

Evaluation of the European Technology Platforms (ETPs)

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0 EXECUTIVE SUMMARY

0.1 Evaluation objectives and scope

European Technology Platforms (ETPs) were first introduced in the EC Communication "Industrial Policy in an enlarged Europe" in December 2002. The ambition was to bring together R&D-relevant stakeholders with various backgrounds (e.g. regulatory bodies at various geo-political levels, industry, public authorities, research institutes and the academic community, the financial world and civil society) who would develop a long-term R&D strategy in areas of interest to Europe. The platforms also had a mandate in helping to further mobilize private and public R&D investments (cf. Barcelona target of 3% GERD by 2010). The set up of an ETP follows a bottom-up approach in which the stakeholders take the initiative and where the European Commission evaluates and guides the process.

The main objectives of the evaluation of the performance of the ETPs were to:

- Map the functioning of the ETPs.
- Map the developments of the concept of ETPs and their objectives.
- List and analyse the different effects (output, results and impact) that the ETPs produce.
- Identify both success and limiting factors and best practices.
- Draw lessons and formulate recommendations for the future.

NOTE: As of December 2007, there were 34 ETPs representing a wide range of technology fields and sectors. The ETPs are collectively analysed in this evaluation study, meaning that the ETPs are not individually evaluated on their achievements: this evaluation draws conclusions and provides recommendations for the ETPs as a whole. Given the large diversity among the platforms, substantial efforts have been made to develop harmonized data collection tools in order to ensure maximum comparability.

0.2 Methodological framework

Hierarchy of objectives and effects

The first step was to identify the objectives of the ETPs and to structure them in a **hierarchy of objectives**. The evaluation questions and the different evaluation tools relate directly to this hierarchy of objectives. Similarly, and in relation to this exercise, a **hierarchy of effects** was also developed. The hierarchy of effects allows the linking of expected effects or impacts to the individual objectives and activities of the ETPs.

The basis for this evaluation was a set of evaluation questions agreed with the EC services (for an overview, please see the main report).

The following aspects were examined:

- The ETP concept and its implementation.
- Types of effects, based on the hierarchy of objectives: coordination between relevant stakeholders, synergy between EU, national and regional levels, mobilisation of public and private resources, improvement of framework conditions for innovation and maintaining and enhancing a high skilled work force.

In order to answer the evaluation questions, a mix of qualitative (i.e. desk research, interviews, case studies) and quantitative (i.e. survey, data collection from the ETPs, desk research) approaches and tools were used.

Data collected directly from the ETPs

In order to collect quantitative information systematically and uniformly for all ETPs, an inventory template covering different indicators was developed. Quantitative and qualitative data was collected on:

- Background of the platforms
- Set-up and operationalisation of the platforms
- The Strategic Research Agenda and the various elements thereof
- Financial resources
- Communication to the stakeholders

The indicators developed by means of the inventory template were uniformly collected for all the ETPs. This enabled the aggregation of the collected information. The indicators, together with the qualitative information, were used as supporting evidence for answering the evaluation questions.

Data collected from individual stakeholders

The objective of the online survey was to systematically collect the views of stakeholders on various performance characteristics of the platforms. In total we received answers from 1,228 stakeholders (including partial responses); 947 stakeholders responded fully. The survey consisted of mainly closed questions, meaning that respondents could 'agree' or 'disagree'.

Interviews

A series of face-to-face and telephone interviews were carried out in order to collect 'first hand' information. These interviews involved 5 exploratory interviews and 10 in-depth interviews with representatives of ETPs and EC coordinators.

Case studies

5 case studies were carried out to gain insight into the activities and results of the ETPs and to identify potential good practices of relevance to other ETPs and their stakeholders. The case studies selected were:

- ECTP (European Construction Technology Platform): the linkage with the Member States, Eureka and the functioning of the National Technology Platforms.

- ERTRAC (European Road Transport Research Advisory Council): how the involvement of a wide range of stakeholders from different disciplines and the absence of a mirror group were tackled?
- HFP (Hydrogen and Fuel cell Technology Platform (HFP): drivers to become a JTI.
- Photonics21: implementation of the SRA.
- Plants for the Future: involvement of stakeholders.

0.3 Main conclusions

1. ETPs are generally considered to be **sufficiently open and transparent** (both by those who are strongly involved and those who are weakly involved).
2. Most ETPs successfully involve and represent a **broad range of EU-wide stakeholders** in their activities. There are some provisos, however:
 - 2.1. NGOs and end-users (i.e. consumers) have a small presence, taking into account the societal dimension of the ETPs and compared to the involvement of other stakeholders. Industry and knowledge-generating institutions are well represented.
 - 2.2. Knowledge-generating institutions are less involved in the development of the strategic vision document (SVD) and the final implementation strategy, but are strongly involved in the translation of the SVD into the SRA and thence into concrete projects proposals. In general, for this reason, it is fair to say that ETPs are industry-led.
 - 2.3. Participation levels of SMEs should be looked at and questioned from the right perspective. If a sector has large groups of SMEs, then they are (and should be) targeted and represented. ETPs have made efforts to attract and encourage SMEs to become involved. Experience, however, has shown that successful involvement of SMEs (in all their variety) is often hampered by their limited resources and limited ability to use the results and outcomes of platforms.
 - 2.4. Technology-oriented and high-tech SME associations that are members of ETPs are often found to be strongly involved with ETP activities.
3. In general, all stakeholders value **the strategic work** of the ETPs:
 - 3.1. ETPs address the needs and challenges of their technology areas.
 - 3.2. ETPs address broader socio-economic challenges and go beyond technological needs, although the extent to which this happens could and should be increased in future.
 - 3.3. The majority of stakeholders subscribe to the long-term vision developed by the ETPs.
 - 3.4. Stakeholders are less positive about the implementation of the SRA. 'Implementation' is an action that all stakeholders would like to see more of. In terms of concrete realisations, and assuming that this is a justified expectation towards an ETP, the results in terms of dealing with higher-level societal and economic challenges in Europe are not convincing at present.

- 3.5. ETPs are expected to be successful in technology areas at a pre-competitive (early development) stage. The advantage in this case is that industrial stakeholders are more motivated to have contacts with their competitors, as knowledge diffusion can have a crucial impact and the different actors are more easily committed to a common goal.
4. Stakeholders indicate substantial effects in relation to **coordination** (increase in cooperation outside ETP, expansion of network, increase of communication possibilities with other stakeholders). Less evident are the effects concerning joint R&D. Specifically:
 - 4.1. Mirror groups and National Technology Platforms have a positive influence on coordination and the creation of synergies. The composition of the membership and members' active engagement are critical factors in this respect.
 - 4.2. Communication efforts, publications and meetings have increased over the past three years. Interactivity can be improved, however.
 - 4.3. International cooperation is still hampered by several factors: lack of national resources, competition rules, differences in legal systems, and differences in standards.
 - 4.4. There is a clear danger of duplication of effort and fragmentation due to the large number of ETPs, despite the efforts of some ETPs to coordinate and develop common activities and working groups.
5. Concerning **synergy effects**, we find significant effects in relation to coordination with national initiatives and the alignment of priorities between academia and industry:
 - 5.1. The real impact of coordination in terms of concrete actions and joint initiatives of and between the various political levels in Europe is considered less evident. There is no clear evidence that the SRAs have influenced national R&D work programmes, although the indications are positive.
 - 5.2. ETPs provide a good basis for interaction between the Commission and the national and regional levels through the operations of the mirror groups and the National Platforms. Success, however, depends on the delegates and their commitment.
 - 5.3. On average, the ETPs are reasonably satisfied with the influence they have had on the definition of FP7 topics. Regarding this influence, there are large differences between ETPs and technology areas. Some ETPs see their SRA very well reflected in the FP7 work-programmes, other ETPs not at all. There is, however, no clear link between a good coverage of the SRA in FP7 and the success ratio of project applications under the FP7. This has been disappointing for many ETPs.
6. Concerning the **mobilisation of resources**, stakeholders indicate positive effects in relation to the increase of EU funding, national funding and also industrial (private) funding in certain R&D areas (although these effects are not very strong ones). In intergovernmental programmes/funding, less clear effects are recognised. Interestingly, SMEs, large companies and universities are more sceptical about these effects, although they still tend to agree with the propositions made on the mobilisation of resources. It should be noted that a full appreciation of the effects on mobilisation of resources is impossible at this early stage of implementation of SRAs. Specific points are:

- 6.1. At the initial stage of development of an ETP, the operational resources often stem from the Commission. The procedures and criteria are not always clear; this has resulted in large differences in funding of the operational activities between the platforms. At a later stage, we see that ETPs fund their operational activities with mainly private resources (e.g. membership fees or grants).
- 6.2. A large component of the operational funding of an ETP (time and thus wage costs) comes from the industry members.
- 6.3. Several ETPs have indicated considering to further professionalize and expand the size of their secretariats. There are great concerns about the funding of the secretariats in view of continuity and success of operations.
- 6.4. However, there are some worrying issues. It seems that several stakeholders from industry are disappointed by the number of projects approved under FP7 regardless of the significant effort and time put into the SRA process.
7. Concerning effects on the improvement of **framework conditions** and the enhancement of a high-skilled workforce, there are positive effects:
 - 7.1. Sector federations and associations are the most explicit about these effects. It seems that individual stakeholders do not recognise these effects to the same extent. Here, as well, one has to take into account the time dimension and thus the fact that ETPs are generally just starting on the implementation phase.
 - 7.2. ETPs increasingly recognise the importance of adequate framework conditions for innovation. Through the setup of specific task and/or workings groups and the production of publications (including specific sections in the SRAs), the platforms recently have started to systematically address framework conditions by working on and linking to other policy areas (education and training, the ERA, intellectual property, etc.).
8. Concerning the **general concept of the ETP** and its implementation, many of the challenges that Europe faced in the early days of the design of the ETP concept are still apparent today. However, the concept has evolved and has slightly moved away from the initial objective. Several ETPs have clearly been established or focused on the FP7 pre-programming phases. These ETPs have to refocus and reconsider their positions. Specifically:
 - 8.1. The set-up of the ETPs is professional and is in compliance with the main principles of good governance.
 - 8.2. The operations and activities of the platforms are generally considered to be open and transparent. Nevertheless, a higher level of interactivity with ETP members is desired.
9. Contributing to a better skilled workforce in the future is **not yet a priority for ETPs**.
 - 9.1. Not many activities have been carried out by ETPs concerning the identification of future education and training needs and providing training and education programmes and initiatives. More actions can and should be expected in the near future.
 - 9.2. However, several external factors and tendencies make us question the possible role of the ETPs in identifying needs and providing training and

education programmes: e.g., the need for a global and cross-sectoral approach, and the large differences in needs between Member States.

10. Generally speaking, **stakeholders are fairly satisfied** (score of 3.5 out of 5): there is room for improvement, but at the same time ETPs do succeed in living up to the expectations of their broad and heterogeneous groups of stakeholders. Sector federations (score of 3.8) and governmental organisations (score of 3.7) are the most satisfied with the work of the ETPs, whereas the SMEs are the least satisfied (score of 3.3).
11. Moreover, **93% of the stakeholders/respondents** (882 out of 947 of the respondents of the online survey) would, with the knowledge of and the experience with their ETP, renew their membership and/or get involved again.
12. The data collection process for this evaluation clearly revealed the **difficulties that ETPs have in providing evidence** about their activities and results achieved. This does not favour the discussion about the benefits stemming from the ETPs, although such benefits are clearly there. Moreover, throughout this evaluation, it appeared to be difficult to actually reach an ETP through its contact person.

0.4 Main recommendations

0.4.1 *Recommendations for policy-makers*

1. The European Commission should clearly and unambiguously continue to support the ETP concept

- 1.1. ETPs have the potential to grow further and become "European Flagships" that positively contribute to the innovative and economic potential of Europe. However, a clear mandate and support in this respect are essential. This support should thus be clearly communicated to all actors involved.
- 1.2. ETPs should also be better recognized as open innovation platforms and should be stronger supported and promoted on the political level, both nationally and on an EU level.

2. Member States should facilitate the operations of ETPs

In the context of the ERA and the Lisbon Objectives, Member States should support the operations of the platforms by stimulating the creation of national counterparts. Extension to the regional levels is also worth considering.

3. Fine-tune the ETP concept and the underlying ETP objectives

- 3.1. In view of the differences in expectations between the Commission, the ETPs and the various stakeholders, which have led to some frustration especially on the part of industry, it is essential that the concept and the ambitions behind ETPs are made clear.
- 3.2. It is also important to clarify how the Commission deals with the visions and strategic research agendas developed by the platforms in future Framework Programmes and general policy development.

4. Fragmentation between ETPs should be anticipated and remedied where needed

- 4.1. ETPs are bottom-up initiatives. With 34 ETPs today, overlap between technology areas, objectives and interests is difficult to avoid. This results in multiple memberships of ETPs by stakeholders and thus potential fragmentation between the platforms themselves. A possible remedy would be to investigate possibilities for extended collaboration between ETPs by, e.g., the creation of common working groups and common Visions and SRAs. Another option is to cluster or even merge related ETPs, which is clearly also a responsibility of the ETPs themselves.
- 4.2. Furthermore, applications for recognition of new ETPs should be clearly evaluated on their relationship and degree of overlap with existing ETPs.
- 4.3. Coordination and cooperation between ETPs should be intensified in order to enlarge their financial scale, resources, added value and influencing power, to avoid duplication and inefficiency, to find common approaches for social issues, and to make use of other synergies.
- 4.4. The Commission should encourage the submission of project proposals by collaborating ETPs. For the moment these proposals are rarely approved because of, allegedly, two main reasons: 1) it is unclear under whose responsibility they fall, and 2) they cannot be linked just to one topic but rather connect to several topics (thematic priorities) under the Framework Programme.

5. Make acquiring the 'ETP label' a privilege

- 5.1. Recognition as a European Technology Platform should bring about a number of exclusive advantages, for example in the area of funding of the operational activities of a platform (e.g. the secretariat). At the same time, such a label could also be beneficial to platform members and their applications for FP-type R&D funding.
- 5.2. This label should also entail a number of obligations, for example in the area of objectives and activities of the platform. It should be accompanied by clear evaluation criteria, such as those formulated by EURAB in 2004.

6. Establish and communicate clear rules and procedures

In line with the previous recommendations, clarity is also needed with respect to the potential financial support provided by the Commission for the operational activities of the platforms.

7. Support ETPs in developing an international dimension

Several ETPs believe that international cooperation should go further than with the EU and associated countries alone. A more international discussion is essential (with preferential partners) in order to be able to compete with other world powers. The Commission should clarify the possibilities for ETPs to involve non-associated countries.

8. Involve ETPs in policy preparation processes

It is important that ETPs move beyond 'technology' and link to other mainstream policies such as education, labour, competition, the ERA, etc. A stimulus for the ETPs to really move in that direction will be to know that they will be consulted and invited to provide their opinion and contribution during the policy preparation phases.

0.4.2 Recommendations for ETPs

9. Move beyond scientific and technological challenges

9.1. To strengthen the application of research results, ETPs should focus not only on the development of the SRA but also on the regulations and standards that affect the commercialisation of research. The field of regulation should be of concern to ETPs as part of the development of the SRA and the Implementation Plan.

9.2. ETPs can undertake several useful activities concerning education and training. However, ETPs have clearly underachieved on this matter so far. They should be the facilitators, communicators and promoters for new and adapted training and education programmes. At the moment, however, we do not consider the ETPs suitable for the actual organisation of training and education sessions.

10. Focus on socio-economic challenges with clear benefits for Europe

In the process of developing the SRA and the Implementation Plan, ETPs should emphasise the societal impact and implications of the underlying technologies in order to mobilise stakeholders such as end-users and consumers. ETPs need to look for the common issues that can bring together diverse groups of stakeholders: often, this will be an underlying societal aspect or common interest (e.g. mobility, sustainability).

11. Be aware of potential fragmentation between platforms and remedy where needed

Create, where possible, common, cross-disciplinary working groups with other ETPs. It is useful for the ETPs to maintain clear links with other ETPs on themes that overlap between the different technological areas. In closely related areas, consider far-reaching collaboration and even mergers, as this will clearly increase the influence of the platform in the system and thus the interests of the stakeholders concerned.

12. Address the needs of all your stakeholders

12.1. In some cases, general meetings between ETP stakeholders are being replaced by or complemented with small thematic workshops or meetings on specific topics. The outcome of these activities can be recommendations that can be further discussed in more general meetings where broader groups of stakeholders are present.

12.2. Vertical focus areas that concentrate on particular segments of the industry or particular groups of stakeholders (e.g. SMEs or end-users) can be created. Their objective should be to provide focused thematic

priority topics in relation to the specific needs of the industrial segment or stakeholder group concerned.

- 12.3. Special attention should be paid to the involvement of NGOs and end-users (consumers). It remains a challenge to explain to society why large investments in R&D are needed and what the potential benefits might be.
- 12.4. Be aware of the potential negative effects of becoming "clubs" where members (typically from companies) seek to use the ETPs to generate funding for their firms. Openness, transparency and clear-cut rules of membership, participation and governance are essential. Moreover, periodic self-evaluation should be considered.

13. Move to stage 3: 'implementation'

- 13.1. In order to convince industry to invest more money in R&D, the ETPs should aim for results that facilitate innovation (i.e. real market introduction). Working towards adequate framework conditions (regulatory, financial, human capital) is essential in this respect. Furthermore, the dissemination of good practices, success stories and successful pilots should be undertaken in order to highlight the added value of ETPs for their members.
- 13.2. Cross-border cooperation should also be stimulated. A simple tool that could help is the development within and across the ETPs of a match-making website with a database of organisations interested in cross-border collaboration in industrial research.

14. Pay more attention to fund-raising and financial engineering

- 14.1. ETPs should pay more attention to fund-raising and financial engineering in the future. They should provide the necessary information on funding possibilities to their stakeholders. More dissemination actions could be undertaken in order to convince financial providers.
- 14.2. As a start, ETPs should make a clear and detailed overview of all financial providers available. This overview should indicate which projects are eligible for which types of funding and describe how this funding can be obtained.
- 14.3. Best practices, success stories and real market developments as a result of ETP actions and projects should be disseminated and promoted to all financial providers (Commission, national/regional authorities and industry). ETPs should focus on results that lead to technology implementations and products or services.

15. Further internationalize your activities to outside the EU

- 15.1. Several ETPs believe that international cooperation should go further than the EU and associated countries. A more international discussion is essential (with preferential partners) in order to be able to compete with other world powers.

- 15.2. Peer-to-peer relations with Asian and American research programmes should be established in order to exchange ideas and interests and look for synergies.

16. Develop internal monitoring systems

It is important for an ETP to be able to provide evidence of its performance, i.e. its influence on policy and research agendas and the realisation of research programmes. Therefore it is essential to develop internal monitoring systems that follow the activities of the members (e.g. proposal submission). The monitoring systems and related procedures can be part of the internal organisation and procedures of the platforms.

17. Devote sufficient attention to the professionalization of an ETP's internal processes and organisation

- 17.1. A professionally run and transparent organisation is essential for success. Select the chair of the ETP very carefully. The chair is a key factor for the successful coordination of an ETP and must have enough time available and be committed to the project.
- 17.2. In order to increase the financial resources needed by ETPs (e.g. the secretariat, organisation of meetings, etc.), ETPs can introduce a fee-based system for their members. The level of the fee can be differentiated according to the type of stakeholder (e.g. higher for large companies and lower for SMEs, research institutions and associations).

18. ETP websites must be optimized and professionalized: they are central in communicating with the outside world

- 18.1. A well-structured website, as well as enabling good communication of the services offered by the secretariat, increases efficiency and saves time for the members of the ETP. Moreover, it enhances the coordination between its members. Project information can be put on the websites of the ETPs in order for applicants to get easier access to ongoing initiatives.
- 18.2. Make use of more interactive communication tools in order to engage and stimulate more stakeholders to become involved in the ETP. This will also prevent also the free-rider syndrome of members just using the information provided but not being actively involved in the ETP. ETP websites should be made more interactive.

1 INTRODUCTION

1.1 Context and objectives

1.1.1 *Context*

The evaluation of the European Union Framework Programmes is an exercise to be carried out in order to support transparency, accountability and the justification of funding decisions. It is a vital part of the policy making process. The evaluation has to meet the evaluation procedures and requirements for programme evaluation in the Research Framework programme decisions. The new evaluation system which is essential for the 7th Framework programme will be used to: 1) inform and legitimate funding decisions, 2) ensure accountability for the actions taken, and 3) help to improve the efficiency of programme management.

The 7th FP decision stipulates that there will be an ex post evaluation within two years of the completion of each FP. In addition there will be a mid term evaluation of the 7th FP which will build on the ex post evaluation of the 6th FP. The ex post evaluation of the 6th FP will address the issues of rationale, impacts and achievements and will be carried out by independent high-level experts.

It is in this context that the Commission has commissioned a study to evaluate the ETPs, being an important realization within the 6th FP. Indeed, the extent to which the different ETPs contribute to the fulfilment of their policy objectives seem to differ and there is no full understanding of all the effects they produce. Since the Commission intends to continue to support the ETP concept, it wants to be well aware of the extent to which the different ETPs have met the original expectations and also to fully understand potential side effects. The identification, by means of this evaluation study, of both success and limiting factors as well as best practices, will allow the Commission to facilitate the ETPs to reach their full potential and (better) achieve their (and the Commission's) long term objectives.

1.1.2 *Objectives of this evaluation*

The objectives of the evaluation of the European Technology Platforms are to:

- Map the functioning of the ETPs.
- Map the developments of the concept of ETPs and their objectives.
- List and analyse the different effects (output, results and impact) that the ETPs produce.
- Identify both success and limiting factors and best practices.
- Draw lessons and formulate recommendations for the future.

The evaluation results will also be used by the Commission to better understand the impacts, effectiveness and efficiency of the ETPs.

An important remark is that this evaluation tries to draw conclusions for the ETPs as a whole. It does not have the intention to evaluate ETPs on an individual basis. Given the large diversity among the platforms, substantial efforts have been made to develop harmonized data collection tools in order to ensure maximum comparability.

1.2 Scope and approach

The aim of this evaluation is to provide an assessment of the activities and results of the ETPs and the degree to which ETPs have reached their objectives. In addition to assessing activities and results, this evaluation has also paid attention to processes, i.e., the way in which the ETPs are structured and organised.

As ETPs do not address a single target group but rather involve a wide range of stakeholders, a variety of evaluation tools has been applied, such as face-to-face interviews, collection of quantitative indicators from the ETPs, an online survey, and case studies. The quantitative and qualitative tools used are summarised below.

Table 1: Tools for the evaluation

Qualitative	Quantitative
<ul style="list-style-type: none"> • Desk research • Interviews • Case studies 	<ul style="list-style-type: none"> • Survey • Inventory template with set of indicators per ETP • Desk research

A wide range of stakeholders were approached for this evaluation including the European Commission (DG Research, DG Infso¹), coordinators of the ETPs and the wide variety of stakeholders including the business sector (distinguishing between SMEs and larger companies), the research community and universities, and governmental and non-governmental organisations (NGOs). Depending on the involvement of the various stakeholders, different evaluation tools were applied as appropriate.

Table 2: Approach followed for different target groups

Group	Approach
<ul style="list-style-type: none"> • European Commission (DG Research) • Coordinators of ETPs • ETP stakeholders 	<ul style="list-style-type: none"> • Face-to-face interviews • Face-to-face interviews, inventory template • Online survey

1.3 Methodological framework

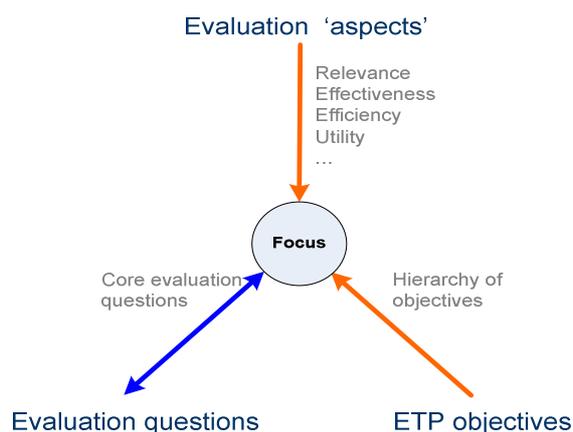
As a starting point for our evaluation, we took the various objectives of the ETPs and translated these into a series of evaluation questions. The evaluation

¹ IDEA Consult was a participant in the ICT ETP leaders meeting with Commissioner Reding on February 21st 2008.

questions were defined in such a way that they looked into the different evaluation aspects (see below) and into the overall question of whether the **overall objectives of the ETPs have been or are likely to be achieved**.

The objectives were regrouped into a hierarchy. Once the evaluation questions had been defined as well, the scope of the evaluation became clear and the tools to collect the necessary information and data could be developed. It is important to repeat the instruments were a mixture of qualitative and quantitative tools and that they were tailored to the context of the ETPs. The figure below illustrates the key elements of the evaluation approach and their interrelation.

Figure 1: Interrelation of key elements



Source: IDEA Consult

1.3.1 Evaluation aspects

The evaluation examined the following aspects in relation to the operations of ETPs:

- **Relevance:** How well chosen are the objectives and interventions of the ETP given the needs of its users that it aims to satisfy or the problems it is meant to solve?
- **Effectiveness:** What outputs and results were achieved by the ETP's interventions? What is the quality of these results? How do they relate to the objectives of the programme?
- **Efficiency:** What resources were used to achieve these results? Can this be considered a reasonable cost?
- **Utility:** To which extent did the results correspond to the identified needs of the target groups? What is the added value for the stakeholders?
- **Sustainability:** Are the effects achieved likely to last in the medium or long term?
- **Organizational structure and implementation:** Has the proper organizational structure been chosen? Are the necessary implementation processes and tools in place (monitoring, evaluation, communication, etc)?

These evaluation aspects were addressed via a series of evaluation questions developed based on the objectives and anticipated effects of the ETPs.

1.3.2 ETP objectives and anticipated effects

The evaluation of the ETPs first involves gaining a thorough understanding of the extent to which the objectives of the ETPs have been achieved. In order to do so, we first identified the objectives of the ETPs and structured them in a so-called **hierarchy of objectives** (see Box 1). Later on, this hierarchy of objectives was linked to outputs, results and impacts.

Box 1: Definition of 'hierarchy of objectives'

The hierarchy of objectives is a tool that helps to analyze and communicate the objectives of a programme or other form of policy intervention. It organizes these objectives into different levels (strategic objectives, sub-objectives, activity-related objectives and horizontal objectives) in the form of a hierarchy or a tree, thus showing the logical links between the various levels.

The overall mission of the ETPs is the following:

"To define a coherent and unified approach to tackle major economic, technological or societal challenges of vital importance for Europe's future competitiveness and economic growth"².

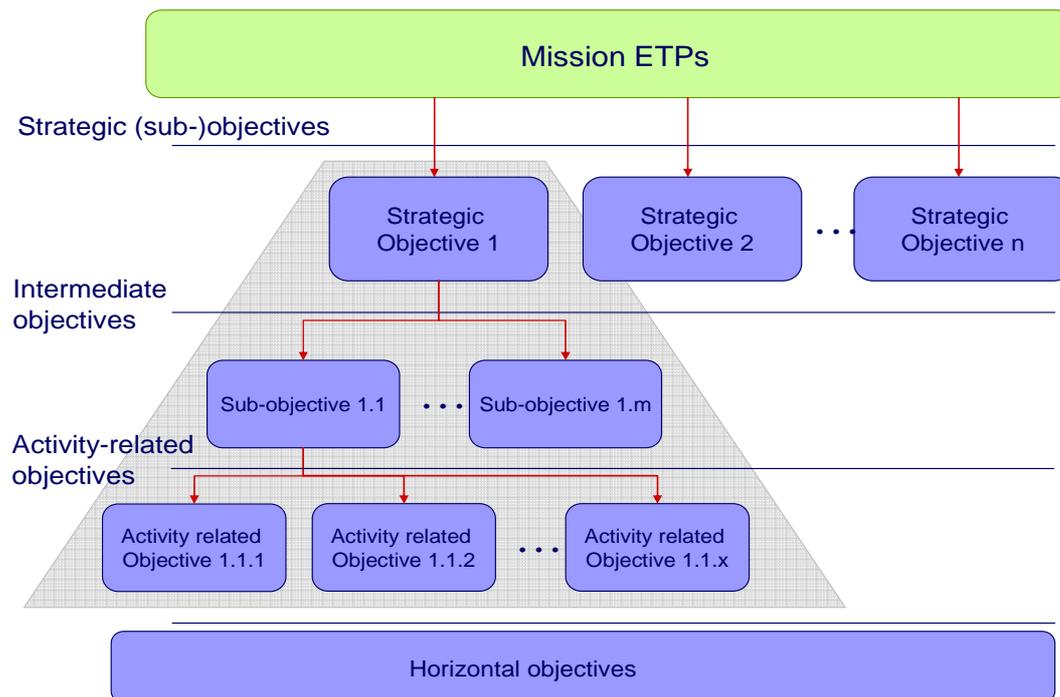
Besides this mission, we distinguished between four different levels of objectives.

1. **Strategic objectives** represent the high-level objectives and are defined very generally. These have, for example, a direct link with the Lisbon Strategy.
2. The **sub-objectives** indicate through which channels the strategic objectives can be reached. They have a more direct link with the core activities of the ETPs.
3. **Activity-related objectives** are the lowest-level, most specific objectives and have a more direct link with the activities undertaken by the ETPs.
4. The **horizontal objectives** of the ETPs refer to some general principles that all ETPs have to take into account when defining and implementing their strategic research agendas (SRAs). We explain the horizontal objectives in more detail below.

The figure below shows the relationship between the different levels of objectives. As can be seen, they take the shape of a pyramid with the base directly referring to the ETP activities.

² European Commission (2004), 'Technology Platforms: from definition to implementation of a Common Research Agenda'.

Figure 2: Hierarchy of objectives

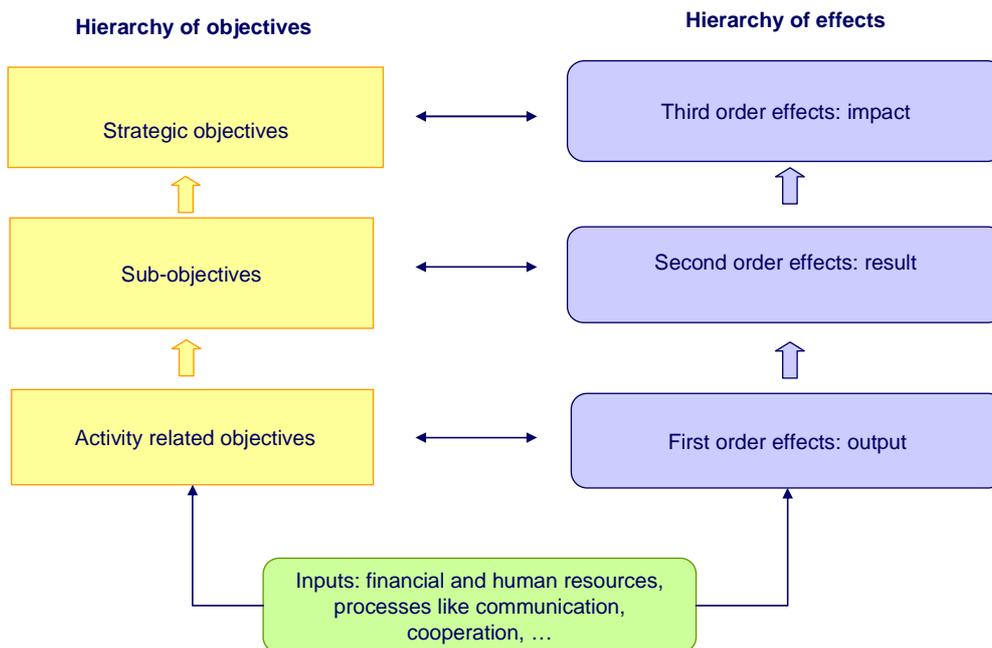


Source: IDEA Consult

The hierarchy of objectives has proven to be a point of reference for the rest of the evaluation process. The evaluation questions and the different evaluation tools interact directly with the hierarchy of objectives. After all, the evaluation must provide an answer to the key question of **whether the overall objectives of the ETPs have been or are likely to be achieved.**

In parallel to a hierarchy of objectives, a hierarchy of effects has been designed as well. The expected effects can be divided, as for the objectives, into different levels depending on how directly the effects can be linked to an action undertaken by the ETPs. As the following figure shows, the hierarchy of effects is closely linked to the hierarchy of objectives and follows a similar structure.

Figure 3: Relationship between the hierarchy of objectives and the hierarchy of effects



Source: IDEA Consult

The ETPs have to make use of several inputs in order to set up their activities. These activities are expected to lead to a number of effects. The expected effects can be grouped into first- and second-order effects and finally third-order effects or impacts. First-order effects refer to outputs and concern the specific actions and activities that directly address the needs of the objectives of ETPs. Second-order effects relate to the immediate results of the actions and activities already taking place. They typically refer to the reaction of the target group on the actions undertaken. Finally, third-order effects identify the longer-term impacts of the operations of the ETPs and are directly related to the strategic objectives of the ETPs. The causality between the action and the impact is not that easy to identify because many other aspects, policies and actions have had their influence on that specific impact.

