

# Review of Infrastructure Facilities to Support Innovation Across the East Midlands

**A report prepared for *emda***

CM International UK

March 2006

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CM International

## **Review of infrastructure facilities to support innovation across the East Midlands**

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## TABLE OF CONTENTS

<b>Executive summary</b>	<b>4</b>
<b>1. Introduction</b>	<b>10</b>
<b>2. Review methodology</b>	<b>10</b>
<b>3. Definitions of physical innovation infrastructure</b>	<b>12</b>
<b>4. Current provision in the East Midlands</b>	<b>19</b>
<b>5. Issues from stakeholder interviews</b>	<b>25</b>
<b>6. Good practice in provision of physical infrastructure and related support</b>	<b>29</b>
<b>7. Conclusions</b>	<b>35</b>
<b>8. Recommendations</b>	<b>37</b>
<b>Annexes</b>	<b>54</b>

## Executive summary

This report sets out findings from a review of physical incubation and innovation facilities available across the region conducted in March 2006 by CM International (CMI). The review is based on both desk-based and face-to-face research activities including:

- An assessment of the concepts underlying physical infrastructure for innovation
- Interviews with managers of 39 facilities and associated services and wider regional stakeholders
- An analysis of UK and international good practices in relation to regional strategic approaches to physical infrastructure,

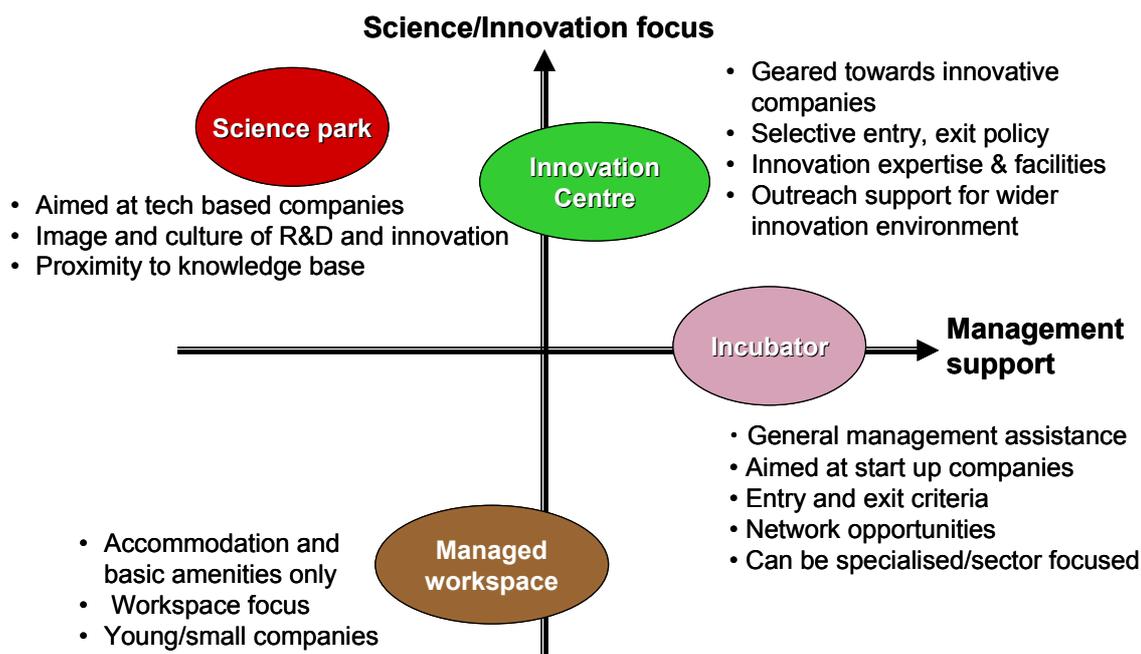
The research activities provide the basis for the main conclusions and contribute to the development of a strategy for future investment in physical innovation infrastructure and associated support services.

## Concepts and definitions

An assessment of concepts and definitions reveals three main types of physical innovation infrastructure:

1. **Business incubators**
2. **Innovation centres**
3. **Science parks**

For comparison purposes, the three types of physical innovation infrastructure are set out in the diagram below, alongside other types of physical infrastructure.



The primary definitional features of physical innovation infrastructure and CMI's assessment of their desirability are summarised as follows:

**Essential features**

- Innovation and technology objectives of the infrastructure clearly stated
- Target clients identified as depending on technology or other sources of innovation for their competitive advantage
- Onsite access to both business and technology management advice

**Desirable features**

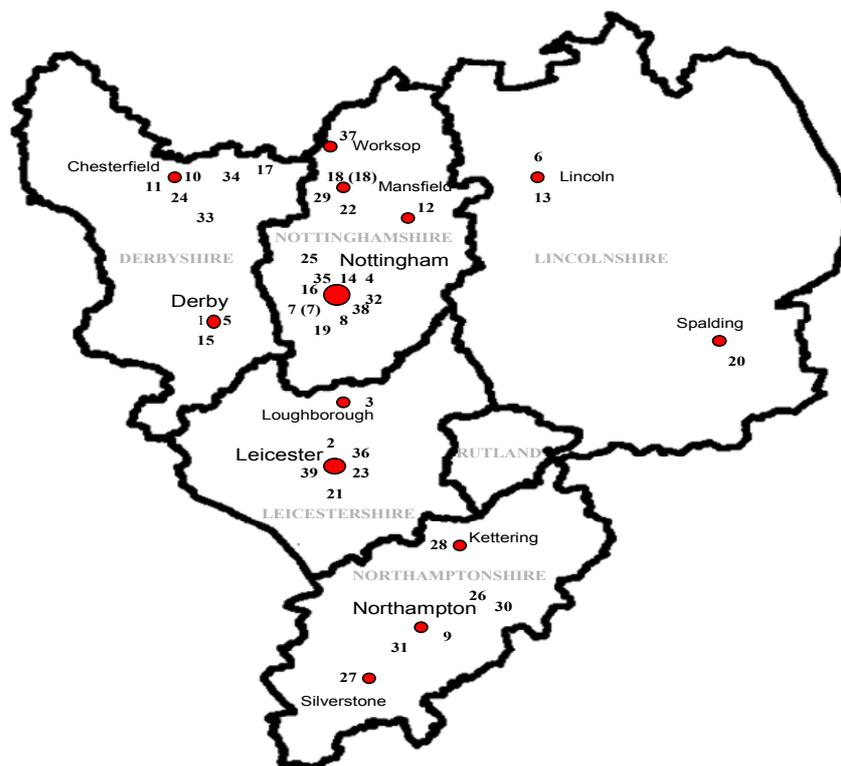
- The presence of a connection to the (broadly defined) knowledge base
- A focus on both internal innovation and external 'virtual' supports

**Current provision in the East Midlands**

The review identified a wide range of physical infrastructure facilities in the East Midlands region with several new incubators, innovation centres and science parks either planned or under construction. This finding also suggests that relatively few facilities match the full criteria for physical infrastructure for innovation set out above.

Nottinghamshire and Derbyshire account for the largest number of facilities. Within this distribution, the main towns and cities also demonstrate the main concentrations of facilities and this is not surprising given the distribution of the main population and business concentrations in the region. However, the distribution is also shaped by the policy focus that particular organisations have adopted.

**Map of physical infrastructure facilities in the East Midlands**



### Key to figure

1	Bank's Mill Studio	21	University of Leicester RBDO
2	DeMontfort University Innovation Centre	22	E-Centre at Sherwood Energy Village
3	Loughborough Innovation Centre	23	Leicester Creative Business Depot
4	Mercury House	24	Markham Vale Environment Centre
5	Network House	25	Nottinghamshire International Clothing Centre
6	SparkHouse Studios	26	Wellingborough Innovation Centre
7	BioCity	27	Silverstone Innovation Centre
8	The Hive	28	SATRA Innovation Park
9	Creative Industries Centre	29	Pleasley Vale Business Park
10	Dunston Innovation Centre	30	Blue Coat Incubation centre
11	Tapton Park Innovation Centre	31	Centre for Learning & Enterprise in Organisations (CLEO)
12	Edwinstowe House	32	Nottingham Science & Technology Park
13	Lincoln Innovation Centre	33	Coney Green Business Centre
14	Southglade Food Park	34	Eckington Business Centre
15	The iD centre	35	Broadway Managed Office Space
16	New Brook House	36	Beaumont Enterprise Centre
17	Westthorpe Innovation Centre	37	The Turbine
18	Mansfield I-centre	38	Chrysalis Innovation Centre
19	UNIEI Lab	39	Leicester Business Centre (formerly Wyvern Business Ctre)
20	Holbeach Technology Park		

## Good practices

Experience from the UK and international comparators suggest that a number of principles typically underpin successful regional approaches to physical infrastructure for innovation. These include:

- Presence of a regional strategic framework for physical infrastructure development
- Guidelines and standards for facilities
- Systematic demand assessment
- Proximity to the knowledge base
- Provision of outreach innovation support services
- Presence of a regional networking forum for professionals

These features, the review recognises, while underpinning the approaches adopted by comparators need to be considered closely against the East Midlands context when framing recommendations.

## Key issues for the East Midlands

In light of the review findings a number of key issues for the region are identified under the headings: strategy; delivery and management.

### Strategy

There is a desire among stakeholders to agree the shape and direction that infrastructure and associated investments should take in the East Midlands. A prominent feature of this strategy should be a shared understanding of what constitutes physical innovation infrastructure. While the findings of this review suggest a range of important criteria, *emda* should take a lead by identifying those

criteria that are central to its overall strategy and objectives. By stating such criteria explicitly *emda* will help to provide the transparency and direction required by regional stakeholders and will address the definitional confusion evident amongst regional stakeholders at present.

The strategy should allow *emda* to assess the progress of physical infrastructure towards its overall innovation infrastructure objectives. A number of approaches including accreditation are frequently noted in this context. The accreditation approach is, however, a static tool that tends to be a managerial rather than strategic<sup>1</sup>, and does not necessarily identify the required development path for facilities. A 'competency framework' approach on the other hand, would give *emda* the ability to assess funding applications based on progress made against this framework; it would also make *emda*'s developmental requirements and the expected 'direction of travel' explicit for regional stakeholders<sup>2</sup>.

It will be important that *emda* works closely with the Sub-regional Strategic Partnerships (SSPs), as major conduits for funding on infrastructure in order to ensure effective management of the strategy. By working in partnership, *emda* and the SSPs will be able to monitor, assist and improve the competency of facilities according to strategic objectives. They will also be able to identify the most relevant competencies according to local needs and adjust the shape and direction of the strategy accordingly.

A clear consequence of setting out a strategy for physical innovation infrastructure is the need to develop a similar physical infrastructure strategy for the enterprise agenda. Indeed, without such a 'parallel' strategy *emda* exposes itself to the risk that all types of physical infrastructure will gravitate towards the innovation agenda, thus impacting negatively on enterprise activity and outputs.

## **Delivery**

Strategies based solely on facilities are unlikely to produce the requisite innovation outputs therefore a key delivery aspect of the infrastructure strategy will be support for associated services. It may be feasible to ensure that a core of associated innovation services are provided by each facility in the East Midlands, however, more specialised services should be shared across particular sub-regions or clusters (possibly linked to the I-net hubs), and provided 'remotely' through partnership arrangements.

The good practice research also suggests that regional 'virtual portals' are being increasingly used. A portal allows provision of virtual support services to tenant companies in an integrated manner through effective signposting and referrals. There is also the potential to provide a regional marketing focus for facilities that can strengthen demand.

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<sup>1</sup> For example UKBI's 4 criteria for incubators are all managerial in focus and intent

<sup>2</sup> The competency framework approach would also respond well to *emda*'s requirements in light of the Independent Performance Assessment (IPA) process

A related issue is how best to interact and maintain links to 'graduate' companies<sup>3</sup>. Good practice, for example, suggests that tracking graduate companies provides valuable opportunities to continue innovation support, maintain relations with potential role models and so on. The review found that such support is minimal in the East Midlands at present.

Networking of innovation professionals has begun to develop in the East Midlands, most notably through the East Midlands Incubation Network (EMIN) whose origins are from the HEI base<sup>4</sup>. While such networking needs to be further encouraged in the region the question remains as to the most appropriate vehicle for support. EMIN has started this process but it is not clear from the review whether it will be possible to drive regional networking from this level.

## **Management**

A key management issue for *emda* strategy will be a clear statement on the principles underpinning its preferred accommodation strategy for the physical innovation facilities covered by the overall strategy. This will need, in particular, to address important issues identified by the review notably, grow-on space and co-location, entry and exit criteria, and demand assessment.

The regional stakeholder consultations revealed a shortage of grow on space for the tenants of facilities. This was felt to hamper the prospect of encouraging 'churn' amongst the tenant base and by operating larger facilities it may be possible to charge higher rent to larger companies, thus generating higher revenue but at the same time keeping entry costs lower for start-ups.

A related issue raised is whether grow-on facilities need to be co-located with infrastructure facilities. The lack of co-located grow-on space for business incubators is also an issue in terms of maintaining longer-term links with the tenants. While co-location of such grow-on space will be desirable, in many cases it will not be feasible – for example, where no space is available. In such instances good practice appears to suggest that grow on space should be located within 25 miles of the core facility.

Each of the good practice examples reviewed emphasises the need for a robust appraisal of physical infrastructure developments. This ensures that there is sufficient demand for the facility, as well as appraising value for money aspects. Advanced techniques, such as the UK Treasury GreenBook, are available and are particularly useful for larger capital projects allowing a sophisticated appraisal against both value for money benchmarks and regional strategic objectives and needs.

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<sup>3</sup> Companies that 'graduate' from within a physical innovation related facility to 'grow-on' or other facilities

<sup>4</sup> Facilities managers spoke favourably of the CPD opportunities and general exchanges of experience already provided by EMIN.

## Recommendations

A full list of the actions associated with each of these recommendations can be found at [section 8](#).

1. *emda* should develop a strategy for physical infrastructure for innovation as an integral component of the innovation strand of its RES
2. *emda* should ensure that a joint infrastructure strategy for innovation and enterprise is developed
3. *emda* should make explicit the criteria underpinning physical infrastructure for innovation and link these to overall strategic objectives
4. *emda* should develop a 'competency framework' approach, incorporating stages of development and competencies that facilities should aim to satisfy
5. *emda* should work closely with the SSPs to manage, monitor and guide the delivery of the strategy
6. *emda* to provide innovation mentoring services to strengthen the innovation support services associated with physical infrastructure
7. *emda* to ensure that 'graduate' company tracking and support becomes an integral component of 'outreach' of support services in supported innovation centres
8. *emda* should integrate a physical infrastructure component into the planned innovation portal
9. *emda* should take a lead role in promoting networking amongst regional innovation infrastructure professionals, considering, in the first instance, the potential for EMIN to play a part in this activity
10. *emda* should support the development of grow-on space for facilities that are clearly meeting or working towards meeting the competency framework established under the *emda* strategy
11. *emda* should adopt a transparent 'best practice' framework for demand assessment and economic and strategic appraisal of planned facilities

# 1. Introduction

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This report presents the findings from a review of physical innovation infrastructure and associated support mechanisms in the East Midlands undertaken for *emda* by CM International (CMI). The context for this report is development of an Innovation Strategy for the East Midlands region by the autumn of 2006 and the growing number of incubator developments underway or recently completed within the region. These have been developed without the aid of an overall strategic framework governing standards, good practice principles and so on.

The aim of this review, therefore, is to provide a contribution towards the region's draft Innovation Strategy and Business Plan, due for consultation during the summer of 2006. This will further input into *emda*'s forthcoming regional economic strategy. The review complements separate reviews of the innovation support services for business, and of design as a strategic innovation priority for the East Midlands.

The review primarily considers physical innovation infrastructure in relation to important categories such as innovation centres, incubators and science parks. Managed workspace and related facilities such as business parks and industrial estates are also identified, but not examined in detail as they do not typically satisfy key criteria for physical innovation infrastructure (see section 3 for more details).

This report consists of the following sections: (2) an explanation of the methodology adopted for this review exercise; (3) an outline of the definitions and characteristics of physical innovation infrastructure; (4) an assessment of the current provision of physical innovation infrastructure and associated services; (5) an examination of the issues facing the East Midlands in this area of policy intervention; (6) an identification of good practice in this area; (7) a series of conclusions and recommendations to be considered for the subsequent drafting of the Innovation Strategy and Business Plan.

