



European Commission  
Enterprise Directorate-  
General

**Final Report**

# Benchmarking of Business Incubators

February 2002



*Centre for*  
**Strategy & Evaluation  
Services**

# Preface

This study has been carried out by the Centre for Strategy & Evaluation Services (CSES) for the European Commission's Enterprise DG. We would like to thank the Commission, in particular Mr Christer Hammarlund, for the support provided throughout the project. We would also like to thank business incubator managers who were nominated by Member States to provide advice and assistance, and our two special advisers, for their input. A list of the experts and advisers is provided in Section 1 of the report.

The data and analysis presented in this report are the responsibility of CSES under a contract with the European Commission. Although the work has been conducted under the guidance of Commission officials and the Member State experts, the European Commission is not necessarily in agreement with the analysis presented and the views expressed do not necessarily represent the official position of the European Commission.

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## 1. Overview

The project ‘Benchmarking of Business Incubators’ was undertaken for the European Commission by the Centre for Strategy & Evaluation Services (CSES). The objectives of the project were, in summary, to:

- Define ‘headline’ benchmarks for business incubators relating to their performance with regard to management and promotion;
- Support this with ‘operational’ benchmarks’ that define the means of achieve the ‘headline’ benchmarking performance;
- Provide assistance to business incubators that participate in the exercise to implement operational improvements by, amongst other things, producing guidance on achieving benchmarked performance and examples of best practice.

The work carried out by CSES involved two main phases: Phase 1 focused on preparing an analytical framework and involved a review of previous research and other literature on business incubator activities. During Phase 2 the framework was tested and further developed through a series of interviews with incubator managers, stakeholders and client companies from the EU Member States.

In addition to the interview programme, we carried out a wider survey of business incubators in EU Member States (eliciting a response from 77 incubators), a survey of incubator companies (71 firms completed questionnaires) and obtained survey data from the USA on incubator operations there.

The CSES team was guided throughout the project by a ‘Managers Group’ consisting of Chief Executives of business incubators from EU Member States, and by two external experts.

## 2. Benchmarking Framework

Full details of the benchmarking framework are set out in the report. To summarise the key points:

- *Step 1 – Model:* A generic business incubator model was developed setting out basic functions and operating procedures. This model is based on the literature review, inputs by the Managers Group and CSES’s fieldwork.
- *Step 2 – Best Practice Issues:* The model defines a number of ‘key best practice issues’ that provide the framework required to define benchmarking indicators. These are subdivided into ‘headline’ and ‘operational’ indicators;
- *Step 3 – Performance Drivers:* In addition, the model highlights the ‘key performance drivers’ that influence the extent to which incubators achieve best practice benchmarks. These drivers fall under three headings -

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- *Step 4 – Business Incubator Data:* Two surveys were carried out by CSES: the first focused on incubators themselves while the second involved obtaining feedback from client companies. The survey data was used to determine where incubators stand in relation to the various benchmark indicators;
- *Step 5 – Best Practice Guidance:* Based on the earlier steps and analysis, the final section of this report then suggests key actions that should be taken in setting up and operating business incubators.

## 3. Key Conclusions

There are a number of key messages from this benchmarking study:

- *Outcomes* – business incubators in the EU – which now number around 900 – make a significant contribution to job and wealth creation. Some 40,000 new (net) jobs are generated each year by incubators;
- *Added Value* – the business incubation process adds value by accelerating the start-up of new businesses and helping to maximise their growth potential in a way that is more difficult for alternative SME support structures to achieve;
- *Best Practice* – this report identifies best practices in business incubation and suggests key actions to replicate them at an operational level. There are key lessons to be learnt from experience, from different types of incubator models, and from practices in different EU countries and the USA. Actions are needed at an EU level to put a framework in place to support the process of developing and sharing best practice.

Overall conclusions of the benchmarking project are summarised below under three headings – setting up and operating business incubators, incubator functions, and evaluating incubator services and impacts. Recommendations are set out in Section 4 and a summary of the key statistical benchmarks is provided at the end of the summary.

### 3.1 Setting Up and Operating Incubators

**3.1.1. Business incubators should be designed to support and be part of a broader strategic framework – either territorially orientated or focused on particular policy priorities (e.g. development of clusters), or a combination of these factors.** A key lesson from this project is that incubators should not be stand-alone entities but rather work along side other organisations and schemes to promote broader strategies. Examples of where this approach is being adopted are given in the report.

**3.2.2. It follows that incubators should be promoted by an inclusive partnership of public and private sector stakeholders.** Business incubator partnership structures will reflect overall regional, technology and business support strategies. The research suggests that incubators are typically promoted by a wide range of organisations from the public and private sectors including local authorities, universities, companies, and

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financial institutions. Public authorities have an important catalytic and leadership function, and can provide crucial pump-priming investment during the development phase of incubators.

**3.2.3. During the development phase, it is important for the market to be tested and a business plan to be devised that can provide a framework for incubator operations.** The incubator business plan should set out the rationale for the project and how it addresses market failure (if this is the rationale), the target market, expected levels of demand, a detailed operating framework (infrastructure and services), estimated capital investment and running costs/sources of funds, how the incubator will be managed, and other factors.

**3.2.4. There are a number of different set up funding models but the evidence from this project is that public support for the establishment of incubators in Europe will remain critical for the foreseeable future.** The analysis contained in this report suggests that public funding accounts for a high proportion of the set up costs of most incubators (which average around €4 million) and for around 37% of operating revenue.

**3.2.5. Likewise, there are different ways in which incubators cover their operating costs and whilst many incubators rely on public subsidies, there is a strong argument in favour of dependence on this source of revenue funding being minimised.** According to the research, incubator operating costs average around €500,00 per annum, the highest proportion of cost relating to staff (41%) followed by client services (24%), maintenance of buildings and equipment (22%), and other costs such as utilities (13%). Whilst many incubators are able to recoup a significant proportion of these costs (averaging around 40%) from tenants, the element of public subsidy remains high in most cases. At present, some three-quarters (77%) of European incubators operate on a not-for-profit basis.

## 3.3 Business Incubator Functions

**3.3.1. The provision of physical space is central to the incubator model. Standard good practices now exist with regard to the most appropriate configuration of incubator space.** The research suggests that European incubators typically have around 5,800 square meters of space for tenants, sufficient to accommodate some 18 firms at any one time in a variety of units. Smaller incubator space than this is likely to make it more difficult to generate economies of scale. Another key lesson from the research is the need to operate at no more than around 85% occupancy levels.

**3.3.2. The value added of incubator operations lies increasingly in the type and quality of business support services provided to clients and developing this aspect of European incubator operations should be a key priority in the future.** There is a widespread acceptance that although central to the incubator model, there is now a more or less standard model for the optimal configuration of physical space and that it is the quality and range of business support services that should be the focus of best practice development. This research suggests that there are four key areas in this

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respect: entrepreneur training (often part of ‘pre-incubation’), business advice, financial support (in some cases from incubator seed/venture capital funds but usually through links with external providers), and technology support.

**3.3.3. *Business incubators should charge clients for the support services they provide but the level at which prices are pitched should be designed to minimise the risk of ‘crowding out’ private sector providers.*** The research suggests that relatively few incubators (around 4%) provide business support services on an entirely free basis to clients. However, pricing levels tend to reflect an element of subsidy (35% of incubators stated that pricing was below market levels).

**3.3.4. *With regard to incubator operating procedures, it is essential that there is a clearly defined target market and that this is reflected in the admission criteria.*** Experience suggests that the more successful incubators are the ones that have a particular technology and business focus. A focus of this type enables incubator managers to develop specialised knowledge and skills, and facilitates the clustering of client companies (e.g. enabling business relationships to develop between incubator tenants). The report provides an analysis of the types of admission criteria adopted.

**3.3.5. *Whilst achieving high occupancy rates is important to generate income, this consideration needs to be balanced against the importance of maintaining selective admission criteria.*** As noted earlier, achieving high occupancy levels quickly is desirable from the point of view of income generation but can have disadvantages in terms of being able to react flexibly to the changing requirements of tenants. Similarly, there is a danger that the selective approach to admitting projects will be abandoned in favour of a ‘first-come-first-served’ approach.

**3.3.6. *Likewise, adopting exit criteria that ensure a turnover of client companies is desirable even if the turnover of firms makes revenue levels from rental income and other services less certain.*** Similar considerations apply to the question of exit rules. The research suggests that most incubators do, in fact, limit the length of time companies can remain as tenants (typically to around 3 to 5 years). Moreover, in many cases, companies move on to new locations because they need more space to grow. Graduated rentals rising to above market rates after a given period of time is another method that a number of incubators (24% of the sample) adopt to encourage firms to move on. At the same time, highly specialised incubators – e.g. biotechnology incubators – may have longer tenancy periods for their clients reflecting the nature of business activities.

**3.3.7. *After care and networking with firms that have left an incubator should be regarded as just as important as providing services to incubator tenants.*** The destination of incubator ‘graduates’ should be monitored with companies being encouraged to remain in the local area. Graduate retention is important in ensuring that incubator operations have long-term benefits to the areas where they are located. Moreover, experience suggests that many firms are at the most vulnerable stage in their development when they leave an incubator. The provision of after-care services to ‘graduates’ is therefore critical to ensuring sustainable incubator impacts.

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**3.3.8. *The quality of the management team, and adoption of a business-like approach to running incubators and monitoring clients, is crucial to performance and best practices in this field are becoming standardised.*** European incubators typically have around 5 to 6 staff (half of whom are managers) with senior personnel coming from a business background. A key efficiency indicator is the ratio between staff and companies. Based on this research, the ratio would appear to be 1: 3.2 (tenants) or 1:5.0 (tenants plus other clients). New economy incubators have an even higher ratio than this.

**3.3.9. *The type of activities client companies are pursuing, in particular the technology/knowledge intensity of these activities, is the key factor (rather than physical features or operating modality) that should be used to differentiate one type of incubator from another.*** In the past, incubator models have tended to be classified according to the nature of inputs (public, private, etc) and processes (type of incubator space, range of services, etc). An arguably better method of classification is to differentiate between the specialisms of incubators as reflected in the activities of their tenant companies. An approach of this sort makes sense given the fact that different types of incubators are increasingly offering very similar ‘core’ services.

## **3.4 Evaluating Business Incubator Services and Impacts**

**3.4.1. *The performance of business incubators should be judged primarily in terms of the results achieved, i.e. the impact they have on businesses, wider economic development and other priorities.*** A key message from this project is the need to judge incubator performance in terms of the long-term impacts achieved rather than short-term measures such as occupancy rates or failure rates. The report contains an assessment of incubator impacts suggesting that in terms of employment effects (a key indicator for public authorities and a proxy measure for a range of other impacts), European incubators are generating around 30,000 gross new jobs per annum. If indirect effects are taken into account – the higher spending in local economies brought about by additional direct employment and new jobs created in local supply chains – then this figure increases to around 40,000 net jobs per annum. Moreover, these results are being achieved at an average gross cost per job to public authorities of around €4,500 (€4000 net).

**3.4.2. *In assessing the impact of incubators, there is a need to obtain feedback directly from client companies and greater priority should be given to this than has hitherto been the case.*** An important lesson to be learnt from this project is that incubator impacts can only be properly assessed by obtaining information from companies. Previous research has tended to rely on survey data from incubator managers alone. Whilst this provides good insights to the ‘input’ and ‘process’ aspects of their operations, it does not provide the basis for an in-depth understanding of ‘outputs’ and impacts. Feedback from companies is also important from a more practical point of view, i.e. client management and networking with ‘graduates’.

**3.4.3. *Likewise, a distinction should be made between gross and net impacts achieved by business incubators.*** As Point 3.4.1 makes clear, business incubator

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impacts are likely to be considerably under-estimated if only direct (gross) effects are taken into account. However, there are other essentially practical reasons for undertaking a more probing assessment of incubator impacts: investigating the extent of displacement is important in helping to ensure that an incubator's target market is appropriately defined - if support is being given to projects that compete directly with existing local businesses, then the net value added of the incubator's operations is questionable. Likewise, an understanding of additionality involves obtaining client feedback on the role played by an incubator in the development of their business and this information should help to ensure that the right services are being provided.

**3.4.4. *Although 'new economy' incubators are currently out of favour, there are many lessons to be learnt that are relevant to the more 'traditional' model (and visa-versa).*** This research suggests that there are three main lessons to be learnt from the experience of 'new economy' incubators: firstly, although market conditions are currently unfavourable, 'new economy' incubators have demonstrated a potentially profitability model that is attractive to the private sector; secondly, 'new economy' incubators have shown that the business incubation process can operate successfully on a virtual basis; and, linked to this, they have demonstrated that the real value added of the business incubation approach lies in the sharing of know-how rather than physical aspects. By the same token, the 'traditional' model has enduring strengths and these are examined in the report.

**3.4.5. *Across Europe, there are a variety of different business incubator models and precise modalities should reflect local, regional and national circumstances and priorities.*** As Section 2 of this report highlighted, there are a large number of different incubator definitions and models across Europe. Although they share basic features in common, there are also significant differences relating to stakeholder objectives, target markets, and the precise configuration of incubator facilities and services. These differences are partly a reflection of location-specific factors of a cultural, institutional, and policy nature, and it is important that these local factors are taken into account in defining best practice.

**3.4.6. *Similarly, although only limited comparisons are possible, the research confirms significant differences between the way in which European and US incubators operate and therefore scope for a sharing of experience and know-how.*** Section 6 of this report highlighted differences between the way in which business incubators operate in Europe and the USA. Although the evidence is far from conclusive one way or another, this analysis suggests that whilst US incubators, for example, demonstrate particular strengths with regard to company financing and some management functions, their European counterparts have probably developed more expertise in fields such as entrepreneur training, virtual networking, and integrating incubator functions into broader strategies.

**3.4.7. *Overall, this report suggests that business incubators are a very cost-effective instrument for the promotion of public policy objectives.*** The relatively low cost per job (see Point 3.4.1) and other less easily quantifiable benefits demonstrated by business incubators covered by this research suggest that they are a very effective

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method of promoting knowledge intensive, new technology-based activities. Direct comparisons with other types of schemes are difficult to make, one reason being that incubators usually combine many features of other schemes (e.g. the provision of advisory services) and/or are closely linked to them.

A summary of ‘headline’ and ‘operational’ indicators that have been used in this project, together with benchmark values, is provided at the end of the report.

## 4. Best Practice and Policy Recommendations

In this section we outline key recommendations, starting with promoting best practice at an operational level. We then consider wider policy initiatives that might be taken at a European level to promote best practice in business incubation.

### 4.1 Promoting Best Practice in Business Incubation at an Operational Level

**4.1.1 Business incubators should be encouraged to benchmark themselves against best practice standards and to take the steps required to achieve them.** The report contains a range of benchmarks relating to setting up and operating business incubators. In some cases, these can be quantified and a summary of the key benchmarks is provided at the end of this summary. In the report itself, we have also provided best practice examples covering aspects of business incubator operations where quantified benchmarks are not appropriate. Also, it is important to stress that the benchmarks will not apply to every type of incubator.

We recommend that in seeking to achieve best practice at an operational level, particular attention should be given to:

- Ensuring that incubator operations are integrated into wider *regional (technology) development strategies* and supported by broadly based partnerships;
- Clearly defining the *target market* and adopting *admission criteria* that focus on projects where an incubator can genuinely add value;
- Placing particular emphasis on developing *high quality business support services* (entrepreneur training, business advice, technology support, financing, etc);
- Ensuring that incubators are managed in a business-like manner with the aim of maximising *value for money*;
- Developing *‘virtual’ incubation services* so that more businesses can benefit and through after-care/graduate networking, ensuring that job and wealth creation effects are retained in local economies.

These points and others are elaborated on below.

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**4.1.2. Benchmarking and best practice sharing should focus on the four key incubator service areas identified in this report – entrepreneur training, business support, financing, and technology support.** As argued earlier, practices are now more or less standardised with regard to the provision of incubator space and the challenge facing incubators is more to focus on developing first-class business support services, including a virtual dimension for firms not located in incubators. This report has identified four key incubator service areas and, in each case, we have highlighted a number of examples of best practice. Two areas – entrepreneur training and financing -might be prioritised since these appear to be where there is the least know-how.

**4.1.3. Business incubators should be encouraged to periodically undertake impact assessments.** There are a number of reasons why incubators should undertake impact assessments, not least of all to demonstrate the benefits of public support. However, there are considerable methodological and practical data collection complications. We recommend that incubators themselves, and the national associations (if possible, supported by the Commission) should (a) identify best practice in this field; (b) develop a common methodology based on best practice; and (c) agree on one or more pilot exercises to determine the best way of proceeding.

**4.1.4. A further priority should be for business incubators reduce their dependence on public subsidies.** In this report we have argued that public subsidies for business incubators have an important role and that in many cases such support is accepted as a cost-effective way of helping to achieve policy objectives. However, even where this is so, there is a strong argument for encouraging individual incubators to reduce their dependence on public funding so that available resources can be spread more widely and used to promote new initiatives. The report has identified a number of ways in which incubators can improve income generation and hence their overall financial sustainability.

**4.1.5. There is a need to ‘professionalise’ the occupation of business incubator management.** As the report has made clear, the quality of the management team is a key to successful incubator activities. At present there is no recognised professional qualification or standard in this field although specific incubator management functions (e.g. personnel management, providing financial advice to companies) are of course areas where such standards exist. Consideration might be given, however, to developing EU- level professional standard relating to overall incubator management.

## **4.2 EU Level Actions to Promote Best Practice in Business Incubation**

**4.2.1. As a starting point to any EU-level initiative, priority should be given to developing a set of common definitions and quality standards for European business incubators.** A starting point for any initiative to set up a European business incubator association should, we recommend, be to agree on an EU-level definition of a business incubator and, based on this, to devise EU-level quality standards. This report provides a starting point in defining key best practice benchmarks. There is also a lot of work that has been undertaken by national associations. It will clearly be

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important to take this material into account. One way of encouraging incubators across Europe to develop best practice would be to establish a financial instrument that invests via incubators that demonstrate effective operations in their client firms. This could be linked to existing venture capital funds or possibly opened up to wider markets.

**4.2.2. We recommend that the survey of European business incubators undertaken as part of this project should be repeated periodically, preferably on an annual basis.** Rather than relying on a ‘snap-shot’ as in this project, a longitudinal approach would make it possible to benchmark dynamically and to identify trends in incubator management and performance. The starting point might be to encourage national business incubator associations to adopt a common methodology based on a proforma that contains a number of common questions. Any initiative of this sort should also be linked to the further development of the Commission’s database of European incubators.

**4.2.3. Consideration should be given to establishing a European Business Incubator Association as an overall framework for taking actions forwards.** At present, there are a number of national associations in Europe which have occasional ad hoc contacts with one another but an absence of an over-arching structure at an EU level. Such a structure is almost certainly needed to secure the engagement of Europe’s incubator community as a whole in any initiatives to take this project forwards. An organisation that already has a pan-European role is the European Business Network (EBN) representing BICs and consideration might be given to developing a wider business incubator association based on EBN. Which ever approach is adopted it will be important to involve national associations closely in the discussions.

**4.2.4. In addition, we recommend that the Managers Group that has been established as part of this project should continue to meet on an occasional basis to help implement the recommendations made in this report.** The Managers Group has played a very positive role in this project and, assuming that there is a follow-up to implement the report’s recommendations, we suggest that the Commission should continue to convene periodic meetings of the group to review progress. In particular, the Managers Group might help to decide which aspects of business incubator operations should be examined in more detail by working groups (e.g. entrepreneur training, company financing). Consideration might also be given to expanding the Managers Group to include representatives from Central and Eastern European candidate countries and to giving it a role with regard to establishing a European association.

**4.2.5. The European Commission should review the role of different Directorate-Generals and schemes to ensure that a co-ordinated approach is being adopted to the promotion of business incubators.** A number of different Commission DGs have an interest – either explicit or implicit – in the operation of business incubators (apart from Enterprise DG, this includes DGs Employment, ECFIN, Research, and Regional Policy). To ensure that the various types of support the Commission can provide to

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incubators is co-ordinated, and that incubators themselves promote broader EU policy objectives, we recommend that there should be discussions between DGs to develop a Commission-wide strategy and action plan for the promotion business incubators in Europe.

**4.2.6. In addition to the purely EU dimension, steps should be taken to improve the sharing of best practice between European and North American business incubators.** This report has not been able to make detailed comparisons between business incubator operations in Europe and the USA but it is nevertheless clear that there is much to be potentially learnt from sharing experience and know-how. Through this project, good contacts have been established with the NBIA and it is a question of now further developing the relationship.

## 5. Summary of Key Benchmarks

The table on the next page provides a summary of key averages, ranges and benchmarks that can be quantified. The values are based on an analysis of the CSES survey data and discussions with incubator managers on best practice standards. It should be stressed that given the diversity of incubator operations and objectives, the benchmarks will not apply universally. Similarly, it is not possible to quantify benchmarks for many aspects of incubator operations.

### *Summary of Key Incubator Performance Statistics and Suggested Benchmarks*

<b>Setting Up and Operating</b>	<b>Average</b>	<b>Range</b>	<b>Benchmark</b>
Average capital investment cost	€3.7 million	€1.5 to €22 m	NA
Average operating costs	€480,000 p.a.	€50,000 to €1.8 m	NA
% of revenue from public subsidies	37%	0% to 100%	25%
Incubator space	3,000 m <sup>2</sup>	90m <sup>2</sup> - 41,000m <sup>2</sup>	2,000 – 4,000 m <sup>2</sup>
Number of incubator tenants	27 firms	1-120 firms	20 – 30 *
<b>Incubator Functions</b>	<b>Average</b>	<b>Range</b>	<b>Benchmark</b>
Incubator occupancy rates	85%	9% –100%	85%
Length of tenancy	35 months	6 months - no max	3 years
Number of management staff	2.3 managers	1 – 9 managers	2 managers min
Ratio of incubator staff: tenants	1: 14	1:2 – 1:64	1:10- 1:20
% of managers' time advising clients	39%	5% – 80%	50%
<b>Evaluating Services and Impacts</b>	<b>Average</b>	<b>Range</b>	<b>Benchmark</b>
Survival rates of tenant firms	85%	65% – 100%	85%
Average growth in client turnover	20% p.a. (2001)	5% to 100% p.a.	25%
Average jobs per tenant company	6.2 jobs per firm	1 to 120	NA
New graduate jobs per incubator p.a.	41 jobs	7 to 197	NA
Cost per job (gross)	€4,400	€124 to €29,600	€4,000 to €3,000

\* see note on setting up and operating incubators

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## Notes:

Capital investment and operating costs: It is inappropriate to set benchmarks for incubator capital investment and operating costs because these will vary widely depending on the type of incubator. For example, a biotechnology incubator requires dedicated laboratory space as well as office space, whereas an incubator providing just office to new start-ups will require less capital investment.

Proportion of revenue dependent on public subsidies: Whilst the public funding requirements of incubators will inevitably vary depending on location-specific factors such as the dynamism of the regional economy and the extent of market failure, we have assumed that incubators should try and increase the proportion of operating costs derived from their own activities (rent, advisory services, etc).

Incubator space/number of tenants: The average incubator space in the survey was 3,000m<sup>2</sup>. There is a good deal of evidence to suggest that a minimum of 2,000 m<sup>2</sup> space is needed (enough to accommodate 20-30 companies) to achieve economies of scale. We suggest a range of between 2,000 m<sup>2</sup> to 4,000 m<sup>2</sup> as a benchmark depending on the type of incubator.

Length of tenancy: A benchmark of 3 years is suggested. It should be noted that the benchmark applies to the average incubator and would not be appropriate for some specialist types of incubators, e.g. biotech incubators, high-tech R&D and high-tech manufacturing because of the longer product development lead times associated with those business sectors, amongst others.

Number of Managerial Staff/Ratio of Staff:Tenants: The benchmark of at least two managers assumes an average of 20-30 tenants and allows sufficient flexibility to cover absence (training and professional development, conferences, holidays, sickness etc.) while still ensuring that tenant firms have permanent access to managerial-level advisory support at all times. Given that the real added value of incubation lies not in real estate aspects but in the quality, relevance and utility of business advisory, the ratio of incubator managers to incubator tenants should ideally not exceed 1:20.

Proportion of Management Time Advising Clients: Currently, the proportion of management time spent advising clients, highlighted in the survey, stands at 39%. We have assumed that, ideally, it should be possible to 'free-up' management so that more time is spent advising tenants and less on administrative matters.

Survival rate of tenant firms: The survey revealed that the survival rate of firms reared in an incubator environment was significantly higher than the business success rate amongst the wider SME community, estimated at 30-50% (over a 5 year period). In the survey, there was a notable clustering of incubators reporting a survival rate amongst tenant firms of 80-90% and the benchmark is based on this. The survival rate of incubator tenant firms operating in more high-risk sectors such as high-tech industry may well be lower. We would emphasise that survival rates are one indicator of the performance of incubators, of more importance is the extent to which incubators can contribute to the accelerated development of innovative, high-growth firms and their capacity to create new jobs.

Job creation – average jobs per tenant company / new jobs per incubator: Whilst employment creation is one of the key objectives of business incubators, setting a benchmark for the number of jobs created per firm or per incubator would be inappropriate because the number of jobs created will vary greatly depending on the type of companies being incubated, the amount of tenants the incubator can accommodate and the amount of available space. The number of jobs generated by a typical tenant company will vary immensely depending on the type of industry the firm specialises in, the extent to which industry is technology-intensive as opposed to labour intensive. Similarly, the total number of graduate jobs created per incubator will vary because the total aggregate number of firms varies widely between incubators specialising in different types of industries.

# EXECUTIVE SUMMARY

Cost per Job. The average gross cost per job according to the incubator survey was €4,400. When set-up costs and the amortisation of capital are taken into account, the figure rises to €6,700. Rather than setting a benchmark, we have set a range, which we feel is more appropriate given that incubators receive widely differing levels of support from the public sector/ EU depending on location-specific factors.

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# INTRODUCTION

1

## 1.1 Overview

This document contains the final report on the project ‘Benchmarking of Business Incubators’ which has been undertaken for the European Commission by the Centre for Strategy & Evaluation Services (CSES).

The objectives of the project were, in summary, to:

- Define ‘headline’ benchmarks for business incubators relating to their performance with regard to management and promotion;
- Support this with ‘operational’ benchmarks’ that define the means of achieve the ‘headline’ benchmarking performance;
- Provide assistance to business incubators that participate in the exercise to implement operational improvements by, amongst other things, producing guidance on achieving benchmarked performance and examples of best practice.

The programme of work carried out by CSES involved two main phases: Phase 1 focused on preparing an analytical framework and involved a review of previous research and other literature on business incubator activities. During Phase 2 the framework was tested and further developed through a series of interviews with incubator managers, stakeholders and client companies. We also carried out a wider survey of business incubators in EU Member States and obtained survey data from the USA.

The CSES team has been guided throughout the project by a ‘Managers Group’ consisting of Chief Executives of business incubators from EU Member States. Members of this group are listed below:

*Table 1: Members of Managers Group*

Country	Group Member	Incubator
Austria	Walter Ortner	FAZAT-Steyr
Belgium	Philippe Chèvremont	CEEI Héraclès, Charleroi
Denmark	Flemming Bahner	Center for Advanced Technology
Finland	Lauri Ylöstalo	Otaniemi Science Park
France	Françoise Boivert	Bordeaux Productic
Germany	Dieter Tischendorf	TechnologieCentrum Chemnitz
Greece	Professor Loukakis	Lavrion Technological Park
Ireland	Desmond Fahey	Dublin Business Innovation Centre
Italy	Renato Angelino	Sviluppo Italia
Netherlands	J G Van der Velde	Triade (Meditech Center)
Portugal	Vasco Varela	Taguspark
Spain	Jesús Casanova Payá	CEEI Valencia
Sweden	Sten Gunnar Johansson	Mjärdevi Science Park
UK	Richard Clark	Project North East, Newcastle

# INTRODUCTION

# 1

During the course of the assignment, the ‘Managers Group’ met three times in Brussels to review outputs and make suggestions concerning the future direction of the work.

We have also been advised by two external experts: Rustam Lalkaka, President of the New York based firm Business & Technology Development Strategies, and Larry Moffit, Managing Partner of e-strategy sprl-bvba from Brussels. We would like to thank all those who have assisted with the project, and especially Mr Christer Hammarlund from the European Commission’s Enterprise DG, for their support and inputs.

## 1.2 Structure of the Report

The final report is structured as follows:

- *Section 2 – Background and Policy Context:* we begin by examining the origins of the business incubator model and developments in Europe, the USA and other countries. We then review the European policy context and previous research.
- *Section 3 – Benchmarking Framework:* this section sets out the methodology that has been developed for benchmarking incubators, including ‘headline’ and ‘operational’ indicators, key performance drivers and other aspects of the framework.
- *Section 4 – Setting Up and Operating Business Incubators:* in the first of three sections (Part 2) we examine issues relating to setting up and operating incubators including incubator strategies, the role of partnerships, and financial aspects;
- *Section 5 – Key Business Incubator Functions:* this section examines incubator target markets admission and exit rules, key incubator functions, promotion and other management issues;
- *Section 6 – Evaluation of Incubator Services and Impacts:* the penultimate section considers how incubator services should be monitored and draws on the survey data from incubators and their clients to illustrate how impacts can be evaluated;
- *Section 7 – Conclusions and Recommendations:* presents overall general conclusions, including a summary of ‘headline’ and ‘operational’ indicators, and a number of best practice and policy recommendations.

In terms of its readership, this report is aimed in the first instance at providing managers and others involved in either setting up or operating business incubators with guidance on best practice benchmarks against which they can judge the performance of their projects. The final section includes recommendations with regard to future priorities for the development of business incubators in Europe that are intended primarily for the European Commission and national authorities.

# BACKGROUND AND POLICY CONTEXT

*In this section we begin by examining the origins of the business incubator model, the various definitions, and developments in Europe, the USA and other countries. We then review the European policy context and previous research.*

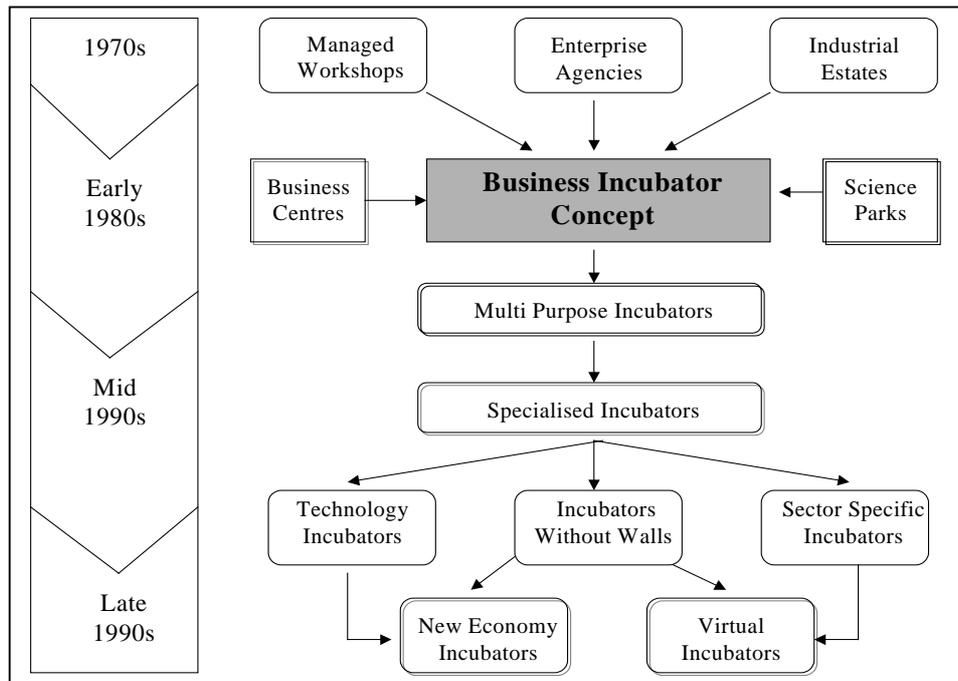
## 2.1 Role of Business Incubators

Business incubators provide entrepreneurs with a supportive environment to help establish and develop their projects. By providing services on a 'one-stop' basis, and enabling overhead costs to be reduced by sharing facilities, business incubators can significantly improve the survival and growth prospects of start-ups and small firms at an early stage of development.