1.3.3 Key evaluation questions

Based on the hierarchy of objectives and effects and the evaluation aspects, a list of evaluation questions was designed and integrated with the questions developed by DG Research.

Each evaluation question dealt with various evaluation aspects and also covered various objectives and/or effects. The evaluation questions were answered by using various analytical qualitative and quantitative techniques and were clustered as follows:

- Those relating to the ETP concept and its implementation.
- Effects on the initial objectives as mentioned in the hierarchy of objectives:

- coordination between relevant stakeholders (between industry, researchers and other stakeholders on the development of key technologies in Europe);
- synergy between EU, national and regional levels;
- mobilisation of public and private resources (for the implementation of the SRAs from FP7 and beyond);
- improvement of framework conditions for innovation;
- maintain and enhance a highly skilled work force.

1.3.4 Indicator base and the inventory template

The evaluation questions were answered by referring to 'evidence' which is collected in a quantitative (indicators) and a qualitative manner (survey). For the collection of quantitative data we made use of existing data sources as much as possible (such as the CORDIS website³, the 'status reports'⁴, the CORDA database of DG RTD, ERAWATCH web pages⁵) as much as possible.

Indicators are quantitative measures of the expected effects. Consequently they can be divided into the same categories - input, output, result and impact - used to structure the expected effects.

- **Input indicators:** Resource or input indicators refer to the budget or other resources (such as for example, human capital) allocated to each level of the intervention.
- **Output indicators:** Output indicators aim at measuring activities directly realized by the ETPs. These activities or outputs are the first step in realizing the objectives and can be measured by, for example, whether or not a shared vision has been developed, whether or not an SRA has been developed, and whether or not the SRA has been implemented.
- **Result indicators:** Result indicators aim at measuring the direct results of the actions and show whether the specific objective of an ETPs has been achieved in the short term. For example: have the actions by the ETP resulted in a coherent research and regulatory framework facilitating future research, the mobilization of resources (financial and otherwise), better (more focused) use of public financing of industrial research, and a higher level of coordination of research activities (and portfolios)?
- **Impact indicators:** Impact indicators (longer term) refer to the consequences of the platforms beyond the immediate effects on its direct beneficiaries, and are linked to the strategic objectives. Two concepts of impact can be defined: specific impacts are those effects occurring after a certain lapse of time but which are, nonetheless, directly linked to the operation taken, while global impacts are longer-term effects affecting a wider population. For example: do the ETPs help in overcoming defragmentation, do they lead to higher levels of investment in research, do

³ <http://cordis.europa.eu/en/home.html>

⁴ Status report: Development of the technology platforms, 2005; Second status report: Moving to implementation, 2006; Third status report: At the launch of FP7, 2007

⁵ <http://cordis.europa.eu/erawatch/>

they improve innovative activities, and have they resulted in higher levels of productivity growth? As for the previous point, the answers to these questions have been quantified where possible.

In order to collect this information systematically and uniformly for all ETPs, we developed an inventory template covering indicators on the following themes:

- General Background on the ETP:
 - Submission of Strategic Documents
 - Mission
 - Objectives
 - Organisational structure
- The ETP in figures (key indicators):
 - Set-up and operationalisation (membership and human resources).
 - SRA implementation and cooperation (number of revisions, number of proposal submitted, etc.).
 - Financial resources (operational budget, private resources, resources from FP6/FP7, etc.).
 - Identification of training needs (number of training sessions organised, number of participants).
 - Sharing knowledge (number of publications, events, web-pages, meetings).

The inventory template was furthermore complemented by questions on the major achievements in 2007 and the first quarter of 2008 (changes in the SRA, changes in structure, cooperation with other platforms, next steps, etc).

The fiche template is attached as Annex 6. Based on desk research (e.g. screening of the individual ETP websites), we completed the fiche for each of the 34 ETPs as much as possible. The ETP coordinator was then asked to validate and complete the fiche. This process was facilitated by the ETP Secretariat by sending the fiche to each ETP for completion.

The indicators developed by means of the inventory template are thus standard and were uniformly collected for all the ETPs. This has allowed us to aggregate the collected information. The indicators, however, were used as supporting evidence for answering the evaluation questions, combined with more qualitative information.

We should note that, since most ETPs are recently set up, it is difficult to measure at this point, and in a quantified way, the results and especially the impacts of the ETPs, which are typically revealed after a certain period of time. Expected results and effects were also probed via the survey and interviews.

1.3.5 Online survey

Objectives and target group

The intention of the survey was to get to know the opinion of the different stakeholders involved in the ETPs on a range of topics, such as:

- Results and effects of the ETPs.

- Functioning of the ETPs.
- Their added value and the relevance.
- Expectations of the stakeholders and the extent to which they have been met so far.
- Future developments of the ETPs.

Structure of the survey

An online survey was chosen instead of a postal or telephone survey in view of the speed of response and its cost-effectiveness. In order to arrive efficiently to the conclusion of the online survey, the following principles were applied when organising it:

- The questions had predominantly a 'closed' character (multiple choice questions and "statements" where respondents can indicate to what extent they agree).
- The number of questions for the survey was limited to 58 (including respondent identification questions), giving an average survey completion time of about 13 minutes.
- Some open-form questions were included in order to leave the possibility to give suggestions on the further development of the ETPs.

The survey was structured around the following main themes:

- Respondent- and ETP-identification questions.
- General Information.
- Effects of the ETPs:
 - Coordination between relevant stakeholders
 - Synergy between EU, national and regional levels
 - Mobilisation of public and private resources
 - Improvement of framework conditions for innovation
 - Maintaining and enhancement of a high skilled workforce
- Concluding remarks: towards the future...

A detailed overview of the survey questionnaire is provided for in Annex 4.

A description of the process followed to address the survey to the stakeholders is given in Box 2.

Box 2 – The process followed for the online survey

- The questionnaire was set up in close cooperation with DG Research.
- The questionnaire was put on a separate, secured page of the website of IDEA Consult.
- An e-mail invitation was sent via the ETP secretariat to the ETPs asking the ETPs to forward the survey to their members and invite their members to fill it in. This e-mail contained a hyperlink so that the respondents only needed to click on the address of the page in order to fill in the questionnaire online.
- The respondents filled in the form electronically, and the data was then automatically sent to a database for processing.
- Reminders were sent by the ETP Secretariat to the ETPs for the survey.
- In total, 1228 ETP members responded to the survey. Out of those answers, 947 members have filled in completely all the questions of the survey. This dataset of the responses of the 947 ETP members has been used as our dataset for the processing of the results of the survey.

1.3.6 A series of interviews

A series of face-to-face and telephone interviews were carried out. These interviews involved (see Annex 1 for the list of interviewees) the following.

- **Exploratory interviews**, with the aim of shedding light on the broader context of the evaluation and the objectives, operation and results of the ETPs. The information gathered was used for the further elaboration of the evaluation methodology. In particular, the aim was to:
 - gather information on the typical activities of the ETPs;
 - draft a list of questions for the survey;
 - draft a list of questions for the in-depth interviews.

The exploratory interviews involved 5 interviews: 2 interviews with DG Research ETP representatives and 3 with coordinators of ETPs who are very familiar with the ETPs, their activities and evolution.

- **In-depth interviews** were carried out in the context of the preparation of the 5 case studies. These interviews were carried out both face-to-face and via the telephone with the coordinators of the ETPs and the EC contact persons. The interviewees received the interview guidelines well in advance in order to have efficient interviews.

The in-depth interviews involved 10 interviews: 5 interviews with ETP coordinators or contact persons for the five ETPs and 5 interviews with the EC contact persons for the five ETPs.

1.3.7 Case studies in order to describe 'good practices'

The in-depth interviews described above carried out with ETP coordinators and Commission contacts aimed at the development of 5 case studies in order to gain more insight into the activities and results of the ETPs and to identify several good-practice'. The following case studies were selected:

- ECTP (European Construction Technology Platform)
- ERTRAC (European Road Transport Research Advisory Council)
- HFP (Hydrogen and Fuel cell Technology Platform (HFP))
- Photonics21
- Plants for the Future

The case studies were designed to cover a set of general themes on the set-up and history, the organisational structure, the governance and the activities and results of the ETPs. However, for each of the cases the emphasis was also put on a specific topic. For example, for ECTP, the focus was also on the linkage with the Member States, Eureka and the functioning of the National Technology Platforms. For ERTRAC, it was on how the involvement of a wide range of stakeholders from different disciplines and the absence of a mirror group were tackled. In the case of HFP, the drivers to become a JTI were also considered. In the case of Photonics21, the way the SRA is being implemented was looked at. Finally, in the case of Plants for the Future, the involvement of stakeholders was a topic of major interest.

The structure of the case studies follows the following general pattern:

- Introduction
- Identification of the ETP
 - Set-up and history of the ETP
 - The mission of the ETP
- Organisational structure of the ETP
- Members of the ETP
- Governance of the ETP (decision-taking, functioning of the secretariat, selection process of members, communication and networking (meetings, events, ...), monitoring, control and evaluation)
- Financial sources and total budget
- Progress of activities and results
- Lessons learned, interesting practices and looking at the future

1.4 Guide to the reader

After this introductory chapter, we continue in chapter 2 with a general description of the European Technology Platforms, the policy rationale behind their creation, and a description of the set-up and the operations and activities of the ETPs.

Chapter 3 follows with the presentation of the main quantitative findings of this evaluation based on the data inventory phase and the results of the online survey among the stakeholders.

Chapters 4 to 9 present and discuss the findings and conclusions of this evaluation structured along the main lines of the evaluation questions and the objectives of the ETPs. Chapter 4 analyses the findings on the effects in relation to coordination. Chapter 5 focuses on the effects related to the synergies with the EU, national and regional levels. Chapter 6 presents the findings on the effects on the mobilisation of financial resources. Chapter 7 deals with the effects on the improvement of the framework conditions and chapter 8 focuses on the effects on the skills of the workforce. Chapter 9 provides answers on the evaluation questions related to the general underlying concept of the ETPs and its implementation.

Chapter 10 provides the overall conclusions of this evaluation study while chapter 11 presents our recommendations towards the European Commission as well as towards the ETPs.

A lot of supporting material underlying the different chapters can be found in the different annexes.

2 EUROPEAN TECHNOLOGY PLATFORMS

2.1 Policy rationale

Lisbon agenda

The Lisbon agenda and the “3% objective” set at the Barcelona European Council, aiming at increasing R&D investments in the EU at 3% of GDP by 2010, has resulted in the design of policy initiatives responding to the increasing needs for efficient use of R&D investments, valorisation of research, coordinated research between the Member States, increased collaboration between European researchers and technologists, support of collaboration between the industry and the research community, etc. In parallel, the Commission launched in 2000 the European Research Area (ERA) initiative aiming to reduce the fragmentation of research activities in the EU25. In addition, the need to increase both public and private R&D investments in leading-edge technologies had already been recognized as a way to support employment and growth⁶.

In a broader context, industrial and R&D policy plays a significant role in promoting competitiveness, economic growth and employment, since knowledge, technological development and innovation are considered to be the bedrock for high value-added industries such as ICT and biotechnology. Therefore, boosting competitiveness, growth and employment by means of increasing R&D investments and promoting research, requires prioritization of the strategic development of technologies that may have important economic and societal impacts.

Under this rationale, the concept of Technology Platforms was first introduced in the Commission Communication “Industrial Policy in an enlarged Europe” in December 2002. They were proposed as a way to bring together technological know-how and stakeholders with the aim of producing a long-term strategic plan for research and development of specific technologies with a significant economic and societal impact.

As such, Technology Platforms were initially seen as a means to “*foster marketplaces for cooperation between stakeholders and work out a long-term strategic plan for R&D for specific technologies involving major economic or societal challenges, such as the advent of hydrogen as a new source of energy. They would ensure synergy between public authorities, users, regulators, industry, consumers, and poles of excellence viewed as places where basic research and technology transfer are closely linked*”⁷.

Importance of regulatory environment

The need to increase innovation can be addressed in several ways. Increasing innovation (aiming at increasing competitiveness, employment and growth) is not only tackled by policies aiming at increased investments in R&D. Initiatives also need to address the regulatory environment in which the business sector is meant

⁶ EC Communication, “A European Initiative for Growth Investing in Networks”, COM 2003, 690 final

⁷ EC Communication, “Industrial Policy in an Enlarged Europe”, COM 2002, 714 final

to innovate. This includes more than aiming at increasing R&D per se. It also involves designing policies that remove potential or actual barriers to innovation. For example, financing, education, taxation regimes and coordination practices can constitute barriers to innovation, therefore reducing the impact of actual R&D investments.

European Technology Platforms were designed to address these innovation-related issues. For this reason, the key actors involved in the ETPs include not only R&D players (scientists, technologists, etc.) but also actors involved in the innovation process itself (e.g. policy makers, regulators, industrial federations, governmental agencies/ministries, consumer representatives, etc.).

2.2 About European Technology Platforms

2.2.1 *Main objectives*

The primary objective of the European Technology Platforms (ETPs) is to “define a coherent and unified approach to tackle major economic, technological or societal challenges of vital importance for Europe’s future competitiveness and economic growth”⁸. In particular, the ETPs provide a framework to define research and development priorities and action plans for each technology domain concerned. As such, the ETPs are designed to provide a strategic vision and research agenda for leading technologies at European level and therefore contribute significantly to the realization of the objectives of the ERA. In this framework, the involvement of public authorities as well as all other relevant stakeholders is vital for the fulfilment of the mission of ETPs.

The policy objectives of the ETPs can be summarized as follows:

- Support the development and deployment of those key technologies in Europe that are vital to address major economic and societal challenges.
- Define a European vision and a strategic agenda for the development and deployment of these technologies.
- Support the objective of increasing European private research investment by bringing research closer to industry and improving markets for innovative products.

2.2.2 *Main priorities and deliverables*

As of December 2007, there were 34 ETPs representing a wide range of technological fields. Their activities focus on the production of the following deliverables⁹:

- A Strategic Research Agenda (SRA) which sets out RTD priorities for the medium to long-term, including measures for enhancing networking and

⁸ European Commission (2004), ‘Technology Platforms: from definition to implementation of a Common Research Agenda’.

⁹ European Commission (2004), ‘Technology Platforms: from definition to implementation of a Common Research Agenda’.

clustering of the RTD capacity in Europe¹⁰. This SRA is supposed to take account of the technological framework (including regulatory issues, intellectual property rights etc.) and the business environment for future market penetration. In harness with the Strategic Research Agenda therefore, a Deployment Strategy should also be formulated.

- Mechanisms to mobilize the private and public investments required for the implementation of the research and development strategies. Potential funding sources include the EU Framework Programmes, the programming documents of the Structural Funds, national, regional and private research funding, the European Investment Bank (EIB), and the intergovernmental EUREKA Initiative¹¹. Technology platforms should explore with the financial community and European and national public authorities ways to enhance the use of guarantee mechanisms in attracting both debt and equity financing for implementing RTD activities.
- Identifying challenges and actions related to education and training opportunities with a view to maintaining and enhancing a high-skilled work force which can ensure an effective future implementation of the technologies concerned in the medium to long term.
- Establishment and implementation of a communication plan that aims to raise public awareness and enhance dialogue on the justification for concentration of efforts at a European level in the technological field concerned.

The 34 ETPs are listed below.

¹⁰ Where the ETPs fit with objectives of the European research policy, the Strategic Research Agendas developed by ETPs have been taken into account in the development of FP7, in particular the ten Themes of the "Cooperation" Specific Programme and their respective work programmes for 2008.

¹¹ EUREKA is a pan-European network for market-oriented, industrial R&D. Created as an intergovernmental Initiative in 1985, EUREKA aims to enhance European competitiveness through its support to businesses, research centres and universities who carry out pan-European projects to develop innovative products, processes and services.

Table 3: ETPs as of December 2007

ETPs
Advanced Engineering Materials and Technologies – EuMaT
Advisory Council for Aeronautics Research in Europe - ACARE
Embedded Computing Systems - ARTEMIS
European Biofuels Technology Platform – Biofuels
European Construction Technology Platform – ECTP
European Nanoelectronics Initiative Advisory Council - ENIAC
European Rail Research Advisory Council – ERRAC
European Road Transport Research Advisory Council - ERTRAC
European Space Technology Platform – ESTP
European Steel Technology Platform - ESTEP
European Technology Platform for the Electricity Networks of the Future – SmartGrids
European Technology Platform for Wind Energy – TPWind
European Technology Platform on Smart Systems Integration - EPoSS
Food for Life – Food
Forest based sector Technology Platform – Forestry (FTP)
Future Manufacturing Technologies – MANUFUTURE
Future Textiles and Clothing - FTC
Global Animal Health - GAH
Hydrogen and Fuel Cell Platform - HFP
Industrial Safety ETP - IndustrialSafety
Innovative Medicines Initiative - IMI
Integral Satcom Initiative - ISI
Mobile and Wireless Communications – eMobility
Nanotechnologies for Medical Applications - NanoMedicine
Networked and Electronic Media - NEM
Networked European Software and Services Initiative - NESSI
Photonics21 - Photonics
Photovoltaics - Photovoltaics
Plants for the Future - Plants
Robotics – EUROP
Sustainable Chemistry - SusChem
Water Supply and Sanitation Technology Platform – WSSTP
Waterborne ETP - Waterborne
Zero Emission Fossil Fuel Power Plants - ZEP

2.3 Operations and activities of the European Technology Platforms

2.3.1 *Main stakeholders of the ETPs*

The effective operation of the ETPs necessitates a wide range of stakeholders to be involved in the formulation and prioritization of research activities by means of vision development and the formulation of the Strategic Research Agenda (SRA).

The various categories of stakeholder are as follows:

- **Regulatory bodies** at EU, national or local levels.
- **Industry**, representing large, medium, small companies and the whole production and supply chain. In addition to research actors, actors involved in technology transfer and commercial deployment of technologies also participate.
- **Public authorities**, covering policy makers, funding agencies and also promoters and consumers of technologies. Some platforms have introduced Member State “mirror groups” in order to provide an interface between the developments at the Technology Platform level and complementary activities at the national level.
- **Research institutes and the academic community**, encouraging participation of the academic/ industrial interface.
- **Financiers**, covering private banks (including EIB), the European Investment Fund (EIF), the European Bank for Reconstruction and Development (EBRD), venture capital funds, business incubators, etc.
- **Civil society**, including NGOs, consumer associations and other representatives of users of the technology.

2.3.2 *ETP life-cycle*

The development of an ETP follows a bottom-up approach in which the stakeholders take the initiative to develop an ETP under the guidance of the European Commission. Although each platform has followed its own pathway, in general a three-stage process has been followed by every platform in order to work towards and achieve its main objectives¹²:

- **Stage 1 – Emergence and setup**: stakeholders, led by industry, come together to agree a common vision for the technologies concerned. The main deliverable of this stage is a strategic vision document (SVD) which describes the significance of the particular technology and outlines the medium and long-term development objectives of the ETP.
- **Stage 2 – Definition of a Strategic Research Agenda**: the Strategic Research Agenda (SRA) sets out research and technological development priorities in the medium and long-term. The development of the Strategic Research Agenda is coordinated by an advisory council in which the stakeholders participate. In some cases, Member States are also actively

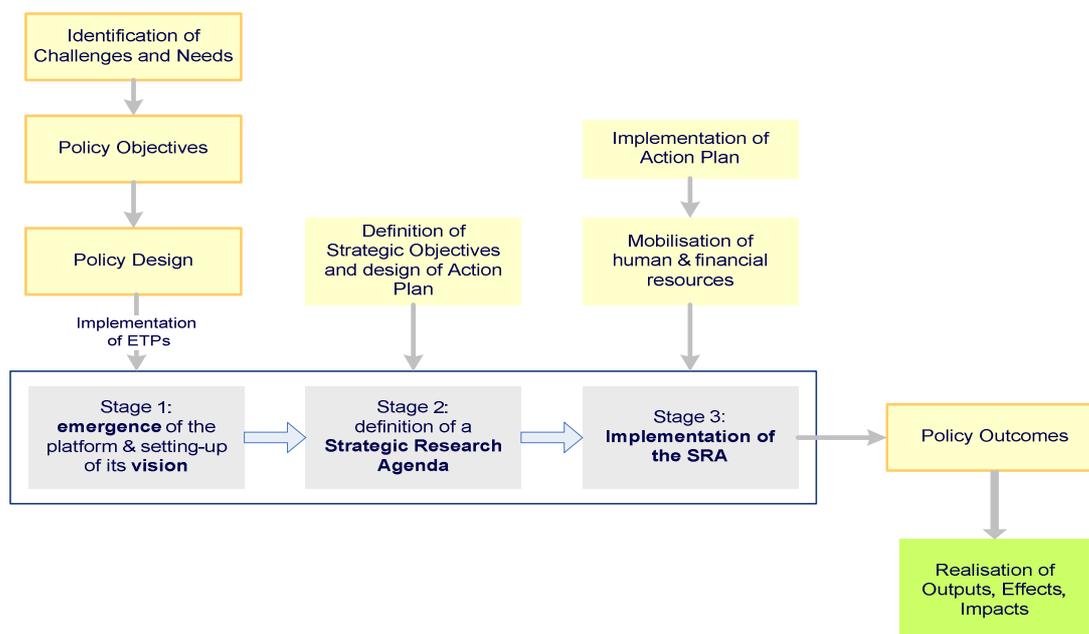
¹² European Commission, 2005, ‘Report on European Technology Platforms and Joint Technology Initiatives: fostering public-private R&D partnerships to boost Europe’s industrial competitiveness’.

involved through a Member State mirror group. This mirror group reflects the views of the Member States on priorities. At the same time, a deployment strategy is specified which aims at the provision of a description of the elements required to implement the Strategic Research Agenda.

- **Stage 3 – Implementation of the Strategic Research Agenda:** the Strategic Research Agenda is implemented with the support of Community research programmes, where possible. At the same time, the Agenda is used by the Commission to identify priorities for the preparation of research proposals for research programmes.

Figure 4 illustrates this process.

Figure 4: The 'Life-cycle' of ETPs



Source: IDEA Consult

2.3.3 Some key operational principles of the ETPs

The ETPs are designed to operate according to the following 'horizontal' operational principles, which also constitute **horizontal objectives**, as they apply to all ETPs¹³.

- **Openness and transparency:** every ETP must ensure that it is open to all interest groups and that it is not dominated by narrow interest groupings or lobbies. In December 2004 a voluntary code of conduct was formulated to ensure the openness and transparency of ETPs¹⁴. In this context, actions taken cover:
 - Rotating membership of Advisory Council
 - Regular stakeholder meetings

¹³ http://cordis.europa.eu/technology-platforms/further_en.html

¹⁴ ftp://ftp.cordis.europa.eu/pub/technology-platforms/docs/etp_web_061114_en.pdf

- Openness to the participation of new stakeholders (esp. SMEs)
- Setting up of a platform website

SMEs have been identified as a particular group that should be encouraged to be involved in ETPs. In some cases, in order to support the involvement of SMEs in ETP and to facilitate the dissemination of information towards them, national technology platforms have been set up.

- **Awareness-raising:** the objectives and activities of the ETPs should be disseminated to all stakeholders involving a wide range of actors such as policy makers, regulators, the business sector; but also consumers and end-users as ETPs focus also on the identification of future market needs and developments. Initiatives taken to increase the 'reach' of the ETPs include:
 - Regular meetings of the ETP leaders with the European Commissioner for Science and Research.
 - The Austrian EU Presidency Conference has been organized in order to inform a broad audience about the activities of ETPs and to raise awareness with respect to the role of the ETPs.¹⁵
 - Since 2004 several meetings and other events have been organized with EU authorities, individual Member States, regional authorities, and international organizations.
 - A Commission website has been developed including detailed information about the ETPs¹⁶.
- **Financial Engineering:** although funding schemes for collaborative research can be used to finance the activities of ETPs, other funding sources have to be sought as well. The ETPs are therefore expected to identify additional financial sources, e.g. national and regional programmes, financial institutions such as the EIB, etc.
 - Especially for high-risk projects, the EC and the EIB have developed the 'Risk-Sharing facility' which finances large R&D projects at the EU level.¹⁷
 - The Structural Funds are another potential source of funding for the implementation of the Strategic Research Agendas.
- **Internationalization:** the involvement of non-EU countries is considered as beneficial, especially for particular platforms in which interaction and collaboration with countries outside EU is vital, e.g. in topics such as health, and water sanitation.

In the light of this background, the next section presents the evaluation approach from a conceptual perspective.

2.3.4 *Hierarchy of objectives of the ETPs*

Following the definition and explanation on hierarchy of objectives described in paragraph 1.3.2, we designed a Hierarchy of objectives for the ETPs as presented in Table 4. This hierarchy of objectives has been developed based on the screening of existing documents, desk research and several contacts with the

¹⁵ http://cordis.europa.eu/technology-platforms/seminarvienna_en.html

¹⁶ <http://cordis.europa.eu/technology-platforms>

¹⁷ <http://www.eib.org/products/loans/special/rsff/index.htm>

European Commission. As ETPs differ greatly from each other, we have identified the most common objectives in order to make a horizontal evaluation possible.

When reading this hierarchy of objectives, it is important to keep in mind that:

- Lower level objectives can contribute to more than one higher-level objective.
- The hierarchy of objectives is relevant to the ETPs and not to the whole range of initiatives and programmes aiming at boosting innovation and R&D. This means that the intermediate objectives and activity-related objectives listed are related to the activities of the ETPs. However, other EU support programmes and their activities contribute to the same higher level strategic objectives.

In Table 5 which follows, we made the link between the hierarchy of objectives and the hierarchy of possible effects.

Table 4: Hierarchy of objectives of the ETPs

ETP hierarchy of Objectives			
Main Strategic objective	Strategic (sub-)objectives	Intermediate objectives	Activity-related objectives
<p>Increase competitiveness of the European industries through RTDI</p>	<p>Increase public and private investment in RTDI</p>	<p>Increased coordination between industry, researchers and other relevant stakeholders on the development of key technologies in Europe</p>	<p>Bring together stakeholders around a shared vision for the development and deployment of the technologies concerned (defining a SRA, defining an implementation plan, defining a deployment strategy)</p> <p>Setting up (joint) research and development activities</p> <p>Support of networking and collaboration</p>
	<p>Reduce fragmentation of research in Europe</p>	<p>Fostering synergies for R&D&I initiatives and programmes between EU, national and regional level</p> <p>Mobilising public and private resources for the implementation of the SRAs</p> <p>Improvement of framework conditions for innovation</p> <p>Maintaining and enhancing high skilled work force</p>	<p>Involve national authorities in the debate on research priorities</p> <p>Tailor the FP7 to better meet industry's needs</p> <p>Mobilising and aligning public funds at European, national and regional level</p> <p>Mobilising funds of industrial stakeholders</p> <p>Mobilise other funds, such as debt and equity financing, or other schemes (such as public-private partnerships) for implementing RTD activities</p> <p>Address regulatory and other barriers to the optimal development, deployment and use of these technologies</p> <p>Identifying future education and training needs and providing training and education programmes and initiatives</p>

Table 5: Linking the objectives to the effects

Hierarchy of objectives		Hierarchy of effects
Strategic objectives: <ul style="list-style-type: none"> - Increase competitiveness of the European industries through RTDI - Increase public and private investment in RTDI - Reduce fragmentation of research in Europe 	↔	Impact effects: <ul style="list-style-type: none"> - Increased competitiveness of the European industries - Increased productivity growth - Less fragmentation - Increased public and private investments in innovation
↑		↑
Intermediate objectives <ul style="list-style-type: none"> - Increased coordination between industry, researchers and other relevant stakeholders on the development of key technologies in Europe - Fostering synergies for R&D&I initiatives and programmes between EU, national and regional level - Mobilising public and private resources for the implementation of the SRAs - Improvement of framework conditions for innovation - Maintaining and enhancing high skilled work force 	↔	Outcome effects: <ul style="list-style-type: none"> - Design of long-term roadmaps - Increase valorisation of research - Coordination of resources - Improved conditions for innovation - New/ revised academic curricula - Better/increased skills of the workforce
↑		↑
Activity related objectives: <ul style="list-style-type: none"> - Bring together stakeholders around a shared vision for the development and deployment of the technologies concerned (defining a SRA, defining an implementation plan, defining a deployment strategy) - Setting up (joint) research and development activities - Support of networking and collaboration - Involve national authorities in the debate on research priorities - Tailor the FP7 to better meet industry's needs - Mobilising and aligning public funds at European, national and regional level - Mobilising funds of industrial stakeholders - Mobilise other funds, such as debt and equity financing, or other schemes (such as public-private partnerships) for implementing RTD activities - Address regulatory and other barriers to the optimal development, deployment and use of these technologies - Identifying future education and training needs and providing training and education programmes and initiatives 	↔	Output effects: <ul style="list-style-type: none"> - Joint research Vision Document, a Strategic Research Agenda, and action plans - Bringing stakeholders together - Identification of future research needs - Identification of future education needs - Support of interdisciplinary research - Increased cooperation and networking activities - Mobilisation and alignment of public and private funds - Increase cooperation between the industry and the research community - Improvement of market regulations affecting innovation and competitiveness
↑		↑
Input: <ul style="list-style-type: none"> - Financial resources - Human resources - Internal processes (cooperation, communication, monitoring, evaluation) - ... 		

Source: IDEA Consult

As already mentioned, the hierarchy of objectives is a reference point for the rest of the evaluation. It frames the effects we want to measure and evaluate. As

such, it scopes the exercise. In particular, the hierarchy of objectives has been the basis for the definition of the main evaluation questions around which this evaluation focuses. The evaluation questions are based around the Objectives of the ETPs and are structured around the Intermediate objectives. As mentioned already before, this evaluation has tried, between other, to investigate the extent to which the objectives of the ETPs have been fulfilled. Therefore the evaluation questions that have been sought to be answered have to be structured around and address the objectives of the ETPs.

The following table provides the list of evaluation questions. They start with some general questions related to the ETP concept and its implementation, followed by questions linked to the activity-related objectives of the ETPs and structured by intermediate objective. Following this structure, Chapters 4 to 9 provide the findings and conclusions of this evaluation study for each evaluation question.

Table 6: The Evaluation Questions

Evaluation questions	Link to activity related objective(s) ¹⁸
On the (future) ETP concept and its implementation	
1. To what extent is the (original) policy rationale underlying the ETP concept still in line with today's challenges faced by EU industry?	Explanatory
2. How could the concept of the ETPs develop in the future in order to improve (modify) the concept and as such improve its results/effects?	Explanatory
3. Are the activities and actions taken by the ETPs in line with the ETP concept and its objectives?	Explanatory
4. Does the internal organisation and governance of the ETPs facilitate efficient and effective functioning?	Explanatory
5. Do the ETPs have sufficient operational resources (funding and staff) in order to fulfil their mission? Where do these resources come from?	Explanatory
6. Do the SRAs contain clear implementation modalities timing, funding, prioritization, etc., or is there a separate implementation plan and do they as such provide a good basis for further diffusion to national and/or regional levels? ¹⁹	Explanatory

¹⁸ Link with activity-related objectives:

- 1 : Bring together stakeholders around a shared vision for the development and deployment of the technologies concerned (defining a SRA, defining an implementation plan, defining a deployment strategy)
- 2 : Setting up (joint) research and development activities
- 3 : Support of networking and collaboration
- 4 : Involve national authorities in the debate on research priorities
- 5 : Tailor the FP7 to better meet industry's needs
- 6 : Mobilising and aligning public funds at European, national and regional level
- 7 : Mobilising funds of industrial stakeholders
- 8 : Mobilise other funds, such as debt and equity financing, or other schemes (such as public-private partnerships) for implementing RTD activities
- 9 : Address regulatory and other barriers to the optimal development, deployment and use of these technologies
- 10 : Identifying future education and training needs and providing training and education programmes and initiatives

¹⁹ "Implementation" here refers to carrying out the research projects that are proposed in the SRA.

7. Do the ETPs have a deployment strategy?²⁰ Explanatory

Effects on coordination between relevant stakeholders

(Between industry, researchers and other stakeholders on the development of key technologies in Europe)

- | | |
|---|------|
| 8. Are all stakeholders relevant to a specific technological area involved in the ETP (industry, research organisations, academia, public authorities, users, regulators, consumers, poles of excellence)? | 1 |
| 9. To what extent have the ETPs succeeded in establishing an ongoing communication process among the stakeholders facilitating coordination (communication actions, strategy etc.)? | 1, 3 |
| 10. Have the operations of the ETPs (e.g. SVDs and SRAs) led to higher levels of coordination among relevant stakeholders (including financial and regulatory actors) in the development of key-technologies? | 1, 2 |
| 11. Have the operations of the ETPs led to other levels of collaboration such as joint R&D activities undertaken by ETP members (e.g. JTIs, Eureka projects, other public-private, or private-private partnerships)? | 3 |
| 12. To what extent do the ETPs themselves coordinate their activities in order to avoid duplication of efforts, and moreover, enjoy the benefits of cross-discipline cooperation (joining forces, collaboration, mergers)? Does this coordination translate into cooperation? | 3 |

Effects on synergy between EU, national and regional levels

- | | |
|---|---|
| 13. How do ETPs interact with relevant authorities in Member States? Are there examples of close coordination/cooperation? | 4 |
| 14. What role do the national 'mirror groups' play in the ETP? Are the mirror groups sufficiently involved? Or too much? What role do national R&D priorities play? | 4 |
| 15. Do the ETPs sufficiently represent EU Member States, national and regional levels of policy making? | 4 |
| 16. To what extent do the ETPs facilitate a greater alignment of R&D priorities among EU, national and/or regional levels? | 4 |

Effects on mobilisation of public and private resources

(For the implementation of the SRAs, from FP7 and beyond)

- | | |
|--|---|
| 17. How do SRAs influence national and/or other R&D work programmes? | 4 |
| 18. How have the SRAs influenced the Work Programmes of FP7? | 5 |
| 19. To what extent have the ETPs succeeded in attracting and/or mobilizing funds from EU sources (e.g. FP7), national and/or regional sources? | 6 |
| 20. To what extent have the ETPs enhanced the use of other funds, such as debt and equity financing, for implementing R&D activities? | 7 |
| 21. Have the ETPs as such succeeded in (contributed to) mobilising and aligning R&D investments by the industrial stakeholders? | 8 |

Effects on improvement of framework conditions for innovation

- | | |
|--|---|
| 22. Have the ETPs (sufficiently) addressed regulatory and other barriers | 9 |
|--|---|

²⁰ "Deployment" here refers to product and market development, ensuring that research results turn into successful products and services.

for the optimal development, deployment and use of key technologies to Europe? How are these barriers addressed?

