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Corporate Foresight in Europe

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Authors: Patrick Becker patrick.becker@uni-bielefeld.de
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Purpose

Foresight activities usually aim at decision-making and priority setting in the public sectors of systems of innovation, while the other parts of the RTDI-system have been largely left out of picture: most notably all the entrepreneurial actors on the private side (who actually bring the innovations to the market. This EU-study has been launched to take a first look at the current uses, practices and impacts of foresight in the private sector. It is based on personal interviews with 18 selected European enterprises from high-technology industries, consumer goods and the service sectors. A workshop, organized in November 2002 with the participation of corporate foresight practitioners, confirmed the overall findings of the report.

Corporate Foresight - A White Spot in Foresight Activities

Decision-making in the R&T area has become increasingly complex, with science and technology being both a driver of, and driven by, social change and economic development. In this context, future foresight activities promise to generate a clearer picture of the possible long-term challenges and opportunities arising out of these interdependencies, thus providing a crucial input for strategic planning in the area of RTDI - Research, Technology Development and Innovation.

So far, however, foresight has mostly been used for decision-making and priority setting in the public sectors of systems of innovation, while the other parts of the RTDI-system – most notably all the entrepreneurial actors on the private side have been largely left out of picture. Against this background, the EU-Commission was interested in getting a first overview of the current uses, practices and impacts of foresight in the private sector – so far, a true 'white spot' in foresight activities.

This study has been launched to take a closer look at the current state of affairs in corporate foresight – its forms and functions, its main topics and issues, and its practical problems and potentials. The comparative study was based on personal interviews with 18 selected enterprises, mostly from the high-technology such as automotive, electrical engineering, ICT, and the chemical-pharmaceutical industry, as well as the consumer goods and the service sectors such as utilities, transportation, banking and insurance.

Why do Foresight in Companies?

The final objective of all foresight activities is to support developments in the areas of science, technology and society that are likely to ensure future social benefits are identified promptly. Although all corporate foresight activities of the companies under study share this common goal, they usually focus on one of the following more intermediate functions:

- **Anticipatory Intelligence** for providing background information, general future advice, and an early warning of recent developments,



- **Direction-setting** for example to establish broad guidelines for the corporate strategy but without a direct involvement in the decision making processes itself,
- **Determining Priorities** or identifying the most desirable lines of R & D as a direct input into specific funding decisions (either in a specific field, or with regard to the corporate strategy in general);
- **Strategy Formulation and Implementation.** In this case foresight activities are used as an integral part in the formulation and implementation of strategic decisions (mostly through functional accumulation, as the persons doing foresight are also responsible for strategic decision making);
- **Innovation Catalysis.** In other words stimulating and supporting innovation processes between the different partners both inside and outside the company.

When asked for the underlying rationale of foresight, the companies reported two main motives – either they are a consequence of a companies’ business operation which inherently demand such a long-term orientation *internal drivers*, or they are undertaken as a proactive step to better cope with uncertainties in the business environment in general *external drive*.

Typical **internal drivers** for corporate foresight are

- **‘Innovation leadership’ strategies** which force the company to constantly monitor and react on innovation activities of their competitors, or
- Business operations characterized by **long product cycles** such as the automotive or pharmaceutical sector, where long-range monitoring is a prerequisite for any RTDI-decision.

Typical **external drivers** are the:

- Use of foresight as part of an **early-warning system** in order to detect future risks and opportunities, and to prepare for possible **‘wild card’** events and sudden shocks,
- View of foresight as a **valuable resource to learn more** about new technologies, emerging markets and future users.

From Part-time Futurists to Corporate Think Tanks

Generally speaking, foresight in enterprises can take place at three different organizational levels: Firstly, at the **corporate level**, mainly by corporate research or by the staff of the corporate development department; secondly, it is performed – often much less extensively – by the **divisions**, technology centres and business units themselves; and thirdly by temporary task forces which overlay those two structural levels by a third, ‘lateral’ or ‘virtual’ structure.

With regard to the companies in the survey, nearly all of them reported to conduct foresight at the corporate level. Here,

long-term strategic thinking predominates, and the foresight activities are usually directly attached to the administration of corporate research or corporate development. In a number of cases, there is also a special office exclusively concerned with foresight efforts. It either consists of research workers permanently (i.e. full-time) engaged in foresight activities, or it is an unit that is staffed by both permanent futurists and personnel that has been temporarily assigned for the duration of a certain foresight project.

