



How to Make Belgium a Hotspot for Innovation

Results of a Survey among
Managers of Enterprises in
Belgium

Study jointly undertaken by the
Federation of Enterprises in Belgium
and Arthur D. Little

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Executive Summary

The *Federation of Enterprises in Belgium* and *Arthur D. Little* jointly undertook a study to measure the satisfaction of managers of companies in Belgium with the boundary conditions that influence the innovation capacity of their company. The study focused on the boundary conditions set by the public authorities, such as taxes, financial incentives, the labor market, education, environmental regulations, permits, and technology transfer from university research.

One hundred and seventy-five senior managers returned a survey questionnaire in the period October – November 2003. Arthur D. Little undertook a similar survey independently in Germany, Austria and Switzerland.

The survey was made in preparation of the third *European Business Summit*, held in Brussels on March 11-12, 2004, under the theme “Research and innovation: A European strategy for more growth and jobs”, and of which Arthur D. Little is the knowledge partner.

Following are the key findings from the survey:

1. **Innovation is a top priority** of managers of companies in Belgium today. Accordingly, managers expect to devote more resources to innovation in the next two years compared to previous years.
2. However, managers plan to **expand their R&D capacity mostly outside Europe**, more so than in Belgium and even more so than elsewhere in Europe. The low attraction of other European countries for managers of companies in Belgium is confirmed by the low esteem managers of companies in these other countries have for their own country as a leading location for innovation activities.
3. The factor that discourages innovation in Belgium most is the **absence of supportive boundary conditions** for innovation. The need to improve the overall set of political, administrative and legal boundary conditions is a concern shared by managers across Belgium’s three regions, across small and large companies, and across industry sectors.
4. The specific boundary conditions of highest concern are **tax** matters, the legal obligations related to **permits**, region-related **costs**, and the very stability and **continuity** of the boundary conditions.

5. The five most important levers for change are the following:
- Improve the fiscal treatment of R&D and the **fiscal incentives** for R&D.
 - Improve existing R&D support and lessen the **bureaucracy** associated with benefiting from it.
 - Reduce all kinds of **regulatory hurdles**, such as those for obtaining permits and acquiring patents.
 - Boost the availability of and the conditions for growth and **risk capital**.
 - Stimulate a greater application and **industry orientation of public research** at universities and similar institutes.

Unless policy-makers improve the boundary conditions, three phenomena will accelerate:

1. Companies for which re-location of R&D capacity is an option will indeed build up their R&D capacity outside Belgium and Europe.
2. Companies for which re-location is hardly an option, i.e. mostly small companies, risk innovating less and consequently losing their competitiveness.
3. Arguably worst of all, many new innovative companies will not be created in the first place.

The results of this study embody an urgent appeal, from managers of companies in Belgium to its policy-makers, to act and improve the boundary conditions for innovation, so that Belgium will indeed be a hotspot for innovation.

Samenvatting in het Nederlands

Het *Verbond van Belgische Ondernemingen* en *Arthur D. Little* hebben gezamenlijk een studie uitgevoerd om de tevredenheid van managers van ondernemingen in België te meten met betrekking tot de randvoorwaarden die het innovatievermogen van hun onderneming beïnvloeden. De studie richtte zich op de randvoorwaarden die door de publieke overheden worden bepaald, zoals belastingen, financiële stimulansen, de arbeidsmarkt, onderwijs, milieuregelgeving, vergunningen en technologietransfer vanuit het universitair onderzoek.

Honderd vijfenzeventig topmanagers beantwoordden een enquêteformulier in de periode oktober – november 2003. Arthur D. Little voerde los van de enquête in België een gelijkaardige enquête uit in Duitsland, Oostenrijk en Zwitserland.

De studie werd uitgevoerd ter voorbereiding van de derde *European Business Summit*, gehouden in Brussel op 11-12 maart 2004, onder het thema “Research and innovation: A European strategy for more growth and jobs” en waarvan Arthur D. Little de knowledge partner is.

De belangrijkste bevindingen van de enquête zijn de volgende:

1. **Innovatie is een topprioriteit** van managers van ondernemingen in België vandaag. In lijn daarmee verwachten managers in de komende twee jaren en in vergelijking met de voorgaande jaren meer middelen aan innovatie te besteden.
2. Managers zijn evenwel van plan hun **R&D capaciteit grotendeels buiten Europa uit te bouwen**, dus minder in België en zeker minder elders in Europa. De managers van ondernemingen in andere Europese landen geven hun eigen land ook een lage score als locatie voor innovatieactiviteiten. Dit bevestigt de geringe aantrekkingskracht van die andere landen bij managers van ondernemingen in België.
3. De factor die innovatie in België het meest ontmoedigt, is de **afwezigheid van ondersteunende randvoorwaarden** voor innovatie. De noodzaak om het geheel van politieke, administratieve en juridische randvoorwaarden te verbeteren, wordt gedeeld door managers uit de drie gewesten in België, zowel in kleine als grote ondernemingen en doorheen alle industriesectoren.
4. De specifieke randvoorwaarden die de grootste zorgen baren, zijn de **fiscaliteit**, de wettelijke verplichtingen met betrekking tot **vergunningen**, regio-gebonden **kosten** en juist de **continuïteit** en betrouwbaarheid van de randvoorwaarden.

5. De vijf belangrijkste hefboomen voor verandering zijn de volgende:
- Verbeter de fiscale behandeling van R&D en de **fiscale stimulansen** voor R&D.
 - Verbeter de bestaande R&D steun en verminder de **bureaucratische rompslomp** nodig om ervan te genieten.
 - Verminder allerlei soorten **regelgevende hindernissen**, zoals deze voor het verkrijgen van vergunningen en verwerven van octrooien.
 - Verstevig de beschikbaarheid en de voorwaarden voor groei- en **risicokapitaal**.
 - Stimuleer een grotere toepassing- en **industriegerichtheid van het openbaar onderzoek** aan universiteiten en gelijkaardige instellingen.

Tenzij de beleidsmakers de randvoorwaarden verbeteren, zullen drie fenomenen versnellen:

1. Ondernemingen waarvoor de verplaatsing van R&D capaciteit een optie is, zullen inderdaad hun R&D capaciteit uitbouwen buiten België en Europa.
2. Ondernemingen waarvoor verplaatsing nauwelijks een optie is, d.w.z. veelal kleine bedrijven, lopen het risico minder te innoveren en bijgevolg aan concurrentiekracht in te boeten.
3. Wellicht nog het ergste van al, veel nieuwe innovatieve ondernemingen zullen gewoon het licht niet zien.

De resultaten van deze studie belichamen een dringende oproep vanwege managers van bedrijven in België aan haar beleidsmakers om te handelen en de randvoorwaarden voor innovatie te verbeteren, zodat België daadwerkelijk de standplaats voor innovatie zal zijn.

Résumé en français

La *Fédération des Entreprises de Belgique* et *Arthur D. Little* ont mené conjointement une étude visant à évaluer la satisfaction des managers d'entreprise en Belgique sur les conditions d'encadrement influençant la capacité d'innovation de leur entreprise. L'étude s'est focalisée sur les conditions d'encadrement fixées par les pouvoirs publics, telles que la fiscalité, les incitants financiers, le marché de l'emploi, la formation, la réglementation environnementale, les autorisations, ainsi que le transfert de technologies issues de la recherche universitaire.

Cent septante cinq chefs d'entreprise ont participé à cette enquête au cours de la période octobre – novembre 2003. Arthur D. Little a mené, indépendamment de l'enquête en Belgique, une étude similaire en Allemagne, en Autriche et en Suisse.

L'enquête a été réalisée en préparation du troisième *European Business Summit* qui se tient à Bruxelles les 11 et 12 mars 2004 sous le thème "Research and innovation: A European strategy for more growth and jobs" et dont Arthur D. Little est le knowledge partner.

Les conclusions majeures de l'enquête sont les suivantes:

1. **L'innovation est une priorité de premier rang** pour les managers d'entreprise en Belgique. Les managers ont dès lors l'intention d'engager plus de moyens pour soutenir l'innovation dans les deux années à venir par rapport aux années précédentes.
2. Les managers ont cependant l'intention de **développer leur capacité en R&D essentiellement en dehors de l'Europe**, ou tout au moins plus qu'en Belgique et certainement plus qu'ailleurs en Europe. Les managers des autres pays européens n'accordent qu'une faible reconnaissance à leur pays en tant que centre majeur pour les activités d'innovation. Cette tendance confirme le faible attrait de ces autres pays européens auprès des managers d'entreprise en Belgique.
3. **L'absence de conditions d'encadrement stimulant** l'innovation constitue le principal obstacle à l'innovation en Belgique. La nécessité d'améliorer l'ensemble des conditions d'encadrement politiques, administratives et juridiques est partagée, dans les trois Régions de Belgique, par les managers des petites et grandes entreprises, ainsi qu'à travers tous les secteurs industriels.
4. Les conditions d'encadrement suscitant le plus d'inquiétude sont la **fiscalité**, les obligations légales en matière d'**autorisations**, les **coûts** et charges liés à la localisation, ainsi que la **continuité** et la stabilité des conditions d'encadrement.

5. Les cinq principaux leviers du changement sont les suivants:
- Améliorer le traitement et les **incitants fiscaux** en matière de R&D.
 - Améliorer le soutien actuel en R&D et réduire la **bureaucratie** associée.
 - Réduire les différentes **entraves réglementaires**, telles que l'obtention d'une autorisation et le dépôt d'un brevet.
 - Renforcer la disponibilité et les conditions d'accès du **capital à risque**.
 - Stimuler une plus grande **orientation industrielle et application de la R&D du secteur public** (universités et institutions similaires).

Sans amélioration des conditions d'encadrement par les politiques, trois phénomènes s'accéléreront:

1. Les entreprises pour lesquelles la délocalisation de la capacité en R&D constitue une alternative, développeront cette capacité en dehors de la Belgique et de l'Europe.
2. Les entreprises pour lesquelles la délocalisation constitue une alternative mineure (i.e. la plupart des petites entreprises) risquent d'être moins innovantes et, par conséquent, de réduire leur compétitivité.
3. Le pire phénomène réside sans aucun doute dans le fait que de nouvelles sociétés innovatrices ne seront pas créées.

Les résultats de cette étude représentent un appel urgent, de la part des managers d'entreprise en Belgique, au monde politique. Celui-ci doit agir et améliorer les conditions d'encadrement de l'innovation, de telle sorte que la Belgique devienne un pôle d'innovation.

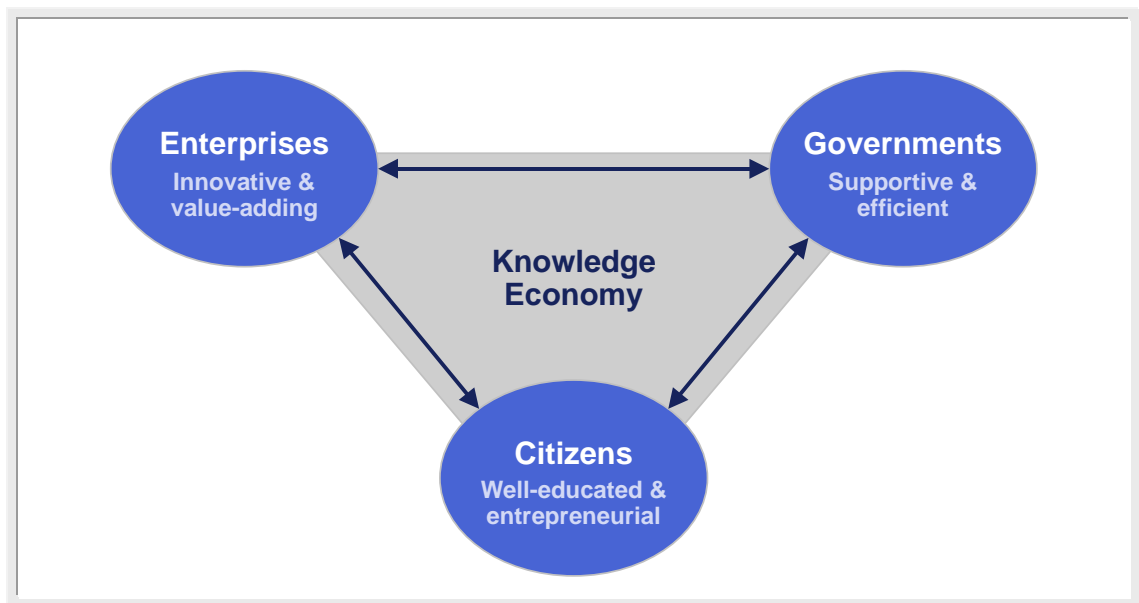
1. Purpose of the study

The imperative: anchor innovation in Europe

Regions, nations and communities can maintain or grow their wealth and prosperity only if they engage in economic activities in which they have a sustainable comparative advantage. Europe's comparative advantage must be based on its capability to create and exploit knowledge. Europe's economy will be a knowledge economy, or will not be.

A knowledge economy is created and kept alive by the positive interplay between its citizens, governments, and enterprises (see Figure 1.). Its citizens must be well-educated and entrepreneurial. Its governments must create supportive boundary conditions and be efficient. And its enterprises must innovate and create value-added.

Figure 1.