23. To what extent have the ETPs been successful in creating a favourable climate for development and deployment of key technologies? 9

Effects on maintaining and enhancing of high skilled work force

24. To what extent have the ETPs identified future education and training needs and provide training and education programmes and initiatives? How do they identify these needs? 10
25. Has this insight be reflected in EU, national and/or regional policies (workforce of the future)? 10

3 FACTS AND FIGURES

3.1 Introduction

As already mentioned, this evaluation relies on several data collection exercises and data sources. A first major data source is based on the consultation of all 34 ETPs concerning their activities over the previous 3 years. This process has been facilitated through a specific data collection template or fiche which had to be filled out by the various ETPs. A second major data collection effort has been the survey among the various stakeholders of the ETPs (n=947 complete responses) and their appreciation of their effectiveness. Both sources of information play an important role in answering the evaluation questions.

In the next section we shall present an overview of activities and achievements of the ETPs over the period 2005-2007 based on the received templates. The section thereafter presents the key findings of the large stakeholder consultation on the effects and impacts of the ETPs.

3.2 Operational characteristics

Based on the templates that we have received from all 34 ETPs, we have been able to develop an overview of the activities and achievements of the ETPs in the period 2005-2007. Before discussing this, it is important to take into account the limitations both in terms of availability and in terms of interpretation of the data obtained:

- All 34 ETPs completed the template (however, at the time of this analysis only 33 were in our possession).
- Not all ETPs have made all requested data/indicators available for all years. On average there are about 10 missing values per indicator (i.e., about 10 ETPs were not able to provide a value).
- The data/indicators obtained are sometimes estimations based on previous years and are thus not always factual. We have had very limited possibilities to check for the quality and consistency of the data obtained.
- ETPs find themselves at different stages in their evolution: some started only recently, others are on their way to become a JTI
- ETPs are active in different fields which influences their activity patterns and thus performance: i.e., there is a comparability problem. When considering 'averages' one has to take this into account.
- When we speak of "ETPs", we refer to average values based on those that have provided data to us, unless indicated otherwise.

Despite these limitations, **consistent patterns occur concerning the activities and performance of the ETPs.**

In what follows we shall discuss clusters of indicators starting with indicators on the general core activities, followed by indicators on internal coordination and activity, mobilization of members, mobilization of resources, and external coordination and activity.

3.2.1 Core activities

Under the cluster 'core' indicators, we have asked information from the ETPs on their strategic vision, strategic research agenda, implementation plan, annual update frequency, mirror group and composition thereof, and national technology platforms. Our findings are as follows:

- All ETPs have developed a vision towards the future. 7 ETPs (about 20%) have updated that vision as of June 2008.
- All ETPs have developed a strategic research agenda (SRA). 13 ETPs (about 40%) have updated their SRA so far, other ETPs are in the process of doing so. On average, an SRA is being updated 1.8 times since its launch.
- 16 ETPs have developed an implementation plan, and 5 of them have already updated this plan.
- 30 ETPs have a national mirror group (NMG). Increasingly more countries are being involved in the NMG; going from 12 countries on average per ETP in 2005 to 16 on average per ETP in 2007.
- 29 ETPs have seen (and contributed to) the development of a national technology platform.

3.2.2 Internal coordination and activity

Under the cluster 'internal coordination and activity' indicators, we have collected information about the frequency of the internal coordination/meetings of horizontal and vertical workings groups, the plenary and the governing bodies.

- The intensity of the internal coordination activity has been steadily increasing between 2005 and 2006. This may suggest that ETPs have reached cruising speed.
- The meeting intensity of the governing bodies has increased over time to an annual average of about 4 meetings per year.
- The meeting intensity of horizontal and vertical working groups has increased over time to an annual average of respectively 7 and 8 meetings per year (this is driven by the number of workings groups an ETP has).
- A plenary meeting is, as expected, held once a year by most of the ETPs.

3.2.3 *Mobilization of members*

Under the cluster 'mobilization of members' indicators, we have collected information about the memberships of the ETPs. This is one of the proxies for mobilization of the actors in the field. Subsequently, we have received information about the total number of members, the number of SMEs, and the number of core group members.

Specifically in relation to these indicators, it should be noted that several ETPs accept associations rather than individual organisations or companies as members. Moreover, sectors and S&T fields differ regarding their SME population.

- In general the number of ETP members has increased between 2005 and 2007.
- On average and for 2007, and per ETP that has indicated a number of SMEs as members, we find about 110 SME members. This falls back to about 60 if we exclude the large number of SMEs being a member of the ETP 'Manufuture'.

3.2.4 *Mobilization of resources*

Under the cluster 'mobilization of resources' indicators, we have collected information about the resources available/mobilized by ETPs. Under this cluster we have received data about the number of R&D proposals submitted and approved for funding, the number of staff working at the secretariat, levels of operational budgets, and budgets obtained for the implementation of the SRAs. Additional information could be found on the individual websites of each of the ETPs.

- On average an ETP has about 1-2 persons working in the secretariats (support activities).
- Based on the indicators collected, on average we find an increase of operational public (under FP6/7) and private resources over time.
- The FP budget invested in JTIs, contributing to the SRAs of the concerned platforms amounts 3,15 billion euro (1 billion for IMI, 0,4 billion for ARTEMIS, 0,8 billion for Clean Sky, 0,45 billion for ENIAC, 0,5 billion for FCH, although still under negotiation (see the individual JTI websites²¹).

3.2.5 *External coordination and activity*

Under the cluster 'external coordination and activity' indicators, we have collected information about the diffusion activities of the ETPs. Subsequently, we have received information about the total number of training sessions, the number of publications, the number of ETP organised events and the number of participations of an ETP to external events.

- In general, the number of events in which ETPs are involved (either as organising party or as participant) is increasing over time. The number of organised events has on average increased from 3 in 2005 to 6 in 2007. The number of participations in external events has grown from 9 to 16 in

²¹ All individual JTI websites can be found through http://cordis.europa.eu/technology-platforms/individual_en.html

the same years. Several ETPs are less strongly involved (0-1 event per year) in the field.

- An exception to this positive evolution is the number of training sessions. Only 3 ETPs have organised training sessions. 9 ETPs indicate zero values, indicating that these ETPs are aware of the importance of training sessions, but have so far not succeeded in organising any. All other ETPs have not indicated any value.
- The number of publications (including more general documents like the Vision and the SRA) has increased from 4 in 2005 to 9 in 2007. Several ETPs are not active at all in this respect (0-1 publications per year).

3.2.6 Highlights

Based on the previous discussion, and taking into account the mentioned limitations, the following highlights of this analysis can be identified:

- It appeared to be a rather difficult exercise for some of the ETPs to provide timely and reliable data on their activities and performance. The level of monitoring today is minimal, which has implications for the analysis of the performance and the operations of the ETPs, both from internal and external perspectives. A minimum level of periodic monitoring seems essential.
- The evolution over the period 2005-2007 reveals an intensification of the activities of the ETPs in a broad sense. This applies to internal and external communication, participation and organisation of events, resource mobilization (for the operational activities) and mobilization of members. In stating this, one has to take into account the large diversity and difference between the ETPs (in terms of sector/field of activity, age, professionalism of management of the ETP, commitment towards vision and objectives, etc.).
- Despite the overall positive trend, there are several ETPs that display low levels of activity and performance. However, it has not been part of the mandate or objectives of this evaluation study to look further into the performance of individual ETPs.

3.3 Stakeholder appreciation: main survey results

3.3.1 *The online survey*

Besides the data collection template discussed above, the second major channel of data collection was the online survey addressed to the various stakeholders of the 34 ETPs. The questionnaire has been developed as described in Annex 4²².

The process of inviting the stakeholders to participate in the survey was facilitated by the EC ETP-Secretariat and the individual secretariats of the ETPs. The EC ETP Secretariat has sent an invitation by email to all ETP contact persons and/or secretariats which in turn were asked to forward the invitation to all their members.

The survey was launched in April 2008 and stayed on line 6 weeks during which the ETP contact persons and/ or secretariats have been also sent reminders to invite their members to participate in the survey. The survey has been 'closed' on May, 14. The total number of respondents amount to 1,228 individuals, out of which 947 respondents (77%) have filled-in the questionnaire completely.

In what follows we present the main results derived from the analysis of the survey. It should be noted at this point that the responses included for the analysis of the survey results are limited to the 947 complete responses.

3.3.2 *Identity of the respondents*

3.3.2.1 *Types of stakeholders*

The respondents were asked to provide information on the identity of their employer in order to indicate the stakeholder group that their opinions mainly reflect. The types of stakeholders identified are the following:

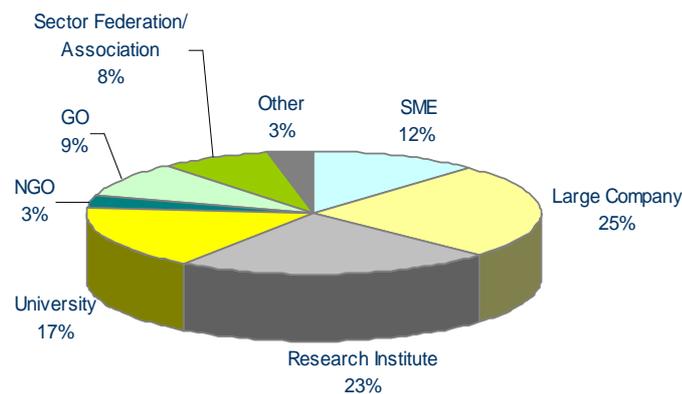
- SMEs (with less than 250 employees)
- Large companies (with more than 250 employees)
- Research institutes (non-university)
- Universities
- Non-governmental organisations (NGOs)
- Governmental organisations (GOs)
- Sector federations/ associations
- Other

²² The survey has been launched online using the application 'survey tool' of Checkmarket (www.checkmarket.com) and has been sent to the stakeholders via e-mail.

The following figures show that the majority of the respondents belong to large companies (25%) and research institutes (23%). Universities follow with 17% of respondents, while 12% of the respondents represent SMEs. NGOs, GOs, and sector federations and associations follow with 3%, 9% and 8% of respondents respectively.

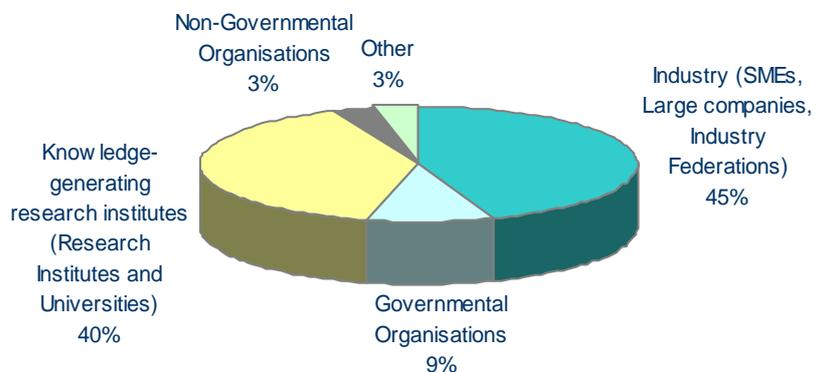
On a more aggregate level, industry (including SMEs, large companies and sector federations) represents almost half of the respondent (45%), while knowledge-generating institutions (research institutes are universities) represent the second major type of stakeholders, with 40% of the total respondents in the sample.

Figure 5: Type of stakeholder (N=947)



- 12% of the respondents are employed in an SME.
- One out of four respondents is employed by a large company.
- Almost one in four respondents is employed by or active in a research institute (non-University).
- 17% of the respondents are employed by a university.

Figure 6: Type of stakeholder at aggregate level (N=947)

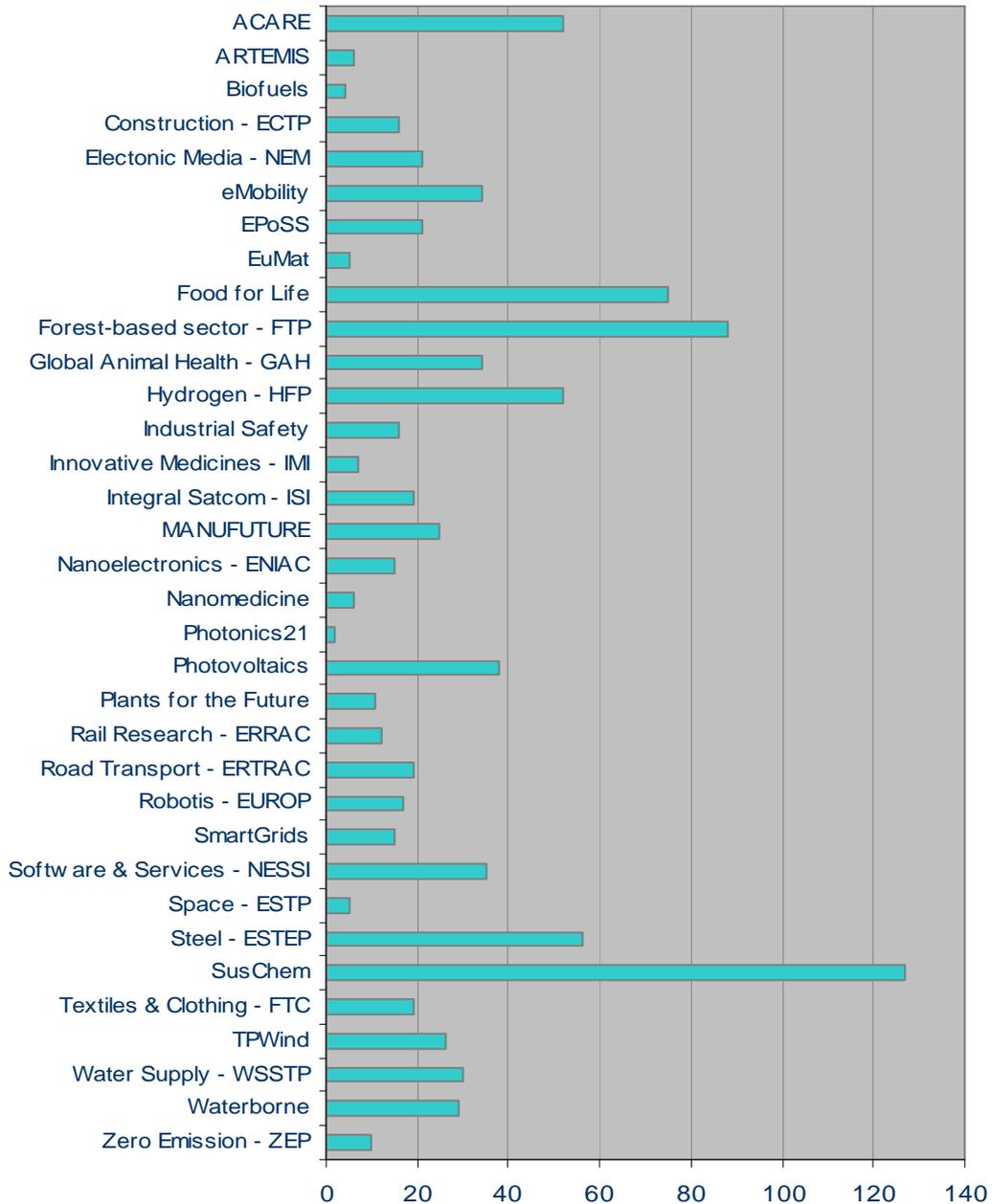


- 45% of the respondents come from industry.
- 40% of the respondents come from research institutes and universities.

3.3.2.2 Respondents per ETP

As stated, members of all 34 ETPs have participated in the survey. Figure 7 shows the allocation of the respondents per ETP. The ETPs Sustainable Chemistry, Forest-based sector, Food for Life and Plants for the Future are responsible for most of respondents.

Figure 7: Breakdown of respondents by ETP (N=947)



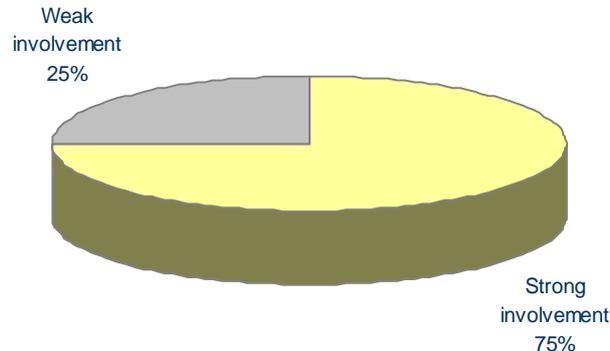
3.3.2.3 Involvement of the respondents in ETP-related activities and Mirror-Group members

An important dimension which can be expected to affect the views and the opinions of the stakeholders on the effects and results of the ETPs is the level of their involvement in ETP-related activities. This reveals indirectly the extent to which the stakeholders are aware of certain activities and initiatives as well as the extent to which they are willing to participate.

The respondents to this survey have been divided into between those who are weakly involved and those who are strongly involved with the activities related to their ETP. The former are those stakeholders who indicated low involvement in the operations of their ETP in the relevant question in the survey; the latter indicated medium or high involvement.

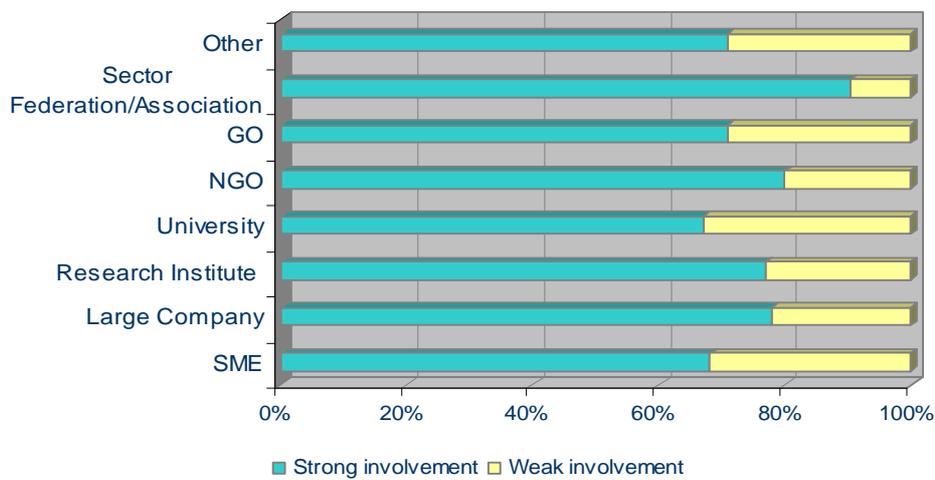
Figure 8 shows that the majority of the stakeholders that participated in the survey are strongly involved with the operations and activities of their ETP and as such are well aware of their ETP's activities and results. A smaller group (25%) of the sample represent stakeholders who are less involved with their ETPs. In addition, Figure 9 shows that the majority of the industrial stakeholders of the ETPs are significantly involved in the operations of their ETP. The lowest shares of involvement of stakeholders are within the groups of stakeholders from SMEs, universities and GOs.

Figure 8: Involvement of respondents in ETP activities (N=947)



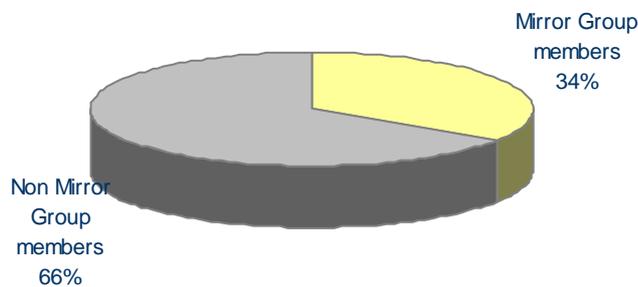
- Three out of four respondents are strongly involved with the operations of their ETP.
- There is a group of sufficient size in the sample including views of the less-involved stakeholders (25%).

Figure 9: General level of involvement per type of stakeholder (N=947)



- The majority of the industrial stakeholders of the ETPs are significantly involved in the operations of their ETP.
- The lowest shares of involvement are within SMEs, universities and GOs.

Figure 10: Members of mirror group in the sample (N=947)



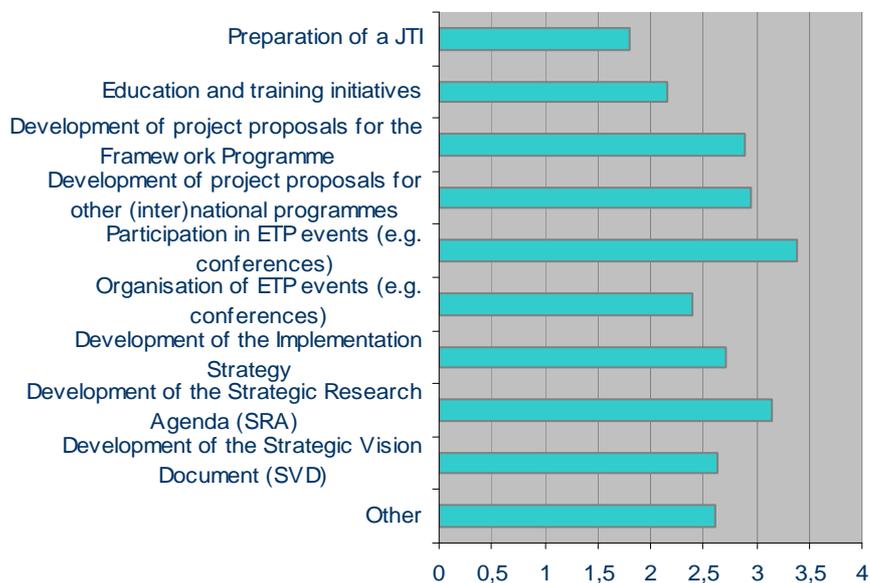
- Around one in three respondents is member of the national mirror group of their ETP.

3.3.2.4 Participation level of Stakeholders

Stakeholder respondents report that they participate quite often in ETP events (e.g. conferences), however they seem to participate less in the organisation of such events. Besides participating in events, the stakeholders participate sometimes/often (average score of 3 out of 5) in the development of the SRA, the development of project proposals for the Framework Programme and in the development of project proposals for other (inter)national programmes. The stakeholders seem to participate less often in the development of the strategic vision document (SVD), in the implementation strategy, and in education and training initiatives. Participation in the preparation of a JTI scores rather low, as expected, since only a few ETPs have so far been involved in the process of preparing a proposal for a JTI.

Figure 11: Average score of the Participation of stakeholders in specific ETP activities (on a scale of 1=never to 5= regularly) (N=947)

To which of the following activities of 'your' ETP have you actively participated and how often?



- Stakeholders participate more often in ETP events (e.g. conferences), the development of the SRA, and the development of project proposals for the FP or other programmes.
- Stakeholders participate less often in education and training activities, the development of the SVD and the preparation of the implementation plan.

3.3.3 *Activities and strategic work of the ETPs*

3.3.3.1 *Activities*

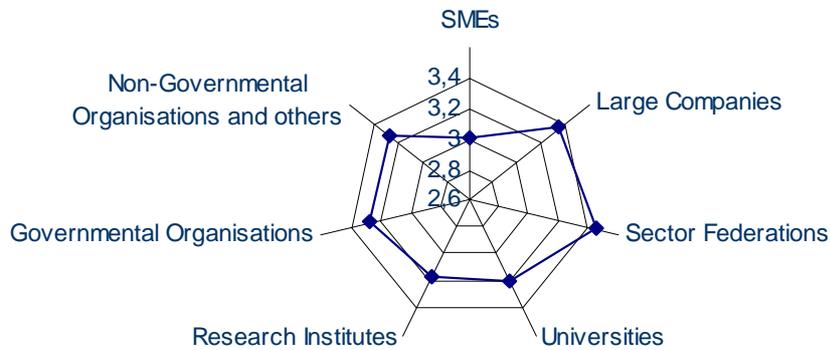
Stakeholders were asked to provide their opinion on some specific issues, i.e. on the degree of involvement of the stakeholders in their field of activities, the coordination of the activities of the ETPs, and on the openness and transparency of ETP operations. The following figures provide a summary of these results.

Figure 12: Opinions on certain activities of the ETPs (N=947)



- The majority of the respondents are aware of the development of the main strategic documents of their ETP (though to a lesser extent for the implementation strategy).
- Around 60% of the respondents agree that their ETP coordinates its activities with other ETPs.
- Around 65% of the respondents agree that all the relevant stakeholders are involved in their ETP.

Figure 13: Openness and transparency: (average score on the basis of a scale from 1=completely disagree to 4= completely agree) (N=947)



- All stakeholders agree to the statement that "the ETPs are sufficiently 'open' and 'transparent'" (with a mean score of 3.2 out of 4).

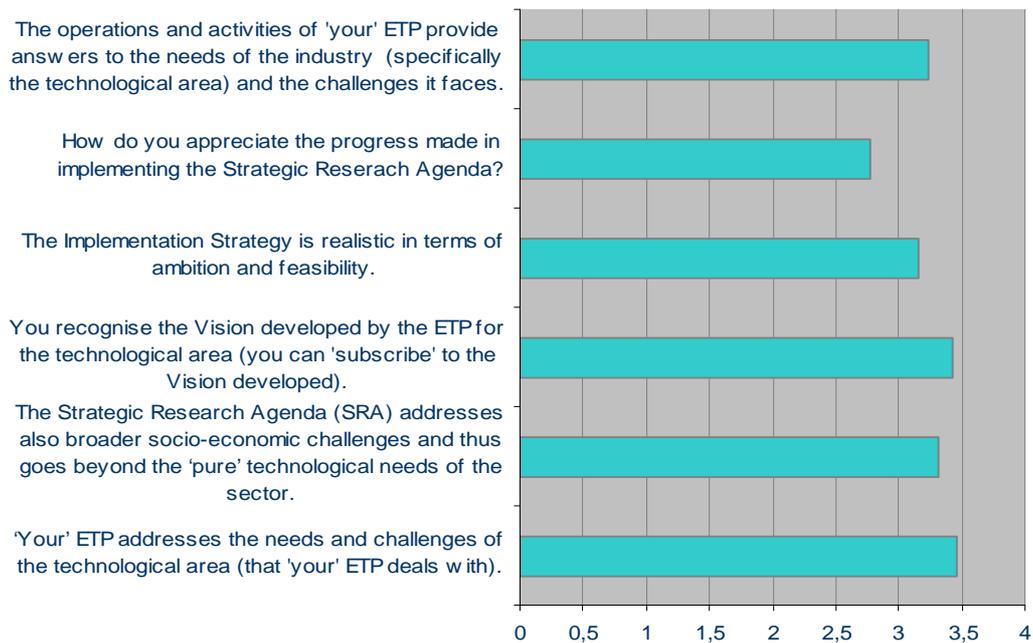
3.3.3.2 Strategic work

The survey contained 6 questions targeting the strategic set-up and work of the ETPs and asking opinions on the issues described in Figure 14.

Stakeholders seem to have a strong positive opinion regarding the extent to which:

- a. The ETPs address the needs and challenges of their technological area (mean score 3.5 out of 4).
- b. The SRA addresses the socio-economic challenges of the field (mean score 3.3 out of 4).
- c. The strategic vision of the ETP reflects the vision of the stakeholders for their field (mean score 3.4 out of 4). The opinion of the stakeholders is less positive on the progress made for the implementation of the SRA (mean score 2.8 out of 4) which can be explained partially by the fact that most ETPs have recently started developing an Implementation Plan and putting it into practice.

Figure 14: Appreciation of the Strategic work of the ETPs (Mean score on a scale of 1= completely disagree to 4= completely agree) (N=947)



- In general, the stakeholders strongly appreciate the strategic set-up and work of the ETPs.
- The opinions of the stakeholders are positive concerning the extent to which a) the ETPs address the needs and challenges of their technological area, b) the SRAs address the socio-economic challenges of the field, c) the Vision of the ETP reflects the vision of the stakeholders for their field.
- Stakeholders are less positive concerning the progress made in implementing the SRAs.

3.3.4 Appreciation of the Effects of the ETPs

The stakeholders were asked to give their opinion on a series of statements addressing the effects of the ETPs. Statements were structured under the following five types:

- Coordination between relevant stakeholders (between industry, researchers and other stakeholders on the development of key technologies in Europe).
- Synergy between EU, national and regional levels.
- Mobilisation of public and private resources (for the implementation of the SRAs, from FP7 and beyond).
- Improvement of framework conditions for innovation.
- Maintaining and enhancing a high-skilled workforce.

The results are aggregated per effect and give an overall picture of the appreciation of the stakeholders. More detailed results per statement are provided in Annex 5.

3.3.4.1 *Effects on Co-ordination among relevant stakeholders*

Stakeholders were asked to provide their opinion on the extent of realisation of the following effects due to the operations of the ETPs:

- Expansion of network of contacts.
- Increase of communication between stakeholders.
- Increase of information on challenges in the field concerned.
- Stimulation of knowledge transfer between stakeholders.
- Increase of joint research and development activities with actors in the field.
- Increase of cooperation outside the ETP.

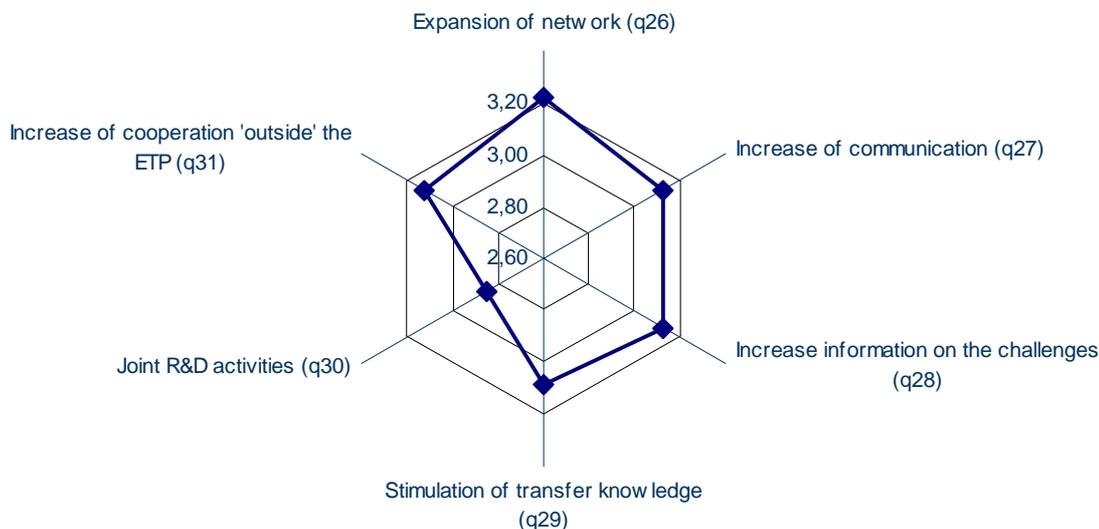
Stakeholders indicated that there are substantial effects in relation to the coordination of activities between stakeholders due to the operation of the ETPs (increase in cooperation outside ETP, expansion of network, increase of communication possibilities with other stakeholders). The stakeholders reported less evident effects on joint R&D activities. If we distinguish between the various stakeholders, we see that SMEs and universities do not agree to the same extent.

In Figure 15 we present the findings. We discuss this figure in large detail as all other figures and results are presented in a similar way.

Figure 15 presents the average score for all stakeholders on each of the five questions on coordination effects (i.e. the dimension 'coordination' is covered by 5 questions in our survey). The question number is given in brackets — e.g. (q26). The averages are based on a scale of 1 (completely disagree = no effect in this case) to 4 (completely agree = there is definitely an effect).

For example, for question 26 (the effects on the expansion of networks), the average score is 3.2 for all stakeholders on a scale of 1 to 4. For question 30 (on the joint R&D activities), the average score is lower and equal to 2.9 for all stakeholders on a scale of 1 to 4.

