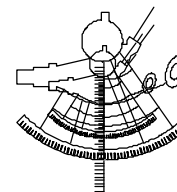


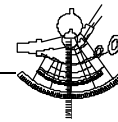
European Trend Chart on Innovation



Thematic Report

Start-up of Technology-Based Firms

October 2002



Innovation is a priority of all member states and of the European Commission. Throughout Europe, hundreds of policy measures and support schemes aimed at innovation have been implemented or are under preparation. The diversity of these measures and schemes reflects the diversity of the framework conditions, cultural preferences and political priorities in the member states. The 'First Action Plan for Innovation in Europe', launched by the European Commission in 1996, provided for the first time a common analytical and political framework for innovation policy in Europe.

Building upon the Action Plan, the *Trend Chart on Innovation in Europe* is a practical tool for innovation organisation and scheme managers in Europe. Run by the Innovation Directorate of DG Enterprise, it pursues the collection, regular updating and analysis of information on innovation policies at national and Community level, with a focus on innovation finance; setting up and developing innovative businesses; the protection of intellectual property rights; and the transfer of technology between research and industry.

The Trend Chart serves the 'open policy co-ordination approach' laid down by the Lisbon Council in March 2000. It supports organisation and scheme managers in Europe with summarised and concise information and statistics on innovation policies, performances and trends in the European Union. It is also a European forum for benchmarking and the exchange of good practices in the area of innovation policy.

The Trend Chart products

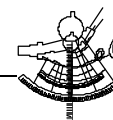
The Trend Chart on Innovation has been running since January 2000. It tracks innovation policy developments in all EU member states, plus Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Israel, Latvia, Lithuania, Norway, Poland, Romania, Slovak Republic and Slovenia. The Trend Chart website (www.cordis.lu/trendchart) will provide access to the following services and publications, as they become available:

- a database of policy measures across Europe;
- a 'who is who?' of agencies and government departments involved in innovation;
- a series of six-monthly country reports for all countries covered;
- a series of six-monthly trend reports covered on each of the four main themes;
- a number of benchmarking reports;
- the European Innovation Scoreboard and other statistical reports;
- a news service and thematic papers;
- the annual reports of the Trend Chart.

The present report was prepared by Jacek Walendowski and Alasdair Reid of ADE S.A. (www.ade.be). The information contained in this report has not been validated in detail by either the member states or the European Commission.

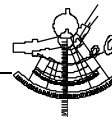
Contact: Christophe Guichard; Christophe.guichard@cec.eu.int

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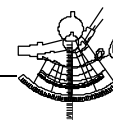


Executive summary

- In total this Thematic Trend report covered 128 measures in 25 countries (out of the 30 countries covered by the Trend Chart; three countries reporting no measures and two countries for which no report was available).
- **The pace of introducing new measures relating to new technology-based firms (NTBFs) has not evolved significantly from mid-2000 to September 2002.** In the 12 months to September 2002, seven new measures were introduced; four of which concerned improving access to finance for start-up enterprises.
- There has been **no significant shift in priority given to NTBFs** with the average trend for 28 countries falling from 3 in July 2000 to 2.9 in September 2002.
- **There is a gap between policy rhetoric at EU and national levels on the need to foster NTBFs and actual policy effort.**
- The current EU15 member states dominate with on average 5.9 measures per country; while the candidate countries (CCs) have only 1.9 measures on average. Given the low relative number of small innovative firms in the CCs, **this policy gap would appear to call for more significant action to support NTBFs by the governments of the candidate countries.**
- The **main mode of delivery of support to NTBFs remains direct grants/loan funding to SMEs or individual entrepreneurs (researchers)**; followed by consultancy services.
- Funding for incubators is less dominant as a mode of funding than might have been expected; perhaps because incubators are funded locally rather than nationally. However, there does seem to be some more sophisticated 'virtual incubation' efforts developing (e.g. in the UK with the BMI initiative).

In terms of **methodological issues** relating to on-going monitoring of NTBFs policy:

- Information on the financing of policy measures related to NTBFs is insufficient for any robust conclusions to be drawn, there is a need for a significant effort by national correspondents to collect more to facilitate comparative analysis;
- Thematic trend analysis is made difficult by clearly diverging approaches to completing datasheets and country reports. Issues requiring attention include:
 - categorisation of targets of measures. For instance, measures that clearly are aimed at funding incubators are not classified as such in terms of their mode of delivery. A high percentage of measures target the category 'others', suggesting a need to revise the categorisation.
 - country report sections on NTBFs mention specific measures which are then not classified as NTBF-related measures; and vice-versa, measures which are classified as NTBF related are not mentioned in the corresponding sections of the reports.



1 Introduction and policy context

The aim of this report is to present a thorough and as complete as possible review of trends in policy measures supporting the creation and development of new technology-based firms (NTBFs), which can be defined as new or very young business enterprises whose core activities are developing, marketing or exploiting technology.¹

In section 1, the rationale for public policy support to NTBFs in terms of intervention logic and available data on their importance in the economy is briefly explained. Major EU level policy orientations are also recalled in order to place member state level policy trends described in section 2 in context.

Section 2 provides a cross-country analysis of current policy trends with respect to NTBFs as identified via the national Trend Chart reports and other work carried out within the Trend Chart (e.g. benchmarking workshops).

Finally, Section 3 identifies issues significant innovation policy developments; which could form the subject of future analysis within the Trend Chart project or at national level.

1.1 Why should supporting NTBFs be a policy priority?

As a part of a response to the pressures of global industrial competition, EU policy-makers have increasingly recognised the need to support more effectively the creation and development of NTBFs. Generally speaking, the political priority given to NTBFs derives from data suggesting that these types of firms have the highest potential to generate growth and employment². More fundamentally with respect to current EU priorities, these firms tend to invest proportionally more in R&D expenditure than other firms.

For instance, according to recent data³ (covering the period 1996-2001), small enterprises in the manufacturing sector reported a higher rate of innovation intensity (5.1%) than large enterprises (4.7%) in the group of innovating enterprises, and these differences may be attributed to innovation expenditure being concentrated within relatively few small enterprises, while innovation expenditure is spread across the majority of large enterprises.⁴ Another survey, the Global Entrepreneurship Monitor⁵, found that out of 9,615 start-ups identified in the 37 countries covered, only 926 were 'high-potential innovative ventures'. However, 89% of these firms expected to have created 20 or more jobs in five years compared to only 22% of the other start-ups, and exports were expected to be between 51-100% of sales for 23% of the high-potential innovative ventures (compared to 2% of other start-ups). The GEM analysis suggests that 'high-potential ventures represent a distinct facet of entrepreneurial activity'; which requires distinct policy responses notably related to IPR protection.

At the same time there are a number of barriers to the creation of NTBFs, both technical and 'cultural'. As the recent Commission Green Paper on Entrepreneurship in Europe underlines in its opening

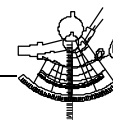
¹ Commission of the European Communities (2001), *Informal investors and high-tech entrepreneurship*, pp. 11.

² For a summary analysis of the links between innovation, small firms and employment creation, see *Innovative small and medium-sized enterprises and the creation of employment*. Innovation paper n°23. October 2001. IFGH on behalf of European Commission, DG Enterprise.

³ Eurostat. *SMEs in Europe: Competitiveness, innovation and the knowledge-drive society*. 2002

⁴ Commission of the European Communities (2002), *SMEs in Europe: Competitiveness, innovation and the knowledge-driven society*, pp. 32.

⁵ See www.gemconsortium.org. The 2002 GEM report (published November 2002) provides some an index of entrepreneurial activity but the pertinence of its analysis for EU countries can be questioned since it seems to largely capture 'necessity' or 'survival' entrepreneurship. Countries like Thailand, India, Chile, etc. lead the 'total entrepreneurial activity index' while the EU countries are typically at the other end of the scale along with Japan, Hong Kong, etc..



paragraph, Europe needs new and thriving firms willing to reap the benefits of market opening and to embark on creative and innovative ventures for commercial exploitation on a larger scale. In terms of culture, the creation and development of NTBFs is said to be hampered by cultural attitudes of Europeans, who appear to be more risk-averse and concerned about the consequences of both personal and corporate failure.⁶ The Green Paper notes that compared to the EU average of 45%, as many as 67% of US citizens would prefer to be self-employed.⁷

'Entry barriers' to the creation of start-ups, in general, and NTBFs in particular include administrative costs and procedures required to establishment, and access to seed and early-stage capital, poor IPR protection, etc.. Administrative barriers obviously affect all types of enterprises relatively equally, but access to private equity in the form of seed and early-stage capital is much more vital for NTBFs than standard start-ups since often the former have still to complete further R&D before commercialising their product or service. For instance, studies have highlighted a positive correlation between the amount invested in venture capital and the inventiveness coefficient (defined as the number of resident patent applications per 10,000 inhabitants)⁸.

Data from the survey carried out for the Global Competitiveness Report provides some indication of the ease with which a new start-up can be founded in the EU15 and candidate countries. The table below presents the results for the venture capital question and three questions related to business start-ups. Trend Chart countries are split between candidate countries (CC, 11 countries since the survey did not include Cyprus and Malta) and EU member states (14 countries since Luxembourg was not included). As the table below illustrates, there is on average a significant difference between the CC11 and EU14 average score for both venture capital availability and administrative burden. On both these counts the CC11 perform worse, however, in terms of permits and days to start a business, the candidate countries on average perform as well or better than the EU14. This result is notably influenced by the very negative situations in Belgium and Italy.

In terms of venture capital availability, the Scandinavian countries and the UK are clearly above average while Greece is trailing significantly according to the survey. Finland has the least burdensome business environment while the UK has the lowest 'red-tape' (permits and days to start a business).

⁶ Commission of the European Communities (2000), *European Innovative Enterprises: Lessons from successful applications of research results to dynamic markets*, pp. 35.

⁷ Commission of the European Communities (2003), *Green Paper on Entrepreneurship in Europe*, pp. 4, 8.

⁸ See 'Financing Innovative Firms through venture capital', EIB 2001.

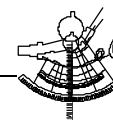


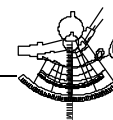
Table 1: Administrative burden for start ups & venture capital availability

Indicator	Venture Capital Availability	Administrative Burden for Start-Ups	Permits to Start a Firm	Days to Start a Firm
Description	Entrepreneurs with innovative but risky projects can generally find venture capital in your country (1=not true, 7=true)	Starting a new business in your country is generally (1=extremely difficult and time consuming, 7=easy)	Approximately how many permits would you need to start a new firm? (median response listed for each country)	Considering license and permit requirements, what is the typical number of days required to start a new firm in your country? (median response listed for each country)
Latvia	2.9	4.0	4.0	20.0
Lithuania	2.9	3.5	6.5	30.0
Slovak Republic	2.8	2.8	5.0	30.0
Bulgaria	2.6	2.5	7.0	30.0
Romania	1.3	3.2	5.0	15.0
Turkey	2.0	4.1	5.0	45.0
Estonia	3.5	5.8	3.0	30.0
Slovenia	2.9	4.4	5.0	60.0
Hungary	3.6	5.4	5.0	45.0
Czech Republic	3.2	4.3	4.0	60.0
Poland	3.0	5.2	3.0	30.0
CC-11 mean	2.8	4.1	4.8	35.9
Greece	3.0	3.5	6.5	60.0
Portugal	3.9	4.4	5.0	60.0
Spain	3.9	4.4	5.5	60.0
Austria	4.1	4.3	5.0	35.0
Belgium	4.4	4.8	8.0	90.0
Denmark	5.1	4.9	3.0	30.0
Finland	5.5	6.3	3.0	22.5
France	4.7	4.1	5.0	30.0
Germany	4.9	4.8	3.0	30.0
Ireland	4.5	5.1	3.0	15.0
Italy	3.5	4.1	10.0	105.0
Netherlands	5.5	5.5	3.0	10.0
Sweden	5.6	5.7	5.0	25.0
United Kingdom	4.9	5.6	2.0	7.0
EU-14 mean	4.5	4.8	4.8	41.4
GCR Sample Mean	3.8	4.7	4.7	40.7

Source: The Global Competitiveness Report 2001-2002 (Porter M., Sach E., Cornelius P., McArthur J.W., Schwab K.)

Among the candidate countries, Estonia clearly outperforms all other countries in terms of the business environment for start-ups and access to venture capital. Bulgaria and Romania have the most negative environment and the poorest access to venture capital (which is largely confirmed by statistical data and other evidence). Interestingly, Turkey, which is not yet covered by the Trend Chart, performs rather well among the candidate countries and indeed aside from venture capital is close to the EU average for most indicators.

To conclude, in order to sustain growth, NTBFs need more than just access to capital, to specialised laboratories or IPR advice; a fact which can often be overlooked by policy-makers and even entrepreneurs themselves. Often these firms are technically very competent but lack managerial or commercial skills. Hence, governments have tended to put in place a package of measures which try to combine demand-side incentives to become an entrepreneur and infrastructure (incubators) or advisory support with increased access to specialised early-stage and seed capital. The purpose of the rest of this report is to identify trends in this package of measures.



1.2 Current EU policy orientations

EU leaders adopted a new strategy for a more competitive Europe at the Lisbon European Council (2000). In particular, they called for the creation of a better environment for the **creation and growth of high-technology start-ups and for start-up and developing innovative enterprises**. The Lisbon European Council Conclusions were complemented by the Communication on Innovation in a Knowledge-Driven Economy, according to which business environments should facilitate access to new technologies, know-how, venture capital and seed funds, mentoring schemes and support structures such as incubators and hatcheries, as well as aim at developing entrepreneurial culture.⁹

The interface between companies and financial institutions was pointed out to require special attention, since **financial constraints** such as lack of appropriate sources of finance figure among the most cited constraints to innovation. The EU in comparison with the United States (US) lags not only in the number of venture capital operators active in the market, but also in the proportion of overall investment dedicated to early-stage financing and to technology development¹⁰.

The necessity to also focus on developing appropriate **human resources** with a broad range of skills required for the management of start-ups and for business support organisations e.g. incubators, venture capitalists funds, etc. has also been underlined most recently in the Green Paper on Entrepreneurship.

1.3 Past trends and new developments

Compared to these broad and ambitious policy goals, both the previous Trend Chart Thematic Trend Reports on NTBFs (covering the periods: December 2000 - April 2001 and May – September 2001) have noted that the attention of policy-makers on promoting innovative or technology-based entrepreneurship was relatively limited, if measured in terms of the introduction of new measures. For instance, only four new measures were identified in favour during the period of the previous Thematic Trend Chart report.

Since September 2001, seven new measures have been introduced, namely:

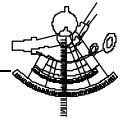
- in France, 'Co-investment funds for young enterprises' (FR 35),
- in Portugal 'Venture Capital Syndication Funds' (PT 31),
- in Spain 'Support measure to venture capital for NTBFs' (ES 32),
- in Sweden 'Seed Financing' (SE 21), and
- in Greece 'Supporting entrepreneurial ideas through tertiary education structures' (GR 53),
- in the Netherlands 'Subsidy Scheme Infrastructures Technostarters' (NL 39),
- in Cyprus 'Support to Female Entrepreneurship' (CY 23).