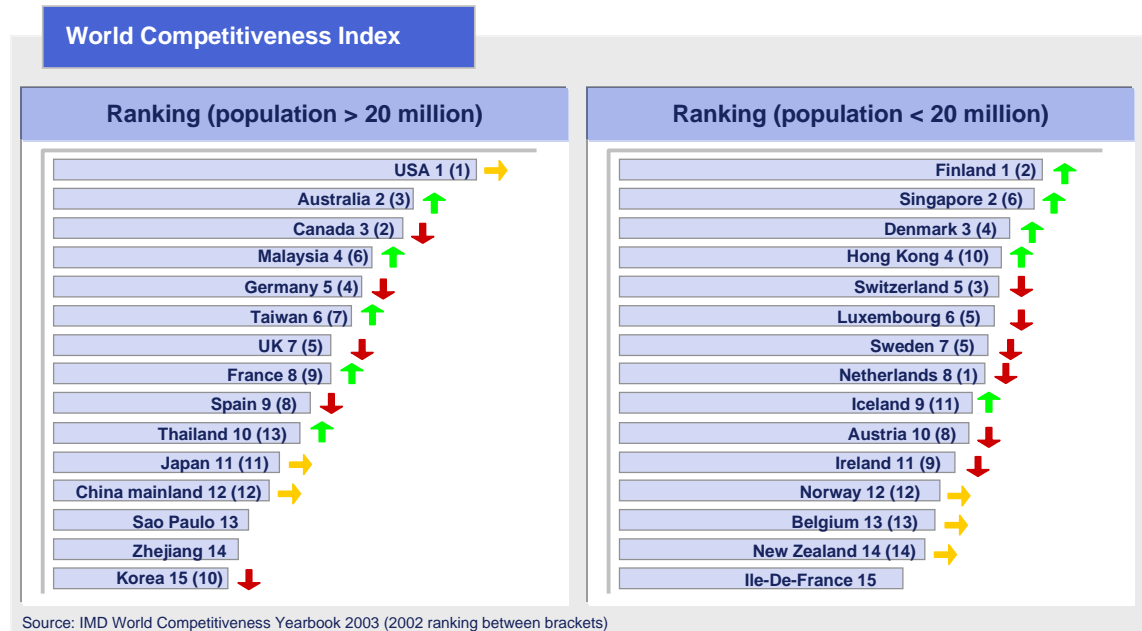
It is without saying that Europe's citizens and governments can hardly leave the continent en masse. Europe's enterprises, though, can shift their activities to the area where their business can be undertaken most productively. In fact, they even have the economic and fiduciary obligation to do so.

As a consequence, if enterprises find that Europe is not a good place to innovate, the positive interplay will be broken: fewer innovation activities will be undertaken in Europe, no knowledge economy will come into being, and Europe's prosperity will decline. Therefore, it is imperative that enterprises are persuaded to conduct and anchor their innovation business in Europe. If that is true for Europe, it certainly is for Belgium too: its small and open economy should be a knowledge economy *par excellence*.

Many recent studies demonstrate that it is indeed a challenge for Europe in general and Belgium in particular to stay a good place to innovate and, as a consequence, secure their economic prosperity. Without being exhaustive, we can point to studies from the *European Commission* ("More Research for Europe", September 2002), the *European Round Table* ("The European Challenge", March 2003) and *Unice* ("The Competitiveness Challenge", November 2003). Likewise, figures about Europe's and Belgium's position abound in publications such as the *World Competitiveness Yearbook* by IMD, the *Global Competitiveness Report* by the World Economic Forum, the *Innovation Scoreboard* and the *Science & Technology Indicators* from the European Commission's DG Research, the *Global Entrepreneurship Monitor*, and reports from the *World Bank*.

For example, IMD's *World Competitiveness Ranking* shows that nearly every European country is losing terrain in the ranking for countries or regions with more than 20 million inhabitants. Within Europe, Belgium's competitiveness remains poor and below that of comparable countries or regions (see Figure 2.).

Figure 2.

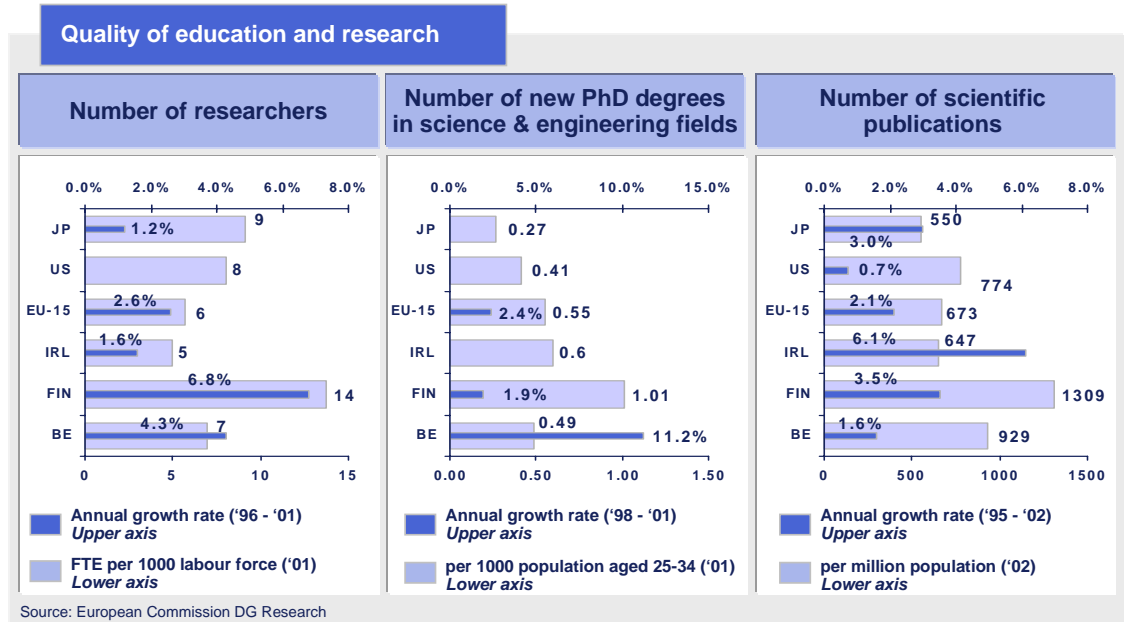


In the remainder of this chapter, we briefly look at each of the three actors – Europe’s citizens, governments, and enterprises – and how they do or don’t contribute to the positive interplay required to create a knowledge economy.

Citizens: well-educated but insufficiently entrepreneurial

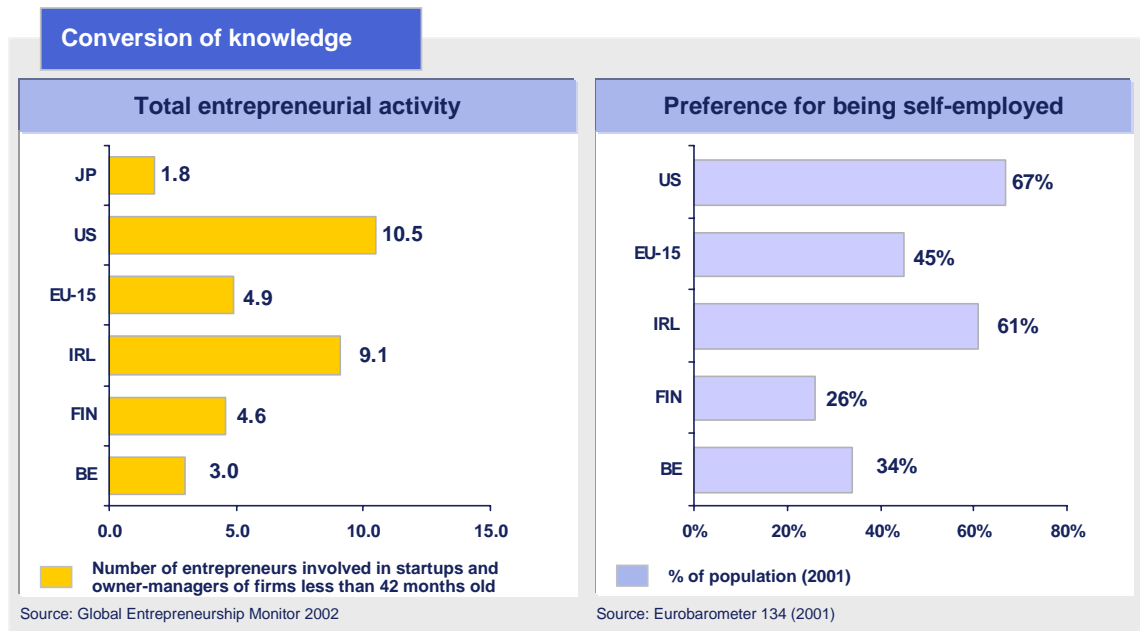
In general, the quality of education and research in Europe and Belgium is world-class (see Figure 3.). Although the number of researchers is lower, the share of science and engineering researchers is higher in Europe than it is in the US. While Europe is still producing relatively fewer scientific publications than the US, it overtook the US as the largest producer of scientific publications in absolute terms during the mid-nineties, and its growth rate of scientific publications is higher.

Figure 3.



Unfortunately, Europe's citizens do not manage or are not willing to convert this knowledge into commercial applications in the same way as Americans do (see Figure 4.). They are less entrepreneurial and less eager to be self-employed. Belgium's citizens score even below the European average.

Figure 4.



**Ben C. Van Assche, Member of the Executive Committee UCB and
Director-General Surface Specialties UCB**



“Well-educated and entrepreneurial people are key”

“The future for Europe lies in creating world-leading centers of excellence in R&D that generate new and substituting technologies. Creating such centers is critically dependent on attracting science-oriented people. And there is a bottleneck: the inflow into our pool is too small. Too few young people are attracted to science. We have to stimulate interest in science and technology as from primary school. And we should also increase the inflow by stimulating international mobility of science people. We don’t have to be pessimistic, but the sheer number of well-educated and daring science people graduating each year in Asia shows we will have to put our best foot forward.”

“When referring to application oriented R&D, the build-up of innovation activities outside Europe is unavoidable: application-oriented R&D must follow the market, and the market is growing fastest in Asia and faster in the US. It is an illusion to believe that we can grow our business exclusively by exporting what has been invented here.”

“In other words, there are two critical requirements for anchoring innovation in a country like Belgium. It starts with having a pool of well-educated and entrepreneurial people, who are keen to push and exploit science and technology. Second, we must have supportive boundary conditions and incentives. The two go together: if we cannot attract competent people to our centers of excellence, boundary conditions – no matter how stimulating – won’t make a difference.”

Surface Specialties UCB is a world leading manufacturer of coating resins, films and adhesives. Headquartered in Brussels, its main R&D centers are located in Belgium, Austria and the US.

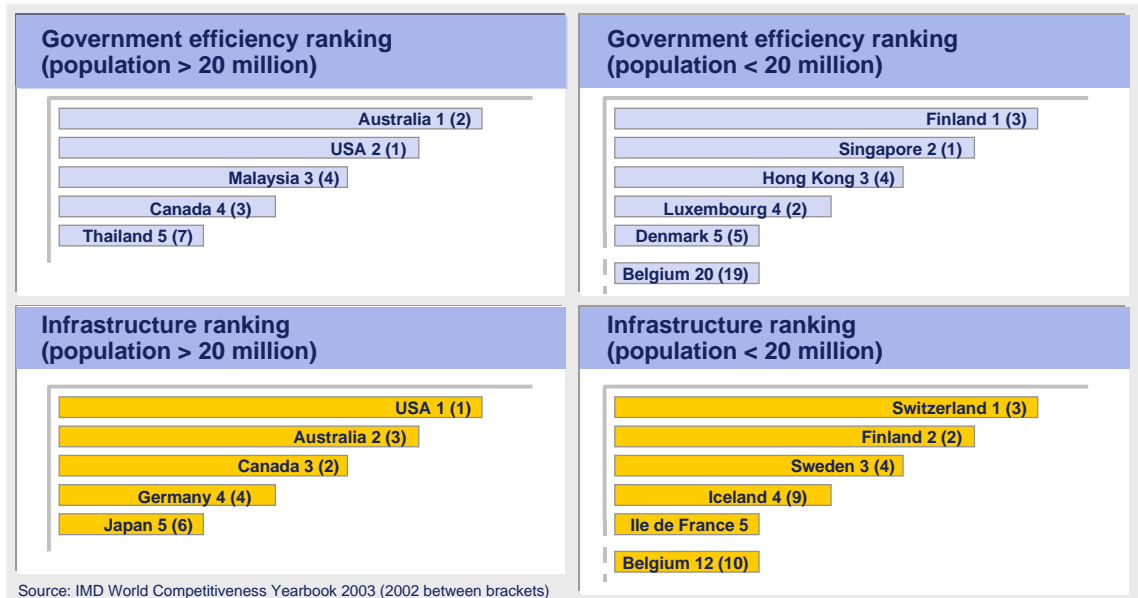
Governments: insufficiently supportive and inefficient

Europe's overall gross expenditure on R&D as a percentage of gross domestic product (2% for EU-15 in 2001) is nearly a full percentage lower than the US's and more than a full percentage lower than Japan's. Most alarmingly, this gap keeps widening. At current growth rates in Europe (1.5% between 1997 and 2001), the 3% target for 2010 set by the European Council will not be met.