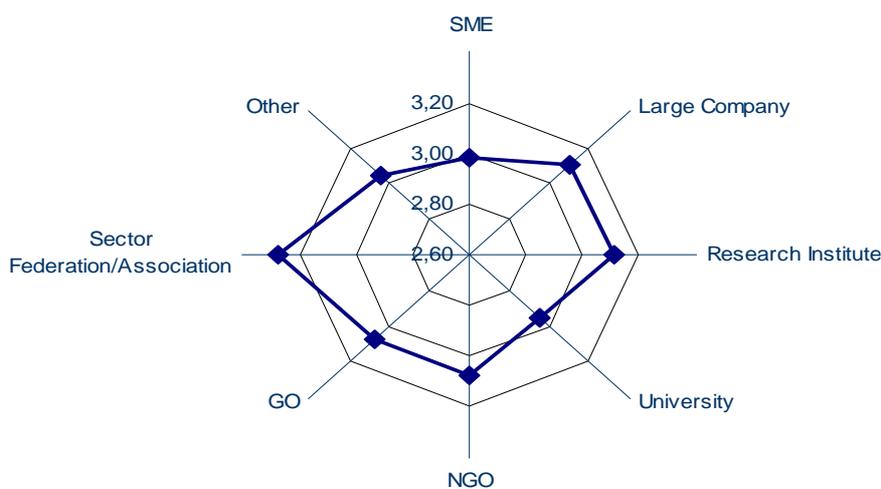
Figure 15: Appreciation of Coordination Effects (averages based on responses on a scale from 1 to 4) (N=947)



- Stakeholders indicate significant positive coordination effects due to the operations of the ETPs.
- The effects on joint R&D activities are less evident.

The following figure presents the average score given per group of stakeholder. For example, the average score that the SME-respondents have given for all the five questions on coordination effects amounts 3.0 on average, while for research institutes this equals 3.1.

Figure 16: Appreciation of Coordination effects per type of stakeholder (averages based on responses on a scale from 1 to 4) (N=947)



- Coordination effects of ETPs are more appreciated by stakeholders from sector federations/ associations.
- These effects are lower according to the view of stakeholders from SMEs and universities.

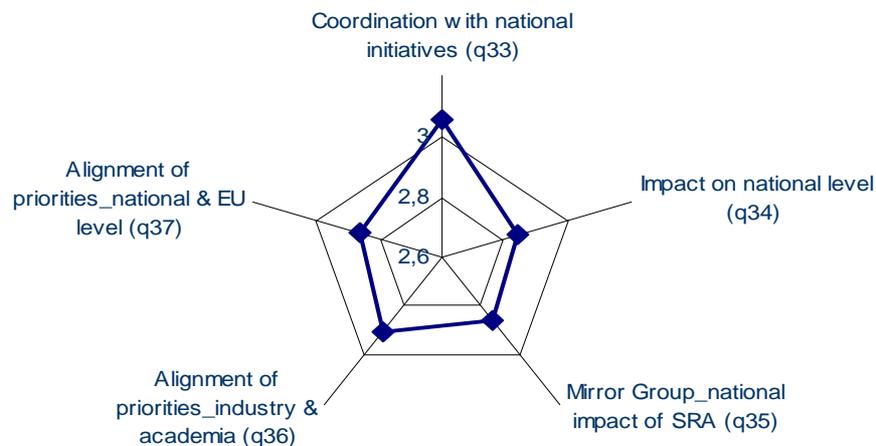
3.3.4.2 Synergy between EU, national and regional levels

Stakeholders were also asked to provide their opinion on the extent of the realisation of the following effects as a result of the operations of the ETPs:

- Coordination with national initiatives.
- Impact on the national level (R&D policy and priorities).
- Effect of SRAs on national policies and activities, due to mirror group activities.
- Greater alignment of research priorities between industry and academia.
- Greater alignment of research priorities between national and European level.

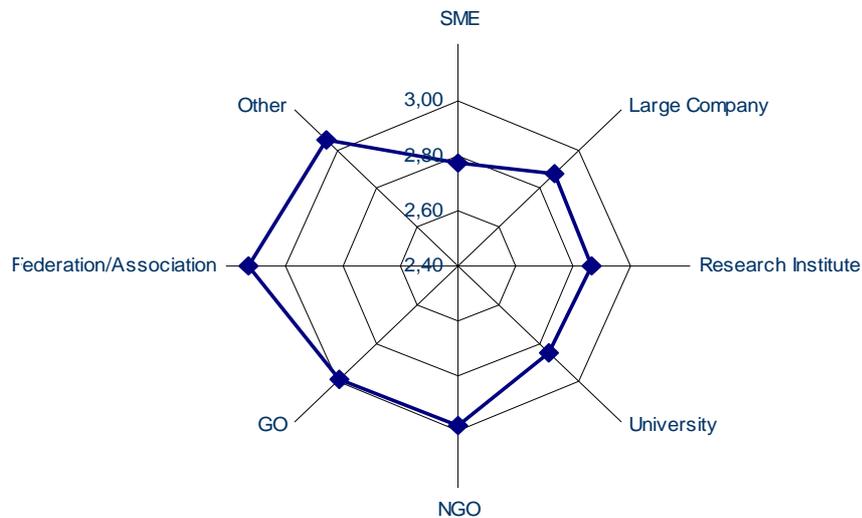
Concerning synergy effects, the stakeholders report significant effects on the coordination with national initiatives and the alignment of priorities between academia and industry. The impact of mirror groups on the effect of the SRA on national policies is less evident to the stakeholders. Sector federations and associations report higher scores on the synergetic effects, while at the same time these effects seem less evident to SMEs and universities.

Figure 17: Appreciation on synergy effects (averages based on responses on a scale from 1 to 4) (N=947)



- The stakeholders recognise significant effects with respect to coordination (of/through the ETPs) with national initiatives.
- The impact of the mirror groups on the effect of the SRA on national policies is less prominent.

Figure 18: Appreciation of synergy effects by type of stakeholder (averages based on responses on a scale from 1 to 4) (N=947)



- Sector federations and associations report higher scores for effects on synergy.
- These effects are less evident to SMEs and universities.

3.3.4.3 Mobilisation of public and private resources

The effects on the mobilisation of financial resources were the focus of the next group of questions/ statements addressed to stakeholders and covered:

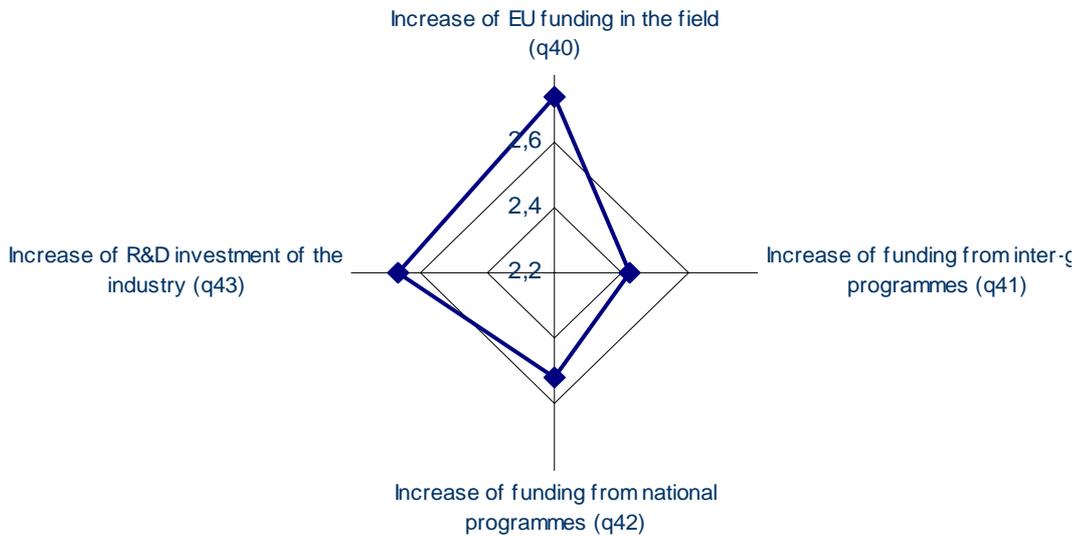
- Impact of the Strategic Research Agenda on the work programmes of the Framework Programme.
- More funding from EU funding programmes (such as FP7, structural funds, etc.).
- More funding from inter-governmental programmes (such as COST, Eureka, etc.).
- More funding from national programmes.
- Increase of R&D investment in the technological area.

Stakeholders were asked to evaluate the impact of the SRA on the work programmes of the Framework Programme on a scale from 1 (no impact) to 3 (high impact). The average score for this question (question 39) is with 2.6 quite high. For governmental organisations this is even higher: 2.7.

The results for the remainder of the questions are presented in the following two figures.

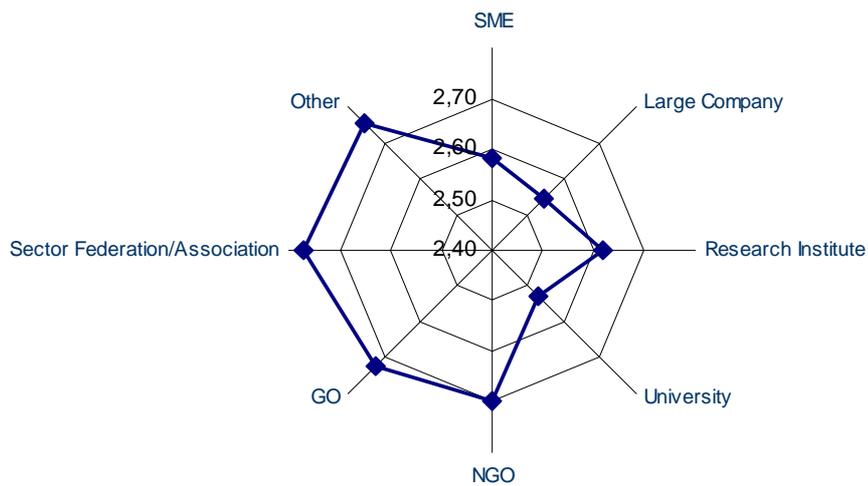
On the mobilisation of resources, stakeholders indicated the existence of effects in relation to the increase in EU funding, national funding and also the R&D investment made by industry (although these effects are not very strong). The effect on the increase in funding from intergovernmental programmes is less clear to the stakeholders, with an average score of 2.4 out of 4. It is interesting to note that the effects on the mobilisation of resources are significantly less evident to stakeholders from universities, SMEs and large companies.

Figure 19: Appreciation of resources mobilisation effects (averages based on responses on a scale from 1 to 4) (N=947)



- Effects are reported (although not very strong ones) on the increase of EU funding, national funding and also R&D investment by industry.
- The effect on the increase in funding from intergovernmental programmes is less clear.

Figure 20: Appreciation of resources mobilisation effects by type of stakeholder (averages based on responses on a scale from 1 to 4) (N=947)



- Effects on the mobilisation of resources are less evident to large companies and universities, SMEs and research institutes.

3.3.4.4 Improvement of framework conditions for innovation

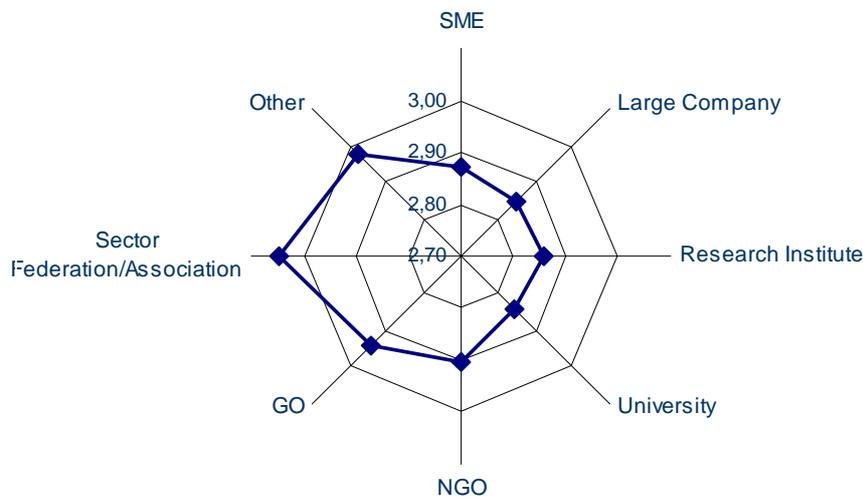
The next two questions (questions 45 and 46) concern the view of the stakeholders on the effects of the ETPs on the improvement of the framework conditions for innovation. Two points were addressed:

- Improvement of framework conditions for the deployment of key technologies in the specific industry/sector.
- The extent to which research results more easily lead more to new products and services.

The response of the stakeholders was similar for both questions. The average score on the effect on the improvement of framework conditions for the deployment of key technologies is 3.0 out of 4, which indicates that stakeholders indeed note an effect due to the operations of the ETPs. For the question on the effects on the commercialisation of research, the average score is lower: 2.8.

Figure 21 shows the differences in the average scores for both questions while distinguishing between the different types of stakeholders. SMEs, universities, large companies and research institutes report lower scores, on average, than the rest of the stakeholders.

Figure 21: Appreciation of effects on the improvement of framework conditions for Innovation per type of stakeholder (averages based on responses on a scale from 1 to 4) (N=947)



- The stakeholders tend to agree that there are positive effects on the improvement of framework conditions
- Companies (SMEs and larger ones), research institutes and universities are more sceptical about these effects compared to the rest of the stakeholders.

3.3.4.5 Maintenance and enhancement of a high-skilled workforce

The last two questions on the section concerning the effects of the ETPs (questions 48 and 49) concern views on the effects of ETPs on the maintenance and enhancement of a high-skilled workforce.

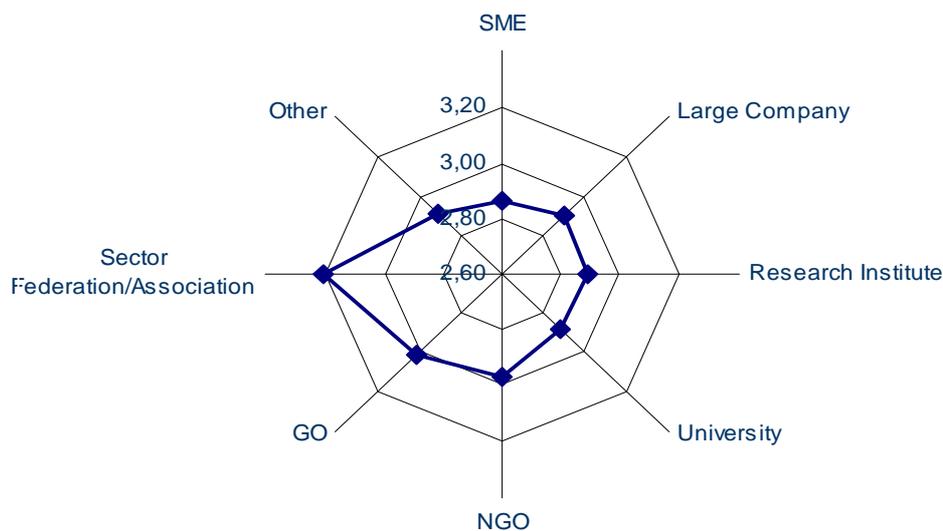
The questions addressed two points:

- The extent to which future needs in education and training of the technological area have been further explored.
- The extent to which the need for certain competences in the technological area is better addressed.

The response of the stakeholders is similar for both questions: effects are identified, but are not very strong. The average scores for the effect on the extent to which future needs in education are addressed is 2.9 out of 4, and for the extent to which the need for certain competencies is better addressed the score is 3.0.

Figure 22 shows the differences between the average scores for both questions and distinguishes between the different types of stakeholders. Again, SMEs, universities, large companies and research institutes report lower scores than the rest of the stakeholders.

Figure 22: Maintenance and enhancement of a high-skilled workforce by type of stakeholder (averages based on responses on a scale from 1 to 4) (N=947)



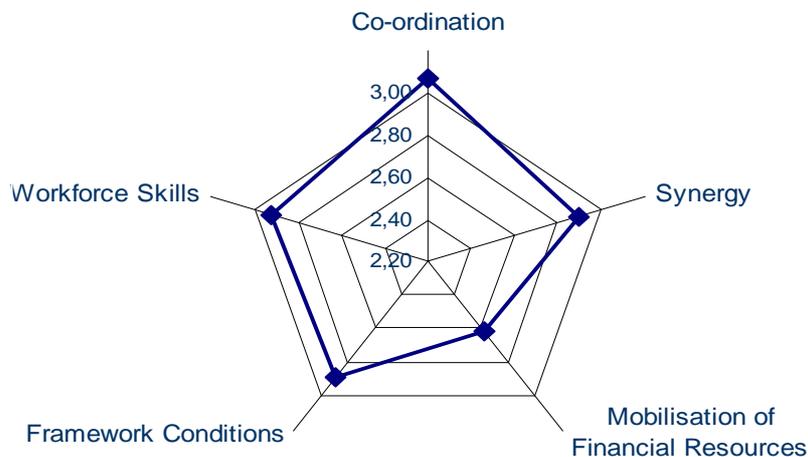
- Stakeholders tend to agree that there are positive effects on the maintenance and enhancement of a high-skilled workforce.
- Companies (SMEs and larger ones), research institutes and universities are more sceptical about these effects compared to the rest of the stakeholders.

3.3.4.6 All effects: a comparison

Figure 23 summarises the average score of all stakeholders for each main effect. It shows that the average score of the stakeholders for questions addressing effects on coordination is 3.1 out of 4 while the average score of all stakeholders on the questions addressing the effect on the mobilisation of resources is 2.6.

On average for all stakeholders, the more prominent effect seems to be that on coordination. Effects on synergy, improvement of framework conditions and maintaining a high-skilled workforce are also evident, but are not as strong as the observed effects on coordination. Finally, the effects on the mobilisation of financial resources are clearly less evident to stakeholders.

Figure 23: Comparison of the different effects (averages based on responses on a scale from 1 to 4) (N=947)



- The effects on coordination are the most prominent effects.
- The effects on synergy, improvement of framework conditions and maintaining a high-skilled workforce, are also present but are less prominent.
- The effects on the mobilisation of financial resources are clearly less acknowledged by the stakeholders.

3.3.5 Conclusions: towards the future of the ETPs

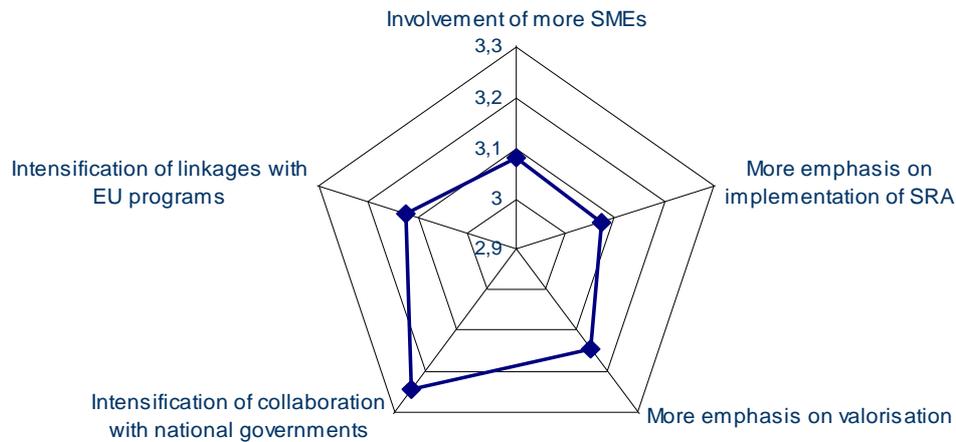
3.3.5.1 *Future challenges for ETPs: the stakeholder view*

Stakeholders were asked to indicate the extent to which particular topics or activities for ETPs should be emphasised in future, namely:

- Increased involvement of SMEs.
- More emphasis on the implementation of the SRAs.
- More emphasis on the exploitation of research outputs.
- Intensification of collaboration with national governments.
- Intensification of linkages with EU programmes.

Figure 24 summarises, on a scale from 1 to 4, the extent to which stakeholders see the above mentioned issues as future challenges for the ETPs. The figure shows that the stakeholders indicate that the linkages with national programmes should be intensified in the future. More emphasis on the exploitation of research outputs is another acceptable challenge. Linkages with other EU programs and involvement of more SMEs are also considered important.

Figure 24: Comparison of possible future challenges (averages based on responses on a scale from 1 to 4) (N=947)



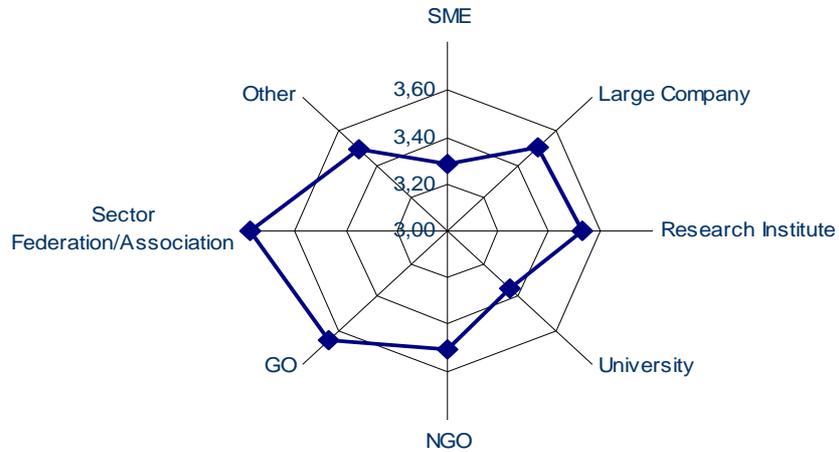
- Linkages with national programmes should be intensified.
- More emphasis on the exploitation of research outputs.
- Linkages with other EU programs and greater involvement of SMEs are important.

3.3.5.2 Overall satisfaction

On average, all stakeholders indicate that they are broadly satisfied with the achievements of the ETPs, with an average score of 3.5 out of 5. While this indicates that there is room for improvement, it is clear that the ETPs largely meet the expectations of their stakeholders.

Looking at individual categories of stakeholders, the average scores vary from 3.3 (SMEs) to 3.8 (sector federations / associations) out of 5: therefore average scores do not vary dramatically between the different stakeholders. However, it should be noted that sector federations report the highest average score on overall satisfaction (3.8 out of 5) and universities and SMEs the lowest (3.4 and 3.3 out of 5, respectively).

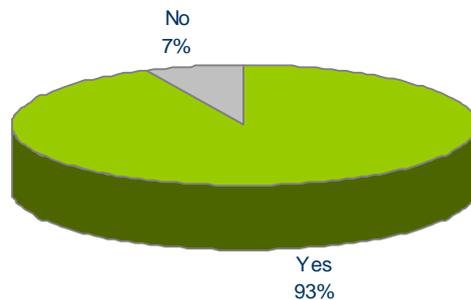
Figure 25: Overall satisfaction with achievements of ETPs (average based on scale from 1= not satisfied at all to 5= very satisfied) (N=947)



- Stakeholders are in general satisfied with the achievements of the ETPs; however, there is still space for improvement.
- Sector federations report the highest score on overall satisfaction among all stakeholders.

A final question was addressed to the stakeholders related to their willingness to 'renew' their membership (or continue to be involved) with their ETP. The stakeholders were asked whether, given their present knowledge, they would renew their commitment/involvement. A large majority of the stakeholders, equal to 93%, replied positively.

Figure 26: "Would you renew your membership of your ETP?" (N=947)



4 EFFECTS ON COORDINATION BETWEEN RELEVANT STAKEHOLDERS

4.1 Introduction

Increasing coordination between industry, researchers and other relevant stakeholders in developing of key technologies in Europe is one of the objectives of the ETPs. Before analysing the level of coordination, we first have to see if, indeed, all relevant stakeholders are involved in a particular ETP and to what extent. We also looked at the elements necessary to increase coordination, such as the communication processes of the ETPs. Finally, we also considered the actual effect on coordination and cooperation activities between the stakeholders of an ETP as a result of the activities of the ETP concerned.

The following evaluation questions were defined:

Table 7: Evaluation questions covering 'increase of coordination between stakeholders'

<i>Evaluation questions</i>
<ul style="list-style-type: none"> Are all stakeholders relevant to a specific technological area involved in the ETP (industry, research organisations, academia, public authorities, users, regulators, consumers, poles of excellence)?
<ul style="list-style-type: none"> To what extent have the ETPs succeeded in establishing an ongoing communication process between the stakeholders facilitating coordination (communication actions, strategy etc.)?
<ul style="list-style-type: none"> Have the operations of the ETPs (e.g. SVDs and SRAs) led to higher levels of coordination between relevant stakeholders (including financial and regulatory actors) in the development of key-technologies?
<ul style="list-style-type: none"> Have the operations of the ETPs led to other levels of collaboration such as joint R&D activities undertaken by ETP members (e.g. JTIs, Eureka projects, other public-private, or private-private partnerships)?
<ul style="list-style-type: none"> To what extent do the ETPs themselves coordinate their activities in order to avoid duplication of efforts, and moreover, enjoy the benefits of cross-discipline cooperation (joining forces, collaboration, mergers)? Does this coordination translate into cooperation?

4.2 Coordination efforts of ETPs

Coordination is a broad concept and involves several elements or conditions that have to be met in order to enable it to take place. We distinguished two main groups of such conditions:

- Organisational:
 - Involvement and composition of ETP members.
 - The organisational entities/bodies of the ETPs enhancing coordination. Coordination can only take place in a satisfactory manner when the structure of the ETP allows it to happen. Certain entities/bodies/individuals must have the clear task to coordinate. Typical ETP bodies with such a coordination function are:
 - Steering committee / steering group (or similar high-level body): the success of an ETP is highly dependent on the engagement of individuals and their member organisations. It is crucial that the chair of the ETP is highly motivated and involved (the case studies illustrate this). The chair needs to have a clear vision and be a good facilitator and motivator.
 - ETP secretariat: the secretariat has to guarantee the daily coordination of an ETP's activities. It has to make sure that all stakeholders are informed about what is going on in the ETP in a frequent and timely fashion. Moreover, the secretariat has to disseminate the results of activities between the members. The secretariat also serves as the contact-point with the European Commission.
 - National mirror group: a mirror group aims to facilitate coordination between Member States on various levels and policy areas. Its task is to bring the vision of the ETP and its stakeholders closer to the Member States and regions in order to facilitate cooperation. As of July 2008, 30 ETPs have a mirror group. The number of countries represented in the mirror group differs from ETP to ETP. However, there is an upward trend in the average number of Member States represented in mirror groups.
 - National technology platform: the national technology platforms are mirrors of the ETPs in the sense that they focus on the national level, of course in interaction with the European platform. The objective of the national platform is to coordinate European and national ambitions.

- Processes and tools:

One can only coordinate a group of stakeholders when they are also brought together through communication and other mobilizing activities. Moreover, a commonly defined objective and target are also essential.

- Communication channels and tools:
 - All ETPs have developed their own website with relevant information about an ETP's activities and its results (Vision, ETP, meeting proceedings, etc.).
 - Besides the website, other communication channels and tools such as newsletters, extranets, direct mailings, etc., are also used by large numbers of ETPs.
- ETP events and actions enhancing coordination between stakeholders:
 - Meetings of the steering committee, the several technical working groups, etc.
 - General assemblies for the wider group of stakeholders

4.3 Evaluation

4.3.1 Are all stakeholders relevant to a specific technological area involved in the ETP?

The stakeholders of an ETP can be divided into the following groups: industry (including large companies, SMEs and sector federations), knowledge-generating bodies (research organisations, academia) public authorities (EU, national and regional), NGOs, and other stakeholder groups (financial institutes, regulators, consumers, and centres of excellence). The above evaluation question contains two sub-questions:

- What is the level of representation of all stakeholders?
- How can the intensity of their level of involvement in the ETP be gauged and analysed?

Representation of stakeholders

In the online survey, stakeholders were asked if all relevant stakeholders of the technological areas are sufficiently represented in their ETP. 66% of the respondents of the survey answered "yes" to this question, 20% stated that they had no answer, and the rest indicated "no". In the interviews, interviewees stated that they were satisfied, generally speaking, with the level of representation of stakeholders in ETPs.

We believe that most ETPs, where appropriate and useful, have made specific effort to encourage SMEs to participate in ETPs. However, in some technological areas SMEs play a more prominent role than in others. In consequence, the issue of attracting SMEs is not always equally relevant for all ETPs. One has to consider, on a case-by-case basis, the market/sector structure in order to judge whether sufficient SMEs are involved in a particular ETP.

Table 8 provides the average representation of all types of stakeholder for the year 2007.

Table 8: Average number of members per ETP broken down by member category (2007)

	Average number	Number of ETPs providing data (out of a possible 34)
Members	316	31
Core members	27	30
Large companies (>250 employees)	51	23
SMEs (< 250 employees)	100	22
Research institutes	89	29
Sector federations / associations	17	28
NGOs	2	25
Governmental bodies	13	26
Other (e.g. competence centres, consultants, etc.)	11	24

Source: IDEA Consult based on ETP templates

On average, a wide range of stakeholders are represented in the ETPs, and the composition of the membership is in line with what could be expected: a large representation of industry (“industry-driven”) and to a lesser extent but still significant, a strong involvement of the research community. However, it is clear that NGOs are less well represented. The latter was also indicated during the interviews.

One group of stakeholders seems to be missing or is at least under-represented in most of the ETPs: the end-users (who often operate as NGOs). We see this as a weakness, since the ETPs should not only be industry driven but also customer-driven as the market has to help define which products the customer wants from the industry to offer. This is especially the case when we consider that the ETP concept was originally developed to tackle socio-economic challenges in Europe (see also chapter 9).

Degree of involvement

The survey results show that the participation of stakeholders is stronger in the development of the SRA (scoring 3.1 out of 5) and participation in organised ETP events (scoring 3.4 out of 4). Less participation is seen, for example, in the development of the strategic vision, the implementation strategy, the organisation of events, and education and training initiatives. The latter, in particular, is in general underdeveloped at the moment.

On average, we can say that the participation of industry is slightly higher than for the other groups of stakeholders such as the research communities and governmental bodies, but not significantly higher. The research community is, as could be expected, strongly involved during the development of the SRA and less involved during the development of the implementation plan. Also interesting to note is the strong involvement of the academic community in the development of proposals for the Framework Programme.

Within the industry stakeholder group, the survey shows that the sector federations are in general the most active, followed by the large companies and then the SMEs. This trend is the case for all activities (such as strategy development and organisation of and participation in events), but does not apply to the development of project proposals, where the large companies are in the lead.

Although we see that, on average, an ETP has 316 members, the average number of core members is much lower, namely about 27. The core members are, most of the time, the members who sit in the steering committee or the working groups. In the interviews, it was also mentioned that only a few members are really active. Most of the time, the core large companies do most of the ETP work, or, as one of our respondents put it, *“only a few members are active, most of them have become a member to get easy access to the information”*.

However, a balanced and representative composition of the ETP does not guarantee a well balanced involvement of all stakeholder groups in the ETPs. The key is to identify the right organisations within all stakeholder groups that have and are prepared to dedicate resources (especially people) to the ETP.

4.3.2 To what extent have ETPs succeeded in establishing an ongoing communication process between the stakeholders facilitating coordination (communication actions, strategy etc.)?

ETPs need to set up a wide range of communication instruments and channels in order to communicate with their stakeholders. Some instruments are designed to reach the wider range of stakeholders, while others instruments are meant for communication with the core members.

- Internal communication tools comprise:
 - Meetings between the various bodies.
 - Meetings of the governing body (steering committee or equivalent). The meeting intensity of the governing bodies has increased over time to an annual average of about 4 meetings per year.
 - Meetings of the technical working groups. The meeting intensity of horizontal and vertical working groups has increased over time to an annual average of respectively 7 and 8 meetings per year (driven by the number of working groups a particular ETP has).
 - Extranet, where all members can download and/or post relevant information.
- External communication tools comprise:
 - Website: all ETPs have their own website. Some ETPs make available all information free of charge; some ETPs ask a certain fee. Most websites have information 'corners' with related documents produced by the ETP:
 - the vision document, the SRA and the implementation plan
 - information about future and past events
 - information on FP, e.g. calls for proposal
 - Some ETPs also give a wide range of information on the technology areas of the ETP.
 - Newsletter: several ETPs have a newsletter which is periodically sent to all stakeholders.
 - Plenary event (or general assembly): a plenary meeting is held once a year by most of ETPs and is usually open to all interested stakeholders. Membership of the ETP is not usually a condition for participation in this event.
 - Organisation or participation in other events: in general, the number of events in which ETPs are involved (either as organising party or as participant) is increasing over time. The number of organised events has on average increased from 3 in 2005 to 6 in 2007. The number of participations in external events has grown from 9 to 16 over the same period. Several ETPs are very much less active.
 - Publications: the number of publications (including the more general document like the Vision and the SRA) has increased from an average of 4 in 2005 to 9 in 2007. Several ETPs are not active at all in this respect. According to one of our respondents "*the ETP should be "THE" point of reference for information on the technology areas concerned*".

In the survey, stakeholders were asked to give their opinion on the proposition that their ETP makes it possible for all relevant stakeholders in the industry to communicate more easily and effectively between. Respondents agree to this proposition (score of 3.1 out of 4).

There are no significant differences between types of respondent (industry, knowledge generating institutes, etc.). The same average score of 3.1 was given to the statement that their organisation was also better informed about the challenges that their organisation is facing (or will face in the future). In both statements the score was slightly higher for the group of respondents that is strongly involved in the ETP (3.2) compared to the group that is more weakly involved (score of 2.8 on 4). As pointed out elsewhere in this report, involvement is a prerequisite for profiting from the activities of an ETP.