In its generic sense, the term 'business incubator' is often used to describe a wide range of organisations that in one way or another help entrepreneurs develop their ideas from inception through to commercialisation and the launching of a new enterprise. A broad definition of the term embraces technology centres and science park incubators, business and innovation centres, organisations which have no single physical location and concentrate instead of managing a network of enterprise support services ('incubators without walls'), so-called 'new economy' incubators, and a variety of other models.

The evolution of the business incubator concept is summarised in Figure 1:

*Figure 1: Evolution of the Business Incubator Model*



# BACKGROUND AND POLICY CONTEXT

## 2

The origins can be traced back to Western industrialised countries in the late 1970s and early 1980s. Faced with a rapid rise in unemployment resulting from the collapse of traditional industries, it was recognised in both the Europe and the USA that fresh strategies were needed to help regenerate crisis sectors, regions and communities. Strategies pursued in the 1980s were broadly characterised by a switch in emphasis from a 'top-down' approach relying on exogenous factors and involving public intervention to transfer surplus mobile capital and jobs from developed to underdeveloped or declining regions, to a 'bottom-up' approach focussing on maximising the indigenous potential for economic development. At the same time, business incubators began to be used as instruments to support innovation and technology transfer. Lalkaka<sup>1</sup> sums up the evolution of the incubator concept as follows:

The '*first generation*' incubators in the 1980s were essentially offering affordable space and shared facilities to carefully selected entrepreneurial groups. In the 1990s the need was recognized for supplementing the work space with counselling, skills enhancement and networking services to access professional support and seed capital, for tenants within the facility and affiliates outside. This has led to the '*second generation*' incubator, although many in the developing countries are still stuck in the original mode. Starting in 1998, a new incubation model emerged in parallel. This is intended to mobilize ICT and provide a convergence of support, towards creating growth-potential, tech-based ventures.

The 'new economy' model referred to be Lalkaka has of course not developed to the extent originally hoped (experience is reviewed in more detail in Section 2.3). There are now thought to be around 3,000 business incubators of various types world wide.

The rationale for publicly funded business incubators – as with other types of subsidised assistance to SMEs - lies ultimately in addressing market failures, i.e. gaps and deficiencies in the support structure available to smaller firms (lack of affordable, divisible work space, facilities, services, of access to finance, information and other resources, etc). These market failures stem from the relatively high costs and risks of providing services to SMEs compared with larger firms and the unwillingness of the private sector to assume these costs and risks given the often modest returns. Other incubator models do not, however, have market failure as their rationale. Incubation, not only in the US, but also in Europe, often serves also as an important catalyser for the commercialisation of research and technology and provides a 'laboratory' of sorts to promote entrepreneurship.

## 2.2 Incubator Definitions and Typology

At the 1998 Helsinki workshop, a business incubator was defined as:

'A place where newly created firms are concentrated in a limited space. Its aim is to improve the chance of growth and rate of survival of these firms by providing them with a modular building with common facilities (telefax, computing facilities, etc.) as well as with

<sup>1</sup> Rustam Lalkaka 'Best Practices in Business Incubation: Lessons (yet to be) Learnt', Paper presented to Belgian Presidency's international conference on business centers, Brussels, November 2001.

# BACKGROUND AND POLICY CONTEXT

## 2

managerial support and back-up services. The main emphasis is on local development and job creation.’<sup>2</sup>

This definition dates back to 1990 and in light of developments since then arguably places too much emphasis on physical aspects of incubator operations. An alternative definition that highlights the other services offered by incubators is provided by the US National Business Incubation Association (NBIA):

‘Business incubation is a dynamic process of business enterprise development. Incubators nurture young firms, helping them to survive and grow during the start-up period when they are most vulnerable. Incubators provide hands-on management assistance, access to financing and orchestrated exposure to critical business or technical support services. They also offer entrepreneurial firms shared office services, access to equipment, flexible leases and expandable space — all under one roof.’<sup>3</sup>

The definitions adopted by the UKBI and German ADT are similar. Whilst the provision of physical space for start-ups is again seen as a defining characteristic of incubators, equal emphasis is placed on other aspects including, in the case of the UKBI, entrepreneur training, mentoring and visibility which are not mentioned in the NBIA definition:

‘Business Incubation is a dynamic business development process. It is a term which covers a wide variety of processes which help to reduce the failure rate of early stage companies and speed the growth of companies which have the potential to become substantial generators of employment and wealth. A business incubator is usually a property with small work units which provide an instructive and supportive environment to entrepreneurs at start-up and during the early stages of businesses. Incubators provide three main ingredients for growing successful businesses - an entrepreneurial and learning environment, ready access to mentors and investors, visibility in the marketplace.’

In contrast, the definition used by ELAN in France does not mention the physical attributes of an incubator at all and instead puts the objectives of promoting new start-ups and helping existing firms to expand at the centre of its definition. A somewhat similar approach – with an emphasis on the ‘output’ side of the business incubation process rather than ‘inputs’ - is adopted by EBN. This goes further than immediate outputs and stresses the wider, territorially orientated mission of business incubators:

‘The European Community Business and Innovation Centres (EC BICs) – as they are officially known – are support organisations for innovative small and medium-sized businesses (SMEs) and entrepreneurs ... operating in the public interest, they are set up by the principal economic operators in an area or region, in order to offer a range of integrated guidance and support services for projects carried out by innovative SMEs, thereby contributing to regional and local development.’<sup>4</sup>

<sup>2</sup> European Commission OJ C186 – 51/52 dd. 27, July 1990

<sup>3</sup> NBIA, Best Practice in Action: Guidelines for Implementing First Class Business Incubation Programs’ (NBIA, 2001).

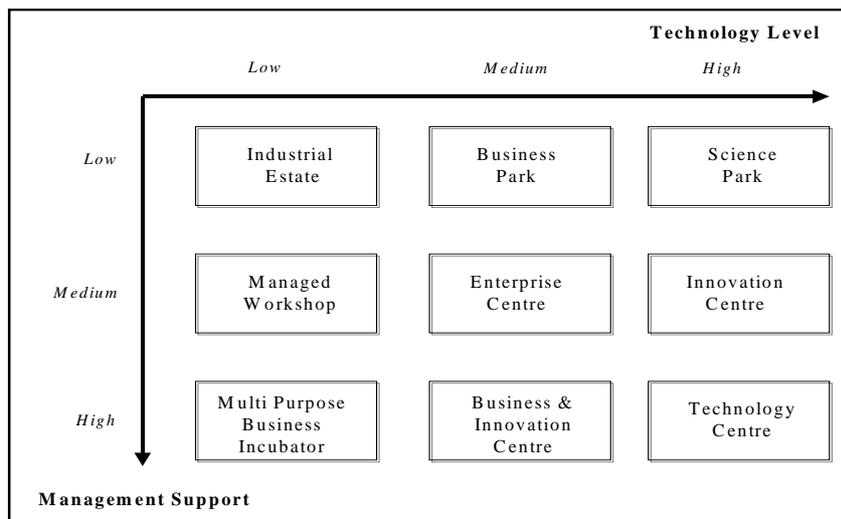
<sup>4</sup> EBN, 1998.

# BACKGROUND AND POLICY CONTEXT

There are two main conclusions to be drawn from this brief review of the various incubator definitions: firstly, there is a considerable degree of overlap with (in most cases) the focused approach to SME promotion, and combination of incubator units and business support services being seen as what makes the incubator concept unique; secondly, the differences, to the extent that they exist, lie in the varying emphasis placed on the importance of physical aspects as opposed to other business support services, and the business incubation process itself, as constituting the essence of the concept.

Figure 2 illustrates the relationship between different incubator modalities and between these and other SME promotion structures that include a physical space element.

*Figure 2: Typology of Business Incubators*



Business incubators are positioned towards the bottom right-hand corner of the matrix since they provide a high degree of management support to tenants and usually, although not always, cater for technology-based enterprises. There are of course alternative business incubator typologies but the approach outlined in Figure ( ) provides a broad framework.<sup>5</sup>

Industrial estates in the top left-hand corner generally have a non-selective intake, provide little or no management support and have no special criteria with regard to business activities and technology content. At the opposite extreme, in the bottom right-hand corner, technology centres have highly selective admission criteria, provide 'hands-on' management support, and have a highly specialised technology focus.

<sup>5</sup> For example, the US National Business Incubation Association (NBIA) makes a distinction between technology, empowerment and mixed use incubators.

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### *'Traditional' and 'New Economy' Incubators*

The focus of this project is on the types of business incubators located towards the bottom of Figure 2 but it is nevertheless helpful to make a further distinction between incubators that have a public policy-driven enterprise promotion and/or regional development function and 'new economy' incubators: these types illustrate the diversity of business incubator models particularly well. Between the 'traditional' regional development model and 'new economy' incubators, there is an array of other types such as Business & Innovation Centres (BICs), technology centres, and innovation centres that all share basic incubator characteristics.

The primary goal of the first category of business incubators (which we have called 'traditional') is to facilitate economic development by promoting entrepreneurship, innovation, employment opportunities and growth. For this reason, most of the incubators are operated directly by the national or local authorities. Specialised incubators have been established by universities or private sector organisations. In Europe, the role of incubators in the promotion of entrepreneurship, employment and economic growth is widely acknowledged with the 2000-06 Structural Fund guidelines highlighting business incubators as a key instrument of EU regional policy.

<sup>6</sup> In the USA, the 'general service' type incubator is giving way to a more specialist approach and Technology Business Incubators (sometimes known as Technology Centres or Innovation Centres in Europe) have risen from accounting for under a quarter one-fourth to over one-third of total. In Europe, there has been a similar trend. There are also some interesting specialised incubators of a different, non-technology related sort: for example, a cross-border incubator has recently been established on the border between Germany and the Netherlands for companies seeking to trade in these two countries.

Over the past five years, there has also been a quite rapid growth in for-profit incubation systems, especially for accelerating the start and growth of ICT-enabled ventures. The Harvard Business School in its recent survey <sup>7</sup> identified 356 such incubators around the world. Of these 222 are in the US (that is, about 25 % of the total U.S. incubators). The others include Canada (14), UK (28), China-Hong Kong (11), and Brazil (10). The growth of 'new economy' incubators is reflected in the fact that whereas in 1994, only 1 out of every 25 technology incubator companies was IT related, by 1999, this figure had risen to 20. Sponsors include the quoted arms of established consultancies and technology solutions providers such as Bain & Co., Ernst & Young, HP and Dell and IBM; telecommunications companies such as Sprint PCS; and dot com start ups such as cocoon, Gorilla Park, Ant Factory, Cartezia, and Internet-Incubation.

<sup>6</sup> The Structural Funds and their co-ordination with the Cohesion Fund (guidelines for SF programmes for the period 2000-06), 1999

<sup>7</sup> Hansen, Nohria, Berger, 'The State of the Incubator Marketplace, June 2000

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## 2

‘New economy’ type business incubators are often primarily virtual.<sup>8</sup> New economy incubators are usually funded by venture capital companies or set up by large multidisciplinary consultancies that are able to offer a complete range of technological, advisory and other business support services to their clients. Large multinationals have also been keen to capitalise on their expertise in the e-economy, namely the rapid development of the B2B and B2C sectors, e-commerce, m-commerce (mobile phone commerce driven by WAP technology) and v-commerce (voice activated commerce) by offering advisory expertise to new high-tech start-ups within a virtual incubator model.

The strategic objectives and modus operandi of ‘new economy’ incubators differ fundamentally from their ‘traditional’ equivalents:

- ‘New economy’ incubators are private-sector, profit-driven with the pay-back coming from investment in companies rather than from rental income;
- Secondly, they tend to focus mainly on high-tech and internet-related activities and unlike ‘traditional’ incubators, do not have job creation as their principal aim;
- Thirdly, ‘new economy’ incubators often have an essentially virtual presence with financial and business services at the core of the offering unlike their ‘traditional’ counterparts that usually centre on the provision of physical workspace.

The sharp decline of dot-com companies since mid-2000 has resulted in of the Internet-focused model, especially in the USA. According to Lalkaka<sup>9</sup>:

In the 1999 – 2000 period, some 400 for-profit, Internet incubators were added in the U.S and elsewhere, due to the expanding opportunities that the Internet seemed to offer and due in part to unrealistic expectations. Typically, this model provides a smart workspace, focused consulting services to a small growth-potential group of firms, takes equity in the companies through an affiliated venture capital facility, and accelerates them to the market. The bulk of these incubators -- once considered the paradigm of best practice -- have closed down. Nevertheless, the equity-based, net-worked model has taught some lessons and continues to have relevance.

Lessons to be learnt are that the high market capitalisations given to ‘new economy’ firms meant that businesses could derive significant value by spinning off or ring-fencing non-core innovative ideas and concepts into separate businesses, nurtured

<sup>8</sup> One example of a ‘new economy’ incubator is the recently renamed Accenture (previously Andersen Consulting) which has set up Business Launch Centres in the UK and the US which provide new start-ups with business advisory services and technological assistance ranging from help on building alliances and Business Development, technical infrastructure development through to Marketing and PR Assistance.

<sup>9</sup> Rustam Lalkaka ‘Best Practices in Business Incubation: Lessons (yet to be) Learnt’, Paper presented to Belgian Presidency’s international conference on business centers, Brussels, November 2001.

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them in an incubator-type environment. Likewise, ‘new economy’ incubators offered an ideal environment for the nurturing of ICT-based start-ups. The recent stock market corrections has made this particular business model far less attractive, in the foreseeable future at least.

Nevertheless, there have been some positive and more wide-ranging consequences. In the period between mid-1998 and mid-1999, the media came to understand the concept of incubation for the first time. Venture capitalists could capture the attention of the press in ways that few non-profit organisations could. This attention led to increased development of both for-profit and not-for-profit incubators and the subsequent creation of many new companies.

In many respects, the term ‘traditional’ and ‘new economy’ incubators are not appropriate categories to use given the brief success of the latter model and (as some would argue) its inherent flaws as a business model. Alternative classifications (technology centres, science park incubators, business and innovation centres, etc) are also far from perfect since, despite different names, their basic functions are often very similar. Perhaps a better way therefore of differentiating between organisations that all share basic incubator characteristics is to identify those that are for-profit from those that are not. In Part 2 of the report, we adopt a combined approach by drawing on the experience of ‘new economy’ incubators as a ‘for-profit’ model. The ultimate purpose of comparisons is to highlight the fact that the development of a benchmarking framework needs to be sensitive to the diversity of incubator models and operations, and the ‘traditional’/‘new economy’ models illustrate this diversity particularly well.

For the purposes of this project, we have used the term ‘business incubator’ to describe the family of organisations embraced by the various definitions – the French ‘Pépinières d’Entreprises’, German ‘Technologiezentren’ and ‘Gründerzentren’, Business & Innovation Centres, and so on. An overall definition might be as follows:

*Figure 3: Definition of Business Incubator*

A business incubator is an organisation that accelerates and systematises the process of creating successful enterprises by providing them with a comprehensive and integrated range of support, including: Incubator space, business support services, and clustering and networking opportunities.

By providing their clients with services on a ‘one-stop-shop’ basis and enabling overheads to be reduced by sharing costs, business incubators significantly improve the survival and growth prospects of new start-ups.

A successful business incubator will generate a steady flow of new businesses with above average job and wealth creation potential. Differences in stakeholder objectives for incubators, admission and exit criteria, the knowledge intensity of projects, and the precise configuration of facilities and services, will distinguish one type of business incubator from another.

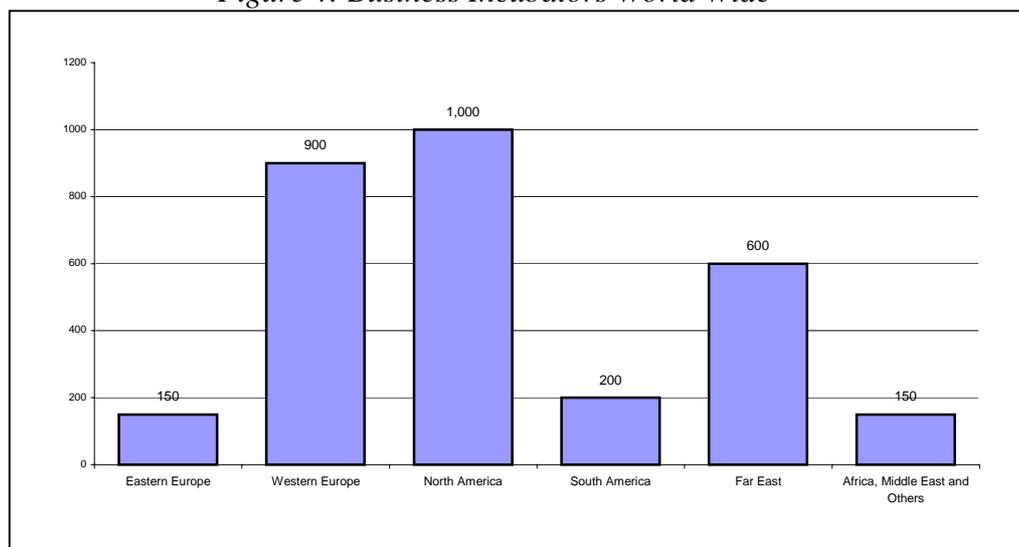
### 2.3 Geographical Scope and Scale of Incubator Activities

# BACKGROUND AND POLICY CONTEXT

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According to a recent estimate, there are now around 3,000 business incubators world-wide. A rough breakdown is shown in Figure 4:

*Figure 4: Business Incubators World Wide*



*Source: Rustam Lalkaka 'Best Practices in Business Incubation: Lessons (yet to be) Learnt', Paper presented to Belgian Presidency's international conference on business centres, Brussels, November 2001. European Commission, Enterprise DG (data on Western Europe).*

**North America:** Business incubators in the U.S. have grown rapidly in numbers, from less than 100 in 1980, to about 1,000 in year-2000 – the largest in the world. In many ways the U.S. has been a pioneer in the industry.

In addition to the incubators started by government authorities and agencies, around 20% of the US technology incubators are associated with universities and/or science parks. Due to the success of the Stanford Research Park starting in 1951 and the Research Triangle Park in North Carolina in 1959, state and local economic development programs have sought to create public-private partnerships to replicate these hubs of technological innovation. Apart from universities with affiliated incubators, some business schools are starting their own incubator, such as University of California/Berkeley, University of Wisconsin/Madison, and University of North Carolina/Chapel Hill and Babson College. The faculty and facilities together with access to a variety of contacts and VC enable the students to put their learning to concurrent practice. Other schools such as Stanford prefer that their B-school students spend their total energy on acquiring knowledge before venturing forth.

While there has been a decline in dot-coms, the for-profit corporate incubators continue. In the US, this model typically provides the considerable reputation and resources of the sponsoring corporation towards meeting its unique goal through supporting selected ventures. The Panasonic incubator at Cupertino, CA, seeks to create strategic partnerships for attracting innovations while the Reuters incubators

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## 2

promote innovations by its own employees. Monsanto's Nidus Center has broader economic development goals of stimulating entrepreneurship in the region. Intelligent Systems has used its incubation facility to invest in early-stage tech ventures.

**South America:** Brazil now has about 160 business incubators, starting with ten a decade ago. It was announced at the World Business Incubator Conference (October 2001) that based on a national competition, 40 additional locations have been selected for support. Incubators are also operating or being planned in other South American countries although the programmes elsewhere are less advanced than in Brazil.

**Far East:** From its beginnings in 1987 with a catalytic UNDP input, the *China* incubation program has developed into the largest of its type in the developing world. Based on our research, there are now some 127 incubators in China, located in every province, autonomous region and major city except Tibet and Qinghai<sup>10</sup>. In addition there are many other organisations such as "software parks" that function much like incubators, giving a total of around 200 as of 2000. The programme's expansion has been the result of significant subsidies - usually up-front in land and buildings, low-cost or no-cost loans by local state agencies, and some on-going operating subsidies.

In *Japan*, 203 business incubators of different types are reported to be in operation, of which about one-third provide typical incubation services with dedicated management staff. Some of the others lack the distinguishing features of incubation. The Vision for year 2010 calls for developing 300 new incubators and training 500 professional managers, to create 150,000 new jobs. In *India* there are now 18 Software Technology Parks (STPs) and 15 Science & Technology Entrepreneurs Parks (STEPs) are similar in some respects to technology incubators while lacking a few of the distinguishing features. In addition, full-fledged incubators are now being established at the Indian Institute of Technology in New Delhi in Mumbai, a university in the south for biotechnology, an Advanced Materials Technology Incubator in Hyderabad, and other locations.

Although the first incubator in *Korea* was started in 1993, the major expansion has taken place in the last three years. There are about 200 in total, with 144 incubators in actual operation today. In *Malaysia*, the Technology Development Corporation has established Technology Development Centers to facilitate university-research-business collaboration in specific sectors: at Universiti Putra Malaysia (for multimedia work), Universiti Malaysia (electronics and manufacturing), and Universiti Kebangsaan Malaysia (biotechnology and pharmaceuticals). In *Indonesia*, with UNDP assistance in 1994, three pilot incubators were established in Java. This has now been extended into a major national program with many more incubators at universities in the out-lying islands. An Indonesian Business Incubator Association was also formed. In *Uzbekistan* with political support from the State Committee for

<sup>10</sup> R. Lalkaka, Ma Feng-Ling and D. Lalkaka, Assessment of China Incubator Program, UNIDO, 1999.

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## 2

State Property Management and Entrepreneurship Support (GKI) two pilot incubators were started at Tashkent and one at Samarkand in 1995. In 1996 the Republic Business Incubator Network was initiated, and has been expanded to about 20 facilities; of these about half are functioning as proper incubators, mostly in agri-businesses.

**Africa, Middle East and Other Regions:** In *Egypt*, starting as a UNDP initiative in 1992, the Social Fund for Development of the Government of Egypt has established a major network of incubators as a component of its extensive small business development and employment generation programs. The implementation of incubators is being undertaken by the Egyptian Incubator Association, an NGO set up in 1995 for this purpose. Today over a dozen incubators are in operation and many more are under planning or implementation.

*South Africa* has had for many years a network of facilities called “hives of industry”, established by the Small Business Development Corporation. State agencies – NTSIKA and KHULA - are establishing Local Industrial Parks comprising incubators and multi-tenant buildings. Incubator developments are also underway in Kimberley, Bloemfontein, Welcom, Natal and the Council for Scientific and Industrial Research as well as a UK government assisted program. Elsewhere in Africa, there also developments. This includes a growing network of incubators in *Nigeria* and quite well developed plans in *Ghana* for several incubators.

In other regions, there have been fewer incubator initiatives. *Turkey* started a technology incubator program in 1990 (still referred to as Technoparks). Today, KOSGEB, the state small enterprise support agency, provides the full financing for eight incubators linked to the technical universities. In several other countries there is good progress in establishing advanced technology-based facilities, such as the *Panama* Technology Business Accelerator, the *Dubai* Ideas Oasis, ConceptNursery in *Sri Lanka*, and the Technology Innovation Center University of Technology, *Jamaica*.

**Eastern Europe:** UNDP technical assistance in 1990 helped pioneer the concept in *Poland*, starting with the first incubator in Poznan. The creation in 1992 of the Association of Polish Business Incubators and Innovation Centers became the catalyst for growth. While earlier the incubators were focused on technology commercialisation, since 1993 programs have been aimed at creating employment and restructuring the Polish economy, with significant support from the World Bank and EU. Currently there are about 65 incubators in Poland. Similar incubator programmes are underway in other Central and Eastern European countries, particularly in the *Czech Republic*, albeit mostly on a smaller scale.

**Western Europe:** In Western Europe, there are currently thought to around 900 business incubators (using a broad definition). In a parallel exercise to this project, the European Commission’s Enterprise DG has undertaken a mapping exercises and

# BACKGROUND AND POLICY CONTEXT

compiled a database of incubators in EU Member States. A summary of the Enterprise DG analysis and CSES estimates is shown below in Table 2(a).

*Table 2(a): Business Incubators in EU Member States*

Country	Number	Country	Number
Austria	63	Italy	45
Belgium	13	Luxembourg	2
Denmark	7	Netherlands	6
France	192	Portugal	23
Finland	26	Sweden	39
Germany	300	Spain	38
Greece	7	United Kingdom	144
Ireland	6	TOTAL	911

Source: Enterprise DG (2001) and CSES research

Table 2(b) on the next page calculates the ratio of incubators to SMEs in each country to give a more meaningful indication of the ‘density’ of business incubator developments across EU Member States.

The analysis points to a wide variation in the ‘density’ of business incubator developments: thus, whereas in Austria (with the highest ‘density’) there is one incubator per 3,000 companies, in Greece (with the lowest ‘density’) the corresponding figure is 1: 106,000 companies. Across the EU as a whole, the average ratio is 1:19,000. With the exception of Belgium and the Netherlands, the lowest densities of incubators are to be found in southern EU Member States.

An analysis of this sort has of course limited value because business incubators generally have very specific target markets. Nonetheless, it does provide a broad indication of where incubator developments have been on the largest scale.

*Table 2(b): Ratio of Business Incubators to SMEs in EU Member States*

Member State	A - No. Incubators	B - No. SMEs ('000s)	Ratio A:B
Austria	63	237	1:3
Belgium	131	594	1:45
Denmark	7	235	1: 33
France	192	2,116	1:11
Finland	26	180	1:7
Germany	300	3,334	1:11
Greece	7	747	1:106
Ireland	6	160	1:26
Italy	45	3,251	1:72
Luxembourg	2	18	1:9
Netherlands	6	550	1:91

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Portugal	23	656	1:28
Sweden	39	243	1:6
Spain	38	2,349	1:61
UK	144	3,355	1:23
EU15	911	18,025	1:19

Source: Table 2(a) and Ernst & Young 'Evaluation of Impact of Structural Funds on SMEs' (1999)

Not surprisingly the largest number of business incubators (and some of the most favourable ratios) is to be found in the EU's larger Member States. *Germany*, where the first technology centres were set up in the Western part of the country during the early 1980s, has Europe's largest business incubator association. Towards the end of the decade, the first steps were taken to also develop incubators in the Eastern regions and this trend accelerated after reunification. A pronounced feature of German incubators is the close link most incubators have with universities and R&D institutes. In *France*, there are also a large number of incubators, but only around 50 meet the 'minimum standard' definition ('norme française') adopted by ELAN, the national association.

In *Italy*, where there has been a relatively late development of the incubation network, there are now 13 business incubators operated by Sviluppo Italia, the Italian national agency for economic development and entrepreneurship promotion. A further 17 additional incubators are currently in the process of being built or are going through the planning stages. Most of the incubators in Italy are part of BICs. There is a similar situation in *Spain* where a high proportion of the incubators are members of ANCES, the national BIC association. The *United Kingdom*, where the incubator concept is sometimes claimed to have originated in Europe, there is a considerable variety of entities ranging from science park incubators to BICs and managed workshops. Despite their early origins, a national association was established only comparatively recently.

Turning to the smaller EU countries, in *Austria*, following the establishment of the first centres in 1986 in Graz and Linz, there was a rapid expansion of business incubators in Austria during the 1990s. According to the Austrian association (VTO), there are now well over 60 business incubators in the country that are either already operating or in the process of being established. *Belgium* has a fairly even number of business & innovation centres (mainly located in Wallonia) and technology centres (mainly in Flanders). There is a similar situation in *Ireland* and the *Netherlands*. In contrast, in *Denmark*, all the incubators are attached to science parks and there is a similar situation in *Sweden* whereas in *Finland* in addition to the technology centres, TE-KESKUS, has set up 15 business incubation centres which provide a range of business advisory and development services to businesses and entrepreneurs. *Portugal* has 23 business incubators (8 EU-recognised BICs, 5 other incubators supported by the Ministry of Employment of which 3 have incubator space, 4 incubators operated by the National Association for Young Entrepreneurs, and 4 science park-based

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incubators). Some are very small with only 5-6 rooms whereas others are much bigger with 25-30 units.

Overall, Western Europe has a wide range of incubator models with countries at very varying stages in the process of developing networks and an absence of an overall structure at a EU level.

### *Sectoral Breakdown of European Business Incubators*

The source of data on sectoral specialisation used for our analysis is the Enterprise DG database of incubators across Europe.<sup>11</sup> The purpose of the database is to provide an overview of the activities of business incubators in the 15 EU Member States, the EEA countries (Norway, Iceland, Liechtenstein), Switzerland and the 13 candidate countries. It should be noted that the database is still being developed.

As in the US, a significant percentage of the business incubators in Europe do not have any particular sectoral orientation and are essentially mixed-use facilities. However, many other incubators have developed significant sectoral expertise. Table 3 provides a broad overview of the sectoral specialisations offered by incubators in Europe (multiple responses were possible). The analysis shows that high value-added activities such as Information & Communication Technologies, Research & Development, Biotechnology and Pharmaceuticals account for a large proportion of incubator tenant business activities. In addition, many specialise in knowledge-based, new economy industries such as e-commerce and B2B services.

*Table 3: What sort of business activities does your business incubator specialise in?*

<b>Business Activities</b>	<b>Number</b>	<b>Percentage</b>
(1) Sales, marketing and distribution	5	0.4
(2) Business and financial services	8	0.6
(3) Advanced/ High-tech manufacturing	263	18.6
(4) Information & Communication Technologies	258	18.2
(5) Research & Development	173	12.2
(6) Biotechnology/ Pharmaceuticals	201	14.2
(7) Knowledge-based industries/ New Economy companies	162	11.5
(8) Other Manufacturing Activities	86	6.1
(9) Other Service Activities	124	8.8
(10) A combination of some/ all of these activities	134	9.5
Total	1,414	100.0

*Source: CSES analysis of Enterprise DG Incubators Database. Multiple responses possible*

A note of caution should be added in interpreting the data shown in the above table. Whereas in some EU Member States, the numbers are based on the membership of

<sup>11</sup> See <http://www.cordis.lu/incubators/> for further details on Enterprise DG' website

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national associations that have strict definitions, in some other countries associations do not exist, or there may be more than one organisation representing business incubators, and/or very broad definitions are used. Similarly, definitions vary and in some cases organisations have been included that are in the process of developing the full range of business incubator characteristics but do not demonstrate them yet.