Within Europe, Belgium's expenditure (2.2% in 2001) is slightly above the European average but below that of its surrounding countries. Its average performance is due to the low government budget allocated to R&D (0.6% in 2003 compared to the European average of 0.8%). Conversely, the share of businesses in the total expenditure in Belgium is higher (71% in 2001) than the European average (65%). Along the same lines, Belgium spends only 127,000 Euro per year per researcher employed by the government (2001), compared to 170,000 Euro for the EU-15 and approximately 400,000 Euro for the US and Japan.

In terms of government efficiency, few European countries manage to play in the top league (see Figure 5.). Belgium currently ranks 20th among countries and regions with a population below 20 million. In terms of infrastructure (basic infrastructure, technological infrastructure, scientific infrastructure, health and environment, education), Belgium manages to take the 12th place, but only leaving behind Luxembourg, Ireland, Greece and Portugal among Western European countries.

Figure 5.

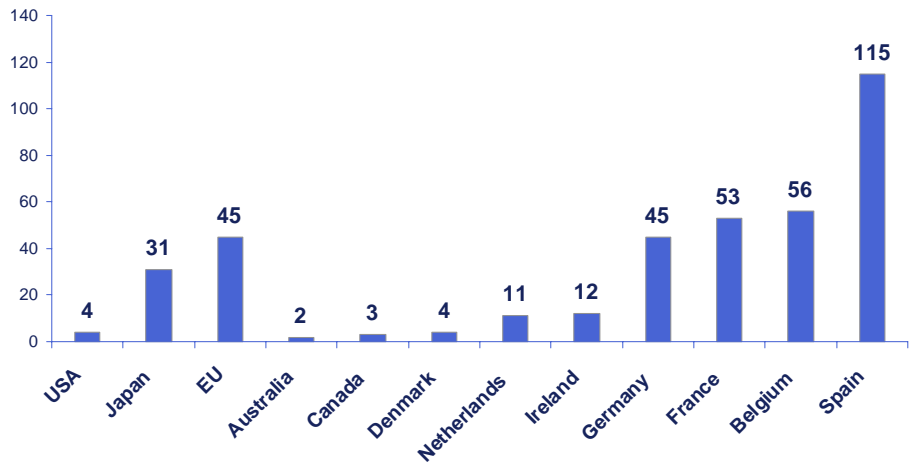


Source: IMD World Competitiveness Yearbook 2003 (2002 between brackets)

A tell-tale sign of efficiency is the average number of days it takes to start a business. In the US it takes an average of 4 days, compared to an average of 45 days in Europe and even 56 days in Belgium (see Figure 6.)

Figure 6.

Number of days to start a business



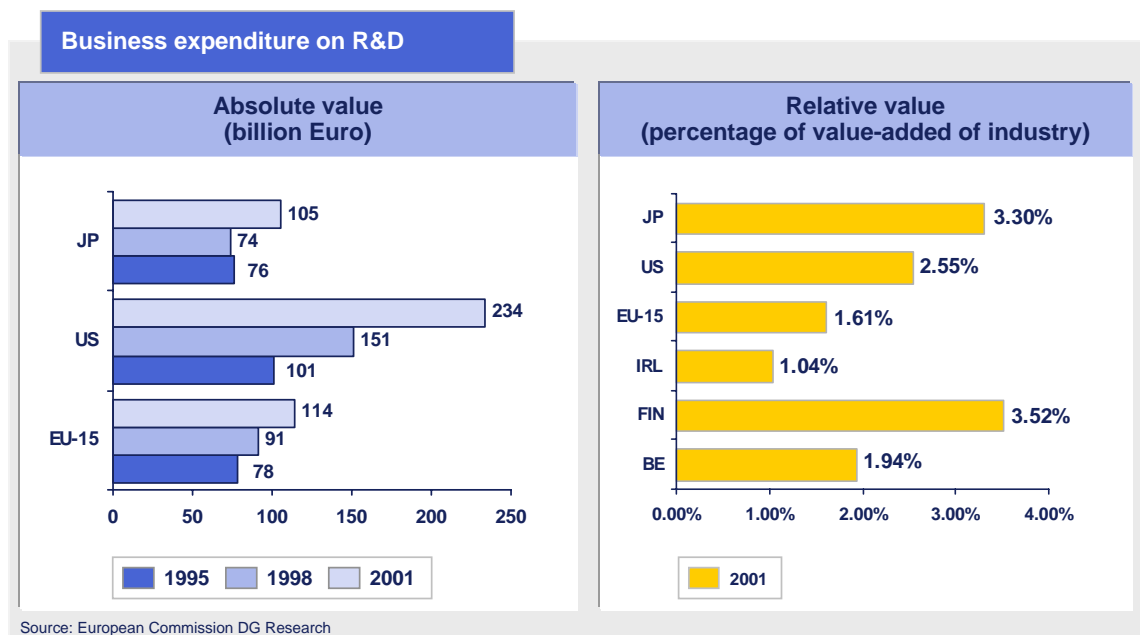
Source: World Bank 2003

Businesses: under-investing in R&D, and out of Europe

Businesses based in Europe invest less in R&D than businesses in the US. The gap in spending between Europe and the US has increased significantly since 1995 (see Figure 7.). This gap is due mainly to low R&D investments by small and medium sized companies, as investments by large companies in Europe have been growing faster than those by their US counterparts.

Businesses in Europe also spend significantly less on R&D as a percentage of the value-added of industry than businesses in US and Japan do. Belgium is doing slightly better than the European average, but there is still a wide gap with the top league in Europe.

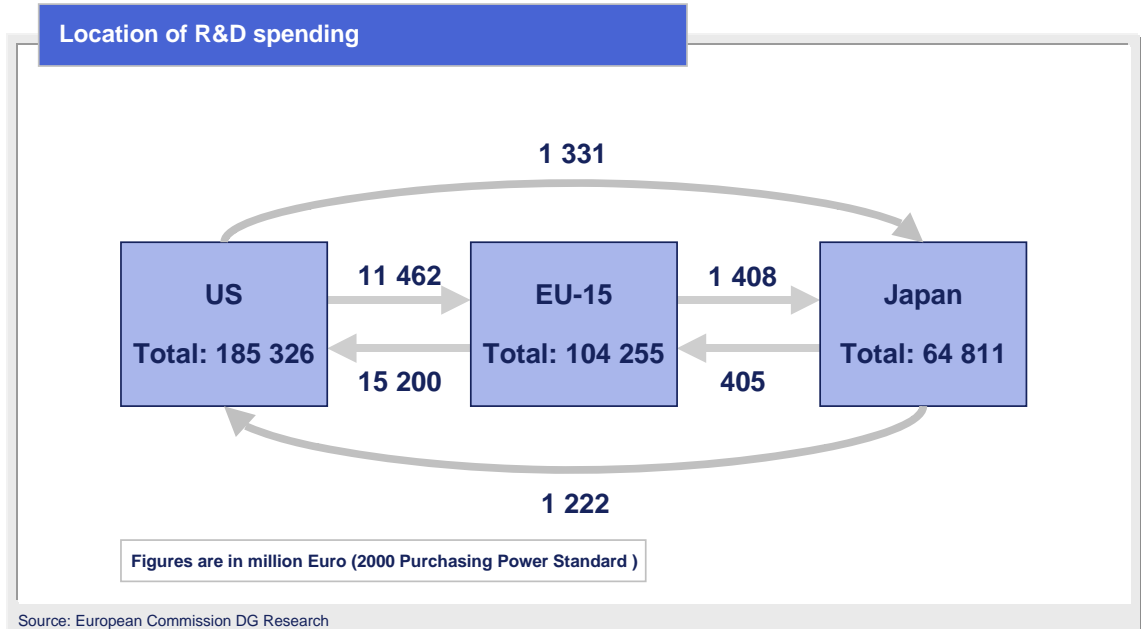
Figure 7.



Furthermore, European companies are more likely to invest in the US and Japan than US and Japanese companies are likely to invest in Europe. As far as EU, US and Japanese companies are concerned, there is a net outflow of R&D expenditures from the EU, and a net inflow into the US and Japan (see Figure 8.).

This trend is very visible in the pharmaceutical sector. According to EFPIA, 73% of R&D spending by European pharmaceutical companies in 1990 occurred within Europe. By 1995 and 2000 this figure had declined to 69% and 59%, respectively.

Figure 8.



Ronald Smets, Director, Kaneka Belgium



“We cannot hope to win the fight for R&D if we cannot keep production in Belgium”

“Our activities in Belgium generate excellent results today, thanks to our proprietary technologies, advanced automation levels, and dedicated people. Our Japanese parent company has the intention to expand its business in Europe but unfortunately there is hesitation to further invest in Belgium. While we export 97% of our production and create a lot of added value, we have the feeling that we are no longer welcome in Belgium. Unjustifiable regulatory burdens, uncertainties and associated costs are the culprit (special conditions in environmental permits, the Kyoto protocol, high energy cost by additional charges such as green energy penalties, short effective working hours, the REACH directive, etc.).

“The above situation is beyond comprehension for our Japanese owners. They take a world-wide perspective and are now earmarking major investments to the USA, Asia, and Eastern Europe – not Belgium. Worst of all, in our application-oriented business, R&D follows production: if we miss out on new production investments, over time R&D will suffer too.”

Kaneka Corporation, headquartered in Japan, is a \$3 billion producer of chemicals, resins, plastics, food products, pharmaceutical intermediates, synthetic fibers and electrical materials. On Kaneka Belgium’s site in Oevel, three factories develop and manufacture specialty chemicals for industrial, automotive and construction applications.

The sentiment: does it support the facts?

In other words, there is no shortage of quantitative evidence showing that our future prosperity is at risk. But what will ultimately determine whether our society prospers economically or doesn't, is the factual behavior of our enterprises: whether they invest in Europe, or don't. And the behavior of our enterprises is greatly influenced by the sentiment of their top managers and owners.

When we use the word "sentiment", we don't refer to some capricious feelings. Instead we refer to a manager's deep-seated conviction grown out of his or her daily practice and either uplifting or frustrating experiences. Like any investor, managers must base their current investment decisions on the likely future returns they sense they can obtain from their investments. If they are reasonably convinced they are unlikely to earn an acceptable return, they won't invest. Neither should they, as after all they are investing, directly or indirectly, the savings and future pensions of Europe's individual citizens and households.

Therefore, instead of doing one more quantitative study, we set out to gauge the sentiment of managers who are leading small and large enterprises in Belgium. In particular, we wanted to gauge their satisfaction with the boundary conditions set by the public authorities on matters related to innovation. We wanted to understand how stimulating or restrictive top managers experience the boundary conditions related to tax matters, financial incentives, the labor market, education, environmental regulations, permits, technology transfer from universities, etc.

The report: for policy-makers to act

This report summarizes the findings and conclusions from the study jointly undertaken by the *Federation of Enterprises in Belgium* (FEB) and *Arthur D. Little*. We are immensely grateful to the managers of the Belgian companies who participated in it. We will be even more grateful to all policy-makers who take the recommendations emanating from the study to heart.

2. Design of the Study

The study was conceived, designed and implemented jointly by the *Federation of Enterprises in Belgium* (FEB) and *Arthur D. Little*.

The study was conducted on the basis of a written survey form, in the period October-November 2003. The form was sent to the general managers of close to 1000 companies in Belgium.

The total number of replies was 175, giving a response rate of about 20%. The replies are reasonably spread across:

- the three regions Vlaanderen, Wallonie and Brussels (see Figure 9.)
- industry sectors (see Figure 10.)
- companies of different size, from small to large (see Figure 11.)

The survey questions focused on the following topics:

- the relative attractiveness of Belgium as a place for innovation activities;
- the satisfaction with the boundary conditions having an impact on innovation;
- the importance of these boundary conditions relative to other factors that have an impact on a company's innovation strategy;
- the measures companies plan to take in order to increase their competitiveness in innovation;
- the need to improve the boundary conditions;
- the specific boundary conditions where the need for improvement is greatest.

Once the survey results were available, we interviewed some of the participating managers. A selection of their observations and opinions are included in this report.

Arthur D. Little conducted a similar survey among managers in three other European countries independently from each other: in Germany (together with the *Bundesverband der Deutschen Industrie* BDI), in Switzerland and in Austria (together with the *Industriellenvereinigung* IV). Where relevant, this report compares the results from these countries and those from Belgium. However, the results discussed in this report refer to the responses from Belgium only, unless stated explicitly otherwise.

Figure 9.

