferences and workshops, that provide a platform for information exchange and for transnational training. In total 3 generic conferences for projects’ contractors and 4 thematic workshops were held in the project.
- Work package 3 disseminated information through an IMT Newsletter. In total 9 issues of the newsletter were produced. Additionally, two special issues on topics of special interest were released.
- Work package 4 dealt with the installation of an internet homepage and the moderation of newsgroups concerned with topics of special interests for IMT projects’ contractors.
- Finally, work package 5 was concerned with the harmonisation of IMT practices. The main focus was to examine IMT projects and to highlight the results that are of interest for an European-wide diffusion.

Project Leader: Mr Christoph STOPPOK
VDI / VDE-IT
Rheinstraße 10B
D-14513 TELTOW
Tel.: +49-3328-435 155/213 Fax: +49-3328-435 216
B.6. "DENTOT" - Organising a Network for the Dissemination and Promotion of Design Engineering Tools and Techniques

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<td>DTI - Danish Technological Institute</td>
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<tr>
<td>Fraunhofer Gesellschaft zur Förderung der Angewandten Forschung e.V.</td>
<td>D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The University of Nottingham</td>
<td>UK</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Résumé:

This activity aimed at identifying and selecting most relevant *design engineering techniques* which, in the context of the product development process, have most influence on company competitiveness, in terms of costs, quality and delivery time of products.

The consortium produced a handbook with a description of selected techniques, including information referring to “best practices”, technology readiness, achieved improvements and existing tools. The “DENTOT handbook” was updated during the action by means of the collaboration among partners, with ultimate developments referring to selected techniques; new techniques were added to it, and information on good-practices, demonstrated improvements, currently used tools and real experiences was also included.

Four workshops were held in four different EU countries (Germany, Spain, United Kingdom and Denmark), each of them organised by the corresponding national organisation of the consortium, with the close collaboration of the other partners, in order to develop transnational exchange of experiences referring to design engineering practices, and sharing knowledge on these topics.

A newsletter was published after each workshop, in order to raise awareness on the potential influence on productivity, quality, time-to-market, and costs of properly applied design engineering techniques, within the Product Development Process.

The ultimate task analysed the suitability of a permanent network for the promotion and dissemination of design engineering methodologies and techniques.

**Project Leader:**

Mr Mikel ZALDUMBIDE  
SOCINTEC  
Calle Mayor, 10  
E-48930 LAS ARENAS (VIZKAIA)  
Tel.: +34-94-4800211 Fax: +34-94-4800391
1.2. Statistical analysis of IMT contractors

Table 21: Distribution of IMT contractors per country

<table>
<thead>
<tr>
<th>Country</th>
<th>Nb of Organisations</th>
<th>Nb of Projects in which a country is represented</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>DK</td>
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<td>2</td>
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<td>E</td>
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<td>2</td>
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<td>2</td>
</tr>
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<td>1</td>
<td>2</td>
</tr>
<tr>
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<tr>
<td>L</td>
<td>1</td>
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<tr>
<td>N</td>
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<td>2</td>
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<td>NL</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>P</td>
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<td>2</td>
</tr>
<tr>
<td>S</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>UK</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Total nb of contractors: 90

Table 22: Distribution of IMT contractors according to type
Appendix 2

Techniques of innovation management
adapted and promoted by the
contractors of the IMT action line
Two major studies were conducted in the framework of the IMT action line in order to try to clarify the range of innovation management techniques available or adaptable to SMEs:

2.1. Innovation Management: Building competitive skills in SMEs

Completed between 1998 and 1999, this study was published by the Office for Official Publications of the European Communities (ISBN 92-828-4650-4). This survey analyses 10 innovation management techniques (IMTs) that have been tested in SMEs by various national and regional organisations in several European countries under IMT projects supported by the Innovation Programme of the European Commission. It provides an assessment of their usefulness as innovation management tools, as classifying them into 4 chapters:

- **Diagnosis of Innovation Profile**
  - Assessment Technique

- **Inward-looking Techniques**
  - Value Analysis
  - Business Process Re-engineering
  - Project Development & Management
  - Product Design & Development

- **Outward-looking Techniques**
  - Benchmarking
  - Marketing of Innovation
  - Technology Watch

- **Forward-looking Techniques**
  - Quality Management
  - Creativity Tools

Contact:

Office for Publications of the European Communities
L-2985 Luxembourg
2.2. TEMAGUIDE: a Guide to Technology Management and Innovation for Companies

Also completed in September, 1998, this research provides a toolkit including 18 technology management tools and a description of their possible use, presenting 12 case studies. These tools cover 6 dimensions of the management of these companies:

- **External information**
  - Market analysis
  - Technology forecast
  - Patent analysis
  - Benchmarking

- **Internal information**
  - Skills and innovation audit
  - Intellectual property rights management
  - Environmental assessment

- **Workload and resources**
  - Project management
  - Project evaluation
  - Portfolio management

- **Working together**
  - Interface management
  - Networking
  - Teambuilding

- **Ideas and problem solving**
  - Creativity
  - Value analysis

- **Improving efficiency and flexibility**
  - Lean thinking
  - Continuous improvement
  - Change management

**Contact:**

Fundación COTEC  
Mr Manuel ZAHERA  
c/. Marqués de Urquijo, 26-1° C/I  
E-28008 MADRID  
Fax: +34-91-5593674
Appendix 3

Studies available on Innovation Management Techniques
1. Title

INNOVATION MANAGEMENT TOOLS
A REVIEW OF SELECTED METHODOLOGIES

Date of presentation: 1997
345 pages handbook (English)

2. Contractors / Consortium

[List of contractors and consortium members]

3. Focus of the study

Result of a study commissioned by DGXIII-D4 under the auspices of the European Innovation Monitoring System (EIMS) directed by Dr. David Brown, aiming at:

- Raising awareness among European innovation service organisations, consultants and SMEs of IMTs intended for short consultancy assignments.
- Promoting the utilisation of tools among consultants and agencies concerned with innovation support.
- Contributing to exchange of know-how and co-operation between European actors for the development of these tools.

4. Main findings

- Summaries and detailed appraisals of 17 innovation management tools, with briefer discussions on some others.
- Supporting case studies illustrating the effective use of selected IMTs.
- A classification scheme for IMTs, designed to aid consultants in choosing tools.
- An overall assessment of the tools examined with a discussion of some key issues.
- A process based model to aid understanding innovation in firms with further case studies.

5. Contact

ISBN 92-828-0573-5      Price 40 EUR
Office for Official Publications of the European Communities
L-2985 Luxembourg

Ref. EUR 17018
1. Title

INNOVATION MANAGEMENT
BUILDING COMPETITIVE SMES IN SMEs

Date of presentation: 10/99
140 pages book (English)

2. Contractor

SOCINTEC, S.A. - Sociedad para la Innovación y promoción de nuevas tecnologías (E)

3. Focus of the study

- To analyse and describe 10 innovation management techniques (IMTs) which have been tested in SMEs by various national and regional organisations in several European countries under Community projects on IMTs supported by the Innovation Programme.

- To take into account the difficulties faced by the SMEs in the innovation process, as well as the importance of the surroundings, the diversity of IMTs, the role of the external consultants and some issues of key importance to the innovative SME.

- To include a bibliographic section containing basic data on each of the IMTs described.

4. Main findings

The outcome of the study is an overall classification of these techniques, as well as an assessment of their usefulness as innovation management tools. The classification is more conceptual than instrumental, and it has been performed under the criteria of how the methodologies “look” at the enterprise: inward, outward and forward.

The study is divided into two parts:
- The first and principal part contains a description of ten methodologies.
- The second part contains a brief summary of the 23 pilot projects funded by the European Commission on the design and implementation of schemes promoting selected IMTs.

Ultimately, it is the implementation of the Innovation Management Tool in the SMEs that will demonstrate the usefulness of each particular technique.

5. Contact

ISBN 92-828-4650-4
Price: 16 EUR
Office for Publications of the European Communities
L-2985 Luxembourg
1. Title

TRANSNATIONAL INNOVATION PILOT PROGRAMME IN SME’S
TIPPS

Date of presentation: 09/98
59 pages booklet + CD-ROM (English)

2. Contractors

ENTERPRISE IRELAND (IRL)
ICT - Institut Català de Tecnología (E)
European Profiles Consultants Group (GR)
NIMTECH - The North West Regional Technology
Company Ltd. Guarantee (UK)

3. Focus of the study

• To refine those methodologies of the Enterprise Ireland (formerly Forbairt)
Technology Transfer & Partnership Programme Service Delivery Manual which
provide for the assessment and needs of SMEs in promoting innovation management.