The first four measures are aimed at increasing the supply of early-stage venture capital as noted above. This is generally considered to be due to need of capital by SMEs in the referred countries.

The main objective of the measure adopted recently in France '*Co-investment funds for young enterprises*', is to help young French companies with less than seven years of existence in technological sectors. The technological sectors aimed at vary: information and communication technologies, electronics, biotechnologies and nanotechnologies. The main objective is to take minority participation in young technological enterprises on demand with investment funds established in European Union countries. Fifty to 60 participants are expected from young technological enterprises. This fund is a market tool, as it will intervene in the same conditions as private investors and will strive to protect the interests of the subscribers.

⁹ Commission of the European Communities COM(2000) 576 final, Innovation in a Knowledge-Driven Economy.

¹⁰ Ibid. pp. 20.



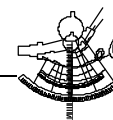
In Portugal, the measure launched in the context of the Financial Innovation Actions of POE (PT 24 and PT25), defines the rules for the creation and current activities of '*Venture Capital Syndication Funds (FSCRs)*'. It include funds aimed at combined venture capital operations by investing in company equity and financing venture capital organisations with a view to strengthen SME capital structures.

In Spain, due to a lack of innovative enterprises, the Spanish government has introduced a new measure to provide financial support for start-ups (younger than two years) improving the venture capital market. More specifically, this action is multi-sector oriented and is implemented as a reimbursable loan for venture capital investment organisations.

The Swedish Industrial Fund offers advice and financing to technology-based firms in early stages of development. The objective is to renew Swedish industry through financing development of technological product ideas with an important commercial potential. Funding is provided as either loans or capital by the industrial fund to newly established enterprises willing to undertake innovation (products, processes or markets). The enterprise must have a unique business idea (and technology) in a growing market.

Some similarities can be noted between the measures introduced in Greece and in the Netherlands. In the former, the latest measure is targeted at the existing liaison offices of tertiary education institutes in order to strengthen them in promoting entrepreneurship among students and graduates (25% of funding provided by national funds and 75% by the European Social Fund). The Netherlands has also given support for research institutes and universities aiming to encourage these knowledge institutes to offer 'technostarters' an adequate infrastructure and necessary support e.g. accommodation, accessible equipment and support and coaching services.

Finally, the Cypriot measure is quite distinctive aiming at the development, support and promotion of entrepreneurship for women aged 18 to 55 years who wish to establish a firm in manufacturing, trade, services or tourism, by exploiting their knowledge, training and skills. This example has the merit of promoting female entrepreneurship, which is an EU level cross-cutting priority (e.g. in fields of employment and social policy, regional policy, research policy and enterprise and innovation policy).



2 Analysis of policy trends

2.1 Trends in policy priorities

The analytical framework adopted in this section is similar to those of previous Thematic Trend Reports on NTBFs. Approximately 130 measures have been analysed under the Trend Chart category 'Start-up of NTBFs' (Action Line III.3).

It is instructive to first consider the overall trend in terms of government priorities on the basis of the analysis conducted in each national Trend Chart Report with respect to government priorities for each of the 17 Action Lines. Based on the latest Trend Chart Country Reports (September 2002), Table 2 presents an overview of the trend in priorities given to the action line 'Start-up of Technology Based Companies'.

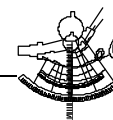
Table 2: Trends in priorities for Trend Chart category 'Start-up of NTBFs'

Country	July 2000	Sept 2001	Sept 2002	July 00/ Sept 02 change	Sept 01/ Sept 02 change
Austria	3	3	3	0	0
Belgium	3	3	3	0	0
Denmark	5	4	4	-1	0
Finland	3	3	2	0	-1
France	4	3	n.a.	n.a.	n.a.
Germany	3	3	3	0	0
Greece	3	4	4	-1	0
Ireland	2	2	3	+1	+1
Israel	4	4	4	0	0
Italy	2	2	2	0	0
Luxembourg	4	4	4	0	0
Netherlands	3	3	4	+1	+1
Norway	2	1	2	0	+1
Portugal	3	3	3	0	0
Spain	4	4	5	+1	+1
Sweden	3	3	3	0	0
United Kingdom	4	4	4	0	0
Bulgaria	2	2	3	+1	+1
Cyprus	4	2	4	0	+2
Czech Republic	4	4	4	0	0
Estonia	1	4	4	+3	0
Hungary	1	1	1	0	0
Latvia	6	2	1	-5	-1
Lithuania	1	1	1	0	0
Poland	1	1	2	+1	+1
Romania	3	3	3	0	0
Slovak Republic	4	4	4	0	0
Slovenia	2	2	2	0	0

Source: European Trend Chart Country Reports (September 2002)

Comparing the points given to the NTBF priority¹¹ from July 2000 to September 2002, six positive shifts in priority can be identified: in Ireland, the Netherlands, Spain, Bulgaria, Estonia and Poland.

¹¹ The priorities table in the national reports is a device intended to illuminate trends and differences between and across member states. The table is meant to convey a sense of which Action Lines are viewed as important in terms of national policy formulation, and to reflect the relative amounts of 'effort' expended on the promotion of measures dealing with that Action Line. 'Effort' is an all-inclusive term incorporating funding and the



Each of these countries changed priority by one point in ranking, with the exception of **Estonia** which witnessed a three point increase; while a negative change was seen in Denmark, Greece and Latvia. In the case of the latter the priority fell by five ranking points (this may reflect lack of funding for programmes specifically for NTBFs compared to a general priority towards SMEs, but is difficult to explain otherwise).

In the reporting period from September 2001 to September 2002, positive changes are noticeable in Ireland, the Netherlands, Norway, Spain, Bulgaria, Cyprus and Poland. In this case, only Cyprus changed its priority on NTBFs by two ranking points. Negative change was experienced only in Latvia and Finland (by one point), while remaining countries do not show change. The decline in the Finnish score appears to be relative to other priorities since the national report (see Annex 1) indicates a continuing priority towards spin-off, seed-capital, incubator programmes, etc.

Overall, Table 2 suggests that the creation and development of NTBFs has not been subject to major variations in policy trends over the period July 2000 to September 2002. The average trend score for the 28 countries has if anything declined but only very marginally from 3 in July 2000 to 2.8 in September 2001 to 2.9 currently. However, it is difficult to conclude whether this is due to the prior existence of properly functioning NTBF support structures or a relatively low priority given by governments to support NTBFs, in spite of EU level priorities (or, indeed, other reasons).

Considering the average score for each country over the three reporting periods, Denmark and Spain have both given an average priority of 4.3; but the Spanish trend has been positive (rising from 4 to 5). At least part of the explanation of this high priority ranking is the political recognition of the weakness of NTBFs in the economy. The NEOTEC measure is the main national measure (BE 29) but it also reinforces regional level schemes not covered by the Trend Chart according to the Spanish Country Report.

Box 1: NTBF support measures in Spain

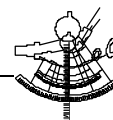
NEOTEC (ES 29) is a scheme designed by the Ministry of Science and Technology (MCYT) devoted to fostering the start-up of technology-based companies. It fulfils three main goals: 1) promoting cultural change in scientific environment towards an entrepreneurial approach; 2) increasing start-up funds to help NTBFs (seed-capital); 3) providing appropriate infrastructure and services to NTBFs, as training, technical and legal assistance, information services etc.

A second measure is '**Support measure to venture capital for new technology-based firms**' (ES 32) which aims to provide financial support for start-ups (younger than two years) improving the venture capital market. This action is multi-sector oriented and it is implemented as reimbursable loans for venture capital investment organisations.

Norway, on the other hand, has the lowest score of the EEA countries with 1.7 despite on-going support schemes and the creation of an incubator scheme in 2001.

Among the candidate countries, the scoring is rather difficult to explain, with Slovakia and the Czech Republic having the highest average score of 4, while Hungary, Lithuania and Poland have an average score of 1 despite specific measures in Hungary and, to a lesser extent, Poland. In short, there appears to be a need to increase the coherence of scoring systems for priorities if longer-term policy trends are to be traced with a minimum level of coherence.

allocation of other resources (e.g. staff resources, restructuring, etc.), government statements of intent or interest (e.g. specific studies), publicity and more general rhetoric. It should also be noted that policies might include both (a) activities already put in place and (b) activities to be developed in the future. The scoring system best described as 'a snap-shot of the relative importance of particular Action Lines as perceived by national policy-makers'.



2.2 Modes and targets of current NTBF measures

Annex 2 (prepared by INBIS) provides a listing of all measures per country and classifies them in terms of mode of delivery (grants/loans, intermediaries, guarantees, consultancy services, university spin-offs/incubators, tax deduction, financial environment), and targets (SMEs, large companies, managers, individuals, investors, research institutes, students, public authorities, universities). This table covers 128 measures in total for 25 countries (not including two countries for which no report was available and three countries [Bulgaria, Slovakia and Slovenia] which have yet to introduce a single measure in favour of NTBFs).

Generally speaking, it is extremely difficult to draw conclusions from this analysis largely based on 'number counting' policy measures. A first might be that there is little or no correspondence between number of measures and priorities. Austria has the most measures (17), of which a good number are at regional level, but an average priority score (3); while Latvia with 10 measures¹² is given only a priority score of 1. The Spanish report gives the highest priority for NTBFs (5) on the basis of only two measures (at national level). There is also little correspondence between size of country and number of measures, indeed **the only noticeable difference is between the average number of policy measures for the EU15 (5.9) against that of the eleven candidate countries (1.9)**¹³. This might be considered to reflect a difference in level of sophistication of policies but such conclusions have to be drawn very carefully. For instance, in the case of Estonia, where there is a three-point increase in priority for NTBFs between July 2000 and September 2002, there are only two schemes¹⁴.

The conclusion to be drawn from this simple first level analysis is that 'policy-mapping' needs to go far beyond simply identifying and even describing measures across countries. First, there seem to be a number of issues that need to be resolved in terms of method of collection of data on measures (e.g. regional measures or not in Federal countries, organisation or laws identified as policy measures in some countries, etc.) before going. Second, one key indicator that, if collected in a relatively harmonised manner, could give a better idea of policy priorities (and trends) would be budgetary data (public/private expenditure for each measure weighted per capita or per GNP; or as a percentage of total national spending on innovation policy measures, etc.) for each country. As will be highlighted below, the current quality of information in the database of policy measures makes this difficult.

¹² However, it is somewhat questionable if they are really all policy measure in the sense of the Trend Chart definition. For instance, 'Latvian Academy of Sciences website' is hardly a policy measure, nor is an IRC (particularly when it is mentioned twice) a policy measure in the normal sense of the term but rather a source of funding for an institution, which happens to be the Latvian Technology Centre identified as a separate measure, etc..

¹³ Malta and Turkey are not covered by the Trend Chart project at the current time.

¹⁴ In fact, the two schemes are actually two projects co-funded as part of the SPINNO scheme and not separate measures; while funding for incubators (on an ad hoc basis) and grant/loan funding available to NTBFs is available from the Estonian Technology Agency is not mentioned. In the case of grant/loan funding for product development, high-tech spin-offs are major consumers of funds according to ESTAG reports.

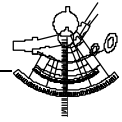
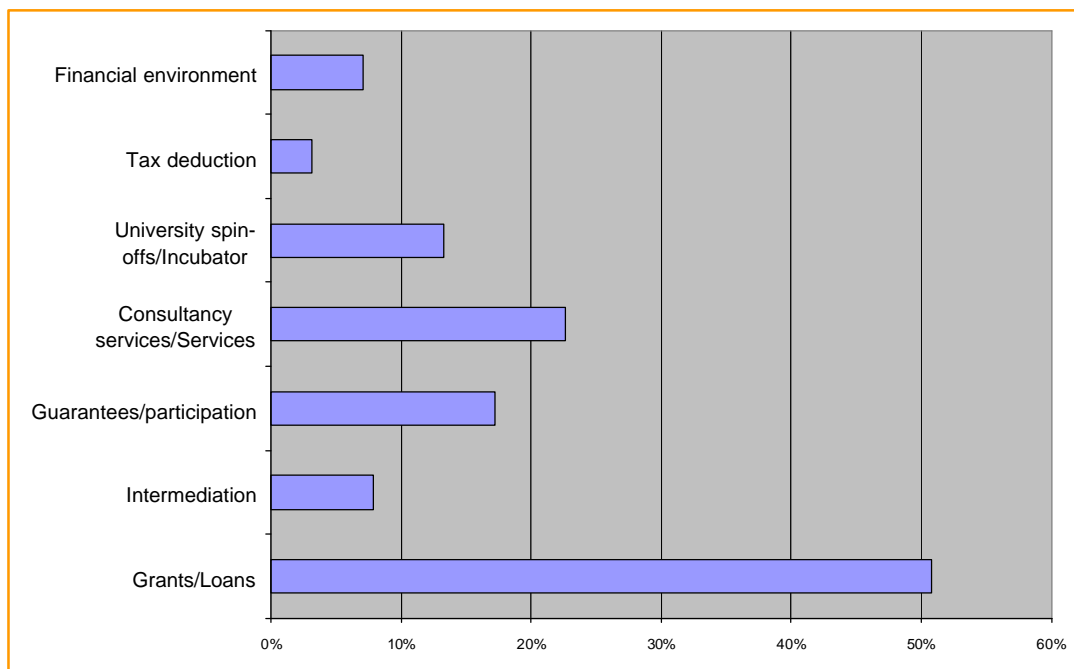
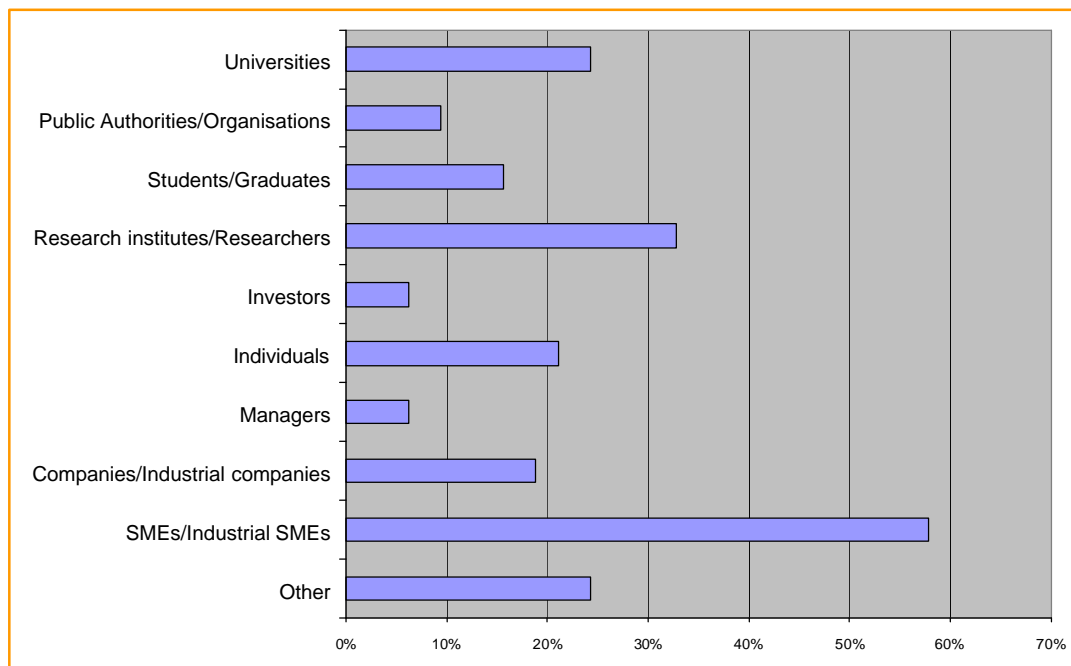


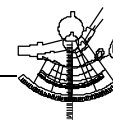
Figure 1: Modes of delivery of measures in favour of NTBFs



In terms of **modes**, the most frequent forms of delivery of measures were grants and loans (50% of all measures) followed by consulting services (22%), while tax deductions and modifications to the financial environment were used least, 5% and 6.9 % respectively.

