

**The European Innovation  
TREND CHART**

Thematic Report:  
‘Start-up of Technology-Based companies’

Covering period:  
December 2000 – April 2001

**INBIS Ltd**

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# 1 Executive Summary

The start-up of technology-based companies has continued to increase over recent years. Recent downward trends in market developments, especially in the IT and telecom sectors, which have been at the forefront of developments in the past decade, may have a negative impact on both the provision of capital and subsequently the development of certain high-tech sectors. This is because they have again demonstrated the high risk nature of high-tech ventures and the volatility of their associated markets.

It has become very clear that the success of high-tech starters and technological innovation depends on more than the provision of capital alone, though this remains a major factor. Other considerations also play a part. Indeed, not all these factors can be influenced in any substantial way by policy; others are largely driven by the market. Even where policy measures do have an effect, this may take some time before the effects become visible.

Few new measures in the field of New Technology-Based Firms (NTBF) have been introduced in the period under review. Overall, longer term trends show a shift towards more enabling measures, though 60% of the total number of active measures still deal with direct financial support to NTBFs.

However, of all the measures introduced since 1996, more than 80% are enabling measures, compared with only around 40% during the period 1991-1995.

One market trend, the entrepreneurial culture in which these companies operate, is often perceived as a primary reason for start-up failure.

In order to analyse the trends in policy-making on this issue, we have conducted a survey among the national correspondents. The results of this first survey have established the current situation. Further surveys will develop this analysis.

This survey focuses on the policies and policy measures in the EU Member States that are specifically aimed at fostering an entrepreneurial culture.

The survey shows that the term 'entrepreneurial culture' is open to wide interpretation. In its broadest sense it encompasses four different elements:

1. Stimulation of the start-up of new companies
2. Promotion of an entrepreneurial culture within existing companies
3. Creation of a favourable environment for entrepreneurship
4. Education and training on management of new innovative companies, use of resources, product commercialisation

Attention to the promotion of an entrepreneurial culture in current policies is limited. This topic has, in most cases, been addressed through a subset of measures, mainly aiming at innovation finance, creation of NTBFs and university-industry co-operation.

## 2 Introduction

The rate of start-up of technology-based companies has continued to increase over recent years. The recent downward trend in market developments of especially the IT and telecom sectors, which have been at the forefront of developments in the past decade, may have had a negative impact on both the provision of capital and subsequently the development of certain high-tech sectors, since they have again demonstrated the highly risky nature of high-tech ventures and the volatility of the associated markets.

It has become very clear that the success of high-tech starters and technological innovation depends on more than the provision of capital alone, though this remains a major factor. Other considerations also play a part, and not all these factors can be influenced in any substantial way by policy; others are largely driven by the market. Even where policy measures do have an effect, this may take some time before the effects become visible.

There is a fundamental mismatch between the rate of development of markets and the pace of policy-making. It is therefore difficult to assess with any confidence whether policies are adequately addressing the needs of rapidly changing markets, or are effective in maintaining the growth of high-tech start-up ventures.

One factor that is often perceived as a primary reason for start-up failure is the amount of entrepreneurial culture present – or rather, lacking – in these companies. This topic has been addressed by different policies in nearly all countries covered by Trend Chart. In most cases, however, it is seen as merely one aspect of a broader policy objective rather than as an objective in its own right.

In order to analyse the trends in policy-making on this issue, we have conducted a survey among the national correspondents. The results of this first survey have established the current situation. Further surveys will develop the analysis of the topic in more detail.

During this reporting period only four new measures were introduced by policy-makers in the Trend Chart countries. They are analysed in the next chapter along the lines of the analytical framework set out in previous reports. In addition, all currently entered measures that deal with the creation of NTBFs are analysed for trends.

### 3 Analysis of policies

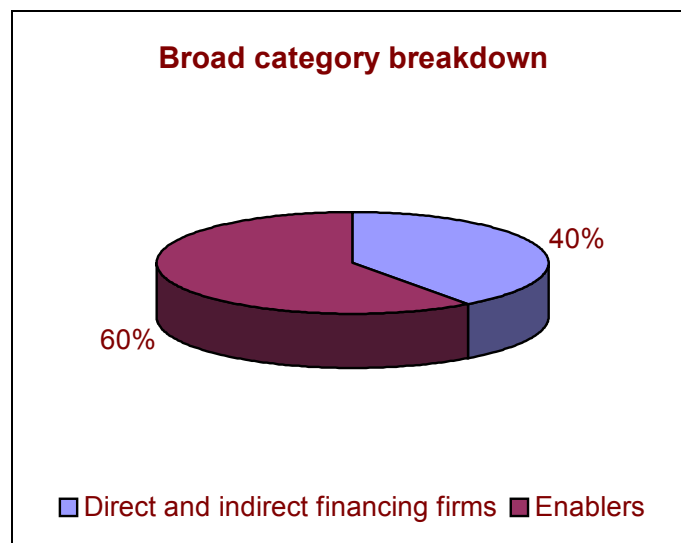
#### 3.1 Current policies

The analytical framework has not changed from that of the previous reports in this series. We have analysed more than 50 measures which have been grouped under the NTBF heading.

The majority of these measures are enablers, aimed at helping the start-up enterprises to get off the ground and establish themselves. This is done by providing support to investors, intermediaries and incubators. The second group of measures is aimed at the firms themselves.

The following figure shows a clear emphasis on enablers (60%). Many of the measures have several aims, and therefore fall into more than one category.

**Figure 1. Breakdown of current measures in the Trend Chart database**

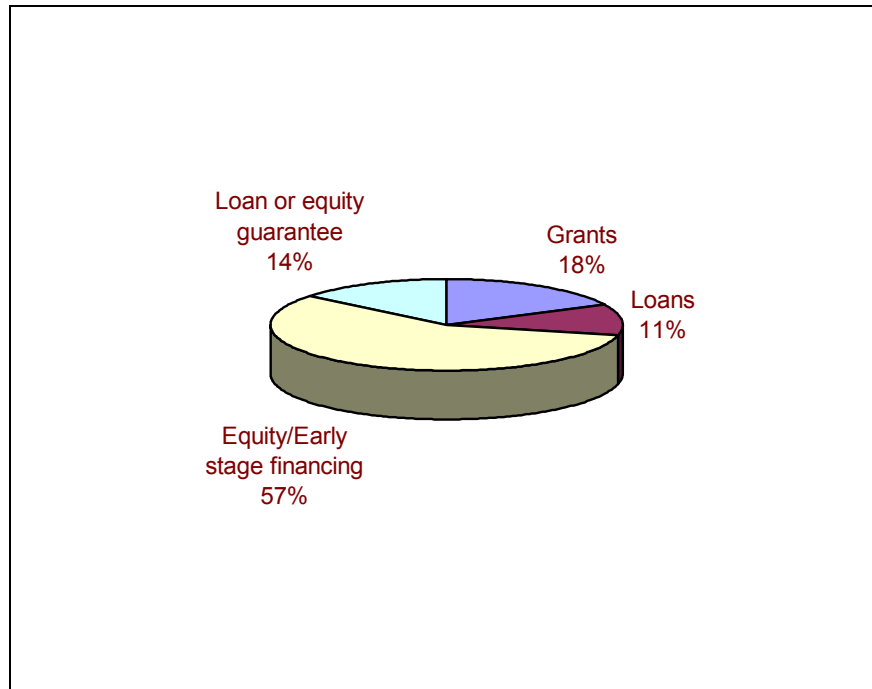


#### Direct and indirect financial support to firms

- **Early stage** financing is one of the key policy measures for the creation of NTBFs. A large part is done through seed and start-up capital. Seed Capital is money provided in the very early stages of a business venture. Typically, it is the money necessary for the business to get off the ground and, as a result, is regarded as carrying higher risks than other forms of development capital. Start-up capital is aimed more at product development, for instance, and marketing investments.
- **grants**, which are normally provided to companies in order to finance a proportion of the innovation and R&D process.
- **Taking equity in companies**, Government or government-backed agencies can also provide capital to companies undertaking innovative activities. Other types of financial support measures.
- Providing innovative firms with **loan and equity guarantees** for their lenders/investors, making it economically profitable for the financiers to provide loans or equity to these firms

Early stage financing and equity measures are dominant policies, accounting for 57% of all measures, as can be seen in figure 2 below. The only indirect financing measures (guarantees for loans and equity) account for 14% of the measures.

**Figure 2 Breakdown of direct and indirect financial support**



The main enabling measures can be classified as:

- **Provision of consultancy services.** New entrepreneurs need consultancy most when they are creating their company. They have a very wide range of problems to deal with and very limited resources. They sometimes have very little experience themselves and are not able at that stage to hire the necessary competence, as they have almost no money to buy external consultancy services. Making consultancy and services available to start-ups is therefore a major field for public intervention.
- **Intermediation services.** It can be argued that recognition of intermediation as a tool to support innovation is relatively new. It is based on the assumption that ‘tacit knowledge’ is probably one of the most efficient ingredients of innovation and entrepreneurship in a knowledge-based economy<sup>1</sup>. Intermediation processes do not provide consultancy or advice as such, but ensure that young entrepreneurs are effectively introduced to the relevant circles where they can find partners for developing their companies; this introduction is made most often to financial circles, but may also be made to potential technology partners, other entrepreneurs, researchers, etc.
- **Incubators.** The notion of incubators is not really new. Business Innovation Centres have been in operation since the late 1980s. Up to now, however, they were mainly concerned with regional and economic development. Incubators that are specifically preoccupied with new technology start-ups, technology exploitation and transfer, are a relatively new

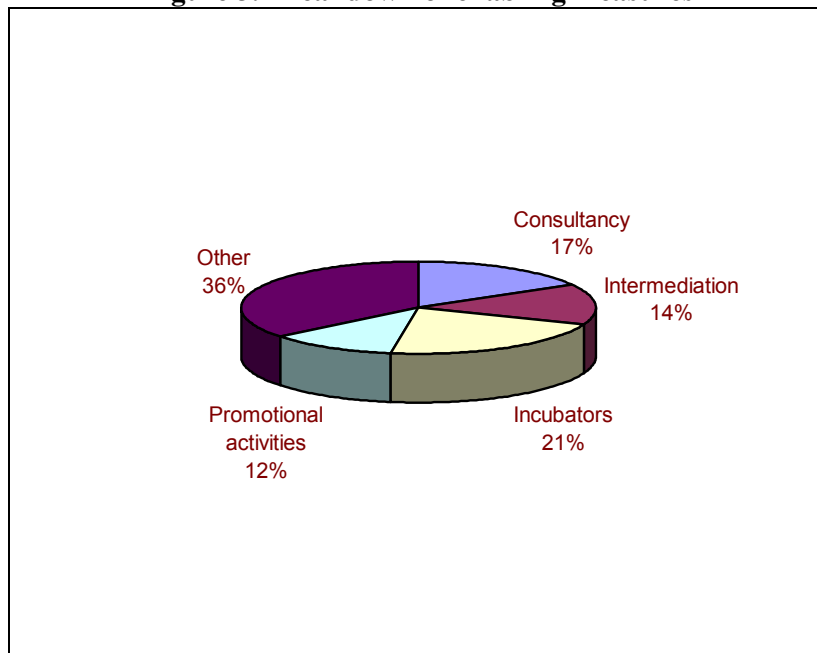
<sup>1</sup> See, for example, the document prepared for the European Commission *Towards European Innovation and Diffusion Policy for the Knowledge-Driven Economy*, Paul David, 2000

phenomenon in Europe. Incubators are, by definition, local; they are very often associated with a Science Park or a research centre. They are designed to provide locally all the services that a fledging enterprise needs (and which are provided under specific labels): physical hosting; consultancy services; strategic, professional (and sometimes management) support; intermediation; finance (in particular at the early stage); sometimes scientific equipment; etc. They also implement and co-ordinate at this level the policies initiated at national and/or regional levels.