• To identify innovation management techniques which contribute to the process
of introducing innovation through technology transfer and partnership
arrangements.

• To develop a service delivery/best practice manual which meets the needs of each of the
contractors involved.

4. Main findings

• The study is presented in the form of a best practice manual adapted for use in each of
the contractors areas of activity, but of general interest to others.

• The process of elaboration of the study has also resulted in closer links between the
contractor organisations implementing the Community project on IMTs supported by
the Innovation Programme (Ref. IMT-PRO025, TIPPS project). It is intended that
they will be built on now that the study is completed to further refine and develop
innovation management techniques in SMEs.

• In addition, 60 companies in 4 countries had been brought through the process involved
in this study.

5. Contact

ENTERPRISE IRELAND
Mr Ray McSHERRY
Head of Technology Transfer & Partnerships
Glasnevin
IRL-9 DUBLIN   Fax: +353-1-8082331
5.

Title

Methodological Guidelines in Technology Management Toolkit TEMAGUIDE

Date of presentation: 09/98
168 pages book + CD-ROM (English)

2.

Contractors

COTEC - Fundación para la Innovación Tecnológica (E)
SOCINTEC, S.A. - Sociedad para la Innovación y
promoción de nuevas tecnologías (E)
Manchester Business School (UK)
IRIM - Institute for Research on Innovation Management
- University of KIEL (D)
CENTRIM - Centre for Research on Innovation Management
- U. of Brighton (UK)

3.

Focus of the study

Building a Methodological Guidelines toolkit in the field of Technology management and making it accessible to SMEs.

The dissemination programme organised around the toolkit itself under the Community project on IMTs supported by the Innovation Programme (project Ref. IMT-AAMM023, TEMAGUIDE), was mean of spreading and introducing the Technology Management culture into European companies.

Therefore, the toolkit is the result of the exchange of knowledge and experiences in this field coming from relevant European experts and from actual practice by a group of selected European SMEs.

4.

Main findings

The content of the toolkit developed in the project is made up of two modules:
- Module 1: a set of 12 case-studies where the Technology Management best practices can be understood from the business point of view, and where its benefits, costs, strengths and weaknesses can be practically demonstrated.
- Module 2: a description and analysis of Technology Management best practices which are already developed and tested in the real business world.

It shows the use of the most relevant best practices, up to 15, covering the whole field of Technology Management, primarily from the following areas:
- Technological Strategy
- New Product Development
- Technology Transfer
- Technology Assessment

5.

Contact

Fundación COTEC
Mr Manuel ZAHERA
c/. Marqués de Urquijo, 26-1º C/I
E-28008 MADRID Fax: +34-91-5593674
1. Title

L’INNOVATION - PrATIQUES ET MOSES OPERATOIRES

Date of presentation: 12/98
32 pages guide + CD-ROM (French)
A smaller guide addressed to SMEs’ managers with 20 cases is also available (French).

2. Contractor

CREAT’I.V. - Creation Entreprise Innovation
(Brittany development society), (F)

3. Focus of the study

- To consolidate the Industrial creation methodology called “Creation des activités nouvelles dans les entreprises industrielles” planned between 1993 and 1996 by CREAT’IV, a regional development authority from Brittany region in France.

- To supply an educational support in charge of facilitating the transfer of experience to operators involved in the innovation process.

4. Main findings

Selection of a central working group of 10 experts and creation of a practical experience among 20 SMEs on practicality of techniques and tools created by CREAT’IV, under the Community project on IMTs supported by the Innovation Programme (Ref. IMT-PRO045, “Creation of new activities in industrial companies”).

The methodology has been consolidated and presented in an educational support. As a result of the study it was also found that:

- The SMEs managers, assisted by their collaborators, either internal or external, are the key operators for implementing innovation processes in companies.

Therefore, the stimulation of the managers was revealed as a key issue to enhance innovation in SMEs.