## 2. Review methodology

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The review was based on a detailed programme of desk research and interviews agreed with *emda* and undertaken in February and March 2006. Three work packages formed the basis for the review, and these are outlined in turn below:

- **Physical infrastructure and associated services 'models'**

The initial work package identified different 'models' of physical innovation infrastructure and services. This task incorporated reviews of conceptual literature and good practices, and was used as the basis for establishing the characteristics and underlying features of the following models: innovation centres, incubators and science parks. These models formed the baseline against which physical innovation infrastructure and associated services in the East Midlands were categorised. Further details can be found in section 3 of the report.

### ▪ **Mapping of provision and associated support**

The second work package consisted of a mapping of existing physical infrastructure for innovation and associated supports. The research included a review of existing databases and strategy documents, complemented by a series of interviews with infrastructure providers and stakeholders that focused on:

- Delivery approach being utilised (including innovation support provision at the facilities);
- Mechanisms for integration with other (private & public) supports;
- Ownership and sustainability of the support infrastructures;
- Target groups for supports and mechanisms for stimulating an 'innovation trajectory' within the region's facilities.

In total CMI interviewed fifteen stakeholders and twelve providers, including representatives of *emda*, the Sub-regional Strategic Partnerships (SSPs), Higher Education Institutions (HEIs) and one of the County Councils. It should be noted however, that in the limited timeframe available for this review it was not possible to interview all regional stakeholders, nor was it possible to visit all examples of current physical infrastructure for innovation<sup>5</sup>. Instead, the intention of the review was to use the interviews to support a focused mapping of physical innovation infrastructure as the basis for drawing out broad-based issues of relevance to future *emda* strategy concerning physical innovation infrastructure in the region.

### ▪ **Good practice analysis**

This element of the research considered a wide range of UK and international comparators. The aim here, was to identify comparators able to demonstrate both a regional strategic approach to physical innovation infrastructure, allied to a focus on associated services. In this respect many potential good practice examples were discarded because their primary focus was on the creation of new buildings, rather than on how to exploit for innovation purposes such infrastructure through the provision of associated services. Other cases were not pursued due to their focus on environmental conditions difficult to recreate in the East Midlands.

CMI considered 'good practices' rather than 'best' practices from this exercise, taking into account the difficulty of identifying models that are directly 'transferable' to the East Midlands. Three UK regional models were eventually identified for detailed desk research and interview; these were the East of England, the South West and the North West. The international case studies consisted of Queensland (Australia) and Israel.

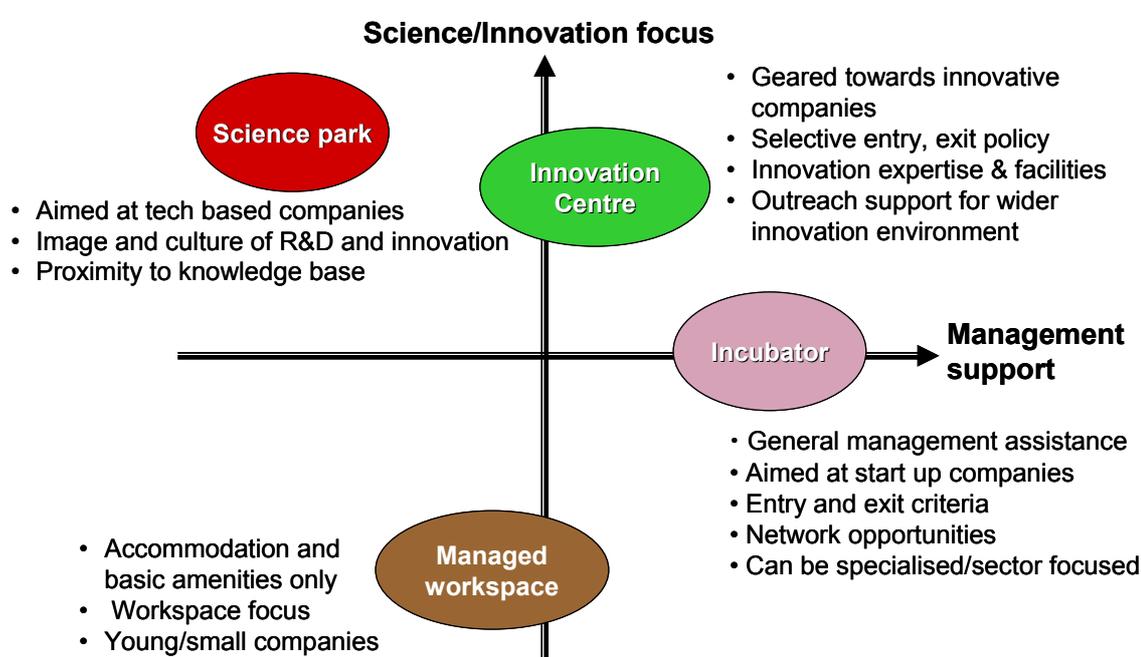
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<sup>5</sup> Including those elements of physical innovation infrastructure currently nearing or under development.

### 3. Definitions of physical innovation infrastructure

There are many definitions of physical innovation infrastructure and this is in part a reflection of the variety of facilities, buildings and related services that exist in different regions and locations, funded from different sources and managed by different stakeholders. In order to provide a basis for subsequent discussion, this section identifies 4 basic categories of infrastructure: science parks; innovation centres; incubators, and managed workspace and differentiates them according to the level of management support provided to firms and the science/innovation focus of these businesses (see Figure 1 below).

**Figure 1. A basic typology of physical innovation infrastructure**



Source: CM International

It should be noted that in recent years it has become more difficult to make the clear distinctions set out in figure 1. One reason for this is the shift in the understanding of innovation; instead of a technology-based process, it is now seen as something much broader and more incremental - 'new ways of doing things' – that affects organisation, products, processes and business models. Nevertheless, for the purpose of setting out a basic model, the definitions illustrate the primary differences between physical infrastructure types and highlight those types that are potentially most relevant to an innovation strategy<sup>6</sup>.

<sup>6</sup> 'Potentially' in the sense that the remainder of this section considers the actual capability of different types of physical infrastructure to contribute to innovation outputs.

### 3.1 Science parks

According to the International Association of Science Parks ([www.iasp.ws](http://www.iasp.ws)), a science or technology park can be defined as:

*'an organisation managed by specialised professionals, whose main aim is to increase the wealth of its community by promoting the culture of innovation and the competitiveness of its associated businesses and knowledge-based institutions. To enable these goals to be met, a Science Park stimulates and manages the flow of knowledge and technology amongst universities, R&D institutions, companies and markets; it facilitates the creation and growth of innovation-based companies through incubation and spin-off processes; and provides other value-added services together with high quality space and facilities'.*

Science parks are typically located in close physical proximity to a knowledge base source such as a Higher Education Institution, or company R&D centre. This reflects the fact that they have historically been promoted by, or in partnership with, such organisations. The proximity of science parks to the knowledge base, along with distinctive high quality buildings, is often a central feature of a park's image. Such an image is key to attracting both established R&D-based companies and science-based start-ups. While the majority of science parks adopt some form of (formal or informal) selection policy, few maintain robust exit policies largely because, for the stakeholders, the generation of rental income is typically prioritised above 'turnover' or 'churn' amongst the tenants.

In the best science parks, associated innovation services may also be provided in areas such as technical /management/funding advice as well as on site equipment and signposting. The recent experience, however, is that science parks tend to be largely property-oriented ventures that lack a specific focus on associated services for innovation. This is particularly the case in those parks that have been developed purely by property developers. Key features of science parks are summarised in table 1 below.

**Table 1. Science parks – key features**

	<b>Desirable</b>	<b>Essential</b>
Close proximity to the knowledge base (HEI or industry)		✓
Attract established businesses as well as science-based start-ups		✓
Direct or indirect access to equipment and facilities	✓	
Direct or indirect provision of technical, management or funding advice	✓	

## 3.2 Business incubators

The term 'business incubator' was originally used to describe the process of accommodating and supporting businesses emerging from the university research base and the definition provided by the US National Business Incubation Association ([www.nbia.org](http://www.nbia.org)) reflects this fundamental view. NBIA defines incubation as:

*'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.'*

Proponents of business incubation argue that incubation is as much about a process of company evolution and development as it about physical facilities. With the exception of the 'dotcom boom' of the late 1990s, when so-called virtual incubators emerged, incubators have typically been located 'within walls'. Such virtual incubators it should also be noted, were primarily promoted by venture capitalists as a means of generating deal flow for equity investments. While few survive from this era, many of the concepts associated with the provision of services to tenants from a base outside the physical infrastructure do remain. Indeed, the integration of more virtual components into physical forms of business incubation is at the heart of current trends in good practice.

Here, a number of models exist:

- Companies that have graduated from the incubator may still wish to access the incubator 'community', via events, or training programmes;
- Incubators focused on specific groups (e.g. graduate entrepreneurs) or sectors (digital and creative industries) may find their tenants have a relatively low requirement for office space but still wish to access shared facilities and services.
- In locations that have a low critical mass of companies in a certain sector, or entrepreneurs in a certain group, some incubators have sought to intensify the sense of community and related exchanges associated with physical co-location by providing the opportunity for associated participation (facilitated by Internet technology) to companies not based in the building

Incubators are distinct from science parks in a number of ways. They typically focus on start-up companies, with the aim of nurturing them through the early stages of maturation by providing a package of management advice and associated supports. Such supports typically include:

- General business management advice
- Mentoring
- Finance advice
- Networking opportunities (internal and external)

- External connections to Business Link, Enterprise agencies, other networks

The precise format of support will vary according to the mission of the incubator. The key point to note is that incubator strategy in relation to supports is largely based on having an experienced manager, who is capable of mentoring companies, and facilitating access to, and networking with, the wider business support community (public and private).

A further key feature of an incubator is that it should have an entry and an exit strategy. Good practice suggests the need for both however. As with Science Parks, exit policies tend to be more flexible. Incubators are often compelled, because of their funding arrangements, to develop a more flexible approach to exit strategy when they are required to retain high occupation levels, usually to maximise rental income. However, this is not in tune with good practice, which indicates that the focus should be on accelerating growth as long as the company demonstrates potential for this.

Thus in practice, incubators may find themselves subject to the competing claims of needing to encourage ‘churn’ within their client base (to keep the doors open to firms with growth potential), and maintaining sufficient flow of income to make the centre financially viable. This is also reflected in the recent UKBI Survey, which cited the following priorities of UK incubators:

**Table 2. Performance measures adopted by UKBI incubators**

<i>Performance measure</i>	<i>Priority rank</i>
Creation of new, viable businesses	1
Occupancy rates of the incubator	2
Number of graduated businesses	3
Turnover of client businesses	4
Other roles	5

*Source: UKBI mapping survey 2005*

Not all incubators are focused on accelerating the growth of start-up companies emerging from the science or technology base. Typically incubators will adopt a whole-of-market approach, seeking to nurture companies that are able to demonstrate high growth and job creation potential; the precise criteria for determining this potential will vary depending on the requirements of the funding organisation.

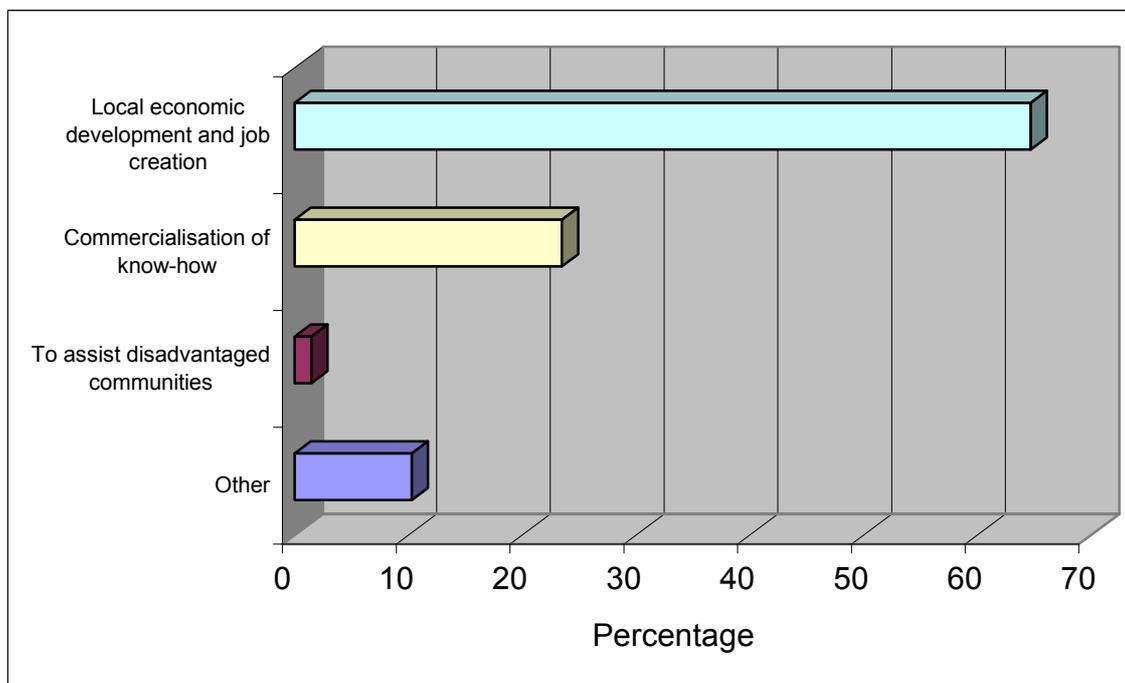
Good practice suggests that incubators (depending on their focus) have as much potential to contribute to the enterprise, social inclusion and inward investment agendas as they have to achieving innovation and technology goals<sup>7</sup>. That said,

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<sup>7</sup> Rowe, D. (2006) ‘Business incubation and RDAs: delivering on a RES’, presentation to the UKBI Workshop on *The Regionalisation of Business Incubation: Current Trends in Incubation and What the Future Holds*, Birmingham, 14<sup>th</sup> March 2006.

there are some incubators that do define high growth potential in terms of the ability of a company to commercialise existing or new know-how (see figure 2 below), and such facilities seek to focus specifically on innovation and technology objectives. From a conceptual perspective, however, CMI would argue that such incubators owe more to other forms of physical infrastructure for innovation outlined below – notably innovation centres (see section 3.3 below).