- **Other measures.** This is a mixed bag, including:
  - promotion of university spin-offs
  - tax relief for investors
  - science & technology parks

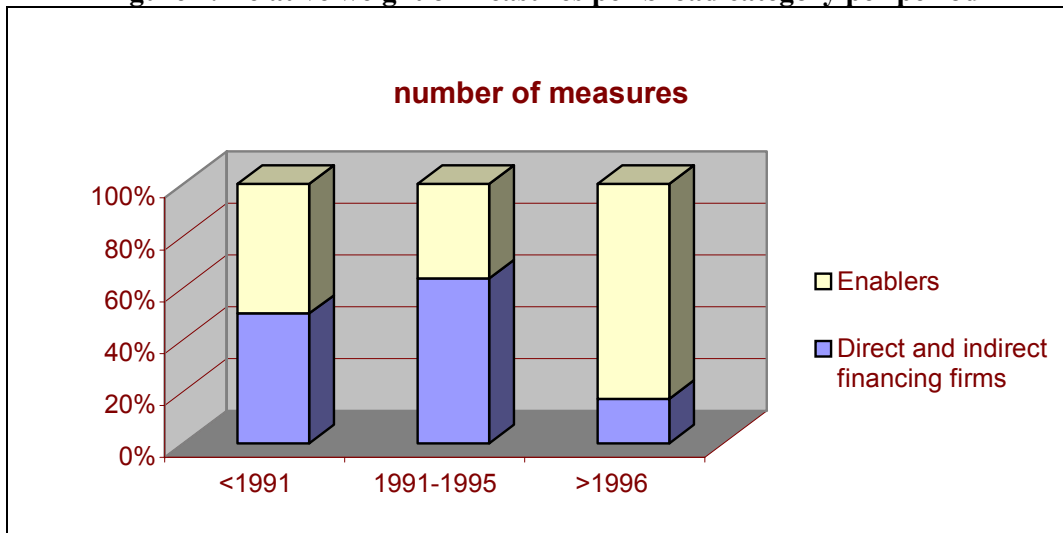
Although not new as a concept, incubators are still increasing in number, as indicated in the last report, and now account for 21% of the enabling measures (see figure 3). A number of commercially established incubators have recently closed their doors after not being able to reach their targets. Publicly funded incubators might be better able to address the market needs and be more suitable. Future reports should investigate whether a trend in this direction is becoming visible.

**Figure 3. Breakdown of enabling measures**



The overall tendency (as shown in figure 4 below) is clearly towards enabling measures which account for more than 80% of the measures introduced since 1996.

**Figure 4. Relative weight of measures per broad category per period**



### **3.2 Analysis of the new measures**

Four new measures (2 Austrian, 1 Swedish and 1 Greek) have been introduced over the reporting period January 2001 – June 2001.

The two Austrian measures are both enabling measures. The ‘A plus B’ (academia plus business, AT 47) programme tries to stimulate the formation of university spin-off companies. The second aims to establish a service point for those mainly researchers who wish to start an entrepreneurial career.

The new Greek measure (GR 45) aims at the development of incubators and science & technology parks. The Swedish measure (SE 13) is targeted towards developing and maintaining a Venture Capital database in order to help SMEs find potential investors.

## 4 Survey of the stimulation of entrepreneurial culture

### 4.1 Survey introduction

This survey focuses on the policies and policy measures in the EU Member States that are specifically aimed at fostering an entrepreneurial culture. Creating and stimulating an entrepreneurial culture is one of the key elements for creating New Technology-Based Firms.

The Trend Chart correspondents were asked to fill out a questionnaire to set the environment in their country. This report summarises the results of the survey and puts them into a wider context.

The term 'entrepreneurial culture' is open to a wide interpretation. In its broadest sense it encompasses four different elements:

1. Stimulation of the start-up of new companies by:
  - a. encouragement of researchers from academia to take R&D into development themselves;
  - b. stimulation of individuals in general;
  - c. stimulation of employees of larger companies to become entrepreneurs;
  - d. facilitation of finance and capital provision.
2. Stimulation of an entrepreneurial culture within existing companies
3. Creation of a favourable environment for entrepreneurship by:
  - a. sensitising target communities to the challenges of entrepreneurship (at schools, universities and research centres, through courses, media campaigns, etc);
  - b. easy entrance (e.g. through administrative simplification and lowering costs by scrapping certain fees and formal obligations);
  - c. tax incentives;
  - d. provision of supporting activities such as incubators, consultancy, networking, etc;
  - e. Creating a competitive environment in which new companies have a low threshold for market entry.
4. Education and training on the management of new innovative companies, use of resources, product commercialisation, etc.

The above list implies that a large number of policy measure types currently monitored by the Trend Chart will have an impact on the creation of an entrepreneurial culture. For the purposes of this report, five policies have been selected to provide an indication of the priority level of this area in the different Member States. Two of them (start-up of NTBFs and Innovation Finance) are direct and three (simplification of administration, Innovation management and co-operation between research, universities and companies) are indirect. The priority ranking from the country reports shows a fairly consistent approach to the five most pertinent measures by the policies throughout the Member States.

The focus on entrepreneurship – and especially on experienced entrepreneurship – by Venture Capitalists is a trend that has emerged following the events of the second half of 2000. In the current period it is often a more important requirement for funding of NTBFs than the potential of the technology itself or certain market indicators.

## **4.2 The questionnaire**

All Trend Chart correspondents were asked to consider a number of issues specifically relating to the encouragement of an entrepreneurship culture in young, high-tech firms.

The responses to these issues are analysed below.

### **4.2.1 Encouragement of entrepreneurship in Europe**

#### **Policy**

A wide interpretation, as described in the introduction, implies that a large number of measures currently monitored by the Trend Chart would fall within the definition of entrepreneurship. The current survey is restricted firstly by its focus on NTBFs and secondly by the fact that no precise definition had been provided. This has led to a wide variety of interpretations by the correspondents. Their interpretation ranged from a very narrow definition (purely the creation of NTBFs) to a much wider interpretation, including creating a favourable environment for entrepreneurship.

There is a strong trend in most countries towards having more measures aimed at elements of creating an entrepreneurial environment. Very few measures were identified that are specifically designed to create an entrepreneurial culture. In most cases, entrepreneurial stimulation measures are a subset of other measures.

In a few countries (notably IE, PT, SE, UK) entrepreneurial culture as a topic in itself seems to be surfacing as an important policy issue. In most other countries the topic is slowly becoming an issue; in two countries, however, no policy intentions at all in this direction have been reported.

Most policies seem to focus more on direct support for the creation of NTBFs (through financing measures, for instance) and less on creating an entrepreneurial environment, with the exception of university-industry relations (a traditionally strong policy focus).

#### **Finance**

The provision of direct or indirect support in the form of seed or venture capital with the aim of creating new high-tech companies is a trend visible throughout all the Member States. The earliest examples date from the late 1980s and the early 1990s. Currently, all Member States have such measures in place, with a few to become operational later this year.

#### **Incubators**

An equally clear trend is the establishment of incubators for high-tech firms. The ICT and Biotech sectors lead the way. The wave of incubators started in the mid 1990s; by the end of this year all Member States will have set up some incubators. In most cases, these are public/private partnerships. In one case (CYP) it is specifically mentioned that the incubator model is based on existing incubators in Greece, Ireland and Israel.

## **Training and education**

Only a few cases have been reported of actual training intended to develop entrepreneurial skills. Little policy attention seems to be paid to this topic (given its low priority rating and the limited number of measures) throughout the Member States.

## **Creating a favourable environment**

*Tax.* Tax incentives for start-ups are identified in two countries as a measure to improve the entrepreneurial culture. Some countries had intentions to bring in such measures, but were prevented from launching them due to legal and regulatory problems and constraints.

*Simplification of administration.* Except for Norway and Italy, where this topic has been high on the agenda since the Basanini Law, practically no reference is made to the simplification of administration as an active policy for favouring an entrepreneurial culture. Norway debated the issue recently, but no effects are clearly surfacing at the moment.

## **Sensitising communities**

Almost all Member states have measures in this direction. Primarily aimed at universities, this is a new trend in the Member States, reported in section 4, namely introducing entrepreneurial issues into schools, starting sometimes even with children at the age of five.

## **Evaluations and best practices**

Evaluations have primarily been made on the financial measures. Where evaluated (DE, NO, SE, UK) the measures have been generally successful. Evaluations in other countries have either not taken place or no information from them is available. In some cases this is because the measures have only just started, while other measures appear not to have been evaluated.

A couple of measures are indicated as best practices: EXIST and Btu (DE) and the Irish, Greek and Israeli incubator models have all served as the basis for a measure taken in Cyprus.

## **5 Conclusions**

Only few measures in the NTBF field have been introduced during this period.

Overall trends show a shift towards more enabling measures. 60% of the total number of active measures still deal with direct financing.

The percentage of the total number of enabling measures introduced since beginning of 1996 is 80% plus, whereas this figure was only about 40% for the period 1991-1995.

There is limited attention paid in current policies to stimulating entrepreneurial culture as such. In most cases, this topic has been addressed in most cases through a subset of measures, mainly aiming at innovation finance, creation of NTBFs and university-industry co-operation.