### 2.4 European Policy Context

The Commission's 1997-2000 Integrated Programme for SMEs (and its successor) provides a framework for co-ordination of all activities in favour of SMEs. This covers:

- specific Community measures for SMEs as carried out under the multiannual programme for SMEs in the European Union;
- the contribution of other Community policies (such as the Structural Funds) to SME development;
- Concerted Actions which aim to promote the exchange of best practice amongst Member States and with the Commission on SME policies.

An earlier Integrated Programme envisaged actions relating to the three different stages of a business life cycle (start-up and early development, growth phase, transfer of a business) in three broad policy areas (improving the business environment, stimulating business support measures, increasing the profile of support services). The current version of the Integrated Programme proposes more focused action on business services. Its recommendations include, among the key actions to be undertaken, the promotion of lifelong assistance to SMEs by developing and/or improving business services and simplifying access to them. The BEST Action Plan on 'Promoting Entrepreneurship and Competitiveness' set up by the Commission foresees improving the quality of information and advice services among the actions to be undertaken at both European and Member States level.

Business support services also constitute one of the principal themes of the 'Concerted Actions', in which the Commission assists the Member States to identify and exchange best practices. Various fields are covered:

- *Concerted Action No. 1* – improving the SME environment by simplifying legal, accounting and administrative requirements;
- *Concerted Action No 2* – support measures for enterprises which is aimed at developing business services for start-ups and SMEs;
- *Concerted Action No 3* – aimed at stimulating SME demand for business support services and addressing underlying market

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Within the Concerted Actions framework, a seminar was held in Helsinki in November 1998 to consider best practice in the business incubation field. It recommended that a benchmarking exercise should be undertaken with a view to preparing guidance starting up and operating business incubators.

More recently, the 2000 Lisbon European Council invited the Commission and the Member States to focus their action in favour of micro and small businesses. Shortly after the Lisbon Council, the Commission adopted the communication *Challenges for enterprise policy in the knowledge-driven economy* and a proposal for a Council Decision on a *Multiannual Programme for Enterprise and Entrepreneurship (2001-2005)*. This set out the challenges to be faced by enterprise policy over the next five years. The new Multiannual Programme provides a framework of actions in support of the objectives of the Communication. Business incubators, and the need to improve benchmarking techniques, have an important role to play in the context of both the above policies, as was emphasised by the recent Lisbon Council meeting.

To support these and other initiatives, a number of benchmarking exercises have been initiated covering the various aspects and stages of SME development.

### 2.5 Review of Previous Research on Incubators

There has already been a large amount of research on business incubators. In this section we highlight some of the key findings and explain how this project adds value to existing knowledge.

A detailed review of previous research into the operations of business incubators was contained in CSES's interim report (May 2001). To summarise, the review suggests that:

- Most existing studies are country-specific and there is relatively little research where the scope is pan-European. Likewise, there tends to be a focus on particular types of business incubators rather than covering the broad range;
- In many cases, where the research is based on surveys, little attention paid to developing and applying best practice benchmarks (where this is done, it tends to involve a more qualitative, case study-based approach);
- To the extent that previous studies have examined the impacts achieved by business incubators, the focus has tended to be on short-term measures such as failure rates rather than longer term job and wealth creation impacts;
- Last but not least, none of the existing research incorporates a trans-Atlantic dimension with comparisons between incubator activity in Europe and the USA.

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Taking the first point, a shortcoming of existing research on business incubators is that it is mostly country-specific and limited in scope to a particular incubator modality (BICs, technology centres, etc). This is, for example, the case with most of the research undertaken by national associations such as the ADT, ELAN, UKBI and others. As a result, there is limited scope for comparative analysis, especially since the questions asked in surveys tend to vary from one country to another. An exception was a survey was undertaken by EBN in 1998 which was EU-wide in scope but this was limited to 69 Business & Innovation Centres from 10 countries rather than covering business incubators generally.<sup>12</sup>

Because the local environments in which business incubators operate vary from one location to another, there are of course limits on the extent to which comparisons can be made. For example, whilst it may be necessary in some areas for business incubator to provide some if not all services on an 'in-house' basis because there are few external providers, in other regions with relatively advanced public and private business support services and agencies, it may be more appropriate for an incubator to network with other organisations to ensure that client needs are met. However, best practice suggests that common to both situations will be a strategy to ensure that the operations of an incubator to not 'crowd out' private sector provision. Similarly, whereas some incubators will have job creation as a key objective, others may not if they are located in areas with low unemployment. To judge the performance of different incubators according to a common indicator such as job creation may therefore be difficult. These and other complications do not negate the justification for comparative assessments but do, as emphasised by a number of other studies, mean that the results need to be treated with caution and fully explained.<sup>13</sup>

With regard to the third of the above points, existing survey-based studies of business incubators provide detailed information on their features and operations. However, the point is that this information (e.g. number of incubator units, occupancy rates, types of tenant firms) does not in itself explain *why* some incubators appear to perform better than others. In contrast, this project uses survey data to highlight differences in incubator performance, and to establish best practice benchmarks, but then goes further by drawing on the results of an interview programme and other fieldwork (not typically a feature of survey-based studies) to explain why differences in performance exist.

The last of the points listed above is largely self-explanatory: whilst there has been a considerable amount of research on both sides of the Atlantic, to date no attempt has been made to compare the findings. Thus, there is a widely held view that US incubators tend to perform better than their European counterparts (with, for example, more emphasis in the USA than Europe on a for-profit approach, greater success in leveraging venture capital investment, etc). But there is little or no research to support

<sup>12</sup> EBN (1997) *BIC Observatory* report for the European Commission and BIC CEOs.

<sup>13</sup> See, for example, UNIDO (1997) 'Lessons from international experience for the promotion of business incubation systems in emerging economies'

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assertions such as these. Again, the explanation for this is partly methodological since the surveys carried out by the NBIA are based on a questionnaire that differs from those previously used in Europe. The last survey undertaken by the NBIA was in 1997 and obtained a response from 50 incubators (a further survey is currently underway).<sup>14</sup> Appendix ( ) provides a summary analysis of the approach adopted by the NBIA and by EBN in Europe, highlighting the limited extent to which the findings can be compared (to overcome comparability problems, CSES ensured that key questions in the survey of EU incubators were 'harmonised' with those used by the NBIA in its current survey).

The literature review contained in CSES's interim report highlighted a number of more specific findings from previous research. Thus, in examining business incubator objectives and sponsorship, earlier studies have stressed the importance of broad public-private partnerships. The NBIA research in the USA and work by national associations and others in Europe provides a good description of the types of organisations that are typically involved.<sup>15</sup> Lalkaka, amongst others, highlights the fact that the motivation of different types of sponsors – and hence the objectives set for incubators – varies. For a research institute, the priority will be to help commercialise R&D; for a real estate developer, the aim will be to maximise the return on an investment through the sale or lease of the incubator's premises; for a public agency, the role of an incubator will be to promote SMEs, competitiveness, job creation and other policy objectives.<sup>16</sup> But whilst existing studies consider partnership structures in some detail, far less attention has been paid to the question of how incubators fit into broader regional structures and strategies, for example their role in supporting the development of industrial clusters combining R&D centres of excellence, large companies and their local supply chains. This shortcoming, attributable to the essentially survey-based approach of much of the previous research, has been addressed in the current project through the interview programme with incubator managers and their partners.

Another aspect of incubator operations given quite extensive attention in previous research is the way in which they are financed. Existing studies stress that regeneration is a long term process and because of this, many if not most 'traditional' business incubators rely heavily on public funding to help meet set up and operating costs. As a recent UNIDO study has observed 'generally, the private sector will participate in the incubation process, only after the state has financed the

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<sup>14</sup> NBIA (1997) *Impact of Incubator Investments*, study carried out for the US Department of Commerce, Economic Development Administration

<sup>15</sup> See, for example, the 1998 NBIA survey which found that 51% of incubator sponsors were not-for-profit organisations, 27% were supported by academic organisations, 16% by public agencies, and the remainder by developers or investment groups. EBN's 1998 survey contains a similar analysis for EU BICs and the ADT, UKBI and other national associations have also examined sponsorship structures.

<sup>16</sup> Rustam Lalkaka 'Approaches to Benchmarking of Business Incubators', based on presentations made at Conferences in Trieste/Italy in December 2000 and in Bangalore /India in January 2001.

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establishment and initial operations.’<sup>17</sup> This was also emphasised by the 1998 Helsinki conference. In this respect there are thought to be some differences between the EU and USA with generally higher private sector investment in business incubators the latter than the former.<sup>18</sup>

The research indicates that where business incubators have been able to break-even, this has been achieved in a variety of ways with rental income from tenants being generally the most important source of income, typically accounting for 40-60% of all revenue. A study by the UK Enterprise Panel argues that incubators with the capacity to accommodate a relatively large number of clients are far better placed to generate the rental and other income needed to cover overheads. However, existing research suggests that these methods often fail to generate sufficient revenue and that the need for a ‘not for profit’ element remains.<sup>19</sup> Other research suggests that subsidies are often not only needed to cover the cost of providing incubator space but also to enable a full range of business support services to be provided.<sup>20</sup>

Turning to operational issues, a recent OECD report suggests that business incubators in Europe typically provide 5-10,000 m<sup>2</sup> of space for rent to tenants (with an average of 6,500 m<sup>2</sup>), sufficient to accommodate between 20 and 30 enterprises.<sup>21</sup> A key feature of the incubator model is the existence of admission criteria that limit assistance to a particular target market (particular types of business, projects with a particular type of technological orientation, or with high job creation potential, etc). Likewise, exit rules help to ensure that there is a continuous turnover of tenants.

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<sup>17</sup> UNIDO (1997) ‘Lessons from international experience for the promotion of business incubation systems in emerging economies’. This study highlights several exceptions, such as the Federation of Industry São Paulo (FIESP).

<sup>18</sup> In Europe, a recent study (DG Regional Policy & Cohesion, Evaluation of Community Measures in support of European & Business & Innovation Centres, Summary Report) estimated that the majority of funding for business incubators comes from the public sector. An evaluation report carried out for DG REGIO in 1999 examined the effectiveness of community measures in support of EC BICs. The report found that the provision of business advisory support services to firms was an increasingly important source of income for BICs, with 47% of incubators deriving at least some revenue streams from them. However, very few could survive without public subsidies.

<sup>19</sup> A 1996 report by TZN RW in Germany argues that whilst by European standards a relatively high percentage of incubators had reached breakeven by generating income from renting space and business advisory, they would not be able to survive without public assistance. The study found that 38% of incubators were managing to cover their running costs but 40% were subsidised by a variety of national and EU funded programmes and a further 23% received Structural Fund subsidies to make up the shortfall in revenue.

<sup>20</sup> European Commission (DGXVI) ‘Evaluation of Community Measures in Support of European Community Business and Innovation Centres’ (1999). This study showed that whereas on average 14% of rental charges paid by incubator clients were publicly subsidized, in the case of advisory services the subsidy element was 19% and 42% with project assessment.

<sup>21</sup> OECD Report: Business Incubation: International Case Studies (1999). The report also found that supply for managed workspace exceeded demand.

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However, earlier research suggests that business incubators often do not enforce these rules strictly if occupancy rates are low because of the need to maximise rental income.<sup>22</sup>

Existing literature also stresses the role of incubator managers not only in ensuring that the organisation itself operates in an efficient manner but also in advising client companies. However, as a recent study points out, there can be difficulties in combining these roles (according to the research 70% of managers spend less than 50% of their time providing advice directly to clients). The background and training of incubator managers is also relevant in this respect.<sup>23</sup> More generally, although existing research examines physical aspects of incubator operations in some detail, there tends to be less emphasis on the question of what configuration of support services (advice, finance, technology support, etc) produces the best results and how the business incubation process itself can be most efficiently organised.

A further key issue addressed in some earlier studies is how business incubator performance should be judged. The research suggests that apart from financial indicators and the routine monitoring of service delivery against quality standards, most incubators (and independent studies) do not go beyond on the use of indicators such as start-up success/failure rates.<sup>24</sup> (However, as in many other aspects of incubator research, there is a lack of comparability with differing methods being used to calculate failure rates in different studies.) Thus, few studies contain an assessment of incubator company growth rates, the types of activities they are engaged in, or (apart from calculating the number of employees in tenant firms themselves) the wider socio-economic impacts.

Work to estimate direct employment effects attributable to incubators has been undertaken by EBN in Europe and the NBIA in the USA.<sup>25</sup> But in neither case, nor in

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<sup>22</sup> The same OECD report on international best practices (1999) confirms that in order to attract new tenants and meet annual financial targets, programme managers sometimes relax the selection criteria.

<sup>23</sup> With regard to the previous work experience of incubator managers, the study established that over two-thirds of the managers had previously been in business. The remainder came from a variety of backgrounds – some had held positions in economic development agencies (often the parent organisation of incubators) whilst others had worked in property management, universities, financial institutions, or other business incubators.

<sup>24</sup> Examples include EBN's 1998 survey EBN which estimated the success rate of new companies created by BICs at 93% (i.e. those businesses succeeding past the one year stage). Research in Australia (1996 OECD Report: Business Incubation: International Case Studies, Watson, J. and Everett, J.E.) indicated that only 6-9% of new businesses in incubators fail compared with reported first year failure rates for small businesses generally of up to 33%. Likewise, in Germany, research by the ADT in 1996 indicated that the failure rate of incubator companies was around 5%.

<sup>25</sup> EBN estimates that BICs across the EU created approximately 10,000 gross jobs between 1984 and 2000. The NBIA's 1998 study 'The State of the Business Incubation Industry' found that North American incubators created almost 19,000 companies and more than 245,000 jobs and that on

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other studies, has an attempt been made to calculate net impacts by taking additionality, displacement and indirect effects into account<sup>26</sup> or to assess cost-effectiveness.<sup>27</sup> Likewise, there is very little research focusing on the views of client companies themselves with regard to the value added of being located in an incubator (essential to assessing additionality). The 'post incubation' dimension, too, is very much neglected with little or no evidence in most studies of 'tracking' of graduate company destinations and the performance of these firms and outreach clients. This is despite the fact that such research could shed valuable light on the wider and longer-term impact of incubators.<sup>28</sup> Quite apart from the question of appropriate performance indicators, there are of course many complications in assessing the impact of business incubators. Some of these are purely methodological (e.g. the use of control groups) whilst others are of a more practical nature and relate to data collection problems (e.g. obtaining information from companies that have left incubators)<sup>29</sup>.

### *Benchmarking Initiatives*

As the previous section has shown, there is now a large amount of research on business incubators. However, there has been relatively little emphasis – explicitly at least - on benchmarking best practice. Key steps in a benchmarking are summarised below:

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average, the types of clients of business incubators were of higher value-added than ordinary new business start-ups.

<sup>26</sup> An exception in this respect is an impact assessment of Aston Science Park/incubator (Ernst & Young, 1999) that included a survey of tenants and graduates to obtain their views on how the science park and business incubator had helped them, and to calculate the local employment impact.

<sup>27</sup> The NBIA's research suggests that public sector supported incubators create jobs at an average cost of US\$1,100, whereas other job creation measures supported by public sector policies often cost upwards of US\$10,000 per job created. In Australia, the 1996 report *Business Incubation in Australia: Best Practice Standards and an Industry Profile* by the Australia and New Zealand Association of Business Incubators (ANZABI) found that on average, the cost per job created to the public sector through business incubators was approximately A\$4,000 which compares favourably with other governmental measures whose primary objectives is to create employment. The researchers also found that the average cost per job created fell over time, particularly as tenants moved towards 'graduation'.

<sup>28</sup> In the USA, the NBIA has carried out research that indicates that 84% of businesses graduating from an incubator relocated in the locality post incubation. This tallies with research conducted in Michigan which identified a similar percentage (84%) of 'graduate' companies remaining within the local business community. Another study in the USA has suggested that for every 50 jobs created directly by incubator clients, another 25 jobs will be created indirectly in the local community. Likewise the evaluation of Aston Science Park in the UK came to broadly similar conclusions regarding the ratio between direct and indirect jobs.

<sup>29</sup> For example, the OECD's 1999 report on business incubators emphasises the difficulty in setting up a representative control group of non-tenant firms as a way of assessing additionality. The difficulty of ensuring a representative sample (i.e. a comparable control group) and hence accurately comparing like-with-like was also highlighted by the US Department of Commerce study.

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- The first step in a benchmarking exercise is to use performance indicators (preferably ones that are quantifiable) to highlight differences between incubator operations and to help define best practice;
- Whilst existing surveys provide detailed information on incubator features and operations, this information (e.g. number of incubator units, occupancy rates, types of tenant firms) does not in itself explain why some incubators appear to perform better than others;
- Additional, more in-depth research is therefore needed to explain differences and how incubators that are under-performing against benchmarks can develop their operations so that they can achieve best practice standards.

It can be seen therefore that benchmarking has an essentially practical purpose. The aim is not only to provide information on incubator activities but to also provide a 'route map' that can be used by managers to improve performance. Lalkaka<sup>30</sup> explains the nature of benchmarking as being to:

'Assist management to progressively up-grade its performance, attribute by attribute, and make the needed transition from the first generation mode (essentially subsidized space and shared facilities), towards a more relevant and dynamic operating model (intensive services and networking, with the prospective of achieving high-level of sustainability after the initial 3 or 4 years of operation).'

A key question is of course what sort of criteria should be used to assess incubator performance. There are a large number of possible approaches. In the next section we explain the approach developed for this project.

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<sup>30</sup> Rustom Lalkaka 'Approaches to Benchmarking of Business Incubators', based on presentations made at Conferences in Trieste/Italy in December 2000 and in Bangalore /India in January 2001.

# BENCHMARKING FRAMEWORK

## 3

*This section summarises the methodological framework used to benchmark business incubators. We start by outlining the overall approach and then explain each methodological step.*

### 3.1 Overall Approach

A detailed description of the methodology that has been adopted for this project, and more specifically the proposed business incubator benchmarking framework, was set out in the interim report. However, it is helpful to summarise the overall approach:

*Figure 4: Key Steps in Development of Benchmarking Methodology*

- *Step 1 – Model:* A generic business incubator model was developed setting out basic functions and operating procedures. This model is based on the literature review, inputs by the Managers Group and CSES’s fieldwork.
- *Step 2 – Best Practice Issues:* The model defines a number of ‘key best practice issues’ that provide the framework required to define benchmarking indicators. These are subdivided into ‘headline’ and ‘operational’ indicators;
- *Step 3 – Performance Drivers:* In addition, the model highlights the ‘key performance drivers’ that will influence the extent to which incubators achieve best practice benchmarks. These drivers fall under three headings -
- *Step 4 – Business Incubator Data:* Two surveys were carried out by CSES: the first focused on incubators themselves while the second involved obtaining feedback from client companies. The survey data was used to determine where incubators stand in relation to the various benchmark indicators;
- *Step 5 – Best Practice Guidance:* Based on the earlier steps and analysis, the final section of this report then suggests key actions that should be taken in setting up and operating business incubators.

The first three steps were undertaken during Phase 1 of the project although modifications were subsequently made to reflect feedback from discussions with incubator managers. Step 4 involved a number of separate strands (two surveys, face-to-face interviews with incubator managers, partner organisations, and companies, and contact with national associations to obtain data from other surveys undertaken by them) and is more fully described in Section 3.4.

During the course of the project, three workshops with the incubator ‘Managers Group’ have also been held to help guide the design of the benchmarking framework and CSES’s research. Last but not least, we also benefited from several expert’s inputs.

### 3.2 Business Incubator Model (Step 1)

The way in which business incubators operate can be depicted in terms of a simple input-output model:

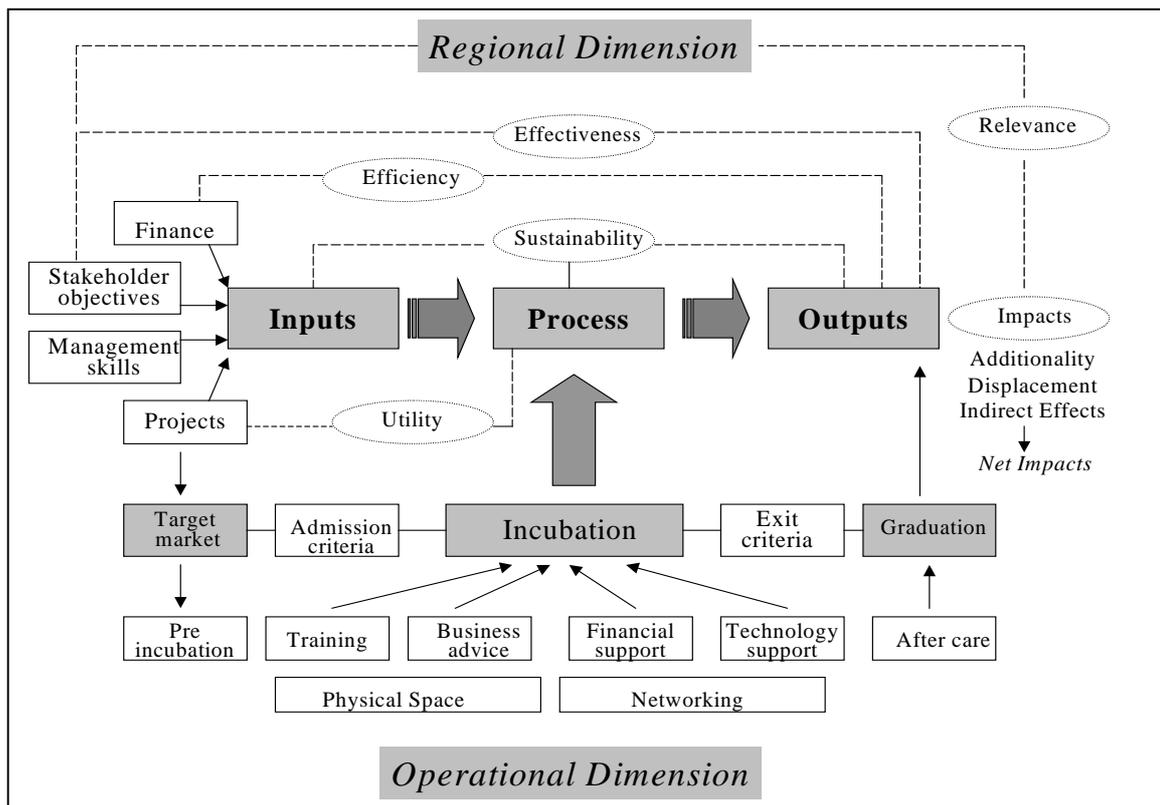
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- *Inputs* – these mainly consist of the inputs made by stakeholders (e.g. providing finance), management resources, and projects put forward by entrepreneurs;
- *Processes* – the various inputs are brought together in the business incubation process through the provision of incubator space and other services to companies;
- *Outputs* – successful companies graduate with positive job and wealth creation impacts on local economies.

Figure 5 sets out the model in schematic format, combining the incubator input-output dimension (shown in the bottom half of the diagram) together with key best practice issues (shown in the top half of the diagram).

Figure 5: Business Incubator Model



# BENCHMARKING FRAMEWORK

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Taking the operational dimension, projects are identified that meet the criteria used to define the incubator's broad target market (e.g. projects with a particular technology focus). After a more detailed assessment, some entrepreneurs may be encouraged to go through a 'pre-incubation' process, typically involving a combination of training and business planning, before they gain admission to the incubator.

The incubation process itself typically brings together three categories of business support services – training, advice on business issues, financial support (either from an incubator's own sources or from external providers, i.e. financial institutions), and technology support. The provision of incubator units and networking (internally between tenants and externally with other organisations, e.g. universities, large companies) constitute the other basic features of the 'package'.

A key feature of incubators is the limited duration of assistance with exit criteria typically specifying that firms should 'graduate' after a fixed period of time (e.g. five years). Some firms will of course leave sooner if they grow rapidly and require more space than the incubator can provide. However, in many cases, contact will be retained with 'graduate' companies through the provision of after-care services and/or on-going networking.

The other dimension of the model shown in Figure 5 – key best practice issues – is examined below under Step 2 of the methodology.

### 3.3 Best Practice Issues (Step 2)

In Figure 5, the key best practice issues (shown in the top half of the diagram) are defined as follows:

- *Efficiency* – the relationship between financial inputs and outcomes and, linked to this, value for money;
- *Effectiveness* – the extent to which the outcomes demonstrate that specific objectives are being achieved;
- *Relevance* – the extent to which objectives/outcomes promote broader policy objectives;
- *Utility* – the extent to which services provided to client companies meets their needs;
- *Sustainability* – the sustainability of operations and durability of the outcomes being achieved.

# BENCHMARKING FRAMEWORK

# 3

These are the standard criteria used by the European Commission to assess the performance of expenditure programmes and schemes.<sup>31</sup> Tables 4 and 5 on the next page summarises how the various criteria might be interpreted in context of defining business incubator best practice issues.

*Table 4: Definition of Best Practice Issues*

Criteria	Inputs and Processes	Outcomes
Relevance	Incubator mission and strategy and relevance to enterprise and regional development priorities (qualitative)	Extent to which incubator tenant characteristics match definition of target market and admission criteria (qualitative).
Efficiency	Financial inputs, operating procedures and unit cost of providing incubator facilities and services to client companies.	Cost effectiveness of outputs (e.g. cost per successful business start up, cost per gross/net job created).
Effectiveness	Extent to which incubator achieves key operational targets set out in business plan (e.g. survival and graduation rates)	Extent to which incubator achieves targets with regard to enterprise and wider regional development impacts (e.g. job and wealth creation)
Utility	Occupancy rates and take up of incubator support services	Extent to which incubator services meet client needs and contribute to performance
Sustainability	Financial sustainability of incubator (e.g. extent to which operating costs are covered by income), level of demand for incubator space and services, incubator charges compared with market rates	Graduation rates, retention of graduates in local area, and extent to which incubator promotes new start-ups in sectors of local economy with long-term job and wealth creation potential.

<sup>31</sup> The European Commission’s criteria are set out in a publication ‘Interim and Ex Post Evaluation of EU Expenditure Programmes’ (1997) which in turn draws on best practice in the assessment of public initiatives from Member States.

# BENCHMARKING FRAMEWORK

# 3

Table 5: Definition of Best Practice Indicators

Criteria	Inputs and Processes	Outcomes
Efficiency	<ul style="list-style-type: none"> <li>• <u>Start-up time</u> – length of time required to establish incubator</li> <li>• <u>Incubator investment cost</u> – total investment/ sq m of incubator space</li> <li>• <u>Incubator operating cost</u> – operating costs/number of personnel</li> <li>• <u>Financial leverage</u> – ratio of public to private sector funding</li> <li>• <u>Income generation</u> – proportion of income from client charges</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Cost of incubator units</u> – total investment/sq meter of space</li> <li>• <u>Cost per start-up</u> – total investment/number of start ups</li> <li>• <u>Cost per graduate</u> – total investment/number of graduates</li> <li>• <u>Cost per (gross/net) job</u> – total investment/ jobs in tenant and recent graduate firms</li> </ul>
Utility	<ul style="list-style-type: none"> <li>• <u>Occupancy rate</u> – percentage of incubator space let to companies</li> <li>• <u>Incubator service utilisation rate</u> – percentage of companies using incubator support services</li> <li>• <u>Response rate to client surveys</u> – percentage of tenants responding to client satisfaction surveys</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Incubator turnover</u> – number of firms entering/leaving incubator, average time in incubator</li> <li>• <u>Client satisfaction</u> – percentage of firms indicating that incubator services meet their needs, contribution of incubator to firms' development (additionality)</li> </ul>
Effectiveness	<ul style="list-style-type: none"> <li>• <u>Start up rate</u> – number/percentage of admissions leading to start-ups</li> <li>• <u>Start up time</u> – length of time required to start up new businesses</li> <li>• <u>Survival rate</u> – number/percentage of start ups still trading after 3 years</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Wealth creation</u> – Average turnover of tenant firms and average annual growth rates, value added of business activities</li> <li>• <u>Job creation</u> – number (and type) of jobs per tenant firm and annual growth rates, proportion of jobs filled by local people, job quality</li> </ul>
Sustainability	<ul style="list-style-type: none"> <li>• <u>Financial breakeven</u> – income less operating costs</li> <li>• <u>Market rates</u> – level of discount/premium for incubator space/services compared with local market rates</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Graduation rate</u> – percentage of tenants leaving incubator each year</li> <li>• <u>Growth sectors</u> – proportion of graduates in growth sectors</li> <li>• <u>Retention rate</u> – percentage of graduate companies remaining in local area</li> </ul>

**Note:** Total investment defined as incubator capital investment plus operating costs to date less income from incubator services and other non-grant revenue.

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### 3.4 Performance Drivers (Step 3)

There are a number of factors that will influence the extent to which incubators are able to achieve best practice. These factors relate to:

- Setting up and operating incubators;
- Key incubator functions, management, and promotion;
- Evaluation of incubator services and impacts.

These ‘high level’ themes were defined by the European Commission in its terms of reference for the project and, before that, were highlighted by participants of the 1998 Helsinki workshop as key issues. Table 4 on the next page breaks down these broad themes into a number more specific ‘headline’ and ‘operational’ indicators.

*Table 6: Performance Drivers - Key Headline and Operational Indicators*

<b>Setting Up and Operating Incubators</b>	
1.	<b>Number and type of stakeholders</b> – the role of stakeholders, in particular the backing of a broad public-private partnership, is critical to successful incubator operations and the wider role of incubators in contributing to regional strategies on competitiveness and technology transfer.
2.	<b>Number and type of incubator units</b> – this together with the location and type of incubator premises largely determines start-up costs and the capacity of an incubator to operate on a cost-effective basis and achieve economies of scale. There are a number of operational indicators (see below).
3.	<b>Number and type of client companies</b> – the number and type of tenants provides a basis for classifying incubators (e.g. a technology centre will typically have more than 75% of its clients engaged in knowledge-intensive activities) whilst information on the performance of tenants provides the basis for assessing incubator effectiveness.
4.	<b>Start up and operating costs/source of funding</b> – there are a large number of possible headline and operational indicators relating to incubator finance (e.g. extent to which breakeven is achieved) and, likewise, if linked to incubator outcomes, this enables efficiency and value for money issues to be assessed.
<b>Key Incubator Functions, Management and Promotion</b>	
5.	<b>Incubator occupancy rates and turnover</b> – occupancy rates provide an indication of how successfully incubators attract clients and is also for many incubators a key to financial viability. The turnover of tenants is a guide to operating efficiently.
6.	<b>Range and pricing of business support services</b> – the provision of a comprehensive range of business support services is a defining characteristics of the incubator model. These can be grouped into four categories – entrepreneurship training, business advice, technology and innovation support, and financing of companies. In each case, there are a large number of possible operational indicators.
7.	<b>Admission and exist criteria</b> – again, the existence of formal admission and exit criteria are a defining characteristic of the incubator model and important in ensuring a turnover of tenant companies. Operational indicators include the length of time tenants remain in the incubator.
8.	<b>Number and type of incubator personnel</b> – the ratio of incubator personnel to clients is another key indicator of efficiency. More fundamentally, the quality of the management team is clearly a major determinant of incubator performance.
9.	<b>Criteria used to monitor incubator performance</b> – in addition to a formal set of performance indicators and quality standards, a key factor here is the extent to which incubators obtain feedback from their clients on the services being provided to them.