On the basis of the information collected, it appears that a lot of the communication actions use one-way communication tools, especially the tools used for external communication, like the website, newsletters etc. They give information but do not really provoke reaction or response. This makes it more difficult to actively involve stakeholders who are not core members.

More interactive communication actions and channels could be undertaken so that more stakeholders would actively contribute. Many comments by the stakeholders confirmed this:

- *"Need for a better, user friendly, interactive website"*
- *"More events where "all" and not only the "core" stakeholders can meet (once a year is insufficient)"*
- *"Too many activities or events are on an ad hoc basis, meaning sharing information on past actions and decisions"*

4.3.3 Have the operations of ETPs (e.g. SVDs and SRAs) led to higher levels of coordination between relevant stakeholders (including financial and regulatory actors) in the development of key-technologies?

The evaluation of this point was carried out in conjunction with the following evaluation question.

4.3.4 Have the operations of the ETPs led to other levels of collaboration such as joint R&D activities undertaken by ETP members (e.g. JTIs, Eureka projects, other public-private, or private-private partnerships)?

The survey results indicate that ETP stakeholders tend to believe that there are substantial effects in relation to the coordination of activities between stakeholders due to the operation of the ETPs, for example:

- expansion of the network of their own organisation due to its involvement in the ETP;
- easier and more effective communication between stakeholders;
- better information on the challenges that the organisation is facing or will face;
- better transfer of knowledge.

The interviews revealed similar results. One of the big merits of the ETPs is that it brings people together who would not meet without the coordination actions of the platform. As a result, the network of individual stakeholders becomes larger (e.g. industry meets industry) and wider (industry meets researchers and other groups of stakeholders).

Respondents referred to these results as follows "The ETP is there to facilitate and coordinate the 'sitting together'", "Researchers become aware that also other groups of stakeholders are involved and working on the same technology area", and "In the R&D stage it is better to have your competitors close".

When we look at real cooperation between stakeholders we see somewhat different results:

- Respondents agreed to a large extent with the survey statement "ETP members cooperate with each other, even outside the 'reach' of 'your' ETP". Also in the interviews it was stated that ETPs facilitate finding the appropriate partners to make better consortia. Being involved in an ETP increases the chance to get into good projects.
- "An ETP is a perfect platform for "matchmaking" between stakeholders" was a commonly held sentiment, although stakeholders report somewhat less positive effects of ETP activities on joint R&D undertakings: 2.86 on 4 (they tend to agree).
- Several ETPs also have cooperation with non-EU stakeholders, very often with Asia and USA. Several ETPs stated that just a European-level debate and cooperation is not sufficient. Discussions have to take place at a global level in order to be able to compete with other regions, such as Japan and the USA, and these discussions should not only cover R&D but also, in particular, standards. However, we would like to note that, in general, the legal possibilities for ETPs to involve non-associated stakeholders (e.g. China, Korea, USA, etc.) are not very clear at this stage.
- In the open answering field of the survey it was stated that "More peer-to-peer relations with Asian and American research programmes should be established to facilitate the emergence of an early consensus and hence paving the way for successful global standards". There are still many barriers for international cooperation, such as the lack of national funding for international cooperation, differences in legal systems, different standards, and risks related to competition infringements.

4.3.5 To what extent do the ETPs themselves coordinate their activities in order to avoid duplication of efforts, and benefit from cross-disciplinary cooperation?

A significant majority of survey respondents (61%) state that their ETP coordinates its activities with other ETPs in order to avoid duplication of effort. One-third had no answer or could not answer the question. In addition, various interviewees stated that their ETP tried to look for possible synergies with other ETPs, and that sometimes this resulted in common actions (for example, a common press release or joint conference). ETPs also participate in or are present at each others events. However, this kind of coordination rarely results in common project proposals. As several interviewees stated, this is hampered because of the fact that these proposals have less chance to get approved since they often fall in between two FP topics.

Nevertheless, we feel that seeking synergies should be further intensified. There are overlaps, but more importantly there are common interests and objectives as well. Several of the interviewed ETPs expressed the wish to merge or to look for closer cooperation with other ETPs. For the moment there seem to be too many ETPs (according to the interviewees), with some of them very small indeed.

The evaluator follows the opinion of several interviewees that ETPs should look for possible synergies and eventually possibilities to merge.

According to the evaluator based on the interviews, a merger can be justified on the basis of several criteria:

- Overlap of technology areas: several ETPs cover (very) similar technology areas. As a consequence, several stakeholders participate in several ETPs.
- Complementarity of technology areas: one technology influences the other in a very direct way.
- Common social issues: clustering ETPs for finding common answers on challenges such as health and life sciences.
- Resource combination: clustering ETPs also involves bigger financial and human capital resources and thus a higher level of critical mass.
- The larger and more complete an ETP is, the more influential it is likely to be.

Less drastic alternatives for merging ETPs could be the development of common and/or cross working groups between ETPs and more joint organised conferences on similar topics.

4.4 Conclusions

Evaluation questions

Are all stakeholders relevant to a specific technological area involved in an ETP (industry, research organisations, academia, public authorities, users, regulators, consumers, poles of excellence)?

- Most ETPs have been able to involve a wide range of stakeholders. However, NGOs and end-users have a small presence. Industry and knowledge-generating bodies form the largest groups of stakeholders.
- The involvement of SMEs should only be emphasized when the sector is itself characterized by a strong presence of SMEs. Overall, most ETPs have made special efforts to attract and encourage SMEs to become involved. However, SMEs' limited resources are often a barrier to their active involvement.
- Balanced representation is not necessarily associated with a representative involvement of all stakeholders. In general, only a small number of members is really active and doing the work. Involvement of all stakeholders was on average higher during the SRA development phase than for the development of the implementation plan and the organisation of events and training initiatives.

To what extent have ETPs succeeded in establishing an ongoing communication process between the stakeholders to facilitate coordination (communication actions, strategy, etc.)?

- ETPs have developed a range of internal and external communication tools and channels in order to coordinate between the different stakeholders.
- Overall, ETPs have increased the attention paid to communication over the years: the internal meeting intensity and the number of events in which an ETP is involved as organiser or participant have both grown, and the number of publications per year has increased.
- ETPs facilitate communication between stakeholders and make more and better information available to members and stakeholders on the challenges in the technology sectors.
- However, communication can still be improved. The communication tools used are not interactive enough to involve all stakeholders in an engaging manner. Websites should be made more interactive, and more interactive events with the broader range of stakeholders could be organised.

Have the operations of the ETPs (e.g. SVDs and SRAs) led to higher levels of coordination between relevant stakeholders (including financial and regulatory actors) in the development of key-technologies?

Have the operations of the ETPs led to other levels of collaboration such as joint R&D activities undertaken by ETP members (e.g. JTIs, Eureka projects, other public-private, or private-private partnerships)?

- The stakeholders believe there are substantial effects in relation to the coordination of activities between stakeholders: the network of stakeholders has increased, communication has become easier and more effective, and stakeholders are better informed on the challenges their organisation faces/will face, and there is a better transfer of knowledge.
- To some extent, this better coordination can even lead to forms of closer cooperation between stakeholders, with higher-quality consortia being formed. However co-operation in joint research initiatives is much less obvious, among others, due to the thematic organisation of the FP.
- International cooperation is still hampered by several factors, including a lack of national resources for this purpose, competition rules, differences in legal systems, and differences in standards.

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- Several ETPs believe that international cooperation should go further than Europe and associated members. A more international discussion is essential (with preferential partners) in order to be able to compete with other world powers like Asia and the USA.

To what extent do the ETPs themselves co-ordinate their activities in order to avoid duplication of efforts, and moreover, enjoy the benefits of cross-discipline cooperation (joining forces, collaboration, mergers)? Does this co-ordination translate into co-operation?

- Most ETPs coordinate with other ETPs in order to prevent duplication of activities. This results in common actions (such as joint conferences and joint press releases), but rarely into approved joint FP project proposals.
 - Cross coordination and cooperation between ETPs should be intensified in order to increase the resources available, added value and influencing power, to avoid duplication and inefficiency, to find common approaches for social issues, and to develop other synergies.
 - With 34 ETPs in mid-2008, some overlap between areas, objectives and interests seems difficult to avoid. This results in multiple memberships by stakeholders in ETPs and thus potential fragmentation of knowledge and research initiatives. This should be remedied in the future by, for example, investigating possibilities for extended collaboration between ETPs, and/or even mergers.
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5 EFFECTS ON SYNERGY BETWEEN EU, NATIONAL AND REGIONAL LEVELS

5.1 Introduction

A central objective of the ETPs is to foster cooperation between stakeholders for the development of long-term strategies in specific technologies. In doing so, the ETP should “ensure synergy between public authorities, users, regulators, industry, consumers, and poles of excellence viewed as places where basic research and technology transfer are closely linked”²³.

In this context, one of the main objectives of the ETPs, serving the purposes of the strategic objectives of the ETPs (in increasing R&D investments, reducing fragmentation in research and finally increasing competitiveness of Europe) is to promote synergies for RDI initiatives and programmes between EU, national and regional level, mainly through the involvement of national authorities in the debate on research prioritisation. The extent to which this objective is realised is examined in this chapter.

In Table 9 we present the central evaluation questions with respect to this objective of the ETPs.

Table 9: Overview of evaluation questions on ‘synergies between EU, national and regional levels’

Evaluation questions
<ul style="list-style-type: none"> How do ETPs interact with relevant authorities in Member States? Are there examples of close coordination/cooperation?
<ul style="list-style-type: none"> What role do the national ‘mirror groups’ play in the ETP? Are the mirror groups sufficiently involved? Or too much? What role do national R&D priorities play?
<ul style="list-style-type: none"> Do the ETPs sufficiently represent EU Member States, national and regional levels of policy making?
<ul style="list-style-type: none"> To what extent do the ETPs facilitate a greater alignment of R&D priorities between EU, national and/or regional levels?

5.2 Addressing synergies between EU, national and regional levels

The mirror group is one of the bodies used to provide an interface between policy-makers at the European level with policy-makers at the national and regional levels. mirror groups exist in most of the ETPs (30 to be precise), though in some cases, as we will see below, their role is not entirely clear. The Member States, however, support the operations of the ETPs and therefore facilitate the

²³ EC Communication, “Industrial Policy in an Enlarged Europe”, COM 2002, 714 final

set-up of these mirror groups. The support of the member States depends also on the relative economic weight and importance of the different industry sectors that the various platforms represent. It is clear that the value of the mirror group and its importance depends, to a large extent, on the Member State representatives and their commitment, knowledge and attitude towards the ETP concerned and the sectors it deals with.

Several ETPs have been invited by Member States to contribute to white papers or position papers on a variety of themes. The National Technology Platforms (NTPs) are also an effective basis for providing the link between the EU, national and regional levels. NTPs are designed to work as 'mirror' platforms, thus providing interaction and contact with the Member States. The interviews have shown that the operations of the ETPs not only stimulate the coordination and synergies on the EU level but also create the trigger for discussions and policy debates at the national level.

Furthermore, ETPs organise a variety of events — congresses, conferences, information sessions, lectures, or other networking events — which also help, directly or indirectly, to promote synergies between stakeholders from different policy levels (as also discussed in the previous chapter). Concerning the influence of ETPs on the policy agenda, the interviews have indicated that the ETPs do seem to be recognised by the policy-making communities at the various levels (EU, national, local), as they clearly contribute, for example, to the work programmes of FP7. The following sections will analyse these points further by focusing on the specific evaluation questions covering the role of ETPs in stimulating synergies between the EU, national and regional levels in determining research priorities.

5.3 Evaluation

5.3.1 How do ETPs interact with relevant authorities in Member States?

ETPs interact with the Member States in a variety of ways, such as mirror groups and National Technology Platforms. According to the survey results, stakeholders largely agree that the ETPs do coordinate their efforts with national initiatives (average score of 3.1 out of 4). Between the different types of stakeholders, NGOs, GOs and industry (SMEs, large companies, sector organisations) feel this more strongly than is the case for knowledge-generating institutions (research institutes and universities).

The opinions of the stakeholders indicate that the ETPs have been successful in providing the basis for interaction with the Member States. More aspects of this interaction are explored below.

5.3.2 What role do the national mirror groups play in the ETPs? Are the mirror groups sufficiently involved? What role do national R&D priorities play?

A national mirror group is present in most of the ETPs (30 out of the 34 report that a mirror group has been created). Stakeholders tend to agree that the SRAs are taken into account in relevant national policies and activities as a result of the operation of the mirror group, ((average score of 2.9 out of 4)

In some cases a mirror group is not active anymore (although it was set up initially) as the *"role of the mirror groups has not been particularly clear"* according to some of the respondents. In this case, it has been reported that the mirror group has not operated in the most effective way in the sense that the feedback from its members has often been poor and the interaction with the Member State representatives not as fruitful as expected. Additionally, there has been a lot of variation between the participants of the mirror group meetings which has made it more difficult for the representatives to closely follow-up the process.

A reason for the relatively poor performance of the mirror group in this case may be the fact that the particular ETP covers various technology areas requiring people with a variety of specialisations and backgrounds. This could perhaps indicate that the mirror groups can be expected to operate better in ETPs with more focused activities which therefore involve members with relatively more common background.

The role of the mirror group was also addressed in the open questions of the survey. For example, one respondent noted that *"the role of mirror groups must be made clearer to national governments. The need for alignment of national and EU research policies should be discussed at higher levels and enforced closer to research-funding organisations at the national and EU levels"*. We tend to agree with this comment: national governments have a clear responsibility to empower the role of the ETPs and their operations as much as possible.

5.3.3 Do the ETPs sufficiently represent Member State, national and regional levels of policy making?

The involvement of different stakeholders assumes that an opportunity is given to all Member States to be involved in the ETPs at both national and regional levels. The National Technology Platforms are one means of linking the ETPs to the priorities at these national and/or regional levels.

Most of the ETPs have helped to create National Technology Platforms addressing the priorities and challenges of the relevant technological areas at the national level. These National Platforms are intended to work as 'mirror' platforms, providing interaction and contacts with the Member States. In some ETPs, representatives of the National Platforms participate in all meetings of the ETPs and in the decision-making process of the ETPs. The research priorities defined by the different National Platforms depends to a large extent on the different characteristics and needs of the relevant sectors in the different countries involved.

The open questions in the survey have provided some interesting views on what can be improved concerning the linkages with the Member States at the national and regional levels. The stakeholders have indicated the need for better communication between policy-makers and the Member States. *"A more open and direct communication of the European Commission about their national contacts would be very helpful"*. This applies to national governments as well. *"Regional Technology Centres dedicated to research"* are considered useful, as well as *"multidisciplinary meetings which can bring together researchers of different backgrounds"*.

The participation of different stakeholders also creates room for synergies between stakeholders at EU, national and regional levels. The survey results indicate that governmental organisations have been less actively involved in the development of the Strategic Vision Document and the Implementation Plan. In

the latter case, the relatively low participation may be partly due to the fact that the ETPs have only recently started developing their Implementation Plans, for the most part, so not all stakeholders have yet been actively involved. For the development of the SRA, however, stakeholder participation has been more regular, though industry and the research community tend to participate more often in the development of the SRA than governmental organisations do.

5.3.4 To what extent do ETPs facilitate a greater alignment of R&D priorities between EU, national and/or regional levels?

Bringing together stakeholders to agree research priorities in specific technological areas is expected to increase the coordination of research priorities between EU and national/ regional levels. The survey addressed this issue from three different angles:

- Addressing the impact of the SRA on the priorities at the national level.
- The alignment of research priorities between industry and academia.
- The alignment of research priorities between national and European levels.

Stakeholders were asked to indicate the extent to which they agreed that there has been a clear impact of the SRA on national-level R&D policy and priorities. Stakeholders tended to agree with this, though not very strongly (scoring 2.8 on a scale of 4). There was no significant variation between stakeholder types. In addition, according to the interviews, the topics proposed by the SRAs were in many cases incorporated into FP work programmes. Furthermore, some ETPs were asked to contribute to the development of policy development or position papers.

Regarding the extent to which ETPs have contributed to a greater alignment of research priorities between industry and academia, stakeholders tend to agree that there has been a positive impact on the alignment of research priorities between industry and academia, (average score of 2.9 out of 4).

Concerning the alignment of research priorities between national and European levels, we see a similar pattern with stakeholders tending to agree with a positive effect with an average score of 2.9 out of 4.

In parallel, ETPs have also organised other, more horizontal activities which also help, directly or indirectly, to promote synergies between stakeholders from different policy levels. For example, ETPs organised events such as congresses, conferences, information sessions, lectures, networking events or other activities in which the members appear to participate often. On average there are annually around 6 events and 16 networking events per ETP in which ETP-stakeholders can participate. The stakeholders, according to the survey results, seem to participate in these events quite often; the respondents indicate an average intensity of participation of 3.4 out of 5. Between the different types of stakeholders, industry seems to participate more regularly (3.5 out of 5) followed by the NGOs (3.4 out of 5). The universities indicate a lower participation rate with an average of 3.2 out of 5.

All the above results show that stakeholders acknowledge the effect of the ETPs on the alignment of research priorities between different stakeholders and between the national and EU level; however, the results also clearly signal that stakeholders expect more efforts and results in that direction.

5.4 Conclusions

Evaluation questions

How do ETPs interact with relevant authorities in Member States? Are there examples of close coordination/cooperation?

- ETPs provide a good basis for interactions between the EU and the national and regional levels through the operations of the mirror groups and National Platforms.
- ETPs have been successful in providing the basis for extensive interaction with the Member States.

What role do the national mirror groups play in the ETPs? Are the mirror groups sufficiently involved? Or too much? What role do national R&D priorities play?

- Mirror groups provide a link between EU and national levels. There is a substantial impact of the SRA on the relevant national policies and activities as a result of the operations of the mirror groups.
- At least in one case the mirror group has been dismantled, while in other cases the stakeholders have reported that the role of the mirror group can and should be made clearer in the future. The involvement of the national delegates has not been effective to the same extent in all cases.
- The effectiveness of mirror groups is dependent on the extent to which the technology area involved includes many different disciplines: mirror groups can be expected to operate better in ETPs with more focused activities which therefore involve members with a relatively more common (and focused) background.

Do the ETPs sufficiently represent Member State, national and regional levels of policy making?

- National Technology Platforms are important vehicles that enable synergies between the EU and national levels. The research prioritisation defined by National Platforms depends to a large extent on the different characteristics and needs of the relevant sectors in the different countries.
- Some members of ETPs think that the creation of Regional Technology Centres, in which researchers from different disciplines come together, could increase synergies between the EU and the national/regional levels.

To what extent do the ETPs facilitate a greater alignment of R&D priorities between EU, national and regional levels?

- Stakeholders acknowledge the beneficial impact of the Vision, the SRA and the implementation plan on the alignment of research priorities between EU, national and regional levels.
- Stakeholders consider that the operations of the ETPs have had a positive impact on the coordination of research priorities between industry and academia, although it is rather early to be able to fully assess and value these impacts.
- Stakeholders consider that the operations of the ETPs have had a positive impact on the coordination of research priorities and policies between European and national levels; however, this impact is relatively less visible to the stakeholders of the industry (perhaps as a result of different expectations) and the research community compared to the NGOs and GOs.

6 EFFECTS ON MOBILIZATION OF PUBLIC AND PRIVATE RESOURCES

6.1 Introduction

This chapter analyses to what extent the developed SRA had an impact not only on the work programme of FP7 but also on national and other R&D programmes. We consider the leveraging power of the ETPs in mobilising more and new financial resources for the implementation of the developed SRA and R&D in Europe.

Table 10: Evaluation questions on 'mobilization of public and private resources'

Evaluation questions
<ul style="list-style-type: none"> How do SRAs influence national and/or other R&D work programmes?
<ul style="list-style-type: none"> How have the SRAs influenced the Work Programmes of FP7?
<ul style="list-style-type: none"> To what extent have the ETPs succeeded in attracting and/or mobilizing funds from EU sources (e.g. FP7), national and/or regional sources?
<ul style="list-style-type: none"> To what extent have the ETPs enhanced the use of other funds, such as debt and equity financing, for implementing R&D activities?
<ul style="list-style-type: none"> Have the ETPs as such succeeded in (contributed to) mobilising and aligning R&D investments by the industrial stakeholders?

6.2 Resources available to the ETPs

As indicated by the EURAB report (2004), ETPs should have a clear task in securing funding: *"There is a need to integrate secure sources of funding into the Platforms' Action Plans. The funding for the substantive tasks of the Road Map should come from the appropriate sources: Member States, industrialists, banks, structural funds, as well as the EIB, which is already active in supporting such Platforms. The development and implementation of a programme for such funding at a national, multi-national and EU level will be the core activity of a Platform"*.

Table 11 summarizes the different channels for financing according to the phase of activity (or life-cycle) of an ETP. The evaluation questions were mostly focused on the financing of the implementation of the SRA.

Table 11: Overview of different financial sources

Operational budget for the functioning of the secretariat	-	Some ETPs got EC support, other ETPs didn't
	-	Contribution from industry
	-	Some ETPs ask for membership fees
Financial resources for the development of strategic documents (SRA, implementation plan etc.), organising events, ...	-	Some ETPs got EC support, other ETPs didn't
	-	Contribution from industry
	-	Some ETPs ask for membership fees
Implementation of the SRA (setting up R&D activities)	-	Framework Programme
	-	Structural Funds
	-	Other governmental or R&D programmes (such as EUREKA)
	-	Contribution from industry
	-	Debt /equity funding
	-	Risk capital
	-	...

Source: IDEA Consult

Important note

The evaluators consider that it is too early to fully analyse the financial leveraging effect of the ETPs, since most ETPs have only recently started to implement their SRA. For example, it is not yet evident what impact the SRA and the ETP itself may have on convincing the Member States to invest more money in the implementation of the SRA. This requires time. We can present the facts found, but for final conclusions it is too early to judge. At the same time, we do consider these preliminary facts and conclusions as indications of potential future success.

6.3 Evaluation**6.3.1 How do SRAs influence national and/or other R&D work programmes?**

Stakeholders were asked to indicate the extent to which they agree that there has been a clear impact of the SRA on the national level (R&D policy and priorities). They tend to agree with this statement (average of 2.8 out of 4) with no significant variation between different types of stakeholders. With an average score below 3, this cannot however be considered a strong agreement. See also chapter 5 for more background on this issue.

As mentioned before, most ETPs have a mirror group which should be one of the most important channels through which the ETP can influence the national and/or regional R&D policy and work programmes. The survey provided some indications on the impact of the mirror groups. According to the results, the stakeholders tend to agree that the SRAs are taken into account in relevant national policies and activities with an average score of 2.9 out of 4 with NGOs having the highest score (3 out of 4).

Despite the positive indications, the survey results are not convincing enough to say there is a significant influence of the SRA on national or other R&D programmes. Nevertheless, the interviews have also revealed some good practices. There are ETPs where national platforms were created only as a direct result of ETP activities. They would simply not exist without the ETP. Also, those national platforms that did already exist before the ETPs responded quite quickly to the existence of the ETP and closely followed its activities. As one of our respondents put it, *"It turned out that coming together on a European level stimulates national levels"*.

In some ETPs, the developed SRA really became the guideline for national programmes. For example, in the case of Artemis, their SRA was almost completely taken up by the Netherlands, France and Denmark. Most interviewees (through the open questions in the survey) indicated that strengthening the relationship with the national level should be a point to work on in the near future.

6.3.2 How have the SRAs influenced the Work Programmes of FP7?

Stakeholders were asked to evaluate the impact of the SRA on the work programmes of the EC Framework Programme on a scale from 1 (=no impact) to 3 (= high impact). The average score for this question (question 39) is quite high: 2.6. For governmental organisations this is even higher: 2.7.

However, SRAs are not binding on the Commission, and for some ETPs the influence has been bigger than for others. Some ETPs stated that the influence concerning the definition of topics in the FP was sufficient but was not translated later into a clear link between the SRA and the approved project proposals. As is also discussed in chapter 9, the expectations of the ETPs on this level have evolved differently over time.

6.3.3 To what extent have the ETPs succeeded in attracting and/or mobilizing funds from EU sources (e.g. FP7), national and/or regional sources?

The evaluation was made on the basis of responses to both this and the following question.

6.3.4 To what extent have the ETPs enhanced the use of other funds, such as debt and equity financing, for implementing R&D activities?

Regarding the mobilisation of resources, the stakeholders indicated the existence of marginal effects in relation to:

- Increase of EU funding: score of 2.7 out of 4.
- Increase of national funding: score of 2.5.
- Increase of funding from intergovernmental programmes: score of 2.4.

We find these effects rather marginal since the average scores on all three funding channels are all under 3, meaning that on average the respondents' opinion falls between disagreeing (score =2) and agreeing (score =3). It is interesting to note that the effects on the mobilisation of resources are

significantly less evident to stakeholders from universities, SMEs, and large companies than for the governmental bodies themselves (the providers of the resources mentioned above).

From the responses gathered through interviews and through the survey, many ETP stakeholders are somewhat disappointed about the number of proposals that were approved under the Framework Programme, even when the SRA topics were well incorporated. There is no guaranteed link between a good coverage of the SRA in the work programmes of FP7 and the chance for more funding through FP7. It is clear that the expectations of the stakeholders were somewhat higher in this respect. Some complaints were also made concerning the evaluation process of these proposals, where the level of expertise of the evaluators was questioned.

Besides the FP, there are also other European, national and regional funding programmes available for implementing the SRA. Also from these programmes the stakeholders did not mobilize yet financial resources (see Table 12).

Stakeholders in the technological development field tend to look only at the technology part and not at the funding part. ETPs should emphasize more the importance of fund-raising. It should be a point on the agenda for all ETPs to think about "effective financial engineering", which should be an integral part of research and development. Some ETPs managed to include financial institutions (like banks) as stakeholders but this could be further improved.

Table 12: Problems with the mobilization of resources

<i>Financial source</i>	<i>Problems/ drawbacks</i>
In general	<ul style="list-style-type: none"> - Stakeholders are not sufficiently aware of all available funding possibilities. - Funding programmes of different governmental levels (EU, national, regional) are not always synchronised nor in time, nor content wise.
FP6, FP7	<ul style="list-style-type: none"> - Heavy administrative procedure to develop a project proposal under the FP. - The short-term project funding of the FP is in contradiction with the long-term strategic research programme worked out in the implementation plans of the ETPs. - This timing issue combined with a low chance of approval makes submitting under FP less attractive.
Other EU sources (Structural Funds like Objective 2, Interreg, LIFE+, EUREKA)	<ul style="list-style-type: none"> - EUREKA funding is still unsynchronised between different countries and funding decisions depend on national decisions. - Stakeholders, especially SMEs, could make more use of other EU funding sources such as Structural Funds, which are more accessible for local stakeholders and SMEs since these programmes are often regionally organised and coordinated. However they are often not enough known by smaller stakeholders.
National funding	<ul style="list-style-type: none"> - In many Member States, national funding for R&D is insufficient. - Especially for international (cross-border) R&D, there is not a lot of national funding available. - Lack of funding instruments for SMEs. Often the national funding for R&D goes to large companies.

6.3.5 Have the ETPs succeeded in or contributed to mobilising and aligning R&D investments by industrial stakeholders?

Stakeholders were asked to what extent they agreed to the proposition that, due to the ETP, industry has invested more in R&D in the respective technology area than before. A somewhat weak agreement was noted (average score of 2.7 out of 4).

Comments provided by the respondents confirmed this rather low score. Additionally, many respondents highlighted the fact that the financial leveraging effect from industry is a long-term impact that cannot possibly be visible yet, since most ETPs have hardly started implementing their SRA. On top of that, it is an effect that is highly influenced by other factors as well, so that the direct link between the ETPs and the change in investment done by the industry in R&D will remain very difficult to measure.

The fact that the industry does not always see the translation of their hard work (often based on the goodwill of people) and their financial contribution for the development of the SRA into a higher number of approved projects under FP7 is clearly discouraging.

In order to convince industry to invest more money in R&D, ETPs should aim for results that clearly lead to new implementations or market products. In this respect, the ETPs should also pay more attention to disseminating good practices, success stories and successful pilots to highlight the added value of ETPs. Better monitoring of their (and their members') activities and results in this respect would be an important first step.

6.4 Conclusions

Evaluation questions

How do SRAs influence national and/or other R&D work programmes?

- There is no clear evidence that the SRAs have influenced national and/or other R&D work programmes. However, the indications are positive. It differs a lot, nevertheless, from ETP to ETP. There is no general trend.
- More and more national platforms have been developed after the set up of the ETPs. Also, the national platforms that existed before the ETP quickly responded to the existence of the ETP and followed its development closely.
- In some Member States the SRA of a particular ETP became the reference for the national R&D programme.
- The functioning of the mirror groups should be intensified in order to link better with national programmes.

How have the SRAs influenced the Work Programmes of FP7?

- On average, the ETPs are fairly satisfied with the influence they have had on the definition of FP topics.
- There are big differences between ETPs regarding their influence. Some ETPs see their SRA very well reflected in the FP, other ETPs not at all.
- There is, however, no clear link between a good coverage of the SRA in the FP and the success ratio for project proposals under the FP. This is disappointing for many ETPs.

To what extent have the ETPs succeeded in attracting and/or mobilizing funds from EU sources (e.g. FP7), national and/or regional sources?

To what extent have the ETPs enhanced the use of other funds, such as debt and equity financing, for implementing R&D activities?

- It is too early to measure the financial mobilisation effects of the ETPs, since most ETPs have hardly started with the implementation of their SRA.
- Generally speaking, at present the effects on the mobilisation of European, national, regional and other financial resources are small. Several problems were highlighted for each of the financial funds available.
- ETPs should pay more attention to fund-raising and financial engineering in the future. They should provide the necessary information on funding possibilities to their stakeholders. More dissemination actions should be undertaken in order to convince potential financial providers.

Have the ETPs succeeded in (contributed to) mobilising and aligning R&D investments by the industrial stakeholders?

- By analogy with the previous two questions, it is too early to draw real conclusions.
- However, there are some points of that are worrying and need attention. It seems that several industry stakeholders are disappointed by the relatively number of projects approved under FP7 regardless of the big effort and time put into the SRA process.
- In order to convince industry to invest more money in R&D, ETPs should aim for results that clearly lead to new implementations or market products. In this respect, the ETPs should also pay more attention to disseminating good practices, success stories and successful pilots in order to highlight the added value of ETPs.

7 EFFECTS ON IMPROVEMENT OF FRAMEWORK CONDITIONS

7.1 Introduction

One of the objectives of the ETPs is to create favourable framework conditions in order to facilitate and stimulate innovation. More specifically, there were expectations towards the ETPs with respect to the creation of a coherent and stable legislative framework and set of standards (for product development) and, subsequently, a certain influence on the political and market environment (EURAB, 2004). But framework conditions are broader: they also cover issues such as the availability of human resources and access to venture capital. Framework conditions cover, in addition, several of the other dimensions discussed elsewhere in this evaluation.

Table 13 presents the central evaluation questions with respect to this objective of the ETPs.

Table 13: Evaluation questions on 'improvement of framework conditions'

<i>Evaluation questions</i>
<ul style="list-style-type: none"> • Have the ETPs sufficiently addressed regulatory and other barriers for the optimal development, deployment and use of key technologies? How are these barriers addressed?
<ul style="list-style-type: none"> • To what extent have the ETPs been successful in creating a favourable climate for the development and deployment of key technologies?

7.2 Addressing framework conditions

Innovation, in the sense of bringing products and services to market, requires a whole set of adequate framework conditions throughout the various phases of the innovation process. Some examples are given below.

A first important condition relates to the availability of adequately trained people (education, training, mobility policies) and the subsequent conditions for employing these people (employment policy, covering labour costs, competitiveness and standards of living). A second condition refers to the functioning of the financial market and the availability of investment capital. A third condition refers to industry-academia collaboration, where a clear intellectual property framework is essential.

Underlying the concept of the ETP is the so-called 'vertical' and 'horizontal' coupling of actors and communities. This coupling, based on the broad involvement of various stakeholders (policy-makers, companies, academia, regulators, users, etc.) is an important precondition for a harmonized and favourable regulatory framework. How successful has this been so far? The answer to this question is provided by the stakeholders (see below).

Increasingly, ETPs have come to recognise the importance of good framework conditions — mainly regulatory — for innovation. In the case studies and in the face-to-face interviews, several suggestions were made and evidence gathered on this issue. Today the ETPs (but still not all of them) have specific working groups or task groups dealing with regulatory issues and even, in some cases, other more general policies than merely research and development. Moreover, specific publications or events that aim to trigger discussion in this area are also produced or undertaken by ETPs.

Many SRAs also refer to the importance of good framework conditions and even identify this as a challenge for the future success of their field in terms of fostering innovation and strengthening competitiveness. Several fields are, nevertheless, more sensitive to these conditions: an example is the biotechnology area, where regulatory aspects, in view of the high costs of R&D, play an important role.

The next section looks at specific evaluation questions covering the role of ETPs in addressing and improving the framework conditions for innovation.

7.3 Evaluation

7.3.1 Regulatory and other barriers for the optimal development, deployment and use of key technologies

As indicated above, ETPs address framework conditions in various ways and with varying levels of intensity. The most common approach is to set up specific working groups or task groups that deal with particular types of framework conditions, like education and training (see also chapter 8) or standardization issues. Also, the availability of financial instruments (such as guarantee schemes) for supporting innovation is a topic of concern.