5. Contact

CREAT’I.V. - Creation Entreprise Innovation
M. Jean-Luc HANNEQUIN
Espace Performance - Bâtiment F6
F-35769 SAINT-GREGOIRE Cedex
Fax: +33-2-99237811
1. Title

**DESIGN ENGINEERING TOOLS AND TECHNIQUES**

**DENTOT**

Date of presentation: 12/98
Handbook + Feasibility Study of a permanent Network (English)

2. Contractors

- SOCINTEC, S.A. - Sociedad para la Innovación y promoción de nuevas tecnologías (E)
- LABEIN - Centro de Investigación Tecnológica (E)
- DTI - Danish Technological Institute (DK)
- The University of Nottingham (UK)
- Fraunhofer Gessellschaft zur Förderung der Angewandten Forschung e.V. (D)

3. Focus of the study

- To identify and select most relevant design engineering techniques which, in the context of the product development process, have more influence in the competitiveness of the companies, in terms of cost, quality and delivery time of the products.
- To make a feasibility study for a permanent network for the promotion and dissemination of design engineering methodologies and techniques.

4. Main findings

- The study presents a description of selected techniques, including information referring "best practices", technology readiness, achieved improvements and existing tools.
- A feasibility study on a permanent network for the promotion and dissemination of design engineering methodologies and techniques is also available.

Dissemination activities were carried out under the Community project on IMTs supported by the Innovation Programme (Ref. IMT-AAMM035, DENTOT project).

5. Contact

SOCINTEC S.A.
Mr Mikel ZALDUMBIDE
Calle Mayor, 10
E-48930 LAS ARENAS (VIZKAIA)
Fax: +34-94-4800391
1. Title

INTEGRATING DESIGN INTO R&D

Date of presentation: 09/98
97 pages booklet (English)

2. Contractor / Consortium

Centre for European and International Consultancy - CEIC (UK)
Arthur D. Little (UK)
IKEI (E)
The Design Council (UK)
GIB - Gessellschaft für Innovationsforschung und Beratung (D)

3. Focus of the study

The commercial importance of design as a factor in innovation and business success is widely recognised. It can provide real competitive advantage for companies which build a reputation for products that appeal visually, please and surprise users, and perform in service. Research and product development in the late 1990s are characterised by an emphasis on exploitation of R&D work. At the same time there is widespread recognition of the importance of design in new product success.

The main task of the study was to examine if and how integrating design into R&D of new products makes successful exploitation more likely through combination of literature review, telephone and face to face interviews and case studies focused on several key groups:

- Company users of design
- Internal designers
- External designers
- Design promotion bodies.

4. Main findings

Integration of design, particularly industrial or product design, in new product development calls for a holistic approach addressing many elements of the business. Design and R&D cannot be isolated from the overall business operation but are parts of a complex weave of disciplines which must be understood and utilised in a balanced manner.

The key elements are:

- The culture of the company.
- Its business context, in relation to changing markets and technologies.
- Strategy, embracing design as a route to competitive advantage.
- Organisation and structure, both formal and informal, within the firm.
- Resource and skill deployment.
- Specific methods and procedures (such as computer-based tools) to encourage closer integration and better communication.

5. Contact

Ms. Monika STREY
European Commission
Plateau de Kirchberg (EUFO 2282)
L-2920 Luxembourg
Fax: +352-4301-34129
1. Title

TECHNOLOGY STRATEGY CONSULTING SERVICES FOR SME'S
EVALUATION REPORT OF A FINISH PROJECT

Date of presentation: 12/98
39 pages booklet (English)

2. Contractor

TEKES - Technology Development Centre (FIN)

3. Focus of the study

The study aims at evaluating under a qualitative look projects from the IMT (and also previous MINT) initiatives focusing on demand side and supply side effects, and also looking at the functionality of consulting tools in the context of the SMEs and also the implementation of the initiatives.

The work was carried out through the detailed evaluation of case assignments.

4. Main findings

Overall the evaluation found that the initiatives have had a positive impact on both the demand and supply side of technology strategy consulting services.

It is also said that the direct impact of the initiatives well exceeds the value of the public funds invested in them.