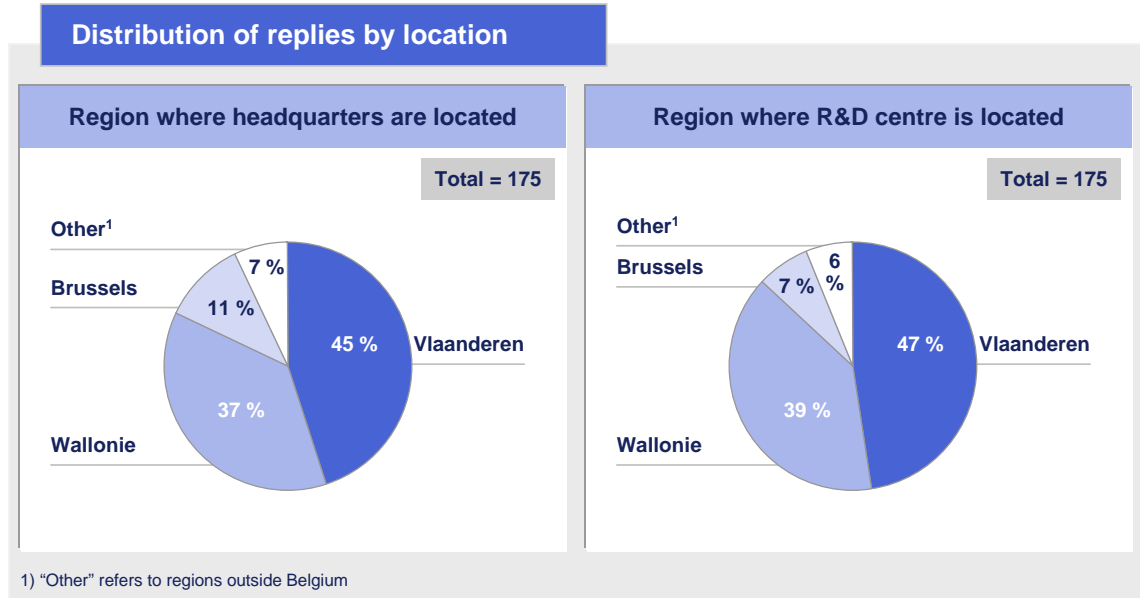


Figure 10.

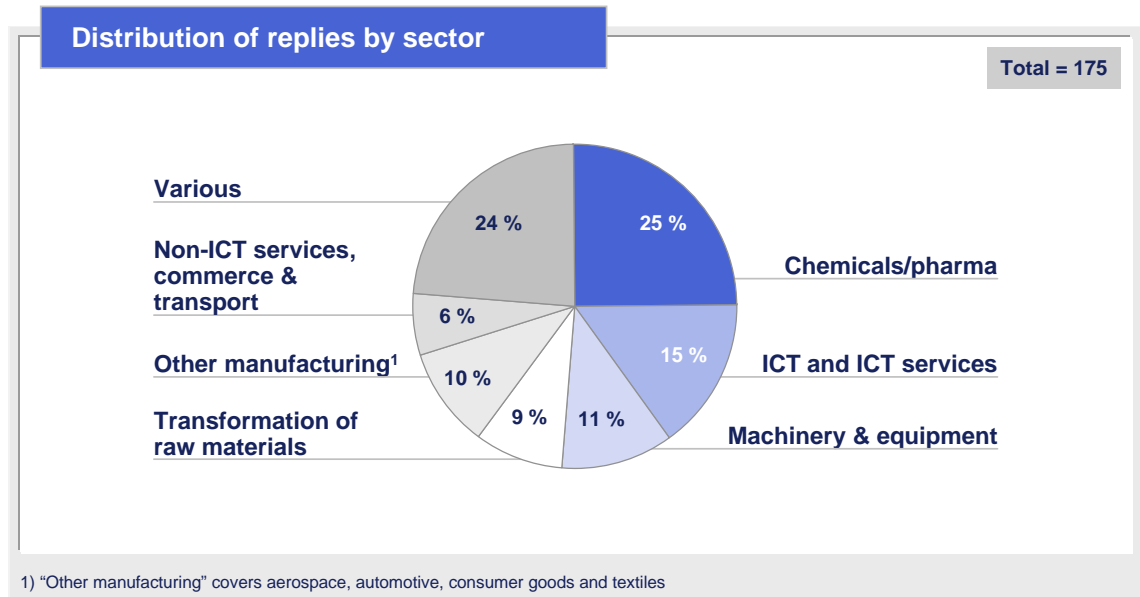
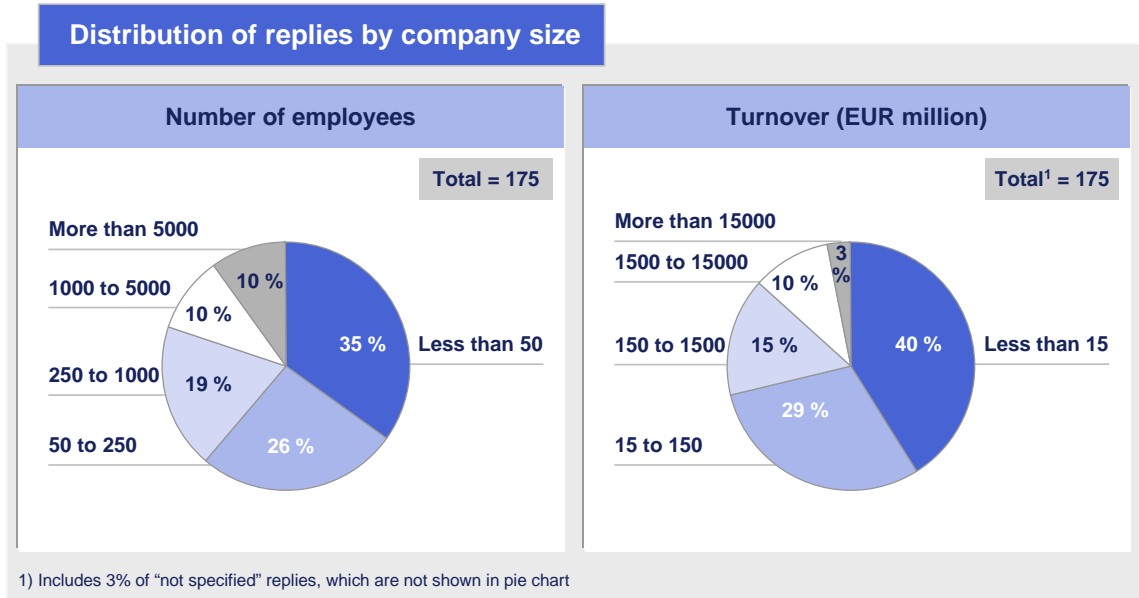


Figure 11.

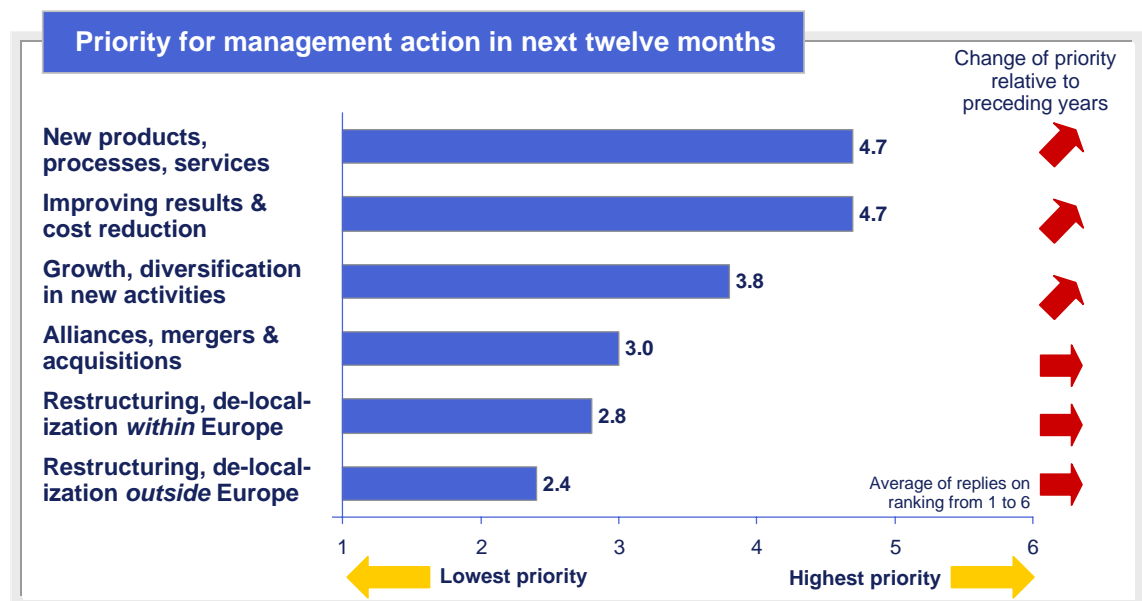


3. Results of the Study

Innovation: a top priority

The development of new products, processes and services is the top priority for action by managers in Belgium for the next twelve months. In terms of priorities, it scores marginally higher than the concern to improve results, reduce costs and re-engineer processes. In addition, these two domains have gained importance relative to preceding years (see Figure 12.).

Figure 12.

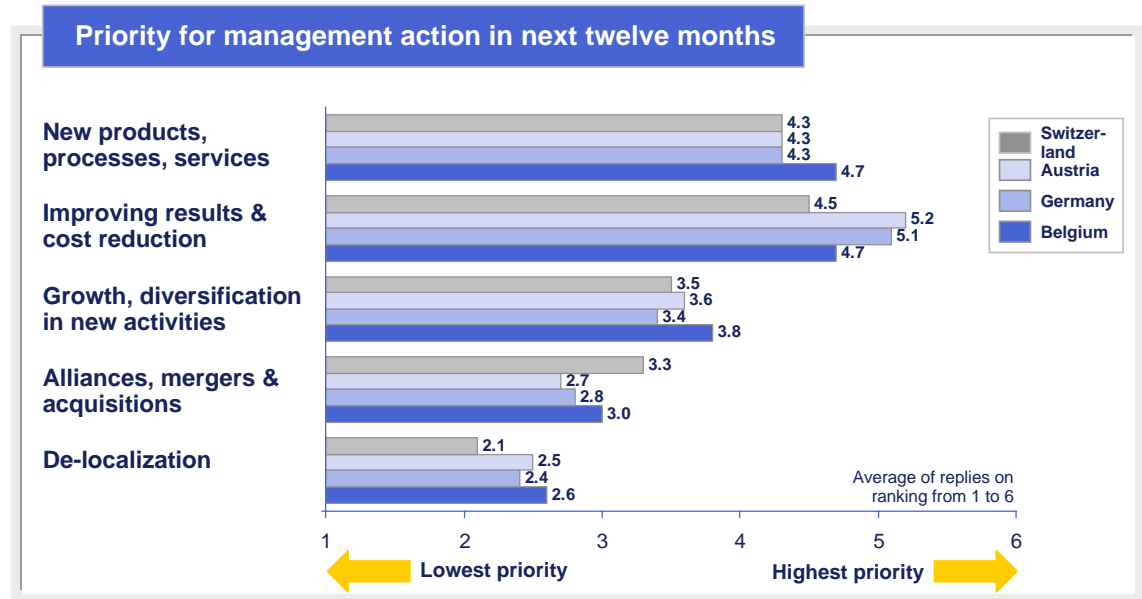


The domain that had and continues to have the lowest priority for the next twelve months is the restructuring, consolidation and de-localization of activities, be it within Europe or outside Europe. In other words, restructuring and de-localization are not a priority as such. As we will see later, however, these may be inescapable consequences of the need to stay innovative and competitive. Furthermore, de-localization simply is not an option for many companies – especially the smaller ones – and therefore has a low priority. We will also come back to this point later.

Two domains are of medium priority: growth and diversification in new activities, and alliances, mergers & acquisitions. The former has gained importance relative to preceding years.

The ranking of priorities is almost the same in the three other countries studied (see Figure 13.). Two findings stand out. First, in Belgium, innovation is as important as cost reduction, whereas in the three other countries cost reduction has a slightly higher priority than innovation. Second, in Switzerland, de-localization is even less important a management priority than it is in the other countries. We will come back to this striking difference for Switzerland later.

Figure 13.

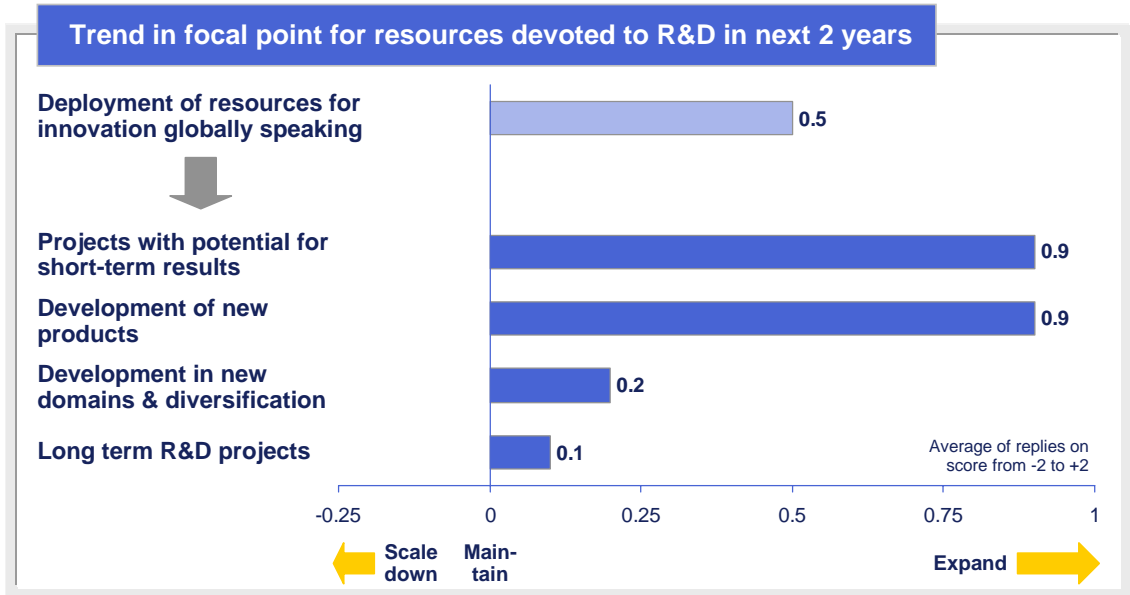


More resources for innovation

In line with the high and growing priority managers attach to developing new products, processes and services, they expect to devote more resources to innovation compared to previous years.