## 6 Annexes

### 6.1 Distribution of Measures by Countries/Theme

Measure	< 1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Incubator									DE23	UK21	
	FI1 BE51	IL1						BE27 DK4	NL15 LU4	DE52 FR12	IT 23 NL24
University spin-offs				FI6	BE37			BE27	DE21 BE18		AT 47
Consultancy.							DK8				AT41 DE38
	FR1					AT13	DE22	BE27	AT16	FR11	IT26
Early stage financing	NO24 AT5				NO11 BE37	AT13	DE22	DE20 NO19 AT12	NL15 DE21 AT16	NO9 FR11	NL32 NL24
	UK2 AT3	IL3					UK5		AT15		GR 37
Intermediation							DK8 UK6 UK5		DE23 DE50		
	DE47	IL1						DK4			ES17
Other forms of innovation finance	UK8 AT5 IL2				DK2	DE12 AT13	NL23	AT12	AT7 LU2	FR13	PT16 UK31 UK 46
	AT3 AT5 AT14 GR2 NO4	IL3 IL1			GR14	AT13 DE12 NE125	UK5	AT29 DE20 AT11	NL15 AT7		NL24 ES19 ES17
	< 1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000

The measures highlighted in bold have been added since the last version

## 6.2 Table of measures

A summary of Innovation support measures since 1990, as from the data sheets provided by national correspondents .  
(The measures highlighted in bold have been added since the last version)

### TREND CHART ON INNOVATION - CREATION OF TECHNOLOGY FIRMS

<i>Coverage</i>	<i>Measures</i>	<i>Date</i>	<i>Content summary</i>	<i>Mode of operation</i>	<i>Targets</i>
Austria	AT 3 Seed Finance Programme (Venture Capital Programme)	1989	Provides quasi-equity, up to €728,000, to technology-based start-ups and new ventures promising to offer superior know-how (products, processes or services), and supports the coaching of the entrepreneurs by the investment. <a href="http://www.innovation.co.at">www.innovation.co.at</a>	Loans – Firms Financial environment	SMEs/industrial SMEs
Austria	AT 5 BÜRGESS / Young Entrepreneurs Programme and Equity Capital guarantees	1977	Supports the build up of equity capital for the foundation of new enterprises, by means of grants for interest of saved -up own capital resources, and guarantees equity holdings in SMEs for minority participation in cash and for a minimum of 10 years. <a href="http://www.buerges.com/en/naviset/ford.html">www.buerges.com/en/naviset/ford.html</a>	Grants – firms Equity guarantee Early stage financing	Individuals SMEs/industrial SMEs
Austria	AT 7 Technology financing programme for SMEs- ERP	1998	Supports the development of technology-oriented SMEs by providing risk sharing guarantees and loan guarantees to companies using also venture capital co-financing funds. <a href="http://www.fgg.at/">www.fgg.at/</a>	Equity guarantee Loans – firms	Venture capital funds Technology-orientated SMEs
Austria - Styria	AT 11 Regional Initiatives Styria	1997	Grants for, and participation in, the setting up and development of SMEs. The scheme provides a special ‘silent participation’ of up to 75% of eligible costs (max €728,000) over 5 to 10 years. <a href="http://www.sfg.co.at">www.sfg.co.at</a>	Grants – firms Equity – firms	SMEs/industrial SMEs
Austria - Vorarlberg	AT 12 Saving for the creation of enterprises	1997	A guarantee of up to 50% of equity investment in enterprises with growth potential in international markets. Duration up to 5 years, with €1,8 million maximum. <a href="http://www.vorarlberg.at">www.vorarlberg.at</a>	Early stage financing Guarantee – firms	Enterprises located in Vorarlberg with innovative products and services and potential for growth
Austria-Lower Austria	AT 13 Young Entrepreneurs Programme	1995	Supports the costs of external consultancy in connection with the formation of new enterprises. Support goes up to €1,090 maximum. Supports SMEs to strengthen their equity capital base. €72,000 - €363,000 participation is offered for periods ranging between 10 and 20 years. <a href="http://www.ooe.gv.at/foerderung/wirtschaft/index.htm">www.ooe.gv.at/foerderung/wirtschaft/index.htm</a>	Consultancy services Equity firms Early stage financing	Individuals SMEs/industrial SMEs
Austria - Lower Austria	AT 14 Lower Austria participation model, business start-ups		Financial participation and subsidies for existing companies and start-ups in Lower Austria <a href="http://www.noel.gv.at/service/wst/wst2/index.htm">www.noel.gv.at/service/wst/wst2/index.htm</a>	Equity – firms Interest subsidy – firms	Start-ups Innovative enterprises

<i>Coverage</i>	<i>Measures</i>	<i>Date</i>	<i>Content summary</i>	<i>Mode of operation</i>	<i>Targets</i>
Austria - Carinthia	AT 15 Equity capital guarantee scheme	1998	Guarantees equity holding in SMEs for minority participation in cash and for a minimum of 10 years. Maximum guarantee offered by the Carinthian Government goes up to 100%.	Equity guarantee	SMEs and investors
Austria	AT 16 Technologiemarketing Austria (TecMa)	1998	TecMa locates industrial partners, provides financial assistance during the patenting phase and offers consulting services for the exploration of R&D results. <a href="http://www.innovation.co.at">www.innovation.co.at</a>	Consultancy services Early stage financing	Scientists at universities and research institutions; private inventors
Austria - Vienna	AT 24 Vienna Science and Technology Park TechGate	1999	Park targeted at technology-orientated industrial enterprises which work in 'urban technologies of the 21st century' (mainly telecommunications, energy, transport, health and building industry), research institutions <a href="http://www.magwien.gv.at">www.magwien.gv.at</a>	Science & Technology park	Technology-orientated industrial enterprises which work in 'urban technologies of the 21st century' (mainly telecommunications, energy, transport, health or building industry) Research institutions
Austria	AT 29 ERP Special Programme on Growth and Technology	1997	A loan granted for 5 years at 0.5% between €363.000 and €14.5 million The borrower has to raise equity capital for at least the amount of a loan. If he fails either to find an investor or raise capital at the stock exchange, the loan must be repaid at 120%. <a href="http://www.erp-fonds.gv.at/erp">www.erp-fonds.gv.at/erp</a>	Loan – firms	Start-ups
Austria	<b>AT 41 Impulse Programme on Biotechnology</b>	1999	The programme aims to provide a service point, especially for biotechnologists who wish to commercialise their research findings, either by forming a company themselves or by patenting and licensing their research. Support and consulting are offered for development of business plans, for financial matters (international venture capital network) and legal aspects, for finding a suitable location and for patent issues <a href="http://www.innovation.co.at">www.innovation.co.at</a>	Services	Life Sciences researchers
Austria	AT 47 Start-up of technology-based companies Co-operation between research/universities/companies	-	Networks of regional partners (universities, research centres, regional support agencies, firms, qualification agencies etc.) compete for national support on the basis of their specific models of start-up centres <a href="http://www.tig.or.at">http://www.tig.or.at</a>	A plus B centres are financially supported for a period of 10 years. Evaluations take place in the 3rd and the 6th year after foundation, and an annual report is obligatory.	Graduates Research institutes Researchers Universities
Belgium - Flanders	BE 18 University and Higher Education institute interfaces	1998	Promotion of the collaboration between university and enterprises - Promotion of economic valorisation of research and the setting up of spin-off companies. Delivered by the AWI, the regional administration in charge of technology and innovation. The coordination between the interfaces is assigned to IWT. <a href="http://www.iwt.be">www.iwt.be</a>	University spin-offs	University and high-school interface services
Belgium - Flanders	BE 27 Incubators and Innovation Centres	1997	The Flemish government supports the establishment of innovation centres and incubators, located in research and scientific parks or in an university campus with the aim of fostering the creation of spin-off companies.	University spin-offs Incubators	

<i>Coverage</i>	<i>Measures</i>	<i>Date</i>	<i>Content summary</i>	<i>Mode of operation</i>	<i>Targets</i>
Belgium - Wallonia	BE 37 FIRST Spin-Off / Training and Impulse for Scientific and Technological Research	1994	The Walloon Region covers the salary costs of a researcher, delivers a subsidy to the research laboratory and takes on the costs of the necessary training for the researcher to carry out research in a spin-off company.	Early stage financing University spin-offs	Universities Higher education institutions
Belgium - Wallonia	BE 51 Business Innovation Centres		The Centres provide a wide range of services for the creation and development of enterprises, including access to financing, promotion of innovation and technology transfer, spin-off projects from enterprises and laboratories. <a href="http://www.heracles.be">www.heracles.be</a>	Incubators	
Denmark	DK 2 Equity Guarantee Programme	1994	Selected venture capital companies receive a 50% guarantee on investments made in emerging growth companies, on a case by case basis (from seed/start-up stage to a later developmental stage)	Equity guarantee	
Denmark	DK 4 Innovationsmiljøer – Technology incubators	1997	Six technology incubators situated at universities or science/research parks to bridge research environments, innovative entrepreneurs and finance companies. They offer state-financed seed-capital, counselling and training, premises and administrative services.	Incubators Intermediation	SMEs/industrial SMEs
Denmark	DK 8 Approved Technological Service Institutes (GTS-institutes)	1996	Supports and promotes innovation within business and industry by collecting, developing and creating new advanced knowledge and by ensuring that companies have access to advice and knowledge transfer through 14 approved technological institutes. <a href="http://www.efs.dk">www.efs.dk</a>	Consultancy services	Large companies/large industrial companies Other public authorities/organisations SMEs/industrial SMEs
Finland	FI 1 SPINNO - A business incubator scheme.	1990	Training and a combination of government grants and other methods of support (technical, etc). Venture capital is made available through SPINNO-seed Ltd, together with external consultants and experts on a limited basis, legal services, support and advisory programme, and accommodation in one of the science parks of the area. Up to 2 years of leave of absence can be granted to researchers wishing to start up a new company. Rules are flexible on the transfer and payment of intellectual property rights. <a href="http://www.spinno.fi">www.spinno.fi</a>	Incubators	Graduates Other Researchers
Finland	FI 6 TULI scheme	1993	The aim is to transfer results of research projects with commercial potential over to commercialisation and new ventures. Regional TULI-projects are run by local technology transfer companies. <a href="http://www.tekes.fi">www.tekes.fi</a>	University spin-offs	Managers Research institutes Universities
France	FR 1 Support for innovation	1979	Provision of finance and expertise (IPR - market studies, search for partners, setting-up European projects, acquisition or selling of technologies, setting-up prototypes, preparation of industrial launch, preparation for introduction to the stock market) to newly created start-ups, entrepreneurs, laboratories or SMEs planning an innovative project with high-technology content. <a href="http://www.anvar.fr">www.anvar.fr</a>	Consultancy services	Research institutes SMEs/industrial SMEs Other