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Evaluation of Incubator Services and Impacts	
10.	<b>Performance of tenants, job and wealth creation</b> – the failure/success rate of incubator tenants is widely used as a short-term measure of their performance whilst job and wealth creation indicators provide an insight to longer term impacts.
11	<b>Number of graduates/retention in local area</b> – monitoring the destination of graduates is a key to understanding the extent to which incubators achieve sustainable impacts that benefit the areas where they are located.
12.	<b>Value added of incubator operations</b> – benchmarking the performance of incubators needs to be based on an assessment of the value added they demonstrate, i.e. the extent to which the performance of client companies can be attributed to the support obtained from an incubator.

In the context of this project, ‘headline’ indicators have been defined as being a small number (12) of key indicators that relate primarily to the outcomes achieved by business incubators. ‘Operational’ indicators are the larger number (40) of specific indicators relating to business incubator operating context, structures and processes, i.e. the factors that help explain why some incubators achieve better outcomes than others. These are not listed in full here but considered in Section 4 containing an analysis of business incubator data.

### 3.5 Business Incubator Data (Step 4)

Data used to quantify the headline and operational benchmarks has been collected through three methods:

- *Incubator survey* – a questionnaire was sent by CSES to business incubators throughout the EU with a positive response from 78. In addition, data was contributed by a number of national associations;
- *Company survey* – a separate questionnaire was devised for tenant companies. This was distributed to a more limited number of incubators with information from 71 companies being returned to CSES;
- *Interview programme* – to support the survey work, CSES carried out interviews with incubators and in each case a small sample of their tenants.

Tables 7 and 8 provide a breakdown of the incubator sample – first by country and then by type of incubator. The main body of the analysis is based on a total sample of 78 completed questionnaires returned directly to CSES. Where appropriate, the analysis also incorporates data from the UKBI (46 questionnaires), and the NBIA (52) where comparisons are made between the performance of incubators in Europe and the USA.

Table 7: Breakdown of EU Sample (by Country)

Country	Managers Group	CSES Survey	Other Sources	Total
Austria	1	3	0	4
Belgium	1	1	0	2
Denmark	1	0	0	1
Finland	1	13	0	14
France	1	21	0	22

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Germany	1	0	0	1
Greece	1	0	0	1
Ireland	1	2	0	3
Italy	1	12	0	13
Netherlands	0	0	0	0
Portugal	1	1	0	2
Spain	1	5	0	6
Sweden	1	6	0	7
United Kingdom	1	0	46	47
<b>TOTAL</b>	<b>13</b>	<b>64</b>	<b>46</b>	<b>123</b>

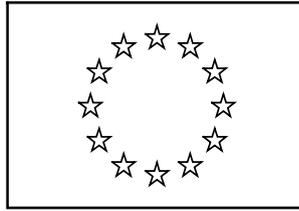
Source: CSES analysis of sample. Note does not include UKBI data.

Table 8: Breakdown of EU Sample (by Incubator Type)

Typology of Incubators	Number	Percentage
Business & Innovation Centre	31	25.2
Science/Technology Park Incubator	41	33.3
Specialised Incubator (e.g rural etc.)	15	12.2
Other Type	36	29.3
Total	123	100.0

Source: CSES analysis of sample, UKBI data

Whilst the data allows for a robust analysis at an EU level, the varying response rates across Member States, the difficulties in obtaining data from certain countries, and the relatively small overall sample size involved, means that there is limited scope for cross-country comparisons. Arguably this type of analysis is in any case less relevant than comparing different types of incubators, and in the following section considerable emphasis is placed on this approach.



European Commission  
Enterprise Directorate-  
General

**Final Report**

# Benchmarking of Business Incubators

February 2002



*Centre for*  
**Strategy & Evaluation  
Services**

This study has been carried out by the Centre for Strategy & Evaluation Services (CSES) for the European Commission's Enterprise DG. We would like to thank the Commission, in particular Mr Christer Hammarlund, for the support provided throughout the project. We would also like to thank business incubator managers who were nominated by Member States to provide advice and assistance, and our two special advisers, for their input. A list of the experts and advisers is provided in Section 1 of the report.

The data and analysis presented in this report are the responsibility of CSES under a contract with the European Commission. Although the work has been conducted under the guidance of Commission officials and the Member State experts, the European Commission is not necessarily in agreement with the analysis presented and the views expressed do not necessarily represent the official position of the European Commission.

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# SETTING UP AND OPERATING BUSINESS INCUBATORS

# 4

*There are a number of key factors that determine success in establishing and operating incubators. This section examines the role of stakeholders, locational and physical aspects of incubator operations, the definition of the incubator’s ‘mission’, the type of companies they attract as clients, and issues relating to the financing of incubator start up and operating costs.*

## 4.1 Business Incubator Stakeholders

The support of ‘stakeholders’ and quality of the management team (examined in Section 5) are critical factors in successfully establishing and operating incubators.

Business incubators are more likely to succeed if they are supported by a broadly-based partnership of public and private sector sponsors. In particular, the capacity to leverage private sector inputs, whether this is in the form of finance or other types of support (e.g. expertise, access to facilities, corporate venturing) is critical. However, it is also widely recognised that in the early developmental phase, public funding is vital because it can often take a number of years before a business incubator can attract private sector funding and/or generate sufficient income from other sources (e.g. rent) to cover operating costs.

A remarkable albeit fleeting exception to this was observed during the later stages of the period now referred to as the Internet bubble: from 1999 to 2000, more than three hundred new economy incubators were set up in the USA and Europe, almost entirely funded with private capital (venture capital and/or corporate funds). With the subsequent market downturn and resulting collapse of dot-coms, funding dried up for most of these Internet incubators, forcing them to close or scale down their operations, or switch to revenue-generating activities such as consulting services.

An analysis of incubator ‘stakeholders’ is provided in Table 9. This confirms that public authorities are generally the major shareholders in most incubators established in EU countries but private sector organisations also play an important role. Table 8 then provides an analysis of the survey feedback on the legal status of business incubators. Most are incorporated as public companies limited by guarantee or shares.

*Table 9: Key Partners Involved in Setting Up Business Incubators*

<b>Partners (Board Members and other Partners)</b>	<b>Number</b>	<b>Percentage</b>
(1) EU and/or other international agencies	36	13.4
(2) National authorities and public agencies	68	25.3
(3) Companies, banks and other private sector organisations	56	20.8
(4) Universities and other R&D organisations	44	16.4
(5) Community and voluntary organisations	34	11.5
Total	269	100.0

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*Source: CSES analysis of sample, multiple responses possible*

The typical partnership structure of new-economy incubators is obviously more oriented toward the private sector, and largely dominated by the third category listed in Table 9 (companies, banks and other private sector organisations). However, the rapid rise and fall of Internet incubators since 1999 have spurred a convergence of for-profit and not-for-profit incubators toward public-private partnerships: initially the unrestrained media coverage and investor enthusiasm about Internet incubators put pressure on traditional incubators to adapt similar business models and practices in order to attract private capital; since then, the withdrawal of investors from Internet-related ventures and the general market decline have compelled many private incubators to seek out more secure and stable means of support from public authorities and institutions.

*Table 10: Legal Status of Business Incubators*

Legal Status of Incubator	Number	Percentage
Public Entity	30	24.0
Private Company	47	37.6
Semi-public or other	35	28.0
No answer/ don't know	13	10.4
Total	125	100.0

*Source: CSES analysis of sample*

The number and type of organisations making up business incubator partnerships varies from relatively small groups (e.g. UK) to partnerships consisting of up to twenty organisations (e.g. Portugal). Incubator managers stressed the leadership role of public authorities and the importance of a consensus amongst partners over business incubator objectives. Dublin BIC in Ireland is a very good example of a formal public private sector partnership (PPP) that has been used to raise funding for the initial capital investment costs of establishing the incubator.

## 4.2 Location and Premises

Business incubators can have very different types of location and can be housed in very different types of premises ranging from purpose-built new developments to converted buildings.

The location of a business incubator largely reflects the aims it pursues. Thus, a specialised incubator that focuses on promoting technology-based enterprises may well be located on 'greenfield' site, for example on a science park adjacent to a university, whilst a multi-purpose incubator could be in an inner-city area or on an industrial estate. Table 11 confirms that there are a large variety of locations.

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*Table 11: Location of Business Incubators*

<b>Incubator location</b>	<b>Number</b>	<b>Percentage</b>
Urban	68	54.4
Greenfield	30	24.0
Rural	8	6.4
Other	13	10.4
No answer/ don't know	6	4.8
<b>Total</b>	<b>125</b>	<b>100.0</b>

*Source: CSES analysis of sample*

New-economy incubators, in contrast, tend to be concentrated in metropolitan areas, particularly in cities and regions that combine strengths in technology, creative talent, entrepreneurship, professional services and finance - London, Amsterdam, Stockholm, Munich, Paris are attractive locations for new-economy entrepreneurs and investors to live, work, network and promote themselves.

As with location, there is no standard type of premises occupied by incubators. As Table 12 shows, whilst many have new purpose-built premises, a significant proportion are housed in converted buildings, often in inner city locations. Clearly, the choice of premises has implications for the cost of establishing incubators (considered in more detail below).

*Table 12: Type of Incubator Premises*

<b>Type of Premises</b>	<b>Number</b>	<b>Percentage</b>
New	47	60.3
Converted	17	21.8
Other	13	16.7
No answer/ don't know	1	1.3
<b>Total</b>	<b>78</b>	<b>100.0</b>

*Source: CSES analysis of sample*

Very few new-economy incubators are housed in newly built facilities, but for reasons largely unrelated to cost. At least in the beginning, when they were managing to raise large amounts of funding, it was more important to launch operations as soon as possible, often in cities where office space is scarce. For young entrepreneurs and information technology workers there is also a sort of "shabby chic" appeal in occupying converted lofts, former warehouses, or antiquated offices.

The research suggests that to operate successfully, incubators need to have sufficient capacity to accommodate a minimum of around 20 tenants at any one time (see

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Section 5) and hence to achieve economies of scale. According to the survey, a typical incubator has around 3,000 square meters of incubator space. Given that a limited number of responses at the higher end of the size range can easily distort the average figure, it is more appropriate in this instance to focus on the median figure rather than the average.

*Table 13: Incubator Units*

Physical space of Business Incubator	Square Meters
Minimum	90
Maximum	41,000
Average	5,860
Median	3,000

Source: CSES analysis of sample

These numbers do not apply to new-economy incubators whose profitability depends on the value of equity they own in incubated companies, rather than on rental leases and service fees. Some of them may host only two or three companies while others may operate as virtual incubators that do not provide office space at all.

Key performance indicators in relation to the physical aspects of incubator operations include the proportion of the total premises available that is devoted to accommodating client businesses and, second, the occupancy rates. These and other related factors are examined in more detail in Section 5.

### 4.3 Incubator Role and Objectives

As Table 14 shows, contributing to the competitiveness of local economies and job creation ranks as the principal objective of most incubators. Other objectives are ranked more or less equally.

*Table 14: Business Incubator Objectives*

Incubator Objectives	Ranking (1 = most important)						Average
	1	2	3	4	5	0	
(1) Contribute to competitiveness and job creation	56	14	4	0	1	3	1.3
(2) Help R&D centres commercialise know-how	10	18	19	18	3	9	2.8
(3) Help companies generate spin-off activities	3	23	27	12	5	7	2.9
(4) Help disadvantaged communities/individuals	1	12	12	22	15	16	2.8
(5) Other roles - please specify:	7	6	7	7	6	44	2.9

Source: CSES analysis of sample

Amongst technology incubators, a key factor is the extent to which an incubator plays

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an active role in the broader regional (technology) development strategy of the area where it is based. Obviously for new-economy incubators this table would look quite different, the primary objective being the wealth of their own shareholders. When this objective eventually turned out to be more difficult if not impossible to attain, some incubators resorted to selling consulting services to established companies, or to partnering with local universities and research institutes.

An analysis of best practice suggests that incubators should not be treated as stand-alone operations but rather integrated into a network of key stakeholders, agencies and schemes that work together to promote innovation, competitiveness, technology transfer and other key public policy objectives. Whilst there is no simple way of capturing the role of incubators in the broader regional context using indicators, the research points to several best practice examples:

<b>Best Practice Example 1 – Role of Business Incubators in Regional (Technology) Development</b>
<p>The incubator operations in <u>Austria</u>, <u>Germany</u> and <u>Finland</u> provide good examples of where this is the case: in both countries, the incubators (along with other centres of excellence, e.g. R&amp;D centres) are part of a strategy to develop clusters of new technology-based activities based on the industrial traditions and R&amp;D strengths of the regions concerned – automotive technologies, biotechnology, electronics, software and ICT, etc. Networking between incubators, and between incubators and other key players is seen as a critical success factor in the overall strategies. Elsewhere, networking between incubators tends to take place within the context of national associations and for the purpose of lobbying and promoting good practice in incubator management.</p>

New-economy incubators share these same best practices. Unquestionably, the ability of incubator managers to establish and leverage an extensive, well-organised network of strategic partners, advisers and contacts for the benefit of their incubatees is a strong competitive advantage in an increasingly tough market for start-ups.

According to a Harvard Business School study, the key distinguishing feature of a networked incubator is its ability to give start-ups preferential access to a network of potential partners. Such incubators institutionalise their networking — they have systems in place to encourage networking, helping start-ups, for example, to meet with potential business allies.

## 4.4 Business Incubator Clients

The successful performance of a business incubator depends ultimately on the number of clients they attract and the performance of these firms. From a purely operational perspective, tenant companies (as shown later) are the primary source of revenue to help cover operating costs but, more fundamentally, we would argue that the performance of an incubator should be judged ultimately in terms of the performance of tenant companies.

Table 15 provides an analysis of the number of tenants that are typically

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accommodated by incubators. It is clearly important to achieve a critical mass in order to maximise the economies of scale with regard to service provision and costs.

*Table 15: How many tenant businesses is the incubator currently assisting?*

Range	Tenants	Outreach
Minimum	1	1
Maximum	120	571
Average	32.2	36.6
Mean	18	10
Mean – tenants and outreach companies	28	

Source: CSES analysis of sample

Note: 68.8 is the average number of companies assisted by incubator management in the incubator managers’ sample. This figure measures both tenant companies and outreach clients.

As Table 13 shows, a typical incubator will have around 18 tenants at any one time. But in addition to this, most incubators also provide services to an additional ten or so other companies in the area that are not physically located in the incubator (some of which may be ‘graduates’ and receiving ‘after-care’ support). We would strongly argue that the median figure is a more appropriate measure than the average, which can easily be distorted by a small number of surveys.

New-economy incubators tend to have considerably fewer tenants because of the significant investment they make in each incubatee (typically ranging from €500,000 to €1 million in the form of seed capital and support services). Smaller incubators may focus their efforts on only two or three companies, sometimes originated internally instead of by an outside entrepreneur; the largest ones such as CMGI or ICG are really more like publicly traded holding companies with a portfolio of dozens of businesses at various stages of growth. Their size and focus on the Internet sector should have enabled them to foster connections and synergies within their portfolio, but in practice these have not materialised and the share prices of such holding companies have fallen by as much as 99% over the past 18 months.

Business incubators typically focus on attracting a combination of pure start-up companies and firms at an early stage of development. Section 5 examines the type of admission criteria used by incubators but below we analyse the basic breakdown between different types of companies. Table 16 provides a basic classification.

*Table 16: Where did the current tenant businesses originate from?*

Type of Firm by Origin	Number	Percentage
(1) Start-up	1,544	69.3
(2) Branch of Existing Firm	265	11.9
(3) Spin-off from University or R&D Centre	250	11.2

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(4) Others	169	7.6
Total	2,228	100.0

Source: CSES analysis of sample – based on 78 responses

The distribution is not very different for new-economy incubators, which initially focused strictly on early-stage start-ups, but as mentioned earlier are now redirecting their efforts to assisting mature firms to start new businesses (so-called "carve-outs"). The shift of investor interest away from dot-com start-ups toward technology ventures has also led incubators to increase their collaboration with universities and research centres.

As noted earlier, a key factor influencing the successful performance of incubators is the number and quality of tenants. Table 17 provides an analysis of the activities of tenant businesses. As can be seen, a high proportion is engaged in activities relating to ICT. The relatively low proportion in the 'R&D' category is almost certainly misleading since feedback from the Phase 2 research suggests that whilst few tenants are involved in pure R&D, most incorporate a significant R&D element in their activities.

Table 17: What sort of business activities are the tenant companies undertaking?

Business Activities	Number	Percentage
(1) Sales, marketing and distribution	163	7.4
(2) Business and financial services	316	14.3
(3) Advanced/ High-tech manufacturing	188	8.5
(4) Information & Communication Technologies	746	33.8
(5) Research & Development	106	4.8
(6) Other Manufacturing Activities	150	6.8
(7) Other Service Activities	342	15.5
(8) A combination of some/ all of these activities	199	9.0
Total	2,210	100.0

Source: CSES analysis of sample

Here too, the narrow focus of new-economy incubators on the Internet is now broadening to include other sectors, particularly the high-technology areas favoured by venture capitalists such as optical networking and biotechnology.

It should be noted that the analysis shown above in Table 17 is based on the CSES survey. Earlier, in Section 2, we provided an analysis of business activities based on the Enterprise DG database which contains a far larger number of incubators than the sample used above (see Table 3 on page 14). A comparison between the two tables

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suggests a broadly similar range of activities with knowledge-intensive activities predominating. The main difference is that the CSES survey revealed a higher proportion of ICT-related activities.

## 4.5 Financing Start Up and Operating Costs

The way in which business incubators are financed and the extent to which they are able to generate sufficient revenue to help cover start-up and operating costs is another critical ‘driver’ of their success.

The survey feedback suggests that most business incubators operate on a not-for-profit basis although a significant proportion (just over one-fifth) is essentially commercial operations.

*Table 18: Is the Incubator designed to be for profit or not for profit?*

Type of Incubator	Number	Percentage
For profit	17	21.8
Not for profit	60	76.9
No answer/ don't know	1	1.3
Total	78	100.0

*Source: CSES analysis of sample*

Most incubators depend heavily on support to help cover their start-up costs and often a high proportion of their operating costs, too. Long-term public support may be given if, for example, it can be demonstrated that investment in a business incubator’s operations is a more cost-effective way of creating jobs than alternative policy instruments. However, even where this is the case, there is likely to be pressure on the incubator manager to maximise income generation so that public subsidies are minimised. We would argue, however, that an important measure of a business incubator’s success and justification for continued public support is the employment and sales output of tenant companies (see Best Practice Example).

There are some interesting cross-country comparisons to be made. In the case of Italy, for example, there is a much higher percentage of incubators than average (38.5%) claiming to be operating on a for-profit basis. The reverse is true of France, where only 18% of incubator managers surveyed classified themselves as for-profit incubators. The great majority of new-economy incubators are intended for profit, but not necessarily all of them. The basic business model of equity for services can perfectly well be applied in a not-for-profit context, whereby the shares collected by the incubator are placed in a managed investment fund, the income of which helps to cover the incubator's operating expenses.

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## 4.5.1 Set Up and Operating Costs and Funding

According to the survey, the average cost of setting up a business incubator is just under €4 million. Table 19 provides an analysis of the survey responses.

*Table 19: What was the cost of setting up the incubator?*

Set up Costs	Responses
No. Responses	65
No Response/ Blank	13
Total Set Up Costs	€40,873,206
Average Set Up Costs	€3,705,742
Mean Set Up Costs	€1,927,000

*Source: CSES analysis of sample, NB: calculations based on 65 incubators who provided a response*

In terms of the sources of finance typically used during the set-up phase, the survey data suggests that the overwhelming majority of the financing comes from public sources. Just over a fifth of the set-up costs are subsidised by the EU and other international agencies whilst approaching a half of the set-up costs (46%) are funded by national, regional and local authorities.

*Table 20: How Business Incubator Set Up Costs are Funded*

Source of Funding	%
(1) Subsidies - EU and other international agencies	22
(2) Subsidies - national authorities and public agencies	46
(3) Payments from banks and other private sector organisations	13
(4) Payments from universities and other R&D organisations	5
(8) Other sources	13
Total	100

*Source: CSES analysis of sample*

The high initial dependency of incubator start-ups on public financing is in line with expectations – given that one of the functions of business incubators is to address market failure and to facilitate accelerated SME growth to new businesses which, by their very nature, have little in the way of collateral or revenue until they have reached the mature stage of their development, this is perhaps not surprising. The challenge remains to move towards financial self-sustainability over the longer-term by building credibility in the marketplace and developing a comprehensive range of business support services.

Table 20 also highlights the potential role to be played by the local private sector in kick-starting the entrepreneurial process in the local area in partnership with business incubators and other local catalysts of enterprise development. 13% of set-up costs

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come directly from private sector sponsors.

Turning to operating costs, the survey suggests that the typical incubator has operating costs of approaching €500,000 per annum.

*Table 21: What is the total annual cost of operating the incubator?*

Operating Costs	Responses
No. Responses	70
No Response/ Blank	8
Total Operating Costs	€3,556,280
Average Operating Costs	€479,375
Mean Operating Costs	€300,000

*Source: CSES analysis of sample, NB: calculations based on 70 incubators who provided a response*

Perhaps not surprisingly, payroll and related benefits constitute the highest proportion of outlays. A key performance benchmark here is the extent to which overheads such as these can be minimised and resources devoted to incubator services that directly benefit client companies. As the analysis below shows, service provision would appear to account for around 25% of incubator operating costs although other items such as building maintenance of course also benefit client companies.

*Table 22: Business Incubator Operating Costs*

Operating Costs	Percentage Breakdown
Total payroll/benefits	41.0
Building costs, e.g. maintenance	22.1
Other costs - services to tenants	24.6
Other costs, e.g. utilities, equipment, supplies, telecoms	13.3
Total	100.0

*Source: CSES analysis of sample*

One way that new-economy incubators effectively control payroll expenses is by paying their staff a partial success fee (in the form of stock, options or warrants for example), an incentive that also helps to align the interests of the staff with those of the incubatees they serve. This approach can also be adopted by traditional not-for-profit incubators, especially those operating as a public-private partnership. Even though new-economy incubators usually occupy functional, unadorned offices, infrastructure costs (rent, utilities, telecommunications, computers) are relatively high for various reasons: the location (in cities with high property costs), the Internet access and network requirements, and very often round-the-clock tenant activity.

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Turning to the funding side, there are several noteworthy observations to be made from the survey data: first – and following on from the not-for-profit nature of most incubators – public subsidies constitute a very important source of revenue; but, secondly, a surprisingly high proportion of revenue (39.5%) is generated from rentals and other service charges (a further 11% comes from other services).

If it is argued that incubators should seek to maximise income generation, then the proportion of revenue coming from rentals and service charges should be treated as another key indicator of their performance. This has become true for new-economy incubators as well, who can no longer afford to provide hosting and support services in return for equity alone. In their fight for survival, many of them are switching to a hybrid fee structure, charging cash payments for rent and services as well as a reduced equity stake.

*Table 23: How Business Incubator Operating Costs are Funded*

Source of Funding	%
(1) Subsidies - EU and other international agencies	10.1
(2) Subsidies - national authorities and public agencies	27.3
(3) Payments from banks and other private sector organisations	2.6
(4) Payments from universities and other R&D organisations	3.0
(5) Rental income and other incubator charges	39.5
(6) Other revenue, e.g. from service contracts	11.1
(7) Investment income, e.g. royalties, equity returns	0.8
(8) Other sources	5.6
Total	100.0

Source: CSES analysis of sample

### 4.5.1 Achieving Break Even

The length of time a business incubator is likely to take to reach breakeven point (assuming this is an aim) will vary and depend on its strategic objectives and modus operandi. In some lagging regions it may be impossible for an incubator to generate sufficient revenue to cover costs and there is a continuing need for substantial public subsidies. The survey suggests that many incubators (40.8% of the sample) have the aim of eventually breaking even but that this is a relatively long-term objective.

An analysis of the data is shown below in Tables 24 and 25.

*Table 24: Is it Part of the Business Incubators Business Plan to Break Even?*

Part of Business Plan?	Number	Percentage
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Yes	51	40.8
No	62	49.6
No answer/ don't know	12	9.6
Total	125	100.0

Source: CSES analysis of sample

There are some notable differences between Member States. The UK, for example, has a high percentage of incubators where attaining breakeven is an integral part of the business plan (56%), perhaps reflective of wider trends towards achieving financial sustainability in the provision of business support services. In France, conversely, only 9.1% of 'pépinières d'entreprises' explicitly strive towards breakeven in their business plans, according to the CSES survey.

Needless to say, practically by definition all new-economy incubators were founded with a forecast of crossing the breakeven point at some stage of their development. In retrospect, this now seems naive considering their overhead and the burn rates of their incubatees; but one must remember that in 1999 a successful IPO by at least one incubated company was a realistic prospect, generating more than enough money to cover the losses and failures of the others.

Table 25: How Long Will it Take for the Business Incubator to Break Even?

Time Period	Number	Percentage
Less than 1 year	2	7.4
1- 2 years	4	14.8
2-3 years	8	29.6
3-4 years	1	3.7
4-5 years	1	3.7
Over 5 years	11	40.7
Total	27	100.0

Source: CSES analysis of sample

The research indicates that where business incubators have been able to break-even, this has been achieved in a variety of ways: rental income from tenants is generally the most important source of income, typically accounting for 40-60% of all revenue.

A high level of dependence on rental income can have negative consequences. During the start-up phase of a business incubator, the need to achieve a high level of occupancy as soon as possible in order to maximise income may lead to the incubator's admission criteria being relaxed to the point where tenants are accepted on a 'first-come-first-serve' basis. Similarly, over-dependence on rental income can lead

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to exit rules being waived, with successful tenants from whom rental payments can be guaranteed being encouraged to remain in the incubator, whereas it is precisely these enterprises that should be encouraged to ‘graduate’ and to make room for new admissions. More fundamentally, a key feature of the business incubator concept is the notion that the relationship between the management team and its clients should not be just that of a landlord and tenant. In this respect, being able to generate income from diverse sources, e.g. business support services, is a good indication of success in fulfilling a broader and more comprehensive role.

Over three-quarters (77%) of the sample of incubators we examined are not-for-profit organisations (see Table 18) and not pursuing the objective of reaching a commercial breakeven point. The analysis shown below suggests that in most cases, the withdrawal of public subsidies would lead to incubator operations being at best significantly reduced and, at worst, ceasing altogether.

*Table 26: If the incubator receives cash operating subsidies and this funding was stopped, what would the effect be on its operations?*

Importance of cash subsidies	Number	Percentage
(1) Incubator activities could be maintained at current levels	6	7.7
(2) Incubator activities would have to be reduced significantly	31	39.7
(3) Incubator activities would stop altogether	17	21.8
(4) Not relevant - incubator does not receive subsidies	9	11.5
(5) Don't Know/ No answer	15	19.2
Total	78	100.0

*Source: CSES analysis of sample*

However, whilst there is some anecdotal evidence to support the idea that a public sector incubator run along commercial lines performs better than one which acts as an extension of the public sector business support infrastructure, the extent to which achieving breakeven is viewed as desirable is largely dependent upon the perceptions and requirements of the founding stakeholders. Although the question of whether or not an incubator manages to achieve breakeven clearly has an impact on the future sustainability of the incubator, this needs to be weighed against the outputs achieved by tenant companies in terms of job and wealth creation, and the cost-effectiveness of incubator structures as opposed to other mechanisms for generating the economic benefits.

Proponents of the new-economy incubator model would argue that in order to perform effectively its mission of promoting entrepreneurship and ensuring the launch of successful ventures, the incubator itself should practice what it preaches, achieving profitability and sustainability by sharing in the success of its graduated incubatees.

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So far this has not proven feasible, but after two extremely volatile years since the emergence of the new-economy incubator it is too early to draw definitive conclusions about its validity.

### Best Practice Example 2 – Financing Incubator Start Up and Operating Costs

The case studies illustrate a number of different ways (used in combination in many cases) of financing business incubator start-up costs:

- Leasing premises from local authorities (e.g. [Germany](#))
- Relying mainly on EU and national grant aid ([Austria](#), [Belgium](#), Spain and [Sweden](#))
- Borrowing funds to convert old buildings with a view to eventual capital gain ([UK](#))
- Attracting private sector investment in land and buildings by discounting cost ([Portugal](#))
- Attracting a broad-based public private partnership to cover initial capital investment ([Ireland](#))

Most incubators cover a significant proportion of their operating costs from rental income (in the German case, this also covers the cost of leasing premises). In many cases, rental charges are graduated so that tenants begin by paying below-market rates which are then adjusted to commercial levels over a period of time or when firms move from one type of incubator unit to another (e.g. [Germany](#), [Denmark](#), [Portugal](#) and [Sweden](#)). There are very differing practices with regard to what is included in rental charges (e.g. cost of utilities).

### Best Practice Example 3 – Demonstrating the Cost Effectiveness of Incubator Operations

In Finland, for example, a study by Otaniemi Science Park demonstrated the cost-effectiveness of a sectorally targeted incubator programme. A study of the performance of tenant companies showed that over the past 10 years, 450 new companies have been created of whom 200 have graduated. The total number of jobs created over ten year period was 5,000 direct jobs. The combined salaries of both employees in tenant and 'graduate' firms was an estimated 150 million euro (generating annual taxes of 50 million euro). When compared with an annual public subsidy of 0.5 – 0.7 million euro towards the incubator's operational costs, this represents a highly favourable return on investment.

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*This section considers key business incubator functions. In addition to the provision of incubator units and business support services, the analysis focuses on key incubator performance drivers such as the operating framework (admission and exit criteria, client monitoring, etc) and role of the management team.*

Business incubators seek to add value by offering clients a combination of facilities and services that cannot be so easily obtained from other sources. The nature of these services and the way in which they are delivered will usually have an important influence on the success of client companies and hence on the successful performance of the incubator.

A well-run incubator will have an operating framework setting out guidelines for its management that include a clear definition of its target market, admission and exit rules, quality standards for client care and other aspects of the incubator’s operations, and performance indicators against which the activities of the incubator can be monitored.

## 5.1 Incubator Space

Whilst there is a reasonable degree of variation in the physical size of a business incubator, there are a number of commonalities in terms of other physical aspects. Most incubators aim to provide space for at least 20 tenants and seek to provide a mix of office and workshop space to ensure that units of different sizes are available to suit tenants at different stages of growth (i.e. ranging from desk space where entrepreneurs can work on their business plans to larger units for mature SMEs), and common facilities such as meeting rooms, canteens, etc.

A key performance indicator is the occupancy rate achieved by incubators. Here a balance needs to be struck by the incubator management between maximising occupancy, and hence rental income, and ensuring that there is sufficient flexibility to enable tenant firms to progress from one type of accommodation to another as they grow. For this reason, 100% occupancy rates are not necessarily ideal. As Table 27 shows, incubators will typically seek to achieve rates of between 80% and 90%.

*Table 27: What percentage of total incubator units is currently occupied?*

Range	%
Minimum occupancy level	30
Maximum occupancy level	100
Mean occupancy level	90
Average occupancy level	85.0

Source: CSES analysis of sample

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The analysis suggests that there are no significant patterns across EU Member States as far as occupancy levels are concerned (for example, the occupancy rate in France and Sweden are both within 0.5% of the EU average of 85%).

A distinct feature of certain new-economy incubators (such as idealab! or Gorilla Park) is the open plan workspace, intended to promote communication and interaction between the tenant companies. This has its advantages and drawbacks, and is clearly more appropriate for incubatees that are to an extent sister companies, all of which are partly owned by the incubator.