Figure 2: Targets of measures in favour of NTBFs





In terms of **targets**, most measures target SMEs/industrial SMEs (58% of all measures), followed by research institution/researchers (33%), universities (24%) and individuals (21%)¹⁵; while the most rarely targeted groups were managers (6.2%), investors (6.2%) and public authorities and organisations (9.2%). Somewhat surprisingly, only 15 countries have schemes targeting universities as a source of potential NTBFs and as a way of commercialising research results (Germany with six schemes and the Netherlands with five schemes appear to be more active in terms of targeting universities, but this needs to be confirmed with more in-depth analysis).

There does seem to be some correspondence between these two ways of categorising the measures, since the most important mode of delivery corresponds with the most important; a domination of delivery by grants/loans with a targeting of SMEs appearing to be a logical match. The low relative importance given to tax deductions and financial environment is surprising at first sight but may reflect a trend towards generalised (neutral) tax deductions as opposed to fiscal incentives targeting specific sub-groups of enterprises. The relatively high ranking of individuals as targets most likely reflects the need to encourage and coach would-be entrepreneurs (particularly scientists and engineers) during the process of launching a firm.

To appreciate the difficulty of drawing conclusions from the results presented in Annex 2, it should be emphasised that the interpretation of the classification used appears to vary from country to country. For example, there are a total of 65 measures using grants and loans, which seems to be a very broad and diverse group. Many country correspondents appear to have used this as catch-all classification, for instance: the Technostarter measure in the Netherlands or the Eleftho programme in Greece are both classified under grants and loans, whereas they essentially provide funding to incubator structures. Very few countries have schemes of the 'intermediation' type (7 out of 25) and there must be some suspicion that this is due to a difficulty in understanding what should be classified under this category (country correspondents who have used it tend to apply it to networks, clubs or forum type mechanisms (e.g. the Venture Capital Forum in Greece, Inventors clubs and business angel networks in Germany).

Finally, while the level of financial commitments to NTBF support policy clearly differs across Europe (Table 3), it is extremely difficult to draw firm conclusions. Indeed, due to gaps in data (**information on funding for schemes was available for only 50 out of 128 measures**), it is impossible even to estimate the total expenditures on measures promoting NTBFs per country. Accordingly, any more in-depth or weighted analysis (for example total budgets allocated per country in relation GDP or government STI budgets, etc.) remains out of reach.

Large-scale programmes have been established in France, the United Kingdom and in Portugal but the share of funding specifically targeted to NTBFs is hard to ascertain. Medium-size projects were mainly developed in Greece, Austria and Germany, while the smallest ones were adopted in smaller countries such as Belgium, and Cyprus. It should be emphasised here that this general picture provides rather a snapshot of measures' financial weights in respective countries.

¹⁵ 24% of all measures also target the category 'others' which suggests that the classification of targets may need revision.

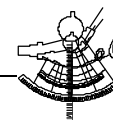
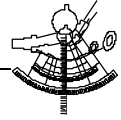


Table 3: Financial allocation of budgets on NTBFs measures/schemes

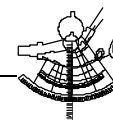
Country	N° of measure	Start/end dates	Budget allocated	Comments
CY	CY 14	1999/open	70000	thousand
GR	GR 37	1999/ind.	83000	thousand
AT	AT 43	N/A	110000	thousand, 1999
UK	UK 06	1996/1999	404000	thousand
GR	GR 45	2001/2006	607483	thousand
AT	AT 49	1985	0,5	EUR million
BE	BE 27	1994/ind.	0,72	EUR million
AT	AT 4	1996/ind.	1,19	EUR million
BE	BE 18	1998/2001	1,307	EUR million (1999)
CY	CY 23	2002/open	1,73	EUR million
AT	AT 44	N/A	2,06	EUR million (1998/1999)
GR	GR 53	2002/2006	3,6	EUR million
NL	NL 4	1996/open	5	Annually EUR million
PL	PL 01	1994/open	5	EUR million
IE	IE 28	1996/2006	6	EUR million
DE	DE 60	1998/ind.	6,13	EUR million
UK	UK 05	1996/open	7,9	EUR million
DE	DE 22	1997/ind.	8,2	EUR million, (1997/2002)
AT	AT 13	1995/1999	8,32	EUR million
NL	NL 24	2000/open	9	EUR million
EE	EE 21	2001	10,6	EUR million, (2001/2002)
AT	AT 47	2001/2003	18	EUR million
GR	GR 48	2001/2006	20,542	EUR million
PT	PT 07	1997/2001	21	EUR million
EE	EE 01	1999/2001	22,376	EUR million
FR	FR 12	1999/ind.	22,5	EUR million, (1999/2000)
FR	FR 13	1999/ind.	22,9	EUR million
GR	GR 46	2001/2006	29,347	EUR million
DE	DE 21	1998/2004	31,7	EUR million, (1998/2001)
AT	AT 3	1989/2002	36,34	EUR million
FR	FR 11	1999/ind.	45	EUR million
NL	NL 39	2002/2004	45	EUR million
AT	AT 24	1998/ind.	50	EUR million
DE	DE 23	1997/2006	50	EUR million
PT	PT 31	2002/open	50	EUR million
DE	DE 20	1997/2005	51,48	EUR million, (1998/1999)
AT	AT 38	1997/ind.	52,69	EUR million 1998-2000
GR	GR 14	1996/2000	56,4	EUR million, (1996/1997)
DK	DK 4	1998/2004	67	EUR million (1997/2004)
NL	NL 15	1998/open	70	EUR million
DE	DE 57	2001/2003	75	EUR million
UK	UK 46	2000/open	78	EUR million annually



AT	AT 14	N/A	80	EUR million
UK	UK 11	1998/2003	80	EUR million annually
FR	FR 1	N/A	154	EUR million (1998)
PT	PT 16	2000/2006	179	EUR million (2002)
AT	AT 9	1999/2006	240	EUR million
DE	DE 16	1999/2005	250	EUR million
GR	GR 36	2000/ind.	300	EUR million
PL	PL 11	2001/open	320	EUR million

Source: Trend Chart Data Sheets

Taking into account the quite fragmented and incomplete information concerning the budgets of measures supporting NTBFs, it seems necessary to ensure that the datasheets incorporate more complete and detailed information on budgets as part of the future development of the Trend Chart analysis.



2.3 Trends in specific types of measures

There is significant complementarity between public intervention to improve the framework conditions for entrepreneurship and support the creation of NTBFs through incubators and services (demand-side measures which stimulate the number of firms seeking venture capital); and public intervention to foster the supply and accessibility of private equity finance of early-stage capital (supply-side measures). Table 4 summarises various policy options for both the demand- and supply-side measures.

Table 4: Taxonomy of measures to support NTBFs and venture capital market

	Demand-side measures	Supply-side measures
Direct intervention	Public incubators	Public venture capital funds
Indirect intervention	Promotion of enterprise and entrepreneurship Management and skilled workforce Business incubators, science and technology parks and clusters Tax incentives	Down-side protection schemes Upside leverage scheme Fund's operating costs scheme Exit schemes Tax incentives Business angels network

Source : Adapted from 'Financing Innovative Firms through venture capital'. C. Christofidis, O. Debande, EIB 2001.

This report covered the measures identified as 'demand-side' measures in Table 4; while a second thematic trend report covers innovation financing. Given the resources available, it is not possible to give an exhaustive analysis of trends in specific types of measures but some indications of trends across and between countries can be drawn which may inform future Trend Chart activities.

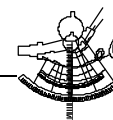
As was noted above, 'grants/loans' are the most common mode across all countries but this category appears to mix grants to intermediary structures (including incubators) with direct financing for the creation or innovation projects of NTBFs. Of the 65 grant/loan schemes identified, 36 target SMEs, followed by 23 which target researchers and 19 which target individuals (schemes may target more than one type of actor). The oldest scheme is the Swedish 'Seed financing' programme (SE 2) which has been running since 1968, but over half the schemes have been introduced since 1999 (33 out of 65) suggesting a relatively high renewal rate of measures. This contrasts with the conclusion reached above that the introduction of new schemes in favour of NTBFs was occurring at a slow rate. The explanation seems to lie in the generic nature of many of these funding schemes, which are open to NTBFs as well as other types of start-ups or existing firms carrying out innovation or research activities.

Complementary to more standard funding mechanisms, guarantee schemes in favour of NTBFs only exist in 10 countries¹⁶ according to the datasheet analysis. A number of these schemes are aimed at lowering the risks of investors by providing guarantees to seed or venture capital funds. Fiscal incentives (tax deductions) and measures in favour of the financial environment explicitly aimed at NTBFs are rare, suggesting that such measures are more generalised towards all new firms. One recent scheme of a more innovative nature is the UK's Corporate Venturing Tax Relief (UK 31) launched in 2000.

Grouping together intermediation and consulting services to NTBFs, some patterns emerge. In particular, these two categories appear to regroup three main types of actions:

- Financing initiatives or networks: *Venture Capital database (SE 13)*, *Business Angels Networks of Germany (DE 50)*, *Investment Forum CapTec (SE 8)*;

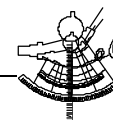
¹⁶ Austria, Denmark, France, Germany; Greece, Ireland, Israel, Luxembourg, Netherlands and Portugal.



- Initiatives aimed at promoting entrepreneurship among researchers and students (from basic promotion to encouragement to spin-offs, etc.): *SPINNO (EE 1, EE 14), Biotechnology Mentoring and incubator Challenge (BMI, UK 5), Young entrepreneurs programmes AT 13, National Competititon for NTBFs (FR 11), Start-ups in Multimedia (DE 22), A plus B (AT 47), etc.*
- Specialised consultancy schemes aimed at NTBFs: Technology Marketing Austria (TecMa, AT 16); or through support provided by business innovation centres or technology centres/parks (Austria, Belgium, Czech Rep., Latvia, Luxembourg, etc.).

These measures are essentially targeted on SMEs (23 measures out of 36) and researchers (14 out of 36). While 17 out of 25 Trend Chart countries have either an intermediation or consultancy type measure, there is also a noticeable concentration by country with 20 out of 36 measures being accounted for by only three countries: Austria (8), Germany (7) and Sweden (5).

Somewhat surprisingly, funding for university spin-offs/incubators is only identified as a mode of delivery explicitly in 12 countries (Belgium, Denmark, Estonia, Finland, France, Germany, Ireland, Luxembourg, the Netherlands, Israel and the UK. The explanation for this may be the 'localised' nature of such funding, namely that incubator structures are generally funded by regional or local authorities and therefore not captured by the national level analysis of the Trend Chart (this is explicitly mentioned in the French report). Moreover, as was noted above, the classification of schemes is not homogenous so that the Greek or Dutch schemes in favour of incubation activities are not classified as such. The two longest-running schemes in this category are the Finnish SPINNO programme (FI 1) operational since 1990, and the Israeli Technological Incubators Programme (IL-1) running since 1991, both of which are known to have inspired schemes in other countries (Cyprus, Estonia, etc.).



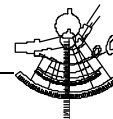
3 Conclusions

The expected outputs of this report were to identify issues which may be of significance to future innovation policy developments, and which could form the subject of a future Trend Report in their own right. The main conclusions arising from this Thematic Trend Report can be summarised as follows.

- In total this Thematic Trend report covered 128 measures in 25 countries (out of the 30 countries covered by the Trend Chart; three countries reporting no measures and two countries for which no report was available).
- **The pace of introducing new measures relating to NTBFs has not evolved significantly from mid-2000 to September 2002;** with between six and seven new measures introduced per year in the countries monitored by the Trend Chart. In the 12 months to September 2002, seven new measures were introduced; four of which concerned improving access to finance for start-up enterprises.
- Trends in policy priorities given to supporting the start-up of NTBFs, tend to confirm that there has been **no significant shift in priority given to NTBFs** with the average trend for 28 countries falling marginally from 3 in July 2000 to 2.9 in September 2002.
- Given that the priority scoring 'reflects the relative amounts of 'effort' expended on the promotion of measures', it can be concluded that **there is a gap between policy rhetoric at EU and national levels on the need to foster NTBFs and actual policy effort.**
- In terms of the spread of measures geographically, the current EU15 member states dominate with on average 5.9 measures per country; while only 21 measures (including some which should not really be classified as Trend Chart measures) are identified in the candidate countries (CCs), or 1.9 measures on average per country. Given the low relative number of small innovative firms in the CCs, **this policy gap would appear to call for more significant action to support NTBFs by the governments of the candidate countries.**
- Two non-EU countries covered by this report, Norway and Israel, have both introduced a significant number of measures in favour of NTBFs; and the experience of the latter has been transferred to other countries (e.g. Cyprus).
- **The main mode of delivery of support to NTBFs remains direct grants/loan funding to SMEs or individual entrepreneurs (researchers);** followed by consultancy services. Funding for incubators is less dominant as a mode of funding than might have been expected. This may be due to the fact that such structures are often funded through regional programmes not captured by the Trend Chart analysis. Some more sophisticated 'virtual incubation' efforts do seem to be developing in a number of counties and could be the subject of future Trend Chart analysis.