5. Contact

P.O.Box 69
FIN-00101 Helsinki, Finland
E-mail: tekes@tekes.fi Fax: +358-9-964-9196
1. Title

SIMTI - SWEDISH IMPLEMENTATION AND INTEGRATION OF MANAGEMENT OF TECHNOLOGIES AND
TECHNIQUES FOR INNOVATION

Date of presentation: 12/98
15 pages booklet (English)

2. Contractors

ALMI Företagspartner AB (SW)
IVF - Institute for Production Research (SW)

3. Focus of the study

Under the Innovation SIMTI project (Ref. IMT PRO072) the objectives were to develop a national experimental scheme for business and technology analysis and technology transfer and business development at SME level.

Additionally, the aim was to overcome the fact that previous governmental programmes to establish technology consultants and to help SMEs in tackling innovation, launched in the early 90’s, resulted often technologically narrow and short-term oriented, although they had successful results.

4. Main findings

Based on previously used techniques by ALMI and IVF, a new tool called STINnovation has been developed enabling an strategic dialogue between the management of the companies and the consultants.

STINnovation was tested in companies of several sectors and used together with other tools. It has proven to be a rapid and efficient way to analyse the company and get consensus on future action plans.

The Swedish government has shown certain interest in supporting the promotion of this methodology among SMEs.

5. Contact

Anders Lindberg
ALMI Företagspartner Jönköping AB
Klubhusgatan, 13
S-553 03 Jönköping
E-mail: anders.lindberg@almi.se  Fax: +46-36-306510
1. Title

TECHNOLOGY EXPLOITATION GUIDE
FOR UNIVERSITIES AND RESEARCH INSTITUTES

Date of presentation: 12/98
15 pages booklet (English)

2. Contractors

Oxford Innovation Ltd. (UK)
Teaching Company Directorate (TCD) – Cranfield University (UK)

3. Focus of the study

The purpose of this study is to adapt some of the tools and techniques contained in the Innovation Action™ Tool-Kit and the Innovation Action™ Marketing Tool-Kit into a practical guide addressed to Universities and Research centres.

The Technology Exploitation Guide was developed as part of the ANIMATE project under the Innovation programme (Ref. IMT PRO032) where the Innovation Action™ Tool-Kit and the Innovation Action™ Marketing Tool-Kit had been further developed and tested.

4. Main findings

The study sets out to characterise some of the options available for commercial exploitation of innovative technology.

It also provides a set of practical Innovation Management Techniques that will help users to examine whether an idea has commercial potential; and which is the most appropriate exploitation option.

5. Contact

Oxford Innovation Ltd.
Oxford Centre for Innovation
Mill street
Oxford, OX2 0JX

Fax: +44-1865-209044
1. Title

DESIGNING - MODÈLES DE PROMOTIONS DU DESIGN INDUSTRIEL
APPLIQUÉ À L’INNOVATION – PRINCIPES DE MÉTHODE

Date of presentation: previewed 07/99
80 pages booklet (French / German) + bilingual CD-ROM

2. Contractors

Pôle Universitaire Européen de Nancy-Metz (F)
Promotech / Centre Design Est-France (F)
LUXINNOVATION (L)
Conseil en Innovation et Transfert de Technologie – CREACTION (B)
Zentrale für produktivität und Technologie Saar,E.V. (ZTP) (D)

3. Focus of the study

The purpose of the study is to provide with a Harmonised Method for Promotion of Industrial Design in trans-border areas in Europe, in particular is study is focused on the areas of eastern Belgium, south-western Germany, north-eastern France and Luxembourg.

The promotion ranges from common references and unified methods to joint workshops and seminars including approach to harmonisation of professional qualifications, all of them aimed to a bigger importance of design in production and commercialisation of products and services.

4. Main findings

The publication includes case studies of Industrial Design in companies of the geographical areas covered.

It also includes a CD-ROM containing the Harmonised Method, the case studies and a series of workshops that can be re-attended virtually.

The contents, including the workshops, were carried out under the Innovation Management Techniques project MAP-TGI (Ref. IMT AAMM010) of the Innovation Programme.

5. Contact

Mr. Joël Gauvin
Pôle Universitaire Européen de Nancy-Metz
34, Cours Léopold
F-54052 Nancy Cedex

Fax: +33-3-83176767
1. Title

**GUIDE DES BONNES PRATIQUES DE LA VEILLE TECHNOLOGIQUE EN PME/PMI**

Date of presentation: 07/99
Booklet (bilingual French / Spanish)

2. Contractors

Centre de Recherche Public Henry Tudor (L)
CRRM – Université Aix-Marseille III (F)
Universitat Polytecnica de Catalunya (E)
Instituto de la Pequeña y Mediana Empresa Valenciana - IMPIVA (E)

3. Focus of the study

The purpose of the study is to take stock from the experience of SMEs in the European regions of Luxembourg, Marseille, Catalonia and Valencia when applying Technology Watch to enhance their Innovative capabilities.