### 5.2 Business Support Services

The nature and range of support services provided by a business incubator will vary depending on the model and the objectives of investors financing the incubator. However, business incubators generally seek to provide their clients with a comprehensive range of facilities and services with a 'full-service' incubator offering a combination of incubator space, business support services and other assistance. Table 28 provides an analysis of the types of business support services provided by incubators.

*Table 28: Incubator Business Support Services*

Types of Business Support Services	In house		External	
	No.	%	No.	%
(1) Pre-incubation services	66	11.7	15	3.3
(2) Business planning and forming a company	62	11.0	25	5.5
(3) Training to develop business skills	36	6.4	47	10.3
(4) Accounting, legal and other related services	16	2.8	57	12.5
(5) Market research, sales and marketing	31	5.5	52	11.4
(6) Help with exporting and/or partner search abroad	28	5.0	42	9.2
(7) Help with e-business and other aspects of ICT	39	6.9	35	7.7
(8) Advice on development of new products and services	43	7.7	35	7.7
(9) Help with raising bank finance, grants, venture capital	68	12.1	28	6.1
(10) Incubator venture capital fund, business angel network	31	5.5	32	7.0
(11) Advice on recruitment of staff and personnel management	32	5.7	35	7.7
(12) Networking, e.g. with other entrepreneurs, customers	64	11.4	24	5.3
(13) Mentors, board members and other senior advisers	38	6.8	27	5.9
(14) Other services	8	1.4	3	0.7
Total/Percentage	562	100.0	457	100.0

*Source: CSES Analysis of Survey Data: Based on 76 responses, multiple responses possible*

The analysis suggests that the 'core' (in-house) services provided by incubators are pre-incubation, business planning, help in raising finance, and networking. A high proportion of incubators also provide training, accounting and marketing support but

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these more specialised services tend to be delivered using external providers. Far fewer incubators provide services such as access to in-house seed and venture capital funds, partner searches, help with human resources issues and recruitment, advice on ICT, and mentoring support.

All the business incubator managers we interviewed agreed that the quality of business support services, and not physical aspects, is the most critical aspect of the incubation operations. However, from a tenant perspective, there is clearly evidence from the case study work that physical proximity to other tenants can play a beneficial role, both by catalysing the entrepreneurial process and by facilitating networking, alliances and collaboration between firms. The physical ‘incubator’ environment is clearly conducive to the cross-fertilisation of ideas and networking. This finding applies equally to new-economy incubators, as confirmed by the Harvard Business School study which recommends "strategically investing in portfolio companies" to maximise the scope for collaboration and synergy.

The research suggests that the incubator business support services can be subdivided into the following main categories - entrepreneurship training, business support services, technology and innovation support, and financing start-ups and expansions.

### 5.2.1 Pre-incubation and Entrepreneur Training

Pre-incubation is the term used to describe support services to would-be entrepreneurs before they launch their business. These services can include proactive identification of would-be entrepreneurs, helping them to develop a business plan, training and advice on forming a company. The emphasis on pre-incubation varies considerably with some incubators operating programmes but most not doing so.

Where pre-incubation services are provided, entrepreneurs will typically be offered desk space and other basic support (e.g. computer and telephone) for a period of time during which they will be expected to prepare a business plan. In some cases, this process forms part of courses operated by business schools/universities with incubator selection procedures being effectively being an integral part of course assessment arrangements. Elsewhere, pre-incubation activities are carried out ‘on-site’ in specially designated areas of the incubator itself (for example, in one case we reviewed, a hotel building had been converted with bedrooms becoming offices for entrepreneurs).

#### Best Practice Example 4 – Entrepreneur Training

The case study work identified a number of best practice examples with regard to entrepreneur training. This includes the Entrepreneurship Development Programme (EDP) run by the Centre for Innovation and Entrepreneurship (CEI), part of Linköping University, in conjunction with the Mjärdevi Science Park ([Sweden](#)). CEEI Valencia in [Spain](#) is helping to develop entrepreneurship skills more widely in the region as well as just providing services to the incubator tenants. This includes monthly courses on setting up and developing new businesses and workshops for existing entrepreneurs on various business topics. BIC Liguria in [Italy](#) has launched a similar initiative specifically for young people involving promotional seminars at the University of Genova in conjunction with a major regional bank. Similarly,



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in Finland, the Employment and Economic Development Centre, a nationwide business support organisation, works closely with a regional network of business incubators to provide early-stage pre-incubation services to prospective incubator tenants and help ground potential entrepreneurs in the rudiments of operating their own businesses.

In France, Bordeaux Productic has made special provision to permanently set aside incubator space for prospective tenants to elaborate on their business plan. Incubator management provides specialist pre-incubation business counselling and advice to help entrepreneurs go through the conceptualisation process and set up in business. In Spain, the BIC in Valencia runs a comprehensive training programme, both inside and outside the BIC.

Most incubators also provide entrepreneurs with advice and assistance with company registration procedures. As another Enterprise DG benchmarking study has shown<sup>1</sup>, the length of time required to complete these procedures, and their complexity, varies enormously across the EU. Whereas in some countries the legal formalities and other procedures are straightforward and a company can be formed in a few days or weeks, in other countries this can take months.

## 5.2.2 Business Support Services

The types of business support services typically provided in-house by incubator management include business planning, advice on accessing capital, marketing, the identification of suitable business partners and general strategic advice. Other types of business support services, such as specialist legal services, accounting and market research tend to be provided by specialist external providers with whom incubator management have established relationships. Clearly, business incubator management, many as experienced former businesspeople in their own right, have a critical role to play in supporting and nurturing early-stage businesses through the provision of high-quality business support services. Evidence from the case study and survey work suggests that business support services provided by incubator management can help bridge the traditional market failure in the provision of business support services to the small business market. Many of the larger private sector business support organisations and management consultancies do not get involved in the SME market.

### Best Practice Example 5 – Business Support Services

In the business support field, an interesting practice in many incubators is networking between tenants as service providers and users. At Taguspark in Portugal this is facilitated by a searchable on-line database which can be accessed by tenants as well as potential users elsewhere in the region (the 'Centre of Competence'). As good example of networking with external business support providers is the 'GrowLink' scheme run by the Mjärdevi Science Park and as similar scheme (the 'Partner Programme') operated by the Technologie Centrum Chemnitz in Germany. In Spain, the 21 BICs have co-operated to prepare a business planning software package. In most cases, business planning and counselling for early stage start-ups is provided free of charge but services provided to established firms appear to be mostly offered on a purely commercial basis. In Belgium at Héraclès there is a network of suppliers which is managed by the incubator, and the incubator (a BIC) provides marketing support for its tenants

<sup>1</sup> Enterprise DG 'Benchmarking the Administration of Business Start Ups' (2001).

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## 5.2.3 *Technology and Innovation*

The objectives of incubators will vary, and some, in particular, science park based incubators, will concentrate on selecting and assisting entrepreneurs who have particular technological or innovative schemes. These incubators will provide a basis for technology transfer. The objectives of these incubators are different from those which seek to increase employment through the promotion of more 'traditional' business activities with a low technology content.

The role of incubators in this field is quite diverse: some, for example, provide access to centres of excellence (e.g. a university laboratory) whilst others have their own specialist resources. On a larger scale, there are examples of incubators that are involved in a wider regional strategy involving the development of a cluster or group of companies supporting a technologically based core organisation. In relation to university-based incubator operations, a key issue highlighted by the research is the extent to which entrepreneurial activity is encouraged by academic administrations. Incubators can of course help to bring this about.

### Best Practice Example 6 – Technology and Innovation

Good examples of incubator activities in the field of technology transfer include the CAT-Symbion Innovation Centre Joint Venture in [Denmark](#), a joint venture to assist in the creation, development and commercialisation of new technology-oriented spin-off companies emerging from research undertaken by the diverse research institutes of the region. Bordeaux Productic in [France](#), the Technologie Centrum in Chemnitz in [Germany](#), and Mjärdevi Science Park in [Sweden](#) all also provide excellent examples of the role of incubators as instruments for commercialising R&D. A key issue here highlighted by the fieldwork is the extent to which universities and other R&D centres encourage the commercialisation of ideas, specifically by allowing their staff to engage in business activities.

## 5.2.4 *Financing Start ups Expansions*

Incubators can have an important role in bridging the financing gap between the SME market and the financial community. Venture capitalists have historically tended to shy away from the early-stage venture market. Therefore, incubators often play a positive role in redressing market failure by demonstrating that through a managed approach to enterprise creation risks can be minimised and returns maximised, thereby helping to change attitudes amongst venture capitalists.

One of the rationales for the equity-based, new-economy incubator model is diversification. By investing simultaneously in a portfolio of early start-ups, the incubator lowers the overall investment risk compared to the unique risk associated with each individual company. However, because new-economy incubators invested almost exclusively in one economic sector, the Internet, they bore the full uncertainty and risk of the market in which their portfolio companies operated, and they suffered the consequences once the Internet bubble burst.



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In terms of the first financing round for start-up companies with a viable business concept, many incubators have set up their own small-scale seed capital funds which are administered on a discretionary basis by incubator management. This provides financing to get the start-up company off the ground and typically covers the first six-twelve months of operations. With regard to the second round of financing, incubators typically build up a network of contacts and partners in the financial sector who are willing to lend money to early stage ventures and provide tenants with advice on how to prepare their business plan prior to seeking additional venture capital financing to fund expansion.

## Best Practice Example 7 – Financing Start Ups and Expansions

The best example of a seed capital scheme we found was at the CAT (Centre for Advanced Technology) in [Denmark](#). When CAT provides seed capital funding to a tenant company, the money is provided subject to a number of conditions. On being granted seed financing, tenant companies must relinquish a certain percentage of their equity (usually 10-25%, with a median of around 15%) and agree to the formation of a board of directors with responsibility for overseeing company activities in the same way as any other Public Limited Company (PLC). The presence at a very early stage of the company's development of a board of directors provides companies with access to professional support and enables them to tap into a diverse skills set and broad range of competencies. The only other incubator we visited operating its own scheme is Dublin BIC in [Ireland](#) although Taguspark in [Portugal](#) is about to introduce one. Elsewhere the emphasis is generally on facilitating access to external, commercial sources of finance. In Spain, the BICs have worked together to create a business planning modelling system for new companies, which includes financing modules.

The notion of providing entrepreneurs with a 'one-stop' system of enterprise support is central to the business incubator concept. But this does not necessarily mean that all the business incubator's facilities and services need to be provided on an in-house basis: many incubators ensure access for their clients to a complete range of enterprise support through a combination of using staff to provide services, encouraging tenant companies to network amongst themselves, and using external providers. Dependence on external providers may be particularly advantageous during the initial stages in a business incubator's development when cash flow considerations place severe constraints on the level of staffing. Contracting out services may well be in any case justified given the specialist nature of some tenants' needs, for example with regard to training, finance and R&D.

### 5.2.5 After Care, Outreach, Networking and Virtual Incubation Services

A business incubator will seek to provide continuing assistance to its tenants after they 'graduate' ('after-care'), and may also offer advisory services to small businesses generally in the region ('outreach' or 'virtual' services).

Whilst the majority of incubators focus on assisting businesses that are physically located in one place, there are some interesting examples of 'outreach' services and 'virtual' incubation.

## Best Practice Example 8 –Outreach and Virtual Incubation Services



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There are several good examples of incubator services to ‘outreach’ clients. This includes the Centre d’Entreprises Héraclès in Belgium which offers companies the choice of working inside the incubator or receiving advice and services externally. Taguspark in Portugal and science parks from three other countries (Germany, Finland and Greece) are developing a more ambitious, ‘virtual’ incubation scheme. Under this scheme, start-up companies will be offered a range of on-line business support packages. In Spain, at Valencia, the BIC provides entrepreneurial support for the Valencia region – it runs training courses for entrepreneurs both inside and outside the incubator, and provides a comprehensive web site for business support.

A further characteristic of the business incubator model is the encouragement of networking between tenants themselves. The research suggests that it is quite common for business relationships to develop between tenants (e.g. in several incubators covered by the research, tenant companies were acting as Internet Service Providers, managing support services such as restaurants, or providing specialist inputs to other businesses). The research suggests that a further aspect of the internal networking encouraged by business incubators is the informal cross-fertilisation of ideas and advice between tenants. The development of these types of synergies presupposes a degree of homogeneity, which in turn, is a function of the business incubator’s admission criteria. Apart from business relationships, networking can also serve the important purpose of helping entrepreneurs to overcome a sense of isolation that is often associated with their activities and our interviews suggests that this, rather than the more tangible benefits, is in many respect the real advantage of an incubator location.

### 5.2.6 Pricing of Incubator Services

An important management issue is the extent to which clients are charged for the business support services they use in order to help recoup the cost of provision. There are arguments for and against subsidies. It could, for example, be argues that below market rates tend to displace private sector providers and risk undermining the development of business support infrastructures generally in an area. But against this, subsidised rental and other service charges may well be justified by the lack of affordable premises/services in the area concerned.

As Table 29 shows, evidence from the survey work suggests that incubators generally seek to strike a balance in their charging policy – whilst approaching a third of incubators provide services completely or mainly free-of-charge, incorporating the cost of service provision into the general rental package, a higher proportion (66.7%) require clients to pay a contribution towards or to pay the entire cost of a particular service.

*Table 29: What approach is adopted to the pricing of incubator services?*

Pricing Policy	In House Services		Externally Sourced	
	Number	%	Number	%
(1) Services are mostly free to clients	24	30.8	3	3.8
(2) Clients charges partly cover the cost of services	36	46.2	23	29.5

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(3) Client charges cover the entire cost of services	16	20.5	23	29.5
No response/ Don't Know	2	2.6	29	37.2
Total	78	100.0	78	100.0

Source: CSES analysis of sample

In terms of some of the differences between EU Member States, there is a marked variation between those countries where the cost of business support services provision is largely absorbed by the incubator directly and those where clients tend to cover the majority of the charges. There is also a difference between countries in which incubators offer a comprehensive range of services in-house as well as a range of specialist services which are procured externally and other countries where support services are mainly provided in-house. In Italy, for example, there appears to be particular emphasis on external networking with clients having access to a range of external support services. Here, the majority of incubator tenants surveyed made at least some contribution towards the cost of business support services provided (particularly those services provided externally). Conversely, in France, incubator services are mainly provided in-house with very few respondents indicating that tenants are asked to cover the full cost of support services.

Table 30 indicates that, in general, incubator charges are generally pitched at either below market rates or around the same level – reinforcing the point made above concerning pricing policies.

*Table 30: How do the charges for incubator services generally compare with the cost of similar types of services provided by other business support organisations in the area?*

Comparison	Number	Percentage
Lower	28	35.9
About the same	29	37.2
Higher	3	3.8
No response/ don't know	18	23.1
Total	78	100.0

Source: CSES analysis of sample

In carrying out the interviews, we found very differing views on whether incubators should, or should not, seek to recoup the entire cost of service provision from their clients. On the one hand, some argued that services and resources (which can be offered in-kind/pro bono by outside consultants and vendors) are at the core of business incubation and to charge for these defeats the purpose of incubation. Others, however, argued that to the extent possible, all service charges should be recouped through fees or some other method (e.g. royalties, equity stakes).

Before the Internet crash in the second half of 2000, most new-economy incubators did not charge cash fees and took only equity in return for providing infrastructure

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and services. According to a Harvard Business School survey of 169 Internet incubators conducted in 2000 by Hansen et al, 55% of the incubators had an equity-only business model, 4% charged fees alone, and 41% had a mixture. As of today the proportion of equity only has undoubtedly fallen drastically. The more significant distinction now is between incubators that take equity plus fees and those (such as Techspace for example) that charge fees plus an option to invest in the next round of financing, which they may choose to exercise or not.

### 5.3 Promotion and Defining Target Markets

Whereas some business incubators have clearly-defined target markets, others do not. Incubators without strict pre-determined admission criteria tend to accept clients on a ‘first-come-first-served’ basis. Where admission criteria exist, they include the commercial/technical viability of the project, the entrepreneurial and managerial potential of the prospective tenant, projected growth potential, ability to pay rentals for space, and compatibility of the project’s aims with the incubator’s objectives. Some incubators may require potential clients to have prepared a full business plan before they are admitted whilst others help entrepreneurs to do this as part of the service offering. Similarly, some incubators focus on helping pure start-ups whilst others tend to concentrate on a combination of these and businesses that are already trading but that are still at a relatively early stage in their development.

‘New economy’ incubators, technology centres and other specialised incubators fall very much into the first category, their target market being generally limited to knowledge-intensive business activities. ‘Traditional’ incubators usually target a wider range of projects although there is usually still a focus on innovative projects with significant job and wealth creation potential.

Table 31: What criteria are used to define the incubator’s target market?

Criteria	Quite Important		Very Important		Not Important		Total	
	No	%	No	%	No	%	No	%
(1) Must be start-ups	25	32.1	39	50.0	14	17.9	78	100.0
(2) Can be already trading	33	42.3	14	17.9	31	39.7	78	100.0
(3) Must be certain activities	23	29.5	36	46.2	19	24.3	78	100.0
(4) No particular criteria	5	6.4	2	2.6	71	91.0	78	100.0
(5) Other criteria	1	1.3	22	28.2	55	70.5	78	100.0

Source: CSES analysis of sample. Note: Multiple responses possible

The research suggests that business incubators typically adopt a variety of methods to market their services and to identify potential clients – direct approaches to prospective clients and referrals being the most common methods.

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Table 32: What type of methods is used to promote incubator target markets?

Marketing Methods	Quite Important		Very Important		Not Important		Total	
	No	%	No	%	No	%	No.	%
(1) Advertising and media	36	46.1	18	23.1	24	30.8	78	100
(2) Business events, conferences	26	33.3	34	43.6	18	23.1	78	100
(3) Referrals from other agencies	21	26.9	37	47.4	20	25.6	78	100
(4) Direct approach to clients	18	23.1	40	51.3	20	25.6	78	100
(5) Other methods	2	2.6	13	16.7	63	80.7	78	100

Source: CSES analysis of sample

## 5.4 Admission Criteria, Client Management and Ext Rules

In addition to their overall target markets, most business incubators adopt specific criteria to screen individual applicants. The ‘quality’ of the entrepreneurs selected for admission to an incubator – their commitment to making a success in business, their experience and skills, the nature of their project, etc – will of course have a very important bearing on how successful the incubator itself is in achieving its mission.

The research suggests that almost all incubators adopt a formal set of admission criteria. Table 33 provides an analysis of the sort of criteria most commonly used.

Table 33: What criteria are used to screen projects for admission to the incubator?

Screening Criteria	Quite Important		Very Important		Not Important		Total	
	No.	%	No.	%	No.	%	No.	%
(1) A business plan must be ready	20	25.6	49	62.8	9	11.5	78	100.0
(2) Financing must be in place	27	34.6	26	33.3	25	32.1	78	100.0
(3) Firm must have innovative project	23	29.5	37	47.4	18	23.1	78	100.0
(4) Firm must have high growth	31	39.7	26	33.3	20	25.6	78	100.0
(5) Other criteria	6	7.7	20	25.6	52	66.7	78	100.0

Source: CSES analysis of sample

The research suggests that the type of criteria used for this purpose include the commercial/technical viability of the project, projected growth potential, ability to pay rentals for space, compatibility of the project’s aims with the incubator’s objectives. However, by far the most important factor is that applicants should have prepared a business plan (in some cases, incubators provide office space for entrepreneurs to do this as part of pre-incubation arrangements and in these and other cases, as noted earlier, business planning may form an important component in training programmes).

### Best Practice Example 9 – Business Incubator Admission Criteria

A good example of formal admission procedures is provided by TCC Chemnitz in Germany: to gain admission, applicants have to obtain two recommendations – one from the Chamber of Commerce

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(mainly related to financial standing) and another from the TCC (mainly relating to technological factors). The TCC’s board takes the final decision.

To obtain premises at the ‘Starthus’ at the Mjärdevi Science Park in Sweden, individuals have to have either enrolled on or completed the University’s Entrepreneurial Development Programme (EDP). At Taguspark in Portugal, responsibility for appraising applications has been contracted out to the BIC which has developed a very interesting methodology based on three years research into the characteristics of successful projects supported by IAPMEI (the government agency responsible for promoting entrepreneurship). Elsewhere, for example Project North East in the UK, far less emphasis appears to be placed on formal admission criteria and procedures.

The way in which incubators manage their clients once their businesses are up and running is important in maximising survival and growth rates. Here there is a very mixed picture: as Table 34 shows, many incubators have formal client monitoring arrangements but equally many do not (34.6%). This suggests that there is continued scope for improvement in monitoring and evaluation processes by incubator management of tenant companies. Generally speaking, those that did not carry out evaluations of the performance of their tenants were located in smaller incubators or had only commenced their operations relatively recently.

*Table 34: What approach is adopted to client management?*

	Number	Percentage
(1) Clients are monitored on a regular basis	41	52.6
(2) No particular client management arrangements	27	34.6
(3) Other arrangements	8	10.2
(4) No Response/ Don’t Know	2	2.6
Total	78	100.0

Source: CSES analysis of sample

As Table 34 shows, most incubators have formal exit rules and impose strict limits on the length of time enterprises can remain tenants: the research suggests that in most cases the exit rules will require tenant to ‘graduate’ and leave the incubator after between 3 and 5 years. This is often written into tenancy contracts but may also be encouraged through a progressive increase in rental charges that leads to a firm paying above-market rates after a specified period (see Table 35 below).

*Table 35: What criteria are used to decide when tenants should leave the incubator?*

Exit Criteria	Quite Important	Very Important	Not Important	Total

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	No.	%	No.	%	No.	%	No.	%
(1) Firms only rent units for a fixed time	23	29.5	33	42.3	22	28.2	78	100.0
(2) Firms leave to get more space	23	29.5	37	47.4	18	23.1	78	100.0
(3) Firms leave when objectives achieved	17	21.8	8	10.3	53	67.9	78	100.0
(4) Firms leave when aims not achieved	10	12.8	14	17.9	54	69.2	78	100.0
(5) Firms leave to get other services	11	14.1	8	10.3	59	75.6	78	100.0
(6) No particular exit criteria	2	2.6	8	10.3	68	87.2	78	100.0
(7) Other criteria	3	3.8	2	2.6	73	93.6	78	100.0

Source: CSES analysis of sample. Note: Multiple responses possible

The prospect of failing to ‘graduate’ is sometimes also a feature of the exit rules operated by business incubators and, conversely, rapid expansion of tenant businesses may necessitate ‘graduation’ to larger premises outside the incubator. However, the research suggests that some business incubators do not enforce exit rules strictly, especially if occupancy rates are low, because of the need to maximise rental income.

Table 36 provides an analysis of the length of time companies tend to stay in business incubators. The average length of tenancies is 43 months.

Table 36: What is the maximum length of time tenants can occupy incubator units?

Time Period	Number	Percentage
No maximum tenancy	6	7.7
Less than 1 year	5	6.4
1- 2 years	10	12.8
2-3 years	22	28.2
3-4 years	13	16.7
4-5 years	9	11.5
Over 5 years	7	9.0
No response/don't know	17	21.8
Total	78	100.0

Source: CSES analysis of sample

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There are relatively few significant variations across Member States. In Finland, the average maximum length of tenancy is very close to the EU average of 35 months. In Spain and France, the average maximum tenancy is 6 months or so longer, whereas in Italy, a typical incubator tenant can remain in the incubator environment for as long as 53 months. The longer tenancy period in Italy may partly be a reflection of differences in business cycle times. It may equally reflect a more protective stance by incubator management vis-à-vis their incubator ‘offspring’, preferring to nurture firms until they have reached a later stage of maturity than is the case in other countries.

There are also important sectoral factors that influence exit rules. In the case of biotechnology incubators, for example, (and any technology incubator whose companies must secure regulatory approvals on processes, patents, trials, and the like) tenants will require lengthier incubator stays than 3-5 years. Pharmaceutical companies in incubation may require 10-12 years incubation. If economic development initiatives are looking at biotechnology, nanotechnology, and medical device development as profile areas, then they must also consider the financial implications of sustaining the incubation of companies over longer periods of time.

A further factor we investigated is the extent to which rental charges are adjusted to become more expensive the longer a company remains in an incubator. As Best Practice 10 shows, this practice – when rental charges increase to above market rates – is quite frequently used as an alternative to fixed-term tenancies to encourage firms to ‘graduate’.

*Table 37: Does the rental charge vary according to the length of tenancy?*

Incremental rental charges?	Number	Percentage
Yes	31	24.8
No	73	58.4
No response/ don't know	21	16.8
Total	125	100.0

Source: CSES analysis of sample

The residency period in new-economy incubators is considerably shorter. In the early days, some of them boasted that they could turn an idea into a fully operational business in 6 months or less (and presumably aim for an IPO in the first year). Of course, in the case of a dot-com the actual business was usually nothing more than a website, earning almost no revenues and making substantial losses. However, the notions of business acceleration and speed to market remain at the core of the new-economy incubation model.

Despite the increased reliance on income from cash fees charged to the tenant companies, the equity stake still provides a strong incentive for rapid graduation. Just like any venture capitalist, the incubator must always consider its exit strategy – although the collapse of the IPO market is forcing it to hold its investments longer.

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Another reason to maintain a rapid turnover within the incubator is that each class of successfully launched start-ups further expands the incubator's strategic network that can be called upon to assist the next generation of incubatees.

**Best Practice Example 10 – Business Incubator Exit Criteria**

The use of incremental rental charges is one means the incubator manager has of encouraging tenants to move on after a pre-determined period which is less prescriptive and more flexible than an out-and-out enforced graduation policy. A staggered rental policy also provides new start-ups with a cushion during the early stages when there may well be considerable time lag between the entrepreneur’s initial inputs and revenue generation.

For example, at Otaniemi Science Park in Finland, whilst tenants benefit from reduced rental charges during the initial couple of years of the incubation period, the rent subsequently increases steadily by 10% each year over and above the standard rental charge. Imposing financial penalties on those firms which choose to remain beyond their ‘due date’ is one useful means of ensuring flexibility – tenants have the flexibility to stay if they so choose but are encouraged (by financial means) to ‘graduate’ and find alternative premises. Penalising firms financially if they overstay the anticipated three year period is one means of deterring low-growth firms from remaining at the incubator.

## 5.5 Personnel and Business Incubator Management

The quality of the management team is a key ‘performance driver’. In this section we analyse feedback from the survey on the number and type of incubator staff, their role in advising client companies, and their approach to incubator management.

### 5.5.1 Number and Type of Incubator Personnel

The ratio of incubator staff to client companies is another key performance indicator. The staffing of a business incubator can vary enormously depending on its size and resourcing. However, the research suggests that a typical business incubator will have on average 2.3 management level staff (giving a ratio of management to tenant firms of about 1:9, based on the median of 18 tenant firms per incubator). An analysis of the number and type of staff is shown in the following Table.

*Table 38: How many personnel does the incubator have?*

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Personnel Category	Average Number
Managers and Professional	2.3
Secretarial	1.4
Other Personnel	1.9
Average Staff per Incubator	5.6

Source: CSES analysis of sample

The new-economy incubator has a significantly larger staff, typically ranging from 10 to 25 people. The reason for this is the particularly close involvement of the staff in the day-to-day operations and management of the incubated companies. Entrepreneurs-in-residence often work full time with the entrepreneurs, not only in a coaching role but taking on interim management positions until a permanent replacement is hired. Internet incubators may have a full-time web development team on staff to design and manage the companies' websites.

Table 39 provides an analysis of the type of qualifications incubator staff have: as can be seen, a financial qualification is the most common type, followed by qualifications in the human resources management and marketing fields.

Table 39: What sort of formal qualifications does the incubator manager have?

Type of Qualifications	Number	%
(1) Accounting, banking, finance, etc	45	25.6
(2) Real estate, property management, etc	12	6.8
(3) Personnel management, education/training	31	17.6
(4) Legal qualification	21	11.9
(5) Sales, trade, marketing, etc	34	19.3
(6) IT or Telecoms	9	5.1
(7) Other	24	13.6
Total	176	100.0

Source: CSES analysis of sample. NB: Multiple responses possible

Another performance indicator in the incubator management field is the proportion of time that staff spend providing services directly to their client companies as opposed to undertaking routine administrative tasks. Table 40 suggests that providing services directly to clients is seen as the most important function whilst Table 41 indicates that this generally accounts for almost 40% of management time.

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*Table 40: What are the main functions of the incubator's management team?*

Objectives of Incubator	Ranking (1 = most important)					Overall
	1	2	3	4	0	
(1) Routine management of incubator affairs	25	23	22	6	12	3.0
(2) Providing advice and assistance to companies	49	22	6	1	0	1.5
(3) Networking with other incubators/organisations	8	23	31	5	11	2.5
(4) Other roles	6	6	5	47	15	3.5

*Source: CSES analysis of sample. Note: The lower the ranking average in the final column, the greater the importance of a given incubator objective*

*Table 41: Percentage of management time is devoted to providing companies with advice*

Proportion of Management Time	%
Minimum	5.0
Maximum	80.0
Average	39.2

*Source: CSES analysis of sample*

## 5.5.2 Business Incubator Management and Quality Standards

In addition to monitoring the activities of clients it is clearly important that the incubator monitors its own performance.

The research suggests that there are a number of existing quality standards for business incubators setting out best practices. Examples of general quality standards that have been developed for business incubators at an international level include the Commission's EC-BIC certification and a similar initiative by the US NBIA, and a UNIDO best practice guide. Quality standards such as these tend to relate to service delivery rather than broader aspects of business incubator operations but they nonetheless provide an important framework for assessing and benchmarking best practice.

A separate question is how business incubators actually monitor their performance and what sort of more specific indicators are used for this purpose. At the very minimum, an incubator business plan should set out a set of targets supported by measurable performance indicators that enable progress to be periodically assessed. For example, the business plan should contain projections regarding occupancy rates, targets for the amount of rental and other income, and indication of the break-even point.

*Table 42: What sort of criteria does management use to monitor incubator performance?*

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Performance criteria	Very Important		Quite Important		Not Important	
	No	%	No	%	No	%
(1) Incubator occupancy rates	34	18.8	36	23.2	23	14.6
(2) Number of firms graduating from incubator	32	17.7	33	21.3	13	8.3
(3) Jobs created by tenant/ graduate companies	46	25.4	23	14.8	9	5.7
(4) Turnover of tenant / graduate companies	22	12.2	33	21.3	33	21.0
(5) Financial performance of incubator itself	28	15.5	26	16.8	24	15.3
(6) Other criteria	19	10.5	4	2.6	55	35.0
Total	181	100.0	155	100.0	157	100.0

Source: CSES analysis of sample. Note: Multiple responses possible. It should be noted that the performance criteria were pre-selected by CSES and not by incubators.

Table 42 suggests that incubators use a wide range of measures, job creation and occupancy rates generally being the most important of the (non-financial) indicators.

The research suggests that in addition to financial performance and the routine monitoring of service delivery against non-financial quality standards such as those listed above, some incubators periodically undertake surveys and other research to assess the impact they are having on client companies and the wider local economy. But the most common method of obtaining feedback is through more informal contact with firms.