<i>Coverage</i>	<i>Measures</i>	<i>Date</i>	<i>Content summary</i>	<i>Mode of operation</i>	<i>Targets</i>
France	FR 11 National competition for the creation of new technology-based firms	1999	Selected projects may receive (a) financial assistance for the preparation of business plans, market studies, access to external competencies; (b) assistance after the creation of the company, and the financing of a part of the development costs from 12 to 36 months. <a href="http://www.education.gouv.fr/creation">www.education.gouv.fr/creation</a>	Consultancy services Early stage financing	Individuals
France	FR 12 Creation of regional incubators structures	1999	These structures will have the task to detect and evaluate projects, support the elaboration of projects ( management, organisation, juridical or commercial support, recruitment,... - information and clustering). They will receive a 50% subsidy for three years with a minimum objective of supporting 15 projects for creating innovative firms. <a href="http://www.education.gouv.fr/technologie/mesur/incub.htm">www.education.gouv.fr/technologie/mesur/incub.htm</a> <a href="http://www.education.gouv.fr/technologie/mesur/assemnat.htm">www.education.gouv.fr/technologie/mesur/assemnat.htm</a>	Incubators	Research institutes Universities
France	FR 13 Support for the creation of seed capital funds	1999	Creation of seed capital funds for major areas of technology with a partnership of public research institutions and private investors. Development through regional incubators and regional funds to invest 75% of its funds in firms linked with public research. <a href="http://www.education.gouv.fr/technologie/mesur/incub5b.htm">www.education.gouv.fr/technologie/mesur/incub5b.htm</a>	Equity – Investors	Research institutes
Germany	DE 12 BTU- Investment capital for small and medium sized companies	1995	Mobilisation (with a co investor) of up to 6 million DEM to finance R&D spending, changes in existing technology or marketing.	Equity – firms Equity guarantee	SMEs/industrial SMEs
Germany New Länder	DE 20 FUTOUR	1997	Subsidies, venture capital, consulting and technical support towards financing and implementation of R&D projects up to their entry in the market place. Subsidies and venture capital may not exceed €750,000 (up to 90% of project costs) over 10 years. <a href="http://www.vdivde-it.de">www.vdivde-it.de</a>	Loans – firms Equity – firms	SMEs/industrial SMEs Young, technology-oriented very small firms (not more than 10 employees and not older than 3 years) Start-ups in the New Länder
Germany	DE 21 EXIST Existenzgründer aus Hochschulen: Start-ups from colleges and universities	1998	The BMBF subsidises the winning projects for programmes that help students to set up their companies, with around DEM 45 million until the end of 2001. <a href="http://www.bmbf.de">www.bmbf.de</a> <a href="http://www.exist.de">www.exist.de</a>	Early stage financing Spin-offs	Individuals Large companies/large industrial companies Research institutes Researchers
Germany	DE 22 Multimedia Wettbewerb Multimedia Contest	1996	Competition to motivate start-ups in multimedia. The best 20 ideas get DEM 20,000, the other 80 selected concepts get DEM 10,000. DEM 40,000 per start-up may be provided by professional advisers for the development of business plans <a href="http://www.bmwi.de/">www.bmwi.de/</a> <a href="http://www.gruenderwettbewerb.de/">www.gruenderwettbewerb.de/</a>	Consultancy services Early stage financing	Individuals SMEs/industrial SMEs
Germany	DE 38 On-line Academy for New Firm Founders	2000	<a href="http://www.focus.de/existenzgruendung">www.focus.de/existenzgruendung</a> <a href="http://www.focus.de/D/DB/DB39/db39.htm">www.focus.de/D/DB/DB39/db39.htm</a>	Consultancy services	Founders of new and recent firms in search of resources and assistance with their businesses

<i>Coverage</i>	<i>Measures</i>	<i>Date</i>	<i>Content summary</i>	<i>Mode of operation</i>	<i>Targets</i>
Germany	DE 47 INSTI Clubs of Inventors		The Clubs offer a platform for exchanging experience with, and giving advice to, inventors and young creative individuals. <a href="http://www.insti.de">www.insti.de</a>	Intermediation	Graduates Large companies/large industrial companies Researchers SMEs/industrial SMEs Universities
Germany	DE 50 Business Angel Network of Germany (BAND)	1998	Provides a platform for contacts between business angels and potential start-ups and young firms. Presentation through Internet; legal aid is provided through the network. <a href="http://www.business-angels.de">www.business-angels.de</a>	Intermediation	Large companies/large industrial companies Other SMEs/industrial SMEs
Germany	DE 52 BioProfile/BioProfile	1999	Competition between regions developing a regional biotechnology concept. Subsidies of up to 50% for coordination and R&D projects will be available for the realisation of the concepts in the three winning regions. <a href="http://www.fz-juelich.de/beo/beo.htm">www.fz-juelich.de/beo/beo.htm</a>	Incubators	Large Companies/Large Industrial Companies Research Institutes SMEs/Industrial SMEs
Greece	GR 2 Investment Law – Support for the creation of NTBFs	1990	Grants to clusters and other support initiatives for NTBFS, giving high priority to the utilisation of cutting edge technologies, high-tech services and the application of innovative procedures and production of innovative goods and services.	Grants – firms	Large Companies/Large Industrial Companies SMEs/Industrial SMEs
Greece	GR 14 Support of new entrepreneurs for the establishment of SMEs	1994	Support to productive SMEs in order to improve their competitiveness and access the international market, improve their financial situation and increase employment.	Grants – firms	SMEs/Industrial SMEs
Greece	GR 37 Venture Capital Forum for the New Economy	1999	Exploring the international experience on financial mechanisms for the new technology-based firms, increasing awareness amongst researchers and entrepreneurs, and presenting government initiatives in this area. Creating a partnering event between venture capital firms on the one side and Greek researchers, entrepreneurs and new technology based firms on the other. <a href="http://www.elke.gr">http://www.elke.gr</a>	venture capital conference and meetings between the interested parts.	Greek researchers or young companies focusing on innovative technologies Greek or foreign venture capital companies.
Greece	<b>GR 45 Development of Incubators and S&amp;T Parks in Greece – ELEFTHO Programme</b>	2001	This programme is designed to: (1) support the further development of incubators and S&T parks that have already been established and operate in Greece, in order to expand their facilities and acquire the tangible and intangible means necessary for the incubation of knowledge-intensive entrepreneurial activities; (2) contribute to the creation of new incubators and S&T parks resulting from entrepreneurial initiatives, in agreement or co-operation with regional and local authorities; (3) provide incentives for the installation of tenants in the incubators and in the S&T parks. It is expected that a call for proposals will be launched in June 2001. <a href="http://www.gsrt.gr">www.gsrt.gr</a>	Grants	The ultimate beneficiaries are the potential tenants. Contractors can be existing S&T park SAs, private entities (SAs etc), public entities and partners can be existing S&T park SAs, private entities, public entities, research centres, HEIs and TEIs or natural entities

<i>Coverage</i>	<i>Measures</i>	<i>Date</i>	<i>Content summary</i>	<i>Mode of operation</i>	<i>Targets</i>
Ireland	<b>IE 28 Business Incubation Centre programme</b>	1996 for universities 2001 for institutes of technology	Within the existing Business Incubation Centre programme (aimed at expanding the base of high-tech companies operating on college campuses through developing and expanding incubation space facilities) a new initiative has just been launched to support Regional Business Incubation and R&D Space in Institutes of Technology. It will be operated by Enterprise Ireland on behalf of the Office of Science and Technology under the authority of the Regional Assemblies as Managing Authorities for the two Regional Operational Programmes under the NDP 2000-2006 <a href="http://www.enterprise-ireland.com/">http://www.enterprise-ireland.com/</a>		Small-Medium Firms – final target Institutes of Technology – intermediate target
Israel	IL 1 Technology incubators	1991	General assistance for entrepreneurs, including help with obtaining financial resources and raising capital	Incubators Grants – Firms Intermediation	Individuals
Israel	IL 2 INBAL Government guaranteed research and development		Support the Research and Development Funds by purchasing 80% of the shares from any investor wishing to sell its investment.	Guarantee – equity	Individuals, SMEs/Industrial SMEs, Private investors
Israel	IL 3 YOZMA	1991	Draws foreign capital to invest in the Israeli hi-tech industry by co investing either directly or indirectly through the creation of new venture capital funds.	Equity – investor Financial environment	
Italy	IT 23 Reorganisation of the promotion bodies and establishment of Sviluppo Italia SpA	1999	Sviluppo Italia is the national development agency created by legislative decree on 9 January 1999 to enable Italy to promote its activities and to ensure that the state's full potential is known to the international marketplace. Its mission focuses on three areas for this development: (1) regional promotion, (2) the attraction of investment, (3) development of sectors with a high degree of technology <a href="http://www.sviluppoitalia.it">www.sviluppoitalia.it</a>	-	Large Companies/Large Industrial Companies Other Public Authorities/Organisations Research Institutes SMEs/Industrial SMEs
Italy	IT 26 Sviluppo Italia-MURST Agreement	2000	Supports academics in the development and marketing of the results of their own research activities. Service are free for the project and start-up phases. Six months and 500 million lire (30% Murst and 70% Sviluppo Italia). <a href="http://www.igol.it/igprojects/higp_it.htm">www.igol.it/igprojects/higp_it.htm</a> <a href="http://www.sviluppoitalia.it">www.sviluppoitalia.it</a> <a href="http://www.murst.it">www.murst.it</a>	Consultancy services	Graduates ,Research Institutes, Researchers, Universities
Luxembourg	LU 2 SME Capital-Development Company (CD-PME)	1998	Public/private joint venture (50/50) providing participating loans up to 25 - 30 million LUF and 2/3 of the total cost of the project. <a href="http://www.snci.lu/CD-PME.htm">www.snci.lu/CD-PME.htm</a>	Equity - Investors	SMEs/Industrial SMEs
Luxembourg	LU 4 Technoport Schlassgoart - start-up incubator	1998	Targeted at existing and future start-up SMEs by offering its infrastructure and an efficient business environment. Companies must be technology-oriented start-ups, present a realistic business plan, and show synergy with the PRC Henri-Tudor. <a href="http://www.technoport.lu">www.technoport.lu</a>	Incubator	SMEs/Industrial SMEs