Apart from this general classification, it becomes difficult to compare the exact forms and structures in which the firms pursue their foresight activities, as each of them has its own distinctive historical background and individual organizational set-up. In the following, therefore, all those different approaches will be subsumed under three overarching ‘ideal types’ that try to highlight their essential features and major differences:

The Collecting Post: In firms with a comparatively low degree of foresight activities, future-related research is mostly done in conjunction with – and strongly embedded in – other strategic R&D activities. It is mainly concerned with providing basic background information, such as competitor or patent analyses, for decision-making processes in these areas.

Because of the relatively low need for foresight input, the persons responsible for foresight are just **part-time ‘futurists’** for whom foresight is only one of their several tasks, and only seldom form a separate unit. Because of the limited analytical capacity, most foresight activities have to focus on the search and collection of future-related information that is already prepared by others and easily accessible.

The Observatory: In contrast to the first type, the observatory truly is an autonomous foresight unit with a full-time staff and a budget of its own. Moreover, it also has a clear mandate to focus on future-related issues. Its particular trait is that it fulfils a highly specialized and rather singular purpose for the company, be it the identification of socio-economical trends or forecasts of future traffic flows.

Out of its **single function** follows that it also has a **single addressee** in the company - in most of the cases, the corporate development department. In order to provide such a long-term strategic intelligence, the activities of those foresight units include not only the re-use of already existing data, but they also regularly generated new, future-related knowledge. To do so, they all rely not so much on internal networks (and their external information sources) but on their own external contacts. Needless to say, these networks are mostly made up of specialists from the same or similar fields of expertise, and only seldom tap into the broader areas of foresight.

The Think Tank: The most broad and elaborate foresight work is done by **special units** which act as a forward-looking think tank for their company, i.e. a group of full-time futurists,

experts and researchers who explore all kind of future-related issues not only in the immediate business environment but also in the wider socio-economic, cultural and regional sphere. They have a much wider range of tasks than the observatory, and thus have to be more generalists than specialists. This is not to say that they do not have considerable knowledge in certain areas, but their purpose is especially not to analyse only the developments in their individual fields of expertise but to connect them to a bigger picture of the future.

To fulfil their tasks, the think tanks have build up a global network of experts both from within the company and the outside. Some of them even have established a job rotation or other long-term cooperation with outside research centres or institutes. In any case, however, those think tanks are called upon for many tasks and are widely respected both within the company and outside – and as such, they even conduct foresight activities for selected external clients like major suppliers or customers.

The Heart of Corporate Foresight 'Bringing the outside world in'

Technology foresight is not a well-defined or structured activity in the companies investigated; approximately half the firms reported not having formalized processes at all. Their reasons for this are that foresight activities are neither structured nor linear. In addition a formalization that is too strict would only be counterproductive to their activities.

Nevertheless, the enterprises were unanimous in ascribing to the foresight process at least 4 different phases:

- The formulation of the research question,
- The selection of information resources
- The data analysis, and
- The decision preparation and implementation,

With the latter constituting the interface to the strategic R+D planning and decision-making process. However, most of the interviewed stated that they usually are not the process owner of the last process phase, which is why the study focused on the first three points only:

Determining information needs and core questions: The first decision in the foresight process is whether first to delimit a specifically relevant area of observation or identification of new trends for the search ('inside-out' perspective), and then to start with an oriented search, or to commence the search with a broad, non-limited orientation ('outside-in' perspective) and evaluate the relevance of those search results for the firm in a second step. The enterprises interviewed made use of both approaches in their foresight activities, with the 'inside-out' perspective predominating, since a broad, non-specifically orientated search takes up a lot of time and an „information overload“ is fast reached.

The second decision (at least for most of the firms), then is the actual selection of the specific search areas, and the time horizon of the analysis. Here, the firms displayed a wide variety in the foci of their foresight efforts: This is particularly true for the time horizons under observation, which lay between periods as short as 2-5 years up to a period of up to 20-30 years. However, most of the interviewed firms mentioned time horizons between 5 to 15 years.

Differences also became visible with regard to the main thematic areas of foresight: The central focus still is on technology trends on the one hand and market trends on the other. Broader social, political or regional aspects are secondary and are taken into account only by 'think-tanks' or by firms that operate in sectors characterized by a strong societal embeddedness.