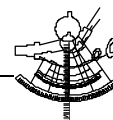
In terms of **methodological issues** relating to the on-going monitoring of NTBFs related policy:

- Information on the financing of policy measures related to NTBFs is insufficient for any robust conclusions to be drawn, there is a need for a further significant effort by national correspondents to collect data on funding of programmes to facilitate comparative analysis;
- Thematic trend analysis is made difficult by clearly diverging approaches to completing datasheets and country reports. Issues requiring attention include:
 - categorisation of targets of measures. For instance, measures that clearly are aimed at funding incubators are not classified as such in terms of their mode of delivery. A high percentage of measures target the category 'others', suggesting a need to revise the categorisation.
 - country report sections on NTBFs mention specific measures which are then not classified as NTBF-related measures; and vice versa, measures which are classified as NTBF related are not mentioned in the corresponding sections of the reports;
 - certain 'measures' are not policy measures as such but very specific initiatives (e.g. Latvia's Academy of Science website), actions funded within another measure (e.g. two projects at universities in Estonia which are actually part of the SPINNO programme)



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Austria

The importance of entrepreneurship has been recognised by Austrian policy-makers under the employment aspect. Currently, three programmes at the federal level are especially designed for this purpose: The Seed-financing Programme (AT 3) and the Technology Marketing Austria (TecMa, AT 16), both in close co-operation, and the Young Entrepreneur's Programme (AT 12) by BÜRGES. While the Seed-financing Programme and BÜRGES concentrate on financing, TecMa provides consultation with regard to the commercial exploitation of research results and inventions.

Moreover, financing of start-ups is closely related to other innovation financing schemes. The FFF general programme (AT 2) and the ERP, namely with the ERP SME Technology Programme (AT 8), offer favourable terms for start-ups within their programmes. Equity capital guarantees by the FGG (AT 18) and the I² programme (AT 4) are also interesting for technology-orientated start-ups. A strong start-up aspect can also be found in the Tech Gate Vienna project (AT 24) which (partly) aims at promoting start-ups emerging from the Viennese universities. Moreover, financing of start-ups is also an important part of initiatives at provincial level (see AT 11, 12, 13, 14, 15, 43, 44, 46).

The 'A plus B' (academia plus business, AT 47) programme, managed by TIG, tries to stimulate the formation of university spin-off companies (see 4.4.). Only recently the Chamber of Commerce announced that all inscription fees for start-ups will be abolished in 2001. As these inscription fees were quite significant in some cases the move has significantly reduced the costs associated with the establishment of a new enterprise. This step came as part of the larger effort of the Chamber of Commerce to cut cost, fees for members and to improve services.

Besides the continuation of existing programme the Council for Research and Technology Development announced in its paper 'Visions 2005 – Through Innovation Among the Best' that until 2005 the number of high-tech start-ups should be doubled. This goal should be achieved by

- increased incentives for start-ups;
- further administrative simplification and support;
- support to form equity;
- significant reduction of the tax burden during the start-up phase;
- further tax reduction for patents and licences.

To achieve these target a number of possible areas for action have been identified, e.g. intensified use of venture capital, further support for seed financing and early stage investment programmes, promotion of business angels and incubators, stimulation of networks and clusters.

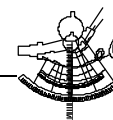
Measures to implement these targets have yet to be formulated.

Belgium

All governments in Belgium place a strong emphasis on fostering entrepreneurship and the creation of new firms through measures aimed at simplifying the procedures for registering and operating companies, one-stop shops for financial aid and advice services, support for incubator type structures, etc. This policy emphasis has been reinforced by various international surveys such as the Global Entrepreneurship Monitor¹⁷ which places Belgium at the bottom of the table in terms of total entrepreneurial activity¹⁸, with 5% compared to 11.3% for the North American countries or 18% for

¹⁷ See : <http://www.gemconsortium.org>

¹⁸ TEA is defined by the number per 100 adult individuals who are trying to start a new firm or are the owner/manager of an active business less than 42 months old.



Mexico. Indeed, in a recent speech introducing the federal government's policy orientations for 2002-2003, the Prime Minister stressed the extremely poor comparative performance of Belgium in terms of the procedures and delays for the creation of start-ups¹⁹.

At the federal level, the main measures taken since September 2000 in Belgium in support of the creation and development of start-ups have been in the field of administrative simplification. The Federal Agency for Administrative Simplification (FAAS) is responsible for implementing the measures agreed in the framework of the governing coalition's agreement. A wide range of measures has been taken already in all fields including many relevant to enterprise creation or operations²⁰.

The most concrete action foreseen at **federal government** level is the creation of a unique 'Enterprises Crossroads Bank' and one-stop shops for enterprises. The principle of the Bank is based on the concept of a single company registration number (based on the current VAT number, which will replace the current multiple numbers for the commercial register, social security, etc.). The single number will facilitate the electronic exchange of data on a company between the various administrations avoiding multiple requests to a company for the same information from different administrations. The concept of the one-stop shops for enterprises is to develop a network of offices, run by the private sector or non-profit organisations, where an entrepreneur will be able to settle issues related to a series of government procedures in one go. Both these initiatives were expected to be operational by the end of 2002.

Fiscal incentives for the creation of start-ups are a prerogative of the federal government. Aside from specific fiscal aids for R&D mentioned in section 2.2 above, the federal government has also recently agreed a fiscal reform, which will reduce the rate of corporate taxation for both large and small enterprises in Belgium bringing them into line with those of European neighbours.

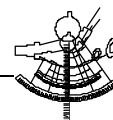
In **Brussels-Capital**, one of the main priorities of the Regional Development Plan (PRD, currently going through a process of adoption following a public consultation) is to create a more dynamic enterprise sector (priority 2 of the plan). The creation of new firms is key part of this priority objective, which also includes actions in favour of administrative simplification and improving the diffusion of information and advice to firms. In particular, the government intends to review the functioning of the one stop shop ECOBRU with a view to creating a single 'portal' covering all aspects of information required by firms; and which takes the initiative to orientate rapidly enterprises towards the service provider best able to assist them. With a view to favouring the creation of enterprises, the PRD also foresees 'a global mechanism for detecting and supporting new projects and 'sleeping projects'; continuing to support new firm creation projects via enterprise centres (business incubators), etc.; as well as by the continued use of Art. 123 (BE 09), which provides an employment aid for hiring of additional personnel for innovation development. A new subsidy for 'individual inventors' interested in developing an idea commercially is foreseen in the regional Ordinance adopted in March 2002.

In terms of financing start-ups, the government intends to reconfirm the role of the regional investment company (SRIB) and in particular its BRUSTART and Seed-Fund initiatives in supporting the creation, growth and development of enterprises, particularly those permitting a renewal of the productive fabric. Two other temporary funds (micro-credit and early-stage 'amorçage') will be given a permanent basis and the use of guarantee and equity capital funds will be encouraged. No mention is made of continuing support for the **Business Angels Connect network (BE 11)**.

In **Flanders**, government policy with respect to new firm creation has not changed significantly since September 2000. However, an important priority of government policy affecting the enterprise start-up

¹⁹ « Comme l'indiquent les études réalisées par les institutions internationales, nous avons perdu un peu de terrain en termes de compétitivité. Nous obtenons de bons résultats en termes d'ouverture de nos marchés financiers, de nos petites et moyennes entreprises, de collaboration entre les universités et les entreprises. Mais nous occupons une septantième place lorsqu'il s'agit du nombre de jours nécessaires à la création d'une entreprise, une soixante-neuvième place dès lors qu'il en va du nombre d'autorisations à obtenir pour créer une entreprise, une soixante-huitième lorsqu'il en va du niveau de l'impôt des sociétés. » (Discours Verhofstadt du 23 janvier 2002 http://premier.fgov.be/topics/speeches/f_speech101.html)

²⁰ The situation as of February 2002 is on the site of the FAAS: http://sav.fgov.be/mes_sites/Web6_Inventaires/R22_DossiersEnProjet.PDF



and development is the creation of the 'Enterprise Houses', a one-stop office that should be up and running by mid 2002. In these 'Houses', one per province, the knowledge and expertise of the Regional Development Agencies (GOM), the Flemish Institute for Independent Entrepreneurship (VIZO) and other economic development bodies will be gathered together. All enterprises will be able to address their questions to these Houses. In addition, they will be supported by the website for entrepreneurs in Flanders: <http://www.ondernemen.vlaanderen.be>, integrating the different websites of the economic government institutions in to a single virtual 'one-stop shop'. In the long term, it will be possible to submit and follow-up files in a completely electronic way, which will lead to a shortening of procedures.

The framework for investment and risk capital financing in Flanders has been in place for the last decade, the main mechanisms being the Investment Company for Flanders (GIMV), **Guarantees on risk capital (BE 21)** providing an incentive for the venture capital firms to take more risk capital in investments in SMEs as well as some support for private initiatives such as Business Angels Networks (**BE 28**).

In **Wallonia**, a number of measures have been taken in the last two years to support entrepreneurs in creating new firms and to provide a more favourable environment in terms of administrative simplification and financial instruments.²¹ The recent update of the 'Contrat d'Avenir pour la Wallonie' (CAWA) sets as a first objective 'an increase of 15% in the number of firms between 2001 and 2004'. Many of the instruments identified as contributing to this objective are already in place or in the process of being launched (see also section 1.4). Two important measures taken in the last 18 months are the creation of a single entity responsible for financing enterprise development in the region, the Sowalfin (also known as the 'La Coupole'); and a Pre-activity grant (BE 48) which replaced the former grant for 'individual inventors'. The decree creating the SOWALFIN was adopted by the Walloon Parliament in July 2002 and this new structure brings together all the existing services, which provide financial support to SME including the sub-regional investment companies. The second measure was adopted in February 2001 and provides for funding for individuals with a patented or novel idea wishing to explore the commercial exploitation through a feasibility study.

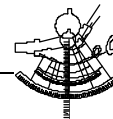
In terms of schemes, two main measures exist in favour of the creation of technology-based firms:

- **FIRST-Spin-off (BE 37)**, launched in 1999, which aims at assisting in the creation of spin-off enterprises by university researchers. The Walloon Region funds the salary costs of the researcher, and provides a subsidy to cover overhead costs of the research laboratory and funding of training costs for the researcher. The measure is part of one of the main axes (FIRST programme) of the research and technology policy of the Walloon government and translates the political will to promote research commercialisation, notably through spin-off companies.
- In February 2001, the Walloon government adopted the new **'Pre-Activity Grant'** (BE XX, new measure sheet forthcoming) scheme. The scheme replaces a previous measure in favour of the creation of companies by an individual with a patentable idea (Support to isolated inventors, BE 48). The aim of the new schemes is to extend the support to individuals with 'novel ideas' for creating new companies. An interdisciplinary jury reviews projects proposed by individual inventors or on the basis of a novel idea in order to assess whether it is possible to develop an economic activity. The role of the jury is to filter out only those projects that have a real chance of being viable. The individuals selected will be granted the sum of EUR12,395 (against real costs incurred) in order to allow them to finalise their idea. It is foreseen that the inventors or creators will be able to benefit thereafter from existing aid schemes subsidising consulting services in order to develop a credible business plan.

Denmark

No new measures have been introduced in this field during the period of this report.

²¹ The Government has also taken the initiative to organise 'Risk capital fairs' in October 2000 and October 2001 are also worth mentioning. At these events, aside from presentations and round table discussions on issues concerning innovation finance, entrepreneurs had the occasion to present their projects and meet potential investors.



On the basis of an evaluation from May 2000, the public co-financing of the Incubators (DK 4) has been extended until 2004. The measure originally commenced in 1998. The evaluation showed that the Incubators had contributed positively to the creation of new innovative projects. Furthermore, the evaluation showed that the number of projects/companies continuing with private finance had been quite high. The aim is that the Incubators become self-financing in 2004. The evaluation also showed that the number of research-based projects compared to 'company projects' was too low. Therefore, the Incubators are to focus more closely on research-based projects in the future. Furthermore, the Incubators must ensure that capital is introduced into the projects at an earlier stage than is the case today.

To further strengthen the Incubators, addition DKK 65 million (€9 million) has been appropriated from 2003 and 2004.

Finland

Initiatives aimed at the start-up of technology-based companies primarily relate to the venture capital industry and various incubator schemes. Historically, the Finnish venture capital industry has been relatively underdeveloped. However, the number of venture capital companies increased significantly in the 1990s and today the Finnish Venture Capital Association has 45 full members and some 52 associated members (<http://www.fvca.fi>). During 2001, the members of the association gave funding to 294 companies, for a total amount of investments running at € 340 million. More than three-fourths of investments were allocated to growth companies in the early phase of their development .

The most significant public venture capital organisations are Sitra and Finnvera. According to a recent study, government funding, directly or indirectly, is still a main contributor to the Finnish seed capital segment (Seed capital investment in Nordic countries). Sitra played a significant role in the establishment of the Venture Capital Association in 1990. Sitra's own activities include technology transfer and venture capital investments in emerging and technology-based start-up companies as well as spin-offs from large companies. Sitra's PreSeed service package (FI 03) has been created to accelerate the emergence of new technology-based businesses, improve capital management and introduce companies to the providers of further funding, including private venture capitalists. The PreSeed service consists of two measures: LIKSA and INTRO.

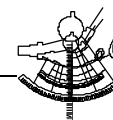
LIKSA is a joint funding service operated by Sitra and Tekes that can be used to obtain information and services related to the commercialisation of technology and the development of relevant business plans. The INTRO service takes care of the efficient presentation of start-up enterprises so that they can find both institutional and private investors who might be prepared to provide simple, straightforward funding in the future.

LIKSA and INTRO are closely related to the Tekes TULI-programme (FI 06), which was modified before the start of a new programme period from April 2002. The main goal of the TULI-programme is to promote new, technology-based businesses coming from applied research in Finland. The focus of the scheme is in the R&D activities at universities and research institutes. In practical terms, the aim is to transfer the commercial potential of research projects towards commercialisation and new ventures.

Finnvera's domestic development and financing solutions are particularly geared towards SMEs and help to promote regional policy objectives as well (<http://www.finnvera.fi>).

The incubator schemes have been established in close association with the regional technology parks and universities since the late 1980s. In the mid-1990s, there were some 15 incubator schemes in Finland. The more significant ones include the Spinno scheme (FI 01) in the Helsinki region and the technology or company centres in the larger cities of Tampere, Turku and Jyväskylä.

The government's Entrepreneurship project, started at the beginning of 2000, has been carried further. The project includes various measures which set out to increase the establishment of new firms and increase the growth and competitiveness of existing enterprises. The focus of the project is



on different phases in the life cycle of a company. Measures are directed at those stages that are most crucial in terms of the firms' success.

France

The measures described below reveal one of the most important trends in France. During the period of study, several measures put in place by the government continued to demonstrate the importance given to the administration of technology-based start-up companies. Confirming the trend, a new measure has been created:

- The French Ministry of Economy and Finance announced last December the creation of a public fund of EUR90 million intended to support capital risk financing for start-ups (FR35). This fund is aimed at young French companies with less than seven years of existence with the objective of taking minority participations in young technological enterprises upon demand with investment funds established in European Union countries. The fund works as a market tool. It will intervene in the same conditions as private investors and will strive to protect the interests of the subscriptions. The technological sectors targeted are: information and communication technologies, electronics, biotechnologies and nanotechnologies.