<i>Coverage</i>	<i>Measures</i>	<i>Date</i>	<i>Content summary</i>	<i>Mode of operation</i>	<i>Targets</i>
Netherlands	NL 15 Twinning Centres	1998	Provide accommodation and management support (Twinning Network) for start-up firms in the ICT sector. The Twinning Funds, respectively the Seed Fund and Growth Fund offer finance . <a href="http://www.twinning.com">www.twinning.com</a> <a href="http://www.syntens.nl">www.syntens.nl</a>	Equity - Firms Incubators Early stage financing	Start-up firms in the ICT sector
Netherlands	NL 23 'Aunt Agatha' scheme	1996	Tax exemptions on revenues (up to €2275) and deductions (up to €227,500) on losses when informal investors invest in new companies (up to eight years old), or provision of funds to invest in such companies.	Taxation – investors	Business angels, informal investors and new entrepreneurial firms
Netherlands	NL 24 Life Science Action Plan	2000	Creation of a Life Sciences Platform designed to encourage start-up and growth of Life Science firms, a seed capital fund, incubators, equipment fund and a start-up participation fund. <a href="http://www.syntens.nl">www.syntens.nl</a>	Incubator Early Stage finance Equity firms	Public Authorities/Organisations, Research Institutes, Researchers, Universities
Netherlands	NL 32 Techno-Starter Platform - Dreamstart	2000	Finance made available by the Ministry of Economic Affairs	Early stage finance	Start-up firms
Norway	NO 09 Project Development Funds	1999	Grants given to support researchers and innovators in developing their projects and ideas into plans that are attractive to potential investors. ICT is given high priority. <a href="http://www.snd.no">www.snd.no</a>	Early Stage finance	Managers , Researchers
Norway	NO 11 FORNY – Science and technology based Innovation	1994 renewed 1999	Improves ability to commercialise research-based business concepts. The funding is used on the commercialisation, not the development, of the product <a href="http://www.program.forskningsradet.no/forny">www.program.forskningsradet.no/forny</a>	Early Stage finance	Graduates, Researchers, Individuals, Research Institutes, Universities
Norway	NO 19 Municipal Business Development Funds	1997	Funds administered by city councils and distributed both as grants and loans to support start-up of new companies, and further development of existing ones.	Early stage finance	Public Authorities/Organisations
Norway	NO 24 Grant for Entrepreneurs (Start-up Grants) .		May be used to cover living expenses, consultancy services, travel expenses, guardian schemes and other follow-up services, minor investment, market surveys and costs associated with start-up operations.	Early stage finance Grants - Firms	Entrepreneurs, particularly in the regional areas
Portugal	PT 16 Promotion of company development	2000	To strengthen and stimulate investments to enhance company competitiveness <a href="http://www.icep.pt">www.icep.pt</a>	Reimbursable loans at zero interest; non reimbursable grants; achievement premiums	Large companies SMEs
Sweden	SE 5 Simplified registration of start-ups	2000	Common registration form.	Administrative simplification	New companies, implicitly SMEs
Sweden	<b>SE 13 The Venture Capital Database</b>	1999	The Venture Capital Database is a database on the Internet accessed by start-ups and SMEs looking for venture capital, to help them find the most suitable risk capital companies to contact. The database has a search function, where the start-ups and SMEs specify various parameters to find the most suitable venture capital companies. The parameters include sectors, investment phases, size of investment and geographic location. <a href="http://www.nutek.se">www.nutek.se</a>	Service to companies – web portal	SMEs/Industrial SMEs

<i>Coverage</i>	<i>Measures</i>	<i>Date</i>	<i>Content summary</i>	<i>Mode of operation</i>	<i>Targets</i>
Spain	ES 17 Development of technical research (PROFIT)	2000	Subsidies to R&D, technology centres and companies to carry out technology transfer and innovation activities <a href="http://www.mcyt.es/">www.mcyt.es/</a>	Grants – intermediaries	Large Companies/Large Industrial Companies , Public Authorities/Organisations, Research Institutes, SMEs/Industrial SMEs
Spain	ES 19 The Information Society for all	2000	Subsidies (including equity provision in firms) to promote the use of the information society in companies <a href="http://www.mcyt.es/">www.mcyt.es/</a>	Grants – firms	Individuals , Public Authorities/Organisations, Researchers, Students in upper secondary schools
UK	UK 2 Liaison at ministerial and official level with private sector providers of finance		To assist private finance providers to understand the needs of innovative SMEs and how to match them. To improve the business skills of SMEs and ease their access to appropriate finance	Financial environment	SMEs/Industrial SMEs
UK	UK 5 Biotechnology Mentoring and Incubator (BMI) Challenge	1996	Stimulates the start-up of new high quality biotechnology companies which will contribute to the growth of the UK biotechnology industry. Organises competitions to encourage intermediary organisations to support such start-ups through the provision of grants.	Grants – intermediaries Financial Environment	Large Companies/Large Industrial Companies ,Public Authorities/Organisations , Research Institutes, SMEs/Industrial SMEs, Universities
UK	UK 6 Biotechnology Finance Advisory Services	1996	To improve biotechnology SMEs' awareness of, and access to, sources of finance, as a way of developing the UK biotechnology sector. To identify potential sources of private sector funds or appropriate government grants in all business development phases.	Intermediation	Individuals , Large Companies/Large Industrial Companies , SMEs/Industrial SMEs
UK	UK 8 Small Firms Loan Guarantee Scheme	1981	Provides 70 % guarantees on loans from banks and other financial institutions for small businesses with viable business proposals which have tried and failed to obtain a conventional loan because of lack of security	Loan guarantee	SMEs/Industrial SMEs
UK	UK 21 Science Enterprise Challenge	1999	To establish up to eight centres of enterprise in UK universities in order to foster the commercialisation of research and new ideas, stimulate scientific entrepreneurialism, and incorporate the teaching of enterprise into the science and engineering curricula. <a href="http://www.dti.gov.uk/COMMS/dtiexweb/pages/pg05d.htm">www.dti.gov.uk/COMMS/dtiexweb/pages/pg05d.htm</a>	Incubators	Universities
UK	UK 31 Corporate venturing tax relief	2000	Relief on corporation tax payable by companies at 20% of the amount invested in specific economic activities <a href="http://www.inlandrevenue.gov.uk/home.htm">www.inlandrevenue.gov.uk/home.htm</a>	Taxation – investors	Larger companies wishing to invest in smaller companies.
UK	UK 46 Small Business Research Initiative	2001	Allows small businesses to access R&D procurement from Government Departments <a href="http://www.dti.gov.uk">www.dti.gov.uk</a>	Not yet known	SMEs Industrial SMEs

### 6.3 Start-up of technology-based companies

Country	Summary of the country report	Reference to policy measures	Notes
Austria	These programmes are especially designed for seed-financing, technology marketing and a young entrepreneur's programme at federal level. Further, the "AplusB" (AT47) programme attempts to stimulate the formation of university spin-off companies.		
Belgium	Measures are focused exclusively on support for the creation and early growth of new technology-based firms, although they are few in number. Actions are targeted explicitly or indirectly at start-ups and spin-offs. These include: general support schemes for management and innovation; innovation financing schemes; support for cluster and technology valleys in Flanders.		
Bulgaria	The number of technology-based companies is growing slowly with exception of the IT sector. The increasing number of business incubators, business and innovation centres (which offer consultancy, premises at reduced prices, favourable leasing conditions and other related services) also will help the start-up companies.		
Cyprus	Establishment of business incubators.		
Czech Republic	N/A		
Denmark	CR missing		
Estonia	On a pilot basis, structures for start-ups have been created and candidates identified.		
Finland	Today, the Finnish Venture Capital Association consists of 30 full members and some 25 associated members. Emphasis is placed on domestic development and financing solutions are geared particularly towards SMEs.		
France	The creation of incubators has not progressed. The national contest for innovation projects met real success for its second edition. Administrative simplification has been introduced.		
Germany	Access to venture capital to promote technology-based start-ups is strongly supported through several programmes. In 2000, a strong increase in venture capital mobilisation was noticed. 75% of all cases of venture capital involvement in the early phase of high-tech firms are publicly financed. Technology-based start-ups are supported not only by direct subsidies but also by consulting measures.		
Greece	New measures aim particularly at NTBF start-ups and academic spin-offs.		
Hungary	N/A		
Ireland	The Institutes of Technology have a significant role to play in regional development, not least in the creation of spin-off firms. A Business Incubation Centre programme aims to expand the base of high-tech companies. One programme has been set up to strengthen the transfer of research results and knowledge to industry through a R&D commercialisation programme.		
Italy	The first on-line incubator for technology-based companies was set up.		
Latvia	The SME sector utilises the experience of regional higher education institutions and electronics companies to get foreign investors and companies interested in setting up partnerships. A national programme for the development of SMEs was set up to encourage the promotion of innovation and to encourage participation at all levels in SMEs.		
Lithuania	N/A		
Luxembourg	In the framework of increased promotion of endogenous development, most attention is being paid to encouraging new technology companies..		

Netherlands	Policy aims at streamlining the many small initiatives that have been launched by regions, cities, and universities and develop a coherent technology based start-up policy strategy. A Techno-Starter Platform was established to co-ordinate previous and new initiatives for stimulating the start-up of technology-based companies.		
Norway	The Science Parks play an important role in encouraging the establishment of new technology-based companies, including university and college spin-offs.		
Poland	No specific measures to encourage creation of technology-based companies.		
Portugal	Inadequate efforts to create and develop technology-based start-ups. Measures are initiated to improve the above, but there are no details yet on the exact shape of these initiatives.		
Romania	No consolidating acts to sustain start-ups and incubators.		
Slovakia	N/A		
Slovenia	No particular measures in place to target the start-up of technology-based companies.		
Spain	Measures to finance support for start-up of technology-based firms.		
Sweden	Funds received for investment should encourage the return on increased commercial benefits from university research; and encourage co-operation between industry and academia, fostering the exploitation of research results.		
UK	This particular area remains a key government priority for innovation policy. A new measure; the new Small Business Research Initiative, has been launched and others have been announced.		

## 6.4 Extracts from Country Reports April 2001

### Austria

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

Moreover, financing 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 I<sup>2</sup> 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 aims partly at promoting start-ups emerging from the Viennese universities. Moreover, financing start-ups is also an important part of initiatives at the 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 registration fees for start-ups will be abolished in 2001. As these registration fees were in some cases quite onerous, this move has significantly reduced the costs associated with the establishment of a new enterprise. This step came as part of a larger effort of the Chamber of Commerce to cut costs and fees for members and to improve services.

In addition to continuing its existing programme, the Council for Research and Technology Development announced in its paper *Visions 2005 – Through Innovation Among the Best* that the number of high-tech start-ups should be doubled by 2005. This goal should be achieved by the following means:

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

To achieve these targets, 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, and the stimulation of networks and clusters.

Measures to implement these targets have yet to be formulated.

## Belgium

As elsewhere in Europe, the issue of commercialising the results of research through the stimulation of spin-offs from academic or public research, or the creation of new technology-based firms, has been put higher on the political agenda during the last couple of years. For instance, a study was carried out in 1999 on behalf of the Minister for Science of the French Speaking Community on the creation of spin-off companies (copy not yet available).

Having said this, there are relatively few measures that focus exclusively on support for the creation and early growth of new technology-based firms. However, a series of other actions target – explicitly or indirectly – both start-ups and spin-offs. These include general support schemes for management and innovation; innovation-financing schemes (business angels, etc.); support for clusters and technology valleys in Flanders.

A first instrument that directly addresses the creation of start-ups is public funding in all three regions for the development of incubators. In Flanders, the explicit choice has been made to develop such incubators in partnership with universities and the major public research centres (VIB, IMEC, etc.). In Wallonia and Brussels, the form taken is rather that of the Business Innovation Centre model with a less explicit link to the research base. In most cases, the incubators provide a range of real estate, office management and support services. Most universities have created companies whose aim is to encourage and invest in companies that emerge from the output of university research.

A new instrument in support of spin-offs was launched in 1999 in Wallonia, the FIRST-Spin-off scheme. Through this measure, the Walloon Region finances the salary of a university researcher during two years as a support for pre-competitive research projects with an industrial destination, aiming at developing a credible valorisation plan, including a technical/commercial feasibility study of the exploitation of the research results. The idea of this scheme is to help bridge the gap between the stage of the idea for a spin-off company (the commercially exploitable research result), and the effective setting-up of a viable enterprise.