**Figure 2. Purpose of incubators**



Source: UKBI Mapping Survey 2005

The key features of business incubators are summarised in the table below:

**Table 3. Incubators – key features**

	<i>Desirable</i>	<i>Essential</i>
Focus on supporting start-up companies through early stages		✓
Direct or indirect access to specialised equipment and facilities	✓	
Centre manager with business-building expertise :-		✓
▪ Able to facilitate access to business support & company networks		✓
Use of entry and exit strategy		✓

### 3.3 Innovation centres

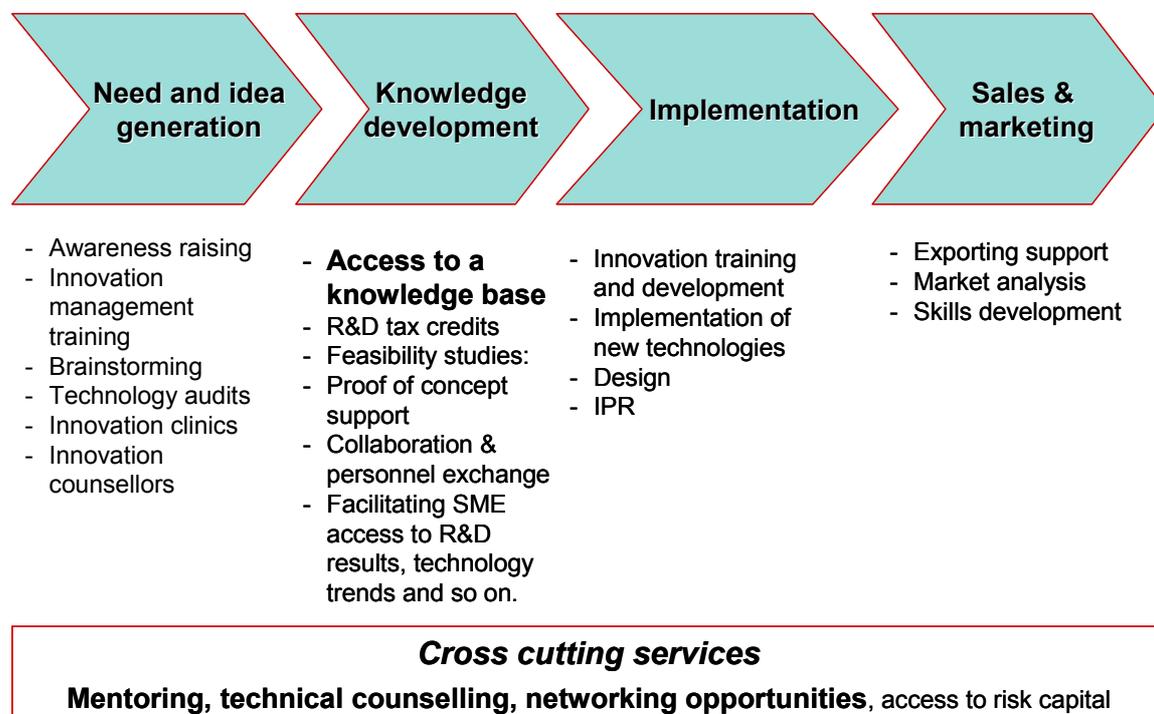
A number of definitions of innovation centres exist. The European Commission, for examples defines ‘Business Innovation Centres’ as:

*‘Support organisations for small and medium-sized businesses and entrepreneurs...with the mission of supporting the creation of new generations of innovative firms and by helping existing firms to modernise and innovate and by contributing towards improving the environment in which they operate’.*

Like incubators, innovation centres also typically offer tenant companies accommodation and access to in-house and related support services. However, whereas incubators work closely with start-up companies to accelerate their growth, innovation centres tend to work with existing innovative companies (albeit often in the early stages of development) and to have a less intense relationship to these firms - the emphasis is more on providing 'an instructive and supportive environment'. Innovation supports associated with such centres may include support at any stage of the innovation process (see figure 3 below).

It is more likely that innovation centres will concentrate their internal support on a core number of areas (noted in bold text in figure 3), with other organisations (RDAs, universities and so on) taking the lead on other supports. Underpinning all forms of support in this figure, however, is a centre manager with competencies in both mentoring and assessment of business and innovation aspects of projects.

**Figure 3. Innovation supports at different stages of the innovation process**



Source: CM International

In recent years access to the knowledge base has become an area where the European Commission's BIC model has begun to evolve. In particular, many innovation centres have been promoted by, or with an association to a knowledge base source (for example a higher education institution, company or public R&D centre). The rationale, here, is that such a connection can help with both knowledge transfer from the institution, as well as the spin-out of knowledge in the form of start up companies.

Key features of innovation centres are summarised in table 4 below:

**Table 4. Innovation centres – key features**

	<i>Desirable</i>	<i>Essential</i>
Close to the knowledge base (HEI or industry)	✓	
Focus on supporting recently-established innovating companies through early stages of growth		✓
Direct or indirect access to specialised equipment and facilities for innovation	✓	
Centre manager with business-building and technical/innovation expertise		✓
Able to facilitate access to innovation support & company networks		✓
Provision of outreach innovation support services		✓
Use of entry and exit strategy		✓

### 3.4 Managed workspace

Managed workspaces are largely general business accommodation and support mechanisms. Such workspaces are typically property developments providing SME tenants with a package of workspace and core shared services such as a central services reception, photocopying and other equipment, plus security. A key distinction to incubators is the use of ‘easy in, easy out’ tenancies<sup>8</sup>. Rental charges may, however, be subsidised (although this is less likely in private sector developments). The lack of dedicated innovation and management support suggests that such centres cannot readily be considered as part of the physical infrastructure for innovation.

### 3.5 Summary

This section has identified four types of physical infrastructure, and concludes that the main types of physical innovation infrastructure and support fall into three categories:

- Incubators with an innovation/technology focus;
- Innovation centres (notably those with links to the knowledge base), and
- Science parks (notably those with innovation support services and active connections to the knowledge base)

Although the key features vary according to infrastructure type, the conceptual analysis above indicates a number of important cross-cutting criteria:

- Innovation and technology objectives of the infrastructure clearly stated (essential)
- Target clients identified as depending on technology or other sources of innovation for their competitive advantage (essential)
- Onsite access to both business and technology management advice (essential)

<sup>8</sup> Prowess and UKBI (2005) *Women friendly incubation environments and managed workspaces*.

- The presence of a connection to the (broadly defined) knowledge base (desirable)
- A focus on both internal innovation and external 'virtual' supports (desirable, most notably in innovation centres)

The definitions offered in this section are largely conceptual and it should be recognised that in reality there is a high degree of overlap between infrastructure types.

## **4. Current provision in the East Midlands**

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Several reviews of incubators in the East Midlands have been undertaken in recent years with a view to ascertaining what facilities currently exist, what services are offered, and how this infrastructure could be organised and co-ordinated - both to stimulate demand for innovation among firms generally and to better meet the needs of growth firms. Not all the reviews have concentrated exclusively on those buildings and related services that have close links to the science and industry base, but together they provide an insight into how physical infrastructure facilities in the East Midlands are currently focusing their activities.

### **4.1 UKBI reviews of business incubators**

*emda* has funded two reviews by UKBI to identify and assess which facilities are providing a 'business incubation environment'. The first review took place in 2003<sup>9</sup> and the second, which has been used to accredit incubation centres, was undertaken in 2005<sup>10</sup>. The 2003 review assessed 23 facilities against four core incubation principles, identified at national level by UKBI (see figure 4 below). Four of the facilities failed to meet at least two of the core principles and were therefore classed as managed workspace.

**Figure 4. UKBI core principles for business incubation environments**

- |  |
|--|
| <ol style="list-style-type: none"> <li>1. Incubation strategy and delivery</li> <li>2. Selection policy</li> <li>3. Exit policy</li> <li>4. Incubation team</li> </ol> |
|--|

See [Annex VI](#) for further details

The 2005 review returned to 12 of the facilities reviewed in 2003, plus two more. Of these 14 facilities:

- 21% received a good-to-excellent score for incubation strategy and delivery;
- 36% scored excellent on their selection policy;
- 21% scored excellent on their exit policy;

<sup>9</sup> 'Business Incubation in the East Midlands: A Review' UKBI, May 2003

<sup>10</sup> 'East Midlands Incubation Accreditation Reviews' UKBI, April 2005

- 36% scored excellent on the quality of their incubation team

The review also awarded an overall score to each facility and according to this, 2 centres (14%) were deemed to be providing an 'excellent' incubation environment, and 10 (71%) were achieving an 'above average' environment.

This promising overall result contrasts with the low performance against the individual criteria but is linked to the fact that 10 facilities were also identified as being in the 'Development' stage, indicating that the East Midlands is relatively well-provided with facilities that have the potential to form a mature incubation infrastructure in the future. However, several issues need to be addressed if this is to be achieved. Among the obstacles identified by UKBI in 2003 were the absence of suitable grow-on space, and a mismatch between the 2-3-year programmes that fund infrastructure and support, and the 3-5 years needed for an incubation centre to become financially sustainable.

## **4.2 SSP reviews of incubation and innovation centres**

Several sub-regional strategic partnerships have undertaken research to identify their innovation infrastructure requirements (See regional sources in [Annex III](#)). One of the more comprehensive reviews of provision at sub-regional level is that commissioned by the Greater Nottingham Partnership (GNP) and Alliance SSP<sup>11</sup>. The aim of the survey was to determine where gaps and opportunities for providing incubation, innovation centre and graduation space across the region lay.

The survey identified 31 existing facilities across the two sub-regions, and a further 8 innovation and incubation centres proposed for development. The findings were used to draw up a manifesto, or series of 'next steps' for the two sub-regions, including calls to develop an over-arching accommodation strategy capable of directing investment into known gaps, and to agree and apply common assessment criteria to funding applications. The report noted that these assessment criteria should be based on recognised good practice in the set-up and operational management of innovation facilities.

## **4.3 CMI mapping of physical innovation infrastructure**

In order to inform the review of physical infrastructure for innovation CMI conducted a series of face-to-face visits with key stakeholders and individuals responsible for incubators, innovation centres and science parks. This included interviews with individuals responsible for some 39 facilities across the region, including the 15 facilities that are participating in the EMIN network.

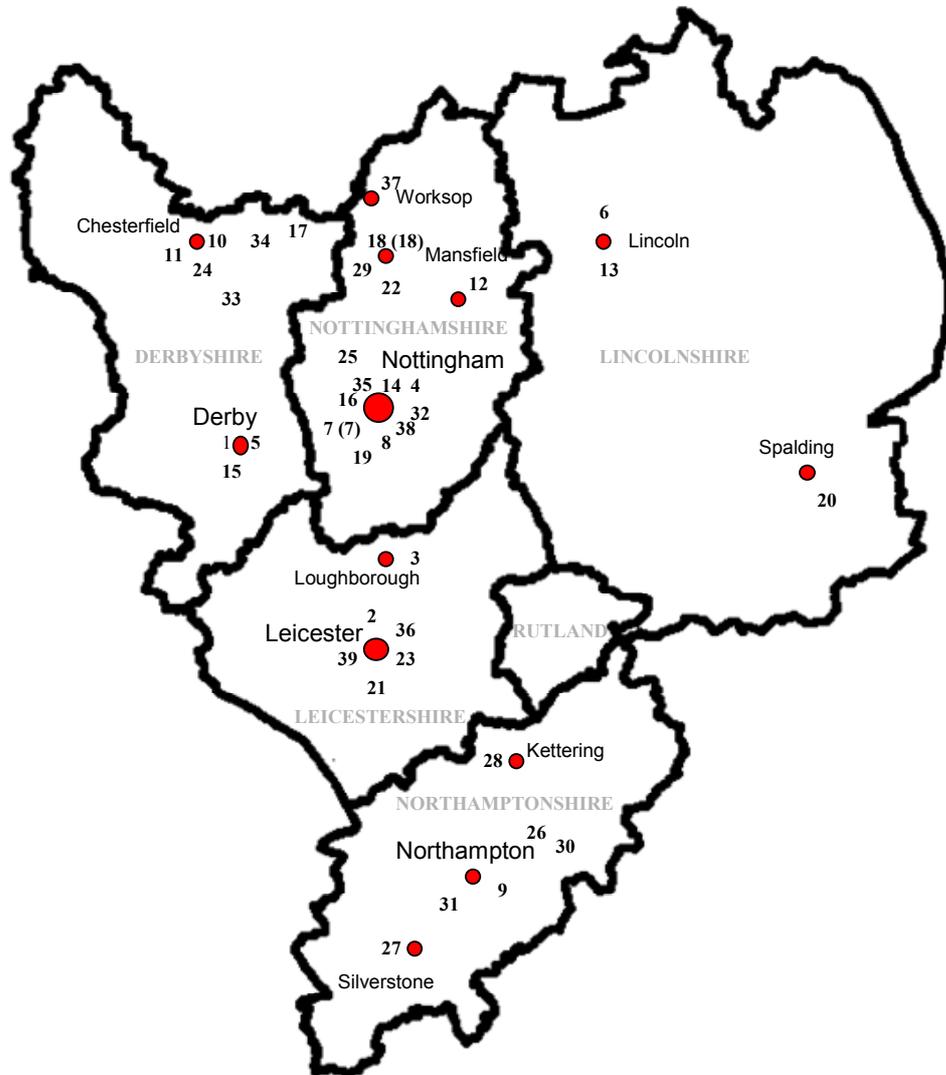
In broad terms CMI's analysis of these facilities revealed a rapidly evolving situation with several developments either planned, or under way, and name changes common. The current status of physical infrastructure, however, can be summarised from a geographical perspective. Figure 5 considers all physical infrastructure that

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<sup>11</sup> 'Innovation and Incubation Centre Survey, Innovation Centre Manifesto', Nottinghamshire County Council, June 2005

was identified as having a potential connection to innovation at the initial interview stage:

**Figure 5. Map of physical infrastructure facilities in the East Midlands**



**Key to figure 5**

- |   |   |
|---|---|
| 1 Bank's Mill Studio                      | 21 University of Leicester RBDO                             |
| 2 DeMontfort University Innovation Centre | 22 E-Centre at Sherwood Energy Village                      |
| 3 Loughborough Innovation Centre          | 23 Leicester Creative Business Depot                        |
| 4 Mercury House                           | 24 Markham Vale Environment Centre                          |
| 5 Network House                           | 25 Nottinghamshire International Clothing Centre            |
| 6 SparkHouse Studios                      | 26 Wellingborough Innovation Centre                         |
| 7 BioCity                                 | 27 Silverstone Innovation Centre                            |
| 8 The Hive                                | 28 SATRA Innovation Park                                    |
| 9 Creative Industries Centre              | 29 Pleasley Vale Business Park                              |
| 10 Dunston Innovation Centre              | 30 Blue Coat Incubation centre                              |
| 11 Tapton Park Innovation Centre          | 31 Centre for Learning & Enterprise in Organisations (CLEO) |
| 12 Edwinstowe House                       | 32 Nottingham Science & Technology Park                     |
| 13 Lincoln Innovation Centre              | 33 Coney Green Business Centre                              |
| 14 Southglade Food Park                   | 34 Eckington Business Centre                                |
| 15 The iD centre                          | 35 Broadway Managed Office Space                            |
| 16 New Brook House                        | 36 Beaumont Enterprise Centre                               |

17	Westthorpe Innovation Centre	37	The Turbine
18	Mansfield I-centre	38	Chrysalis Innovation Centre
19	UNIEI Lab	39	Leicester Business Centre (formerly Wyvern Business Ctre)
20	Holbeach Technology Park		

This geographical mapping suggests that facilities are concentrated primarily in the Nottinghamshire area (16), compared with 5 in Northamptonshire; 6 in Leicestershire; 9 in Derbyshire, and 3 in Lincolnshire. The analysis further suggests that the three cities sub-area of Nottingham, Derby and Leicester accounts for the vast majority of incubation/innovation centre activity. This is not surprising given the concentration of population, existing business activity and knowledge resources in this area. Perhaps more surprising, the northern sub-area of North Nottinghamshire and North Derbyshire is also well represented. This is likely to reflect the priority that such areas have given to responding to economic and regeneration challenges.

#### 4.4 CMI assessment of the current status of physical infrastructure for innovation

CMI's desk analysis of physical infrastructure for innovation identified how facilities across the region defined themselves within the overall infrastructure. The findings are summarised here in table 5; a list of facilities can be found in table 9 at [Annex IV](#).

**Table 5. Summary of facilities according to their self-classifications**

	<i>Incubators</i>	<i>Innovation centres</i>	<i>Managed workspace</i>	<i>Other</i>
Derbyshire	2	4	3	0
Leicestershire	1	2	3	0
Lincolnshire	1	1	1	0
Northamptonshire	1	4	0	0
Nottinghamshire	8	3	3	2
<b>Totals</b>	<b>13</b>	<b>14</b>	<b>10</b>	<b>2</b>

In order to assess to what degree the infrastructure identified in section 4.3 is supporting innovation in companies, CMI conducted a further stage of analysis to 'benchmark' these facilities against the physical infrastructure for innovation models set out in section 3, focusing in particular on key criteria identified at the end of that chapter:

- Innovation and technology objectives of the infrastructure clearly stated (essential)
- Target clients identified as depending on technology or other sources of innovation for their competitive advantage (essential)
- Onsite access to both business and technology management advice (essential)
- The presence of a connection to the (broadly defined) knowledge base (desirable)

- A focus on both internal innovation and external ‘virtual’ supports (desirable, most notably in innovation centres)

The results of an analysis based on these criteria suggests some variation between the self-classification made by the facilities themselves and CMI’s view based on desk research and face to face interviews. This is reflected in table 6 below, which gives lower figures for each of the categories. Managed workspace has been retained in the revised summary, reflecting the fact that certain facilities are intended to be developed further (e.g. Holbeach Technology Park; Southglade Food Park), or that the facilities are recognised by regional stakeholders as an important part of the innovation support infrastructure (although no concrete plans to develop them further exist at the moment).