Regarding whether ETPs have contributed to the improvement of framework conditions for the deployment of key technologies in the specific industry/sector concerned, all surveyed stakeholders tend to agree (score of 3.0 on a scale of 4). Among industry stakeholders (covering SMEs, large companies and sector federations), the sector federations highly appreciate the work of the ETPs (score of 3.1). As expected, stakeholders that are strongly involved in the operations of the ETP tend to agree more than stakeholders with a weaker level of involvement.

The majority of stakeholders, moreover, indicate that the SRA (see question 20, annex 5) does address broader socio-economic challenges as well and thus goes beyond the pure technological needs of the sector (average of 3.3 on a scale of 4). Large companies and sector federations strongly agree in this respect, just as governmental and non-governmental organisations do.

Thus, in general, the ETPs have been visibly successful in contributing to better framework conditions in order to stimulate innovation. At the same time, the stakeholders indicated that there is room for further improvement and intensification of effort.

7.3.2 Creation of a favourable climate for development and deployment of key technologies

Whether the contribution and efforts of the ETPs have led to research results becoming more easily translated into new product and services is an aspect that is less positively acknowledged by stakeholders compared to the previous question (average score of 2.8). Industry tends to agree modestly with the proposition made (score of 2.8). Within the industry, sector federations clearly agree that the ETPs have helped and will help research results to become more easily translated into new products and services.

That the results are less plain may be explained by the fact that it is too early to fully appraise the work of the ETPs in this area, despite the clear expectations. This also applies to the implementation and the development of new products and services. Here, as well, stakeholders expect the ETPs to do more in the near future, or as one of the stakeholders indicated: *"In spite of the huge amount of work performed to build the SRA and to animate the deployment, the practical results are still very low-level and disappointing"*.

It is questionable, in view of the original objective and setup of the ETPs, whether these expectations concerning implementation are the right ones.

7.4 Conclusions

Evaluation questions

Have the ETPs sufficiently addressed regulatory and other barriers to the optimal development, deployment and use of key technologies? How are these barriers addressed?

- ETPs increasingly recognise the importance of adequate framework conditions for innovation. Through the setup of specific task or workings groups and the production of publications (including specific sections in the SRAs), ETPs have recently increasingly aimed to systematically address framework conditions by working on and linking to other policy areas such as education and training, the ERA, intellectual property, etc.
- ETPs have helped to improve framework conditions for the deployment of key technologies. This means that the ETPs have addressed regulatory and other barriers, e.g. in their SRA and Vision. It is clear, however, that the efforts are not equally strong between the various ETPs and that future intensification is expected by the stakeholders.

To what extent have the ETPs been successful in creating a favourable climate for the development and deployment of key technologies?

- The general impression is that this is as yet too early to fully judge. The respondents (in their open comments) indicate the need for ETPs to move on and continue working on implementation of the SRAs. However, whether these expectations are in line with the main objectives of an ETP is debatable. ETPs themselves provided mixed messages as far as the implementation element is concerned.
- The stakeholders (and mainly industry) somewhat agree with the proposition that the ETPs have been successful in creating a favourable climate for the development and implementation of key technologies. Again, it is too soon to identify and properly assess the extent to which there are any lasting results in this respect.

8 EFFECTS ON MAINTAINING AND ENHANCING A HIGH-SKILLED WORK FORCE

8.1 Introduction

ETPs have a clear mandate and objective concerning the identification of challenges related to education and training, in view of maintaining and enhancing a high-skilled workforce which can ensure an effective future implementation of the technologies concerned. This chapter examines the activities and effects of the ETPs on maintaining and enhancing a high-skilled work force.

One of the necessary conditions in order to increase public and private investment in RTD is that the workforce is and stays highly skilled. It is a continuous process not only to keep the workforce in a technological area up-to-date with new developments but also to stimulate and enable them to innovate.

Table 14 presents the central evaluation questions with respect to this objective of the ETPs.

Table 14: Evaluation questions on 'enhancing a high-skilled work force'

<i>Evaluation questions</i>
<ul style="list-style-type: none"> To what extent have the ETPs identified future education and training needs and provided training and education programmes and initiatives? How do they identify these needs?
<ul style="list-style-type: none"> Has this insight been reflected in EU, national or regional policies?

8.2 Activities undertaken by ETPs in order to maintain and enhance a high-skilled workforce

To achieve this objective, ETPs first need to identify future education and training needs in their technology area and then should provide or facilitate the appropriate training and educational programmes and initiatives.

However, our data revealed that only very limited activities related to training have been undertaken. Only 3 ETPs said they had organised training sessions (out of those who responded on this point). 9 ETPs indicated that they were aware of the importance of training sessions, but have so far not succeeded in organising any. All other ETPs did not respond on this point.

ETPs provided several suggestions for potential actions that ETPs could undertake:

- Organise courses and workshops. Develop specific programmes for training and education based on existing knowledge and addressing future technological developments and needs.
- Strengthen links between industry and academia.
- Better specification and communication of competence needs and addressing of these needs to academia.
- Define a separate SRA for training and education.
- Explore the possibilities of ESF and other possible channels through which summer schools, conferences and workshops could be organised on training and education in particular fields.
- Promoting and supporting e-learning, lifelong learning, vocational training.
- Contributing to tutorials and other course material of university programmes.
- Prepare “training for trainers” material.
- Take actions targeting high schools and, even more, junior schools in order to stimulate young people to opt for technical studies (e.g. engineering) and a technical career.

Important note

Many respondents stated that it is too soon to measure activities and effects concerning training.

8.3 Evaluation

8.3.1 To what extent have the ETPs identified future education and training needs and provide training and education programmes and initiatives? How do they identify these needs?

The stakeholder survey incorporated two questions on the effects of the ETPs on the maintenance and enhancement of a high-skilled workforce. The questions addressed two points:

- The extent to which future needs in education and training of the technological area have been further explored.
- The extent to which the need for certain competences in the technological area is better addressed.

The response of the stakeholders is similar for both questions: effects are identified, but are not very strong. The average scores for the effect on the extent to which future needs in education are identified is 2.9 out of 4. For the second question, the effect on better addressing specific competences is slightly higher: 3.0 out of 4. However, the scores differ according to the type of stakeholder. Industry and knowledge-generating institutions (research institutes and universities) give lower scores, on average, than the rest of the stakeholders (governmental organisations, NGOs, sector federations).

As mentioned above, the results reveal that not many actions are yet undertaken by the ETPs on training and education. The open question showed that several stakeholders doubted whether the training and education issue should be a prior objective for the ETPs. We could identify several external factors/ tendencies that go beyond an individual ETP. Several ETPs do not see training and education as one of their top priorities. Some of them believe the ETP is not the best instrument for developing and maintaining a high-skilled workforce and feel that market competition is the main driver for improving workforce skills. Furthermore, several external factors make it more difficult for ETPs to tackle the issue in an effective and efficient way:

- Current demographic developments in Europe require a more coordinated approach from high-tech industry areas to come up with solutions.
- Training needs are often decided and addressed at the company level. It is difficult to organise European-wide training activities or to identify general European training needs. Every company has its own specific training needs.
- There are substantial differences in training needs between Member States.

Several stakeholders have underlined the importance of training and education as an important issue to tackle in the near future when implementing the SRAs. We believe that the ETPs should rather be a facilitator, communicator and promoter for ensuring training and education programmes rather than the organiser in practice of training and education. The evaluators see the possible role of the ETP concerning training and education as follows:

- Identify the opportunities and needs on the long run (as a function of the future technological challenges).
- Ensure and improve links between industry and academia.
- Encourage relevant stakeholders to take action towards dealing with identified challenges.
- Promotion and information activities between an ETP's stakeholders concerning education and training of the workforce (e-learning, vocational training, lifelong learning, possible funding channels such as ESF, etc)

8.3.2 Has this insight been reflected in EU, national or regional policies?

Since very little activities have been undertaken until now by the ETPs concerning the identification of training needs and providing or facilitating the organisation of training and education, it is very unlikely that insights are already reflected in EU, national and/or regional policies.

8.4 Conclusions

Evaluation questions

To what extent have the ETPs identified future education and training needs and provided training and education programmes and initiatives? How do they identify these needs?

- Not many activities have been carried out by the ETPs concerning the identification of future education and training needs and providing training and education programmes and initiatives. We have to keep in mind that most ETPs just started with their implementation. More actions can and should be expected in the near future.
- Several external factors and trends (e.g. the need for a global and cross-sectoral approach on education and training and the large differences in needs between Member States) bring into question the possible role of ETPs in identifying needs and providing training and education programmes.
- Nevertheless, ETPs can undertake several useful activities on this topic. From the facts collected, it is clear that ETPs have underachieved on this matter. ETPs could be the facilitators, communicators and promoters for ensuring training and education programmes rather than the organisers of training and education.

Has this insight been reflected in EU, national and/or regional policies (workforce of the future)?

- No solid data could be collected on this issue, but since not many actions have been undertaken by the ETPs concerning the identification of training needs and providing or facilitating the organisation of training and education, it is very unlikely that insights on this topics are already reflected in EU, national and/or regional policies.

9 THE ETP CONCEPT AND ITS IMPLEMENTATION

9.1 Introduction

What was the policy rationale behind the ETPs? The rationale behind the set-up and development of the ETPs is highlighted in the Community action plan set up in response to the 2002 Barcelona Council's call to boost research and technological development in Europe. Challenges in the area of sustainable development, societal challenges and demands, economic disparity between the regions of Europe, and facilitating innovation in general by taking into account non-technical aspects as well, were the key challenges underlying the ETP concept.

The potential for technology platforms to address major economic, technological or societal challenges and to stimulate more effective and efficient RTD, especially in the private sector, is highlighted in the Community action plan "Investing in Research: an Action Plan for Europe" (2003), or as EURAB (2004) states:

"The development of effective European Technology Platforms can help ensure European investment in R&D rapidly and effectively: delivers benefits to the European citizen, creates competitiveness for our companies and ends the situation in which high EU R&D investment often produces fewer than expected benefits"

This chapter considers how the ETP concept has been implemented over time and whether the concept is still in line with today's challenges.

In Table 15 we present the central evaluation questions in relation to the ETP concept.

Table 15: Evaluation questions on 'ETP concept and implementation'

<i>Evaluation questions</i>
<ul style="list-style-type: none"> To what extent is the original policy rationale underlying the ETP concept still in line with today's challenges faced by EU industry?
<ul style="list-style-type: none"> Does the internal organisation and governance of the ETPs facilitate efficient and effective functioning?
<ul style="list-style-type: none"> Do the ETPs have sufficient operational resources (funding and staff) in order to fulfil their mission? Where do these resources come from?
<ul style="list-style-type: none"> Do the SRAs contain clear implementation modalities timing, funding, prioritization, etc., or is there a separate implementation plan and do they as such provide a good basis for further diffusion to national and/or regional levels? Do the ETPs have a deployment strategy?
<ul style="list-style-type: none"> Are the activities and actions taken by the ETPs in line with the ETP concept and its objectives?
<ul style="list-style-type: none"> How could the concept of the ETPs develop in the future in order to improve (modify) the concept and as such improve its results/effects?

9.2 ETP concept and implementation

ETPs are 'bottom-up' initiatives: the actors in the field organise themselves to form a platform. Although there are certain criteria that the platforms have to comply with in order to be recognised by the Commission and as such become eligible to receive operational funding, the general concept is rather flexible and democratic in the sense that, in principle, every sector or industry should be allowed to have its platform. Among the 34 ETPs active as of December 2007 (plus several platforms that are in their setup phase), large differences in size, focus, and operations can be found depending on the sector/industry they are covering and representing.

ETPs are implemented in three broad stages: 1) emergence and setup, 2) definition of a strategic research agenda, 3) implementation of the strategic research agenda. In stage 1, a common vision is agreed on between the various stakeholders. Stage 2 translates the vision into specific medium and long-term R&D objectives. Finally, under stage 3, implementation is supposed to take place to a large extent via EU-funding instruments, or, as it is formulated in the Commission's report on the implementation of the ETPs (2004, p. 19):

"The research implementation phase of several technology platforms will coincide broadly with the timeframe of FP VII. During this phase, priority will need to be given to implementation of the Strategic Research Agendas which have been defined within these technology platforms. The use of existing instruments for collaborative research, possibly with some adaptation, is expected to be the most appropriate way of providing Community support for the implementation of the majority of these research agendas."

In general, we have the impression that the platforms have succeeded in reaching stage 2 but that the transition to stage 3 is a difficult one. Moving from stage 2 to stage 3 requires the development and funding of concrete projects. Large expectations were raised by the Commission (see also the quote above) concerning the role of FP7 in providing this funding. Differences in expectations as to how easy it would be to obtain funding from FP7 or even how far policy-makers would go in incorporating the strategic research agendas of the platforms into the FP7 programming has led to a fuzzy situation both on the side of the platform but also on the side of the Commission.

According to EURAB (2004), the following guiding principles have to be taken into account when judging upon the relevance of an ETP platform:

1. A Response to major European challenges: platforms are mission-oriented and address major European economic-environmental-technical-social challenges. They are not short-term, problem-solving devices.
2. A strategic European initiative: platforms should be set up only when there is a well-defined, European strategic need for such an instrument, and European added value can be clearly justified.
3. Politically highly visible: to affect change across national, industrial and technological boundaries, platforms must create strong political support and be highly visible at a European and even at a global level.
4. Industry-led: to be effective, platforms must be driven by actors from the applications / problem end of the innovation process.
5. Well-planned and executed: there must be a road map with a longer-term vision, a sound strategy for achieving this vision, and a detailed action-plan for carrying out the necessary activities.

In the early stage of development of the ETP concept, several sets of guidelines and guiding principles were developed in order to steer (and even control) the process of establishing platforms (see e.g. the EURAB guidelines in the box above). To what extent individual ETPs were screened against these accepted guideline and criteria goes beyond our mandate; it is clear, however, that the democratic element of the platforms has made it difficult to objectively uphold these criteria and guidelines, and has, moreover, led to an explosive growth of platforms in 2004 and 2005 (12 platforms were setup per year). This coincides with the setup, development and launch of FP7.

The following sections look more closely at specific aspects of the ETP concept and its implementation.

9.3 Evaluation

9.3.1 To what extent is the original policy rationale underlying the ETP concept still in line with today's challenges faced by EU industry?

According to the Commission's mid-term review of European industrial policy (EC2007) European industry continues to face challenges related to globalisation, scientific and technological developments and the environment. Many of the challenges that Europe faced in the early days of the design of the ETP concept are still with us. A short description of some of these challenges follows.

Globalization is no longer exclusively about trade in goods. The range of activities that companies trade and outsource has been increasing as ICT, organisational innovations and the growing skills base in India and China allow companies change their value chains and the outsourcing strategies. Rapid advances in science and technology, but also the need to invest in these advances (cf. EU levels of R&D spending – see textbox below), may create opportunities for manufacturers to adapt and exploit new technical possibilities. At the same time heavy product regulations in certain markets tend to hamper the necessary upgrading of industry towards high-tech. Standards, Intellectual Property Rights (IPR), and procurement practices could also be made more supportive of innovative industries. While improving demand it is important for the innovative capacity of industry, some industries are held back by unfavourable market structures (e.g. defence and pharmaceutical sectors). Moreover, the EU has set ambitious environmental goals to increase energy efficiency and reduce greenhouse gas emissions by at least 20% by 2020, and to promote renewable energy sources. Environmental industries could further benefit from these ambitions. But here as well, regulatory elements will play a role of importance. The conclusion thus is that many of the challenges that Europe faced in the early days of the design of the ETP-concept, are still faced today.

Business R&D expenditure remains low and is stagnating (EC, Key Figures, 2007)

As is the case with the overall R&D investment position of the EU, R&D expenditure in the business sector, at about 1.2 % of GDP, remains at a lower level than in most of the other main world regions. Whereas business expenditure on R&D (as % of GDP) increased in the second half of the 1990s, since 2001 the trend has been negative. Conversely, business R&D is increasing at a fast pace in Asia (even though Japan's rate of growth is diminishing) while, in the US, the downward trend of 2001-2002 has come to an end and turned back into positive growth. If these trends are maintained, private R&D investment in China will have reached the same level as the EU by 2008.

What do stakeholders think? They tend to agree that the ETPs do indeed address the needs and challenges of their technological area (average score of 3.5 out of 4). Furthermore, stakeholders can identify themselves in the Vision developed by their ETP, meaning that they can subscribe to the Vision (average score of 3.4). – see, respectively, the questions 19 and 21 in Annex 5. In general, SMEs are less positive about these issues than large companies and sector federations.

9.3.2 Internal organisation and governance in relation to efficient and effective functioning

ETPs are more or less similarly structured internally, though with varying emphases on different elements. There is a high-level decision-making body, an executive body, one or more horizontal or vertical task groups, and a secretariat that fulfils a supportive role. In general, we also find a mirror group with Member State representation and links with national technology platforms. Whether a particular form of internal organisation and governance is the most efficient and effective can only be judged on a case-by-case basis. In general, we believe that the set-up of the ETPs is professional and in compliance with the principles of good governance. In particular, when we take into account that the platforms are run by people taking on this task in addition to their core professional activities and, in addition, that the network of parties and actors involved is loosely coupled, the level of professionalism is high.

The operations and activities of the platforms are considered to be open and transparent by their stakeholders (average score of 3.2 on a scale to 4). In many cases we find clearly drafted terms of Reference concerning all aspects of the operations of the platform (e.g. membership, decision-making, etc.). Industry, academia, governmental and non-governmental organisations equally agree. On a scale of 5, stakeholders gave an overall level of satisfaction about the achievements of their ETP of 3.5. This suggests that ETPs are effective in achieving concrete results for their stakeholders.

There is space for improvement, of course, and especially concerning communication between the platforms, their stakeholders, the Commission and other external parties: here further streamlining seems beneficial. Our experiences during this evaluation study have clearly illustrated this.

Mirror group or not? In one of our case studies we arrived at the conclusion that a mirror group is not necessary in order to have Member States involved. Integration of the Member States in the core bodies of the platform can be a well-functioning alternative. Indeed, this depends on the characteristics of the platform concerned.

9.3.3 ETPs and their operational resources

The resources for the operational activities of the platforms come, in an initial stage of development, from the Commission (though without clear procedures and criteria) and, at a later stage, from private resources obtained, e.g., through membership fees or grants. The latter is more and more the case as the public funding for the operational activities of the ETPs has fallen back. On average, we find between 1 and 2 persons per platform staffing the secretariats. Several ETPs indicated that they are considering further professionalizing and expanding the size of their secretariats. There are also great concerns about the funding of the secretariats, with some respondents suggesting this should be the responsibility of the Commission in order to help ensure impartiality.

In practice, a large component of the funding comes from the industry core members. It is impossible to estimate how large this investment is, but it is clear that it is significant. More and more platforms are considering introducing membership fees in order to obtain additional resources for their operational activities. From our case studies it appeared that those platforms that have introduced membership fees were not confronted with a fall-back in the number of members. In this respect, it is interesting to note that 93% of respondents said they would renew their membership with their ETP and thus do believe in and support their platform.

9.3.4 SRAs and implementation

The strategic research agenda forms the translation of the more general strategic vision for a sector into more specific research and development objectives and trajectories. The subsequent implementation and deployment plans are intended to provide clear-cut roadmaps on how the ETP and its members intend to realise the strategic research agenda. It appears that fewer than 50% of the ETPs have developed an implementation plan, mostly in combination with a more concrete deployment strategy (about 34%).

In general, the stakeholders of the various platforms are clear that the implementation (transition from stage 2 to 3 - see section 9.2 above) is still in its infancy. Overall,, progress in implementation is judged to lie between "limited" and "significant" (a score of 2.8 on a scale to 4). Governmental and non-governmental organisations, in particular, do not see enough progress. Knowledge-generating institutions and industry (mainly SMEs) are least satisfied with progress made. Of note is that SMEs are rarely involved in the development of the implementation strategy (score 2.4 on a scale of 4); a similar level of involvement also applies to universities. Those stakeholders that have seen or have contributed to the implementation strategy agree to the proposition made that the strategy is realistic in terms of ambition and feasibility.

9.3.5 The ETP concept in relation to activities and actions

The actions and activities of the platforms are largely in line with the ETP concept and the challenges faced. On the proposition that the operations and activities of the ETPs answer the needs of industry and the challenges faced, the stakeholders clearly agree (average score of 3.5 on a scale of 4). Governmental and non-governmental organisations, in particular, seem to strongly agree to this. SMEs are less convinced, but still agree that the platforms deal with the right challenges.

There is however, a dual aspect to this. As mentioned above, stage 2 of the development of the platforms has been reached by all platforms. The next stage, the implementation stage, is the stage where real differences can be "seen". The challenges can only be really tackled when moving to the implementation phase, away from the conceptual level. In terms of concrete realisations, and assuming that this a justified expectation, the results in terms of dealing with higher-level societal and economic challenges are, overall, not convincing. This may, however, change in the near future.

One of the objectives behind the ETP concept is to reduce fragmentation in research, development and innovation sphere in Europe. We are concerned that the so-called democratic characteristic of the ETP concept – i.e., being able and allowed to set up an ETP in bottom-up fashion – may lead, of itself, to fragmentation. Today there are already 34 platforms in partly overlapping areas of activity.

9.3.6 ETPs concept in the future

In general, the evaluators believe that it is too early to fully appreciate the effectiveness and success of the ETPs. The concept is still very relevant in view of the challenges that are still faced in Europe. Looking ahead, it is important that the ETPs firmly move to the implementation stage of the research agenda and avoid becoming 'speakers' corners', as one of our respondents stated. In general, the respondents point to this need for more implementation (score of 3.1 on a scale of 4). A similar positive response is given concerning the translation of research into new products and services (average of 3.1 on a scale of 4).

In the recommendations part of this report (chapter 10), we provide a number of overall recommendations on the future of the ETPs. The concept of the ETPs should be fine-tuned and sharpened, mainly in view of the differences in expectations between Commission, ETPs and other stakeholders. In this respect, the following elements, in particular, need further emphasis:

- Stimulate more inter-platform collaboration, mainly towards implementation.
- Intensify the international (extra-EU) dimension of the platforms.
- Intensify work on non-technological aspects of innovation and link to other mainstream policies such as education and training, labour, competitiveness and industry, and general economic policies.
- Re-emphasize the need to link ETPs to the socio-economic challenges that Europe is facing and ensure that ETPs do not only focus on technological challenges.
- Clarify to what extent concrete innovations (new products or services) can realistically be expected from platforms or individual members of the platforms. In other words, clarify what is expected by the 'implementation' stage.

The majority of stakeholders agree that ETPs should involve more SMEs (average score of 3.1 on a scale of 4). Having said this, it is clear that the "right" SMEs should be involved. Increased collaboration with national governmental organisations is acknowledged by the stakeholders (score of 3.2 just as increase of links with other Community programs such as ERA-nets and EUREKA (3.1 on a scale of 4).

9.4 Conclusions

Evaluation questions

To what extent is the original policy rationale underlying the ETP concept still in line with today's challenges as faced by EU industry?

- Many of the challenges that Europe faced in the early days of the design of the ETP-concept are still faced today.
- The stakeholders confirm that the ETPs address the needs and challenges that they are facing in their technological area. Moreover, they can relate to the Vision developed by the ETPs.

Does the internal organisation and governance of the ETPs facilitate efficient and effective functioning?

- ETPs are more or less similarly structured internally. Whether internal organisation is efficient and/or effective can only be judged on a case-by-case basis.
- In general, the set-up of the ETPs is professional and in compliance with the principles of good governance.
- The operations and activities of the platforms are considered to be open and transparent.
- Stakeholders are quite satisfied about the overall performance and achievements of their ETPs.

Do the ETPs have sufficient operational resources (funding and staff) in order to fulfil their mission? Where do these resources come from?

- The resources for the operational activities of the platforms come, in an initial stage of development, from the European Commission (though without clear procedures and criteria) and, at a later stage, from private resources obtained, e.g., through membership fees or grants.
- In practice there is a large component of the funding (time and thus wage costs) that comes from the industry (core) members.
- Several ETPs have indicated considering to further professionalize and expand the size of their secretariats. There are great concerns about the funding of the secretariats in view of continuity and the success of operations.

Do the SRAs contain clear implementation modalities timing, funding, prioritization, etc., or is there a separate implementation plan and do they as such provide a good basis for further diffusion to national and/or regional levels? Do the ETPs have a deployment strategy?

- Less than 50% of the ETPs have developed an implementation plan, mostly in combination with a more concrete deployment strategy (about 34%).
- In general, the stakeholders of the various platforms are clear that implementation is still in its infancy. More efforts in this respect are required. At the same time, stakeholders indicate that the implementation strategy of their ETPs is realistic.

Are the activities and actions taken by the ETPs in line with the ETP concept and its objectives?

- The actions and activities of the platforms are largely in line with the ETP concept and the challenges faced. ETPs answer the needs of industry and the challenges it faces, according to the stakeholders.
- In terms of concrete realisations, assuming that this is a justified expectation towards an ETP, the results in terms of dealing with higher-level societal and economic challenges in Europe are, overall, not convincing at present.

How could the concept of the ETPs develop in the future in order to improve (modify) the concept and as such improve its results/effects?

- The concept of the ETPs should be fine-tuned and sharpened, mainly in view of the differences in expectations between Commission, ETPs and the various stakeholders. For example, what is really meant by 'implementation' of the SRA by the ETPs? Are the ETPs supposed to start the implementation of their SRAs or their members on an individual basis?
 - According to the stakeholders, there is a need to increase 'implementation', involve more SMEs, increase collaboration with national governmental organisations, and increase links with other Community programs like ERA-net and EUREKA.
-

10 CONCLUSIONS ON THE OVERALL PERFORMANCE OF THE ETPS

In what follows we provide the main conclusions of this evaluation. Please note that both the conclusions and the recommendations (chapter 11) are presented in a random order.

1. ETPs are generally considered to be **sufficiently open and transparent** (both by those who are strongly involved and those who are weakly involved).
2. Most ETPs successfully involve and represent a **broad range of EU-wide stakeholders** in their activities. There are some provisos, however:
 - 2.1. NGOs and end-users (i.e. consumers) have a small presence, taking into account the societal dimension of the ETPs and compared to the involvement of other stakeholders. Industry and knowledge-generating institutions are well represented.
 - 2.2. Knowledge-generating institutions are less involved in the development of the strategic vision document (SVD) and the final implementation strategy, but are strongly involved in the translation of the SVD into the SRA and thence into concrete projects proposals. In general, for this reason, it is fair to say that ETPs are industry-led.
 - 2.3. Participation levels of SMEs should be looked at and questioned from the right perspective. If a sector has large groups of SMEs, then they are (and should be) targeted and represented. ETPs have made efforts to attract and encourage SMEs to become involved. Experience, however, has shown that successful involvement of SMEs (in all their variety) is often hampered by their limited resources and limited ability to use the results and outcomes of platforms.
 - 2.4. Technology-oriented and high-tech SME associations that are members of ETPs are often found to be strongly involved with ETP activities.
3. In general, all stakeholders value **the strategic work** of the ETPs:
 - 3.1. ETPs address the needs and challenges of their technology areas.
 - 3.2. ETPs address broader socio-economic challenges and go beyond technological needs, although the extent to which this happens could and should be increased in future.
 - 3.3. The majority of stakeholders subscribe to the long-term vision developed by the ETPs.
 - 3.4. Stakeholders are less positive about the implementation of the SRA. 'Implementation' is an action that all stakeholders would like to see more of. In terms of concrete realisations, and assuming that this is a justified expectation towards an ETP, the results in terms of dealing with higher-level societal and economic challenges in Europe are not convincing at present.
 - 3.5. ETPs are expected to be successful in technology areas at a pre-competitive (early development) stage. The advantage in this case is that industrial stakeholders are more motivated to have contacts with their competitors, as knowledge diffusion can have a crucial impact and the different actors are more easily committed to a common goal.

4. Stakeholders indicate substantial effects in relation to **coordination** (increase in cooperation outside ETP, expansion of network, increase of communication possibilities with other stakeholders). Less evident are the effects concerning joint R&D. Specifically:
 - 4.1. Mirror groups and National Technology Platforms have a positive influence on coordination and the creation of synergies. The composition of the membership and members' active engagement are critical factors in this respect.
 - 4.2. Communication efforts, publications and meetings have increased over the past three years. Interactivity can be improved, however.
 - 4.3. International cooperation is still hampered by several factors: lack of national resources, competition rules, differences in legal systems, and differences in standards.
 - 4.4. There is a clear danger of duplication of effort and fragmentation due to the large number of ETPs, despite the efforts of some ETPs to coordinate and develop common activities and working groups.
5. Concerning **synergy effects**, we find significant effects in relation to coordination with national initiatives and the alignment of priorities between academia and industry:
 - 5.1. The real impact of coordination in terms of concrete actions and joint initiatives of and between the various political levels in Europe is considered less evident. There is no clear evidence that the SRAs have influenced national R&D work programmes, although the indications are positive.
 - 5.2. ETPs provide a good basis for interaction between the Commission and the national and regional levels through the operations of the mirror groups and the National Platforms. Success, however, depends on the delegates and their commitment.
 - 5.3. On average, the ETPs are reasonably satisfied with the influence they have had on the definition of FP7 topics. Regarding this influence, there are large differences between ETPs and technology areas. Some ETPs see their SRA very well reflected in the FP7 work-programmes, other ETPs not at all. There is, however, no clear link between a good coverage of the SRA in FP7 and the success ratio of project applications under the FP7. This has been disappointing for many ETPs.
6. Concerning the **mobilisation of resources**, stakeholders indicate positive effects in relation to the increase of EU funding, national funding and also industrial (private) funding in certain R&D areas (although these effects are not very strong ones). In intergovernmental programmes/funding, less clear effects are recognised. Interestingly, SMEs, large companies and universities are more sceptical about these effects, although they still tend to agree with the propositions made on the mobilisation of resources. It should be noted that a full appreciation of the effects on mobilisation of resources is impossible at this early stage of implementation of SRAs. Specific points are:
 - 6.1. At the initial stage of development of an ETP, the operational resources often stem from the Commission. The procedures and criteria are not always clear; this has resulted in large differences in funding of the operational activities between the platforms. At a later stage, we see that ETPs fund their operational activities with mainly private resources (e.g. membership fees or grants).

- 6.2. A large component of the operational funding of an ETP (time and thus wage costs) comes from the industry members.
- 6.3. Several ETPs have indicated considering to further professionalize and expand the size of their secretariats. There are great concerns about the funding of the secretariats in view of continuity and success of operations.
- 6.4. However, there are some worrying issues. It seems that several stakeholders from industry are disappointed by the number of projects approved under FP7 regardless of the significant effort and time put into the SRA process.
7. Concerning effects on the improvement of **framework conditions** and the enhancement of a high-skilled workforce, there are positive effects:
 - 7.1. Sector federations and associations are the most explicit about these effects. It seems that individual stakeholders do not recognise these effects to the same extent. Here, as well, one has to take into account the time dimension and thus the fact that ETPs are generally just starting on the implementation phase.
 - 7.2. ETPs increasingly recognise the importance of adequate framework conditions for innovation. Through the setup of specific task and/or workings groups and the production of publications (including specific sections in the SRAs), the platforms recently have started to systematically address framework conditions by working on and linking to other policy areas (education and training, the ERA, intellectual property, etc.).
8. Concerning the **general concept of the ETP** and its implementation, many of the challenges that Europe faced in the early days of the design of the ETP concept are still apparent today. However, the concept has evolved and has slightly moved away from the initial objective. Several ETPs have clearly been established or focused on the FP7 pre-programming phases. These ETPs have to refocus and reconsider their positions. Specifically:
 - 8.1. The set-up of the ETPs is professional and is in compliance with the main principles of good governance.
 - 8.2. The operations and activities of the platforms are generally considered to be open and transparent. Nevertheless, a higher level of interactivity with ETP members is desired.
9. Contributing to a better skilled workforce in the future is **not yet a priority for ETPs**.
 - 9.1. Not many activities have been carried out by ETPs concerning the identification of future education and training needs and providing training and education programmes and initiatives. More actions can and should be expected in the near future.
 - 9.2. However, several external factors and tendencies make us question the possible role of the ETPs in identifying needs and providing training and education programmes: e.g., the need for a global and cross-sectoral approach, and the large differences in needs between Member States.
10. Generally speaking, **stakeholders are fairly satisfied** (score of 3.5 out of 5): there is room for improvement, but at the same time ETPs do succeed in living up to the expectations of their broad and heterogeneous groups of stakeholders. Sector federations (score of 3.8) and governmental

organisations (score of 3.7) are the most satisfied with the work of the ETPs, whereas the SMEs are the least satisfied (score of 3.3).

11. Moreover, **93% of the stakeholders/respondents** (882 out of 947 of the respondents of the online survey) would, with the knowledge of and the experience with their ETP, renew their membership and/or get involved again.
12. The data collection process for this evaluation clearly revealed the **difficulties that ETPs have in providing evidence** about their activities and results achieved. This does not favour the discussion about the benefits stemming from the ETPs, although such benefits are clearly there. Moreover, throughout this evaluation, it appeared to be difficult to actually reach an ETP through its contact person.

Table 16 summarizes our conclusions concerning the effectiveness of the ETPs. The overview is based on the hierarchy of objectives (see section 2.3.4). In order to visualise the achievements we use symbols. The 'red' (sad) face (☹) indicates low performance/realisation of the objectives whereas the 'green' (happy) face indicates significant realisations (😊). The 'orange' (neutral) face (☺) rather neutral face indicates that some progress has been made, but that there are additional efforts needed in order to fulfil the objectives.