A second measure, that has existed for several years, favours the creation of companies by an individual with a patentable idea (support to isolated inventors). It has recently been replaced by a new measure that extends support to individuals with novel ideas for creating new companies. **The Walloon government adopted the new ‘pre-activity grant’ scheme in February 2001.** An interdisciplinary jury will review projects proposed by individual inventors, or proposed around a novel idea, in order to assess whether the possibilities of developing an economic activity on the basis of those projects. The role of the jury will be to select only those projects that have a real chance of being viable. The individuals selected will be granted the sum of €12,395 (to be used against genuine costs incurred in order to allow them to finalise their idea). It is foreseen that the inventors or creators will be able to benefit from that point on from existing aid schemes that subsidise consulting services for the development of a credible business plan.

## Bulgaria

The start-up process of technology-based companies continues to be hampered by limited financing possibilities, administrative barriers and by the lack of relevant information and advice on marketing possibilities. Some initiatives announced by the Government – for

instance, a start-up capital fund, an improved patent and innovation information system and electronic libraries – are to be realised in the future.

## **Cyprus**

The New Industrial Policy's first chapter refers to the promotion of high-technology industries in Cyprus through establishing incubators. Through this programme, the Government of Cyprus is part-financing projects aimed to develop new high-technology products which will be approved to enter the incubator system for up to two years. Applications for such projects may involve the participation of non-Cypriot inventors and scientists. The Council of Ministers has assigned a detailed study on all aspects related to the creation, organisation and operation of the new agencies to a Technical Committee, which submitted a report based on visits to similar establishments in Israel, Ireland and Greece [see CY 5].

In parallel to the above Committee, the Government negotiated with four private companies to set up and operate a number of incubators, after first exploring the interest of the private sector in co-operating with the Government in such a venture. The selection was reached through a pre-qualification tender procedure published in the Official Gazette. As a result of this, on 8 December 2000 the Minister of Commerce, Industry and Tourism signed contract agreements with PROPLAN LTD and CYBER GROUP LTD for the establishment of the first business incubators. The two incubators existing at this moment are in the process of collecting applications from companies interested in being installed. Further applications to establish new incubators may be submitted to the Government.

A scheme to subsidise specialised software in industry was introduced in 1999 in the framework of the New Industrial Policy. This scheme aims to contribute decisively to the automation of procedures and processes, saving of resources and increase in productivity. This scheme encourages and offers subsidies for the cost of the development, purchase and installation of specialised software [CY 14]. An open call for proposals has recently been launched.

## **The Czech Republic**

In January 2000, the Government approved the National Science & Technology and R&D Policy. The policy document contains a proposal regarding the establishment of national programmes, especially in the field of oriented research. Measures have been taken to increase financial support to science and development gradually, as it is currently relatively low. For the further development of the R&D sector, it is essential to increase the gross domestic expenditure, which is relatively low in R&D as percentage of GDP.

Though the state financial support for R&D has increased continuously since 1993 (to 0.6% of GDP in 2000 and 0.7% GDP objective in 2002 as outlined by the Czech Government in 1997), the effective tools to evaluate its effectiveness have not yet been developed, because of:

- non-unified legal norms and regulations;
- non-unified digital evidence;
- lack of information on R&D; and

- no co-ordination in terms of introducing, financing and support of specific programmes

Some problems are expected to be solved by the National Programme of Oriented Research and Development, which will be submitted for Government approval by the end of April 2002.

## **Denmark**

No information received yet

## **Estonia**

The Spinno project under the Technology Agency is set to be launched in 2001 (in force until 2004). This year the budgeted allocation is EEK 7 million (€448,361.6), which will be increased to EEK 11 million (€704,568.2) by 2002. As a preliminary phase for launching this project, the ESTAG has called a tender to find a consulting firm for evaluating and mapping activities to date. New projects will be launched in the autumn 2001. CARIN (PHARE) will finance development of a biotechnology incubator in Tartu.

The start-up fund under the SPP project is now being finalised. As the measure has proved effective, discussions are in progress on how to make the project sustainable once the PHARE financing has been withdrawn.

Innovation support structures are evolving in bigger centres, such as Tallinn and Tartu. These form important links for the commercialisation of innovative ideas, supporting the emergence and the development of knowledge-intensive enterprises. Tartu Science Park has been active since 1992, focusing on supporting the development of knowledge-intensive entrepreneurship by creating and developing infrastructure and services package. The Tallinn Technical University Innovation Centre was established in 1998 to tie the results of TTU R&D with technological needs of industries.

The Tartu Science Park opened a new incubation centre in January 2001 in the premises of the PHARE SPP project. The Centre, having started with seven tenants, aims to support the start-up of science and knowledge-intensive firms. The centre provides an environment for selected companies, promotes the development of the business idea, reduces risk and economic problems. Start-ups get low-rent accommodation and access to advisory services, i.e. legal advice, bookkeeping and management, together with computer and communication channel access. In addition, firms have access to international networks through the incubation centre. The incubation centre infrastructure is financed by the EU, the Estonian Government, the Tartu Science Park and one incubation firm, totalling EEK 6 million (€ 0.38 million).

Since 1999, the Tartu University R&D Department with its Innovation Office has been running a successful spin-off programme that offers training, consultancy, networking and other services to start-up companies based on University R&D activities. The Department takes care of TU-industry relations and the management of the related intellectual property problems, and so on. The TU Technology Centre (reorganised in 2001 as a Technology Institute) now focuses on and co-ordinates the University's strengths in applied research and

technology development, which originate from different faculties of the University. The new institute offers technological competence to enterprises in many fields (e.g. chemical technologies, materials technology) and there are plans to make it a core of the future TU Faculty of Technology.

The Technology Park in Tallinn was founded in 1989 but failed in the mid-1990s. The state-owned Cybernetica Ltd is a specialised R&D company around which a number of successful ICT and electronics' companies have been established; It thus has some of the features of a technology park. However, a similar institution, the EAK Development Centre (developing lasers, chromatographic and electronic equipment), went into decline and is now being liquidated. In 1997, the Technical University launched an Innovation Centre in order to fill the significant gap in the scale-specific innovation support to institutions in Tallinn. Attempts to establish a new technology park have still not achieved any results.

## **Finland**

Initiatives focusing on the start-up of technology-based companies primarily relate to the venture capital industry and various incubator schemes. The Finnish venture capital industry has been relatively underdeveloped, but during the 1990s the number of venture capital companies increased significantly. Today the Finnish Venture Capital Association has 30 full members and some 25 associated members (<http://www.fvca.fi/>). During the year 1999 there was dramatic growth in the number of venture capital funds, the number of investments in start-up firms and the amount of capital under management. For instance, the early stage investments increased from FIM 150 million (€25 million) to FIM 206 million (€35 million). The most significant public funds are Sitra and Finnvera.

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. Almost 39% (FIM 108 million, €18 million) of all Sitra's investments were seed-stage investments in 1999. Sitra accounts for 84% of all seed financing (GEM). Sitra invests mainly in share capital, but other equity-related or complementary forms of finance are also possible. The funds are channelled either directly to the companies or through a regional network of partners, which have recently become integrated with Sitra's activities. (<http://www.sitra.fi/>) Finnvera's domestic development and financing solutions are particularly geared towards SMEs, and also help promote regional policy objectives (<http://www.finnvera.fi/>).

The incubator schemes (FI 1) 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 in the Helsinki region and the technology or company centres in the larger towns of Tampere, Turku and Jyväskylä. Another scheme of relevance is the TULI scheme, which aims to transfer the results of research projects to new ventures and start-ups for commercialisation (FI 6). The TULI scheme functions on a project basis, also working in close association with the regional technology parks and universities. (Ahola & LaPointe 1996.)

## **France**

**The creation of incubators** (FR 12) was launched in March 1999 through a call for proposals under the responsibility of the MINEFI and the Ministry of Research. Incubators are

specialised types of enterprise centres where researchers can develop a commercial activity as a result of their research results, and where enterprises with an important need for applied scientific research can receive guidance or develop co-operative research projects. A call for projects was launched in March 1999 with the idea of setting up 30 incubators. Most of the projects are major partnerships between local universities, schools, local public authorities and capital investors. To date, 31 incubators have been created, some highly specialised, others with more general scope. These incubators are expected to host between 300 to 400 projects within two years.

The **national contest** for innovation was run again this year.

Numerous measures linked with **innovation financing** provide help directly to the creation of high-technology based firms (FR 5, FR 9, FR 13, FR 15, FR 16).

The national agency for the creation of enterprises ([www.apce.com](http://www.apce.com)) published the 2000 figures which show an increase of 2,2% in the creation of enterprises between 1999 and 2000. The last monthly report (February 2000) shows a small decrease compared with January (-1,5%), but an important decrease in the ICT sector (-8%).

## Germany

The main activities in the field of promoting technology-based start-ups are strongly related to the improvement of financing options, especially the access to venture capital (VC). There are several programmes for promoting start-ups of technology-based companies. The programmes differ in their focus on specific target groups. The most important VC programmes are the BTU-programme (DE 12), the 'tbg Programme' (DE 11) and the KfW VC programme (DE 13). Furthermore, the BMWi runs a special programme for technology-based start-ups in the New Länder, FUTOUR (DE 20). It offers state-subsidies, venture capital, consulting and technical support towards financing and implementation of R&D projects up to the saleable product, process or technological service. Spending must be linked to the technology-oriented start-up, or aid the setting up, or enhance the technological basis of start-ups.

It should be emphasised that the public programmes have been contributing to the very strong growth of the German venture capital market since 1997. Since the launch of the BTU-programme in 1995, the volume of venture capital mobilised by BTU and other public venture capital measures (FUTOUR, ERP Innovation Programme) has risen from around €90 million to €750 million in 1999. In 2000, a further increase to €1 billion is expected. By the end of 1999, venture capital of over €1.6 billion (both from public and private sources) had been made available to more than 1,500 small firms and start-ups. It is estimated that roughly 75% of all cases of venture capital involvement in the early phase of high-tech firms in Germany have been financed by the BTU. At the same time, the number of start-ups in cutting edge technologies, telecommunication and technology-based services (e.g. software) is increasing considerably. Reforming the legal framework (e.g. introduction of the *Neue Markt* at the Frankfurt Stock Exchange) has stimulated the provision of venture capital to technology-based start-ups and makes this option for young researchers much more attractive than it was in the 1980s.

The BMBF installed a separate programme for the promotion of start-ups from universities and technical colleges called EXIST (D 21). The programme has four main objectives: creation of an entrepreneurship culture in teaching, research and administration at higher-education institutions; increasing the knowledge spill-over into economic value-added; transfer of business ideas and entrepreneurial potential in higher education institutions and public research organisations into real business activities; and raising the number of innovative enterprise start-ups from universities. The EXIST programme started in December 1997 by launching a competition. A total of 109 proposals for regional networks were brought before a jury, which selected 12 of the most promising proposals. As for the rejected proposals, in many cases the fact that they had been entered in the competition was enough to start the process of networking, which improved framework conditions and drew increased attention to the formation of new companies as a professional option for graduates.