**Table 6. Facilities meeting criteria for physical innovation infrastructure**

	<b>Incubators</b>	<b>Innovation centres</b>	<b>Managed workspace with Potential</b>	<b>Other</b>
Derbyshire	2	1	0	0
Leicestershire	1	2	0	0
Lincolnshire	1	1	1	0
Northamptonshire	1	1	3	0
Nottinghamshire	4	1	0	2
<b>Totals</b>	<b>9</b>	<b>6</b>	<b>4</b>	<b>2</b>

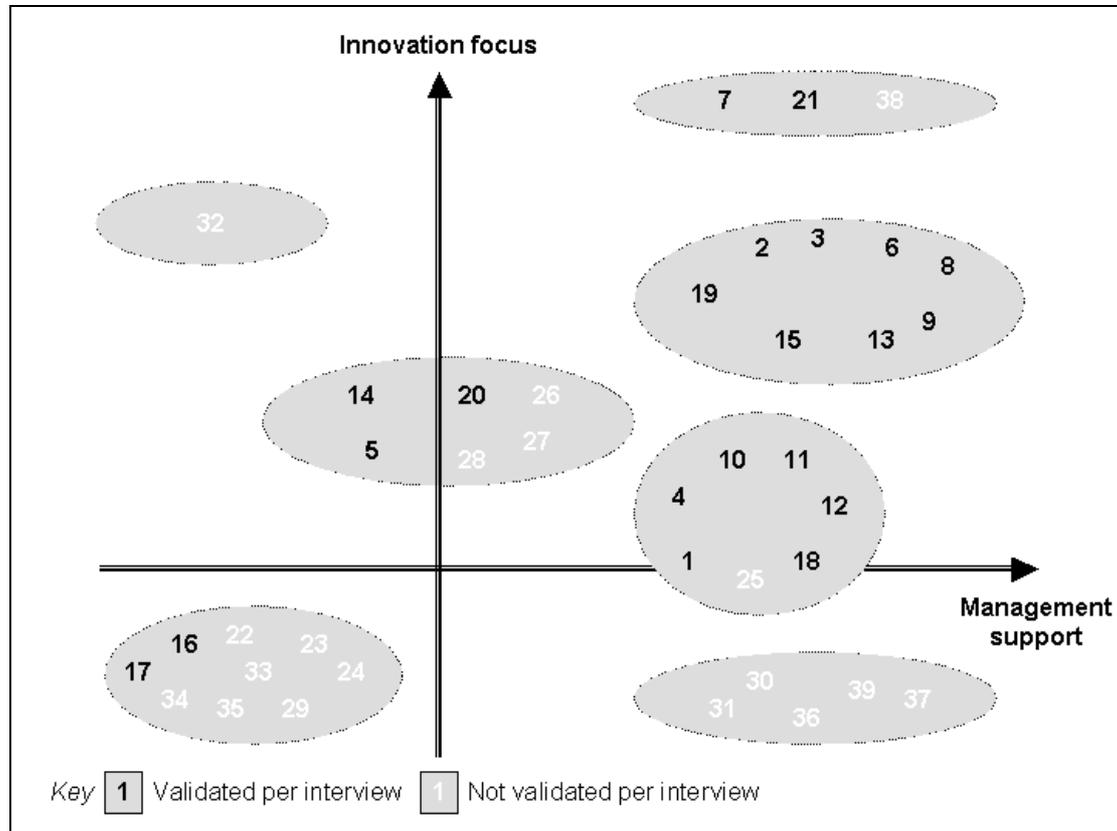
Table 6 categorises 21 facilities that met the five criteria for physical innovation infrastructure; the full list of facilities can be found at [table 10](#) in Annex IV. Eighteen facilities (listed in [table 11](#), Annex IV) were not included in this summary; either because they have relatively weaker links to the knowledge base, and/or because they provide more limited access to technical or management expertise, which places them closer to the enterprise end of the business start-up spectrum.

The physical infrastructure can also be ‘plotted’ according to the typology of different types of physical infrastructure for innovation set out in section 3. Figure 6, below, gives a classification of all 39 facilities according to the axes of management support, and innovation and technology focus. This suggests that the vast majority of physical infrastructure facilities in the East Midlands has a low level of innovation/technology focus to its activities – as indicated by the fact that relatively few incubators, science parks or innovation centres are positioned in the top end of the upper quadrants in figure 6.

On the whole, the figure suggests that physical infrastructure in the East Midlands follows the broad structure of the conceptual model identified in section 3. The region’s science parks, for example, score strongly on innovation and technology focus, but relatively weakly on management support. On the other hand the region’s managed workspace is concentrated in the bottom left quadrant - as anticipated by the conceptual model. Incubators, however, vary in relation to their science focus. Our analysis, here, implies that few incubators have adopted a strong

innovation/knowledge focus to their activities. Innovation centres also appear to vary in terms of their focus on innovation and technology, with relatively few examples exhibiting a strong focus according to the criteria defined in section 3.

**Figure 6. Typology of infrastructure in the East Midlands**



**Key to figure 6**

- |   |  |
|---|--|
| 1 Bank's Mill Studio                      | 21 University of Leicester RBDO                              |
| 2 DeMontfort University Innovation Centre | 22 E-Centre at Sherwood Energy Village                       |
| 3 Loughborough Innovation Centre          | 23 Leicester Creative Business Depot                         |
| 4 Mercury House                           | 24 Markham Vale Environment Centre                           |
| 5 Network House                           | 25 Nottinghamshire International Clothing Centre             |
| 6 SparkHouse Studios                      | 26 Wellingborough Innovation Centre                          |
| 7 BioCity                                 | 27 Silverstone Innovation Centre                             |
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| 15 The iD centre                          | 35 Broadway Managed Office Space                             |
| 16 New Brook House                        | 36 Beaumont Enterprise Centre                                |
| 17 Westthorpe Innovation Centre           | 37 The Turbine   |
| 18 Mansfield I-centre                     | 38 Chrysalis Innovation Centre                               |
| 19 UNIEI Lab                              | 39 Leicester Business Centre (formerly Wyvern Business Ctre) |
| 20 Holbeach Technology Park               |  |

## 4.5 Summary

The review of the current position of physical infrastructure for innovation reveals a large number of facilities – some 39 in total. This position is evolving rapidly with new incubators and innovation centres either planned or under construction.

In terms of geographical location the counties of Nottinghamshire and Derbyshire account for the largest number of facilities. Within this the main towns and cities also demonstrate the main concentrations of facilities. This pattern is, to some extent, indicative of the main population and business concentrations in the region. It is also shaped by the policy focus that particular organisations have adopted.

The findings from CMI's review also suggest that relatively few facilities match the full criteria for physical infrastructure for innovation as defined in section 3. This finding conflicts, to a certain degree, with many of the self-classifications adopted by facilities in the region. It does imply, however, that there is potential for the East Midlands facilities to increase their contribution towards overall innovation performance in the region. These and other issues are explored further in the remaining sections of the review.

## 5. Issues from stakeholder interviews

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Interviews with centre managers and stakeholders raised a number of issues, some of which are common to all regions that invest in physical innovation infrastructure and some that are relatively unique to the East Midlands context. These are reviewed in turn below.

### 5.1 Sustainability

Many of the activities established in recent years across the East Midlands are currently reliant on external funding. In the case of incubators hosted by the region's universities, the UK Higher Education Innovation Fund (HEIF) has been a significant catalyst for activity. The longer-term financial viability of many incubators is therefore an issue, and has already been highlighted by the UKBI Accreditation Review, which noted that within HEIs generally "*there is still some 'education' necessary to explain the level of investment required, particularly at the early stage of development of an incubation environment*".

Innovation centres, in part due to their larger size and the fact that they work with established companies in their 1st or 2nd stages of growth, are generally expected to become self-sustaining over time and several facilities in the East Midlands have reportedly achieved this, notably Edwinstowe House and the Chesterfield Innovation Centres. However, the requirement to cover costs brings with it a tension between the need to retain minimum levels of occupancy, and to nurture innovative, growth-oriented firms. This may lead a facility to retain or accept tenants with lower growth (and lower risk) potential, or to reduce the type and number of support services on offer in-house – both developments that could hinder the centre from fulfilling its own potential.

Given the tensions between focus and financial sustainability, it is understandable that many of the centre managers interviewed were keen to develop grow-on space, not only to satisfy the needs of their companies, but also to have the mix of accommodation that will enable them to charge commercial or near-commercial rents to some tenants, whilst retaining low barriers to entry for start-up firms. Within the sector, 25,000 sq ft is generally estimated to be the minimum size for financial sustainability.

## 5.2 Entry and exit criteria

The question of what entry and exit criteria to set and how rigorously to apply them is of course closely linked to the issue of sustainability. The 'Innovation and Incubation Centre Survey' undertaken for Alliance SSP and GNP found that innovation centres applying entry and exit criteria were producing more graduates, and tended to host companies with higher level skills. However, the survey also concluded that the majority of facilities surveyed did not currently meet all the minimum criteria identified by the Alliance SSP (see [Annex V](#)), and would need time to meet any standards set by an accreditation model.

Both innovation and incubation centre managers contacted for this review stressed that application of exit criteria is more complex in practice, and in reality counselling a company so that it is ready to move into other work space is an important part of the exit process. Asking a company to leave before it is ready could mean that the company fails to fulfil its potential.

There may be other down sides for the centre manager as well. For example, asking a company that is actively involved in networking and sharing experience with other incubating firms to graduate from the facility constitutes a loss to the incubating community as a whole and this is another reason why many managers are keen to develop grow-on space close to their original facilities.

This issue highlights the importance of tracking companies graduating from the physical infrastructure for innovation in order to identify champions, provide ongoing outreach support and so on. Our understanding, however, is that this process is limited in the East Midlands.

## 5.3 Demand for facilities

Several sub-regional bodies have reviewed the demand for physical innovation infrastructure and associated services in their area. In Lincolnshire, the SSP and its partners have concluded that there is insufficient demand for more than one innovation centre in the sub-region, but that this should become a physical 'hub' with links via a team of innovation advisors to managed work space and other facilities across the region. The aim would be to encourage more firms to innovate, drawing on services provided by the innovation centre, and for some firms to relocate into the centre itself.

Feedback from the Alliance and GNP SSPs indicates that these sub-regions also favour a more integrated, networked approach, prompted in this case by the number of facilities now in operation and by a recognition that it makes sense to share

expertise, resources, and referrals, and to adopt a common approach to areas of common concern (e.g. the lack of grow-on space). The benefit of such an approach would be that all aspects of the incubation/innovation spectrum could be covered in the sub-region.

## **5.4 Provision of specialist innovation advice**

Interviewees voiced some concern that the transition of Business Link to an Information, Diagnostic, Brokerage (IDB) model would reduce the specialist advice available to companies in innovation centres. Some SSPs are already considering how to respond: the Alliance SSP is seeking to develop an Innovation Advisory Service, with advisors running regular surgeries at centres and serving a wider constituency. A similar approach has been suggested in Lincolnshire, where partners would like to operate a team of innovation advisors, based at workspace around the county, but forming part of the Lincoln Innovation Centre.

## **5.5 Virtual environment versus co-location**

Feedback from interviewees indicated that grow-on space for companies should be close to original facilities in order for firms to continue to benefit from contact with companies with similar approaches, or operating in similar areas. However, perceptions of how far away 'close' is, are likely to vary depending on the type of business and its location.

One interviewee noted that spin-outs from HEIs are likely to be very closely rooted to the parent institution; not only because of the professional commitments of key academic staff, but also to keep close to contacts, facilities, and networks.

Research<sup>12</sup> undertaken for Lincolnshire Enterprises found that of 18 knowledge-based companies in the County, over two thirds either wished to remain in their immediate location, or were prepared to travel up to 5 miles to work. The consultants concluded that preferences were probably influenced by the quality of the transport infrastructure, since those firms prepared to travel up to 25 miles were based in the more populous western part of the county.

These two examples indicate there may be many factors at play when individuals make decisions, and that the most accurate feedback will be obtained if potential demand is assessed on a project-by-project basis. For facilities in remote areas, virtual links to a centre are likely to be a necessity rather than a choice, or as one interviewee put it, *'the nature of the existing environment will determine what kind of physical infrastructure it is appropriate to provide'*.

## **5.6 Position of incubation/innovation centres within the emda strategy**

Incubators and innovation centres in the East Midlands are currently supporting a wide spectrum of business start-up activity, from individual entrepreneurs, to firms

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<sup>12</sup> 'Assessment of demand for innovation centres in Lincolnshire and the stimulation of innovation within businesses', Econolyst, May 2004

where technology is not the source of competitive advantage, to businesses where the reverse is the case. As such, the physical infrastructure contributes key activities and outputs for both *emda's* enterprise and its innovation priorities. Whilst this overlap cannot be avoided, there is potential for it to cause confusion, particularly when trying to assess the contribution that specific elements are making, or have the potential to make.

## 5.7 Networks

The East Midlands Incubation Network (EMIN), set up by the East Midlands HEIs under the leadership of DeMontfort University, was originally funded through two rounds of HEIF money and is now in the process of developing a commercial offer to innovation and incubation centres and their tenants in order to be able to sustain its activities.

Although we cannot comment on EMIN's business plans, feedback from facilities managers indicated that they valued several important aspects of EMIN services to date, notably its work to support managers with Continuing Professional Development, and its role in facilitating contacts and exchange of experience, not only for managers, but also for companies. Most interviewees agreed that more could be done for facilities managers and companies (both tenants and external) in this area, particularly given the number of facilities not currently participating in the network.

## 5.8 Summary

To summarise, the growing complexity of the East Midlands presents a number of issues for future development of the sector, in particular the possibilities of making a stronger connection between physical infrastructure and the innovation objectives of the region. Put simply, the findings can be summarised as follows:

- Financial sustainability is likely to require public subsidies to enable continuation
- The importance of encouraging 'churn' from centres, while recognising the different needs of companies and sectors, and possibilities for tracking and ongoing provision of innovation support services.
- The need for demand for new physical innovation infrastructure facilities (including grow on space) to be considered carefully, with the strongest focus on creating links and added value support services.
- The importance of expert innovation advice and provision in all areas of the region
- The importance of a flexible strategy for grow on space, based on established needs and availability of such space, as well as the possibility for virtual service provision.
- *emda's* use of incubators/innovation centres to deliver both innovation and enterprise objectives is potentially confusing.
- Demand for networking and exchange of knowledge amongst physical infrastructure managers exists.

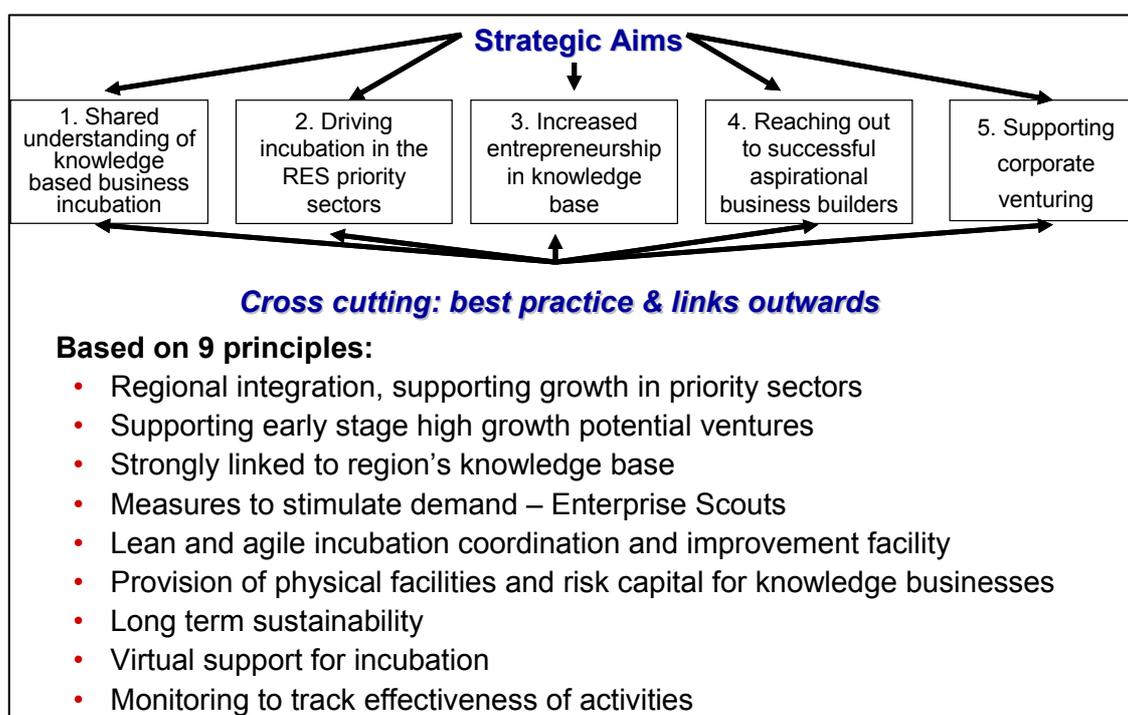
## 6. Good practice in provision of physical infrastructure and related support

A key requirement of this review involves the application of good practice lessons learnt from elsewhere in the UK and further a field, internationally. The main focus, here, was on identifying examples of regional strategic approaches to physical innovation infrastructure and associated services. This focus, it was found, is still in its relative infancy and following a wide ranging review only a small number of examples were felt to be relevant (see [Annex I](#)). Key issues to emerge from this review, and examples of comparative practice, are set out below.