Table 16: Summarizing overview of conclusions concerning the effectiveness of the ETPs

Main Strategic objective		Strategic (sub-)objectives		Intermediate objectives		Activity-related objectives			
Increase competitiveness of the European industries through RTDI	☺	Increase public and private investment in RTDI	☺	Increased coordination between industry, researchers and other relevant stakeholders on the development of key technologies in Europe	☺	Bring together stakeholders around a shared vision for the development and deployment of the technologies concerned (defining a SRA, defining an implementation plan, defining a deployment strategy)	☺		
						Setting up (joint) research and development activities	☹		
		Reduce fragmentation of research in Europe		☹		Fostering synergies for R&D&I initiatives and programmes between EU, national and regional level	☹	Support of networking and collaboration	☺
						Mobilising public and private resources for the implementation of the SRAs	☹	Involve national authorities in the debate on research priorities	☺
		Improvement of framework conditions for innovation		☹		☹	☹	Tailor the FP7 to better meet industry's needs	☹
								Mobilising and aligning public funds at European, national and regional level	☹
								Mobilising funds of industrial stakeholders	☹
								Mobilise other funds, such as debt and equity financing, or other schemes (such as public-private partnerships) for implementing RTD activities	☹
								Address regulatory and other barriers to the optimal development, deployment and use of these technologies	☹
								Identifying future education and training needs and providing training and education programmes and initiatives	☹
Maintaining and enhancing high skilled work force	☹	☹	☹	☹	☹				

11 RECOMMENDATIONS

11.1 Towards policy-makers

1. The European Commission should clearly and unambiguously continue to support the ETP concept

- 1.1. ETPs have the potential to grow further and become "European Flagships" that positively contribute to the innovative and economic potential of Europe. However, a clear mandate and support in this respect are essential. This support should thus be clearly communicated to all actors involved.
- 1.2. ETPs should also be better recognized as open innovation platforms and should be stronger supported and promoted on the political level, both nationally and on an EU level.

2. Member States should facilitate the operations of ETPs

In the context of the ERA and the Lisbon Objectives, Member States should support the operations of the platforms by stimulating the creation of national counterparts. Extension to the regional levels is also worth considering.

3. Fine-tune the ETP concept and the underlying ETP objectives

- 3.1. In view of the differences in expectations between the Commission, the ETPs and the various stakeholders, which have led to some frustration especially on the part of industry, it is essential that the concept and the ambitions behind ETPs are made clear.
- 3.2. It is also important to clarify how the Commission deals with the visions and strategic research agendas developed by the platforms in future Framework Programmes and general policy development.

4. Fragmentation between ETPs should be anticipated and remedied where needed

- 4.1. ETPs are bottom-up initiatives. With 34 ETPs today, overlap between technology areas, objectives and interests is difficult to avoid. This results in multiple memberships of ETPs by stakeholders and thus potential fragmentation between the platforms themselves. A possible remedy would be to investigate possibilities for extended collaboration between ETPs by, e.g., the creation of common working groups and common Visions and SRAs. Another option is to cluster or even merge related ETPs, which is clearly also a responsibility of the ETPs themselves.
- 4.2. Furthermore, applications for recognition of new ETPs should be clearly evaluated on their relationship and degree of overlap with existing ETPs.

- 4.3. Coordination and cooperation between ETPs should be intensified in order to enlarge their financial scale, resources, added value and influencing power, to avoid duplication and inefficiency, to find common approaches for social issues, and to make use of other synergies.
- 4.4. The Commission should encourage the submission of project proposals by collaborating ETPs. For the moment these proposals are rarely approved because of, allegedly, two main reasons: 1) it is unclear under whose responsibility they fall, and 2) they cannot be linked just to one topic but rather connect to several topics (thematic priorities) under the Framework Programme.

5. Make acquiring the 'ETP label' a privilege

- 5.1. Recognition as a European Technology Platform should bring about a number of exclusive advantages, for example in the area of funding of the operational activities of a platform (e.g. the secretariat). At the same time, such a label could also be beneficial to platform members and their applications for FP-type R&D funding.
- 5.2. This label should also entail a number of obligations, for example in the area of objectives and activities of the platform. It should be accompanied by clear evaluation criteria, such as those formulated by EURAB in 2004.

6. Establish and communicate clear rules and procedures

In line with the previous recommendations, clarity is also needed with respect to the potential financial support provided by the Commission for the operational activities of the platforms.

7. Support ETPs in developing an international dimension

Several ETPs believe that international cooperation should go further than with the EU and associated countries alone. A more international discussion is essential (with preferential partners) in order to be able to compete with other world powers. The Commission should clarify the possibilities for ETPs to involve non-associated countries.

8. Involve ETPs in policy preparation processes

It is important that ETPs move beyond 'technology' and link to other mainstream policies such as education, labour, competition, the ERA, etc. A stimulus for the ETPs to really move in that direction will be to know that they will be consulted and invited to provide their opinion and contribution during the policy preparation phases.

11.2 Towards the Platforms

9. Move beyond scientific and technological challenges

- 9.1. To strengthen the application of research results, ETPs should focus not only on the development of the SRA but also on the regulations and standards that affect the commercialisation of research. The field of

regulation should be of concern to ETPs as part of the development of the SRA and the Implementation Plan.

- 9.2. ETPs can undertake several useful activities concerning education and training. However, ETPs have clearly underachieved on this matter so far. They should be the facilitators, communicators and promoters for new and adapted training and education programmes. At the moment, however, we do not consider the ETPs suitable for the actual organisation of training and education sessions.

10. Focus on socio-economic challenges with clear benefits for Europe

In the process of developing the SRA and the Implementation Plan, ETPs should emphasise the societal impact and implications of the underlying technologies in order to mobilise stakeholders such as end-users and consumers. ETPs need to look for the common issues that can bring together diverse groups of stakeholders: often, this will be an underlying societal aspect or common interest (e.g. mobility, sustainability).

11. Be aware of potential fragmentation between platforms and remedy where needed

Create, where possible, common, cross-disciplinary working groups with other ETPs. It is useful for the ETPs to maintain clear links with other ETPs on themes that overlap between the different technological areas. In closely related areas, consider far-reaching collaboration and even mergers, as this will clearly increase the influence of the platform in the system and thus the interests of the stakeholders concerned.

12. Address the needs of all your stakeholders

- 12.1. In some cases, general meetings between ETP stakeholders are being replaced by or complemented with small thematic workshops or meetings on specific topics. The outcome of these activities can be recommendations that can be further discussed in more general meetings where broader groups of stakeholders are present.
- 12.2. Vertical focus areas that concentrate on particular segments of the industry or particular groups of stakeholders (e.g. SMEs or end-users) can be created. Their objective should be to provide focused thematic priority topics in relation to the specific needs of the industrial segment or stakeholder group concerned.
- 12.3. Special attention should be paid to the involvement of NGOs and end-users (consumers). It remains a challenge to explain to society why large investments in R&D are needed and what the potential benefits might be.
- 12.4. Be aware of the potential negative effects of becoming "clubs" where members (typically from companies) seek to use the ETPs to generate funding for their firms. Openness, transparency and clear-cut rules of membership, participation and governance are essential. Moreover, periodic self-evaluation should be considered.

13. Move to stage 3: 'implementation'

- 13.1. In order to convince industry to invest more money in R&D, the ETPs should aim for results that facilitate innovation (i.e. real market introduction). Working towards adequate framework conditions (regulatory, financial, human capital) is essential in this respect. Furthermore, the dissemination of good practices, success stories and successful pilots should be undertaken in order to highlight the added value of ETPs for their members.
- 13.2. Cross-border cooperation should also be stimulated. A simple tool that could help is the development within and across the ETPs of a match-making website with a database of organisations interested in cross-border collaboration in industrial research.

14. Pay more attention to fund-raising and financial engineering

- 14.1. ETPs should pay more attention to fund-raising and financial engineering in the future. They should provide the necessary information on funding possibilities to their stakeholders. More dissemination actions could be undertaken in order to convince financial providers.
- 14.2. As a start, ETPs should make a clear and detailed overview of all financial providers available. This overview should indicate which projects are eligible for which types of funding and describe how this funding can be obtained.
- 14.3. Best practices, success stories and real market developments as a result of ETP actions and projects should be disseminated and promoted to all financial providers (Commission, national/regional authorities and industry). ETPs should focus on results that lead to technology implementations and products or services.

15. Further internationalize your activities to outside the EU

- 15.1. Several ETPs believe that international cooperation should go further than the EU and associated countries. A more international discussion is essential (with preferential partners) in order to be able to compete with other world powers.
- 15.2. Peer-to-peer relations with Asian and American research programmes should be established in order to exchange ideas and interests and look for synergies.

16. Develop internal monitoring systems

It is important for an ETP to be able to provide evidence of its performance, i.e. its influence on policy and research agendas and the realisation of research programmes. Therefore it is essential to develop internal monitoring systems that follow the activities of the members (e.g. proposal submission). The monitoring systems and related procedures can be part of the internal organisation and procedures of the platforms.

17. Devote sufficient attention to the professionalization of an ETP's internal processes and organisation

- 17.1. A professionally run and transparent organisation is essential for success. Select the chair of the ETP very carefully. The chair is a key factor for the successful coordination of an ETP and must have enough time available and be committed to the project.
- 17.2. In order to increase the financial resources needed by ETPs (e.g. the secretariat, organisation of meetings, etc.), ETPs can introduce a fee-based system for their members. The level of the fee can be differentiated according to the type of stakeholder (e.g. higher for large companies and lower for SMEs, research institutions and associations).

18. ETP websites must be optimized and professionalized: they are central in communicating with the outside world

- 18.1. A well-structured website, as well as enabling good communication of the services offered by the secretariat, increases efficiency and saves time for the members of the ETP. Moreover, it enhances the coordination between its members. Project information can be put on the websites of the ETPs in order for applicants to get easier access to ongoing initiatives.
- 18.2. Make use of more interactive communication tools in order to engage and stimulate more stakeholders to become involved in the ETP. This will also prevent also the free-rider syndrome of members just using the information provided but not being actively involved in the ETP. ETP websites should be made more interactive.

ANNEX 1: LIST OF INTERVIEWEES

Exploratory interviews

Name	Involvement in ETP
Mr Andrea Tilche	DG Research - I.3
Mr Salvador CERVERA MARCH	DG Research, Directorate H. Transport
Ms Fiona Williams	eMobility platform
Mr Horst Soboll	ERTRAC
Mr Jan van den Biesen	ARTEMIS

In-depth interviews

Name (per case)	Involvement in ETP
Interviews for the case study on ECTP	
Mr Luc Bourdeau	Acting ECTP General Secretary
Mr Christophe Lesniak,	EC contact for ECTP (EC, DG Research)
Interviews for the case study on ERTRAC	
Mr. Horst Soboll,	Contact person for ERTRAC
Mr. Patrick Mercier-Handisyde	EC contact for ERTRAC (EC, DG Research, Directorate H – Transports, Unit H2 – Surface Transport)
Interviews for the case study on Hydrogen and Fuel cell Technology Platform (HFP)	
Mr. André Martin	Project manager
Ms. Beatrice Coda	EC contact person for HFP (EC, DG Research, Dir. K2 – Energy conversion and distribution systems)
Interviews for the case study on Photonics21	
Markus Wilkens	Secretariat Photonics21
Ronan Burgess	EC contact for Photonics21 (DG INFSO)
Interviews for the case study on Plants for Future	
Ms. Karin Metzloff	ETP 'Plants for the future' & EPSO
Mr. Tomasz Calikowski	EC contact person for Plants for Future (EC, DG Research)

ANNEX 2: LIST OF REFERENCES

Websites

- http://cordis.europa.eu/technology-platforms/home_en.html
- <http://cordis.europa.eu/erawatch/>

Websites individual ETPs:

Advanced Engineering Materials and Technologies - EuMaT	http://www.eumat.org/
Advisory Council for Aeronautics Research in Europe - ACARE	http://www.acare4europe.com/
Embedded Computing Systems - ARTEMIS	http://www.artemis-office.org/dotnetnuke/
European Biofuels Technology Platform - Biofuels	http://www.biofuelstp.eu/
European Construction Technology Platform - ECTP	http://www.ectp.org/
European Nanoelectronics Initiative Advisory Council - ENIAC	http://www.eniac.eu/
European Rail Research Advisory Council - ERRAC	http://www.errac.org/
European Road Transport Research Advisory Council - ERTRAC	http://www.ertrac.org/
European Space Technology Platform - ESTP	http://www.estp-space.eu/
European Steel Technology Platform - ESTEP	http://cordis.europa.eu/estep/
European Technology Platform for the Electricity Networks of the Future - SmartGrids	http://www.smartgrids.eu/
European Technology Platform for Wind Energy - TPWind	http://www.windplatform.eu/
European Technology Platform on Smart Systems Integration - EPoSS	http://www.smart-systems-integration.org/public
Food for Life - Food	http://etp.ciaa.be/asp/home/welcome.asp
Forest based sector Technology Platform - Forestry (FTP)	http://www.forestplatform.org/index.php?cid=ftp
Future Manufacturing Technologies - MANUFUTURE	http://www.manufuture.org/
Future Textiles and Clothing - FTC	http://www.textile-platform.org/
Global Animal Health - GAH	http://www.ifaheurope.org/EUPlatform/Platform.htm
Hydrogen and Fuel Cell Platform - HFP	http://www.hfpeurope.org/
Industrial Safety ETP - IndustrialSafety	http://www.industrialsafety-tp.org/
Innovative Medicines Initiative - IMI	http://imi.europa.eu/index_en.html
Integral Satcom Initiative - ISI	http://www.isi-initiative.eu.org/
Mobile and Wireless Communications - eMobility	http://www.emobility.eu.org/

Nanotechnologies for Medical Applications - NanoMedicine	http://cordis.europa.eu/nanotechnology/nanomedicine.htm#
Networked and Electronic Media - NEM	http://www.nem-initiative.org/
Networked European Software and Services Initiative - NESSI	http://www.nessi-europe.com/Nessi/
Photonics21 - Photonics	http://www.photonics21.org/
Photovoltaics - Photovoltaics	http://www.eupvplatform.org/
Plants for the Future - Plants	http://www.epsoweb.org/Catalog/TP/index.htm
Robotics - EUROP	http://www.robotics-platform.eu.com/
Sustainable Chemistry - SusChem	http://www.suschem.org/
Water Supply and Sanitation Technology Platform - WSSTP	http://www.wsstp.org/default.aspx
Waterborne ETP - Waterborne	http://www.waterborne-tp.org/
Zero Emission Fossil Fuel Power Plants - ZEP	http://www.zero-emissionplatform.eu/website/

Documents

Status report: Development of the technology platforms, 2005

Second status report: Moving to implementation, 2006

Third status report: At the launch of FP7, 2007

European Commission (2003), "A European Initiative for Growth Investing in Networks", COM 2003

European Commission (2002), "Industrial Policy in an Enlarged Europe", COM 2002

European Commission, "Technology platforms: from definition to implementation of a Common Research Agenda", 2004

European Research Advisory Board, 'Report on the European Technology Platforms', 2004

European Commission, "Report on European Technology Platforms and Joint Technology Initiatives: fostering public-private R&D partnerships to boost Europe's industrial competitiveness", 2005

EC Communication, "More research for Europe: Towards 3% of GDP", COM 2002

EC Communication, "An innovation friendly, modern Europe", COM 2006

Conclusions of the conference: "European Technology Platforms: a road towards the future of European Competitiveness", 2005

Commission staff working document: "Joint Technology Initiatives: Background, state of play and Main features", 2007

European Technology Platforms: "Ensuring openness and transparency", 2006

EC Staff Working Document, "Joint Technology Initiatives: Background, State-of-play and Main Features", SEC 2007

- Summary report: Seminar with industrial leaders of European Technology Platforms, 2004
- Summary report: Informal seminar with high-level representatives of Member States on public-private partnerships in research, 2005
- Summary report: Second seminar of the industrial leaders of European Technology Platforms, 2005
- Summary report: Third seminar of the industrial leaders of European Technology Platforms, 2005
- Summary report: Fourth seminar of the industrial leaders of European Technology Platforms and representatives of National Public Authorities, 2006
- Summary report: Sixth seminar of the industrial leaders of European Technology Platforms: Supporting Technology Platforms and the development of lead markets, 2006
- Summary report: Seminar of the industrial leaders of European Technology Platforms and their financial representatives with the European Investment Bank, 2006
- Summary report: Sixth seminar of the industrial leaders of European Technology Platforms: The European Research Area: New perspectives, 2007
- European Commission: "European Technology Platforms: Knowledge for growth", 2005
- EC Staff Working Document: Report on European Technology Platforms and Joint Technology Initiatives: Fostering public-private R&D partnerships to boost Europe's industrial competitiveness, SEC 2005
- ERA-NET Review: The report of the expert review group, 2006
- The future of science and technology in Europe: Discussion papers for the parallel sessions, 2007
- European Technology Platforms: Report on how Strategic Research Agendas were taken into account in the FP7 research themes and 2007 work programmes, 2006
- European Research Advisory Board - EURAB (2004), "Report on European Technology Platforms",
<http://ec.europa.eu/research/eurab/pdf/recommendations9.pdf>
- European Commission (2007), "Mid-term review of industrial policy - A contribution to the EU's Growth and Jobs Strategy", COM(2007)374
- European Commission (2007, "Towards a European Research Area – Science Technology and Innovation", Key Figures 2007, Brussels, ISBN 92-79-03450-2

ANNEX 3: THE CASE STUDIES

The five case studies include the following ETPs:

1. European Construction Technology Platform (ECTP)
2. European Road Transport Research Advisory Council (ERTRAC)
3. Hydrogen and Fuel Cells Technology Platform (HFP)
4. Photonics21
5. Plants for the Future

All 5 case studies have been submitted to the EC as a separate report.

ANNEX 4: SURVEY QUESTIONNAIRE

Evaluation of the European Technology Platforms

SECTION 1 – WHO ARE YOU?

RESPONDENT INFORMATION

1. Term of address

Mr

Ms

2. Name:

3. Name of your employer:

4. Your employer is a:

SME (<250 employees)

Large company (>=250 employees)

Research institute (non-university)

University

Non-governmental organisation (NGO)

Governmental organisation (GO)

Sector federation/association

Other

5. Your position:

6. Department:

7. Telephone:

8. E-mail:

9. Which ETP are you (mainly) involved in:

Note: in case you are involved in more than one ETP, we invite you to complete the questionnaire in relation to the ETP in which you are mainly involved in and thus most familiar with.

- Advanced Engineering Materials and Technologies – EuMaT
- Advisory Council for Aeronautics Research in Europe - ACARE
- Embedded Computing Systems - ARTEMIS
- European Biofuels Technology Platform – Biofuels
- European Construction Technology Platform – ECTP
- European Nanoelectronics Initiative Advisory Council - ENIAC
- European Rail Research Advisory Council – ERRAC

- European Road Transport Research Advisory Council - ERTRAC
- European Space Technology Platform – ESTP
- European Steel Technology Platform - ESTEP
- European Technology Platform for the Electricity Networks of the Future – SmartGrids
- European Technology Platform for Wind Energy – TPWind
- European Technology Platform on Smart Systems Integration - EPoSS
- Food for Life – Food
- Forest based sector Technology Platform – Forestry (FTP)
- Future Manufacturing Technologies – MANUFUTURE
- Future Textiles and Clothing - FTC
- Global Animal Health - GAH
- Hydrogen and Fuel Cell Platform - HFP
- Industrial Safety ETP - IndustrialSafety
- Innovative Medicines Initiative - IMI
- Integral Satcom Initiative - ISI
- Mobile and Wireless Communications – eMobility
- Nanotechnologies for Medical Applications - NanoMedicine
- Networked and Electronic Media - NEM
- Networked European Software and Services Initiative - NESSI
- Photonics21 - Photonics
- Photovoltaics - Photovoltaics
- Plants for the Future - Plants
- Robotics – EUROP
- Sustainable Chemistry - SusChem
- Water Supply and Sanitation Technology Platform – WSSTP
- Waterborne ETP - Waterborne
- Zero Emission Fossil Fuel Power Plants - ZEP

10. General level of your involvement in the operations of 'your' ETP can be summarized as:

Low <input type="checkbox"/>	Medium <input type="checkbox"/>	High <input type="checkbox"/>
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11. Are you a member of a national mirror Group?

- Yes
- No

GENERAL INFORMATION (ACTIVITIES OF THE ETPS AND STRATEGIC RESEARCH AGENDA – SRA)

12. All the relevant stakeholders of the technological area(s) of 'your' ETP are actually involved in 'your' ETP.

- Yes
- No
- No answer/ I don't know

13. The operations and activities of 'your' ETP are sufficiently 'open' and 'transparent'.

Completely disagree <input type="checkbox"/>	Disagree <input type="checkbox"/>	Agree <input type="checkbox"/>	Completely agree <input type="checkbox"/>	No answer/ I don't know <input type="checkbox"/>
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14. 'Your' ETP coordinates its activities with other ETPs in order to avoid duplication of efforts.

- Yes
- No
- No answer/ I don't know

15. 'Your' ETP has developed a strategic vision document.

- Yes
- No
- No answer/ I don't know

16. 'Your' ETP has developed a Strategic Research Agenda (SRA).

- Yes
- No
- No answer/ I don't know

17. 'Your' ETP has developed an implementation strategy.

- Yes
- No
- No answer/ I don't know

SECTION 2 – YOUR INVOLVEMENT

18. To which of the following activities of 'your' ETP have you actively participated and how often?

	Never	Rarely	Sometimes	Often	On regular basis
Development of the Strategic Vision Document (SVD)	<input type="checkbox"/>				
Development of the Strategic Research Agenda (SRA)	<input type="checkbox"/>				
Development of the Implementation Strategy	<input type="checkbox"/>				
Organisation of ETP events (e.g. conferences)	<input type="checkbox"/>				
Participation in ETP events (e.g. conferences)	<input type="checkbox"/>				
Development of project proposals for the Framework Programme	<input type="checkbox"/>				
Development of project proposals for other (national and/or international) programmes	<input type="checkbox"/>				
Education and training initiatives	<input type="checkbox"/>				
Preparation of a JTI	<input type="checkbox"/>				
Other, please specify	<input type="checkbox"/>				

19. 'Your' ETP addresses the needs and challenges of the technological area (that 'your' ETP deals with).

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

20. The Strategic Research Agenda (SRA) addresses also broader socio-economic challenges and thus goes beyond the 'pure' technological needs of the sector.

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

21. You recognise the Vision developed by the ETP for the technological area (you can 'subscribe' to the Vision developed).

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

* **22. The Implementation Strategy is realistic in terms of ambition and feasibility.**

Completely disagree <input type="checkbox"/>	Disagree <input type="checkbox"/>	Agree <input type="checkbox"/>	Completely agree <input type="checkbox"/>	No answer/ I don't know <input type="checkbox"/>
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* **23. How do you appreciate the progress made in implementing the Strategic Reserach Agenda?**

Very limited <input type="checkbox"/>	Limited <input type="checkbox"/>	Significant <input type="checkbox"/>	Very significant <input type="checkbox"/>	No answer/ I don't know <input type="checkbox"/>
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* **24. The operations and activities of 'your' ETP provide answers to the needs of the industry (specifically the technological area) and the challenges it faces.**

Completely disagree <input type="checkbox"/>	Disagree <input type="checkbox"/>	Agree <input type="checkbox"/>	Completely agree <input type="checkbox"/>	No answer/ I don't know <input type="checkbox"/>
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25. Do you have suggestions on how the ETP activities could be improved in the future in order to address more effectively the needs and challenges of the technological area that the ETP deals with?

SECTION 3– EFFECTS OF THE ETPS

COORDINATION BETWEEN RELEVANT STAKEHOLDERS (BETWEEN INDUSTRY, RESEARCHERS AND OTHER STAKEHOLDERS ON THE DEVELOPMENT OF KEY TECHNOLOGIES IN EUROPE)

* **26. Due to the involvement in 'your' ETP, your organisation has been able to expand its network of contacts.**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

* **27. Due to the operations and activities of 'your' ETP, the relevant stakeholders in the industry can communicate more easily and effectively between each other.**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

* **28. Due to the involvement in 'your' ETP, your organisation is better informed about the challenges that your organisation is facing (will face in the future).**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

* **29. Due to the ETP activities, the transfer of knowledge (e.g. on future needs and challenges of the sector, (new) technologies and products, market developments, ...) between the various stakeholders has been stimulated.**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

* **30. Due to the involvement in 'your' ETP, your organisation has started joint research and development activities with other actors in this technological area.**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

* **31. ETP members cooperate with each other, even outside the 'reach' of 'your' ETP.**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

32. Do you have suggestions on how coordination between stakeholders can be improved in order to address more effectively the needs and challenges of the industry?

SYNERGY BETWEEN EU, NATIONAL AND REGIONAL LEVELS

* **33. 'Your' ETP coordinates its efforts with national initiatives.**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

* **34. Due to the operations of 'your' ETP and the development of the SRA, 'your' ETP has had a clear impact on the national level (R&D policy and priorities).**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

* **35. Due to the involvement of the mirror groups, the SRAs are taken into account in relevant national policies and activities.**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

* **36. Due to 'your' ETP, there has been a greater alignment of research priorities between industry and academia in your technology area.**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

* **37. Due to 'your' ETP, there has been a greater alignment of research priorities between national and European level.**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

38. Do you have suggestions on how to increase synergy of R&D activities on EU, national and regional levels can be increased?

MOBILISATION OF PUBLIC AND PRIVATE RESOURCES (FOR THE IMPLEMENTATION OF THE SRAS, FROM FP7 AND BEYOND)

* **39. How do you evaluate the impact of the Strategic Research Agenda on the work programmes of the EC Framework Programme?**

No impact	Low impact	High impact	No answer/ I don't know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* **40. Due to the operation of 'your' ETP, the technological area has attracted (mobilized) more funding from EU funding programmes (such as FP7, structural funds, etc).**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

* **41. Due to the operation of 'your' ETP, the technological area has attracted (mobilized) more funding from inter-governmental programmes (such as COST, Eureka, etc).**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

* **42. Due to the operations of 'your' ETP, the technological area has attracted (mobilized) more funding from national programmes.**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

* **43. Due to 'your' ETP, industry has invested more in R&D in this technological area than before.**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

44. Do you have suggestions on how the mobilisation of funding in the technological area can be improved?

IMPROVEMENT OF FRAMEWORK CONDITIONS FOR INNOVATION

* **45. The activities and operation of 'your' ETP have helped improve the framework conditions for the deployment of key technologies in the specific industry/sector.**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

* **46. Due to the activities of 'your' ETP, research results lead more easily to new products and services (down the market).**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

47. Do you have suggestions on how ETPs can contribute to the improvement of the framework conditions for innovation for the technological area it deals with?

MAINTAINING AND ENHANCEMENT OF A HIGH SKILLED WORKFORCE

* **48. Due to the operation and activities of 'your' ETP, the future needs in education and training of the technological area have been further explored.**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

* **49. Due to the activities of 'your' ETP, the need for certain competences in the technological area is better addressed.**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

50. Do you have suggestions on how ETPs can contribute to the improvement of the skills of the workforce in the technological area?

CONCLUDING REMARKS: TOWARDS THE FUTURE...

* **51. 'Your' ETP should involve more SMEs in its activities.**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

* **52. 'Your' ETP should put more emphasis on the activities related to the implementation of the SRA.**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

* **53. 'Your' ETP should put more emphasis on the activities related to translating research results into new products and services.**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

* **54. 'Your' ETP should intensify the collaboration with national governmental institutions.**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

* **55. 'Your' ETP should be more actively linked to other Community Programmes (e.g. the ERA-net, EUREKA, ...).**

Completely disagree	Disagree	Agree	Completely agree	No answer/ I don't know
<input type="checkbox"/>				

<input type="checkbox"/>				
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56. Other remarks, recommendations, lessons for the future concerning the functioning, organisation, success, results of the ETPs.

* **57. Please indicate your overall level of satisfaction with the achievements of your ETP on a scale of 1 (not satisfied at all) to 5 (very satisfied).**

1	2	3	4	5
<input type="checkbox"/>				

* **58. Finally, with the knowledge and experience you have now concerning 'your' ETP, would you renew your membership?**

- Yes
- No

ANNEX 5: PROCESSING OF SURVEY RESULTS

PART I – QUESTIONS REGARDING GENERAL OPERATIONS OF THE ETPs

General overview of responses

Status:	Closed	Partial completes:	281 (22,9%)
Start date:	3-4-2008	Screened out:	0 (0%)
End date:	14-5-2008	Reached end:	947 (77,1%)
Live:	42 days	Total responded:	1.228
Questions:	58		

Employer characteristics

Question 4. Your employer is a(n):		
	Total (N)	Share in total (%)
SME	113	12
Large company	236	25
Research Institute (non-University)	217	23
University	158	17
Non-governmental organisations (NGOs)	30	3
Governmental Organisations (GOs)	89	9
Sector Federation/ Association	73	8
Other	31	3
Total	947	100

General level of involvement

Question 10. General level of involvement in the operations of 'your' ETP can be summarized as:		
	Total (N)	Share in total (%)
Low	238	25
Medium	357	38
High	352	37
Total	947	100

Participation in mirror group

Question 11. Are you a member of a national mirror group?		
	Total (N)	Share in total (%)
Yes	323	34
No	624	66
Total	947	100

Opinions on activity pattern of 'your' ETP

Question 12. All the relevant stakeholders of the technological area(s) of 'your' ETP are actually involved in 'your' ETP.		
	Total (N)	Share in total (%)
Yes	623	66
No	145	15
No answer/ don't know	179	19
Total	947	100
Question 14. 'Your' ETP coordinates its activities with other ETPs in order to avoid duplication of efforts.		
	Total (N)	Share in total (%)
Yes	577	61
No	78	8
No answer/ don't know	292	31
Total	947	100
Question 15. 'Your' ETP has developed a strategic vision document.		
	Total (N)	Share in total (%)
Yes	857	90
No	22	2
No answer/ don't know	68	7
Total	947	100
Question 16. 'Your' ETP has developed a Strategic Research Agenda (SRA).		
	Total (N)	Share in total (%)
Yes	851	90
No	29	3
No answer/ don't know	67	7
Total	947	100
Question 17. 'Your' ETP has developed an implementation strategy.		
	Total (N)	Share in total (%)
Yes	638	67
No	105	11
No answer/ don't know	204	22
Total	947	100

Openness and transparency of ETP

Question 13. The operations and activities of 'your' ETP are sufficiently 'open' and 'transparent'.
(1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)

	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.28	414	***3.39	327	2.89	87
SMEs	3.01	111	3.16	77	2.71	34
Large Companies	3.36	231	3.46	184	3	47
Sector Federations	3.44	72	3.48	66	3	6
Knowledge-generating research institutions	3.17	356	***3.27	269	2.87	87
Universities	3.19	146	3.32	105	2.85	41
Research institutes	3.16	210	3.24	164	2.89	46
Governmental Organisations	3.27	86	**3.37	62	3	24
Non-Governmental Organisations and others	3.27	59	3.27	46	3.15	13
Total	3.24	915	3.34	704	2.91	211

Note: Asterisks imply that testing is applied on the statistical difference of the means between the mean scores of the two groups of respondents: those with strong involvement vs. those with weak involvement, with: *= at 0.1 significance level; **= at 0.05 significance level; ***: at 0.01 significance level.

Participation level of stakeholders

To which of the following activities of 'your' ETP have you actively participated and how often?