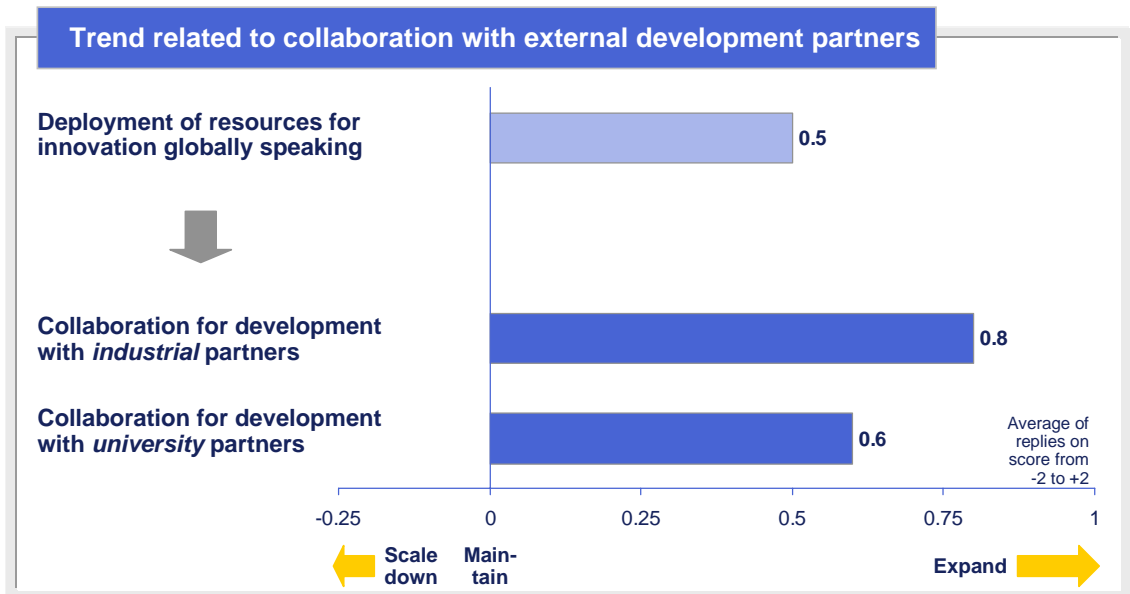
The increase in resources, however, will not be spread equally among different types of development (see Figure 14.). Projects with a potential for short-term results and new product development projects clearly are the focal points. Comparatively fewer resources will be devoted to developments into new domains, diversification and long-term R&D projects.

Figure 14.



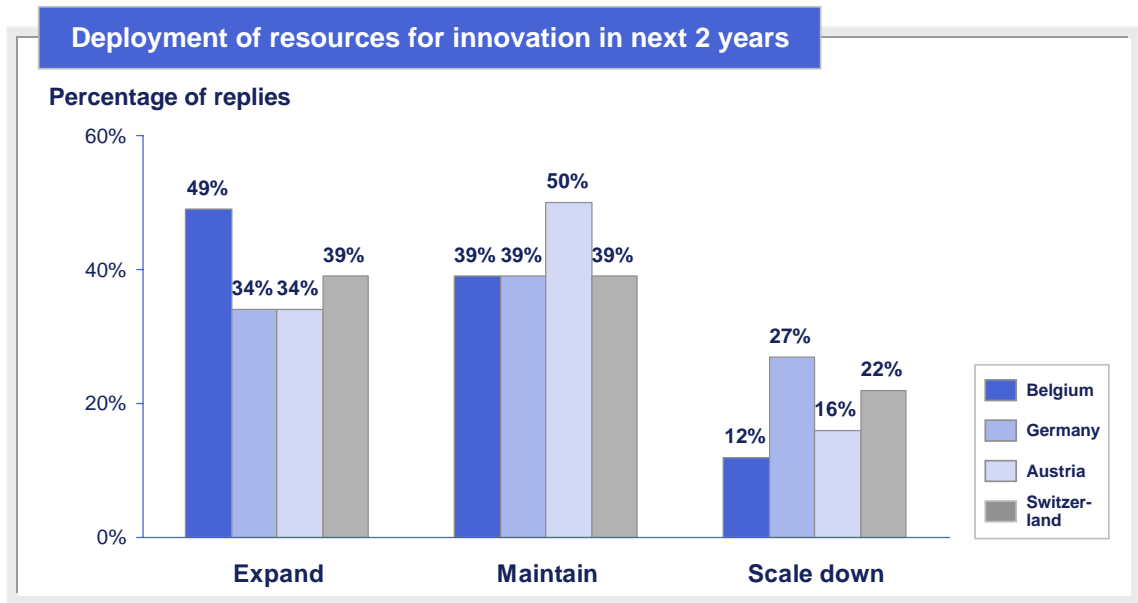
Likewise, managers expect to collaborate increasingly with industrial or university development partners, even more so than to expand in-house R&D capacity (see Figure 15.).

Figure 15.



Managers in Belgium appear to be more inclined than managers in the three other countries to devote more resources to innovation (see Figure 16.). This is in line with the slightly higher priority given in these latter countries to cost reduction than to innovation.

Figure 16.

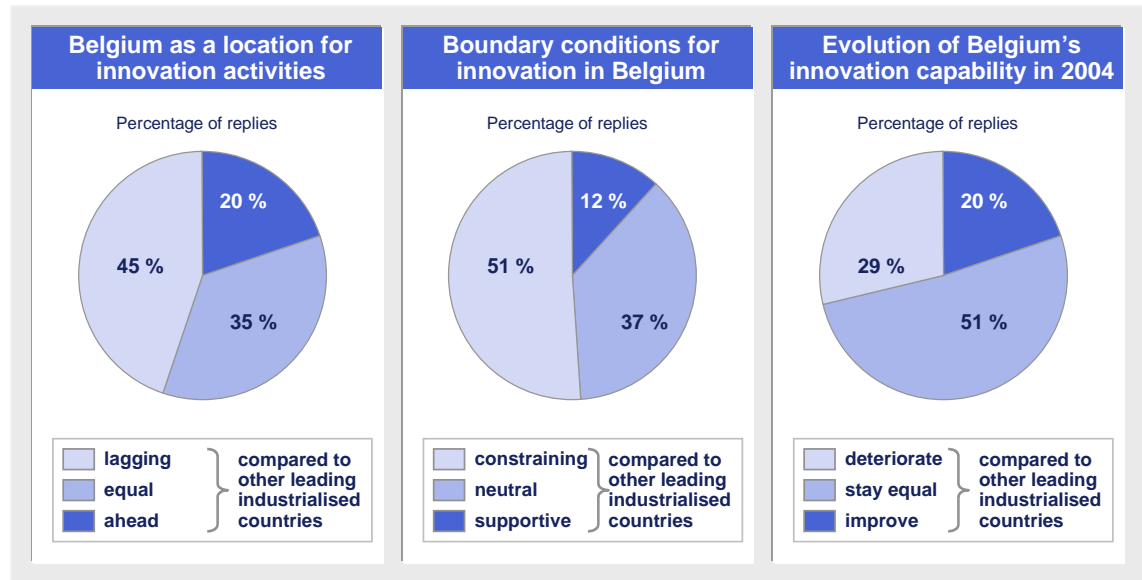


It should be noted that managers' inclination to devote more resources to innovation globally does not say *where* they intend to deploy these resources, that is in Belgium or elsewhere.

Belgium: not a leading location for innovation

Only one out of five managers thinks that Belgium is ahead of other leading industrialized countries in terms of innovation location. Almost one out of two thinks that Belgium is lagging as innovation location. Even worse, barely one out of ten managers thinks that boundary conditions in Belgium, compared to those in other leading industrialized countries, are supportive of innovation (see Figure 17.).

Figure 17.

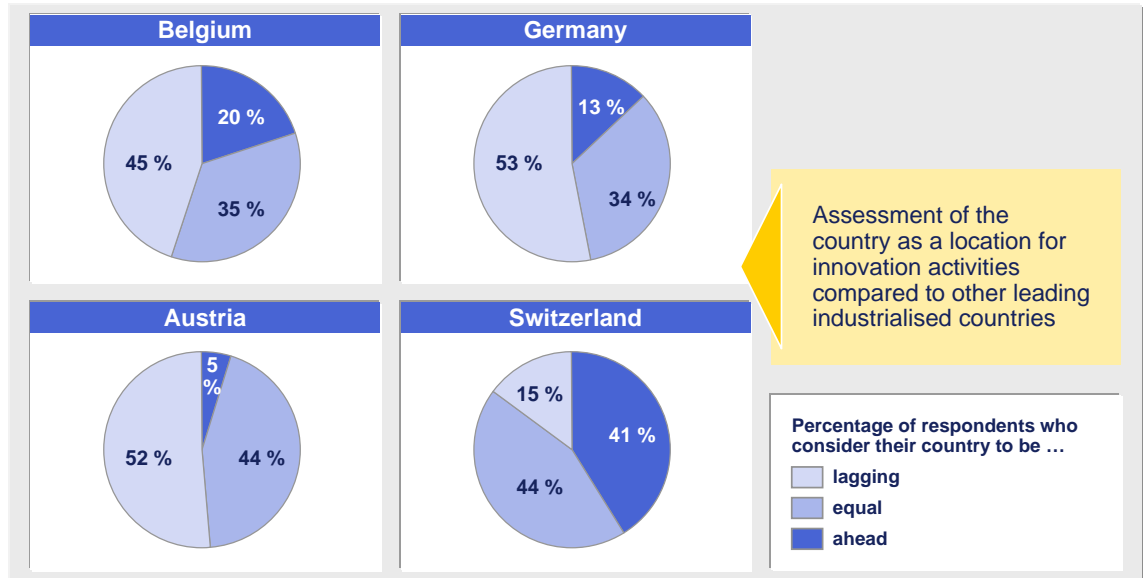


As a consequence, eighty percent of managers think that Belgium's innovation capability in 2004 will at best stay equal to what it was before. In other words, despite innovation being of growing importance and receiving more resources, Belgium's innovation capability will not improve compared to that of other leading industrialized countries.

This gloom is shared with what managers in Germany and Austria think about their countries as a location for innovation (see Figure 18.). In fact, they are even more pessimistic than managers in Belgium are.

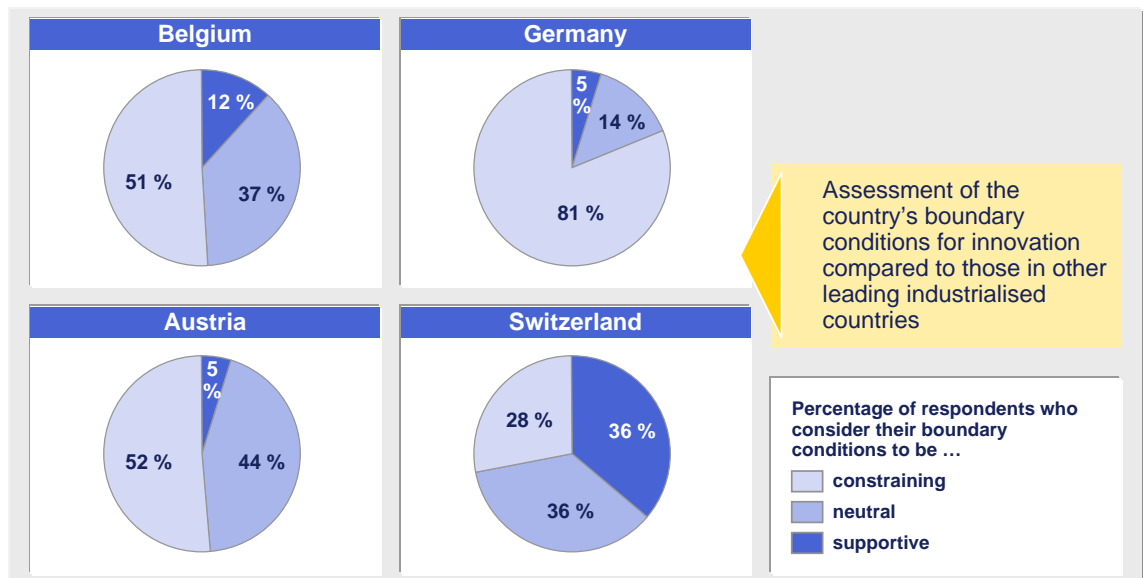
The opposite is true in Switzerland: only 15% of managers think that their country is lagging. This is in line with a previous finding that de-localization is a less important management priority in Switzerland than it is in the other countries.