### 6.1 A regional strategic approach to physical innovation infrastructure

The good practice examples suggest that physical innovation infrastructure can provide an important contribution to the wider 'regional' economic development strategy. The North West and the South West of England, for example have both developed strategies for 'incubation'<sup>13</sup>. Of these examples the North West exhibits a strong focus on physical infrastructure for innovation, with its focus on knowledge based incubation, and its position as a 'daughter' resource to the wider Regional Innovation Strategy. It should be noted, however, that both the North West and South West strategies include both innovation and enterprise objectives. In the case of the South West specific regional targets are identified (Tier 2) relating to sustainable economic performance, productivity, enterprise and innovation.

**Figure 7. The Incubation North West Strategic Framework**



<sup>13</sup> South West of England Incubation and Science Strategy (2002- 2006), and Incubation North West: A framework for knowledge-based incubation in England's North West (no date)

The North West example also highlights the challenge that exists in designing effective regional co-ordination mechanisms that are capable of producing the necessary operational benefits of scale without hindering the effectiveness of individual infrastructure activities. In this regard, the North West Development Agency's incubation framework seeks to achieve a careful balance between influencing the current provision of incubation facilities across the region and not limiting or prescribing the incubator activities of the NWDA's regional partners.

## **6.2 Establishment of guidelines, criteria and standards**

The provision of guidance to managers of physical innovation infrastructure by regional coordination agencies is common practice although the degree of prescription varies between examples. The Israeli Technology Incubator Programme represents an example of a high level of prescription. The Office of the Chief Scientist (OCS) of the Ministry of Industry and Trade oversees the Technology Incubator Programme with policy set by a Steering Committee on Technological Incubators. This is appointed by the director general of the Ministry and includes the Chief Scientist of the Ministry of Industry and Trade; public representatives from high-tech industry; representatives of the incubator 'graduates'; and the Director for Technological Incubators (OCS). The steering committee is responsible for devising procedures for the support of incubators and their projects (which become registered companies on entering an incubator). It approves support for candidate projects within the limits of the approved budget and per recommendations of the incubators' projects committees. The highly centralised nature of this incubator programme can be attributed to the need for strong accountability over the substantial level of state funding allocated to tenant companies by incubator managers (up to 85% of project costs).

A less prescriptive but nonetheless broad-ranging approach to guidance can be found in the North West Incubation Framework, which seeks to "foster a regionally shared understanding of knowledge based business incubation processes". The implementation of this strategic objective is described below in the context of networking and the exchange of best practice. The establishment of guidelines, criteria and standards at a strategic level can therefore help to minimise the likelihood of local or sectoral disputes or obstructions.

## **6.3 Systematic demand assessment**

The explicit linkage of the regional coordination of innovation infrastructure to the wider economic development strategy for the region also serves to reinforce the importance of assessing infrastructure investment against the form of systematic demand assessment and economic appraisal that is commonly practiced by public bodies. In the area of innovation and technology, such assessments are difficult to undertake but the wider use of increasingly well-understood appraisal tools and approaches is bringing the rigour required of other public investment decisions to the infrastructure area. Both the NWDA's Incubation Framework and the SWRDA's Incubation and Science Park Strategy place a strong emphasis on evidential proof of demand for the establishment of innovation infrastructure prior to its development.

Similarly EEDA's use of the green book methodology for its appraisal of physical innovation infrastructure capital projects, such as the Peterborough Innovation Centre, constitutes a strong example of this aspect of good practice. The green book methodology is based on a balanced assessment of facility plans and competing options, including both a financial and a strategic appraisal (see figure 8).

**Figure 8. The Green Book appraisal methodology**

The Green Book has been established by the UK Treasury for investment appraisal, "*The Green Book*": *Appraisal and Evaluation Central Government*' - issued by the HM Treasury (2003).

The key stages of 'Green Book' appraisal methodology require a detailed description of the project, including its aims, objectives and strategic rationale to be developed. This is followed by an examination of the economic, market and policy contexts and rationale for the project. A detailed and robust methodology is then elaborated to measure the impact of the proposed development leading to a summary of costs and funding including residual values of proposed capital assets.

Alternative options to the base case are then tested against the policy or strategic aims and objectives through a weighting and scoring exercise. The appraisal assesses the alternative options including costs per job estimates and examines possible optimism bias and exit strategies before delivering conclusions and recommendations.

## 6.4 Physical proximity to the knowledge base

The good practice examples suggest that physical innovation infrastructure is typically based around or close to sources of knowledge or expertise. These sources of knowledge can take the form of a HEI, a leading company or research centre; they allow innovation support to be sourced either from 'within the walls' or from external networks and resources. In the same way, users of innovation support may come from within (a physical centre such as an incubator) or may have arisen from a centre's 'outreach' into the wider environment, typically a local or regional environment. The majority of incubators in the South West are linked to either a HEI or regional technology organisations. These links are considered an important success factor for incubation in the region.

Incubators provide outreach support, referrals and signposting, which are vital in promoting innovation and providing support for start-ups and SMEs. In this respect virtual clients are viewed as part of the 'pipeline' for business incubation and are important for the financial self-sustainability of incubators. In the North West context, one of the key principles underlying the strategy stipulates that, "*the incubation process should link strongly and cooperatively into the Region's knowledge base in HE, the large Corporate sector, and amongst entrepreneurs*" (see figure 7 above). The potential benefits to be gained from the links between innovation physical infrastructure and the knowledge base highlight the need for strong cooperation between the RDAs, HEIs and industry through science and industry councils such as InnEm.

## 6.5 A regional network approach to innovation infrastructure

Networks are of crucial importance to physical innovation infrastructures. Indeed, they are generally regarded to be a key part of that infrastructure rather than simply

an interesting addition. The role that providers or managers of physical innovation infrastructure play in good practice use of networks is of particular relevance here. In addition to the reliance of physical innovation infrastructure on active and impartial referrals across and within an innovation support network, participation in the network itself can act as a 'quality standard' for its members. Networks of this sort provide important learning resources for members or participants in the network by encouraging exchange of good practices across the network and allowing greater access to examples of good practice from outside the network.

In the East of England, the Enterprise Hubs model was developed from, and builds upon, existing expertise and facilities and therefore contains a strong networking element. Through their immediate partners and related stakeholders, each Enterprise Hub is expected to provide a specialised package of support for knowledge-based firms at pre-start-up, start-up or early stages of growth. Each Hub should provide a combination of infrastructure (e.g. incubators and/or innovation centres), and local networks. EEDA has developed an outline specification to guide partnerships seeking funding to develop an Enterprise Hub, but expects each partnership to propose its own model, including the sectoral focus of the Hub, networking arrangements and numbers of innovation centres involved. The overall aim of each Hub is to improve the performance, coherence and take-up of innovation support services by technology-based businesses and start-ups. They should also be the means to link businesses with academic research, thereby acting as a catalyst for further academic-industry collaborations. To date 6 Hubs have been established.

The Enterprise Hubs were established to strengthen existing networks and create new networks across the region by increasing links between innovation centres and other research organisations as well as increasing the reach of specialist expertise to companies. Prior to the introduction of the model the region was characterised by significant strengths in innovation and technology, which tended to be concentrated in certain 'hot spots'. The quality and extent of innovation services lacked overall consistency, scale and impact. There was little sense of identity as a centre of innovation and technology, outside of Cambridge, and no significant networking occurred between companies or organisations. The hub model was built on networks based on regular face-to-face meetings, and the element of 'speed-dating' between companies has proved to be popular and effective as has the use of 'network facilitators'. The success of networks has depended on the quality of the facilitators and on the ability of the network activities to satisfy latent demand. The model has now begun to be extended across the region, recognised as a successful mode of regional development, underlining the notion that a region such as the East of England can use and disseminate networks across geographical sub-regions, sectors and areas of interest. Another key success factor was a degree of flexibility among the projects incorporated from the outset and commended by the project managers, for example taking into account local needs and the introduction of changes or new approaches after the project has been approved.

The South West's 'Incubation and Science Park Strategy; was introduced to address a lack of coordination among incubators and science parks within the region and develop infrastructural capability through the establishment of a Business Incubation

South West (BISW). The BISW is a virtual network linking the region's many incubator facilities with each other and with vital business support and investment services. The network is now fully operational and represents a fundamental part of future incubation within the region. The 'Innovation Drivers Action Plan' (IDAP), which is to be introduced in June 2006, will incorporate the lessons learnt from the Incubation and Science Park Strategy. It will include a stronger focus on pre start-up services since this has been identified as a gap in the pipeline between 'ideas' and incubation. Responsibility for pre start-up incubation will be assigned to the BISW network under the new strategy. SWRDA will also improve integration between incubators and the priority sectors and develop links with the region's centres of expertise in order to realign innovation support with recent economic growth.

Similarly, the North West Incubation Framework involved the establishment of a regional incubation hub that would support a 'regional community of business incubation players'. The hub is intended to guide firms/entrepreneurs to the relevant components of the incubation infrastructure. In common with the South West and the East of England, the NWDA's has established a web portal that contributes towards this signposting process ([www.innovationnorthwest.co.uk](http://www.innovationnorthwest.co.uk)).<sup>14</sup> The framework also places an emphasis upon the delivery of training and CPD for incubation managers and staff; as well as the promotion of incubation best practice within the business support community.

Research by the Queensland Innovation Council on the 'development of technology incubators, parks and precincts in Queensland' provides a valuable insight into the rationale underpinning the development of the 'State-wide Technology Incubation Strategy'. In particular, the study identified the issues of critical mass and scale as key challenges for the provision of innovation physical infrastructure and associated services. In response to these recommendations the Queensland State Government developed a State-wide Technology Incubator Strategy (SWTI). This resulted in the establishment of a Queensland-wide network, which connects technology incubation facilities to a central 'hub' in South-East Queensland. The purpose of this hub is to "service a number of 'networked partners' in major regional centres where a demand for technology incubation has been established". In line with the analysis of the Queensland Innovation Council, this state-wide network draws upon the achievements to date of the i.lab Incubator and its engagement with other regional incubator facilities such as the Innovation Centre Sunshine Coast. The central hub provides "business development services, advice and training to the regional "nodes", which will in turn service their catchments areas with a range of Hub and Node generated services". Furthermore, those infrastructure projects that benefit from STWI Node Establishment Funding are required to participate in a state-wide virtual Network linking the Nodes with the Hub and each other. This model of state-wide coordination is intended to support the development of a "strong and vibrant knowledge economy throughout Queensland by enhancing skills and innovation among high-technology, knowledge intensive industries". It therefore provides a

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<sup>14</sup> Yorkshire Forward are currently developing an incubator portal.

useful example of the benefits that can be secured for beneficiaries of incubator facilities through greater project and operational economies of scale.

## **6.6 Entry and exit criteria**

The contractual arrangements used by good practice examples of physical infrastructure do not give us an informed or conclusive view on the use of entry and exit criteria for tenants or external users. Indeed, there are significant variations in the degree of formality that operates. For the regional agencies active in promoting innovation support infrastructures the decision on tenancy criteria appears to be entirely left to the owners or managers of the various facilities. Furthermore, the sectoral foci of these good practice examples appears to assume a rather general form supporting the overall priority sectors identified in the regional economic strategy, although there is a clear emphasis on knowledge and/or technology based businesses.

## **6.7 Financial sustainability**

Finally it is important to note that the financial sustainability of physical infrastructure and supporting innovation services is always likely to be an issue, even in good practice examples. From the examples reviewed, it is clear that public support is always likely to be crucial if regional innovation support infrastructures, including those built around physical infrastructures, are to achieve long-term sustainability. There are clearly some cases where stronger private input may be feasible but in these circumstances, the private input is frequently made via a foundation or other quasi-charitable vehicle.

## **6.8 Summary**

Analysis of these good practice examples demonstrates that a regional approach to the coordination of innovation physical infrastructure can produce a number of important benefits for the region:

1. A regional strategic approach to innovation infrastructure represents an important vehicle for achieving the goals of the wider innovation and economic development strategies of the region, for example, supporting the growth of early stage businesses in RES priority sectors;
2. The establishment of common guidelines and criteria for innovation infrastructure and associated services within a region helps to raise standards and minimise the likelihood of disputes, although the manner in which this is achieved and the degree of prescription varies for example, entry and exit criteria;
3. Systematic demand assessment and the use of economic appraisals for new physical innovation infrastructure are increasingly viewed as a necessary procedure by public agencies. However, the future financial sustainability of physical innovation infrastructure tends to remain dependant upon public funding;

4. Physical innovation infrastructure is typically based around or close to sources of knowledge or expertise, i.e. universities, research institutes and leading companies, which highlights the importance of strong cooperation between the RDA, industry and academia;
5. A regional network approach is crucial to physical infrastructure for ensuring the sharing of best practice, an effective system of referrals and signposting and continuous training for managers of physical innovation infrastructure and associated services.

## **7. Conclusions**

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This review was commissioned by *emda* to map ‘the existing incubation and innovation facilities available across the region’ as a ‘baseline for the development of a strategy for future investment in physical infrastructure and associated support mechanisms’ (see ITT). To achieve this aim, the review process incorporated an assessment of the concepts underlying physical infrastructure for innovation, interviews with managers of facilities and associated services and wider regional stakeholders, plus desk analysis of UK and international good practices in relation to regional strategic approaches to physical infrastructure. These review activities provide the basis for the main conclusions set out below:

### **7.1 Concepts and definitions**

The analysis of definitions and characteristics revealed a number of facility types most relevant to physical infrastructure for innovation including: business incubators; innovation centres and science parks. These categories, however, are typically drawn in a fairly broad-ranging manner. To further aid the ‘identification’ process, therefore, the review summarised the primary definitional features of physical innovation infrastructure as follows (including CMI’s assessment of their desirability in brackets)<sup>15</sup>:

- Innovation and technology objectives of the infrastructure clearly stated (essential)
- Target clients identified as depending on technology or other sources of innovation for their competitive advantage (essential)
- Onsite access to both business and technology management advice (essential)
- The presence of a connection to the (broadly defined) knowledge base (desirable)
- A focus on both internal innovation and external ‘virtual’ supports (desirable)

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<sup>15</sup> Note, this list draws together key definitional characteristics of science parks, innovation/technology-based incubators and innovation centres (see section 3 for more details).

## 7.2 Current provision

The review also provides a geographical and thematic mapping of the current position of physical infrastructure for innovation, revealing a significant number of facilities – some 39 in total, with several new incubators, innovation centres and science parks either planned or under construction. In terms of geographical location the counties of Nottinghamshire and Derbyshire account for the largest number of facilities. Within this the main towns and cities also demonstrate the main concentrations of facilities. This pattern is, to some extent, indicative of the main population and business concentrations in the region. It is also shaped by the policy focus that particular organisations have adopted.

The findings from CMI's review also suggest that relatively few facilities match the full criteria for physical infrastructure for innovation set out in section 7.1 above. This finding conflicts, to a certain degree, with many of the self-classifications adopted by facilities in the region. .

## 7.3 Good practices

Experience from the UK and international comparative case studies suggests that a number of principles underpin successful regional approaches to physical infrastructure for innovation. These include:

- Presence of a regional strategic framework for physical infrastructure development
- Guidelines and standards for facilities
- Systematic demand assessment
- Proximity to the knowledge base
- Provision of outreach innovation support services
- Presence of a regional networking forum for professionals

These features, the review recognised, while underpinning the approaches adopted by comparators need to be considered closely against the East Midlands context when considering recommendations.