Question 18.1. • Development of the Strategic Vision Document (SVD)
(1=never; 2=rarely; 3=sometimes; 4=often; 5=on regular basis)

	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.79	422	***3.09	327	1.76	95
SMEs	2.48	113	2.9	77	1.58	36
Large Companies	2.85	236	3.11	184	1.92	52
Sector Federations	3.08	73	3.26	66	1.43	7
Knowledge-generating research institutions	2.49	375	***2.84	273	1.57	102
Universities	2.39	158	2.77	106	1.6	52
Research institutes	2.57	217	2.88	167	1.54	50
Governmental Organisations	2.51	89	***2.89	63	1.58	26
Non-Governmental Organisations and others	2.52	61	**2.78	46	1.73	15
Total	2.63	947	2.96	709	1.66	238

Question 18.2. • Development of the Strategic Research Agenda (SRA)
(1=never; 2=rarely; 3=sometimes; 4=often; 5=on regular basis)

	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.22	422	***3.59	327	1.96	95
SMEs	2.67	113	3.23	77	1.47	36
Large Companies	3.34	236	3.65	184	2.25	52
Sector Federations	3.7	73	3.85	66	2.29	7
Knowledge-generating research institutions	3.12	375	***3.57	273	1.91	102

Universities	2.92	158	3.45	106	1.85	52
Research institutes	3.26	217	3.64	167	1.98	50
Governmental Organisations	2.93	89	***3.41	63	1.77	26
Non-Governmental Organisations and others	3.03	61	***3.43	46	1.8	15
Total	3.14	947	3.56	709	1.91	238
Question 18.3. • Development of the Implementation Strategy (1=never; 2=rarely; 3=sometimes; 4=often; 5=on regular basis)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.86	422	***3.23	327	1.56	95
SMEs	2.42	113	2.92	77	1.33	36
Large Companies	2.92	236	3.27	184	1.69	52
Sector Federations	3.32	73	3.48	66	1.71	7
Knowledge-generating research institutions	2.51	375	***2.88	273	1.48	102
Universities	2.41	158	2.87	106	1.44	52
Research institutes	2.58	217	2.89	167	1.52	50
Governmental Organisations	2.64	89	***3.02	63	1.73	26
Non-Governmental Organisations and others	2.75	61	**3.02	46	1.93	15
Total	2.69	947	3.06	709	1.57	238
Question 18.4. • Organisation of ETP events (e.g. conferences) (1=never; 2=rarely; 3=sometimes; 4=often; 5=on regular basis)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.52	422	***2.87	327	1.34	95
SMEs	2.33	113	2.81	77	1.33	36
Large Companies	2.36	236	2.67	184	1.29	52
Sector Federations	3.32	73	3.48	66	1.71	7
Knowledge-generating research institutions	2.21	375	***2.53	273	1.34	102
Universities	2.09	158	2.47	106	1.32	52
Research institutes	2.29	217	2.56	167	1.36	50
Governmental Organisations	2.33	89	***2.73	63	1.38	26
Non-Governmental Organisations and others	2.57	61	*2.78	46	1.93	15
Total	2.38	947	2.72	709	1.38	238
Question 18.5. • Participation in ETP events (e.g. conferences) (1=never; 2=rarely; 3=sometimes; 4=often; 5=on regular basis)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.47	422	***3.83	327	2.23	95
SMEs	3.36	113	3.91	77	2.19	36
Large Companies	3.35	236	3.69	184	2.13	52
Sector Federations	4,04	73	4,14	66	3.14	7
Knowledge-generating research institutions	3.29	375	***3.66	273	2.33	102
Universities	3.15	158	3.54	106	2.35	52
Research institutes	3.4	217	3.73	167	2.3	50

Governmental Organisations	3.35	89	***3.74	63	2.38	26
Non-Governmental Organisations and others	3.43	61	***3.87	46	2.07	15
Total	3.39	947	3.76	709	2.28	238
Question 18.6. • Development of project proposals for the Framework Programme (1=never; 2=rarely; 3=sometimes; 4=often; 5=on regular basis)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.97	422	***3.22	327	2.13	95
SMEs	2.74	113	3.09	77	2	36
Large Companies	3.11	236	3.36	184	2.25	52
Sector Federations	2.86	73	2.97	66	1.86	7
Knowledge-generating research institutions	3.06	375	***3.40	273	2.16	102
Universities	2.69	158	3.13	106	1.79	52
Research institutes	3.33	217	3.57	167	2.54	50
Governmental Organisations	1.97	89	*2.11	63	1.61	26
Non-Governmental Organisations and others	2.66	61	***2.95	46	1.73	15
Total	2.89	947	3.17	709	2.06	238
Question 18.7. • Development of project proposals for other (national and/or international) programmes (1=never; 2=rarely; 3=sometimes; 4=often; 5=on regular basis)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.92	422	***3.14	327	2.15	95
SMEs	2.8	113	3.21	77	1.94	36
Large Companies	3.03	236	3.23	184	2.31	52
Sector Federations	2.75	73	2.83	66	2	7
Knowledge-generating research institutions	3.14	375	***3.39	273	2.37	102
Universities	2.77	158	3.1	106	2.08	52
Research institutes	3.41	217	3.57	167	2.88	50
Governmental Organisations	2.51	89	*2.68	63	2.08	26
Non-Governmental Organisations and others	2.67	61	2.91	46	1.93	15
Total	2.95	947	3.18	709	2.27	238
Question 18.8. • Education and training initiatives (1=never; 2=rarely; 3=sometimes; 4=often; 5=on regular basis)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.22	422	***2.24	327	1.47	95
SMEs	2.02	113	2.29	77	1.44	36
Large Companies	1.91	236	2.06	184	1.4	52
Sector Federations	2.64	73	2.7	66	2.14	7
Knowledge-generating research institutions	2.30	375	***2.52	273	1.72	102
Universities	2.46	158	2.8	106	1.75	52
Research institutes	2.18	217	2.34	167	1.68	50
Governmental Organisations	1.82	89	**1.98	63	1.42	26

Non-Governmental Organisations and others	2.33	61	*2.5	46	1.8	15
Total	2.15	947	2.34	709	1.59	238
Question 18.9. • Preparation of a JTI (1=never; 2=rarely; 3=sometimes; 4=often; 5=on regular basis)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	1.97	422	***2.15	327	1.35	95
SMEs	1.78	113	2.01	77	1.27	36
Large Companies	2.13	236	2.32	184	1.44	52
Sector Federations	1.77	73	1.83	66	1.14	7
Knowledge-generating research institutions	1.67	375	***1.80	273	1.30	102
Universities	1.65	158	1.78	106	1.38	52
Research institutes	1.68	217	1.82	167	1.22	50
Governmental Organisations	1.68	89	*1.82	63	1.34	26
Non-Governmental Organisations and others	1.61	61	1.65	46	1.46	15
Total	1.80	947	1.95	709	1.34	238
Question 18.10. • Other (1=never; 2=rarely; 3=sometimes; 4=often; 5=on regular basis)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.98	125	***3.14	62	1.46	28
SMEs	2.48	33	3.29	17	1.62	16
Large Companies	2.34	44	2.75	32	1.25	12
Sector Federations	3.92	13	3.92	13	.	0
Knowledge-generating research institutions	2.52	88	**2.86	59	1.83	29
Universities	2	40	2.08	24	1.88	16
Research institutes	2.95	48	3.4	35	1.77	13
Governmental Organisations	2.68	22	*3.14	14	1.87	8
Non-Governmental Organisations and others	2.85	21	3	16	2.4	5
Total	2.61	221	3.02	151	1.73	70

Appreciation of strategic work of the ETP

Question 19. 'Your' ETP addresses the needs and challenges of the technological area (that 'your' ETP deals with). (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.44	407	***3.53	320	3.10	83
SMEs	3.25	109	3.38	76	2.94	33
Large Companies	3.47	228	3.55	183	3.16	45
Sector Federations	3.66	70	3.66	61	3.6	5
Knowledge-generating research institutions	3.43	360	***3.52	268	3.16	92
Universities	3.41	147	3.53	103	3.14	44

Research institutes	3.44	213	3.52	165	3.17	48
Governmental Organisations	3.59	85	*3.65	61	3.42	24
Non-Governmental Organisations and others	3.44	57	3.45	44	3.38	13
Total	3.45	909	3.53	697	3.18	212
Question 20. The Strategic Research Agenda (SRA) addresses also broader socio-economic challenges and thus goes beyond the 'pure' technological needs of the sector. (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.30	399	***3.37	318	3.07	81
SMEs	3.14	104	3.23	73	2.94	31
Large Companies	3.34	224	3.4	179	3.13	45
Sector Federations	3.43	71	3.44	66	3.4	5
Knowledge-generating research institutions	3.30	348	***3.37	265	3.08	83
Universities	3.32	140	3.38	101	3.15	39
Research institutes	3.29	208	3.37	164	3.02	44
Governmental Organisations	3.33	84	3.39	61	3.17	23
Non-Governmental Organisations and others	3.44	55	3.44	43	3.42	12
Total	3.31	886	3.38	687	3.11	199
Question 21. You recognise the Vision developed by the ETP for the technological area (you can 'subscribe' to the Vision developed). (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.42	402	***3.50	320	3.10	82
SMEs	3.22	107	3.35	74	2.94	33
Large Companies	3.44	227	3.5	183	3.18	44
Sector Federations	3.68	68	3.69	63	3.4	5
Knowledge-generating research institutions	3.39	347	***3.47	264	3.10	83
Universities	3.32	138	3.41	99	3.08	39
Research institutes	3.44	209	3.51	165	3.11	44
Governmental Organisations	3.5	86	3.56	62	3.33	24
Non-Governmental Organisations and others	3.48	56	2.78	46	1.73	15
Total	3.42	891	3.45	692	3.02	204
Question 22. The Implementation Strategy is realistic in terms of ambition and feasibility. (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.21	358	***3.27	291	2.94	67
SMEs	3.1	92	3.2	65	2.89	27
Large Companies	3.21	205	3.25	169	3	36
Sector Federations	3.36	61	3.4	57	2.75	4
Knowledge-generating research institutions	3.09	301	***3.14	233	2.92	68
Universities	3.1	124	3.13	91	3	33
Research institutes	3.09	177	3.14	142	2.85	35

Governmental Organisations	3.22	67	*3.29	51	3	16
Non-Governmental Organisations and others	3.17	47	3.22	38	3.22	9
Total	3.16	773	3.22	613	2.95	160
Question 23. How do you appreciate the progress made in implementing the Strategic Research Agenda? (1=very limited; 2=limited; 3=significant; 4=very significant; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.78	377	2.85	310	2.46	67
SMEs	2.68	101	2.86	73	2.21	28
Large Companies	2.78	212	2.82	177	2.62	35
Sector Federations	2.92	64	2.93	60	2.75	4
Knowledge-generating research institutions	2.73	324	2.79	253	2.52	71
Universities	2.69	129	2.73	98	2.55	31
Research institutes	2.76	195	2.83	155	2.5	40
Governmental Organisations	2.92	75	2.92	55	2.9	20
Non-Governmental Organisations and others	2.9	49	2.9	42	2.85	7
Total	2.78	825	2.84	660	2.56	165
Question 24. The operations and activities of 'your' ETP provide answers to the needs of the industry (specifically the technological area) and the challenges it faces. (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.22	398	***3.31	317	2.85	81
SMEs	3.07	104	3.19	74	2.77	30
Large Companies	3.2	226	3.29	180	2.87	46
Sector Federations	3.49	68	3.51	63	3.2	5
Knowledge-generating research institutions	3.20	344	***3.26	260	2.99	84
Universities	3.19	139	3.29	97	2.98	42
Research institutes	3.2	205	3.25	163	3	42
Governmental Organisations	3.35	84	3.33	60	3.38	24
Non-Governmental Organisations and others	3.41	54	3.38	42	3.5	12
Total	3.23	880	3.30	679	3.01	201

PART II – QUESTIONS REGARDING THE EFFECTIVENESS OF THE ETPs

Coordination between relevant stakeholders

Coordination between relevant stakeholders (between industry, researchers and other stakeholders on the development of key technologies in Europe)

Question 26. Due to the involvement in 'your' ETP, your organisation has been able to expand its network of contacts.
(1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)

	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.26	410	***3.37	321	2.88	89
SMEs	3.18	110	3.36	75	2.8	35
Large Companies	3.22	231	3.32	183	2.88	48
Sector Federations	3.52	69	3.54	63	3.33	6
Knowledge-generating research institutions	3.17	358	***3.33	267	2.73	91
Universities	3.01	146	3.21	101	2.58	45
Research institutes	3.28	212	3.4	166	2.87	46
Governmental Organisations	3.24	84	**3.35	60	2.95	24
Non-Governmental Organisations and others	3.18	57	**3.3	44	2.77	13
Total	3.22	909	3.35	692	2.82	217

Question 27. Due to the operations and activities of 'your' ETP, the relevant stakeholders in the industry can communicate more easily and effectively between each other.
(1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)

	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.18	397	***3.28	310	2.83	99
SMEs	3.07	104	3.3	71	2.58	33
Large Companies	3.15	228	3.21	180	2.92	48
Sector Federations	3.45	65	3.47	59	3.06	18
Knowledge-generating research institutions	3.05	325	***3.15	245	2.75	80
Universities	2.98	132	3.1	91	2.71	41
Research institutes	3.1	193	3.18	154	2.79	39
Governmental Organisations	3.19	78	3.23	60	3.06	6
Non-Governmental Organisations and others	3.09	54	3.18	40	2.86	14
Total	3.13	854	3.22	655	2.81	199

Question 28. Due to the involvement in 'your' ETP, your organisation is better informed about the challenges that your organisation is facing (will face in the future).
(1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)

	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.13	401	***3.20	314	2.87	87
SMEs	3.08	112	3.22	76	2.78	36
Large Companies	3.1	224	3.15	177	2.89	47
Sector Federations	3.31	65	3.3	61	3.5	4

Knowledge-generating research institutions	3.12	358	***3.24	265	2.81	93
Universities	3	147	3.11	101	2.78	46
Research institutes	3.21	211	3.32	164	2.83	47
Governmental Organisations	3.18	85	***3.29	63	2.86	22
Non-Governmental Organisations and others	3.07	59	3.13	45	2.86	14
Total	3.13	903	3.22	687	2.84	216
Question 29. Due to the ETP activities, the transfer of knowledge (e.g. on future needs and challenges of the sector, (new) technologies and products, market developments, ...) between the various stakeholders has been stimulated. (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.09	399	***3.16	317	2.80	82
SMEs	2.97	107	3.09	75	2.69	32
Large Companies	3.07	225	3.11	178	2.87	47
Sector Federations	3.34	67	3.36	64	3	3
Knowledge-generating research institutions	3.05	338	***3.12	257	2.82	81
Universities	3.04	138	3.14	98	2.8	40
Research institutes	3.05	200	3.11	159	2.83	41
Governmental Organisations	3.14	81	3.2	60	2.95	21
Non-Governmental Organisations and others	3.18	56	3.21	43	3.08	13
Total	3.08	874	3.15	677	2.84	197
Question 30. Due to the involvement in 'your' ETP, your organisation has started joint research and development activities with other actors in this technological area. (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.87	380	***2.99	297	2.48	83
SMEs	2.67	102	2.83	70	2.32	32
Large Companies	2.95	218	3.06	172	2.54	46
Sector Federations	2.95	60	2.95	55	3	5
Knowledge-generating research institutions	2.88	349	***3.05	261	2.36	88
Universities	2.75	145	2.95	100	2.31	45
Research institutes	2.97	204	3.11	161	2.42	43
Governmental Organisations	2.63	72	***2.77	56	2.13	16
Non-Governmental Organisations and others	2.87	54	2.84	43	3	11
Total	2.86	855	2.98	657	2.43	198
Question 31. ETP members cooperate with each other, even outside the 'reach' of 'your' ETP. (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.12	365	***3.18	295	2.84	70
SMEs	2.97	95	3.07	67	2.71	28
Large Companies	3.16	210	3.22	172	2.89	38
Sector Federations	3.22	60	3.21	56	3.25	4

Knowledge-generating research institutions	3.14	311	***3.22	244	2.82	67
Universities	3.08	120	3.25	88	2.63	32
Research institutes	3.17	191	3.21	156	3	35
Governmental Organisations	3.06	64	***3.1	50	2.93	14
Non-Governmental Organisations and others	3.11	46	3.16	37	2.89	9
Total	3.12	786	3.19	626	2.84	160

Synergy between EU, national and regional levels

Synergy between EU, national and regional levels						
Question 33. 'Your' ETP coordinates its efforts with national initiatives. (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.08	370	***3.13	302	2.83	68
SMEs	2.91	96	3.06	68	2.54	28
Large Companies	3.09	207	3.1	172	3	35
Sector Federations	3.3	67	3.31	62	3.2	5
Knowledge-generating research institutions	2.97	325	*3.01	251	2.80	74
Universities	2.99	136	3.05	98	2.82	38
Research institutes	2.95	189	2.99	153	2.78	36
Governmental Organisations	3.13	79	***3.23	57	2.86	22
Non-Governmental Organisations and others	3.29	55	**3.38	42	3	13
Total	3.05	829	3.11	652	2.83	177
Question 34. Due to the operations of 'your' ETP and the development of the SRA, 'your' ETP has had a clear impact on the national level (R&D policy and priorities). (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.83	348	***2.92	281	2.43	67
SMEs	2.71	92	2.88	67	2.24	25
Large Companies	2.8	193	2.86	156	2.57	37
Sector Federations	3.08	63	3.14	58	2.4	5
Knowledge-generating research institutions	2.82	313	***2.90	240	2.54	73
Universities	2.78	125	2.89	88	2.51	37
Research institutes	2.85	188	2.91	152	2.58	36
Governmental Organisations	2.96	73	*3.05	56	2.65	17
Non-Governmental Organisations and others	2.92	50	2.93	39	2.91	11
Total	2.84	784	2.93	616	2.54	168
Question 35. Due to the involvement of the mirror groups, the SRAs are taken into account in relevant national policies and activities. (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N

Industry	2.88	293	***2.98	244	2.38	49
SMEs	2.7	80	2.91	58	2.13	22
Large Companies	2.86	156	2.92	132	2.54	24
Sector Federations	3.18	57	3.19	54	3	3
Knowledge-generating research institutions	2.80	250	2.80	193	2.79	57
Universities	2.79	92	2.79	63	2.79	29
Research institutes	2.81	158	2.81	130	2.79	28
Governmental Organisations	2.94	66	3	51	2.73	15
Non-Governmental Organisations and others	3	35	3	27	3	8
Total	2.86	644	2.92	515	2.64	129

Question 36. Due to 'your' ETP, there has been a greater alignment of research priorities between industry and academia in your technology area.
(1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)

	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.92	360	***3.02	289	2.54	71
SMEs	2.84	93	2.97	68	2.48	25
Large Companies	2.89	207	2.98	165	2.55	42
Sector Federations	3.17	60	3.2	56	2.75	4
Knowledge-generating research institutions	2.86	326	***2.96	249	2.53	77
Universities	2.81	129	2.92	92	2.54	37
Research institutes	2.89	197	2.98	157	2.53	40
Governmental Organisations	2.91	74	2.96	54	2.75	20
Non-Governmental Organisations and others	3.04	49	3.1	38	2.82	11
Total	2.90	809	3.00	630	2.58	179

Question 37. Due to 'your' ETP, there has been a greater alignment of research priorities between national and European level.
(1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)

	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.85	343	2.95	***279	2.44	64
SMEs	2.74	88	2.97	63	2.16	25
Large Companies	2.82	192	2.87	157	2.6	35
Sector Federations	3.09	63	3.12	59	2.75	4
Knowledge-generating research institutions	2.83	300	2.89	*229	2.65	71
Universities	2.81	114	2.88	81	2.64	38
Research institutes	2.85	186	2.9	148	2.66	33
Governmental Organisations	2.99	78	3.05	56	2.82	22
Non-Governmental Organisations and others	2.9	48	2.92	38	2.8	10
Total	2.86	769	2.93	602	2.60	167

Mobilisation of public and private resources

Mobilisation of public and private resources (for the implementation of the SRAs, from FP7 and beyond)

Question 39. How do you evaluate the impact of the Strategic Research Agenda on the work programmes of the EC Framework Programme?

(1=no impact; 2=low impact; 3=high-impact; 4=no answer/don't know)

	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.58	354	**2.61	283	2.45	71
SMEs	2.5	91	2.53	64	2.41	27
Large Companies	2.58	199	2.6	159	2.48	40
Sector Federations	2.69	64	2.7	60	2.5	4
Knowledge-generating research institutions	2.59	323	***2.64	251	2.42	72
Universities	2.55	129	2.57	96	2.48	33
Research institutes	2.62	194	2.69	155	2.36	39
Governmental Organisations	2.72	71	2.71	52	2.74	19
Non-Governmental Organisations and others	2.6	47	2.63	38	2.44	9
Total	2.60	795	2.63	624	2.47	171

Question 40. Due to the operation of 'your' ETP, the technological area has attracted (mobilized) more funding from EU funding programmes (such as FP7, structural funds, etc).

(1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)

	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.68	338	2.71	276	2.55	63
SMEs	2.67	87	2.77	60	2.44	27
Large Companies	2.62	191	2.63	160	2.61	31
Sector Federations	2.87	60	2.88	56	2.75	5
Knowledge-generating research institutions	2.74	279	*2.79	219	2.58	59
Universities	2.7	109	2.73	81	2.61	28
Research institutes	2.77	170	2.82	138	2.56	31
Governmental Organisations	2.9	71	2.94	51	2.8	20
Non-Governmental Organisations and others	2.86	42	*2.97	33	2.44	9
Total	2.73	730	2.77	579	2.59	151

Question 41. Due to the operation of 'your' ETP, the technological area has attracted (mobilized) more funding from inter-governmental programmes (such as COST, Eureka, etc).

(1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)

	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.37	246	2.39	199	2.27	47
SMEs	2.43	72	2.55	49	2.17	23
Large Companies	2.26	141	2.24	120	2.33	21
Sector Federations	2.7	33	2.7	30	2.67	3
Knowledge-generating research institutions	2.48	206	2.51	161	2.36	45
Universities	2.47	78	2.52	58	2.35	20
Research institutes	2.48	128	2.51	103	2.36	25

Governmental Organisations	2.42	43	2.4	33	2.5	10
Non-Governmental Organisations and others	2.5	28	2.5	22	2.5	6
Total	2.42	523	2.44	415	2.34	108
Question 42. Due to the operations of 'your' ETP, the technological area has attracted (mobilized) more funding from national programmes. (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.52	319	***2.57	256	2.29	63
SMEs	2.5	88	2.67	63	2.08	25
Large Companies	2.44	177	2.44	144	2.4	33
Sector Federations	2.8	54	2.82	49	2.6	5
Knowledge-generating research institutions	2.47	271	*2.52	206	2.33	65
Universities	2.39	103	2.45	71	2.25	32
Research institutes	2.52	168	2.56	135	2.4	33
Governmental Organisations	2.6	60	2.65	46	2.43	14
Non-Governmental Organisations and others	2.7	43	2.76	37	2.33	6
Total	2.52	693	2.57	545	2.32	148
Question 43. Due to 'your' ETP, industry has invested more in R&D in this technological area than before. (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.75	326	***2.83	258	2.46	68
SMEs	2.7	84	2.9	58	2.27	26
Large Companies	2.73	191	2.77	154	2.57	37
Sector Federations	2.9	51	2.93	46	2.6	5
Knowledge-generating research institutions	2.50	252	***2.56	189	2.27	63
Universities	2.39	96	2.46	67	2.21	29
Research institutes	2.56	156	2.62	122	2.32	34
Governmental Organisations	2.78	54	2.75	44	2.9	10
Non-Governmental Organisations and others	2.82	39	2.81	32	2.86	7
Total	2.66	671	2.72	523	2.43	148

Improvement of framework conditions for innovation

Improvement of framework conditions for innovation						
Question 45. The activities and operation of 'your' ETP have helped improve the framework conditions for the deployment of key technologies in the specific industry/sector. (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.97	336	***3.03	271	2.75	65
SMEs	2.93	87	3	64	2.74	23
Large Companies	2.95	196	3.01	158	2.71	38
Sector Federations	3.13	53	3.12	49	3.25	4
Knowledge-generating research institutions	2.94	294	***2.99	226	2.75	68
Universities	2.95	120	3.01	86	2.79	34
Research institutes	2.93	174	2.98	140	2.71	34
Governmental Organisations	3.04	69	3.08	50	2.95	19
Non-Governmental Organisations and others	2.98	48	3	37	2.91	11
Total	2.97	747	3.02	584	2.79	163
Question 46. Due to the activities of 'your' ETP, research results lead more easily to new products and services (down the market). (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.77	296	***2.84	236	2.43	60
SMEs	2.8	81	2.9	58	2.39	23
Large Companies	2.7	172	2.78	138	2.38	34
Sector Federations	3	43	2.98	40	3.33	3
Knowledge-generating research institutions	2.76	248	***2.84	184	2.53	64
Universities	2.71	102	2.8	69	2.51	33
Research institutes	2.79	146	2.86	115	2.55	31
Governmental Organisations	2.88	64	2.84	50	3	14
Non-Governmental Organisations and others	2.79	34	2.77	26	2.88	8
Total	2.78	642	2.84	496	2.55	146

Maintaining and enhancing high-skilled workforce

Maintaining and enhancing high-skilled workforce						
Question 48. Due to the operation and activities of 'your' ETP, the future needs in education and training of the technological area have been further explored. (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	2.88	330	**2.91	262	2.72	68
SMEs	2.8	87	2.92	64	2.49	23
Large Companies	2.81	185	2.81	146	2.77	39
Sector Federations	3.21	58	3.19	52	3.33	6
Knowledge-generating research institutions	2.80	302	2.83	228	2.69	74
Universities	2.8	130	2.87	90	2.65	40
Research institutes	2.8	172	2.81	138	2.74	34
Governmental Organisations	2.86	66	2.9	51	2.73	15
Non-Governmental Organisations and others	2.96	50	3.03	39	2.73	11
Total	2.85	748	2.89	580	2.71	168
Question 49. Due to the activities of 'your' ETP, the need for certain competences in the technological area is better addressed. (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.00	354	***3.04	283	2.82	71
SMEs	2.92	95	3.03	71	2.58	24
Large Companies	2.97	199	2.99	157	2.88	42
Sector Federations	3.23	60	3.22	55	3.4	5
Knowledge-generating research institutions	2.95	329	***3.00	247	2.77	82
Universities	2.94	139	3.04	96	2.7	43
Research institutes	2.95	190	2.97	151	2.85	39
Governmental Organisations	3.12	74	3.14	56	3.06	18
Non-Governmental Organisations and others	2.94	51	2.97	39	2.83	12
Total	2.99	808	3.03	625	2.82	183

PART III – QUESTIONS REGARDING THE FUTURE OF THE ETPs

Expectations of respondents towards the future

Question 51. 'Your' ETP should involve more SMEs in its activities. (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.04	365	***2.98	283	3.24	82
SMEs	3.39	105	3.35	72	3.48	33
Large Companies	2.82	193	2.74	150	3.09	43
Sector Federations	3.12	67	3.13	61	3	6
Knowledge-generating research institutions	3.11	329	**3.07	249	3.25	80
Universities	3.08	135	2.97	94	3.34	41
Research institutes	3.13	194	3.13	155	3.15	39
Governmental Organisations	2.99	73	2.94	53	3.1	20
Non-Governmental Organisations and others	3.3	50	3.24	42	3.63	8
Total	3.08	817	3.03	627	3.24	190
Question 52. 'Your' ETP should put more emphasis on the activities related to the implementation of the SRA. (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.01	374	***2.96	298	3.21	76
SMEs	3.09	99	3.04	69	3.2	30
Large Companies	2.99	207	2.94	166	3.2	41
Sector Federations	2.97	68	2.94	63	3.4	5
Knowledge-generating research institutions	3.15	332	**3.11	252	3.27	80
Universities	3.07	134	2.98	93	3.27	41
Research institutes	3.2	198	3.18	159	3.28	39
Governmental Organisations	3	76	3	56	3	20
Non-Governmental Organisations and others	3.07	52	*2.98	42	3.4	10
Total	3.07	834	3.02	648	3.23	186
Question 53. 'Your' ETP should put more emphasis on the activities related to translating research results into new products and services. (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.15	393	*3.10	306	3.32	87
SMEs	3.32	105	3.25	71	3.47	34
Large Companies	3.09	218	3.05	171	3.21	47
Sector Federations	3.09	70	3.06	64	3.33	6
Knowledge-generating research institutions	3.15	340	3.13	254	3.19	86

Universities	3.09	142	3.04	98	3.2	44
Research institutes	3.19	198	3.19	156	3.17	42
Governmental Organisations	3.03	79	*2.93	58	3.29	21
Non-Governmental Organisations and others	3.2	54	3.19	43	3.27	11
Total	3.14	866	3.10	661	3.26	205
Question 54. 'Your' ETP should intensify the collaboration with national governmental institutions. (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.21	384	3.19	303	3.26	81
SMEs	3.28	101	3.21	70	3.42	31
Large Companies	3.17	215	3.18	171	3.14	44
Sector Federations	3.22	68	3.21	62	3.33	6
Knowledge-generating research institutions	3.28	334	3.26	249	3.35	85
Universities	3.33	138	3.29	94	3.41	44
Research institutes	3.25	196	3.24	155	3.29	41
Governmental Organisations	3.15	79	3.17	58	3.1	21
Non-Governmental Organisations and others	3.31	51	3.29	42	3.44	9
Total	3.24	848	3.22	652	3.29	196
Question 55. 'Your' ETP should be more actively linked to other Community Programmes (e.g. the ERA-net, EUREKA, ...). (1=completely disagree; 2=disagree; 3=agree; 4=completely agree; 5=no answer/don't know)						
	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.10	343	3.08	273	3.16	70
SMEs	3.17	95	3.15	65	3.2	30
Large Companies	3.03	186	3	150	3.11	36
Sector Federations	3.19	62	3.19	58	3.25	4
Knowledge-generating research institutions	3.14	320	**3.09	241	3.29	79
Universities	3.08	130	2.99	89	3.29	41
Research institutes	3.18	190	3.15	152	3.29	38
Governmental Organisations	3.11	79	3.1	59	3.15	20
Non-Governmental Organisations and others	3.11	47	3.1	37	3.1	10
Total	3.12	789	3.09	610	3.21	179

Overall satisfaction of stakeholders

Question 57. Please indicate your overall level of satisfaction with the achievements of your ETP on a scale of 1 (not satisfied at all) to 5 (very satisfied).

	Total		Strong involvement		Weak involvement	
	Mean	N	Mean	N	Mean	N
Industry	3.49	422	***3.67	327	2.87	95
SMEs	3.28	113	3.55	77	2.72	36
Large Companies	3.5	236	3.66	184	2.92	52
Sector Federations	3.77	73	3.82	66	3.29	7
Knowledge-generating research institutions	3.45	375	***3.66	273	2.90	102
Universities	3.35	158	3.65	106	2.73	52
Research institutes	3.53	217	3.66	167	3.08	50
Governmental Organisations	3.65	89	3.73	63	3.46	26
Non-Governmental Organisations and others	3.49	61	3.59	46	3.2	15
Total	3.49	947	3.66	709	2.97	238

Renewal of membership

Question 58. With the knowledge and experience you have now concerning 'your' ETP, would you renew your membership?

	Total (N)	Share in total (%)
Yes	882	93
No	65	7
Total	947	100

ANNEX 6: ETP FICHE

I. GENERAL BACKGROUND

General

Name	
Starting date	
Chairing organisation 2008	
EC contact person	

Strategic Vision Document	yes/no/on going	Updated?	Yes/no	Date of last version:
Strategic Research Agenda	yes/no/on going	Updated?	Yes/no	Date of last version:
Implementation plan	yes/no/on going	Updated?	Yes/no	Date of last version:
Deployment strategy	yes/no/on going	Updated?	Yes/no	Date of last version:

Mission

(Please provide a short description of the mission of your ETP)

--

Technology areas

(Please provide the 3 most important technology areas your ETP is focusing on)

1.
2.
3.

Organisational Structure

High level governing body? (e.g. board, committee, ...)	yes/no		
Number of meetings of governing body	2005	2006	2007
Secretariat (support group)	yes/no		
How is the Secretariat funded?			
Use of horizontal task groups?	yes/no		
Legislation	<input type="checkbox"/>		
Markets	<input type="checkbox"/>		
Sustainable development	<input type="checkbox"/>		
Environment	<input type="checkbox"/>		
Communication	<input type="checkbox"/>		
Training	<input type="checkbox"/>		
Other	<input type="checkbox"/>		
Number of meetings of horizontal task groups	2005	2006	2007
Use of vertical expert working groups?	yes/no		
Number of meetings of vertical expert groups	2005	2006	2007
Is there a mirror group?	yes/no		
Number of meetings of mirror group	2005	2006	2007
Number of countries	2005	2006	2007

represented in the mirror group			
Do any national technology platforms exist?	Yes/No		
In which countries			

II. KEY INDICATORS

Remark: if data is not available on annual basis, please fill in the cumulative or actual total (i.e. the total of the last available year)

Membership

	2005	2006	2007
Total number of registered members			
Number of large companies (>250 employees)			
Number of SMEs (< 250 employees)			
Number of research institutes			
Number of sector federations, associations			
Number of NGOs			
Number of governmental bodies			
Other			
Number of "core" members (e.g. steering group members)			

Human resources

	2005	2006	2007
Number employees in the ETP secretariat (in FTE)			
Number of FTE representing the core members			

SRA and implementation

Number of revisions of the developed SRA			
Number of launched R&D projects (FP or otherwise)			
Projects/actions related to improving the context for R&D and innovation (regulation, standards, ...)			
Projects/actions related to networking and information			
	2005	2006	2007
Number of proposals submitted by ETP or members of ETP in order to implement SRA			
Under FP			
Under Structural Funds			
Under other programmes schemes			
Number of proposals approved by ETP or members of ETP in order to implement SRA			
Under FP			
Under Structural Funds			
Under other programmes schemes			

Financial resources

Total operational budget (in 1000 EUR) (= budget for the functioning of the secretariat)	2005	2006	2007
Private resources			

Resources from FP6/FP7			
Other EU funding (e.g. structural funds)			
Other governmental funding (national, regional, local)			

R&D budget granted for implementation of SRA	2005	2006	2007
Private resources			
Resources from FP6/FP7			
Other EU funding (e.g. structural funds)			
Other governmental funding (national, regional, local)			
Number of proposals submitted/ approved			

Identifying training needs and/or organising training

	2005	2006	2007
Number of training sessions organised			
Number of participants in training programmes organised by ETPs			

Sharing knowledge, communication and awareness raising

	2005	2006	2007
Number of publications (articles, brochures ...)			
Number of website pages developed			
Number of ETP events (congress, conferences, information sessions, lectures, other activities...)			
Participation of ETP in network events (e.g. presence at exhibitions, participation in workshops, conferences, giving presentations)			
Number of plenary member meetings			

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