In order to be eligible the SME should:

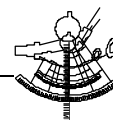
- be established and managed in a European Union country and have their head offices in France;
- respond to the professional norms of capital risk in aspects related to the performance, experiences and competencies;
- not be held in their majority, directly or indirectly, by the same individual or artificial person;
- have less than seven years of existence since the time of the demand;
- be strongly technologically oriented;
- employ less than 500 employees;
- have less than EUR75 million in assets;
- the portfolio will be of 50 to 60 participations in young technological enterprises.

Before launching this measure the government implemented measures directly related to the establishment of a financial support for start-ups. In particular the government created:

1. The support for innovation scheme (FR1). This measure has the objective of acting as a process consultant for innovative projects. It allows SMEs to develop new products and process, to have access to external competencies for innovation projects, to find investors and/or partners in France or abroad and to have access to financial markets. It also supports technology transfer from public or private laboratories to industry and, in particular, SMEs. In short the measure consists on providing finance and expertise to newly created start-ups, entrepreneurs, laboratories or SMEs planning an innovative project with high technology content.

The national competition for creation of new technology-based firms (FR11) was designed to diffuse innovation and support NTBFs. The competition, open to anyone willing to set up a NTBF, was created as an incentive for the creation of NTBFs and the diffusion of innovation among the public. After the fourth edition (July 2002), the assessment to date is 6700 projects, 1000 selected; 449 companies have been set up.

2. The support for the creation of seed capital funds (FR13) provides seed-capital funds and supports co-operation to favour the creation of technology-based firms by universities or public research bodies. The objective is to create seed-capital funds on major areas of technology at a national level and with a partnership of public research institutions and private investors. At the same time it proposes to develop, through regional incubator structures, regional seed-capital funds to invest 75% of its funds in firms linked with public research. It should be noted that the measure is linked with the support for the creation of incubator structures (template FR12).



3. The National Agency for the Creation of Enterprises (APCE)²², created more than 20 years ago, has played an active role in information, training and supporting about the process of creation of all types of companies.
4. The regional incubators are also an important part of this policy designed to encourage the creation and development of start-ups (Please refer to 1.6)

Germany

The main activities of the federal government in the field of promoting technology-based start-ups concentrate on three areas: (1) improving the financing conditions for start-ups, especially the access to venture capital, (2) improving the infrastructure and legal framework relevant to start-ups, and (3) improving the climate for entrepreneurship, with special emphasis laid on the higher education and the public research sector.

New developments in the current reporting period concern the start of a new small scheme that should stimulate research spin-offs from PSREs (DE 74). It is called EEF-Funds (Facilitating Start-ups from PSREs). First, researchers establishing a new business may receive funding for their labour costs for the first year of business operation, but remain formally committed to the research organisation. This allows the research organisation to finance other R&D personnel to substitute for the entrepreneurial researchers. Second, funding is also available for external consulting, qualification, market analysis and patenting costs.

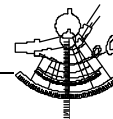
There are several programmes that provide financial support by the means of venture capital to technology-based start-ups. The most important VC programmes are the BTU-programme, the BTU Early Stage programme, the TBG Programme and the KfW VC programmes (all: DE 12). The start-ups may also apply for promotion under general start-up programmes, e.g. various programmes operated by the Deutsche Ausgleichsbank (DtA).

The BMBF operates a separate programme for the promotion of start-ups from HEIs and PSREs called EXIST (D 21). The programme aims at creating of a culture of entrepreneurship in teaching, research and administration at HEIs, increasing knowledge spill-overs into economic value added, transferring of business ideas and entrepreneurial potentials at HEIs and PSREs into real business activities, and increasing in the number of innovative enterprise start-ups from public research. The EXIST programme started in December 1997 with the launching of a competition of regional networks. Out of 109 proposals, five winners have been selected and receive funding for infrastructure and network activities. The EXIST programme also provides direct support to start-ups through the sub-programme EXIST-Seed. In 2001, a follow-up activity, EXIST-Transfer, was launched that should build upon the experience made by EXIST. Another regional competition was started, and 10 winning regions were selected in spring 2002 for public support.

For certain fields of technology, there are separate promotion programmes to stimulate new firm formation. In biotechnology, the BMBF offers the programme 'BioChance', but start-ups are also supported within the BioRegion and BioProfile programmes (DE 23). The BMWA launched a multimedia start-up competition (DE 22) in 1996 with the goal of increasing the number of multimedia firms in Germany by 2001 by 100%. This goal was clearly achieved, with a growth rate of nearly 300% until 2000. In October 2001, a follow-up competition called MobilMedia was launched. Out of 137 proposals, five have been selected for public support.

Technology-based start-ups are not only supported by direct subsidies but also by consulting measures. One example among several initiatives is the Business Angels Network (DE 50). It offers start-ups access to experienced managers who give advice to young entrepreneurs in the early stages of firm creation.

²² http://www.apce.com/index.php?rubrique_id=300000111&type_page=IL&pays=1



Another important area of policy action in the field of start-ups in the promotion of new professorships for entrepreneurship at German higher education institutions (DE 60) and the reform of university curricula with respect to the management of start-ups and young enterprises. So far, 13 such professorships have been established with public support, and many more on the basis of private initiatives. At the level of secondary schools, the JUNIOR project (DE 64) attempts to improve the entrepreneurial culture in Germany. Groups of pupils receive support in establishing a 'mini start-up' for one year in order to learn the challenges of running their own firm, but also to see the possibilities of entrepreneurial initiatives. This project is part of the Young Enterprise Europe network, and the introduction of the project was stimulated by similar activities in other countries.

Technology-based start-ups are also a target group of programmes that stimulate regional innovation networks (DE 16, DE 57). Institutional reforms at PSREs also attempt to improve framework conditions for start-ups. Within the INSTI-Network, three sub-programmes deal with the promotion of technology-based start-ups.

Greece

Start-ups are supported by PRAXE, the academic spin-off support measure [GR 39], which started its first phase of operation last year. The objective of this programme is the establishment and the development of new entrepreneurial activities aiming at exploiting the knowledge produced in research laboratories supported by private funds and financial organisations. This programme has two phases: the first addresses the preparation of the investment and the second goes into implementation. During the first call for proposals 145 proposals were submitted, while 72 were finally supported. During the second phase of the call 10 proposals were submitted and are under evaluation. For the second call 84 proposals have been submitted. The target is up to 2006 100 spin-offs to be established.

The scheme [GR 45] "Development of Incubators and S&T Parks in Greece – ELEFTHO":

- contributes to the creation of new incubators and S&T parks resulting from entrepreneurial initiatives, in agreement or co-operation with regional and local authorities;
- supports the further development of incubators and S&T parks that have already been established and are operating in Greece, in order to expand their facilities and acquire the tangible and intangible means necessary for the incubation of knowledge-intensive entrepreneurial activities;
- provides incentives for the installation of tenants in the incubators and in the S&T parks.

Up to now four proposals for the establishment of incubators have been submitted, while the plans for the development of two parks, one in Athens and one in Thessaloniki, are under preparation.

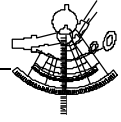
Support to start-ups is given also by a recent collection of measures on entrepreneurship [GR 46, GR 48, GR 52, GR 53 and GR 54, GR 37].

TANEO (NEDF), the Fund for the Development of the New Economy [GR 36], is now fully operational.

Ireland

Enterprise Ireland, the state agency for the development of indigenous industry, is currently undertaking a number of initiatives to assist the development of new technology start-ups in other sectors. These include:

- the regionally based Enterprise Platform programme of 12-month, full-time 'Start Your Own Business' courses, organised in conjunction with institutes of technology;



- the further development of regional clusters of technology companies and the continued roll-out of Webworks initiative. The Webworks are part of Enterprise Ireland's ITS 2007 strategy for developing high technology internationally traded service enterprises. They are a series of infrastructural initiatives aimed at generating a critical mass of high technology start-up companies;
- the Executive Development Programme at the Smurfit Graduate School of Business is aimed at the promoters of high growth, high technology companies.

As part of its drive to facilitate the development of high growth enterprises, Enterprise Ireland, in association with Ernst & Young, developed the Excellerator initiative. Excellerator involves the provision of a comprehensive business life-cycle range of on-line and off-line tools to empower selected high potential companies to learn, review, challenge and accelerate their business. Excellerator is part of Enterprise Ireland's strategy of supporting high growth companies in the regions to quickly become international players.

In 2001, Enterprise Ireland launched its biotechnology strategy which seeks to maximise the creation and nurture the development of new commercially focused early-stage biotechnology companies in Ireland.

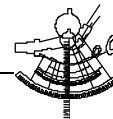
The Enterprise Ireland strategy seeks to target foreign-origin biotechnology entrepreneurs and early-stage companies with potential to establish in Ireland, while fast-tracking the development of established biotechnology companies.

The strategy also has the objective of promoting and supporting the development of the private sector seed and venture capital environment in Ireland that is open to investing in commercially attractive biotechnology companies (see Section 0.2 for details of Enterprise Ireland's joint venture with Seroba BioVentures Fund).

To assist in the implementation of its strategy, Enterprise Ireland established a biotechnology team dedicated to the development of commercially focused biotechnology companies in Ireland. The team integrates the expertise and resources of BioResearch Ireland (the biotechnology research unit of Enterprise Ireland), the campus company initiative and the high potential start-up unit.

Israel

The two main tools for this activity are the Technological Incubators Programme (**IL 1**) and the special provisions for start-up companies in The Law for the Encouragement of Industrial R&D – 1984 (**IL 4**). A new tool for increasing establishment of start-up technology-based companies is the government **Seed Fund (IL 6) (See 2.5)**



Italy

This objective will be pursued through the D.L. 297/1999 (see *Innovation financing*).

The main instruments introduced under the previous government as incentives to create start-ups are:

- setting up one-stop shops [IT-29] for manufacturing – a single address for enterprises to contact for everything concerning locating, building and restructuring manufacturing plants, with procedures completed quickly and within a specific time limit (see *Administrative simplification*);
- action to encourage women to become entrepreneurs (Presidential Decree No 314/2000);
- simplification of the rules for registering enterprises (Presidential Decree No 558/1999);
- various advantages, contributions, subsidies and benefits to assist in developing export markets and make manufacturing focus more on international markets (Presidential Decree No 161/2001);
- eliminating the requirement for court authorisation when setting up limited companies, resulting in lower costs;
- in-depth renewal of the interdepartmental conference (Law No 340/2000);
- eliminating the provinces' 'legal announcement form' (foglio degli annunci legali -FAL), an outdated and ineffective way of making information public in the modern information society, resulting in savings for enterprises of approximately EUR2,326.06 (Law No 340/2000).

In addition, Law No 388 of 23 December 2000 (Financial Law 2001) has set up a system of reduced taxation for new enterprises set up by entrepreneurs and for individuals setting up as self-employed. The goal of this law is to provide incentives for physical persons to set up new enterprises or to become self-employed, and provide assistance during the early years of activity, where high start-up costs and a modest amount of business is typical. The reductions apply to the year in which the enterprise was set up, and the two following years. The two main measures in the system of reduced taxation are a tax that replaces 10% of the IRPEF and radical simplification of the accounting obligations.

It also includes measures to provide tax assistance to those who meet the requirements of eligibility for the tax reduction. The local office of the Revenue Agency covering the entrepreneur's fiscal domicile is available to provide assistance in meeting the simplified tax requirements.

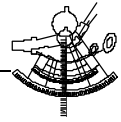
If entrepreneurs decides to avail themselves of this assistance, they must obtain the computer equipment which is needed to connect to the Revenue Agency's computer system.

Many of the reforms and simplified standards have made it easier to start new enterprises. According to some estimates (OECD, *Regulatory Reform in Italy*, April 2001), the number of administrative procedures that must be completed to start a new business have been reduced from 25 in 1998 to five in 2001. Furthermore, the maximum time needed to complete the entire process has been shortened from 22 weeks to 10. The total cost of starting up a new company has dropped from EUR7,700 to EUR3,500, while setting oneself up as self-employed has been reduced from EUR1,150 to EUR500.

Luxembourg

A first step has been the 'Technoport Schlassgoart' (LU - 04) pilot project for the creation of a first group of technological companies, most of which operate in the data processing and communication sectors. This start-up centre, created in 1998, addresses itself to existing and future start-up SMEs by offering its site, office domiciliation in an efficient business environment enhanced with added value such as secretarial services and internet connection.

This pilot three-year project is based on an agreement of May 1998 between the government, the PRC Henri Tudor and ProfilARBED S.A. It is aimed at providing non-steel industry companies with laboratory analysis (LTI) facilities at the ARBED Group research centre and creating a reception centre on its site for new technology companies (CAIE - Centre d'Accueil et d'Innovation des Entreprises). This agreement on the pilot phase expires on 30th June 2001.



An external evaluation was carried out in November and December 2000 to prepare for the first operational phase of the Technoport Schlassgoart (2001-06). According to the Annual Report 2000 from the Henri Tudor PRC (www.crph.t.lu), that study, as well as two client satisfaction surveys at the same time, were on the whole extremely positive. Thus the CAIE has become a Centre for Innovation and Corporate Start-up. Its speciality consists of combining an incubation and start-up centre with an entire ensemble of innovation services working for SMEs and start-ups. For the overall pilot phase, some twenty corporate start-ups are to the credit of the CAIE, namely twice the target set in 1998 in the Community Objective 2-FEDER, project which served to co-finance the creation of the CAIE. At the end of the financial year, 66 persons had worked on behalf of the Henri Tudor PRC at the Technoport Schlassgoart, of whom 39 for the LTI and 27 for the CAIE and its innovation services. Added to the 31 employees in start-ups, this represents a total top level staff of 97.

The second aspect referred to above is the networking of service providers and public advisers (financial, technological, training, logistics and management) through the Luxinnovation GIE (LU – 5), the national agency for innovation and research, that acts as a first-stop shop for entrepreneurs setting up technological companies.

The third concern relates to the availability of development capital through participating loans of the CD-PME company (LU - 02).

In order to encourage the creation of businesses in the Greater Region, a non-profit organisation called 'Business Initiative' was created in March 2000 by the FEDIL (Federation of Luxembourg Industrialists) in collaboration with the Chamber of Commerce, the Chamber of Crafts and Luxinnovation. Luxinnovation is the Luxembourg Relay for Business Initiative. The Ministry of the Economy provides financial support for the 'Business Initiative a.s.b.l.'.

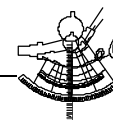
The association's goal is to promote the entrepreneurial spirit in Luxembourg and diversify its economy through the fostering of new potential. This objective is pursued through four concrete initiatives:

- in order to promote the transition from idea to business plan, a business plan contest '1, 2, 3, go' (open to anyone) is organised within the Greater Region encompassing the Grand-Duchy and surrounding areas of Belgium, France and Germany;
- a framework for coaches and sponsors as well as a selected jury is provided in order to develop constructive recommendations for young entrepreneurs;
- a follow-up on projects after their launch is organised;
- a financing platform was created in May 2001 to help the best projects to get access to potential financing. Representatives who belong to the finance industry are banks, venture capitalists, and business angels.