Figure 18.



A similar pattern is found for the boundary conditions influencing innovation. A majority of managers in Germany, Austria and Belgium think that the boundary conditions in their country are more constraining than those in others (see Figure 19.).

Figure 19.



The fact that managers in several leading industrialized countries within Europe find that their country is lagging in terms of innovation location and boundary conditions is in line with a finding we will discuss later: when managers talk about de-localization of R&D, they think about de-localization out of Europe rather than out of one European country into another one.

Raymond Verding, Group Managing Director, SunChemical



“Home-grown SME’s are key for anchoring innovation”

“I have been working with multinationals all of my professional life. It is clear that the ever increasing scale of multinationals leads to centralization of R&D activities. When that happens, large countries are favored over small countries such as Belgium mainly because of the greater pool of talented people. Today multinationals rarely think of Belgium as a location for innovation activities spontaneously, unless we manage to have their European headquarters in Belgium too. As a consequence, there is an urgent need for policy-makers to put Belgium back on the map.”

“This phenomenon obviously does not apply to home-grown SME’s, which are key for anchoring innovation activities within Belgium. Unfortunately, starting up and expanding a new company within Belgium is far from obvious. It begins with the red tape to start up your company. Once your R&D is successful and you want to reward the innovators financially, the cost to the company is roughly three times what the innovators take home. And when you finally start producing, you are facing the cost of a wide variety of permits. It is very unfortunate, because innovation is crucial for counteracting the inevitable price erosion that affects your current products.”

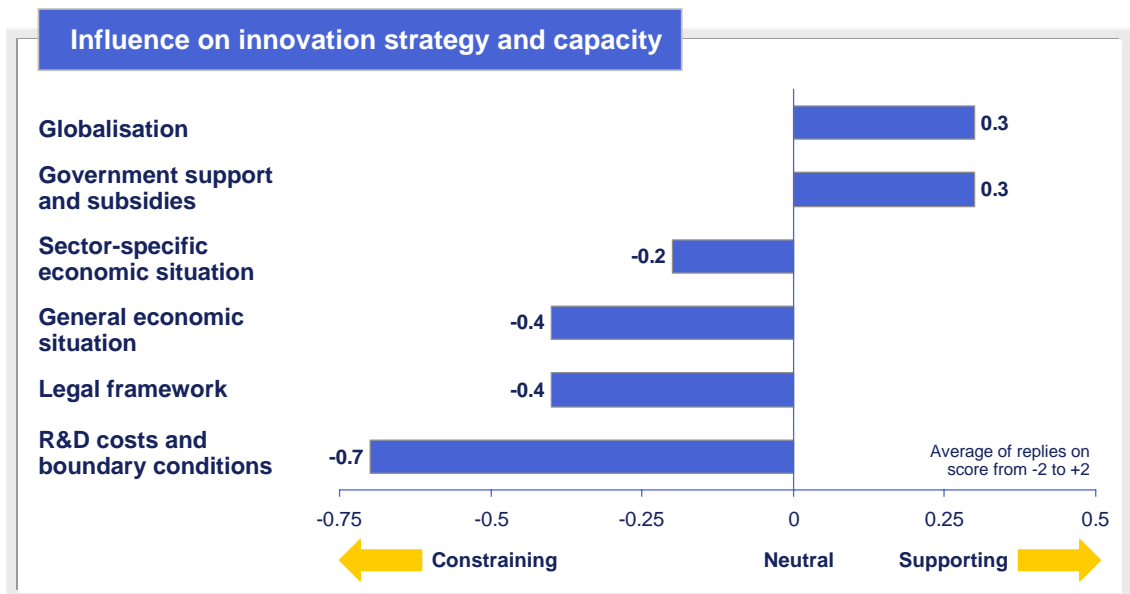
SunChemical is the world's largest producer of printing inks and pigments, with annual sales in 2002 of approximately \$3 billion. It has research laboratories in the USA, Germany and Japan. In Belgium it has a mother plant and associated application development activities.

The influence of boundary conditions

Many factors influence the innovation strategy and innovation capacity of companies. Some have a supporting, others a constraining influence. Managers find that R&D costs and boundary conditions have a much more constraining influence than other factors such as the general economic situation (see Figure 20.). The legal framework is also considered to have a constraining influence on their innovation capacity.

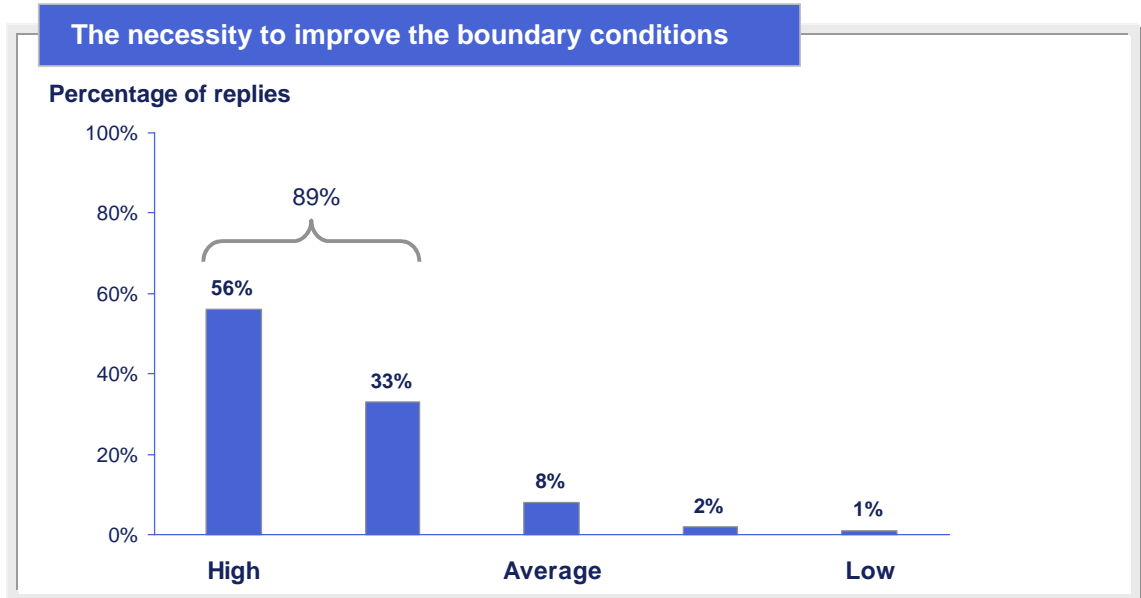
These constraining influences are not compensated by the positive influence of government support and subsidies. It is also interesting to note that globalisation is not considered a threat but an innovation opportunity.

Figure 20.



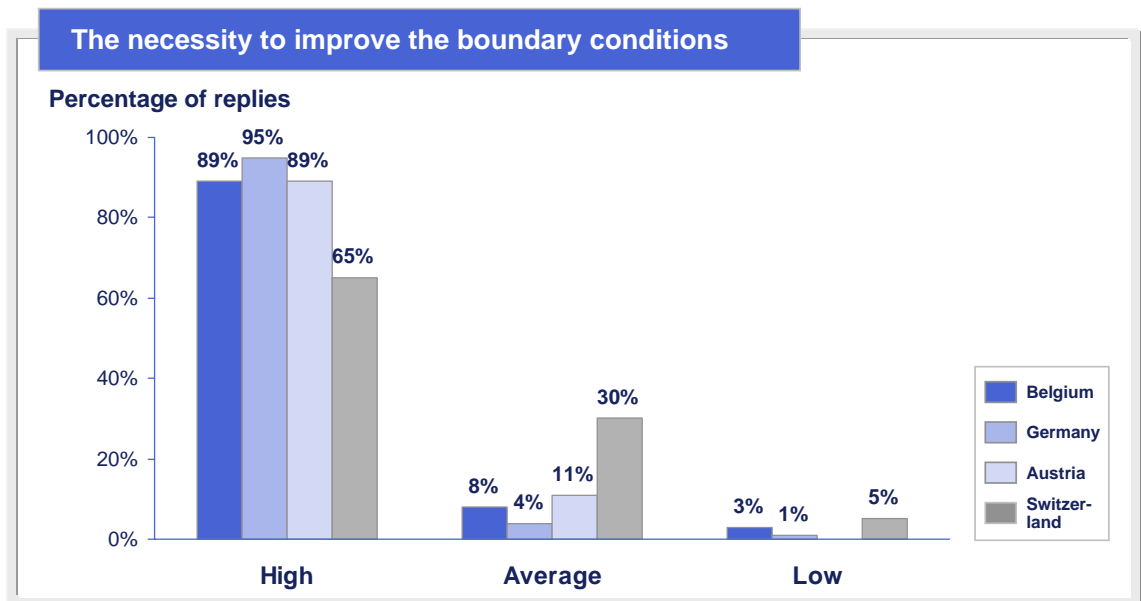
As a consequence, nine out of ten managers see a great need to take measures to improve the overall set of political, administrative and legal boundary conditions (see Figure 21.).

Figure 21.



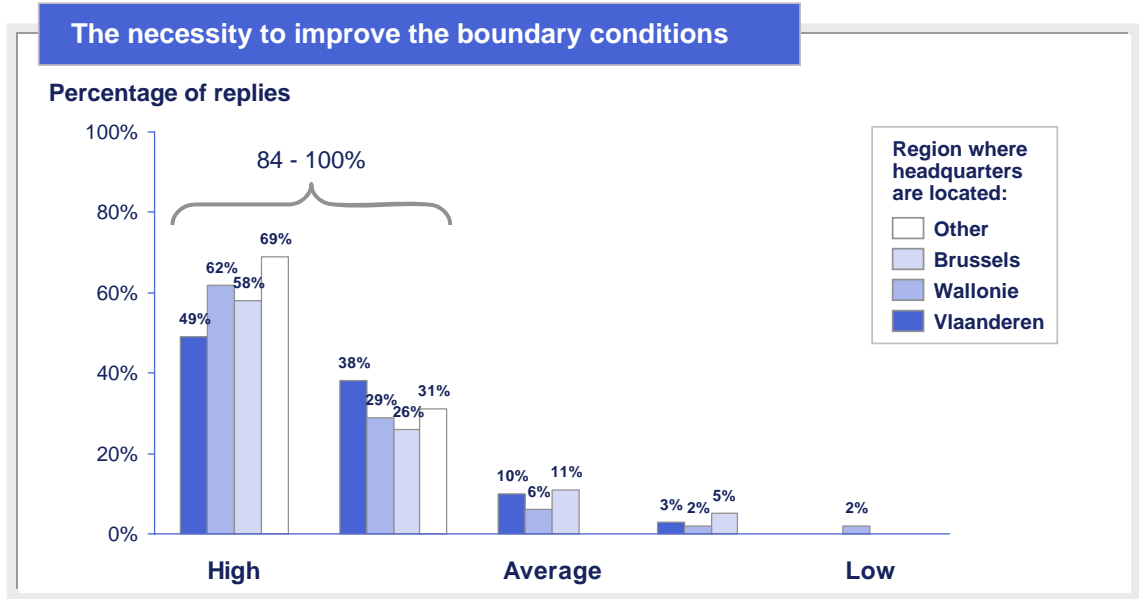
This concern is shared with managers in Germany and Austria. Managers in Switzerland are a bit more positive (see Figure 22.).

Figure 22.



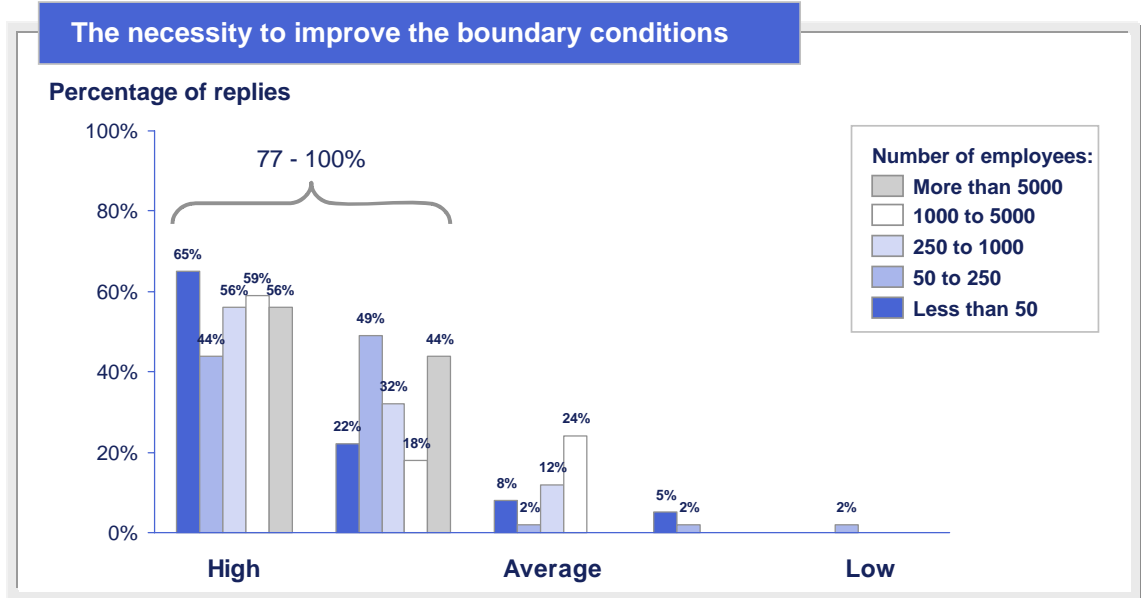
Within Belgium, the need to improve the boundary conditions is shared by managers across regions. Managers in Vlaanderen and Brussels are slightly more positive than managers in Wallonie or managers at companies whose headquarters are located outside Belgium (see Figure 23.).