Table 43: Methods of obtaining feedback from client companies

Sources of Feedback	Tenants	%	Stakeholders	%
(1) Feedback from informal contact	64	41.0	43	40.6
(2) Periodic meetings with clients/stakeholders	42	26.9	34	32.1
(3) Periodic surveys of clients and stakeholders	37	23.7	18	17.0
(4) Other Methods	11	7.1	7	6.6
(5) No particular methods	2	1.3	4	3.8
Total	156	100.0	106	100.0

Source: CSES analysis of sample. Note: Multiple Responses Possible

Viewed from a country perspective, in some countries (e.g. Italy, Spain and France) there appears to be a high percentage of incubators where there are no formal client monitoring arrangements. This may be due to several factors. For example, we were told in our interviews that SMEs in Italy and Spain are often reluctant to reveal their turnover and staffing details to incubation management, which may be due to traditional cultural factors whereby confidentiality in business is regarded as paramount. France also has quite a number of very small incubators devoted to local economic development and urban regeneration, where there may not be a perceived need for formalised procedures due to limited staffing resources.

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### Best Practice Example 11 – Quality Standards

In several countries, a lot of emphasis is being placed on the development of quality standards. The best examples of this are in Austria, France, Germany and the UK. In France, ELAN has adopted the approach of defining the minimum criteria that need to be satisfied to qualify as a business incubator ('norme française'). These criteria are fairly open and stipulate that an incubator should be an essentially a physical entity whose primary objective is to provide both physical workspace and high quality business support services in order to facilitate and accelerate new business creation. In contrast, the quality standards used by UKBI do not stress physical aspects. Probably the most developed approach, however, is in Germany where the ADT is currently piloting a set of quality standards consisting of 75 detailed criteria. These focus on categorising incubators according to the characteristics of tenant companies, in particular the extent of technology-based activities. In Belgium, the incubator at Héraclès has formal quality standards. In Upper Austria a project is seeking to develop higher quality in the management processes of incubators (12 incubators are participating in the programme).

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## 6

*In this section we consider business incubator impacts and how these can be measured. A key conclusion is that feedback from tenants and the tracking of 'graduate' destinations should be treated as a key input to assessing the performance of incubators and benchmarking*

### 6.1 Overall Approach

One of the key messages from this project is the need to judge the success of incubators according to the outcomes they achieve. A further important conclusion of this project is that incubators should obtain feedback from their tenants and other clients on a more systematic basis as a way of monitoring their performance.

The analysis of incubator impacts contained in this section relies on a combination of feedback from incubator managers and the results of a client company survey. As part of the project, we asked incubator managers to help us obtain feedback directly from their client companies. Three approaches were adopted:

- A questionnaire was made available to all incubators covered by the project to survey their clients (Appendix X contains a copy);
- Incubator managers were asked to either undertake a survey of client companies as part of the project, or at least to indicate whether they would be prepared to do so at a later date;
- As part of the fieldwork programme, CSES also interviewed a sample of some 40 companies at each of the incubator premises.

The analysis of company feedback is based on the sample of 71 companies located in 'Managers Group' incubators from four countries. Those who responded to the survey typically had seven staff and had been located at the incubator for approaching three years (on average, both personnel and turnover levels had doubled over the previous 12 months). We have used the qualitative feedback from interviews to illustrate the analysis.

### 6.2 Contribution of Incubators to Business Performance

To start with, we asked companies why they had decided to seek admission to a business incubator. A key issue that incubators should consider in assessing their performance is the value added of their activities to tenant companies or put another way, the extent to which clients could have achieved the same outcomes over the same timeframe without the support of an incubator.

Table 44 analysing the feedback suggests that a favourable location and image, together with the quality, price and flexibility of incubator space, are the key factors.

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*Table 44: Why Companies Decided to Locate in Business Incubator*

Reasons for Locating at Incubator	Ranking (1=Most Important/4=Least Important)					
	1	2	3	4	Blanks	Average
Favourable location and image	32	24	5	2	8	2.6
Quality, price and flexible of incubator units	37	16	6	3	9	2.6
Availability of professional business services	7	8	25	11	20	2.8
Clustering and networking opportunities	2	9	12	21	27	4.2

Source: CSES analysis of client company sample

Table 45 provides feedback from incubator managers on the factors that they see as making incubators an attractive location for client businesses. As can be seen, there is a very similar ranking with favourable location, but more significantly, a prestige image, being rated more highly than purely material considerations such as the cost and flexibility of premises.

*Table 45: What makes the incubator an attractive location for businesses?*

Incubator Strengths/Ranking (1=most important)	1	2	3	4	Average
(1) Favourable location and image	27	14	15	17	2.3
(2) Quality, price, flexible terms for incubator units	21	21	14	15	2.3
(3) Availability of professional business services	28	17	23	6	2.0
(4) Clustering/networking with similar businesses	11	24	16	21	2.6

Source: CSES analysis of incubator survey sample

## 6.2.1 Company Success Rates

A key aim of business incubators (see Section 2) is to accelerate the process of starting up a business and to minimise failure rates. Previous research – reviewed in the Phase 1 report – suggests that in the past incubators have generally reduced failure rates to between 5% to 10% depending on the nature of tenant companies, the stage of the economic cycle, and other factors. Table 46 shows that the failure rate for the incubators covered by this research is around 15.8%.

*Table 46: Failure rate amongst tenant firms*

Category	Total	Average
Number tenants assisted by sample incubators since start up	7045	102.1
Number tenants in sample incubators that have ceased trading	1060	16.1
Failure Rate (Percentage)	15.8	

Source: CSES analysis of sample

# EVALUATION OF INCUBATOR SERVICES AND IMPACTS

The slightly higher failure rate indicated above may be due to the predominance of new technology businesses in the incubators covered by the research, i.e. the high risks involved – and often accompanying high failure rates – may simply be a function of the innovative nature of activities.

There is a fundamental difference here with respect to new-economy incubators, for which minimising the failure rate is not a priority. Indeed, their business model takes it for granted that half or more of the incubated companies will fail, but expects that roughly one in ten will be successful enough to compensate for those failures and still provide an attractive return on investment overall.

Unlike a traditional incubator, an equity-based incubator can exercise several options in developing its incubated companies. Depending on how the business and market evolve, it can choose to shift money from one company to another; to ramp up the development of a company; to change the business plan to take advantage of new opportunities; to put the business on hold until conditions improve; or else shut it down permanently, transferring its assets to other ventures. That flexibility is particularly valuable in the face of market volatility, uncertainty and risk.

## 6.2.2 Destination of Graduate Companies

In addition to monitoring the performance of tenant firms, best practice suggests that incubators should track the destination of ‘graduates’ to establish the extent to which economic benefits are being retained in the local area in the longer-term. This is a key to the contribution incubators have to make to sustainable regional development. Moreover, many tenant companies move out of an incubator because of capacity constraints and it is only once they have ‘graduated’ that their full job and wealth creation potential becomes apparent.

From a more practical perspective, the research suggests that continuing contact is important to enable ‘after-care’ services to be provided and because ‘graduate’ firms can offer valuable assistance to incubator tenants (we found several cases, for example, where graduate firms were acting as ‘mentors’ to tenants).

According to the survey work, an average of 41 companies have successfully ‘graduated’ from each incubator. Table 47 suggests that most remain in the local area – 37 incubators from the sample stated that this was the case while only 3 from the sample indicated that most graduates tended to move outside the region. At this stage there is insufficient data to estimate the economic benefit to local economies.

Table 47: Where have graduate companies mainly moved to?

Destination of graduate firms	Ranking (1 = most common)					Average
	1	2	3	4	0	
Premises close by (e.g. science park)	37	9	3	2	27	1.4
Elsewhere in the local area	27	32	3	0	16	1.6

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Elsewhere in the region	3	14	28	2	31	2.6
Elsewhere in the country	3	2	9	26	38	3.5

Source: CSES analysis of sample

### 6.3 Gross Job and Wealth Creation Effects

This section examines incubator impacts. For many business incubators, creating new jobs is one of their main objectives (e.g. Project North East in the UK). In other cases, where low levels of unemployment exist (e.g. the Lisbon area) the emphasis tends to be more on wealth creation because joblessness is not seen as a problem. Irrespective of which situation applies, job outputs are often used as a proxy for a wide range of social and economic impacts. A distinction needs to be made between:

We start by assessing the direct (gross) effects and then estimate the wider (net) impacts. The methodology for calculating direct effects is summarised below:

**Step 1 - Number of Jobs Per Company:** CSES has cross-referenced the data provided by incubator managers with data provided directly by companies. The findings on firm size are broadly similar: the average size of a typical tenant firm based on an analysis of the CSES incubator survey was 6.2 employees. This compares with an average size of a typical firm in the company survey of 6.7 employees.

Of the 125 incubators covered by the analysis, most provided information on employment for their tenants. The average number of jobs per firm (7.1) was calculated by dividing the estimated total of jobs created by tenant firms across the sample (10,161) by the number of firms in the sample incubators (1,437). Table 44 shows the workings.

Table 48: How many people are currently employed by tenant companies?

Number of full time equivalent employees	Number of firms	%	Midrange	Number of jobs	%
1 – 3 persons	629	43.8	2	1258	12.4
3 – 10 persons	573	39.9	6	3438	33.8
10 – 20 persons	160	11.1	15	2400	23.6
20 – 50 persons	64	4.5	35	2240	22.0
50 –100 persons	11	0.8	75	825	8.1
Over 100 persons	0	0	NA	0	0
Total	1,437	100.0	NA	10,161	100.0
Average	10,161 jobs / 1437 tenant firms in sample = 7.1				

Source: CSES analysis of incubator sample. Note: The above employment figures represent the estimated number of full time equivalent employees per tenant firm. Whilst not all of these will be new jobs, given the typical growth patterns of a new incubator tenant (on average, tenant firms double in size every year for each of the three-four years they are located in the incubator environment), we have assumed that of these jobs, 40% are new jobs created that year.

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In the UKBI survey a different approach was adopted to measuring the number of jobs in an incubator over a fixed one-year period (giving an average of 5.2 people per firm). Taking the CSES survey data and UKBI survey results together therefore results in a slightly lower average of 6.1 employees per firm.

It should be noted that the above estimate does not take into account jobs in graduate companies. The estimated 246 new jobs per incubator is also a gross figure and has not been adjusted for additionality, displacement and indirect effects to provide a net equivalent (this is done later in this section).

**Graduation Rate:** our research suggests that the average incubator in Europe has been in operation for 8 years (i.e. dates from 1993). On average, 53 firms have successfully graduated from a typical incubator over this 8-year average period of operations. This means that during each year of an incubator’s operations, an average of 6.6 firms graduate into the wider business community. Based on the average of 6.6 tenant firms graduating per year per incubator, and on an average firm size of 6.2 employees per tenant firm, a typical incubator therefore creates 40.9 new jobs per year.

**Scaling up to EU Level:** A incubator ‘mapping exercise’ conducted during the course of 2001 by Enterprise DG <sup>2</sup> suggests that there are approximately 840 business incubators in Europe. On this basis, European incubators create an average of 34,356 direct new jobs annually, before taking into account the failure rate amongst incubator tenants of 15.8%. <sup>3</sup>

**Adjustment for Company Failure Rate:** Once an allowance has been made for business failures, the number of gross direct jobs scaled up to European level is 28,928. Table 49 summarises the workings for the estimate of gross direct effects:

*Table 49: Methodology for the Calculation of Direct/ Gross Employment Impacts*

Direct Employment Effects	European survey data
Total no. of businesses in survey sample *	1828
Total no. of incubators in survey sample *	74
Average number of tenants per incubator	1828/74 = 24.7
Number of people employed in average incubator	24.7 (av. tenant firms) x 6.2 (av. jobs / firm) = 153.1
No. of graduate firms divided by the average age of the incubator = av. no of firms graduating/ pa	53 graduates per incubator / 8 years = 6.6 graduates/incubator pa
6.6 av. no of graduate businesses leaving incubator per year times by av. size of firm (6.2)	6.6 x 6.2 = 40.9
840 incubators in EU.multiplied by 40.9 graduate jobs created per incubator	840 x 40.9 = 34,356 direct new jobs created annually

<sup>2</sup> See [http://europa.eu.int/comm/enterprise/entrepreneurship/support\\_measures/incubators/index.htm](http://europa.eu.int/comm/enterprise/entrepreneurship/support_measures/incubators/index.htm) for more details on DG ENTR’s European directory of business incubators

<sup>3</sup> I.e. 40.9 graduate jobs created per incubator per year multiplied by 840 incubators equals 34,356 direct jobs created annually.

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No. of direct jobs created (34,356) less the failure rate (15.8%)	$34,356 \times 0.842\%$ survival rate = 28,928 direct new jobs created annually
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\* 74 incubators provided a response

A key question with regard to direct job creation is the extent to which business incubators have a positive impact on the communities where they are located by generating employment opportunities for local people. The results of the company survey feedback are set out below.

*Table 50: Recruitment of Client Company Personnel*

Origin of Staff	Number	Percentage
Same area	54	76.1
Elsewhere in country	2	2.8
Other countries	0	0.0
Combination	10	14.1
No answer	5	7.0
Total	71	100.0

Source: CSES analysis of client company sample

The fact that over three-quarters of the personnel recruited by the companies came from the same areas as where the incubators are located points to a favourable impact on local labour markets. These results are not to be taken for granted: companies engaged in knowledge-intensive activities could be expected to have difficulty finding local people with the required specialist skills, for example where the incubator has a location in an inner city area that has suffered from economic decline and the skills base is still orientated towards older industries.

Table 51 provides an important set of indicators relating to job quality. Although there is no straightforward measure of job quality, the activities of the businesses concerned, and type and level of qualifications of staff are widely used as ‘proxy’ indicators.

*Table 51: Client Company Quality Indicators*

‘Quality’ Indicators	Firms Proving Data	Survey Results
Percentage of staff with degrees	50/71	51.9
Percentage of turnover invested in training	64/71	6.8
Percentage of turnover invested in R&D	64/71	17.6

Source: CSES analysis of client company sample

The previous section contained an analysis of incubator company activities showing that a very high proportion of firms are engaged in knowledge-intensive projects. Table 46 suggests that a high proportion of the workforce in incubator companies (compared with businesses generally) have at least a university degree. Another ‘proxy’ indicator of job quality is the proportion of company turnover invested training and here the figure if just under 7% is around average, possibly because many incubators provide access to

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skills development via local universities and some costs will not therefore be borne by the firms themselves. Last but not least, the analysis indicates that the average incubator company invests some 17% of its turnover in R&D, another pointer to job quality and ‘innovation intensity’.

In addition to direct job creation effects, incubator clients will generate wealth creation effects. These are more difficult to measure but Table 52 provides an estimate of the growth rates in turnover amongst tenant businesses. As can be seen, a high proportion of companies are thought to be achieving growth rates in excess of 10% p.a. although the proportion of ‘don’t knows’ is high.

Table 52: What turnover growth rates have tenants typically achieved in recent years?

Growth Rates	Number	Percentage
Below 10%	2	2.6
Between 10 and 20%	13	16.7
Between 20 and 50%	22	28.2
Over 50%	3	3.8
Not known/ impossible to say	38	48.7
Total	78	100.0

Source: CSES analysis of incubator sample

## 6.4 Net Job and Wealth Creation Effects

It will be recalled from the analysis in the previous section that the typical client company employs 6.2 people. These are the gross effects do not take into account:

- *Additionality* – the extent to which job and wealth creation effects only come about because of the services provided to firms by an incubator;
- *Displacement* – the jobs and wealth lost in a situation where firms assisted by an incubator compete directly with other non-assisted local firms;
- *Indirect Effects* – a combination of supplier related effects (additional jobs and wealth generated by local firms that provide goods and services to the incubator and its tenant companies) and income multipliers (the additional jobs and wealth generated more widely in a local economy as a result of employees of assisted firms spending their earnings on local goods and services).

The adjustments enable an estimate of the *gross* job and wealth creation effects attributable to incubator companies to be converted into *net* impacts. Previous studies, including research by CSES examining incubator impacts, suggests that there can be a considerable difference between gross and net impacts.

### 6.4.1 Additionality

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Whilst the calculation of gross employment impacts provides a very useful snapshot of the direct employment contribution to the local economy of ex-tenant firms at graduation point, the question of attribution, i.e. whether all the employment impacts and turnover of ex-tenant companies can be directly attributed to the incubator itself remains subject to debate. Similarly, the point at which the employment and wealth creation effects of ex-tenant firms should no longer be attributable to the incubator is equally contentious.

We assessed this factor (additionality) by asking companies the hypothetical question ‘what would have happened if you had not been located at an incubator?’. An analysis of the responses is shown below:

*Table 53: Additionality - Importance of Incubator to Company Performance*

Degree of Additionality	Number	Percentage
<i>Critical</i> – without support, firm would not have been successful	16	22.5
<i>Important</i> – support has been helpful but not critical to success	43	60.6
<i>Not important</i> – firm would succeeded without incubator support	12	16.9
Total	71	100.0

*Source: CSES analysis of client company sample*

In around a fifth of cases (22%), those participating in the survey indicated that the role of the incubator had been critical to their success (‘absolute additionality’). Examples where this situation applied included incubator companies in the North East of England, which relied on the ready availability of high-speed internet access and a range of business support services (notably marketing assistance) provided by the incubator as a means of competing for business with London-based firms in the same industry sector (new media and creative arts) which previously had geographical advantage. Similarly, advice on obtaining grants and expertise in accessing bank, seed and venture capital was regarded as absolutely pivotal to business success in a number of Italian companies surveyed, where the business angel and venture capital markets are less well developed.

In other cases, the role of incubators was either helpful but not critical (‘partial additionality’) or was judged not to have been particularly important at all (‘dead-weight’). We have taken the figure of 16.9% from the above table as an indicator of dead-weight. Examples of companies that gave these types of responses included pre-existing companies at an incubator in Austria who were based at the incubator primarily because of the incubator’s favourable location and rental charges considerably below the prevailing market rate.

The distribution of the responses shown in Table 49 between the various categories is fairly typical of SME support measures in our experience. It needs to be pointed out that the method adopted to assessing additionality in this survey – asking firms themselves to judge how important incubator support had been – runs a considerable risk of bias: companies that have recently started operating at an incubator will tend to overstate the

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benefits of their location whereas firms that are about to leave an incubator will often demonstrate the opposite tendency. Equally, incubator managers who participated in the in-depth case studies highlighted their experience and emphasised a tendency of incubator tenants to over-estimate the role of incubators at the beginning of the incubation process but to underestimate the benefits towards the end

However, there is no perfect method and alternative approach of using control groups also suffer from major drawbacks (these and other methodological issues relating to the measurement of additionality were discussed more fully in CSES's interim report).

In another question we asked firms to indicate precisely which incubator services had been most helpful to them on a 1 to 6 basis where 1 represented 'very useful' and 6 'not useful at all'. Table 54 presents the results.

*Table 54: What Business Incubator Services Have Been Most Useful?*

<b>Professional Services</b>	<b>Ranking</b>	<b>Score</b>
Access to grants, seed and venture capital funding	1	2.9
Business planning and forming a company	2	3.2
Pre-incubation services	3	3.3
Training to develop business skills	4	3.3
Help with raising bank finance	5	3.4
Advice on development of new products and services	6	4.2
Other professional services	7	5.5
Advice on recruitment of staff and personnel management	8	6.0

*Source: CSES analysis of client company sample*

The survey of incubator tenants revealed that amongst the most value added services provided by business incubators were help in gaining access to grants and the provision of advice on seed and venture capital funding. Incubator managers build substantial expertise over time through the development of local financial networks and personal contacts and are therefore well qualified to provide high quality financial advice. Many incubator managers also gain first hand experience of investment appraisal and selection criteria through direct involvement administrating and operating their own incubators' early stage seed capital funds.

Another explanation for the perceived high degree of importance of incubator-led financial advisory services is that new firms/ entrepreneurs often lack financial know-how. In order to succeed, an entrepreneur needs a range of technical, financial and business skills, as well as physical space from which to operate. Given that many newly turned entrepreneurs have the technical background but do not possess the requisite financial and/ or business acumen to drive forward business growth, advisory services provided by the incubator manager and associated networks of locally-based contacts in the financial sector are considered invaluable by tenant firms.

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In some EU regions where economic development is lagging and EU grants are available, incubator managers are perceived to play an important role in providing information on suitable grants for which a tenant company may be eligible. With limited time and financial resources, an SME is unlikely to invest the time to investigate all grant opportunities. However, with expert guidance from an incubator manager, the new start-up is better able to ascertain the viability of applying for different types of funding and can more quickly identify the appropriateness or otherwise of particular grant schemes.

## 6.4.2 Displacement and Multiplier Effects

Displacement, as noted earlier, is a situation where firms assisted by an incubator compete directly with other non-assisted local firms, leading to job losses in these firms and a reduced overall net impact attributable to incubator operations. To assess the extent of displacement, we asked incubator companies to indicate where their main competitors were located. As Table 55 shows, incubator firms tend to be competing in national if not international markets rather than directly with other local businesses.

Table 55: Location of Client Company Competitors

Location of Competitors	Number	Percentage
Same area	19	26.8
Elsewhere in country	16	22.5
Other countries	11	15.5
Combination of above	21	29.6
No answer/ blank	4	5.6
Total	71	100.0

Source: CSES analysis of client company sample

Whilst it is difficult to accurately measure displacement effects, (i.e. the number of local firms which have duplicated the existing activities of small businesses in the local area leading to displacement), a figure of 5% is the usual accepted level in evaluation studies undertaken by the European Commission (see displacement column).

Examples of incubators supporting the development of local supply chains include ex-tenants of an incubator in Finland acting as suppliers to Nokia of non-core goods and services. The incubator is regarded as an essential component of a wider technology clustering. Many of its tenants provide services to Finland's largest companies. Another example of sectoral clustering was in France, where a number of incubator tenants were assisting the CRE, one of France's leading public sector research institutions, with applied research into optical imaging. The SMEs provided the technical know-how whilst the CRE provided high-tech research facilities, other resources and access to expertise in commercialising new technological applications. The importance of local, innovative small firms in the supply chain was highlighted in Ireland, where large multinational conglomerates in the ICT and software industries such as Intel and AOL have worked in partnership with public sector business support organisations and

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incubator managers to encourage the development of business clusters and an indigenous high-tech SME community. We came across similar examples in Austria, Germany, Sweden and other countries.

Turning to multipliers and indirect job creation, as part of the survey we asked incubator companies to indicate how much they spent on local suppliers. Perhaps not surprisingly, only some firms were able to provide the required information (49 of the 71 companies making up the sample (69%) did so). The average expenditure of €20,000 per company in the last financial year on local goods and services can be used to estimate supplier-related employment effects if an assumption is made regarding the average cost per job in a local economy (i.e. salary, social security and other costs paid by employers). For this purpose we have taken the average EU wage and added an additional 40% for additional costs to give a total of around €50,000 per job. On this basis, for every one incubator company job, a further 0.4 jobs will have been created indirectly via local supply chains. Our research suggests that this supposition is not unreasonable given the high quality of jobs created through incubation programmes and the likelihood of higher than average wages to reflect the high skills base of employees of incubator graduates. The CSES company survey suggests that as many as 52% of employees of incubator tenants have a degree level qualification or above, an indicator of the high value added of incubator activities.

The other component of indirect job creation is new employment resulting from additional spending on local goods and services by people recruited by incubator companies (induced effects or consumption multipliers). We did not consider it feasible within the framework of a limited exercise such as this survey to ask for information on salary levels in incubator companies and the spending patterns of employees. However, other research by CSES suggests that a multiplier of around 1:1.5 can be used to estimate this aspect of indirect job creation by incubator companies. Assuming a ratio of 1:1.5, income multipliers, supplier multipliers and other indirect effects will have contributed an additional 14,464 indirect jobs to the net figure. The total net number of jobs created (both direct and indirect) is therefore 37,058.

Although not strictly relevant to the assessment of net impacts, we also asked companies to indicate where their main customers were located. The survey revealed some interesting findings:

*Table 56: Location of Company Customers*

Origin of Customers	Number	Percentage
Same area	25	35.2
Elsewhere in country	17	23.9
Other countries	3	4.2
Combination of above	22	31.0
No answer/ blank	4	5.6
Total	71	100.0

Source: CSES analysis of client company sample



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Thus, although a significant proportion of incubator companies (as shown in Table 56) face competition that is international, their markets tend to be mainly local or national with a relatively small proportion exporting their products or services. There are probably several explanations for this: first, small firms generally have a low level of export activity; and, second, many incubators form part of the structure supporting the development of clusters in which tenant companies are often integrated into the supply chains of larger companies located in the same areas that form a core of the clusters.

Below, we summarise the workings for the estimate of net effects attributable to incubators:

*Table 57: Summary of Net Employment Impacts*

Net Employment Impacts	European survey data
No. of direct new jobs created (34,356) less the failure rate (15.8%)	28,928
Additionality (16.9% classified assistance received as 'not additional')	(4,888)
Displacement (less 5%)	(1446)
Indirect effects – multiplier effects 1:1.5	14,464
Total Net Jobs	37,058

To summarise, an estimated 37,058 net jobs are created annually through the activities of business incubators. Essentially, the number of direct jobs minus the failure rate (i.e. the gross number of direct jobs) is taken as the starting point for calculating net employment impacts.

### 6.4.3 Cost per Gross and Net Job

A widely used measure of cost-effectiveness is the cost per job. Below, we estimate this on a gross and net basis.

*Table 58: Gross Cost per Job*

Key Performance Indicator	European survey data
Av. public spending of 37.4% (EU, international and national authorities) compared with an av. operating cost of €479,375/year, av. public contribution to operating costs is €179,286	Av. operating costs/ incubator = €479,375 x 37.4% public contribution = €179,286
Annual Public Subsidy (€179,286) divided by the no. of graduate jobs created annually (40.9)	€179,286/40.9 = €4,383 per new job created

The gross cost per job in terms of public sector subsidy (based on an analysis of annual operating costs) of €4,383 compares highly favourably to other types of public intervention, particularly when other indirect effects such as supplier and income multipliers are taken into account. On a net basis, the cost per job is even lower at €4,065.

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Table 59: Cost per Job (net)

Key Performance Indicator	European survey data
Av. Public Spending of 37.4% (EU, international and national authorities) compared with an av. operating cost of €479,375/year, av. public contribution to operating costs is €179,286	Av. operating costs/ incubator = €479,375 X 37.4% public contribution = €179,286
Annual Public Subsidy (€179,286) divided by the no. of net graduate jobs created annually (37,058/840 EU incubators = 44.1 )	€179,286/44.1 = €4,065.4 per new job created

NB: The number of net jobs created takes into account company failure rates, additionality, displacement, indirect effects (multiplier and supplier effects).

The cost per job estimates shown in Tables 58 and 59 are before considering any taxation effects of new employment. From the public sector’s point of view, new employment may create a reduction in social security contributions, and an increase in tax revenues, both of which would tend to decrease the net cost per job. It was beyond the scope of this study to estimate these factors. However, research has been undertaken, for example in Germany, to quantify the net cost per job on this basis.

### Public Sector Cost per Job

To estimate the cost per job to the public sector, we have examined data solely for those incubators that have received public subsidies either from the EU, national authorities or other public sector bodies towards set-up and/ or operating costs. An analysis of these incubators produced the following (gross cost per job) results:

Table 60: Analysis of Public Sector Cost per Job

Cost per Job (gross)	Average	Median	Range
Operating costs - public sector	€3389	€1,836	€124 to 29,642
Operating costs + set-up costs (amortised at 8% cost of capital, diminution of capital) – public sector	€6,708	€2,647	€54 to 105,975
Operating costs public + private sector	€9,107	€4,334	€1,171 – 91,642
Operating costs + set up costs amortised (public + private sector)	€14,648	€6121	€1,308 – 219,501

If the public sector cost per job is calculated based only on operating costs, the gross cost per job is between €3,300 and €4,400. If initial set-up costs such as premises and equipment are taken into account and amortised on annual basis at a nominal rate of 8% to reflect depreciation, the cost of capital and capital diminution, the gross cost per job would be somewhat higher, rising to €6,708.

If financial support from the private sector (such as revenue through rent and the provision of business support and advisory services) is also included in addition to public funding support, the average gross cost per job would be €9,107 based on operating costs rising to €14,648 if set-up costs and depreciation are taken into account.

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## 6.5 Other Incubator Impacts

There are also a number of less easily quantifiable and wider impacts that can be attributed to incubator operations. Information on these impacts comes from tenant companies (see above) and also incubator managers. Table 61 provides an analysis of their perceptions. As can be seen, the benefits in terms of creating new, high quality businesses and with regard to job and wealth creation are ranked highest.

Table 61: How does the incubator contribute to local development?

Contribution to Local Development	Ranking in order of importance (1-5)							Average
	1	2	3	4	5	6	0	
(1) Creating new, high quality businesses	49	10	11	2	0	0	6	1.5
(2) Improving business competitiveness	3	17	16	16	15	0	11	3.3
(3) Contributing to job and wealth creation	22	16	11	17	3	0	9	2.3
(4) Developing new products and services	4	25	23	14	1	1	10	2.8
(5) Internationalisation of businesses	0	4	8	13	35	0	18	4.3

Source: CSES analysis of incubator survey sample

### Best Practice Example 12 – Monitoring of Client Company Performance

BIC Liguria in Italy provides one of the best example of a hands-on approach to monitoring client companies: it undertakes a regular survey of its tenants both to ascertain their performance (restricted to total turnover and number of employees) and to gauge SME demand for specific services, e.g. high speed internet access, advice on marketing products, quality standards and legal advice on patents. At any one time, 3 or 4 tenants out of the total population of 55 tenants will be undergoing an evaluation by the incubator management. CAT in Denmark also undertakes client monitoring, formally and informally as part of the tenancy agreement – start-ups benefit from advice and guidance during these sessions with incubator managers. Bordeaux Productic in France and Taguspark in Portugal highlight good practices with regard to mentoring.

The Centre d’Entreprises Héraclès in Belgium is a good example of post-incubation monitoring: here a strong effort is made to keep in touch with companies after they have left with an annual follow up asking for basic information such as numbers of jobs. The incubators objective in doing this follow up is to ensure that the incubator has information on outputs. But it also provides information to continue networking activities. The ADT in Germany is also planning to undertake a national follow-up survey of technology centre graduates.

### Best Practice Example 13 – Role of Business Incubators in (Urban) Regeneration

Business Incubation can also play an important part in the urban regeneration process. One good example of a successful regeneration initiative spearheaded by an incubator is the Guinness Enterprise Centre (GEC) in Dublin. The Centre is a Public Private Partnership (PPP) designed to revitalise and regenerate an area of Dublin with a high level of social and economic deprivation. The initiative has played an important part in revitalising the local area and in changing public perceptions by stimulating new enterprise development and business innovation. The Centre’s activities tie in with and make an important

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contribution to a wider urban regeneration strategy.

Incubator management engaged the local community during the planning and consultation process both to encourage community participation in the incubator’s activities and in order to meet the wider social objectives of its stakeholders. The Centre has actively encouraged community involvement by including members of the local community on various decision-making committees. GEC has played a central role in community development and in tackling of social exclusion issues, such as access to adult education. After an approach by local community representatives, the incubator set up evening classes focusing on basic IT literacy skills for local people. The incubator has also provided pro bono managerial advice and support to local businesses and has provided an outreach loan to a group of local residents.