At a first stage, an analysis on previous requirements for appropriate inventory on information and information sources is to be followed by definition and implementation of policies for effective search, retrieval, analysis, codification and distribution of the information to be used in later stages of the Innovation process.

4. Main findings

The publication lists 10 main recommendations addressed to companies aiming at a better implementation of Technology Watch for Innovation. It also includes case studies of SMEs successfully tackling the issue.

The guide is a result of the Innovation Management Techniques project REVEIL (Ref. IMT AAMM008) of the Innovation Programme.

5. Contact

Dr. Serge Quazzotti
CVT – CRP Henri Tudor
66, rue de Luxembourg - BP 144
L-4002 Esch-sur-Alzette

Fax: +352-5455804915
E-mail: cvt@crpht.lu
1. Title

INNOVATION TOOLS!

Date of presentation: 07/99

2. Contractor

Stitchting Innovation Centres Network Netherlands. – ICNN (NL)

3. Focus of the study

Innovation Management Techniques are innovation tools for companies. Syntens has developed four of such innovation tools:

1. “The Technology Calendar”
2. “The knowledge Analysis method”
3. “Triatlon”
4. “Innovation Change Management”

This brochure describes the four above techniques developed by SYNTENS and gives the opinions of the companies where these tools have been applied.

5. Contact

Mr. P.A.N. Ten Kroode
Manager Syntens Alkmaar
Kennemerstraatweg 105a
NL-1814 GE ALKMAAR
E-mail: alkmaar@syntens.nl
Appendix 4

Structure of the survey carried out
4.1. Mail survey

As of September 30, 1999, a total of 344 questionnaires had been sent out and 122 responses had been received, covering the 15 countries of the European Union\(^3\). A break-down by type of recipient follows:

<table>
<thead>
<tr>
<th>Type of Recipient</th>
<th>Sent</th>
<th>Received</th>
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</thead>
<tbody>
<tr>
<td>Project co-ordinator participants:</td>
<td>20</td>
<td>19</td>
</tr>
<tr>
<td>Non-project co-ordinator participants:</td>
<td>23</td>
<td>10</td>
</tr>
<tr>
<td>Accompanying measure co-ordinator participants:</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Accompanying measure non-co-ordinator participants:</td>
<td>16</td>
<td>7</td>
</tr>
<tr>
<td>Consultants associated with a project:</td>
<td>38</td>
<td>21</td>
</tr>
<tr>
<td>Consultants not associated with a project:</td>
<td>48</td>
<td>18</td>
</tr>
<tr>
<td>SME beneficiary of an ICA(^4):</td>
<td>54</td>
<td>9</td>
</tr>
<tr>
<td>Representatives of non-associated SMEs:</td>
<td>68</td>
<td>14</td>
</tr>
<tr>
<td>National innovation promotion organisations:</td>
<td>25</td>
<td>9</td>
</tr>
<tr>
<td>Enterprise promotion organisations (non-associated):</td>
<td>46</td>
<td>9</td>
</tr>
</tbody>
</table>

◊ TOTAL: 344 122

In order to accelerate the return of questionnaires, recipients were systematically re-contacted by telephone. More than two-thirds of them were contacted, which enabled us to:

- update their contact data (when necessary);
- send them another copy of the questionnaire (for those who had not received it, or who had misplaced it);
- draw their attention to the importance of the survey for preparation of future actions of the European Commission in this domain;
- answer to their questions;
- clarify and complete their answers when needed.

4.2. Documents

The numerous documents published by IMT contractors were systematically assembled and reviewed.

4.3. Interviews

Twenty-two direct interviews were carried out in Germany, Austria, Denmark, Spain, France, and the United Kingdom, as well as more than 50 telephone interviews throughout the European Union.

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3. In accordance with the specifications of this evaluation, this survey was limited to the 15 countries of the European Union.
4. Innovation Consulting Assignment: the SME beneficiaries’ contact data were communicated by the project co-ordinators.