Figure 23.



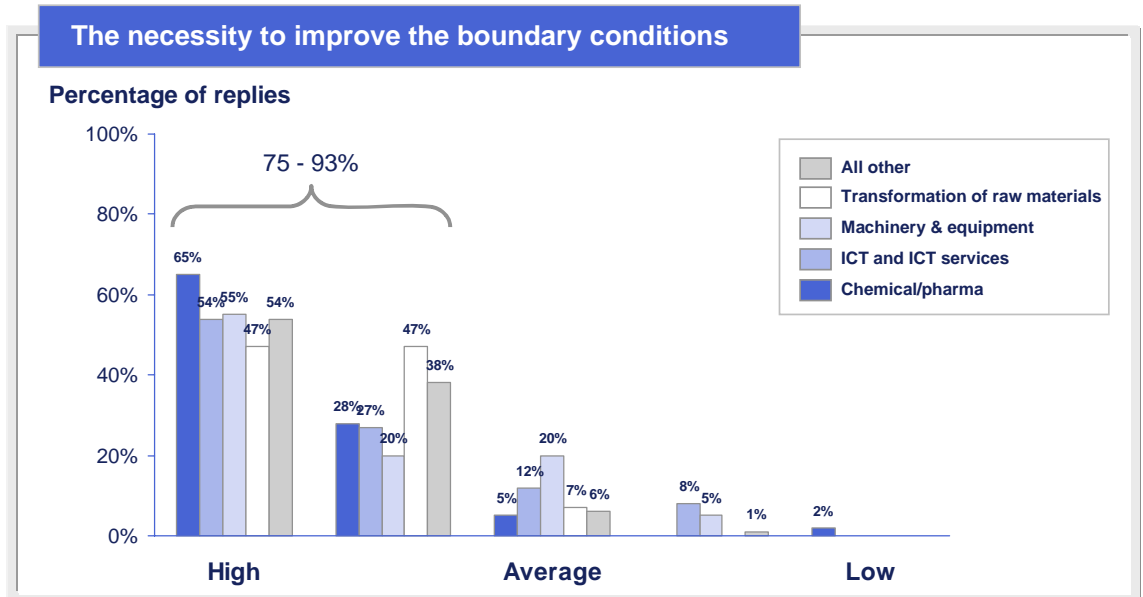
Likewise, the need to improve the boundary conditions is shared by managers across companies of different size (see Figure 24.).

Figure 24.



Finally, the need to improve the boundary conditions is shared by managers across sectors (see Figure 25.).

Figure 25.



Thierry Baltus, Associate Director, Dyax



“For Europe to turn its leading-edge research capabilities into profitable business, governments must cut back the red tape”

“It is clear that the Liege region has to build new activities to replace its old industrial base. Logistical services are one promising domain. Research businesses are another, given the solid base in fields such as aerospace and biotechnology. With the support of the Walloon Region, Dyax and other biotechnology companies are playing a leading role in this. Unfortunately, there are far too many unnecessary and artificial constraints on the development of new businesses. For example, since our shareholder is not a physical person but a legal entity, we are not eligible for several types of financial support from government sources. The time required to pass through the local, regional and federal levels is excessively long. There is insufficient logic and simplicity in various areas such as permits for waste treatment or equipment norms, be they national or European. And surprisingly, the English language capabilities of many young people are not up to standard.”

“To our American owners, Belgium seems to be a very complicated country, with heavy administrative burdens and a lack of continuity in government policy. If we want to attract and keep top R&D activities, we must improve on these. Likewise, if we want to keep our top researchers here, we must give them not only financial rewards but also equipment and other resources that enable them to become reputed in their field world-wide. From a tax point of view, it’s important to reduce salary costs by reducing the level of income and social security tax on employer and employee level. It might be interesting to suggest companies to hire new researchers if the Belgian State creates specific regulations to improve scientific development by exoneration of retained earnings vested during a couple of year in R&D development.”

Dyax is a biopharmaceutical company focused on the discovery, development and commercialization of antibodies, small proteins and peptides as therapeutic products for unmet medical needs. Headquartered in the USA, Dyax has a European R&D center in Liège, Belgium, employing close to 30 people currently.

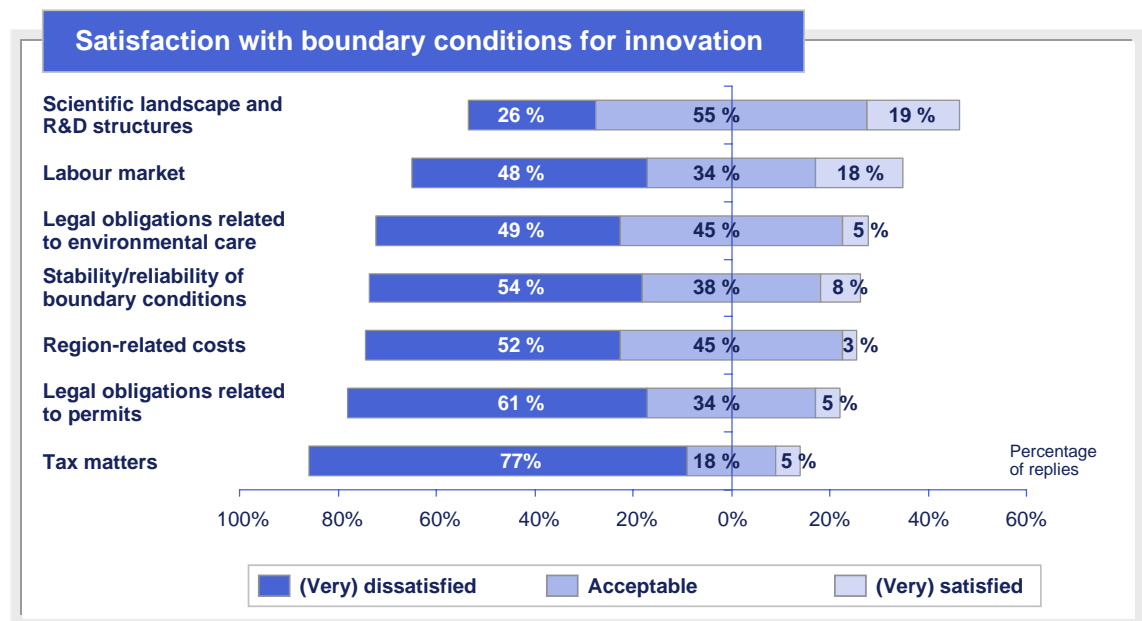
Tax matters

As we have seen earlier, boundary conditions do have a major impact on the innovation capacity of companies, and there is a great need to improve these.

Among managers, dissatisfaction is greatest about tax matters. Eight out of ten managers are dissatisfied or very dissatisfied with the way taxation enables companies to innovate. Dissatisfaction is also high (more than one out of two managers) about the legal obligations related to permits, region-related costs, and the stability and reliability of the boundary conditions (see Figure 26.).

The best score is obtained for the performance capability of the scientific landscape and R&D structures in general (universities, etc.). Nevertheless, still only one out of five managers is satisfied or very satisfied with this boundary condition.

Figure 26.

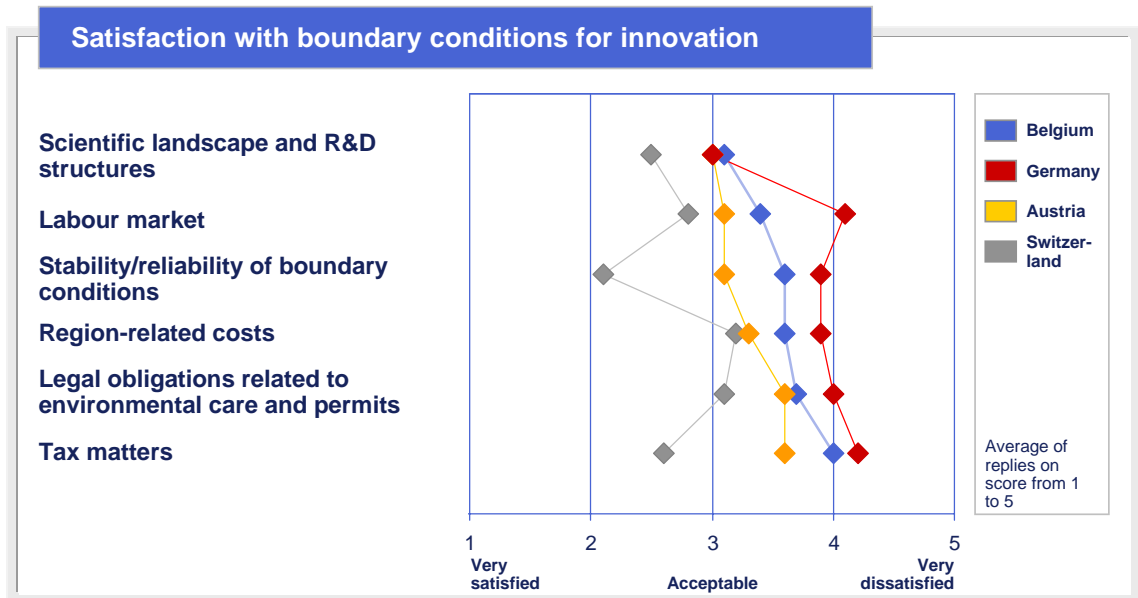


Comparing with satisfaction about boundary conditions among managers in the other three countries, several findings stand out (see Figure 27.). The ranking of the boundary conditions in terms of level of dissatisfaction and the level itself are largely the same in Belgium, Germany and Austria.

Managers in Switzerland, on the contrary, find the boundary conditions generally acceptable. Even more so, they are satisfied with two boundary conditions where dissatisfaction is highest in the other countries: tax matters and the stability of boundary conditions.

The finding about the positive view among managers in Switzerland is in line with previous findings: the lesser importance of de-localization, the leading position of their country as a location for innovation, the supportive or neutral nature of boundary conditions, and the lesser need to improve the boundary conditions.

Figure 27.



Thierry Leclipteux, Scientific Director, Coris BioConcept



“We are on par with the rest of Europe in terms of scientific knowledge, but we must create more critical mass”

“International strategic partnerships and co-development initiatives are crucial for Coris BioConcept because they enable us to make our technology known to our markets. From the many contacts I have with other biotechnology companies across Europe, I can say that there is no scientific knowledge deficit in Belgium. However, compared to some extra-ordinary situations like in Denmark-Sweden, Belgium suffers from fragmentation of knowledge. Both companies and the public sector should break down administrative walls (such as between universities, or between Wallonia and Flanders) that keep us from collaborating more fruitfully and creating more critical mass.”

“At least in Wallonia, if you find your way through the various public support programs for start-ups and technology companies, we are relatively comfortable. What needs improving, however, is the speed of execution of approvals by the public sector. At Coris BioConcept, we are fortunate enough to have been self-financing and profitable from the start, but many start-ups cannot afford the long waiting times.”

Coris Bioconcept is a biotechnology company developing and manufacturing rapid tests for the diagnosis of pathogens. Established in 1996, it is now serving customers across more than 50 countries around the world from its base in Gembloux, Belgium.

Avenues for improvement

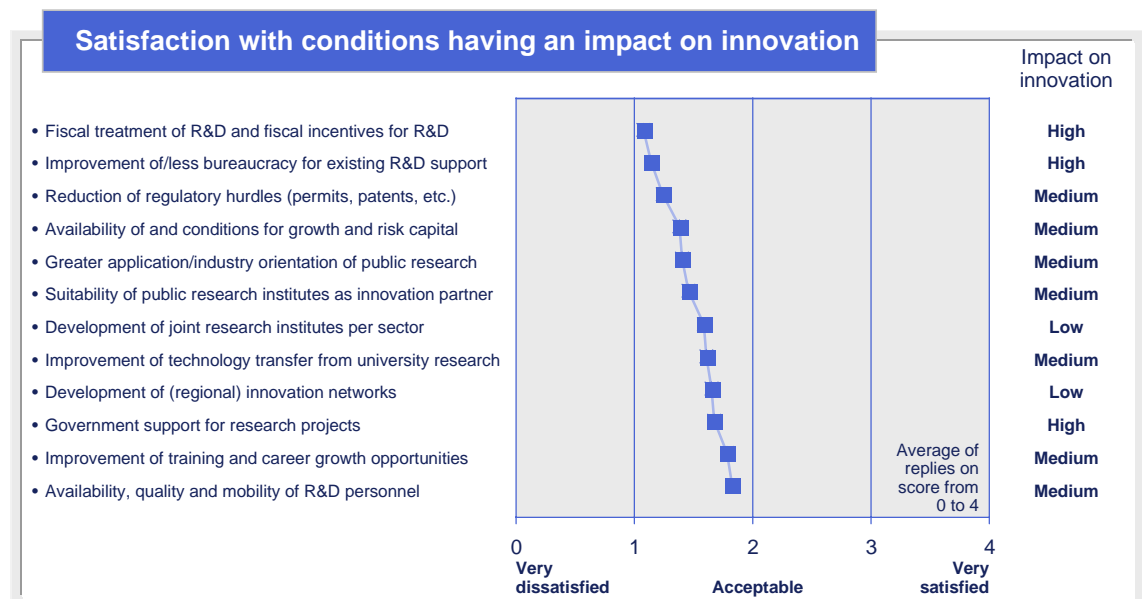
In line with a previous finding, managers state that the fiscal treatment of R&D and fiscal incentives for R&D provide the greatest scope for improving the conditions having an impact on innovation (see Figure 28.). Improving existing R&D support and lessening the bureaucracy associated with benefiting from it score also high. So does the reduction of all kinds of regulatory hurdles, such as for obtaining permits and acquiring patents.