BIC Liguria in Genova is another good example of an incubator playing a pivotal role in the regeneration process. The incubator was set up as a regional economic development catalyst in 1990 against a backdrop of industrial decline. Given the considerable economic and structural challenges faced by the Genova region resulting from the decline of traditional industry, the incubator’s primary objectives were to contribute to improving the local and regional socio-economic base of Liguria by encouraging new business and job creation and facilitating sectoral diversification.

Another important contribution is the ‘Centro Storico’ (historic centre’) project. Genova has one of the largest historic town centres in Europe. For a number of reasons, the ‘historic centre’ has become run down and dilapidated with a high level of social problems, delinquency, drug abuse, illegal immigration and squatting. BIC Liguria, working in partnership with the regional authorities, the comune and the mayor, has taken an active lead in the physical regeneration of the Centro Storico as part of a community ‘outreach’ project. With the help of a fund set up by the regional authorities and the Genovan town council, BIC LIGURIA is helping potential entrepreneurs meet the restoration and conversion costs of turning residential buildings in the old quarter into viable commercial outlets (bars, craft shops, delicatessen etc.) at ground floor level in order to rejuvenate the economy of the old quarter. The BIC provides business support and management expertise both at strategic level (to regional partners and the municipality) and directly to private entrepreneurs.

## 6.6 Comparisons Between EU and US Incubator Performance

In this section we provide a comparison between European and US incubators in respect of some key performance indicators.

The analysis in this section is based on CSES’s survey results for EU Member States and NBIA data for the USA. It has been hoped that the NBIA’s current survey would have been completed by the time this report was prepared but unfortunately this did not prove to be the case. As a result, we were only able to obtain data from the NBIA on a limited number of performance indicators.

As Table 62 shows, there is a greater variety of business incubators in the USA than in Europe.

*Table 62: Location of Business Incubators: EU/US Comparison*

Incubator location	Europe		USA	
	No.	%	No.	%
Urban	68	54.4	NA	45.0*
Greenfield	30	24.0	NA	NA

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Rural	8	6.4	NA	36.0
Other	13	10.4	NA	19.0
No answer/ don't know	6	4.8	NA	NA
Total	125	100.0	NA	100.0

Source: CSES analysis of sample, \* US data taken from the NBIA's State of the Incubation Industry

'Greenfield' in the European context relates to incubators that are established on new sites, usually close to university campuses or elsewhere outside town centres. It is possible that the category 'rural' relates to this in the NBIA survey.

In Table 63, we bring together a number of indicators relating to the features of business incubators in Europe and the USA.

Table 63: Key Comparisons – European and US Incubators

Key Performance Indicators	European survey data	US survey data
For profit/ Not for profit	21.8 (FP)/ 76.9 (NFP)	11.5 (FP)/ 86.5(NFP)
Occupancy rate	85% (av.)	81% (av.)
Survival Rate	84.2%	87%
Equity Position <sup>4</sup>	Yes - 7.7%	Yes - 34.6%
Av. no. of tenants per incubator	24.7 (av), 18 (median)	14.5 (av), 11 (median)
Av. no. of FTE jobs / tenant company	6.2	7.7
Av. no of new jobs created per tenant firm per year <sup>5</sup>	1.5	2
Amount of incubator space	5,860 (av), 3,000 (median)	NA
Graduation Policy? <sup>6</sup>	Yes - 79.5%	Yes - 90.4%
Breakeven <sup>7</sup>	Yes - 40.8%	NA
No. of incubator staff	5.6	NA
No. of incubator managers	2.3	NA

Source: CSES analysis of survey data

There are some pronounced differences: thus, surprisingly, it would appear that the proportion of for-profit incubators is higher in Europe than the US (this of course

<sup>4</sup> Does your incubator take an equity stake in its clients?

<sup>5</sup> The number of new jobs created per tenant firm is based on CSES methodology to calculate direct employment creation effects, which takes into account failure rates and the presence of pre-existing firms. New employment creation is calculated over a one-year period and assumes that the average length of tenancy in a typical incubator is 3 years and that 12% of incubator tenants were pre-existing firms. The survival rate was 84.2%

<sup>6</sup> Does your incubator have an enforced graduation policy i.e. maximum length of tenancy?

<sup>7</sup> Is it part of your incubator's business plan to break even?

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depends on how representative the samples are). Similarly, European incubators operate with higher occupancy rates. However, confirming other evidence, the success rate for start-ups in US incubators is higher than in their European counter-parts and US incubators invest directly in their client companies on a far more frequent scale. Interestingly, the number of tenants per incubator tends to be twice as high in European incubators (averaging 32 per incubator) than in the US (15) and yet the companies in the US employ marginally more people than in Europe.

Another significant finding from the comparison shown above is the fact that a higher proportion of US incubators have the objective of breaking even (this could contradict the earlier finding regarding for-profit/non-for-profit models). Table 64 explores this question in more detail, showing that if public subsidies were stopped, a far higher proportion of US incubators would be essentially unaffected.

*Table 64: Financial Sustainability: If the incubator stopped receiving cash subsidies, what would be the effect on incubator operations?*

Financial Sustainability	Europe		USA	
	No.	%	No.	%
1) Incubator activities could be maintained at current levels	6	7.7	9	17.3
(2) Incubator activities would have to be reduced significantly	31	39.7	12	23.1
(3) Incubator activities would stop altogether	17	21.8	7	13.5
(4) Not relevant - incubator does not receive subsidies	9	11.5	18	34.6
(5) No Response/ Blank	15	19.2	6	11.5
Total	78	100.0	52	100.0

*Source: CSES analysis of sample*

As noted earlier in this report, the current NBIA survey is still underway and we have not therefore been able to make all the comparisons that, in theory, can be made. However, it is hoped that more data will become available from the NBIA shortly so that it can be included in the final version of this report.

# CONCLUSIONS AND RECOMMENDATIONS

## 7

*In this final section we provide a summary of the key conclusions with regard to the business incubator benchmarking project and consider best practice and policy recommendations.*

### 7.1 Key Conclusions – Benchmarking Analysis

Below, we set out the overall conclusions of the benchmarking project. This has been done under three headings – setting up and operating business incubators, incubator functions, and evaluating incubator services and impacts. A summary of key statistical benchmarks is set out at the end of the section.

#### *Setting Up and Operating Business Incubators*

**7.1.1. Business incubators should be designed to support and be part of a broader strategic framework – either territorially orientated or focused on particular policy priorities (e.g. development of clusters), or a combination of these factors.** A key lesson from this project is that incubators should not be stand-alone entities but rather work along side other organisations and schemes to promote broader strategies. Examples of where this approach is being adopted are given in the report. They typically involve incubators acting as a link between centres of R&D excellence and business, commercialising R&D, helping to develop the supply chains for industrial clusters, promoting SME competitiveness, and in some cases, a more specialised role, e.g. addressing social inclusion by helping disadvantaged communities to engage in entrepreneurial activity or promoting other territorially focused priorities.

**7.1.2. It follows that incubators should be promoted by an inclusive partnership of public and private sector stakeholders.** Business incubator partnership structures will reflect overall regional, technology and business support strategies. The research suggests that incubators are typically promoted by a wide range of organisations from the public and private sectors including local authorities, universities, companies, and financial institutions. Public authorities have an important catalytic and leadership function, and can provide crucial pump-priming investment during the development phase of incubators. However, leveraging private sector support is important both from a financial perspective but also in terms of support in kind, e.g. management resources and expertise. Similarly, if the incubator's role is linked to the development of industrial clusters, then the involvement of large companies and universities will be important in promoting an incubator's role in the transfer and diffusion of technology and development of local supply chains.

**7.1.3. During the development phase, it is important for the market to be tested and a business plan to be devised that can provide a framework for incubator operations.** As with other business support measures that receive public assistance, many (but not all) incubators are designed to address market failure. This market failure may lie in weak linkages between R&D centres of excellence and business, inadequate support structures for high growth firms, an under-developed entrepreneurial culture, or these and other factors combined. During the planning phase, it is essential that the demand for an incubator's services is tested so that its

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role can be defined and an appropriate operating framework devised. Assuming positive conclusions, the outcome should be a business plan setting out the rationale for the project, target market, expected levels of demand, a detailed operating framework (infrastructure and services), estimated capital investment and running costs/sources of funds, how the incubator will be managed, and other factors.

**7.1.4. *There are a number of different set up funding models but the evidence from this project is that public support for the establishment of incubators in Europe will remain critical for the foreseeable future.*** The analysis contained in this report suggests that public funding accounts for a high proportion of the set up costs of most incubators (which average around €4 million) and for around 37% of operating revenue. There are no examples from our research (except with ‘new economy’ incubators) of incubators being established without public support and feedback from incubator managers suggests that this situation is unlikely to change.

**7.1.5. *Likewise, there are different ways in which incubators cover their operating costs and whilst many incubators rely on public subsidies, there is a strong argument in favour of dependence on this source of revenue funding being minimised.*** According to the research, incubator operating costs average around €500,00 per annum, the highest proportion of cost relating to staff (41%) followed by client services (24%), maintenance of buildings and equipment (22%), and other costs such as utilities (13%). Whilst many incubators are able to recoup a significant proportion of these costs (averaging around 40%) from tenants, the element of public subsidy remains high in most cases. Notwithstanding the fact that many incubators serve the public interest and can therefore justify subsidies, there is a strong argument for encouraging incubators to maximise income generation from services so that support can be spread across a larger range of schemes. At present, some three-quarters (77%) of European incubators operate on a not-for-profit basis.

### *Business Incubator Functions*

**7.1.6. *The provision of physical space is central to the incubator model. Standard good practices now exist with regard to the most appropriate configuration of incubator space.*** The research suggests that European incubators typically have around 5,800 square meters of space for tenants, sufficient to accommodate some 18 firms at any one time in a variety of units. Smaller incubator space than this is likely to make it more difficult to generate economies of scale. Feedback from incubator managers suggests that the physical clustering of companies remains important, notwithstanding the development of ‘virtual’ incubation models, to facilitate networking and to enable some services (e.g. access to broadband technology) to be provided on a cost-effective basis. Another key lesson from the research is the need to operate at no more than around 85% occupancy levels: although higher occupancy levels will generate more rental income, it reduces the flexibility needed to allow firms to move on from one type of incubator unit to another as they develop and grow.

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**7.1.7. *The value added of incubator operations lies increasingly in the type and quality of business support services provided to clients and developing this aspect of European incubator operations should be a key priority in the future.*** There is a widespread acceptance that although central to the incubator model, there is now a more or less standard model for the optimal configuration of physical space and that it is the quality and range of business support services that should be the focus of best practice development. This research suggests that there are four key areas in this respect: entrepreneur training (often part of ‘pre-incubation’), business advice, financial support (in some cases from incubator seed/venture capital funds but usually through links with external providers), and technology support. The incubator management team may provide some of these services themselves (see Point 11 below) or, if specialised services are needed or there are insufficient in-house resources, they may rely on networking with other organisations. The report provides a number of best practice examples covering the four areas of business support services.

**7.1.8. *Business incubators should charge clients for the support services they provide but the level at which prices are pitched should be designed to minimise the risk of ‘crowding out’ private sector providers.*** The research suggests that relatively few incubators (around 4%) provide business support services on an entirely free basis to clients. However, pricing levels tend to reflect an element of subsidy (35% of incubators stated that pricing was below market levels). Where incubators are operating in areas with poorly developed private sector business service provision, there is a danger that this practice will ‘crowd out’ actual or potential suppliers and undermine efforts to develop an alternative to public sector schemes.

**7.1.9. *With regard to incubator operating procedures, it is essential that there is a clearly defined target market and that this is reflected in the admission criteria.*** Experience suggests that the more successful incubators are the ones that have a particular technology and business focus. A focus of this type enables incubator managers to develop specialised knowledge and skills, and facilitates the clustering of client companies (e.g. enabling business relationships to develop between incubator tenants). The report provides an analysis of the types of admission criteria adopted.

**7.1.10. *Whilst achieving high occupancy rates is important to generate income, this consideration needs to be balanced against the importance of maintaining selective admission criteria.*** According to the research, European incubators typically have occupancy rates of around 85%. As noted earlier, achieving high occupancy levels quickly is desirable from the point of view of income generation but can have disadvantages in terms of being able to react flexibly to the changing requirements of tenants. Similarly, there is a danger that the selective approach to admitting projects will be abandoned in favour of a ‘first-come-first-served’ approach. Sufficient demand, based on selective admission criteria, for incubator space should exist if proper market research is undertaken as part of the incubator planning stage.

**7.1.11. *Likewise, adopting exit criteria that ensure a turnover of client companies is desirable even if the turnover of firms makes revenue levels from rental income and other***

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*services less certain.* Similar considerations apply to the question of exit rules. The research suggests that most incubators do, in fact, limit the length of time companies can remain as tenants (typically to around 3 to 5 years). Moreover, in many cases, companies move on to new locations because they need more space to grow. Graduated rentals rising to above market rates after a given period of time is another method that a number of incubators (24% of the sample) adopt to encourage firms to move on. At the same time, highly specialised incubators – e.g. biotechnology incubators – may have longer tenancy periods for their clients reflecting the nature of business activities. It is therefore difficult to argue the case for a single benchmark for all types of incubators as far as tenancy is concerned.

**7.1.12. *After care and networking with firms that have left an incubator should be regarded as just as important as providing services to incubator tenants.*** The destination of incubator ‘graduates’ should be monitored with companies being encouraged to remain in the local area. In some cases, incubators are located in areas with business parks or other sites that are suitable for companies to move to. However, in other situations, e.g. city centre incubators, this option may not exist. Graduate retention is important in ensuring that incubator operations have long-term benefits to the areas where they are located. Moreover, experience suggests that many firms are at the most vulnerable stage in their development when they leave an incubator. The provision of after-care services to ‘graduates’ is therefore critical to ensuring sustainable incubator impacts. Similarly, the research suggests that continued networking between ‘graduates’ and incubators can be beneficial to tenants, e.g. through mentoring relationships.

**7.1.13. *The quality of the management team, and adoption of a business-like approach to running incubators and monitoring clients, is crucial to performance and best practices in this field are becoming standardised.*** European incubators typically have around 5 to 6 staff (half of whom are managers) with senior personnel coming from a business background. A key efficiency indicator is the ratio between staff and companies. Based on this research, the ratio would appear to be 1: 3.2 (tenants) or 1:5.0 (tenants plus other clients). New economy incubators have an even higher ratio than this. In theory, these ratios might be benchmarked against other business service organisations (e.g. chambers of commerce, banks, accountants). In practice, the different in the ‘service offering’ makes such comparisons difficult. The research highlights a number of best practice examples with regard to incubator management, in particular client handling. The fact that over a third of incubators (34%) do not have any particular arrangements to monitor client performance and needs suggests that there is considerable scope for these practices to be improved in a way that systematises best practices. A number of initiatives are underway to develop incubator quality standards and this is an area where the sharing of ideas and experience could be especially fruitful.

### *Evaluating Incubator Services and Impacts*

**7.1.14. *The type of activities client companies are pursuing, in particular the technology/knowledge intensity of these activities, is the key factor (rather than physical features or operating modality) that should be used to differentiate one type of incubator***

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*from another.* In the past, incubator models have tended to be classified according to the nature of inputs (public, private, etc) and processes (type of incubator space, range of services, etc). An arguably better method of classification is to differentiate between the specialisms of incubators as reflected in the activities of their tenant companies. This can be done either in terms of a standard definition of business activities (different types of manufacturing, services, etc) or, at a higher level, in terms of the technology-intensity of activities. An approach of this sort makes sense given the fact that different types of incubators are increasingly offering very similar ‘core’ services.

**7.1.15. *The performance of business incubators should be judged primarily in terms of the results achieved, i.e. the impact they have on businesses, wider economic development and other priorities.*** A key message from this project is the need to judge incubator performance in terms of the long-term impacts achieved rather than short-term measures such as occupancy rates or failure rates. The report contains an assessment of incubator impacts suggesting that in terms of employment effects (a key indicator for public authorities and a proxy measure for a range of other impacts), European incubators are generating around 30,000 gross new jobs per annum. If indirect effects are taken into account – the higher spending in local economies brought about by additional direct employment and new jobs created in local supply chains – then this figure increases to around 40,000 net jobs per annum. Moreover, these results are being achieved at an average gross cost per job to public authorities of around €4,500 (€4000 net). This is a considerably lower cost than for most publicly-supported schemes. Comments have been made earlier regarding the ways in which incubators can maximise local impacts by encouraging ‘graduates’ to remain in the area. Equally important, however, is the need to ensure that local people have the education and training needed to take advantage of new employment opportunities in incubator companies.

**7.1.16. *In assessing the impact of incubators, there is a need to obtain feedback directly from client companies and greater priority should be given to this than has hitherto been the case.*** An important lesson to be learnt from this project is that incubator impacts can only be properly assessed by obtaining information from companies. Previous research has tended to rely on survey data from incubator managers alone. Whilst this provides good insights to the ‘input’ and ‘process’ aspects of their operations, it does not provide the basis for an in-depth understanding of ‘outputs’ and impacts. Feedback from companies is also important from a more practical point of view, i.e. client management and networking with ‘graduates’.

**7.1.17. *Likewise, a distinction should be made between gross and net impacts achieved by business incubators.*** As Point 15 makes clear, business incubator impacts are likely to be considerably under-estimated if only direct (gross) effects are taken into account. However, there are other essentially practical reasons for undertaking a more probing assessment of incubator impacts: investigating the extent of displacement is important in helping to ensure that an incubator’s target market is appropriately defined - if support is being given to projects that compete directly with existing local businesses, then the net value added of the incubator’s operations is questionable. Likewise, an understanding of additionality involves

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obtaining client feedback on the role played by an incubator in the development of their business and this information should help to ensure that the right services are being provided.

**7.1.18. Although ‘new economy’ incubators are currently out of favour, there are many lessons to be learnt that are relevant to the more ‘traditional’ model (and visa-versa).** This research suggests that there are three main lessons to be learnt from the experience of ‘new economy’ incubators: firstly, although market conditions are currently unfavourable, ‘new economy’ incubators have demonstrated a potentially profitability model that is attractive to the private sector; secondly, ‘new economy’ incubators have shown that the business incubation process can operate successfully on a virtual basis which for ‘traditional’ incubators with physical space constraints suggests making greater use of ICT to extend the client base; and, linked to this, they have demonstrated that the real value added of the business incubation approach lies in the sharing of know-how rather than physical aspects. By the same token, the ‘traditional’ model has enduring strengths including the need for a physical clustering of entrepreneurs to facilitate networking and access to advanced ICT, and the continuing importance of public support for incubator developments, at least during the early stages.

**7.1.19. Across Europe, there are a variety of different business incubator models and precise modalities should reflect local, regional and national circumstances and priorities.** As Section 2 of this report highlighted, there are a large number of different incubator definitions and models across Europe. Although they share basic features in common, there are also significant differences relating to stakeholder objectives, target markets, and the precise configuration of incubator facilities and services. These differences are partly a reflection of location-specific factors of a cultural, institutional, and policy nature, and it is important that these local factors are taken into account in defining best practice. Consequently, although we have developed an overall framework of benchmarks and best practice guidance in this report, specific modalities must necessarily be a question for local judgement.

**7.1.20. Similarly, although only limited comparisons are possible, the research confirms significant differences between the way in which European and US incubators operate and therefore scope for a sharing of experience and know-how.** Section 6 of this report highlighted differences between the way in which business incubators operate in Europe and the USA. Although the evidence is far from conclusive one way or another, this analysis suggests that whilst US incubators, for example, demonstrate particular strengths with regard to company financing and some management functions, their European counterparts have probably developed more expertise in fields such as entrepreneur training, virtual networking, and integrating incubator functions into broader strategies. There is considerable scope for such comparisons to be developed and this report has only been able to make a modest start in this respect.

**7.1.21. Overall, this report suggests that business incubators are a very cost-effective instrument for the promotion of public policy objectives.** The relatively low cost per job (see

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Point 15) and other less easily quantifiable benefits demonstrated by business incubators covered by this research suggest that they are a very effective method of promoting knowledge intensive, new technology-based activities. Direct comparisons with other types of schemes are difficult to make, one reason being that incubators usually combine many features of other schemes (e.g. the provision of advisory services) and/or are closely linked to them. However, if infrastructure costs are not taken into account,

At the end of this section we present a summary of ‘headline’ and ‘operational’ indicators that have been used in this project, together with benchmark values.

## 7.2 Best Practice and Policy Recommendations

In this section we outline key recommendations, starting with promoting best practice at an operational level. We then consider wider policy initiatives that might be taken at a European level to promote best practice in business incubation.

### *Promoting Best Practice in Business Incubation at an Operational Level*

**7.2.1. Business incubators should be encouraged to benchmark themselves against best practice standards and to take the steps required to achieve them.** The report contains a range of benchmarks relating to setting up and operating business incubators. In some cases, these can be quantified and a summary of the key benchmarks is provided at the end of this summary. In the report itself, we have also provided best practice examples covering aspects of business incubator operations where quantified benchmarks are not appropriate. Also, it is important to stress that the benchmarks will not apply to every type of incubator.

We recommend that in seeking to achieve best practice at an operational level, particular attention should be given to:

- Ensuring that incubator operations are integrated into wider *regional (technology) development strategies* and supported by broadly based partnerships;
- Clearly defining the *target market* and adopting *admission criteria* that focus on projects where an incubator can genuinely add value;
- Placing particular emphasis on developing *high quality business support services* (entrepreneur training, business advice, technology support, financing, etc);
- Ensuring that incubators are managed in a business-like manner with the aim of maximising *value for money*;
- Developing ‘*virtual*’ *incubation services* so that more businesses can benefit and through after-care/graduate networking, ensuring that job and wealth creation effects are retained in local economies.

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**7.2.2. Benchmarking and best practice sharing should focus on the four key incubator service areas identified in this report – entrepreneur training, business support, financing, and technology support.** As argued earlier (Point 7), practices are now more or less standardised with regard to the provision of incubator space and the challenge facing incubators is more to focus on developing first-class business support services, including a virtual dimension for firms not located in incubators. This report has identified four key incubator service areas and, in each case, we have highlighted a number of examples of best practice. Two areas – entrepreneur training and financing – might be prioritised since these appear to be where there is the least know-how.

**7.2.3. Business incubators should be encouraged to periodically undertake impact assessments.** As Point 17 has argued, there are a number of reasons why incubators should undertake impact assessments, not least of all to demonstrate the benefits of public support. However, there are considerable methodological and practical data collection complications. We recommend that incubators themselves, and the national associations (if possible, supported by the Commission) should (a) identify best practice in this field; (b) develop a common methodology based on best practice; and (c) agree on one or more pilot exercises to determine the best way of proceeding. This project has tested one possible approach but further consideration is needed to identify the most practical option.

**7.2.4. A further priority should be for business incubators reduce their dependence on public subsidies.** In this report we have argued that public subsidies for business incubators have an important role and that in many cases such support is accepted as a cost-effective way of helping to achieve policy objectives. However, even where this is so, there is a strong argument for encouraging individual incubators to reduce their dependence on public funding so that available resources can be spread more widely and used to promote new initiatives. The report has identified a number of ways in which incubators can improve income generation and hence their overall financial sustainability. Whilst the full, ‘for-profit’ incubator model has yet to be proven (especially after the failure of ‘new economy’ incubators) two options appear to have considerable income generation potential – charges for business support services (including services provided virtually) and income from investment in client companies. There may still be a pump-priming role for public subsidies but in the future this should, in our view, be at least in part performance-related (perhaps using some of the ‘headline’ indicators developed in this project to trigger payments). In addition to the best practices highlighted in the report, there are also lessons to be learnt from ‘new economy’ incubators in this respect and steps should be taken to ensure that this knowledge is analysed and shared.

**7.2.5. There is a need to ‘professionalise’ the occupation of business incubator management.** As the report has made clear, the quality of the management team is a key to successful incubator activities. At present there is no recognised professional qualification or standard in this field although specific incubator management functions (e.g. personnel management, providing financial advice to companies) are of course areas where such standards exist. Consideration might be given, however, to developing EU- level professional

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standard relating to overall incubator management as a way of enhancing the status of the occupation (and thereby attracting more and better quality staff), improving incubator operations, and perhaps increasing the mobility of managers between incubators. There is clearly a strong case for professional standards to be developed at a EU level.

### *EU Level Actions to Promote Best Practice in Business Incubation*

**7.2.6. As a starting point to any EU-level initiative, priority should be given to developing a set of common definitions and quality standards for European business incubators.** A starting point for any initiative to set up a European business incubator association should, we recommend, be to agree on an EU-level definition of a business incubator and, based on this, to devise EU-level quality standards. This report provides a starting point in defining key best practice benchmarks. There is also a lot of work that has been undertaken by national associations. It will clearly be important to take this material into account. One way of encouraging incubators across Europe to develop best practice would be to establish a financial instrument that invests via incubators that demonstrate effective operations in their client firms. This could be linked to existing venture capital funds or possibly opened up to wider markets.

**7.2.7. We recommend that the survey of European business incubators undertaken as part of this project should be repeated periodically, preferably on an annual basis.** Rather than relying on a ‘snap-shot’ as in this project, a longitudinal approach would make it possible to benchmark dynamically and to identify trends in incubator management and performance. The starting point might be to encourage national business incubator associations to adopt a common methodology based on a proforma that contains a number of common questions. Timing, data processing arrangements and other procedures would need to be harmonised as well and linked to the Commission’s database of incubators. Consideration might also be given to developing a ‘league table’ on European incubators based on key headline indicators.

**7.2.8. Consideration should be given to establishing a European Business Incubator Association as an overall framework for taking actions forwards.** At present, there are a number of national associations in Europe which have occasional ad hoc contacts with one another but an absence of an over-arching structure at an EU level. Such a structure is almost certainly needed to secure the engagement of Europe’s incubator community as a whole in any initiatives to take this project forwards. An organisation that already has a pan-European role is the European Business Network (EBN) representing BICs and consideration might be given to developing a wider business incubator association based on EBN. Which ever approach is adopted it will be important to involve national associations closely in the discussions.

**7.2.9. In addition, we recommend that the Managers Group that has been established as part of this project should continue to meet on an occasional basis to help implement the recommendations made in this report.** The Managers Group has played a very positive role

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in this project and, assuming that there is a follow-up to implement the report's recommendations, we suggest that the Commission should continue to convene periodic meetings of the group to review progress. In particular, the Managers Group might help to decide which aspects of business incubator operations should be examined in more detail by working groups (e.g. entrepreneur training, company financing). Consideration might also be given to expanding the Managers Group to include representatives from Central and Eastern European candidate countries and to giving it a role with regard to establishing a European association.

**7.2.10. *The European Commission should review the role of different Directorate-Generals and schemes to ensure that a co-ordinated approach is being adopted to the promotion of business incubators.*** A number of different Commission DGs have an interest – either explicit or implicit – in the operation of business incubators (apart from Enterprise DG, this includes Employment, Economic and Financial Affairs, Research, and Regional Policy DGs). Through the Enterprise DG's Multiannual Programme for Enterprise and Entrepreneurship (2001-2005), the "ETF Start-up" Facility will concentrate on the financing of incubators and seed capital funds and therefore represent a very useful complement to the other venture capital resources managed by the EIF, the European Investment Fund. To ensure that the various types of support the Commission can provide to incubators is co-ordinated, and that incubators themselves promote broader EU policy objectives, we recommend that there should be discussions between DGs to develop a Commission-wide strategy and action plan for the promotion business incubators in Europe.

**7.2.11. *In addition to the purely EU dimension, steps should be taken to improve the sharing of best practice between European and North American business incubators.*** This report has not been able to make detailed comparisons between business incubator operations in Europe and the USA but it is nevertheless clear that there is much to be potentially learnt from sharing experience and know-how. Through this project, good contacts have been established with the NBIA and it is a question of now further developing the relationship. At one level, there is a need to improve the sharing of information on incubator activities and performance (as pointed out in this report, CSES 'harmonised' the questionnaire used for the European research with the *pro forma* used by the NBIA for its surveys. We understand that there is a now possibility of a benchmarking projects being undertaken in the USA). At another level, much could be gained from encouraging direct contact between incubators, e.g. through exchanges of staff, to provide more detailed and practical know-how concerning incubator operations to be pooled.

The tables on the next page provide a summary of key headline and operational benchmark values. A summary of key benchmarks is contained at the end of the executive summary.



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Efficiency			
Inputs and Processes		Outcomes	
<u>Start-up time</u> – length of time required to establish incubator	12 – 24 months	<u>Cost of incubator units</u> – total investment/sq meter of space	Total investment (infrastructure/ set up costs) av. €3,705,742  Operating costs - €479,375 X 8 years av. length of time in incubator = €3,835,000  Total Investment per Incubator (operating + set-up) = €7,540,742 / 3,000m <sup>2</sup> = €2,513/m <sup>2</sup>
<u>Incubator investment cost</u> – total investment/ sq. m. of incubator space	Total Investment per Incubator (operating + set-up) = €7,540,742 / 3,000m <sup>2</sup> = €2,513/m <sup>2</sup>	<u>Cost per start-up</u> – total investment/number of start ups	Total Investment per Incubator (operating costs) = €3,705,742 / 3,000m <sup>2</sup> = €1235/ m <sup>2</sup>  €3,835,000 / 102 <sup>i</sup> = €37,598 per start-up
<u>Incubator operating cost</u> – operating costs/number of personnel	€479,375 av. operating costs / 5.6 = €85,603	<u>Cost per graduate</u> <sup>ii</sup> total investment/number of graduates	€3,835,000 / 53 = €72,358
		<u>Cost per start-up</u> (operating costs + set-up / infrastructure costs) – total investment/number of start ups	€3,835,000 + €3,705,742 = €7,540,742  €7,540,742 / 102 = €73,929

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Efficiency (continued)			
NA	NA	<u>Cost per graduate</u> (operating costs + set-up/ infrastructure costs) – total investment/number of graduates	$€3,835,000 + €3,705,742 = €7,540,742$  $€7,540,742 / 53 = €142,278$
<u>Financial leverage</u> – ratio of public to private sector funding	1:2.67	<u>Cost per (gross/net) job</u> – total investment/ jobs in tenant and recent graduate firms	Cost per job €4,383 (gross), cost per job €4,065 (net) <sup>iii</sup>
<u>Financial leverage</u> – ratio of public to private sector funding	50.6% (39.5% from rental charges, a further 11.1% from other client service charges)	NA	NA

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Utility			
Inputs and Processes		Outcomes	
<u>Occupancy rate</u> – percentage of incubator space let to companies	85%	<u>Incubator turnover</u> – number of firms entering/leaving incubator, average time in incubator	35 months av. length of tenancy in an incubator
<u>Incubator service utilisation rate</u> – percentage of companies using incubator support services	NA	<u>Client satisfaction</u> – percentage of firms indicating that incubator services meet their needs, contribution of incubator to firms’ development (additionality)	22.5% - fully additional, 60.6% partially additional
<u>Response rate to client surveys</u> – percentage of tenants responding to client satisfaction surveys	NA	NA	NA

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Effectiveness			
Inputs and Processes		Outcomes	
<u>Start up rate</u> – number/percentage of admissions leading to start-ups		<u>Wealth creation</u> – Average turnover of tenant firms and average annual growth rates, value added of business activities	<u>Av. growth rate in turnover of client businesses</u> 28.35%
<u>Start up time</u> – length of time required to start up new businesses		<u>Job creation</u> – number (and type) of jobs per tenant firm and annual growth rates, proportion of jobs filled by local people, job quality <sup>iv</sup>	76% jobs filled by local people, 10% by a combination of local people and people from the region  51.9% of employees of incubator tenants have a degree level qualification or higher
<u>Survival rate</u> – number/percentage of start ups still trading after 5 years	84.2% survival rate		
Sustainability			
Inputs and Processes		Outcomes	
<u>Financial breakeven</u> – income less operating costs	Achieving breakeven is an objective of 40.8% of business incubators. In terms of timescale, 40.7% anticipated it would take more than 5 years to reach breakeven point.	<u>Graduation rate</u> – percentage of tenants leaving incubator each year	On average, 1 graduate company leaves an incubator for every 1.92 tenants (ratio is 1:1.92)

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<p><u>Market rates</u> – level of discount/premium for incubator space/services compared with local market rates</p>	<p>Space: 48.7% said that rental charges were lower than prevailing market rate, 35.9% the same and 9.0% said rates were higher than average.</p> <p>Services: 35.9% said that services charges were lower than prevailing market rate, 37.2% the same and 3.8% higher</p>	<p><u>Growth sectors</u> – proportion of graduates in growth sectors</p>	<p>NA</p>
		<p><u>Growth sectors</u> – proportion of graduates in growth sectors</p>	<p>47.1% of incubator tenants operate in the ICT, R&amp;D and / or advanced/ high-tech manufacturing sectors</p>
		<p><u>Retention rate</u> – percentage of graduate companies remaining in local area</p>	<p>Retention: 82% of graduate companies remain within the local area post-graduation</p>

Note: Total investment defined as incubator capital investment plus operating costs to date less income from incubator services and other non-grant revenue

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European Commission  
Enterprise Directorate-  
General

**Final Report**

# Benchmarking of Business Incubators

February 2002



*Centre for*  
**Strategy & Evaluation  
Services**

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# INCUBATOR MANAGERS QUESTIONNAIRE

# A

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The data and analysis presented in this report are the responsibility of CSES under a contract with the European Commission. Although the work has been conducted under the guidance of Commission officials and the Member State experts, the European Commission is not necessarily in agreement with the analysis presented and the views expressed do not necessarily represent the official position of the European Commission.