## 8. Recommendations

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In light of the review findings, CMI has summarised key recommendations under a series of headings: strategy, management and delivery recommendations. In addition, the key actions required to implement the recommendations are described with responsibilities, costs, timings and priorities identified.

### **Innovation infrastructure strategy recommendations**

#### **Recommendation 1:**

***emda should develop a strategy for physical infrastructure for innovation as an integral component of the innovation strand of its RES***

Both desk research and feedback from interviewees indicates a desire among stakeholders in the East Midlands to agree what direction infrastructure and associated investments should take. Findings from the good practice review suggests that the presence of a regional strategy for physical innovation infrastructure can help provide a framework within which partners can best structure their own activities in support of regional objectives. In the cases of the North West and South West the RDA has taken the lead on developing such strategies, with the focus being one of directing future investments, while setting out priority areas for other regional stakeholders to consider.

#### **Recommendation 2:**

***emda should ensure that a joint infrastructure strategy for innovation and enterprise is developed***

A clear consequence of setting out a strategy for physical innovation infrastructure, as highlighted in the South West and North West strategies, is the need to develop a similar physical infrastructure strategy for the enterprise agenda. Indeed, without such a 'parallel' strategy *emda* exposes itself to the risk that all types of physical infrastructure will gravitate towards the innovation agenda, thus impacting on enterprise activity and outputs. To avoid this will require either separate strategies for innovation and enterprise, or an integrated strategy within the overall heading of a strategy for physical infrastructure.

## Actions required

Action	Comments & cost implications	Action taken by:	Likely timing	Priority level
Disseminate the findings and recommendations of the review of physical infrastructure for innovation in the region and gain endorsement within all areas and directorates of <i>emda</i> .	Key targets for dissemination will include current innovation centre and incubator managers; East Midlands University Association; Commercialisation departments at HEIs; Local authority economic development teams; SSP members.  No additional cost implications above normal <i>emda</i> 's strategy development activities	Innovation Director	Autumn 2006	High
Adopt the key strategic recommendations and priorities established within the review as the strategy for physical infrastructure for innovation in the region.	This applies particularly to criteria; competency frameworks and monitoring recommendations  No additional cost implications above normal <i>emda</i> 's strategy development activities	InnEM	Autumn 2006	High
Agree physical infrastructure provision and future needs for innovation and enterprise aligning strategies, priorities and investment plans as appropriate	The innovation strategy and criteria adopted for physical infrastructure for innovation will identify obvious areas and locations where investment should be concentrated (for example, in areas where key knowledge base assets exist such as Universities or Research centres). Accordingly, integration with an enterprise physical infrastructure strategy should evolve naturally given the criteria established for strategies.  No additional cost implications above normal <i>emda</i> 's strategy development activities	<i>emda</i> Directors	2007/08	Medium

**Recommendation 3:**

***emda should make explicit the criteria underpinning physical infrastructure for innovation and link these to overall strategic objectives***

A prominent feature of an innovation infrastructure strategy will need to be a shared understanding of what constitutes physical innovation infrastructure. The findings of this review suggest a range of important criteria (see section 3). The key point for *emda* is that it should take a lead by identifying those criteria central to its overall strategy and objectives. By stating such criteria explicitly *emda* will help to provide the transparency required by regional stakeholders. It will also help to address the definitional confusion evident amongst regional stakeholders at present.

## Actions required

Action	Comments & Cost implications	Action taken by:	Likely Timing	Priority level
Adopt the criteria suggested within the review as the basis for procuring and supporting physical infrastructure investment for innovation	Incorporate these within the strategy after a consultation within <i>emda</i> & InnEM.  No additional or extraordinary cost implications identified	<i>emda</i> & InnEM	Autumn 2006 in line with Strategy adoption	High
Communicate the criteria to stakeholders across the region and agree with them the status of major infrastructure provision	Ensure that all relevant stakeholders are informed (see list above) and invite them to apply the criteria to existing and planned infrastructure within their areas of responsibility and interest, submitting the results to <i>emda</i> for agreement and incorporation in a 'map' of infrastructure similar to that used within the review.  Costs of communication likely to be within existing budgets; management time costs will be incurred in discussing the criteria and 'maps' of infrastructure within <i>emda</i> and InnEM.	Innovation Director	Winter 2006/07	High
Establish RES based targets for physical infrastructure across the region	This will require working in conjunction with <i>emda</i> strategy teams.  No additional or extraordinary cost implications identified	Innovation Director	Spring 2007	Medium

#### **Recommendation 4:**

***emda should develop a ‘competency framework’ approach, incorporating stages of development and competencies that both existing and new facilities should aim to satisfy***

It will also be important that the strategy allows *emda* to assess the progress of physical infrastructure towards its overall objectives. A number of approaches exist in this respect. Accreditation, for example, is often noted in this context. The accreditation approach is, however, a static tool that tends to be a managerial rather than strategic<sup>16</sup>, and does not necessarily identify the required development path for facilities. A ‘competency framework’ on the other hand, would not only give *emda* the ability to assess funding applications based on progress made against this framework, it would also make *emda*’s developmental requirements and the expected ‘direction of travel’ explicit for regional stakeholders<sup>17</sup>. The competency framework should include competencies relating to the innovation support available through the physical facility as well as the provision and management of the physical facilities themselves. Both new and existing facilities should be subject to the framework approach although it could be expected that existing facilities would be placed ‘higher’ within the framework than new facilities at first.

#### **Recommendation 5:**

***emda should work closely with the SSPs to manage, monitor and guide the delivery of the strategy***

In order to ensure effective management of the strategy it will be important that *emda* work closely with the SSPs, which are a major conduit for funding on infrastructure. By working in partnership, *emda* and the SSPs will be able to monitor, assist and improve the competency of facilities according to strategic objectives. Indeed, they will also be able to identify the most relevant competencies according to local needs, and shape the regional direction of the strategy accordingly. It will also become possible to critically assess and reappraise the necessary competencies as relevant.

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<sup>16</sup> For example UKBI’s 4 criteria for incubators are all managerial in focus and intent

<sup>17</sup> The competency framework approach would also respond well to *emda*’s requirements in light of the Independent Performance Assessment (IPA) process

## Actions required

Action	Comments & Cost implications	Action taken by:	Likely Timing	Priority level
Create the 'competency framework' and, in consultation with SSPs, populate the framework with existing provision	Competency frameworks are commonly used in development or assessment centre approaches to continuing professional development. They are increasingly replacing accreditation in non-professional or non-trade contexts including business advice. Using a competency framework approach to physical infrastructure and associated support services will in itself be innovative.  Additional work required to develop and agree the framework circa £20,000	Innovation Director	Winter 2006 following adoption of the Strategy and criteria	High
Agree with each SSP a target plan for development for each piece of physical infrastructure for innovation against the competency framework.	This will build on the infrastructure 'map' developed following publication of the criteria by <i>emda</i> and will give stakeholders clear lines for development of facilities and competencies.  Management time costs will be incurred in discussing and agreeing the plans.  Additional work may be required at this point to establish sufficiently detailed and robust plans to be effective. Circa £15,000	Innovation Director and SSPs	Spring 2007	High
Establish, with each piece of existing provision, a 3 to 5 year action plan agreement that will allow the infrastructure to meet the desired criteria established by <i>emda</i> and InnEM through achievement of the competencies set out in the framework				
Mentor and monitor progress towards the competencies of each piece of existing provision in collaboration with the SSPs.			Spring 2007 onwards	Medium

## Innovation infrastructure delivery recommendations

### **Recommendation 6:**

***emda to provide innovation mentoring services to strengthen the innovation support services associated with physical infrastructure***

A key delivery aspect of the infrastructure strategy will be support for associated services. As the good practice case studies indicate, strategies based solely on facilities are unlikely to produce the requisite innovation outputs. In this respect a key objective of the strategy should be to ensure a greater balance between facilities and associated innovation support services than is currently evident. A competency framework approach as described above could be a key feature here. Furthermore, many of the good practice cases studies are based on the provision of innovation mentoring services (provided by individuals with both business and technology commercialisation expertise). While it may be feasible to ensure that a core of associated innovation services are provided by each facility in the East Midlands, more specialised services could be shared across particular sub-regions or clusters (possibly linked to the I-net hubs), and provided 'remotely' through partnership arrangements.

### **Recommendation 7:**

***emda to ensure that 'graduate' company tracking and support becomes an integral component of 'outreach' of support services in supported innovation centres***

A related issue is one of how best to interact and maintain links to 'graduate' companies<sup>18</sup>. Good practice, for example, suggests that tracking graduate companies provides valuable opportunities to continue innovation support, maintain relations with potential role models and so on. CMI's understanding, however, is that such support is relatively minimal in the East Midlands at present. This, in part indicates why more facilities do not fall within the innovation centre category outlined in section three.

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<sup>18</sup> Companies that 'graduate' from within a physical innovation related facility to 'grow-on' or other facilities

## Actions required

Action	Comments & Cost implications	Action taken by:	Likely Timing	Priority level
Provide innovation mentors for innovative SMEs associated with innovation centres etc. The basis for doing so could be through either:	Option 1: Direct <i>emda</i> employment of suitable mentors who are then 'allocated' to or adopted by innovation centres or a group of innovation centres etc.  Cost approximately £50k per annum per mentor – likely to require 5 - 8 mentors - £400k per annum	<i>emda</i> & Innovation Director	2007/2008 following adoption of the Strategy by <i>emda</i>  Spring 2007	Medium
	Option 2: Provision of an 'Innovation mentor pot' to fully or partly fund the employment of mentors by individual innovation centres or collaborations between innovation centres.  Cost approx. £350K per annum – assuming 60% funding for 10 mentors	<i>emda</i> & Innovation Director		Medium
Include tracking of 'graduate companies' in the competency framework, assigning a small budget for innovation centres etc to 'launch' the service.	Cost approximately £100k per annum for 10 such services to be launched each year by up to 10 centres	<i>emda</i> & Innovation Director	2007/2008 following adoption of the Strategy by <i>emda</i>  Spring 2007	Medium

**Recommendation 8:**

***emda should integrate a physical infrastructure component into the planned innovation portal***

In addition to greater provision of associated 'face to face' innovation support services, the good practices research suggests that regional portals are being used increasingly by several regions (all of the English regions reviewed, for example, have such portals). A portal allows provision of virtual support services to tenant companies in an integrated manner, through signposting. It also has the potential to provide a regional marketing focus for facilities that can be used to strengthen demand. CMI notes that *emda* is planning to develop an innovation portal, and a physical infrastructure component to this site would be a valuable addition.

### Actions required

<b>Action</b>	<b>Comments &amp; Cost implications</b>	<b>Action taken by:</b>	<b>Likely Timing</b>	<b>Priority level</b>
Commission web portal designers to include physical infrastructure availability; status and competencies into InnEM portal design.	Cost implications could be dealt with within the context of the overall specification, commissioning and budget for provision of web portal for InnEM	Innovation Director & InnEM	In line with InnEM web portal timetable	Low

**Recommendation 9:**

***emda should take a lead role in promoting networking amongst regional innovation infrastructure professionals, considering, in the first instance, the potential for EMIN to play a part in this activity***

Networking of innovation professionals has begun to develop in the East Midlands, most notably through EMIN. Indeed, facilities managers spoke favourably of the CPD opportunities and general exchanges of experience already provided by EMIN. Such networks were also evident in the good practice review (South West and North West) and provide a forum to exchange views, good practices and lessons. Such a forum could also be used as a vehicle for promoting greater understanding of facilities within the region and promoting the possibilities for cross-referral between centres.

While such networking needs to be further encouraged in the region the question remains as to the most appropriate vehicle for support. While EMIN (whose origins are from the HEI base) has started this process it is unclear whether it will be possible to drive regional networking from this level.

## Actions required

Action	Comments & Cost implications	Action taken by:	Likely Timing	Priority level
Invite EMIN to make a proposal to InnEM regarding their ability, willingness and competency to provide InnEM with network management services in line with Innovation strategy objectives and the levels of competency required.	If EMIN proposals are not adequate or assessed poorly on v.f.m. terms, engage HEI stakeholders in dialogue regarding the need and invite comments or suggestions towards improving the EMIN proposal or gaining HEI agreement to support <i>emda</i> and InnEM in forming a new network structure.	Innovation Director & InnEM	Autumn 2006 in line with Strategy adoption	Medium
Consult with SSPs and other stakeholders on the range of services that are proposed and assess v.f.m accordingly using the competency framework approach where necessary.	No additional or extraordinary cost implications identified, however a budget will be required to support EMIN or to create a new network structure if required.	Innovation Director and SSPs	Winter 2006/07	Medium

## Innovation infrastructure management recommendations

### Recommendation 10:

***emda should support the development of grow-on space for facilities that are clearly meeting or working towards meeting the competency framework established under the emda strategy***

A key management issue for *emda* strategy will be a clear statement on the principles underpinning its preferred accommodation strategy for the physical innovation facilities covered by the overall strategy. This will need, in particular, to address important issues identified notably: grow-on space/co-location, entry and exit criteria, and demand assessment.

In relation to grow-on space the regional stakeholder consultations revealed a shortage of grow on space for the tenants of facilities. This was felt to hamper the prospect of encouraging 'churn' amongst the tenant base. A further argument is that operating larger facilities may make it possible to charge higher rent to larger companies, thus keeping entry costs lower for start-ups whilst at the same time generating higher revenue.

A related issue raised here was whether such grow-on facilities need to be co-located with infrastructure facilities. The lack of co-located grow-on space for business incubators is also an issue in terms of maintaining longer-term links with the tenants. This limits the possibilities for facilities to provide outreach innovation services. It also prevents the spatial concentration of companies so important to the build up of clusters. Clearly, the demand for grow-on space will need to be assessed in relation to the strategic objectives, as will the precise needs of local area. While co-location of such grow-on space will be desirable, in many cases it will not be feasible – for example, where no space is available. In such instances good practice appears to suggest that grow on space should be located within 25 miles of the core facility.

## Actions required

Action	Comments & Cost implications	Action taken by:	Likely Timing	Priority level
Use the competency framework and the associated action plans agreed with the SSPs to undertake a 'gap analysis' of grow on space requirements with SSPs – favouring grow-on space proposals from centres that are meeting or significantly working towards achieving the competencies set out in the competency framework.	Additional costs of circa £10,000 for external input	<i>emda</i> & Innovation Director	Autumn 2006	High
Focus investment on grow-on space that meets the criteria of within 25 miles radius and can be demonstrably linked to the 'parent' centre through joint management and graduate company services.	No additional or extraordinary cost implications identified although clearly requests or proposals for investment will be submitted as soon as criteria are communicated	<i>emda</i> & Innovation Director	Winter 2006 following adoption of Strategy	Medium
Commission an exercise to assess the applicability and suitability of existing or forthcoming plans and proposals for grow-on space against the criteria set out above.	Potential additional budget of £25,000 required for external expertise	<i>emda</i> & Innovation Director	2007/2008	Medium

**Recommendation 11:**

***emda should adopt a transparent 'best practice' framework for demand assessment and economic and strategic appraisal of planned facilities***

Each of the good practice examples reviewed emphasises the need for a robust appraisal of physical infrastructure developments. This provides the opportunity to ensure that there is sufficient demand for the facility, as well as appraising value for money aspects (the cost versus likely outputs). Advanced techniques such as the UK Treasury GreenBook (as used in the East of England and other UK regions) is one such approach that is particularly useful for larger capital projects and allows a sophisticated appraisal against both value for money benchmarks and regional strategic objectives and needs.