At the other end of the scale, two people-related conditions appear to require the least improvement: the availability, quality and mobility of R&D personnel, and education and career growth opportunities. Obviously this is a relative ranking, since satisfaction levels about these conditions are still below what is found to be acceptable.

A number of conditions related to technology transfer and collective initiatives score midway: the application and industry orientation of publicly funded research activities (e.g., at universities), the suitability of public research institutes as innovation partners, the development of collective sector-level research institutes (e.g., the so-called Centers De Groote), the technology transfer from university research into business, and the development of (regional) innovation networks.

Generally speaking, the scope for improvement is highest for the conditions that have the highest impact on innovation.

Figure 28.



Martin De Prycker, President and CEO, Barco



“We must dare make choices with public money for strategic R&D”

“In Belgium we are relatively well off as far as the total volume of public financial support to strategic R&D is concerned. Unfortunately, we fragment the total volume across too many different sectors. We should focus it on a few long-term priority areas. We talk a lot about the cluster concept, but don’t have the guts and continuity of government to implement it.”

“As far as routine R&D is concerned, an across-the-board reduction of employment costs for researchers would be most welcome. Barco is building up its R&D resources inside Europe, but also outside Europe not only because markets in Asia are growing faster, but also because R&D costs are significantly lower there. It is part of building the basis for our future growth.”

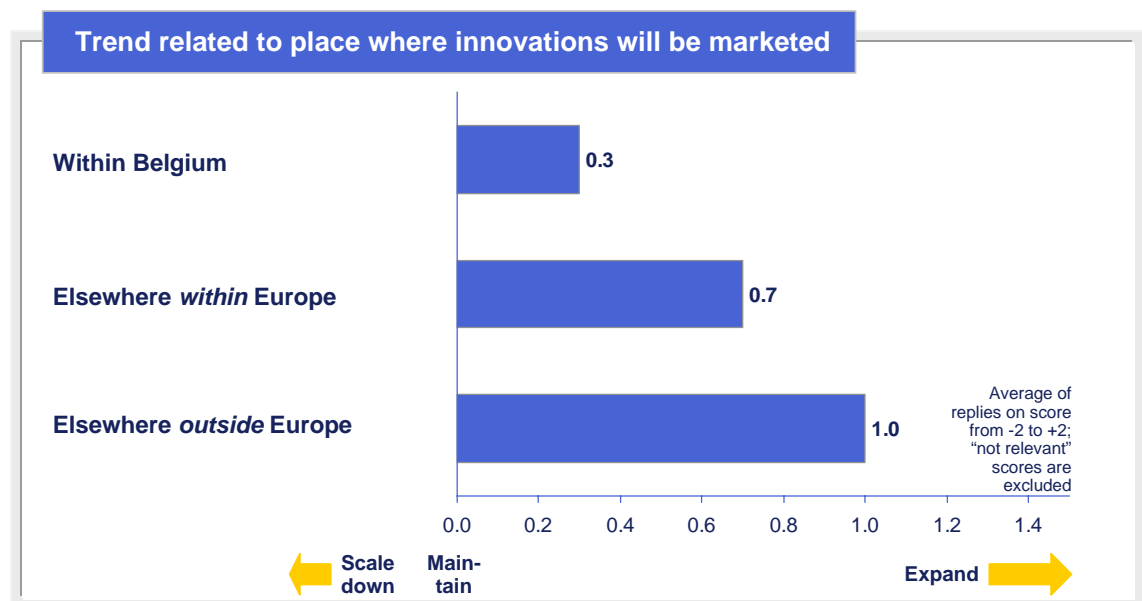
“At the same time, we shouldn’t exaggerate the issue of R&D costs. A Belgian start-up that has a real good business plan, that focuses on time-to-market and that is not constrained by the small local market, should not suffer too much from the high level of R&D costs. Neither should it have too much difficulty in attracting capital. It is too easy to only blame money for the lack of success.”

Barco, an international company headquartered in Kortrijk, Belgium, is active in three key areas of imaging technology. Barco designs and develops solutions for large screen visualization, display solutions for life-critical applications, and systems for visual inspection. Barco has a network of subsidiaries, distributors and agents in almost 100 countries. Barco is quoted on Brussels/Euronext and is a BEL 20 and a Next 150 company.

Market pull

As we have seen earlier, managers expect to devote more resources to R&D in the next two years. Obviously, R&D is not an objective in itself, but serves to bring innovations to market successfully. As far as geographic focus is concerned, managers in Belgium will increasingly seek to market their innovations outside Europe, more so than within Europe and much more so than within Belgium (see Figure 29.).

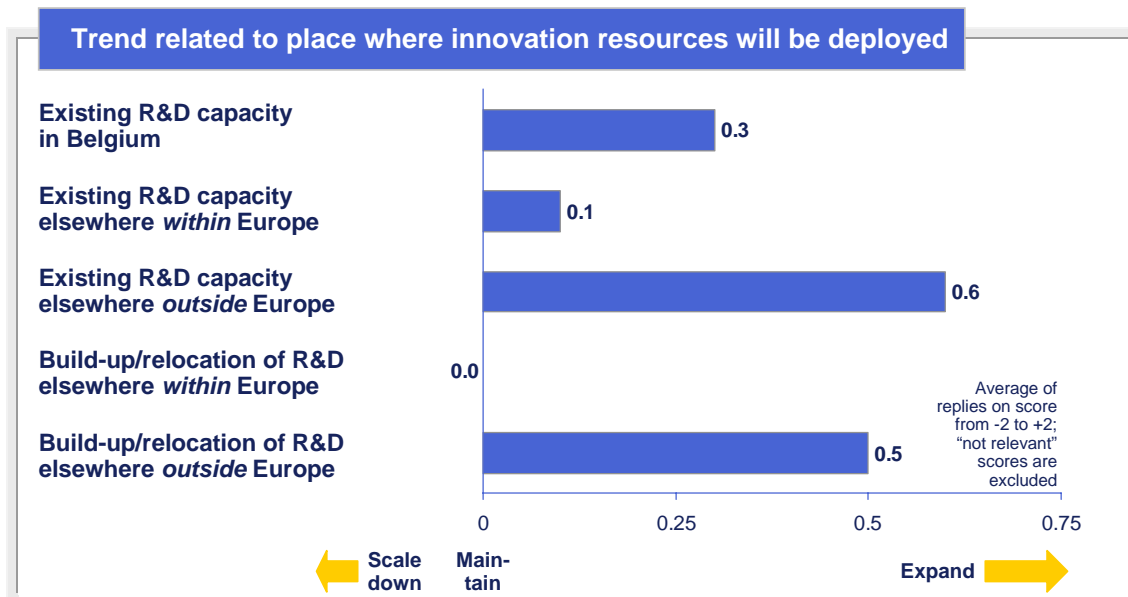
Figure 29.



The logical question managers then face is: where shall we expand our R&D capacity? The answer is clear: managers plan to expand their R&D capacity mostly outside Europe, either by expanding already existing capacity or by building up new capacity, possibly through the re-location of R&D capacity out of Belgium (see Figure 30.).

It is striking that expanding existing R&D capacity – let alone building up new R&D capacity – elsewhere within Europe is not part of managers' plans. This finding is in line with the fact that managers in two other European countries, namely Germany and Austria, are as gloomy about the boundary conditions in their countries as managers in Belgium are about theirs.

Figure 30.



It turns out that for many companies, especially the smaller ones, expanding or building R&D capacity outside Belgium is not an option (see Figure 31.). While small companies can market their innovations worldwide by exporting or manufacturing locally, costs and issues of critical mass make it very hard to do R&D on several places.

Figure 31.

Initiative		Companies with less than 50 employees	Companies with more than 1000 employees
Future deployment of innovation resources	Expansion of existing R&D capacity elsewhere <i>within</i> Europe	39%	85%
	Expansion of existing R&D capacity elsewhere <i>outside</i> Europe	39%	74%
	Build-up/relocation of R&D elsewhere <i>within</i> Europe	28%	65%
	Build-up/relocation of R&D elsewhere <i>outside</i> Europe	26%	65%
Future marketing of innovations	Elsewhere <i>within</i> Europe	74%	82%
	Elsewhere <i>outside</i> Europe	66%	79%

Percentage of companies for which the initiative is a relevant option

This leads to a troublesome hypothesis. Small companies suffer as much from constraining boundary conditions for innovation as large companies do, but unlike large companies they cannot “escape” abroad. As a consequence, smaller companies will reduce their innovation efforts, which is a sure recipe for starvation and, ultimately, demise. Even worse, many new small and innovative companies will not be created in the first place.

4. Conclusions and Recommendations

Innovation is a top priority of managers of companies in Belgium today. Accordingly, managers expect to devote more resources to innovation in the next two years compared to previous years. These resources will be deployed primarily on projects with a potential for short-term results and on new product development projects. Likewise, collaboration with development partners from industry and universities will increase.

However, managers plan to expand their R&D capacity mostly outside Europe, more so than in Belgium and even more so than elsewhere in Europe. They will do so either by expanding already existing capacity or by building up new capacity outside Europe, possibly through the re-location of R&D capacity out of Belgium. The low attraction of other European countries for managers of companies in Belgium is confirmed by the low esteem managers of companies in these other countries have for their own country as a leading location for innovation activities.

The factor that discourages innovation in Belgium most is the absence of supportive boundary conditions for innovation. For an overwhelming majority of managers, there is a great need to improve the overall set of political, administrative and legal boundary conditions. This concern is shared by managers across Belgium's three regions, across small and large companies, and across industry sectors.

Of highest concern are tax matters, the legal obligations related to permits, region-related costs, and the very stability and continuity of the boundary conditions. It is striking that managers in Switzerland are much more positive about their country as an attractive location for innovation, and especially so about two boundary conditions with which dissatisfaction is very high in Belgium, Germany and Austria: tax matters and the stability of boundary conditions.

Government policy-makers should urgently improve all boundary conditions that influence the innovation capacity of companies. The five most important levers for change are the following:

- Improve the fiscal treatment of R&D and the fiscal incentives for R&D.
- Improve existing R&D support and lessen the bureaucracy associated with benefiting from it.
- Reduce all kinds of regulatory hurdles, such as those for obtaining permits and acquiring patents.
- Boost the availability of and the conditions for growth and risk capital.
- Stimulate a greater application and industry orientation of public research at universities and similar institutes.

Unless policy-makers improve the boundary conditions, three phenomena will accelerate. First, companies for which re-location of R&D capacity is an option will indeed build up their R&D capacity outside Belgium and Europe. Second, companies for which re-location is hardly an option, i.e. mostly small companies, risk innovating less and consequently losing their competitiveness. Third, and arguably worst of all, many new innovative companies will not be created in the first place.

If innovation dries up, our knowledge economy will slip, and the prosperity of Belgium's and Europe's citizens will decline. The results of this survey embody an urgent appeal, from managers of companies in Belgium to its policy-makers, to act and improve the boundary conditions for innovation, so that Belgium will indeed be a hotspot for innovation.

Brigitte Laurent, Group Innovation Champion, Solvay



“We must put Belgium back on the map as a hotspot for scientists and engineers”

“Scientists and managers from outside Europe associate Belgium insufficiently with innovation. The term ‘Brussels’ in particular conjures up images of European institutions and administration. It is a challenge for our public policy-makers to change this perception and turn Belgium into a hotspot where scientists and engineers from all over the globe will want to work, to live or to connect to. Doing so requires an urgent, intensive and sustained communications campaign, backed up by real incentives, such as lower taxes, less bureaucracy, and better access to venture capital.”

“However, financial incentives are not the only key success factor. Attracting researchers from abroad requires, in addition, for Belgium to be actively part of an international network – not only from outside to Belgium but as well from Belgium to outside – leading to strong interactions with strategic partners. In this regard, it is critical to develop an innovative culture by promoting an entrepreneurial spirit among young people.”

Solvay is an international chemical and pharmaceutical group employing more than 30.000 people. It has 33 research centers spread over 9 countries across the globe.

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To a great extent, the FEB is able to operate effectively thanks to its member federations' local knowledge, their experience and the consensus existing among them. It is active in all sectors of business and is supported by an intensive communication strategy. The FEB represents - through some 50 sectoral federations - more than 30,000 small, medium-sized and large companies in a wide range of sectors, ranging from industry to services.

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