Thus, the programme affected university start-ups even in the pre-promotion stage, and without spending any public money. This effect was proved by an analysis of 47 regions. In a second round of competition, five proposals were awarded prizes as the best regions (Wuppertal, Karlsruhe, Stuttgart, Ilmenau-Jena, Dresden). These five regions started in December 1998 with the realisation of their network concepts. Each approach builds on the specific potential in the region and covers very different numbers of participating institutions (from 15 to 60). All networks have central contact agencies which give advice, help establish contacts between network members and distribute information.

The EXIST programme provides financial support for different purposes: First, the network itself is sponsored by the EXIST funds. Second, scientific support and an on-going evaluation is financed within the programme. Third, country-wide publicity on activities and success within the five networks is a major mechanism for stimulating similar start-up initiatives in other regions. Fourth, direct individual support to founders of new firms is provided by EXIST-Seed (development of business ideas by students, graduates and faculty members at higher-education institutions with grants to meet their living costs for a maximum of one year, including lump sum for advice and start-up preparation). Currently, a new sub-programme called EXIST-HighTEPP has started. It is concerned with development options for young high-technology companies in biotechnology and information technology at three universities (Jena, Bamberg, Regensburg).

In certain fields of technology, separate promotion programmes stimulate the formation of new firms. In Biotechnology, the BMBF offers the programme 'BioChance' (DE 23), but start-ups are also supported in the BioRegio and BioProfile programmes (DE 52), although here the support is restricted to firms located in one of the prize-winning regions). In 1996 the BMWi launched a Multimedia contest (DE 22) with the goal to increase the number of multimedia firms in Germany by 100% by the year 2001. In both programmes, start-ups are supported by direct subsidies. These activities are supplemented by smaller initiatives such as the Karl-Heinz Beckurts prize for start-ups from public research, awarded by the BMBF for the first time in December 2000.

Another important area of policy action in the field of start-ups is 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. In this area, the BMWi, together with the Deutsche Ausgleichsbank (DtA) and various private initiatives – including large corporations, managed to establish 13 such

professorships in 1999 and 2000, and plans to establish a further 12 during the course of this year.

At the level of secondary schools, the JUNIOR project (DE 64) tries to improve the culture of entrepreneurship in Germany. Groups of pupils receive support to establish a 'mini start-up' for one year, not only to learn the challenges of running one's 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 supported not only by direct subsidies but also by consulting measures. Two examples are the Business Angels Network (DE 50) and the On-line Academy for New Firm Founders (DE 38). The former body provides start-ups with access to experienced managers who give advice to young entrepreneurs in the early stages of company creation. The latter body advises new firm founders and assists them in organisational, financial and managerial questions.

## **Greece**

A new scheme (GR 45) titled 'Development of Incubators and S&T Parks in Greece – ELEFTHO' has been announced by the GSRT. This programme will:

- support the development of incubators and S&T parks that have already been established and operate in Greece, in order to expand their facilities and acquire the tangible and intangible means, which are necessary for the incubation of new knowledge intensive entrepreneurial activities;
- contribute to the creation of new incubators and S&T parks resulting from entrepreneurial initiatives, in agreement or co-operation of regional and local authorities;
- provide incentives for the installation of the interested bodies in the incubators and in the S&T parks.

It is expected that a call for proposals will be launched in June 2001.

The announced PRAXE Programme, described under Innovation Finance, is expected to boost NTBF creation after its official launch in May 2001.

## **Hungary**

HU 19 (Integrator) aims to develop Hungarian SMEs competitiveness and innovative abilities, to build up networks and help companies become the strategic partners/suppliers of large companies.

## **Iceland**

No information received yet.

## **Ireland**

Within the RTDI measures in the National Development Plan, the Institutes of Technology play a significant role in regional development, not least in the creation of spin-off firms. Incubation Centres are to be supported in the colleges that will be used by researchers to develop business. They will also help the firms in the region that are collaborating with the college or institute. The **Business Incubation Centre** programme is aimed at expanding the base of high-tech companies operating on college campuses by providing funds to develop and expand incubation space facilities.

## **Italy**

‘Startech’ is the innovative programme launched by Sviluppo Italia on 1 March 2001. By promoting partnership between firms and researchers, and supporting **technological spin-off** and **research spin off**, this initiative aims to reduce the distance between the worlds of research and business.

This objective (Start-up of technology-based companies) will also be pursued through the D.L. 297/1999.

## **Latvia**

The National Concept on Innovation (LV 20), accepted by the Cabinet of Ministers in February 2001, identifies entrepreneurship as one of the four basic components of the National Innovation System. The National Concept on Innovation sets the following priorities: to encourage the creation and growth of innovative enterprises; to stimulate the attraction of both state and private capital for research and entrepreneurship; to ensure the availability of seed and risk capital for setting up new technology-oriented SMEs; to ensure that innovative projects are seen through to implementation.

Other notable areas of activity include the following.

(1) The existing new technological centres, technology and science parks, business incubators and innovation centres must be strengthened and new ones created that would help innovative start-up companies by providing consultative support and infrastructure during the early stages of their development.

(2) Access must be provided, free of charge and fully operative, to sources of information on legal acts regulating business activities, and also to information on possible sources of finance for development projects

On 27 February 2001, the Government approved the Strategic Memorandum of the National Development Plan (NDP) as a background document for further preparation of the Plan itself (LV 23). Within the plan, focus is not placed on starting-up new technology-based companies, but concentrates rather on strengthening those that already exist.

SMEs currently account for 99% of the total number of enterprises registered in Latvia. About 65% of the economically active population are employed in SMEs. In 1999, SMEs generated

more than 50% of the GDP. SMEs dominate in the major export industries, such as wood processing, foodstuffs and textiles.

From the legal point of view, the Latvian SMEs policy is aligned with EU requirements. The negotiation chapter is provisionally closed. The Latvian SME Development National Programme for the period 1997-2001 is the policy framework document. A network of nine Business Advisory Service Centres (BASC) has been established. In addition, four Business Innovation Centres (BIC) have been established to support technology-oriented SMEs and to promote the transfer of new technologies. The network of BASCs and BICs has been extended with assistance from the PHARE SME support programme.

In mid-1999, the Government approved a Concept on Public Support to Entrepreneurship. In 1999, the Ministry of Economy approved a document outlining the scheme for training of SMEs

Activities in 1999 and 2000 were mainly oriented to the improvement of the business environment and improvement of the access to investment financing for SMEs.

The Government accepted the SME loan project in November 1999. The aim of the project is to increase SME competitiveness and to resolve financing problems of start-ups. The Latvian Mortgage and Land Bank will implement the project as a pilot project. The involvement of banks will ensure efficiency of the financing system for start-ups and SMEs. By June 2000, 89 projects had been financed, ensuring the creation of approximately 300 new working places. Currently, SMEs are accumulating approximately 40% of issued loans.

In 1993, the Latvian Technological Centre (LV 4) was established as a pilot innovation and technology oriented SME support structure. The Latvian Technological Centre (LTC) operates as a classic technological or business and innovation centre. The legal status of the LTC is a non-profit limited liability company (Ltd), initiated and financed by public organisations such as ministries and municipalities. Since 1997, LTC has been the contractor of the EC project in the framework of the INCO-COPERNICUS programme. The goal of this project was to create the innovation support and information unit IRC-LATVIA (Innovation Relay Centre) (LV 7) in Latvia. Since January 1999, LTC has also served as a National Contact Point and the representative in the EC Programme Committee for the horizontal programme 'Promotion of Innovation and Encouragement of Participation of Small and Medium-Sized Enterprises' in the FP5.

As part of the strategy to improve and stimulate business activity, measures have been worked out to attract investments, to encourage the development of SMEs, to promote export activity and to create identical business development opportunities in regions, etc. One of the priorities announced by the Government is to support the development of SMEs, since these enterprises by their mobility and flexibility particularly support the stable functioning of the market and increased competition. They thus ensure lower price levels and demonstrate an ability to compete in the international markets. In addition, the Government views the development of SMEs to have considerable social importance, since it enlarges the pool of employer, creates new jobs and promotes the formation of the middle class, which is a stabilising influence in society.

To foster the development of SMEs, this strategy envisages concrete activities, such as the creation of support structures for SMEs, development of legislation that favours the

functioning of SMEs, encouragement of viability of these enterprises and the growth of their competitiveness. The number of companies operating in Latvia has been decreasing during the last few years. For this reason, it is especially important to promote growth of SMEs and involve them in economic circulation at the current stage of market economic development.

#### **Number of operating companies in Latvia**

	<b>1 March 1997</b>	<b>1 March 1998</b>
<b>Limited liability companies</b>	37,676	34,042
<b>Individual companies</b>	15,366	13,956
<b>Joint stock companies</b>	1,322	1,441
<b>Other</b>	3,674	3,205
<b>TOTAL</b>	58,038	52,644

Source: Latvian Council of Science

In 1996, the first Technology Park (LV 6) in Latvia was founded. The Riga Technical University established the Latvian Technology Park as a non-profit limited liability (Ltd.) company. The aim of the LTP is to promote and commercialise science through modern technologies by developing and supporting SMEs.

The founders and members of LTP are: the Riga Technical University, the Riga City Council, state agencies such as the Latvian Development Agency and the Latvian Privatisation Agency, as well as the Chamber of Trade and Industry of Latvia and several private companies. The Ministry of Education and Science, the Ministry of Economy and the Ministry of Environment and Regional Development of Latvia all support LTP. LTP possesses a fully-developed scientific potential in chemistry and biology, mechanics and engineering industries, electrical engineering, computer science, energy, and electronics. Essential developments exist at LTP in vibro-technology, laser, cluster, membrane and ion plasma technologies, as well as in electric forms of transport. LTP has accumulated significant experience in the development and adoption of computer-aided design (CAD), highly automated equipment, safety control system development and solving ecological problems.

The Business Innovation Centre of LTP (BIC) is one of the main components of the LTP structure. BIC constantly provides manufacturers, scientific institutes, industrial enterprises and other local or international institutions with information about opportunities to participate in different projects. EU databases and literature, Latvian databases and business literature, ICECE, IASP databases and news and international networks are available at BIC.

The Process Control Training Centre (PCTC) at LTP was established as a result of co-operation with the Swedish company Reglertekniska Ingenjorsburan AB and Riga Technical University. PCTC offers training courses in process control and industrial measurements. In the near future, international services, patenting and other consultations will be also available at LTP. The participants of the LTP spin-off programme will be, among others, the Riga Technical University, the University of Latvia, the state companies Latvenergo and Riga Water. Large Latvian enterprises, the Latvian Chamber of Commerce and the Latvian Development Agency will be involved to develop the programme further.

	Contracts amounts with the Ministry of Education and Science, (€ '000)	Taxes paid by Tenant Companies of LTP, (€ '000)	Employees in the Tenant Companies (number of people)
1996	4.67	179.6	40
1997	66.7	400.6	110
1998	93.5	961.3	240
1999	144.1	1,234.9	260

Source: Latvian Council of Science

The Latvian Electronic Industry Business Innovation Centre (LEBIC) (LV 8) was established as an institution to support the development and technical modernisation of SMEs in the area of electronics and IT.