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1.6 What are the main objectives of the incubator? Please rank the following objectives in order of importance (where 1=most important objective and 5=least important objective):

Objectives of Incubator	Ranking
(1) To contribute to competitiveness and local job creation	<input type="text"/>
(2) To help universities and R&D centres commercialise know-how	<input type="text"/>
(3) To help companies generate spin-off activities	<input type="text"/>
(4) To help disadvantaged communities/individuals with projects	<input type="text"/>
(5) Other roles - please specify:.....	<input type="text"/>

1.7 Who were/are the main partners involved in setting up and operating the incubator? Please distinguish between (a) partners that are/were members of the board and (b) other partners:

Partners	Board Members	Other Partners
(1) EU and/or other international agencies	<input type="text"/>	<input type="text"/>
(2) National authorities and public agencies	<input type="text"/>	<input type="text"/>
(3) Companies, banks and other private sector organisations	<input type="text"/>	<input type="text"/>
(4) Universities and other R&D organisations	<input type="text"/>	<input type="text"/>
(5) Community and voluntary organisations	<input type="text"/>	<input type="text"/>
(6) Other partner organisations	<input type="text"/>	<input type="text"/>

1.8 How long did it take to set up the incubator? Please include the business planning phase:

1 to 12 months       1 to 2 years       Over 2 years

1.9 What was the cost of setting up the incubator (thousand euro)?      euro

1.10 What is the annual cost of operating the incubator (thousand euro)?      euro

1.11 How do the incubator's operating costs break down? Please indicate the (approximate) percentage that each type of cost makes up of the total:

Operating Costs	
(1) Total payroll/benefits	<input type="text"/> %
(2) Building costs, e.g. maintenance, mortgage costs	<input type="text"/> %
(3) Other costs - services to tenants	<input type="text"/> %
(4) Other costs, e.g. utilities, equipment, supplies, telecoms	<input type="text"/> %
<b>Total</b>	<input type="text"/> 100%

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1.12 How does the incubator cover its costs? Please distinguish between the sources of funding for (a) setting up the incubator and (b) to help cover running costs:

Source of Funding	Set Up Costs	Running Costs
(1) Subsidies - EU and other international agencies	<input type="text"/> %	<input type="text"/> %
(2) Subsidies - National authorities and public agencies	<input type="text"/> %	<input type="text"/> %
(3) Payments from banks and other private sector organisations	<input type="text"/> %	<input type="text"/> %
(4) Payments from universities and other R&D organisations	<input type="text"/> %	<input type="text"/> %
(5) Rental income and other incubator charges	<input checked="" type="checkbox"/> %	<input type="text"/> %
(6) Other revenue, e.g. from service contracts	<input checked="" type="checkbox"/> %	<input type="text"/> %
(7) Investment income, e.g. royalties, equity returns	<input checked="" type="checkbox"/> %	<input type="text"/> %
(8) Other sources - please specify: .....	<input type="text"/> %	<input type="text"/> %
<b>Total</b>	<b>100</b> %	<b>100</b> %

1.13 Is it part of the incubator's business plan to break even, ie to generate sufficient income from non-public sources (Categories 3 to 8 above) to cover operating costs? If yes, how long has it taken/will it take for the incubator to reach this point?

No - not part of business plan  Yes  Years

1.14 If the incubator receives cash operating subsidies (Categories 1 and 2 above) and this funding was stopped, what would the effect be on its operations? Please tick the most appropriate box:

Importance of Cash subsidies

(1) Incubator activities could be maintained at current levels	<input type="checkbox"/>
(2) Incubator activities would have to be reduced significantly	<input type="checkbox"/>
(3) Incubator activities would stop altogether	<input type="checkbox"/>
(4) Not relevant - incubator does not receive subsidies	<input type="checkbox"/>

1.15 How many businesses has the incubator assisted since it started operating?   
 How many of these firms subsequently went out of business?

1.16 How many tenant businesses is the incubator currently assisting? Please distinguish between (a) tenant firms occupying incubator units and (b) other ('outreach') clients not located in the

Tenant companies  Other ('outreach') clients

1.17 Where did the current tenant businesses originate from? Please indicate the number in each category:

Origins	Number
(1) Start up	<input type="text"/>
(2) Branch of existing firm	<input type="text"/>
(3) Spin off from university or R&D centre	<input type="text"/>
(4) Other - please specify .....	<input type="text"/>

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1.18 What sort of business activities are the tenant companies undertaking? Please indicate the number of clients falling into each of the following categories

Business Activities	Number
(1) Sales, marketing and distribution	<input type="text"/>
(2) Business and financial services	<input type="text"/>
(3) Advanced/high tech manufacturing	<input type="text"/>
(4) Information and communications technologies	<input type="text"/>
(5) Research and development	<input type="text"/>
(6) Other manufacturing activities	<input type="text"/>
(7) Other service activities	<input type="text"/>
(8) A combination of some/all of these activities	<input type="text"/>

## 2 Nature and Scope of Support Services

*This section of the questionnaire examines the type of incubator services available to companies and the way in which these services are priced.*

2.1 What is the physical space of the business incubator? Please indicate in square meters:

Total area  Incubator units

2.2 How many units does the incubator have and what type of space is available? Please indicate the number of units and total space available for the following categories:

Categories	Number of Units	Space sq m
(a) Office space	<input type="text"/>	<input type="text"/>
(b) Workshop space	<input type="text"/>	<input type="text"/>
(c) Laboratory space	<input type="text"/>	<input type="text"/>
(d) Mixed/other types of units	<input type="text"/>	<input type="text"/>
(e) Common facilities, e.g. meeting rooms	<input type="text"/>	<input type="text"/>

2.3 What percentage of the total incubator space is currently occupied? %

2.4 How large are the incubator units? Please indicate the size of the smallest and largest units and the monthly rental charges in euros:

Incubator Units	Size	Charge
Smallest units	sq m <input type="text"/>	euro <input type="text"/>
Largest units	sq m <input type="text"/>	euro <input type="text"/>

2.5 What is the maximum length of time tenants can occupy incubator units? Years

2.6 Does the rental charge for incubator space vary according to the length of tenancy? If yes, please indicate how the monthly rental (in euro) for the smallest units varied over time:

Initial rental  Final rental  Not applicable

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2.7 Are charges for utilities (e.g. electricity) included in the rentals? Yes  No

2.8 How does the rental charge for incubator units compare with the cost of similar types of premises elsewhere in the area?  
 Lower  About the same  Higher

2.9 What sort of professional services does the business incubator offer? Please tick the appropriate boxes and indicate whether the services are provided by (a) incubator staff (b) an external

Professional Services	In House	External
(1) Pre-incubation services	<input type="checkbox"/>	<input type="checkbox"/>
(2) Business planning and forming a company	<input type="checkbox"/>	<input type="checkbox"/>
(3) Training to develop business skills	<input type="checkbox"/>	<input type="checkbox"/>
(4) Accounting, legal and other related services	<input type="checkbox"/>	<input type="checkbox"/>
(5) Market research, sales and marketing	<input type="checkbox"/>	<input type="checkbox"/>
(6) Help with exporting and/or partner search abroad	<input type="checkbox"/>	<input type="checkbox"/>
(7) Help with e-business and other aspects of ICT	<input type="checkbox"/>	<input type="checkbox"/>
(8) Advice on development of new products and services	<input type="checkbox"/>	<input type="checkbox"/>
(9) Help with raising bank finance, grants, seed and venture capital	<input type="checkbox"/>	<input type="checkbox"/>
(10) Incubator seed/venture capital fund, business angel network	<input type="checkbox"/>	<input type="checkbox"/>
(11) Advice on recruitment of staff and personnel management	<input type="checkbox"/>	<input type="checkbox"/>
(12) Networking, e.g. with other entrepreneurs, potential customers	<input type="checkbox"/>	<input type="checkbox"/>
(13) Mentors, board members and other senior advisers	<input type="checkbox"/>	<input type="checkbox"/>
(14) Other services - please specify .....	<input type="checkbox"/>	<input type="checkbox"/>
Does the incubator take an equity (ownership) position in client firms?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

2.10 What other facilities and support services are available to clients? Please tick the relevant boxes and indicate whether the services are provided by (a) incubator staff (b) an external provider:

Other Support Services	In House	External
(1) Shared secretarial and office services	<input type="checkbox"/>	<input type="checkbox"/>
(2) Cleaning and maintenance	<input type="checkbox"/>	<input type="checkbox"/>
(3) Meeting room(s), restaurant	<input type="checkbox"/>	<input type="checkbox"/>
(4) Other services - please specify .....	<input type="checkbox"/>	<input type="checkbox"/>

2.11 What approach is adopting to the pricing of incubator services?

Pricing Policy	In House	External
(1) Services are mostly free to clients	<input type="checkbox"/>	<input type="checkbox"/>
(2) Clients charges partly cover the cost of services	<input type="checkbox"/>	<input type="checkbox"/>
(3) Client charges cover the entire cost of services	<input type="checkbox"/>	<input type="checkbox"/>

2.12 How do the charges for incubator services generally compare with the cost of similar types of services provided by other business support organisations in the area?

Lower  About the same  Higher

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### 3 Key Functions of Incubator Managers

*This section of the questionnaire examines issues relating to incubator management - key functions, quality standards, performance indicators.*

3.1 How many personnel does the incubator have? Please indicate the full-time equivalents for each category:

Personnel	Number
(1) Managers	<input type="text"/>
(2) Secretarial	<input type="text"/>
(3) Other personnel	<input type="text"/>

3.2 What are the main functions of the incubator's management team? Please rank the following functions (where 1=most important function and 4=least important function):

Management Functions	Ranking
(1) Routine management of incubator affairs	<input type="text"/>
(2) Providing advice and assistance to tenant companies	<input type="text"/>
(3) Networking with other incubators and business support organisations	<input type="text"/>
(4) Other roles - please specify:.....	<input type="text"/>

3.3 Taking the second of these functions, approximately what percentage of management time is devoted to providing tenants with advice and assistance?

Percentage of working week  %

3.4 What sort of experience and skills do the incubator's staff have? Please indicate the number of managers and staff who:

Staff Experience and Skills	Number
(1) Have set up/managed their own firms or worked in business	<input type="text"/>
(2) Previously worked for public authorities/agencies or universities	<input type="text"/>
(3) Have previous experience of advising start up and small firms	<input type="text"/>
(4) Have participated in training that is relevant to business incubation	<input type="text"/>

3.5 What sort of formal qualifications does the incubator manager have? Please tick the appropriate box and indicate the level/type of the qualification:

Incubator Manager Qualifications	Degree	Professional Qualification	Other
(1) Accounting, banking, finance, etc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) Real estate, property management, etc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3) Personnel management, education/training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4) Legal qualification	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(5) Sales, trade, marketing, etc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(6) Other - please specify .....			<input type="checkbox"/>

3.6 In the past 12 months, how many staff have participated in formal training?  Number

3.7 What sort of criteria does management use to monitor the performance of the incubator itself?

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Performance Criteria	Quite Important	Very Important
(1) Incubator occupancy rates	<input type="checkbox"/>	<input type="checkbox"/>
(2) Number of companies graduating from incubator	<input type="checkbox"/>	<input type="checkbox"/>
(3) Jobs created by tenant/graduate companies	<input type="checkbox"/>	<input type="checkbox"/>
(4) Turnover of tenant/graduate companies	<input type="checkbox"/>	<input type="checkbox"/>
(5) Financial performance of incubator itself	<input type="checkbox"/>	<input type="checkbox"/>
(5) Other criteria - please specify:.....	<input type="checkbox"/>	<input type="checkbox"/>

**4 Promotion of Incubator Services**

*In this section we consider how incubators define their target market, methods used to promote incubator services, and admission and exit criteria.*

4.1 What criteria, if any, are used to define the incubator's target market?

Target Market	Quite Important	Very Important
(1) Firms must be start ups	<input type="checkbox"/>	<input type="checkbox"/>
(2) Firms can be already trading but must be below a certain size	<input type="checkbox"/>	<input type="checkbox"/>
(3) Firms must be involved in certain types of activities	<input type="checkbox"/>	<input type="checkbox"/>
(4) No particular criteria exist to define the target market	<input type="checkbox"/>	<input type="checkbox"/>
(5) Other criteria - please specify:.....	<input type="checkbox"/>	<input type="checkbox"/>

4.2 What type of methods are used to promote the incubator's services?

Marketing	Quite Important	Very Important
(1) Advertising and media promotions	<input type="checkbox"/>	<input type="checkbox"/>
(2) Business events, conferences, exhibitions,etc	<input type="checkbox"/>	<input type="checkbox"/>
(3) Referrals from other business support agencies	<input type="checkbox"/>	<input type="checkbox"/>
(4) Direct approach to potential clients	<input type="checkbox"/>	<input type="checkbox"/>
(5) Other method(s) - please specify:.....	<input type="checkbox"/>	<input type="checkbox"/>

4.3 Approximately how many enquiries does the incubator receive from potential clients each year and how many of these are subsequently taken on by the incubator?

Enquiries  Initial screening  Admissions

4.4 What sort of criteria are used to screen projects for admission to the incubator? Please tick the relevant boxes:

Admission Criteria	Quite Important	Very Important
(1) A business plan must have been prepared	<input type="checkbox"/>	<input type="checkbox"/>
(2) Financing must be in place	<input type="checkbox"/>	<input type="checkbox"/>
(3) Business must have an innovative project	<input type="checkbox"/>	<input type="checkbox"/>
(4) Business must demonstrate high growth potential	<input type="checkbox"/>	<input type="checkbox"/>
(5) Other criteria - please specify:.....	<input type="checkbox"/>	<input type="checkbox"/>

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4.5 What approach is adopted to client management while firms are with the incubator? Please indicate which of the following arrangements apply:

Client Management	Yes
(1) Clients are monitored on a regular basis	<input type="checkbox"/>
(2) No particular client management arrangements	<input type="checkbox"/>
(3) Other arrangements - please specify:.....	<input type="checkbox"/>

4.6 What criteria are used to decide when tenants should leave the incubator?

Exit Criteria	Quite Important	Very Important
(1) Companies can only rent units for a fixed period of time	<input type="checkbox"/>	<input type="checkbox"/>
(2) Companies leave when they need more space to expand	<input type="checkbox"/>	<input type="checkbox"/>
(3) Companies leave when they achieve agreed business objectives	<input type="checkbox"/>	<input type="checkbox"/>
(4) Companies leave when they fail to achieve agreed business objectives	<input type="checkbox"/>	<input type="checkbox"/>
(5) Companies leave when they require support the incubator cannot offer	<input type="checkbox"/>	<input type="checkbox"/>
(6) No particular exit criteria	<input type="checkbox"/>	<input type="checkbox"/>
(7) Other criteria - please specify:.....	<input type="checkbox"/>	<input type="checkbox"/>

**5 Evaluation of Incubator Services and Impacts**

*In the final section, we examine the way in which incubator services are evaluated and the nature of their impacts on local development.*

5.1 What, in your opinion, makes the incubator an attractive location for businesses? Please rank the following factors in order of importance (where 1=most important factor and 4=least important factor):

Incubator Strengths	Ranking
(1) Favourable location and image	<input type="checkbox"/>
(2) Quality, price and flexible terms for incubator units	<input type="checkbox"/>
(3) Availability of professional business support services	<input type="checkbox"/>
(4) Clustering and opportunity to network with similar businesses	<input type="checkbox"/>
(4) Other factors - please specify:.....	<input type="checkbox"/>

5.2 What methods, if any, are used to obtain feedback from clients and stakeholders on the incubator's services?

Feedback on Incubator Services	Tenants	Stakeholders
(1) Feedback via informal contact	<input type="checkbox"/>	<input type="checkbox"/>
(2) Periodic meetings with clients and stakeholders	<input type="checkbox"/>	<input type="checkbox"/>
(3) Periodic surveys of clients and stakeholders	<input type="checkbox"/>	<input type="checkbox"/>
(4) Other methods - please specify:.....	<input type="checkbox"/>	<input type="checkbox"/>
(5) No particular methods used to obtain feedback	<input type="checkbox"/>	<input type="checkbox"/>

Note: If no survey work to obtain feedback from tenants (and graduates) has been undertaken, would you be willing to help organise a survey of some/all clients as part of this project?

Yes  Don't know  No

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5.3 How many people are currently employed by tenant companies? Please indicate the number of tenants falling into the following size bands (full time equivalent employees):

1-3 persons                       3-10 persons                       10-20 persons   
 20-50 persons                       50- 100 persons                       Over 100 persons

5.4 Where do most of the people currently employed by tenant companies come from? If possible, please provide an (estimated) breakdown for the total workforce: Not possible

Source of Recruitment	%
(1) Recruited from the immediate locality	<input type="text"/> %
(2) Recruited from elsewhere in the region	<input type="text"/> %
(3) Recruited from elsewhere in the country	<input type="text"/> %
(4) Recruited from other countries	<input type="text"/> %
<b>Total</b>	<b><input type="text" value="100"/> %</b>

5.5 What is the turnover of tenant companies? If possible, please indicate the percentage of companies whose turnover for the past 12 months fell into each of the following bands: Not possible

Turnover	%
(1) Below 1 million euro pa	<input type="text"/> %
(2) Between 1 and 5 million euro	<input type="text"/> %
(3) Between 5 and 10 million euro	<input type="text"/> %
(4) Over 10 million euro	<input type="text"/> %
<b>Total</b>	<b><input type="text" value="100"/> %</b>

5.6 If possible, please indicate the turnover growth rates that tenant companies have typically achieved in recent years. Not possible

Below 10%                       Between 10 and                       Over 20%

5.7 Where are tenant company suppliers mainly based?

Local area                       Elsewhere in country                       Other countries

5.8 Where are tenant company competitors mainly located?

Local area                       Elsewhere in country                       Other countries

5.9 How many businesses have 'graduated' since the incubator started operations?

5.10 Apart from business failures, why do companies leave the incubator? Please rank the following factors in order of importance (where 1=most important reason and 5=least important reason):

Reasons for Leaving Incubator	Ranking
(1) Companies take on new staff and need more room to expand	<input type="text"/>
(2) Incubator units can only be rented for a fixed period of time	<input type="text"/>
(3) Companies find better and/or cheaper premises elsewhere	<input type="text"/>
(4) Other reasons - please specify:.....	<input type="text"/>

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5.11 Where have graduates, ie companies that have left the incubator, mainly moved to? Please indicate the most common destinations by ranking the following possibilities in order of their relevance (where 1=most common and 3=least common):

Destination of Graduate Firms	Ranking
(1) Premises close by (e.g. science park)	<input type="text"/>
(2) Elsewhere in the local area	<input type="text"/>
(3) Elsewhere in the region	<input type="text"/>
(4) Elsewhere in the country	<input type="text"/>

5.12 How does the incubator contribute to local development? Please rank the following impacts from 1=most important to 6=least important:

Contribution to Local Development	Ranking
(1) Helping to create new, high quality businesses	<input type="text"/>
(2) Helping to improve the competitiveness of existing businesses	<input type="text"/>
(3) Contributing to job and wealth creation	<input type="text"/>
(4) Contributing to the development of new products and services	<input type="text"/>
(5) Contributing to the internationalisation of businesses in the area	<input type="text"/>
(6) Other roles - please specify:.....	<input type="text"/>

Thank you for completing the questionnaire. Please return it to Jack Malan at CSES, preferably by e-mail (jmalan@cses.co.uk) or by fax (+44 1959 525-122) or post (Jack Malan, Centre for Strategy & Evaluation Services, P O Box 159, Sevenoaks, Kent TN14 5WT, UK).

# COMPANY QUESTIONNAIRE

# B

**1 Name of Company** .....

1.1 Address Street.....  
 Town.....  
 Region: .....  
 Country: .....

1.2 Contact name/position: .....

1.3 Contact details: Tel:.....Fax:.....  
 E-mail .....

1.4 Incubator where company is/was located: .....

Note: if your company has recently left the incubator, please complete Sections 2 and 4 of the questionnaire only.

**2 Company Details**

2.1 What is the company's main business activity? Please describe:  
 .....  
 .....

2.2 What is the company's legal status?  
 Public entity  Private company  Other

2.3 Is the company a subsidiary of another organisation?  
 Yes  No

2.4 How long has the company been located at the business incubator? Years

2.5 What was the status of the company when it first started operating at the incubator?  
 Start Up  Existing Firm

If the company was already trading when it moved to the incubator, where did it come from?

Same area  Elsewhere in country  Another country

2.6 Is the company's main site at the incubator? Yes  No

2.7 Does the company have operations elsewhere? Yes  No

2.8 How many people does the company employ at the incubator location? Please provide details for the last two years:

	1999	2000
(a) Number of full time staff	<input type="checkbox"/>	<input type="checkbox"/>
(b) Number of part time staff	<input type="checkbox"/>	<input type="checkbox"/>

2.9 How many people does the company employ at other locations?

# COMPANY QUESTIONNAIRE

# B

2.10 What type of qualifications do your company's staff have?

No qualifications  Vocational qualifications  Degree or higher

2.11 Where do most of the company's staff come from? Please indicate the approximate proportion from:

Same area  Elsewhere in country  Other countries

2.12 What is the company's turnover? Please provide details (euro thousands) for the past 3 years:

1998-1999  1999-2000  2000-2001

2.13 What was the approximate value (euro thousands) of purchases made with local suppliers?

euro

2.14 Where are the company's main customers?

Same area  Elsewhere in country  Other countries

2.15 Where are the company's main competitors?

Same area  Elsewhere in country  Other countries

2.16 Approximately what proportion of the company's turnover is invested in R&D?  %

2.17 Approximately what proportion of the company's turnover is invested in training?  %

### 3 Role of Incubator

3.1 Why did your company decide to obtain premises at the incubator?+B121

Reasons for Locating at Incubator	Ranking
(1) Favourable location and image	<input type="checkbox"/>
(2) Quality, price and flexible terms for incubator units	<input type="checkbox"/>
(3) Availability of professional business support services	<input type="checkbox"/>
(4) Clustering and opportunity to network with similar businesses	<input type="checkbox"/>
(4) Other factors - please specify below:	<input type="checkbox"/>

3.2 What sort of incubator services have been particularly useful? Please rank the following services (where 1=most useful and 8 = least useful):

Professional Services	Ranking
(1) Pre-incubation services	<input type="checkbox"/>
(2) Business planning and forming a company	<input type="checkbox"/>
(3) Training to develop business skills	<input type="checkbox"/>
(4) Advice on development of new products and services	<input type="checkbox"/>
(5) Help with raising bank finance	<input type="checkbox"/>
(6) Access to grants, seed and venture capital funding	<input type="checkbox"/>
(7) Advice on recruitment of staff and personnel management	<input type="checkbox"/>
(8) Other professional services - please specify below:	<input type="checkbox"/>

# COMPANY QUESTIONNAIRE

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Has your company been required to pay for professional services?

No

Yes

Don't know

If yes, do you think that the charges are fair?

Yes

No

If no, would your company be prepared to pay?

Yes

No

3.3 Please also rank the incubator's support services (where 1=most important and 4=least important):

Incubator Support Services	Ranking
(1) Secretarial and office services	<input type="text"/>
(2) Cleaning and maintenance	<input type="text"/>
(3) Meeting room(s), restaurant	<input type="text"/>
(4) Other support services - please specify below:	<input type="text"/>

3.4 How would you rate the incubator units in terms of price and quality? Please rank each of these factors on a scale where 1=excellent and 3=poor:

Incubator Space	Ranking
(1) Quality of incubator units	<input type="text"/>
(2) Rental charges for incubator units	<input type="text"/>

3.5 How important has the support provided by the incubator been to the development of your company? Please tick the box that best describes your view:

- (1) Critical - without the support , the company would not have been successful
- (2) Important - the support has been helpful bit not critical to business success
- (3) Not very important - the company would have do as well elsewhere

Please use the space below to explain how the incubator has contributed to your company's success and how the incubator might improve its services in the future:

.....

.....

.....

.....

## 4 Graduate Companies

4.1 When did your company leave the incubator?

Year

# COMPANY QUESTIONNAIRE

# B

4.2 Why did your company leave the incubator? Please rank the following reasons in order of importance (where 1=most important and 8= least important):

Reasons for leaving incubator	Ranking
(1) Tenancy was for a fixed term	<input type="text"/>
(2) Company needed more room to expand	<input type="text"/>
(3) Company found better and/or cheaper premises elsewhere	<input type="text"/>
(4) Other reasons - please explain below:	<input type="text"/>

4.3 Where did the company move to?

Same area  Elsewhere in country  Another country

4.4 At the time when the company left the incubator, how many people did it employ and how many people does it employ now?

Number of employees:                      When left incubator                       Now

4.5 Looking back, how important was the support provided by the incubator to your company's development? Please tick one of the following boxes:

- (1) Critical - without the support , the company would not have been successful
- (2) Important - the support has been helpful bit not critical to business success
- (3) Not very important - the company would have do as well elsewhere

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# INCUBATOR DEFINITIONS

# C

**NBIA** ([www.nbia.org](http://www.nbia.org)): Business incubation is a dynamic process of business enterprise development. Incubators nurture young firms, helping them to survive and grow during the start-up period when they are most vulnerable. Incubators provide hands-on management assistance, access to financing and orchestrated exposure to critical business or technical support services. They also offer entrepreneurial firms shared office services, access to equipment, flexible leases and expandable space — all under one roof.

An incubation program's main goal is to produce successful graduates — businesses that are financially viable and free-standing when they leave the incubator usually in two to three years.

**UKBI Definition** ([www.ukbi.co.uk](http://www.ukbi.co.uk)): Business Incubation is a dynamic business development process. It is a term, which covers a wide variety of processes, which help to reduce the failure rate of early stage companies and speed the growth of companies which have the potential to become substantial generators of employment and wealth.

A business incubator is usually a property with small work units which provides an instructive and supportive environment to entrepreneurs at start-up and during the early stages of businesses. Incubators provide three main ingredients for growing successful businesses - an entrepreneurial and learning environment, ready access to mentors and investors, and visibility in the marketplace.

**ELAN (French National Association)** (<http://www.pepinieres-elan.asso.fr>): "Structure d'accueil, d'hébergement, d'accompagnement et d'appui aux porteurs de projet et aux créateurs d'entreprise. La pépinière est un outil de développement économique local. Elle offre un soutien au porteur de projet et au créateur d'entreprise jusqu'au développement de l'entreprise et son insertion dans le tissu économique." (Norme N.F. X 50-770)

**EBN – European Business Network** (<http://www.ebn.be>): The Business & Innovation Centre is an organic regional structure of support to innovative SMEs and entrepreneurs. Through this support, the BIC plays a vital role in the development of regional economies throughout Europe. The key objectives of BICs are to turn innovative entrepreneurial projects into successful businesses, adding long term value to regional economies.

**UK Science Parks Association** (<http://www.ukspa.org.uk>) (definition of a Science Park) A Science Park is a business support and technology transfer initiative that:

- Has formal and operational links with centres of knowledge creation such as universities, higher education institutes and research organisations.

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- Provides an environment where larger and international businesses can develop specific and close interactions with a particular centre of knowledge creation for their mutual benefit
- Encourages and supports the start up, incubation and development of innovation led, high growth, knowledge based businesses.

**ADT** – (<http://www.adt-online.de>): Der Begriff „Innovationszentrum“ fasst sowohl Technologie- und Gründerzentren als auch Wissenschafts- und Technologieparks zusammen.

Entscheidend sind die Ziele und Aufgaben, die Innovationszentren realisieren. Im Mittelpunkt steht, dass sie günstige Rahmenbedingungen für die Konzept-, Start- und erste Entwicklungsphase junger, insbesondere innovativer, technologieorientierter Unternehmen schaffen und darüber hinaus günstige Bedingungen für ihr weitergehendes Wachstum gestalten. Dies geschieht überwiegend in drei Hauptfeldern:

1. Beratungs- und Unterstützungsleistungen für Unternehmensgründer und junge Unternehmen, Begleitung der Unternehmensentwicklung, Einbindung in das Kontakt- und Kommunikationsnetzwerk des Zentrums etc.
2. Ein differenziertes Angebot an Infrastruktur für die Unternehmen in den verschiedensten Bereichen, z.B. vom temporär mietbaren Konferenzraum bis zur Präsentationstechnik, von Telekommunikation und Internetanbindung bis zu Laborausstattung, von klassischen Dienstleistungen wie Empfang, Postservice bis zu Projektmanagement etc.
3. Ein Angebot an Räumlichkeiten für den Start und die erste Entwicklung der Unternehmen in hoher Flexibilität hinsichtlich Zeit, Größe und Konditionen entsprechend deren Entwicklung.

Innovationszentren realisieren diese Grundaufgaben im Idealfall aus einer Hand mit hoher Effizienz und unter Einbeziehung eines Netzwerkes von Experten und Partnern.

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# CASE STUDY REPORTS

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As part of the Phase 2 research, CSES carried out visits to Managers Group incubators. Reports on the case studies are bound separately.

The purpose of the research was to:

- Examine the way in which different incubators operate;
- Identify key ‘headline’ and ‘operational’ indicators, and best practice;
- Obtain feedback from companies on the benefits of an incubator location;