## Actions required

Action	Comments & Cost implications	Action taken by:	Likely Timing	Priority level
Establish and clarify current practice and procedure within <i>emda</i> for investment appraisal and standards of demand assessment for physical infrastructure investments	Existing practice within <i>emda</i> suggests that standards of demand assessment are in place but are not widely communicated or operated  No additional or extraordinary cost implications	<i>emda</i> & Innovation Director	Winter 2006	Medium
Modify procedures to allow consideration of the competency framework and the SSP based action plans as legitimate and transparent appraisal criteria	This should be a part of the action to develop and operationalise the competency framework itself  No additional or extraordinary cost implications identified – should be covered within a competency framework budget	<i>emda</i> & Innovation Director	2007/2008	Medium
Develop an accepted approach to demand assessment based around a templates and accepted best practice formulae and assumptions	Commission further work to develop these if required.  Additional costs of circa £15,000 to assist in the development of the appraisal templates and formulae	<i>emda</i> & Innovation Director	2007/2008	Low

## Summary

A summary of the recommendations made in this review are set out in the table below:

No.	Recommendation
1	<i>emda</i> should develop a physical infrastructure for innovation strategy as an integral component of the innovation strand of its RES
2	<i>emda</i> should ensure that a joint infrastructure strategy for innovation and enterprise is developed
3	<i>emda</i> should make explicit the criteria underpinning physical infrastructure for innovation, and link these to overall strategic objectives
4	<i>emda</i> should develop a 'competency framework' approach, incorporating stages of development and competencies that facilities should aim to satisfy
5	<i>emda</i> should work closely with the SSPs to manage, monitor and guide the delivery of the strategy
6	<i>emda</i> should give consideration to the provision of innovation mentoring to strengthen associated innovation support services
7	<i>emda</i> should ensure that graduate company tracking and support becomes an integral component of 'outreach' of support services in supported innovation centres
8	<i>emda</i> should consider the establishment of a physical infrastructure component to the planned innovation portal
9	<i>emda</i> should take a lead role in promoting networking amongst regional innovation infrastructure professionals, considering, in the first instance, the potential for EMIN to play a part in this activity
10	<i>emda</i> should seek opportunities to support the development of grow-on space for facilities that are clearly meeting or working towards meeting the competency framework established under the <i>emda</i> strategy
11	<i>emda</i> should adopt a transparent 'best practice' framework for demand assessment and economic and strategic appraisal of planned facilities

## **Annexes**

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## **Annex I: Good practice examples of innovation physical infrastructure & associated services**

### **East of England Development Agency (EEDA)**

The 2001 Regional Economic Strategy for the East of England<sup>19</sup> contained a commitment to support the creation of Enterprise Hubs in the region and this was renewed when the Strategy was refreshed in 2004. EEDA is responsible for supporting the creation of Enterprise Hubs and has invited funding proposals from interested regional partnerships. Through their immediate partners and related stakeholders, each Enterprise Hub is expected to provide a specialised package of support for knowledge-based firms at pre-start-up, start-up or early stages of growth. Each Hub should provide a combination of infrastructure (e.g. incubators and/or innovation centres), and local networks. EEDA has developed an outline specification to guide partnerships seeking funding to develop an Enterprise Hub, but expects each partnership to propose its own model, including the sectoral focus of the Hub, networking arrangements, and numbers of innovation centres involved. The overall aim of each Hub is to improve the performance, coherence, and take-up of innovation support services by technology-based businesses and start-ups. They should also be the means to link businesses with academic research, thereby acting as a catalyst for further academic-industry collaborations. To date 6 Hubs have been established: Hertfordshire Business Incubation Centre, BioConcepts, Centre for Sustainable Engineering, Health Enterprise East, Papworth Enterprise Hub, and Hethel – Norfolk Centre for Advanced Engineering.

The EEDA 'Enterprise Hubs' model was developed from, and builds upon, existing expertise and facilities and therefore contains a strong networking element. The Enterprise Hubs were established to strengthen existing networks as well as establish new networks across the region by increasing links between innovation centres and other research organisations and extending the reach of specialist expertise to companies. Prior to the introduction of the model, the region was characterised by significant strengths in innovation and technology, which tended to be concentrated in certain 'hot spots'. The quality and extent of innovation services lacked overall consistency, scale & impact. There was also limited sense within the region of its identity as a centre of innovation & technology, despite the world-class reputation of Cambridge, and no significant networking was occurring at cross-regional level between companies or organisations.

The hub model depends in large part on innovation networks, in particular on business-to-business networks centred on regular face-to-face meetings. The use of 'speed-dating' to intensify networking by companies attending events has proved popular and effective, as has the use of 'network facilitators' to stimulate debate and act as a source of ideas and contacts. The success of these networks depends on the quality of the facilitators and on ensuring that the network programme is satisfying a latent or expressed demand among firms. The networking aspect of the

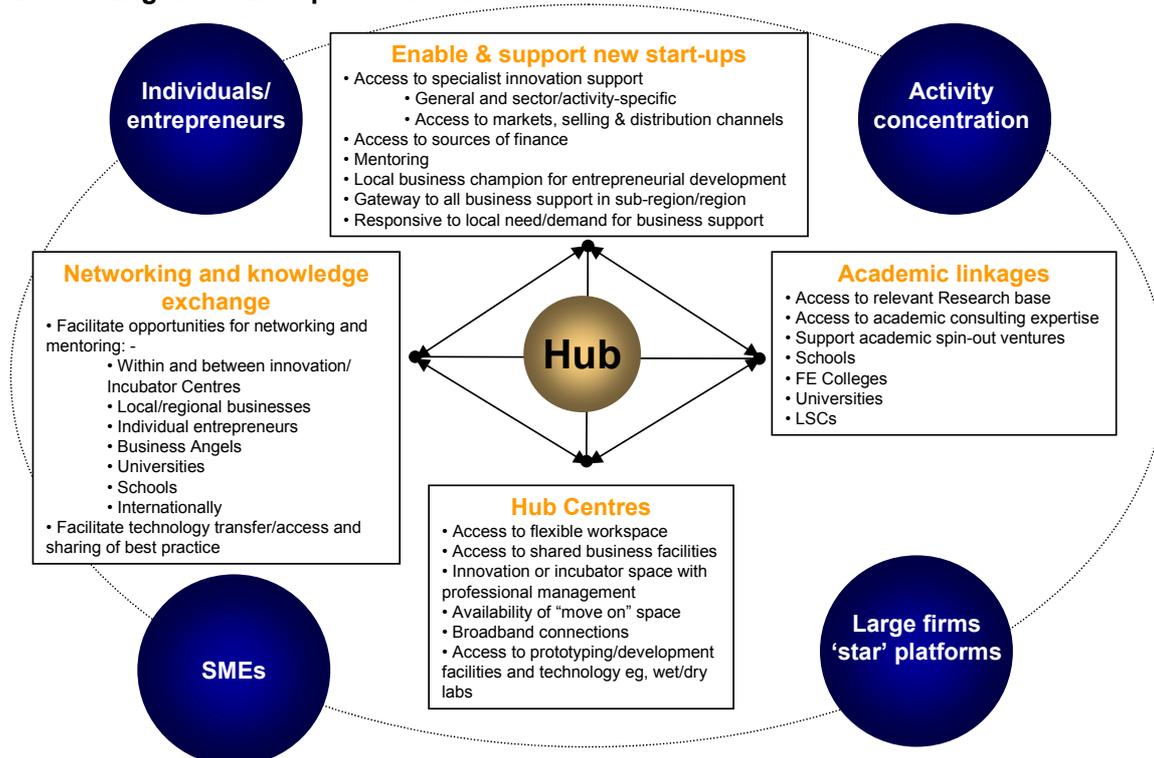
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<sup>19</sup> 'East of England 2010: Prosperity and Opportunity for All'

enterprise hub model is now being encouraged more widely, confirming the notion that a region such as the East of England can use and disseminate networks across geographical sub-regions, sectors and areas of interest.

Local partnership and dynamism is also required to ensure that hubs are able to gain the full engagement of the local SME community and eventually to reach a position where they are capable of sustaining themselves. Individual enterprise hubs require time to mature as concepts. Due to their reliance on interaction, as opposed to capital investment and physical presence, virtual enterprise hubs are more reliant than physical hubs on the consistent involvement of the business community, business advisors and other intermediaries, and with other hubs and networks. In physical hubs the capital investment ‘drives’ activity largely because there is typically a hub manager or champion who has commercial tasks (tenancy income, etc.) as well as networking responsibilities. In some cases, it is clear that a strong sector or theme can provide the ‘drive’ that a hub requires. However, in such cases a champion, possibly a private sector champion with income objectives, may be required to drive the hub forward. Without this, the opportunities for sustaining and mainstreaming may suffer, particularly if there is only a limited local partnership or a poor culture of risk-taking among the stakeholders.

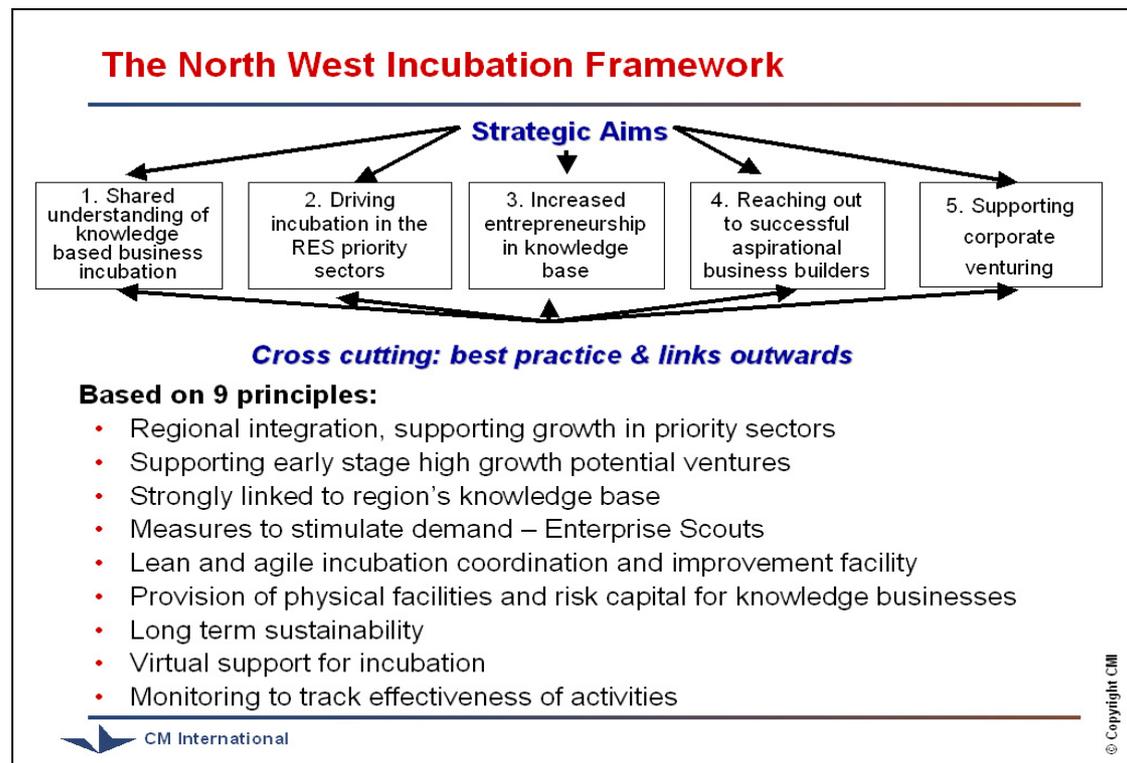
### East of England – Enterprise Hub ‘Ideal’ Model



## North West Development Agency (NWDA)

The North West Development Agency's strategic framework for knowledge based incubation represents a comprehensive model for the coordination of this element of innovation physical infrastructure and associated services within this English region. It is presented as an important contribution to implementation of the wider Regional Innovation and Economic Strategies. The strategy seeks to achieve a careful balance between influencing the current provision of incubation facilities across the region and not limiting or prescribing the incubator activities of the NWDA's regional partners.

**Figure 9. The North West Incubation Framework**



One of the overarching aims of the strategy is to “foster a regionally shared understanding of knowledge based business incubation processes”. This has involved the establishment of a “lean and agile regional business incubation coordination facility” which will “link and integrate knowledge-based and wider business incubation activity across the Region; provide a single point of regional contact with national and international nodes of incubation knowledge; and ensure continuous improvement and integration in the Region's incubation efforts”. This networking mechanism would appear to contribute towards the exchange of good practice within the region and provides a system for referrals within the innovation facilities network.

At the operational level, this coordination process will ensure the provision of real-time data and intelligence on the demand and supply of business incubation within the region, an annual report on knowledge based business incubation and regional, sub-regional and sector-level workshops. Another important component of this

regional approach is the formation of a regional incubation hub, which will undertake the following activities:

- Stimulate a mutually supportive regional community of business incubation players;
- Act as a channel for firms/entrepreneurs to access the most appropriate parts of the knowledge-based incubation infrastructure;
- Deliver ongoing training and CPD for business incubation managers and staff;
- Identify and celebrate best practice in regional business incubation, and promote this actively to the region's business support community;
- Provide a dedicated website explaining incubation, detailing good practice, and providing value – adding signposting.

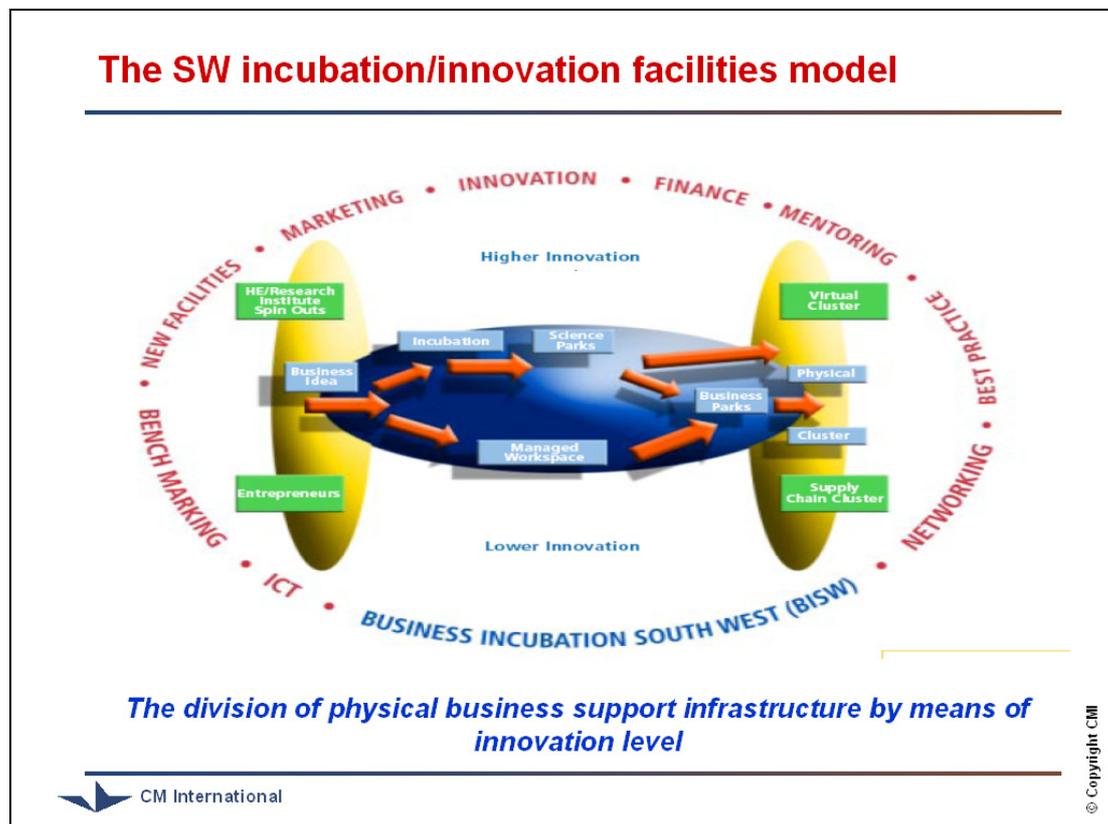
Also, the strategy insists that all incubation activities supported by the strategy should be “of a sufficient operational scale to ensure their long term self-sustainability”. Furthermore, the provision of physical incubation facilities and risk and growth finance should be justified on the basis of evidential proof of demand and clear strategic fit. It places a strong emphasis upon links between the incubation process and the knowledge base including HE, industry and entrepreneurs. Another feature of the strategy worth highlighting is its endorsement of an outreach approach through an enterprise-scouting programme, which will help to provide pre-start up support and generate new demand for knowledge-based incubation. The strategy also concentrates its focus upon the NWDA's fourteen priority sectors.