### **Liechtenstein**

No information received yet

### **Lithuania**

No new measures address this objective.

### **Luxembourg**

Within the framework of the increased promotion of endogenous development, priority is given to measures that favour new technological companies.

A first step was the Technoport Schlassgoart (LU 4) pilot project for the creation of a first group of technological companies, most of them operating in the data processing and communication sectors. This start-up centre, created in 1998, targets existing and future start-up SMEs by offering its site, office premises in an efficient business environment enhanced with timely added value such as secretarial services and internet connection.

This pilot 3-year project is based on an agreement entered into on 4 May 1998 between the Government, the PRC Henri Tudor and ProfilARBED S.A. It provides non-steel industry companies with laboratory analysis facilities at the ARBED Group research centre, and creates a reception centre on its site for new technology companies. This agreement on the pilot phase expires on 30 June 2001. In this context the Ministry of the Economy delegate to the Board of Directors of PRC-Henri Tudor until the end of 2000 supported the location of eight new companies at the reception centre.

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 one-stop-shop for entrepreneurs setting up technological companies.

The third preoccupation relates to the availability of development capital through participating loans of the CD-PME company (LU 2).

In order to encourage the creation of businesses in the Greater Region, the non-profit organisation '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 association's goal is to promote entrepreneurial spirit in Luxembourg and diversify its economy through fostering new potential. This objective is pursued through four concrete initiatives:

- a business plan competition: the idea is to promote the transition from idea to business plan; it is open to anyone and is organised within the Greater Region encompassing the Grand-Duchy and surrounding areas of Belgium, France and Germany;
- a framework of coaches and sponsors, including a selected jury, in order to develop constructive recommendations for young entrepreneurs;
- collaboration with venture capital funds; and launch by the association of a Business Angel Club;
- follow-up of projects after they have been launched.

The '1,2,3,go' business plan competition is essentially financed by sponsorship from private companies with the added financial support and patronage of the Ministry of the Economy. This competition aims to reward innovative ideas and business plans by offering participants the assistance of coaches from various professional backgrounds, together with 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 region and the Rhineland Palatinate.

On the initiative of the DIT, and under the patronage of the Ministries of the Economy and the Middle Classes, with the logistical support of Luxinnovation GIE, the first 'Corporate Creation and Innovation Show' was organised on 29 November 2000. Some 440 visitors attended the show, which had three parts:

- a breakfast debate in the presence of the Minister of the Economy and personalities from various private and public backgrounds, placing emphasis on recent evolution in matters of the private and public framework of company creation, notably in the field of venture capital;
- an information hall where 23 initiatives and private and public bodies were able to set up individual stands to present their range of services: regulatory, financial, legal, fiscal, accounting, logistical, technological and accommodation.;
- the official launch of the '1,2,3, go' competition, put in place by Business Initiative Asbl.

**The creation of reception centres for new activities and start-up companies.** Within the various inter-ministerial co-ordination committees dealing with government policy on the re-conversion of steel industry wasteland, and in particular the site at Belval-Ouest, the DIT drew up initial proposals in favour of additional reception centres (incubator, technopole, work centres) within the enlarged concept of a science park. These proposals favoured a gradual approach, for the time being developing existing infrastructures in a modular manner to complement the existing facilities of the Schlassgoart Technoport.

The second award of a **prize of the Greater Region for promoting entrepreneur spirit and integrated policies for SMEs**. For the second time, the prize for promoting entrepreneurship and integrated policies for SMEs will be awarded, during the 6<sup>th</sup> summit of the Greater Region in November 2001. It will target SMEs, measures, initiatives, activities or studies that have contributed to the development and intensification of interregional economic and social relationships. The prize money is: €3000 for the winner, €2000 for second place and €1000 for third place.

### **The Netherlands**

Developments in this area mainly involve further implementation of measures launched in previous periods, primarily the Life Sciences Action Plan (NL 24) and the techno-starters platform 'Dreamstart' (NL 32). The web-site ([www.dreamstart.nl](http://www.dreamstart.nl)) provides a clear and consistent overview of all the information and knowledge that is relevant and useful for setting up a company, from specifying an idea until writing a business proposal, and lists the facilities that exist to support start-ups. Moreover, Dreamstart supports starters in establishing contacts with coaches and other experienced entrepreneurs. Dreamstart is *the* entrance for techno-starters.

No new measures were introduced or announced during the period under review.

### **Norway**

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.

Support of 'industrial gardens' (*Næringshager*, regional incubator parks) will continue under SIVA. Furthermore, SIVA is preparing a new regional program for incubators for industrial newcomers.

The Ministry will continue to allocate money to funds for start-ups and the EU programme INTERREG, and to various programmes for developing competence under SND and the Research Council (including NO 10 BRIDGE and NO 4 FRAM).

### **Poland**

Although there have been no specific measures to encourage the creation of technology-based companies, research done by the Economy Chair of Lodz University reveals 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 a specialised knowledge and experience during their professional career and now use it in their firms.

According to the research, these companies are active in the following sectors:

<b>Sector</b>	<b>Companies researched (%)</b>
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%

## **Portugal**

No measures have been launched in the field of NTBFs. However, they are expected soon, since promotion of entrepreneurship and technology-based entrepreneurship figures high in both national government plans, POE and POCTI.

POE has one measure that specifically addresses entrepreneurship – **mobilising new ideas and new entrepreneurs**. Although not exclusively focused on technology-based start-ups, this measure will provide support to the creation of new firms by new entrepreneurs. It will be implemented in the context of the partnerships and public initiatives framework. This defines the conditions for eligibility of entrepreneurship promotion projects. Support corresponds to non-reimbursable grants which may reach 100% of eligible expenditures. Several interesting initiatives may thus emerge in this field.

Under POCTI there is an action specifically oriented towards the creation of incubators for firms launched by young researchers. These would be located close to Universities and S&T institutions. Support will be provided through the allocation of space and the use of common scientific equipments for a defined period. Universities should be involved in the selection of the candidates. This action line has not been implemented so far.

There are two other actions which may indirectly contribute to promotion of high-tech start-ups. One corresponds to the measure 3.4 of POE (*Consolidation and enlargement of company financing mechanisms*), which is aimed at dynamising, *inter alia*, venture capital activities, thus making easier for high-tech start-ups to have access to funds. The other is the envisaged creation of Centres for Economic Valorisation of Scientific Research (under POCTI), which is expected to give rise to new initiatives for technology-based firms.

Meanwhile, NETIE, a group of information technology firms evolved towards a more formalised structure, and became the ANETIE – the National Association of Information Technologies and Electronics Companies. The Association was opened to technology-based firms, with majority Portuguese ownership, working in sectors other than information technologies. NETIE has played an important role in supporting entrepreneurship in information technologies as well as lobbying to promote the field. An incubator for start-ups in information technologies, electronics and telecommunications was recently launched in Oporto, as a result of an initiative of NETIE. The website presents several company success cases which may have a demonstration effect to encourage potential entrepreneurs (see [www.netie.pt](http://www.netie.pt) and [www.portugalhightech.com](http://www.portugalhightech.com)).

## **Romania**

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 whose activities would reach European levels of quality standards. However, there are currently no practical activities that implement these objectives.

## **Slovakia**

The Slovak Government has not formulated an explicit policy to foster innovation.

## **Slovenia**

Both in the academic and – to a lesser degree– at governmental level, a new focus has emerged on fast growing SMEs. A recent report by the IER finds that their employment growth has been significant and that such companies make a larger than average industry revenue contribution, with a per employee revenue of 73% higher than the industry average.

There is no particular accent on researching technology-based companies, although the relationship between the higher gross value added per employee and the innovative high-tech companies is clearly revealed in the research.

It remains to be seen how influential these findings will be in guiding future policy.

## **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 devoted to fostering the emergence of new firms from research centres or company R&D spin-off. One of these instruments is the partial financing of the business plan of entrepreneurial projects derived from RTD results exploitation. This measure is included in the **PROFIT programme** (ES 17) and is specially oriented to public research centres.

This programme also foresees the application of **start-up funds** (seed capital) to help new technology-based firms (NTBFs) that have arisen from the initiative of other enterprises or people who intend to exploit their technical knowledge. The Spanish Government has taken due note of the importance of this sort of measure to support NTBFs. Specific mechanisms are expected to be launched in 2001.

The **INFO XXI programme** (ES 19) also declares among its objectives the establishment of favourable conditions for the creation of firms in the area of information and communication technologies, but no specific mechanisms have been launched yet.

## **Sweden**

Since 1994/1995 the commercial exploitation of university research and inventions has been the focus for several new programmes. In 1995 seven Technology Link Foundations (Teknikbrostiftelser), located in seven major university cities, became operational. Together they received capital of about one billion SEK (€115 million), 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 Technology Link Foundations 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 is 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 Technology Link Foundations in co-operation with the Holding Companies have, in turn, formed Patent & Exploitation Offices (*Forskarpatent*), which actively support researchers' exploitation efforts. The formation of actors like the Technology Link Foundations and the University Holding Companies in addition to the Patent & Exploitation Offices provides concrete evidence of the belief held by the political system in the commercial potential of R&D and academic research.

The government has commissioned an investigation of the activities at the Technology Link Foundations and the University Holding Companies. The report from the investigation will be published in Spring 2001 by the Swedish National Audit Office (RRV) – see <http://www.rrv.se/>.

## **The United Kingdom**

This particular area remains a key Government priority for innovation policy. Support is provided in two main areas: fostering 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 creating 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), which has just entered a second round of funding, and the recent replacement for the HEROBaC scheme (UK 22) – the Higher Education Innovation Fund (UK 38). Bids for the initial round of funding are due in May 2001 and allocations should be made in July.

The Government has also launched a new measure, the new Small Business Research Initiative (SBRI) (UK 46). This aims to encourage more high-tech small firms to start up, or to develop new research capacity and was inspired by the US Small Business Innovation Research Fund. Under the scheme, Government departments and the Research Councils will open up R&D procurement programmes (worth up to £1 billion/€1.66 billion) to small firms. The target will be to procure a total of £50 million (€83 million) of research under these programmes from small firms. Participating departments will each aim to procure at least

2.5% of their relevant requirements from small firms, while the Research Councils will be encouraged to meet these targets over time. A website signposting to the SBRI was due to be ready in April 2001.

At a more general level, in order to encourage more entrepreneurs to remain in the UK and to offset the effects of the scientific brain drain, the Government has – in partnership with the Wolfson Foundation and the Royal Society –launched a fund to assist in the recruitment of up to 50 leading researchers in key areas of science. This fund will initially be worth £4 million (€6.6 million) a year. The first awards were made in April 2001.

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Title: Trend Chart on Innovation  
Subject:  
Author: NM  
Keywords:  
Comments:  
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