Four events have been organised. During the first two, 60% out of the 10 projects presented got financed.

The '1, 2, 3, go' business plan competition is essentially financed by the 'sponsoring' of private companies with the financial support and patronage of the Ministry of the Economy. This competition aims at awarding innovative ideas and business plans by offering participants the assistance of 'coaches' from various professional backgrounds and advice on realising their business projects under the best conditions. Of an inter-regional nature, this assistance is open to proposals from Luxembourg, Lorraine, Wallonia, the Saar and the Rhineland Palatinate.

The Netherlands



With the publication of the EZ White Paper of EZ 'Scope for Industrial Innovation: Industrial Policy Agenda', the 'Industry Letter', improving the framework conditions for high-tech start-ups has become an important item on the policy agenda.²³ The issue had received little attention heretofore.

Following the publication of the Industry Letter, EZ launched a number of schemes aimed at increasing the number of technology-based companies. Two important schemes in this area are Twinning (NL 15) and Biopartner (NL 24). In Twinning and Biopartner the Dutch government has adopted an integral approach for stimulating start-ups in ICT and Life Sciences, respectively. The schemes aim at improving the climate for entrepreneurship through provision of venture capital, housing and coaching. In the case of Biopartner, the scheme also tries to bring about a more favourable mindset toward entrepreneurship in universities. Dreamstart (NL 32) is a measure that aims to increase the number of technology-based companies in areas other than ICT and Life Sciences. Dreamstart is a foundation that serves to increase the transparency and accessibility of measures currently existing for start-up companies. Also, Dreamstart will encourage universities/institutes of higher education and research institutes, and market organisations such as firms and financial organisations to build networks e.g. in order to set up incubators in various technology areas. In this respect, Dreamstart accords with the new technostarter scheme (NL 39, see further in this section). In March 2002, Dreamstart launched the first pilot (from a total of two to four) for the support of technostarters. In the pilots Dreamstart intends to assist participating starters in finding support in various areas such as market analysis, intellectual property and product development.

A fourth scheme in the area of start-up of technology-based firms is STIGON (NL 43). This scheme was launched in 1998 and aims to stimulate spin-offs from pharmacology. It is administered by the NWO (see section 0.1 of this report) Research Council Zon/Mw (Health Care Research and Development Agency / Council for Medical and Health Research).

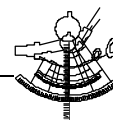
The number of start-ups in ICT and life sciences (including pharmacology) has increased in recent years.²⁴ However this can only be partly attributed to these programmes. The increase is also (and probably to a considerable degree) due to the favourable business and investment climate. Given the current economic downturn it remains to be seen whether this positive trend is going to be maintained in the following years. Another bottleneck for the start-up of technology-based companies, particularly imminent in life sciences and pharmacology, is the fact that universities in the Netherlands have only just begun to develop policies concerning commercialisation of their knowledge. As a result, there is little experience with technology transfer. An evaluation of the STIGON scheme, yet to be published, indicates that both researchers and universities lack clear models for arranging the transfer of knowledge, intellectual property and possible commercial revenues in such a way that the institutes, the researchers as well as future participants in the spin-off (venture capital, possible CEOs) obtain a fair compensation.²⁵ Policies of universities in this area are still in a development stage (see also section 2.2 of this report).

In April 2002 the integral approach adopted in Twinning and Biopartner was extended in a new technostarters scheme. The subsidy scheme Infrastructure Technostarters (NL 39) aims to improve the orientation of knowledge institutes toward knowledge transfer and exploitation, by encouraging them to offer technostarters a good infrastructure and support, in particular adequate accommodation, accessible equipment and provision of support and coaching services. The objective is to create a

²³ Ministry of Economic Affairs, *Ruimte voor Industriële Vernieuwing: agenda voor het industrie- en dienstenbeleid*, June 1999.

²⁴ See e.g. Boekholt, P. and Lankhuizen, M. Monitoring, updating and disseminating developments in innovation and technology diffusion in the member states - The TREND CHART: The Netherlands, covering the period March 2002, April 2002, for a summary of the monitoring report of Biopartner's first year.

²⁵ Technopolis, *Stimuleringsprogramma Innovatief Geneesmiddelenonderzoek en Ondernemerschap in Nederland: tussentijdse evaluatie*, Amsterdam: 2002



network of incubators linked to knowledge institutes.²⁶ However, the first round of programming that took place between 19 April and 19 July 2002 resulted in only 10 proposals for incubators from knowledge institutes. Universities largely refrained from submitting proposals because of the matching requirement, which they would like to see eased. The Advisory Committee Infrastructure Technostarters is currently discussing the possibilities for improving the measure, as published in 'De Staatscourant', with the Ministry. An adjustment of the measure is not yet considered.

Other measures aimed at improving the climate for high-tech start-ups are the participation companies (PMTs) for new technology-based firms (NL 4), the 'Aunt Agatha' scheme (NL 23) and Entrepreneurship and Education (O&O, NL 40). The PMTs were designed firstly to boost the amount to be invested in the new technology-based firms and secondly to act as a financial incentive by offsetting the high costs of hands-on management and the increased risk associated with the financing of these firms. The Aunt Agatha scheme is a fiscal facility for stimulating business angels and informal investors to invest in new companies. The aim of the measure Entrepreneurship and Education is to stimulate entrepreneurship in education. With the scheme EZ hopes to increase the number of start-up entrepreneurs and to develop an entrepreneurial spirit among future employees. In January 2002 the third (and last) tender was launched. It closed on 25 May 2002.

The attention that stimulating the start-up of technology-based firms received in the period under review and the priority given to this area in the new EZ Budget explain the increased priority given to this area in the priority table in section 0.3 in this report.

Norway

The Science Parks play an important role in encouraging the establishment of new technology-based companies, including university and college spin-offs. They are the local representatives of the FORNY-programme (NO 11), which aim to improve the ability to commercialise research-based business concepts or ideas conceived at universities, colleges and research institutes.

The support to 'industrial gardens' (*Næringshager*, regional incubator parks) will continue under SIVA. Furthermore, SIVA is preparing a new regional programme for incubators for industrial newcomers.

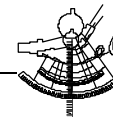
The Ministry of Industry and Trade will continue to allocate money to funds for start-ups and the EU programme INTERREG, various programmes for competence development under SND and the Research Council (including NO 30 MOBI and NO 04 FRAM).

2001 saw the birth of the Incubator grant scheme (*Inkubatorstipend* – NO 47). The aim of the incubator grant, organised under SND, is to stimulate increased establishment of competitive, future-oriented and innovative businesses contributing to innovation and business renewal in general. The incubator grant is a scheme for entrepreneurs located in an incubator programme. The grant is designated for start-ups with a high knowledge and technology level.

Portugal

The promotion of technology-based entrepreneurship was envisaged under POE, POCTI, POSI and PROINOV. POE includes one action line addressed to entrepreneurship including high-tech entrepreneurship: 'Mobilising new ideas and new entrepreneurs'. Under POCTI there is an action with the objective of providing support to the creation of incubators for firms launched by young researchers. However, these did not find translation in specific measures to support technology-based start-ups.

²⁶ The setting up of incubators is also incorporated in the Biopartner programme. At present six Biopartner Centres are in the process of being set up. It is not clear how these centres fit into the new (generic) scheme.



In the wake of PPCE, a new programme was designed to stimulate the creation and development of new technology based firms: NEST, Criação e Arranque de Novas Empresas de Suporte Tecnológico (Creation and Launching of New Technology-Based Firms). NEST headlines were disclosed in a recent speech by the Ministry for the Economy. However, no legislation was published so far in this regard.

The objective of NEST is to provide financial support to the creation, launching and development of technology-based firms which have a close relationship with domestic S&T organisations and/or are expected to reach a high level of technological capacity. Promoters should hold a minimum of 5% in the new firms' equity. The remaining equity will be held by the Venture Capital Syndication Fund (with the same equity share of promoters, up to a maximum of 15% or EUR375,000) and by a venture capital enterprise. Shares held by promoters provide an income double than those of the venture capital partners, while those held by the Fund will not raise any income. The excess dividends of promoters should be used to purchase the shares held by the Fund, according to a timetable defined by the partners. The Management Board should have three members, two representing the promoters and one the venture capital firm, but this will have a veto right on all decisions.

Spain

The Spanish innovation policy launched in 2000 includes for the first time mechanisms to promote the start-up of technology-based firms. The **IV NP** has designed different instruments intended to foster the emergence of new firms resulting from research centres or enterprise R&D spin-offs. The **INFO XXI programme** also declares among its objectives the establishment of favourable conditions for the creation of firms related to the information and communication technologies.

NEOTEC (ES 29) is the specific scheme designed by MCYT pursuing objectives defined in IV R&D NP and INFO XXI and is devoted to fostering the start-up of technology-based companies. CDTI is the public agency in charge of its management. NEOTEC has been designed to fulfil three main goals:

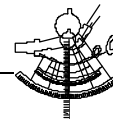
- promoting cultural change in society towards an entrepreneurial approach, especially in the scientific environment.
- increasing start-up funds to help NTBFs in their earlier stages and creating a network that ensures a constant and efficient flow of information between innovative entrepreneurs (ideas) and financial agents (investors).
- providing appropriate infrastructure and services that NTBFs will share: training, technical and legal assistance, incubators, information services, etc.

To achieve these general aims the overall NEOTEC plan designed the following instruments:

1. Awards (economic aid) to entrepreneurial projects
2. Services of technological evaluation of new entrepreneurial projects (establishing a technology-rating methodology as a standard measure)
3. Financing risk-capital entities that invest in NTBF launches.
4. Promoting the NEOTEC Network and supporting the development of horizontal initiatives in a consortium between its members.
5. Raising the awareness of society, especially the scientific and technological community: advertising campaigns, websites, and workshops, etc.

The national scope of this initiative will reinforce regional schemes that have been put into place recently by regional authorities.

The implementation of NEOTEC recognizes three phases: Phase I (Promoting NTBF's) that consist of providing training and advice to new entrepreneurial projects. From January to June 56 projects



applied and 11 were approved. Phase II (Supporting start-up) supports the new enterprises with seed-capital by means of loans free of interest. In 2002, 12 new enterprises were supported from 112 applications. Finally, Phase III (Risk-capital) provides financial support to venture capital entities that invest in NTBF along its earlier stages. This latest phase of the programme has received an important dimension with the approval of a new instrument that assures reimbursable credits for this venture-capital entities (**ES 32**).

Sweden

Since 1994/1995 the commercial exploitation of university research and inventions has been the focus for some new programmes. In 1995 seven Foundations for Technology Transfer (Teknikbrostiftelser) located in seven major university cities, became operational. Together they received capital of about EUR115 million (one billion SEK), the return on which they may use to increase commercial benefits from university research and to encourage co-operation between industry and academia. The mode of operation in the Foundation for Technology Transfer varies between the different units. They have developed differently depending among other things on the conditions and need in each region.

In 1994-95 eleven University Holding Companies (Holdingbolag) were formed in Sweden. Their mission was to form project companies in order to exploit research from the universities and to develop services for such exploitation. They are themselves owned by the universities and are expected to become minority owners in firms created jointly with researchers and industrial actors for the exploitation of university research.

The Foundations for Technology Transfer in co-operation with the Holding Companies have, in turn, formed Patent & Licensing Offices (Forskarpatent), which actively support researchers' exploitation efforts. The formation of actors like the Foundations for Technology Transfer and the University Holding Companies as well as the Patent & Licensing Offices are concrete manifestations of the belief of the political system in the commercial potential of RTD and academic research.

The government has commissioned an investigation of the activities at the Foundations for Technology Transfer and the University Holding Companies. The Swedish National Audit Office (RRV) published the report from the investigation in spring 2001.²⁷ According to the report, the University Holding Companies give universities and the university colleges a better opportunity to improve their work with the third mission (see section 3.4) and the Foundations for Technology Transfer have a major importance in making it possible for the university colleges to create a well-functioned co-operation between researchers and companies.

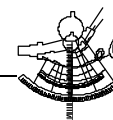
United Kingdom

The creation and development of technology-based enterprises remains a key government priority for innovation policy. There appears to be some evidence that government schemes in support of this priority are bearing fruit (see Section 3.4).

Support is provided in two broad areas: stimulation of a culture of entrepreneurship (for example, through initiatives such as the Science Enterprise Centres (UK 21) or the Enterprise Insight Campaign (UK 50)); and through the creation of an environment in which new companies may flourish. A number of existing measures support this latter goal. These include the Enterprise Fund (UK 24), corporate venturing tax relief (UK 31), R&D tax incentives for small and medium companies (UK 35), the University Challenge scheme (UK 11), the Higher Education Innovation Fund (UK 38), and the Small Business Research Initiative (SBRI) (UK 46).

With regard to the SBRI, the Biotechnology and Biological Sciences Research Council (BBSRC) has allocated the first round of its SBRI-motivated funds. Under the BBSRC scheme EUR1.9 million (£1.2 million) was allocated to spin-off ventures at the Institute for Food Research, and at five UK

²⁷ www.rrv.se



universities. The BBSRC is happy that the SBRI idea has worked well for this particular allocation, despite early doubts about whether SMEs would have good commercial ideas and the ability to carry out research projects. This note of caution was echoed in the general response of the other Research Councils to the SBRI and the Particle Physics and Astronomy Research Council (PPARC). The Medical Research Council (MRC) are still working on their strategies for this kind of specific funding allocation to SMEs.

More recent developments include the announcement that the funds allocated to University Challenge and Science Enterprise Challenge will be combined with the Higher Education Innovation Fund (HEIF)²⁸ to provide EUR270 million (£170 million) for another round of funding to universities until 2005-06. It is the government's objective that HEIF will become a permanent third stream of funding (alongside those for research and teaching) which universities may bid for in order to top up successful venture capital funds, build on existing investments in entrepreneurship education or develop knowledge transfer activities. The consolidation of the three schemes removes the constraints on funding imposed by ring-fenced schemes. The new HEIF is intended to:

- support work to promote enterprise in universities, and to promote networking between the university, business and other user communities for the outputs of research;
- provide funding for the infrastructure and capability to transfer knowledge from universities into business and the community through applied research, technology and knowledge development, and consultancy, linking with all types and sizes of businesses;
- support the formation, through seed-corn funding, of companies to spin out new knowledge, or the development of commercial enterprises to pursue the activities above.

In October 2001, the Small Business Service of DTI launched a EUR120 million (£75 million) 'Incubator Workspace Loan Fund' to 'encourage business start-ups and growth in managed workspace... with flexible leases, good communications and business advice and support'. The fund, however, is not targeted specifically at technology-based companies. The Incubators are intended to provide:

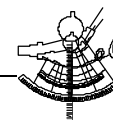
- an instructive and supportive environment for entrepreneurs in start-up and early stage businesses;
- access to small workspace units on flexible terms with easy-in, easy-out terms;
- access to early stage finance;
- networking and peer group support;
- effective technological infrastructure, including broadband communication links;
- access to business support tailored to the needs of the client businesses.