The selection of information sources: From the viewpoint of a lot of enterprises, the *formation of internal networks* and the access to internal information sources is highly crucial for their foresight efforts. This seems to particularly true for futurists in 'collecting posts' who rely strongly on an internal network of observers and experts to provide them with the necessary basic information. Of equal -if not even higher-importance for many firms, however, is to 'bring the outside world in': They put *a strong emphasis on the creation and use of external networks* as the major source of input for their foresight work. The external knowledge is brought in, for instance, by joint work with external experts, or through participation in professional events or international congresses. In this context an additional source of information is often mentioned by firms operating either in highly market-driven sectors or in fields characterized by a low vertical range of manufacture: Those firms often use their *informal contacts with suppliers or customers* systematically as sources for information about possible new developments in the markets, mostly in addition to already existing internal or external networks.

In contrast to the cases mentioned before, the last kind of information source is typically of a rather formalized nature - namely, *openly accessible future-related information and data* which constitute the „classical“ sources of trend monitoring, such as patent statistics, and publication analyses or market reports.

In sum, personal information takes a clear predominance over the information that is openly available; likewise a majority of firms consider external knowledge more useful and important for their foresight work than information that is internally generated.

Data processing and analytical approaches: Obviously, the strategic analysis lies at the heart of the whole foresight effort,

as only here all the different data and opinions that have been collected are compared, evaluated and interpreted in order to generate future-relevant knowledge. Central to this process step is the choice of the best foresight tools, methods, and approaches for the specific question at hand.

In this context, the interviews showed that in quite a number of firms, rather simple tools predominate: In the field of qualitative methods, this was indicated by the extensive use of cognitive methods like brainstorming-exercises or expert consultations. Typically, these instruments do not demand much preparation or analytical vigour, and thus can be easily employed. In the quantitative field, the same could be said for such simple statistical methods such as patent and publication analyses, benchmarking exercises or market forecasts. Nearly all firms reported to rely on those tried and true instruments for their foresight activities - some of them even exclusively.

Apart from that, however, also more elaborate and sophisticated approaches are in use in some of the companies - especially in those with their own future 'think tanks'.

Among those more complex approaches, causal and structural methods like scenarios and simulations are the most common. In addition to that, some firms also conduct their own mini-Delphi and future workshops.

Complementary to the observation above that personal information sources takes a clear predominance over the information that is openly available, there also seems to be a preference for qualitative methods based on the interaction between different internal or external players that are rather person- and communication-orientated. Nevertheless, quantitative instruments are still widely used, albeit in specific areas only.

A Call for Better Cooperation in Foresight

Although most firms in the survey reported to be quite satisfied with their foresight activities, there were still quite some critical points in which improvements could or should be made. The following points were mentioned as problems of the current foresight practices:

- **Methodological problems:** Foresight needs a stronger methodological grounding in order to achieve a greater accurateness of its results.
- **Organizational and managerial problems of the foresight process:** Foresight should never be done for its own sake only but must generate relevant information. Moreover, foresight results have to be better delivered and disseminated to the relevant target groups. Here, it is crucial that the long-term trends and other typical results of a foresight exercise are 'broken down' and 'translated' into present decision options to be of use for the decision-makers.

- **Better overall integration of foresight activities in the company:** Corporate foresight is often too fragmented. There are no centralized offices but a lot of lone hands. It is often too segmented. The activities are too specialized and too uncoordinated to give a complete picture. One way to solve this would be to integrate foresight strongly in the corporate culture, be it via monitoring systems, future workshops, or in mission-vision statements.
- **Better networking, co-operation and consultation between foresight experts:** Corporate foresight experts could profit enormously from the use and exchange of each others know-how, but so far there is a lack of networks of foresight professionals. A better cooperation and consultation between different foresight exercises in different companies or different sectors could save a lot of double work and would provide a broader database for their RTDI-decision-making. The client in one sector is the provider for another sector, and thus one should stronger take into view the whole innovation chain when doing foresight.

Sources and References on Corporate Foresight

The full EU-report including more case studies, the complete questionnaire and a bibliography for further reading has recently been published by the European Commission and can be downloaded at cordis.europa.eu/foresight/working.htm

About the EFMN: Policy Professionals dealing with RTD, Innovation and Economic Development increasingly recognize a need to base decisions on broadly based participative processes of deliberation and consultation with stakeholders. One of the most important tools they apply is FORESIGHT. The EFMN or European Foresight Monitoring Network supports policy professionals by monitoring and analyzing Foresight activities in the European Union, its neighbours and the world. The EFMN helps those involved in policy development to stay up to date on current practice in Foresight. It helps them to tap into a network of know-how and experience on issues related to the day to day design, management and execution of Foresight and Foresight related processes.