The loan fund is operated by the Small Business Service working closely with other government organisations at the regional and local level such as the Regional Development Agencies. It provides loans of up to 50% of capital investment in incubator workspace. This includes new-built incubators, refurbishment/conversion of premises into incubators or installation of infrastructure into an incubator including up-grade of technology such as the installation of broadband Internet connections. In addition innovative schemes for 'without walls' or 'virtual incubators' will be considered. The money will be given to not-for-profit organisations who will set up incubator schemes which will help people looking to set up their own businesses. It is intended that incubator schemes can be supported in each English region.

Bulgaria

According to the authors of a World Economic Forum report, published during 2001, who assessed countries' potential for raising its competitiveness, one of the major factors, along with innovation potential and access to funding, is the opportunity to start a new business. The survey for this report included a sample size of over 200 companies.

²⁸ HEIF will be worth £60 million (€95 million) a year by 2003-04.



The conditions for starting a new business in Bulgaria are perceived as not favourable and unsupportive. An analysis of the results compared with those of other countries included in the World Economic Forum Report illustrates that for the second consecutive year Bulgaria has been ranked last as the least 'new business' friendly country. At the same time, a closer study of the assessment shows that 75% of the companies give low marks to this indicator, overall between 1 and 3. Furthermore, 19% of the respondents state that the number of permits and licenses required to start a new business, depending on the nature and field of activity totals a high 10. Some respondents, over 4%, have also had the experience of requiring 20 permits and licenses for starting a new business.

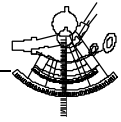
The time necessary to set up a new business in Bulgaria, in the opinion of 28% of the respondents, is 30 days; 14%, however, think that 60 days are necessary. The barriers to starting a new business have put a great burden on Bulgarian business as well as giving rise to corruption.

Cyprus

As mentioned above, the Business Incubators measure [CY 5] has overcome the constraints and is now operational initially through the *Promitheas Ltd.* incubator, while four more incubators are expected soon. Applications for incubation are now a fact and individuals or small groups of individuals who present a business plan promoting the development of an innovative idea can apply. Groups of individuals that include non-Cypriots inventors will also be considered.

The proposals in the framework of this measure should satisfy a number of criteria in order to become eligible for the scheme such as innovation, technological viability, market potential, the ability of the person to develop the idea within the proposed time limit and budget, the technical and management competence of the team and the benefits to the Cyprus economy. The applications of the interested individuals or teams shall be submitted to any of the existing incubators, provided that the incubator's expertise will increase the likelihood of success of the idea under incubation. The incubator will make a first evaluation and, if necessary, shall assist the inventor to prepare a detailed business plan and to create a team for the implementation of the plan. Concerning the evaluation procedure, the applications, which are initially approved by the incubator, will be transmitted to a committee, established for this purpose by the Council of Ministers, for further evaluation and approval. The committee may require the views of specialists either from Cyprus or abroad regarding the technological and financial viability of the suggested plan. The evaluation procedure will also include, *inter alia*, an assessment of the degree of innovation of the product and patent search, which will be conducted by the incubator in co-operation with the Office of the Registrar of companies or/and overseas patent agents. The individual or team selected shall create a private company of limited liability. An agreement between the company, the incubator and the government will then be signed, which will specify the rights and obligation of each party. The final distribution of the share capital, which shall be agreed between the inventor, the incubator and the associate/investor, shall be stated in the application that will be submitted to the competent committee for the provision of the government grant and, where the above application is approved, it shall be so stated in the relevant contracts that will be signed between the various parties. It is noted that at least 50% plus one share shall belong to the inventor or inventors. The government of Cyprus will provide part financing up to the sum of EUR210,000 (£120,000) for projects aiming at the development of new high technology products, for a period of up to two years. The grant will be provided on the condition that the inventor or/and associate shall participate in the project with at least an amount of EUR17,500 (£10,000).

Also, the measure 'Support to female entrepreneurship' [CY 23] which aims at the development, support and promotion of entrepreneurship for women aged 18 to 55 years is promoting start-ups for those who wish to establish themselves in manufacturing, trade, services or tourism, by exploiting their knowledge, training and skills. It is delivered as a grant and the public contribution is up to 50% of the total budget. The funding has to comply with the *de minimis* rule, which means that all subsidies for each benefiting firm in three years should not exceed in total EUR98,616 (£57,000). The first call for proposals was launched in early 2002 and proposals could be submitted from 15/04/2002 and for three more months to the Ministry of Commerce, Industry and Tourism. Thirty proposals were submitted. A new call for proposals is expected soon.



The Ministry of Commerce, Industry and Tourism is preparing a new scheme to support youth entrepreneurship.

Czech Republic

No measures have been introduced under this action line within the relevant period. However, the government continues to view this area as an important focus for policy.

The Technology Centre AS Czech Republic, as well as other members of the Society of Science and Technology Parks, run high-tech business incubators, that offer their assistance preferably to early-stage knowledge-based businesses (science spin-offs). The companies are offered space in the business incubator at subsidised rent (the PHARE programme and the programme of the Czech Ministry of Industry and Trade). The package of provided services includes:

- complex advisory assistance in business development;
- marketing services and technology transfer consultancy;
- information on the access to European and national financial resources for R&D projects including assistance in preparation of project proposals;
- contacts to financial sources for business development (venture capital, soft-loans schemes).

Estonia

At the present time the creation and development of start-ups are largely initiated through the ESTAG project-oriented funding and through the recently launched SPINNO programme [ES 17]. The Tartu Science Park and the universities' innovation centres (which are being reorganised into technology centres) also support the starting-up of firms. The Tartu Science Park is offering at favourable terms technical infrastructure and consulting services, while the role of the universities' innovation centres presently concentrate on providing consultation and training.

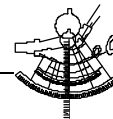
The opening of an incubation centre near Tallinn Technical University in September 2002 was one step forward. In the near future it will belong to the Tallinn Technology Park.

A large share of programmes will be launched during 2002 and in 2003 (including the Tallinn Technology Park, the Competence Centre Programme, the State Venture Capital Fund) which should promote the founding and development of new firms. However, so far there are no fiscal measures, e.g. tax deductions, which would support the starting of new enterprises.

In order to develop a more comprehensive structure for supporting hi-tech venturing, the government is preparing a four-year SPINNO programme under the auspices of the Technology Agency launched during the fall of 2001. In a preliminary phase ESTAG summoned a survey from an international consulting firm, for mapping and evaluating existing support facilities for hi-tech start-ups (mostly originating from universities) and identifying the need for improvements and new facilities. The emphasis of the new SPINNO programme is on having a comprehensive approach to all phases of commercialising an innovative idea, and offering a complete approach to support structures and bringing together all actors during the process. The emphasis is placed on building up and strengthening capacity at universities for supporting entrepreneurship and the ability to manage spin-off processes.

A feasibility study of Competence Centre Programme has also been completed with foreign experts from Technopolis B. V.

Tartu Science Park has been active since 1992 and has gradually developed an infrastructure and services package for technology intensive start-ups. The park includes an incubator, where additional space was renovated under PHARE SPP project and was opened in January 2001. The incubator



provides accommodation, access to advisory services and communication facilities as well as international networks. The average number of tenants ranges from 24–28. The intention to expand the incubation space and improve the infrastructure and services are on hold due to a lack of ability to attract investments and financing. At present a proper business plan and the re-organisation of the organisation are being worked on.

In September 2002 the incubation centre was opened in Tallinn. It provides facilities to start up companies.

Promoting technology based companies, the Phare 2000 ESC project made contributions to the further development of the Science Park, Tartu University Innovation Centre and the creation of a Bio-Info-Technology Incubator. The regional business incubator, developed under the previous PHARE program in Johvi has not proven to be successful in promoting new ventures in the region under industrial re-structuring.

Hungary

Specific measures explicitly addressing this target are the following: HU 02 (TECH-START).

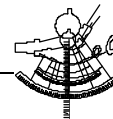
Tech-Start was initiated in 1999 and its main objective is to support the R&D activities of technology-intensive micro-enterprises, which were founded less than five years ago. It aims to realise innovative ideas and aids in assuring necessary facilities. The TECH-START programme was terminated in 2001 and restarted in 2002. The aim is to change incentives to direct seed capital towards innovative start-up companies and venture capital for technology-intensive investments.

Latvia

The basic document for the support of SME development is the National Programme of the Development of SME 1997–2001, which was adopted in 1997. The goals of the programme are to promote the establishment of competitive small- and medium-sized enterprises and create a sustainable favourable business environment throughout Latvia. At present, the National Programme for the Development of SME 2002-2006 is being drafted.

In 2001 there were 39,000 SMEs operating in Latvia, equalling 99% of the total number of enterprises. The SMEs account for more than 70% of the total work force and create more than 50% of GDP. According to an estimation of the Central Statistics Bureau, the SMEs' contribution to GDP went up from 57% in 1996 to 65% in 2000. The main institutions responsible for coordinating business activities and policies regarding SMEs are the Ministry of Economy, the Latvian Development Agency, the Latvian Guarantee Agency, and the Regional Development Council. The Prime Minister adopted a decree on 4 May 2001 setting up an Inter-ministerial Working Group for preparing proposals on establishing a state subsidisation model for SMEs, as well as creating administrative support structures for SMEs.

The Ministry of Economy has developed an Action Plan for 2000-2001 for implementing the National Programme for the Development of SMEs (LV 36). The main activities of the action plan are to update the National Programme on Development of SMEs; to launch a website home page on SMEs covering the Baltic Sea countries; to regularly update the chapter on Latvia; to offer credit programmes to SMEs; to provide loans in the event of limited collateral; to participate in the EU 3rd multi-annual SME programme (providing access of Latvian SME to information markets); to harmonise EU legislation; to develop a standardised project of a business support centre (incubator); to develop a project of periodical publications in regard to SMEs; to prepare amendments to the law on control of state and municipal support for business activities; to reorganise structural funds of state support for business activity. The SME crediting program aims to provide EUR18,037,518 (LVL 10m)



for SMEs over three years. The aim of the program is to finance small- and medium-sized enterprises, promote new jobs and funding for start-ups and projects, which lack adequate financing.

On 20 September 2000 the Cabinet of Ministers endorsed the decision by the European Community regarding the initiative of the Latvian Association Council on conditions of Latvia's participation in the European Communities SME Programme. The participation in this programme has helped to internationalise the work of Latvian SMEs as well as promote co-operation with enterprises from the European Union.

On 27 February 2001 the Cabinet of Ministers approved the National Concept of Innovation (LV 20), which is aimed at creating an economy open to innovation. This concept serves as the basis for the National Innovation Programme and Action Plan of the National Innovation Programme. Its primary strategic task is the implementation of pre-conditions for innovative activities, and will also develop new and competitive products and services, engage in applied research, train highly qualified specialists, introduce standardised quality schemes, encourage the development of advanced technology and potential sectors with high value added, which would promote the overall growth of enterprises and consequently also increase the competitiveness of the country.

The Long-Term Economic Strategy (LV 51) envisages state support for innovative companies and infrastructure: development of research and knowledge centres, technological centres, business incubators, hi-tech companies; financial support system for innovative activities. Furthermore it aims to increase the share of the state budget directed towards innovative activities and distribute it among applied research, development and innovative activities as well as attracting private capital and promoting access to risk capital.

Lithuania

No measures have been introduced under this action line within the relevant period. However, the government continues to consider this area as an important focus for policy.

No particular steps were taken in this field during the covered period. In Lithuanian innovation policy more emphasis is given to supporting existing technology-based companies than to start-ups.

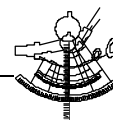
Poland

At the beginning of 2002, the Agency for Industrial Development (Agencja Rozwoju Przemyslu) supported by the Ministry of Economy established the Foundation FIRE ('Fundacja Inwestycji Restrukturyzacji Edukacji'). The Foundation has been modelled according to Inno-Centre existing in Quebec (Canada) which financially supports scientists who would like to process the results of their scientific work into marketable products and to establish their own companies.

It seems that the initiative came from Canada rather than from the Polish governmental circles. One Canadian consultant of Polish origin offered his services to organise in Poland an institution similar to the Canadian Inno-Centre and the proposal was accepted, firstly by the Ministry of Economy (official support) and then by the Agency of Industrial Development (operational support). Fundacja FIRE in Warsaw is just being organised to carry out activities similar to those of the Canadian Inno-Centre.

Although until now there were no specific measures to encourage the creation of technology-based companies, according to research carried out by the Economy Chair of Lodz University, there are about 600-700 small companies based on specialised and advanced technology in Poland. The founders of such companies are usually individual inventors and researchers from technical universities and scientific institutes who have built up specialised knowledge and experience during their professional career and now apply it in their firms.

According to the mentioned research, the above companies were active, during 1999, in the following sectors:



Sector	% of companies researched
Scientific, medical and optical instruments	27.3%
Biotechnology and pharmaceuticals	23.6%
Advanced materials	18.2%
Computers and telecommunications	18.0%
Industrial electronics	12.7%
Others	0.2%

Romania

The sub-programme 9 'Excellence Centres' of the RELANSIN programme outlines the objectives for stimulating start-ups of technology-based companies. The main goal of this sub-programme is to sustain the start-up of incubators and research networks, which is expected to reach European quality standards. However, there are currently no normative acts, which would implement these objectives.

The start-up of technology-based companies is stimulated by the GD 65 (September 2001), which outlines the framework for industrial parks. The law is the third element of a legislative scheme that also includes the Law on Disadvantaged Zones (Law No. 20/1999), and the Law No. 84/1992 on Tax Free Zones. The new law provides tax incentives to investors in industrial manufacturing and related businesses. The burgeoning Romanian information technology industry will benefit most from the new law.

Another measure supporting the start-up of technology-based companies is the exemption of tax from the salaries of software and information technology specialists.

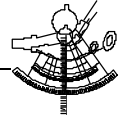
The most advanced software park in Romania is located in Galati. The company Navrom won the public tender for the software park and will administer it. This company offered a building for the development of the park and signed a partnership with the local City Hall and Local Council. The company then received funds from the Ministry of Economic Development, and started a promotional campaign in an attempt to attract software companies. The companies benefit from real incentives both from the state and local authorities that can range from the exemption of income taxes for employees to lower rents. The rent will be partly financed by the local authorities, so it will be much lower than the usual rents in a business centre. The IT&C Ministry intends to attract mostly small-sized, start-up companies that cannot afford to pay a large amount of money on rent or public utilities. When the company is sufficiently developed to become self-supportive then another company will take its place in the park.

A number of schemes promoting entrepreneurship and supporting start-ups have been put in place.

An example of such a scheme, which covers all regions, is the Grant Support Scheme for Start-up businesses, Micro Enterprises and new SMEs under the joint EU-Romania programme for economic and social cohesion. The public grants must not exceed 60% of the total costs of the project. Financial support will range between EUR10,000 and EUR50,000 with project durations of no more than 18 months. Another similar example of a micro-credit scheme is the Micro-Loan Programme developed by the Romanian-American Investment Fund.

The Romanian-German Fund II, Kreditanstalt für Wiederaufbau (KfW)/Microenterprise Credit Romania S.A. is an example of finance available to small enterprises. The scheme offers loans to enterprises with no more than 50 employees, a minimum of one year of existence and involved in trade and services. There are three types of loans: Micro trade credit (max EUR2,556); Micro Business credit (from EUR2,556 to EUR12,782) and Small Business Credit (from EUR12,782 to EUR51,129). The maximum maturity is three years with a grace period of three months.

The National Council of Private SMEs agreed special partnerships for SMEs having access to credits with Banca Romaneasca, Banca Romana pentru Dezvoltare (Group Société Générale), Banca Comerciala Romana. The partnerships offer information, consultancy and assistance to SMEs in obtaining financing.



Slovak Republic

No measures have been introduced under this action line within the relevant period. However, the government continues to consider this area as an important focus for policy.

Slovenia

Measures to ensure a favourable environment for start-ups are provided through four technology parks, which provide premises, equipment and advice for small businesses. The new measure for incubators in universities is also aimed at providing assistance to start-ups.

Technology centres and parks have been established to stimulate R&D within enterprises as well as R&D related exchanges among member companies. Slovenia currently has four technology parks, in Ljubljana (2) as well as one each in Maribor and Nova Gorica. The park in Nova Gorica is approximately one year old. The parks offer premises, equipment and consulting to SMEs.

Technology parks are not-for-profit legal entities and are targeted by dynamic new companies looking for new technologies, products and services and are just beginning to use the results of their research.

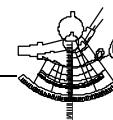
Technology centres have a slightly different focus:

- R&D (for the needs of an individual branch of economy, and also for individuals, in which case the centre must ensure the data obtained to be treated confidentially);
- aid in applying to national, foreign research and other projects;
- performing measures and testing (the long-term goal is to become an accredited lab);
- following new developments in the field of research and technology in specific areas and informing and facilitating their introduction to individual business companies;
- performing diversified expert training for the needs of the branch.

As a rule, only one technology centre is established per each research area or branch. The financing of a technology centre is a matter of a written agreement between its founders. The sources of financing can be membership fees, subsidies by the state, profit from its services, municipal support, and funds obtained for national and international R&D projects.

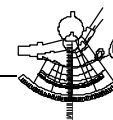
A new measure offered by the Ministries is expected to provide for incubators at universities (SO 13). These incubators, if successful, will foster the creation of new SMEs based on academic research.

European Trend Chart on Innovation



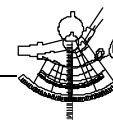
Belgium	BE 18 University Interfaces	1998					1												1	
Belgium	BE 27 Incubators and Innovation Centres	1998					1				1					1				
Belgium	BE 37 FIRST Spin-off	1999	1				1									1			1	
Belgium	BE 48 Pre-activity grant	2001	1											1		1	1			
Belgium	BE 51 Business Innovation Centres	?					1	1						1						
Belgium			2	0	0	1	4	0	0		0	2	0	0	1	2	1	1	0	2
Denmark	DK 2 «Equity Guarantee Program »- Development Companies (Venture Capital Companies)	1994			1							1								
Denmark	DK 4 Technology incubators	1997	1		1		1							1		1	1		1	
Denmark	DK 8 Approved Technological Service Institutes	1973					1					1	1	1					1	
Denmark			1	0	2	1	1	0	0		1	2	1	0	1	0	1	1	1	1
Finland	FI 1 SPINNO Business Development Centre	1990					1										1	1		
Finland	FI 6 TULI-programme	1993					1										1		1	
Finland			0	0	0	0	2	0	0		0	0	0	0	0	0	2	1	0	1
France	FR 1 Support for innovation	1979	1				1					1	1					1		
France	FR 11 National competition for creation of new technology-based firms	1999	1				1								1					
France	FR 12 Creation of regional incubators structures	1999					1					1						1	1	
France	FR 13 Support for the creation of seed-capital funds	1999	1									1						1		
France	FR 35 Co-investment funds for young enterprises	2002					1						1							
France			3	0	1	2	1	0	0		3	2	0	0	1	0	3	0	0	1
Germany	DE 12 Technology Venture Capital Programmes	1990	1				1					1	1	1		1		1		
Germany	DE 16 InnoRegio - innovative networks in Eastern Germany (incl. Interregional Alliances)	1999	1									1	1	1				1	1	1
Germany	DE 20 FUTOUR 2000	2000	1			1	1						1			1				
Germany	DE 21 EXIST - Start-ups from Science	1997	1				1						1			1		1	1	1
Germany	DE 22 Start-ups in Multimedia - Mobilmedia	1997	1				1								1				1	
Germany	DE 23 Biotechnology Initiatives	1997	1				1						1	1				1		
Germany	DE 39 INSTI - School Action: Tour D'Innovation	2000	1																1	
Germany	DE 47 INSTI Inventors Clubs	1995	1	1									1	1				1	1	1
Germany	DE 50 BAND: Business Angels Network of Germany	1997			1								1	1	1					
Germany	DE 57 Innovative Regional Growth Poles	2001	1										1	1	1				1	1
Germany	DE 60 Professorships for Entrepreneurship	1998	1																	1
Germany	DE 64 JUNIOR - Pupils as Entrepreneurs	1994					1												1	
Germany	DE 74 Facilitating Start-ups from Public Research Organisations (EEF-Fonds)	2001	1																1	
Germany			11	2	2	4	1	0	0		5	7	6	0	4	0	7	6	3	6

European Trend Chart on Innovation



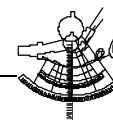
Luxembourg	LU 2 SME Capital-Development Company (CD-PME)	?			1							1								
Luxembourg	LU 4 Technoport Schlassgoart - start-up incubator	1998				1						1								
Luxembourg	LU 5 Luxinnovation GIE - National agency for innovation and research	1984				1						1	1	1			1		1	
Luxembourg			0	0	1	1	1	0	0			0	3	1	1	0	0	1	0	1
Netherlands	NL 4 PMTs Participation Companies for New Technology-based Firms	1996	1									1	1							
Netherlands	NL 15 Twinning Centres	1998			1		1					1	1							
Netherlands	NL 23 Tante Agaath (Aunt Agatha scheme)	1996						1				1					1			
Netherlands	NL 24 BioPartner	2000			1	1	1										1		1	
Netherlands	NL 32 Dreamstart, platform for technostarters	2001							1			1			1		1		1	
Netherlands	NL 39 Subsidy Scheme Infrastructure Technostarters	2002	1														1		1	
Netherlands	NL 40 Subsidy scheme Entrepreneurship and Education	2000			1														1	
Netherlands	NL 42 STIGON	2000	1															1	1	
Netherlands			3	0	3	1	2	1	1			3	2	1	0	1	1	4	0	2
Norway	NO 9 Project Development Funds	1999	1											1			1			
Norway	NO 10 The BRIDGE programme (BRO)	?										1					1		1	
Norway	NO 11 FORNY	1994	1														1		1	
Norway	NO 19 Municipal Business Development Funds	1987	1																1	
Norway	NO 35 Network credit/network bank	1992	1											1						
Norway	NO 36 Programme for incubator activities	2000	1				1					1			1					
Norway	NO 38 Fund for regional readjustment and innovation	?	1									1								
Norway	NO 39 Business establishing grant	1989	1			1						1			1					
Norway	NO 47 Incubator grant	2001	1			1						1								
Norway			8	0	0	2	1	0	0			0	5	0	1	3	0	3	0	1
Portugal	PT 6 Creation of a Science and Technology Observatory	1997							1			1	1	1			1		1	
Portugal	PT 7 Regulation to support the development of technological capabilities at enterprise level, SME Initiative	1997	1									1								
Portugal	PT 16 Company Modernization Incentive System (SIME)	2000	1									1	1							
Portugal	PT 31 Venture capital Syndication Funds (FSCR)	2002			1							1	1							
Portugal			2	0	1	0	0	0	1			0	4	3	1	0	0	1	0	
Spain	ES 29 NEOTEC: Support to creation and development of NTBF's	2001	1			1						1			1		1		1	
Spain	ES 32 Support measure to venture capital for New Technology-based	2002	1									1					1			

European Trend Chart on Innovation



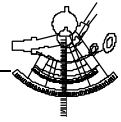
	firms																			
Spain			2	0	0	1	0	0	0		2	0	0	0	1	1	1	0	0	1
Sweden	SE 1 SNITS	1994	1			1					1									
Sweden	SE 2 Seed Financing	1968	1			1					1									
Sweden	SE 3 Innovation Sweden	1986	1			1								1						
Sweden	SE 8 Investment Forum CapTec	1994				1					1									
Sweden	SE 13 The Venture Capital Database	1999		1		1					1									
Sweden	SE 21 Seed Financing	2002	1								1									
Sweden			4	1	0	5	0	0	0		0	5	0	0	1	0	0	0	0	0
UK	UK 2 Liaison at ministerial and official level with private sector providers of finance to address concerns about financing of innovative SMEs	?							1		1									
UK	UK 5 Biotechnology Mentoring and Incubator (BMI) Challenge	1996	1	1					1		1	1	1			1			1	1
UK	UK 6 Biotechnology Finance Advisory Services	1996				1					1	1		1						
UK	UK 8 Small Firms Loan Guarantee Scheme	1981	1								1									
UK	UK 21 Science Enterprise Challenge	1999/2000					1													1
UK	UK 31 CORPORATE VENTURING TAX RELIEF	2000						1			1									
UK	UK 46 Small Business Research Initiative	2001									1									
UK			2	1	0	1	1	1	2		1	6	2	0	1	0	1	0	1	2
Hungary	HU 5 Integrator	1999	1								1	1								
Hungary	HU 23 Application for establishing innovative enterprises	2001	1						1		1									
Hungary			2	0	0	0	0	0	1		1	1	1	0	0	0	0	0	0	0
Czech Rep	CZ 6 Park Programme	1995		1							1					1	1			
Czech Rep			0	1	0	0	0	0	0		1	0	0	0	0	0	1	1	0	0
Estonia	EE 1 Tallinn Technical University and Tallinn Technical University Innovation Centre Foundation joint spin-off programme	1999				1	1									1				
Estonia	EE 14 Tartu University Innovation Office spin-off program	1998				1										1	1			
Estonia			0	0	0	2	1	0	0		0	0	0	0	0	0	2	1	0	0
Cyprus	CY 5 High Technology - Business Incubators	1999	1								1			1		1				
Cyprus	CY 14 Scheme for the Subsidisation of Specialised Software in Industry	1999	1								1	1								
Cyprus	CY 23 Support to female entrepreneurship	2002	1											1						
Cyprus			3	0	0	0	0	0	0		0	2	1	0	2	0	1	0	0	0
Latvia	LV 4 Latvian Technological Centre (LTC)	1993				1					1									
Latvia	LV 5 National Program for SME support	1997									1								1	
Latvia	LV 7 Innovation Relay Centre	?									1					1				1

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	Latvia (IRC)																			
Latvia	LV 8 Electronic Industry Business Innovation Centre of Latvia (LEBIC)	1997																		
Latvia	LV 14 Latvian Academy Of Sciences (LZA) Web-site	?																		
Latvia	LV 15 Innovation Relay Centre - Latvia (IRC) of Latvia Technology Centre	2000																		
Latvia	LV 17 SME involvement and innovation development in the Republic of Latvia	1998																		
Latvia	LV 36 Action Plan to Improve the Business Environment	?																		
Latvia	LV 41 On the procedure of the drafting, submission and evaluation of in-land enterprises and permanent non-residents' representative offices investment project applications for acquiring the status of a supported investment project	?																		
Latvia	LV 43 Competition Law	?																		
Latvia			0	0	0	1	0	0	0		3	4	0	0	1	0	2	1	1	1
Lithuania	LT 14 Measures for implementation of the Government's programme for 2001-2004	2001																		
Lithuania			0	0	0	0	0	0	0		1	0	0	0	0	0	0	0	0	0
Poland	PL 1 Special Economic Zones	1994					1					1	1							
Poland			0	0	0	0	0	1	0		0	1	1	0	0	0	0	0	0	0
Romania	RO 8 CORINT	2001	1									1								
Romania			1	0	0	0	0	0	0		0	1	0	0	0	0	0	0	0	0
Austria			7	3	8	5	0	0	0		2	14	3	3	3	2	1	2	0	1
Belgium			2	0	0	1	4	0	0		0	2	0	0	1	2	1	1	0	2
Denmark			1	0	2	1	1	0	0		1	2	1	0	1	0	1	1	1	1
Finland			0	0	0	0	2	0	0		0	0	0	0	0	0	2	1	0	1
France			3	0	1	2	1	0	0		3	2	0	0	1	0	3	0	0	1
Germany			11	2	2	4	1	0	0		5	7	6	0	4	0	7	6	3	6
Greece			7	1	1	0	0	0	0		4	4	0	0	2	1	2	1	1	2
Ireland			3	0	1	0	1	1	0		0	2	0	2	1	0	3	3	0	0
Israel			2	1	2	0	1	0	1		1	3	0	0	3	1	0	0	0	0
Italy			2	0	0	1	0	0	3		3	3	3	0	0	0	4	1	0	3
Luxembourg			0	0	1	1	1	0	0		0	3	1	1	0	0	1	0	1	1
Netherlands			3	0	3	1	2	1	1		3	2	1	0	1	1	4	0	2	5
Norway			8	0	0	2	1	0	0		0	5	0	1	3	0	3	0	1	2
Portugal			2	0	1	0	0	0	1		0	4	3	1	0	0	1	0	1	1
Spain			2	0	0	1	0	0	0		2	0	0	0	1	1	1	0	0	1
Sweden			4	1	0	5	0	0	0		0	5	0	0	1	0	0	0	0	0
UK			2	1	0	1	1	1	2		1	6	2	0	1	0	1	0	1	2
Hungary			2	0	0	0	0	0	1		1	1	1	0	0	0	0	0	0	0
Czech			0	1	0	0	0	0	0		1	0	0	0	0	0	1	1	0	0

European Trend Chart on Innovation



Rep																				
Estonia			0	0	0	2	1	0	0		0	0	0	0	0	0	2	1	0	0
Cyprus			3	0	0	0	0	0	0		0	2	1	0	2	0	1	0	0	0
Latvia			0	0	0	1	0	0	0		3	4	0	0	1	0	2	1	1	1
Lithuania			0	0	0	0	0	0	0		1	0	0	0	0	0	0	0	0	0
Poland			0	0	0	0	0	1	0		0	1	1	0	0	0	0	0	0	0
Romania			1	0	0	0	0	0	0		0	1	0	0	0	0	0	0	0	0
Total			65	10	22	28	17	4	9		31	73	23	8	26	8	41	19	12	30