## South West Development Agency (SWRDA)

SWRDA's Incubation & Science Park Strategy (2002-2006) was introduced to address a lack of coordination among incubators and science parks within the region and to develop infrastructural capability by establishing a Business Incubation South West (BISW) network. BISW is a virtual network linking the region's many incubator facilities with each other and with vital business support and investment services. The network is now fully operational and represents a fundamental part of future incubation within the region.

Other objectives of the strategy included enhancing business incubation as a catalyst for economic activity, stimulating cluster development and maintaining business incubation standards through membership of accredited bodies. In addition the New Millennium Workspace Initiative (NMW) was established to ensure that an adequate supply of land and premises is given to new business start ups, expanding local businesses and inward investors.

**Figure 10. The SW incubation /innovation facilities model**



A successor to the strategy, entitled the 'Innovation Drivers Action Plan' (IDAP), will be introduced in June 2006. It is expected to contribute to achievement of the RES and will incorporate the lessons learned from the Incubation and Science Park Strategy. The IDAP will place greater emphasis on provision of pre-start-up services, an area identified which has been identified as a gap in the pipeline between 'ideas' and incubation. Responsibility for pre start-up incubation will be assigned to the BISW network under the new strategy. Under IDAP, SWRDA will also improve integration between incubators and its priority sectors, and will develop closer links

with the region's centres of expertise in order to realign innovation support with recent economic growth.

The majority of incubators in the South West region are spinouts from HEIs or Research and Technology Organisations (RTOs). A tradition of strong links with these bodies is considered to be an important success factor for incubation in the region. It is also interesting to note that incubation in the region is not viewed as a building but rather as a process. Incubators provide outreach support, referrals and signposting, all of which are vital for promoting innovation and supporting for start-ups and SMEs. Virtual clients in this respect are viewed as part of the 'pipeline' for business incubation and as such are important for the financial self-sustainability of incubators. However large urban centers such as Bristol generally provide fewer outreach activities than the more isolated areas of the region such as Cornwall.

The SW considers it important that all managed workspace, incubators and science parks demonstrate sufficient demand to justify investment and this principle will be subject to greater attention in the future. There is considered to be sufficient 'grow-on space' in the region at present but there is some doubt as to whether this conclusion holds true for the whole of the incubation 'pipeline'; attention to date has tended to concentrate on only the early stages of the pipeline, close to start-up. BISW is beginning to put pressure on the SWRDA to consider the wider issues.

Entry policies for the incubators are clear, formal and strict, and often include the presentation of a business plan to a judging panel. Exit strategies are less formal and are a matter for individual incubators. Tracking 'graduates' after they leave an incubator is considered to be important. Pressure from BISW to raise the profile of this activity is likely to mean it is implemented more effectively in the future.

The relationship between an incubator and graduated companies is considered to be mutually beneficial since the companies can act as a 'champions' of business incubators and promote their services. In return, the business may be granted free access on an informal basis to certain incubator facilities such as free advice, support and signposting. Keeping track of 'graduates' as a monitoring tool assists incubators in their application for future funding.

## **Israel's Technology Incubator Programme**

Israel's Technology Incubator Programme was established between 1990 and 1993 and is now an established example of international good practice in the provision of innovation physical infrastructure and associated services. At the same time it is important to recognise its unique contextual specificity before highlighting those features of the programme that may help to inform policy development in the East Midlands. Israel's Technology Incubator Programme was created in order to provide assistance to highly trained immigrants from the Soviet Union to integrate economically and promote entrepreneurship and innovation in Israel. The key features of the Technology Incubator Programme include the high level of central coordination by the State, substantial provision of financial assistance, the relatively 'hands-on' approach to business support taken by the State, the diversity of available business support, tight entry/exit criteria and non-sector specialist approach.

**Programme management:** The Office of the Chief Scientist (OCS) of the Ministry of Industry and Trade oversees the Technology Incubator Programme with policy set by a Steering Committee on Technological Incubators. This is appointed by the director general of the Ministry and includes the Chief Scientist of the Ministry of Industry and Trade; public representatives from high-tech industry; representatives of the incubator 'graduates'; and the Director for Technological Incubators (OCS). The steering committee is responsible for devising procedures for the support of incubators and their projects (which become registered companies on entering an incubator). It approves support for candidate projects within the limits of the approved budget and the recommendations of the incubators' projects committees. It also approves support for the incubator management within the limits of the approved budget. Additional steering committee functions include monitoring the development of incubators and projects and the termination of support for those incubators or projects, which do not conform to the programme requirements.

**Programme description:** The aim of the Technology Incubator Programme is to "support novice entrepreneurs at the earliest stage of technological entrepreneurship and help them implement their ideas by turning them into exportable commercial products and forming productive business ventures in Israel." The programme targets fledgling entrepreneurs (3-6 development people) and comprises 23 technological incubators (formerly 28) of which 12 are private. These incubators are located across Israel situated in both large cities and 'peripheral regions'. Most of these incubators are sponsored by a university, municipality or a large firm. At present, there are approximately 200 projects located in these technological incubators. Each incubator can host 10-15 companies.

The programme has an annual budget of approximately 30 million USD, which accounts for the operating costs of the incubators and up to 85% of the budget approved for incubated companies (maximum of 500,000 USD for 2 years). In this respect, the State therefore assumes the financial risks that commercial investors are unwilling to take due to the high level of risk. The provision of the grant to companies is subject to the following conditions:

- Initial ownership of the project shall be as stipulated by the rules of the steering committee;
- The State shall be reimbursed up to the sum of its grant through royalties on sales, pursuant to the rules of the steering committee/ in privatised incubators the incubators are required to pay back the grant to the government if the companies succeed;
- The new product shall be manufactured in Israel.

Projects are registered as limited liability companies as soon as they enter the incubator and required to reach agreement with the incubator management on the developers' rights and ensure that the incubator management can achieve its goals and commitments to the State. The technological incubators are managed by professional salaried directors who are responsible for the operation of each project that is based in the incubator including budget management and the commercialisation of product development as a condition of the State's investment in the project's incubator phase. The incubator management acts as the State's trustee in managing the incubator projects. The programme provides a grant of up to up to NIS 729,500 per annum (about \$175,000), which covers the incubator director's salary, administrative expenses, outlays for sorting and studying of ideas, and organizational expenses for project commercialization and marketing. The incubator manager is supported by two further governing institutions in the form of a 'policymaking management' and a projects committee, which selects and monitors projects. These two institutional components of each incubator consist of high caliber professionals from industry, business and science, corporate and industrial executives, R&D managers in high-tech enterprises, professors, heads of faculty in research institutes and public figures. These representatives all work on a voluntary basis offering experience, contacts and access to the infrastructures of their enterprises and institutions.

In addition to the provision of incubator space and financial assistance, the programme offers the following services:

- Assistance in determining the technological and marketing applicability of the idea and drawing up an R&D plan;
- Assistance in obtaining the financial resources needed to carry out the project;
- Assistance in forming and organising and R&D team;
- Professional and administrative counselling, guidance and supervision;
- Secretarial and administrative services, maintenance, procurements, accounting and legal advice.
- Assistance in raising capital and preparing for marketing.

The programme's entry criteria adopted stipulates that an R&D project must be based on an innovative technological idea that aims to develop a product with export marketing potential. According to the programme's exit criteria companies must depart their incubator after 2 years of tenancy by which time the company should have developed the idea to the stage of explicit product definition and have proven

technological and marketing feasibility. The company should have also developed a prototype or working model and an orderly business plan. The company's project should be ready for investment and have identified a strategic partner. It is also expected that companies should be able to continue independently perhaps benefiting from regular channels of State support and outside investment.

**Sector specialisation:** The programme provides incubator space and associated services to companies in all fields of R&D and does not limit support to any sectors. However, a number of incubators, in particular those located near research institutes, prefer those projects that can utilise available technological infrastructure. Also, a few incubators have adopted a specific sector focus e.g. software, while others are becoming more specialised. R&D project areas supported by these incubators include: electronics/communication; software; medical; chemistry/materials; biotechnology etc.

**Results:** By the end of June 2004, 806 projects had left the incubators (in addition to the 200 that remained). Of these "graduates," 45 percent have continued independently. Most of the ongoing projects have managed to attract private investments. The total private investment obtained thus far is in excess of US \$773 million.

## **Queensland**

Research by the Queensland Innovation Council on the 'development of technology incubators, parks and precincts in Queensland' provides a valuable insight into the rationale underpinning the development of the 'State-wide Technology Incubation Strategy'. In particular, the study identified the issues of critical mass and scale as key challenges for the provision of physical innovation infrastructure and associated services. It argued that innovative structures needed to be developed to resolve these issues and cited the case "of the integration of i.Lab, the Queensland node of the CRC for Micro Technology and the early stage Australian Microelectronics Centre, within one facility in Toowong in Brisbane as a successful attempt to create scale". It called for the development and customisation of models and scales of operation for innovation infrastructure and the linking or sub-setting of infrastructure into other projects in order to achieve project scale and economies of operation scale.

To meet these development challenges, the study recommended a substantive programme of policy intervention by the State Government including the establishment of a central resource hub to provide a range of shared technical, business and training facilities such as: legal and IPR advice, financial, accounting, technical, technology marketing, business management and human resources management. Additional policy measures to support innovation infrastructure that were recommended by the study included:

- "The provision of best practice advice for the structuring, management and operation of such facilities...;
- Mentoring/advice/input at executive and operational levels;

- Facilitating linkages between other synergistic facilities both within Queensland, interstate and internationally”;

In response to these recommendations the Queensland State Government developed a State-wide Technology Incubator Strategy (SWTI). This resulted in the establishment of a Queensland-wide network, which connects technology incubation facilities to a central 'hub' in South-East Queensland. The purpose of this hub is to “service a number of 'networked partners' in major regional centres where a demand for technology incubation has been established”. In line with the analysis of the Queensland Innovation Council, this state-wide network draws upon the achievements to date of the i.lab Incubator and its engagement with other regional incubator facilities such as the Innovation Centre Sunshine Coast. The central hub provides “business development services, advice and training to the regional 'nodes', which will in turn service their catchments areas with a range of Hub and Node generated services”. Furthermore, those infrastructure projects that benefit from STWI Node Establishment Funding are required to participate in a state-wide virtual Network linking the Nodes with the Hub and each other. This model of state-wide coordination is intended to support the development of a “strong and vibrant knowledge economy throughout Queensland by enhancing skills and innovation among high-technology, knowledge intensive industries”. It therefore provides a useful example of the benefits that can be secured for beneficiaries of incubator facilities by engineering greater project and operational economies of scale.

## Annex II: List of interviewees

**Table 7. Centre managers**

<i>1st Name</i>	<i>Surname</i>	<i>Position</i>	<i>Organisation</i>	<i>Town</i>	<i>E-mail</i>	<i>Phone</i>
Richard	Harvey	Managing Director	Tapton Park Innovation	Chesterfield	<a href="mailto:innovation@chesterfield.gov.uk">innovation@chesterfield.gov.uk</a>	01246 231234
Laura	Barrow	Operations Manager	Network House	Derby	-	01332 346 346
Alan	Rutherford	Operations Manager	The iD centre	Derby	<a href="mailto:info@idcentre.co.uk">info@idcentre.co.uk</a>	01332 258820
Alison	Flint		Westthorpe Innovation Centre	Derbyshire	<a href="mailto:alison.flint@westthorpe.co.uk">alison.flint@westthorpe.co.uk</a>	0114 218 0600
Linda	Shepherd	Chief Executive	Nottinghamshire Enterprises	Edwinstowe	<a href="mailto:enquiries@nottsent.co.uk">enquiries@nottsent.co.uk</a>	01623 827900
Andrew	Stevenson	Business Incubation Manager	SparkHouse Studios	Lincoln	<a href="mailto:sparkhouse@lincoln.ac.uk">sparkhouse@lincoln.ac.uk</a>	01522 837200
Joanna	Derbyshire	Managing Director	Loughborough Innovation Centre	Loughborough	<a href="mailto:j.derbyshire@lboro.ac.uk">j.derbyshire@lboro.ac.uk</a>	01509 223 857
Bob	Scott	Manager	Mansfield I-centre	Mansfield	<a href="mailto:r.scott@angleplc.com">r.scott@angleplc.com</a>	01623 600 600
Joanna	Irons	Deputy CEO	Nottingham Business Ventures	New Basford	-	0115 951 5792
Glenn	Crocker	Chief Executive	Biocity Nottingham	Nottingham	<a href="mailto:g.crocker@biocity.co.uk">g.crocker@biocity.co.uk</a>	0115 912 4210
Paul	Cullen	Business Development Manager	Southglade Food Park	Nottingham	<a href="mailto:pcullen@eastmidlandsfinefoods.co.uk">pcullen@eastmidlandsfinefoods.co.uk</a>	0115 8758892
Chris	Hall	Business Manager	The Hive- Nottingham Trent University	Nottingham	<a href="mailto:christopher.hall@ntu.ac.uk">christopher.hall@ntu.ac.uk</a>	0115 848 4354

**Table 8. Stakeholders**

<i>1st Name</i>	<i>Surname</i>	<i>Position</i>	<i>Organisation</i>	<i>Town</i>	<i>E-mail</i>	<i>Phone</i>
Rob	Lucas	Business Venturing Manager	DeMontfort Innovation Centre	Leicester	<a href="mailto:rlucas@dmu.ac.uk">rlucas@dmu.ac.uk</a>	0116 2506217
Russell	Copley	Director	East Midlands Incubation Network (EMIN)	Leicester	<a href="mailto:info@emincubation.co.uk">info@emincubation.co.uk</a>	0116 257 7952
Tim	Maskell	Head of Business Development	Leicester University	Leicester	<a href="mailto:twom1@le.ac.uk">twom1@le.ac.uk</a>	0116 2231372
Jim	Durrant	Head of Business Development	Lincoln University	Lincoln	<a href="mailto:jdurrant@lincoln.ac.uk">jdurrant@lincoln.ac.uk</a>	01522 886900
Samantha	Harrison	Programme Manager-Enterprise & Innovation	Lincolnshire Enterprise	Lincoln	<a href="mailto:s.harrison@lincolnshire-enterprise.com">s.harrison@lincolnshire-enterprise.com</a>	01522 852394
Peter	Cheetham	Spinout Manager	Loughborough University	Loughborough	<a href="mailto:p.s.j.cheetham@lboro.ac.uk">p.s.j.cheetham@lboro.ac.uk</a>	01509 228 628
Ken	Astley	Business Development Manager	Loughborough University	Loughborough	<a href="mailto:k.r.astley@lboro.ac.uk">k.r.astley@lboro.ac.uk</a>	01509 635 208
Simon	Hall	Strategic Partnership Manager Enterprise	Alliance SSP	Mansfield	<a href="mailto:Shall@alliancesp.co.uk">Shall@alliancesp.co.uk</a>	01623 811 223
Terry	Hughes	Programme Manager-Enterprise and Innovation	Northamptonshire Partnership	Northampton	<a href="mailto:terry.hughes@thenp.org.uk">terry.hughes@thenp.org.uk</a>	01604 745780
Ian	Mansell	Business Development Manager	University of Northampton	Northampton	<a href="mailto:ian.mansell@northampton.ac.uk">ian.mansell@northampton.ac.uk</a>	01604 735 500, ext 2716
Brian	Goddard	Head of Urban and Property Development	<i>Emda</i>	Nottingham		<i>Interviewed by WM Enterprise</i>
Mark	Sisson	Enterprise and Innovation Manager	Greater Nottingham Partnership (GNP)	Nottingham	<a href="mailto:Mark.sisson@gpartnership.org.uk">Mark.sisson@gpartnership.org.uk</a>	0115 9502608
Neil	Horsley	Chief Executive	Nottingham Development Enterprise	Nottingham	<a href="mailto:nh@nde.org.uk">nh@nde.org.uk</a>	0115 934 9587
Pete	Meadows	Enterprise Development Manager	Nottinghamshire County Council	Nottingham	<a href="mailto:peter.meadows@nottsc.gov.uk">peter.meadows@nottsc.gov.uk</a>	0115 982 3823
Steve	Upcraft	Head of Business Development	University of Nottingham	Nottingham	<a href="mailto:steve.upcraft@nottingham.ac.uk">steve.upcraft@nottingham.ac.uk</a>	0115 846 6952

### **Annex III: Regional sources**

'Alliance SSP Accommodation Strategy, Nottinghamshire and North Derbyshire', Alliance SSP, December 2005

'Employment and Land Priorities Study', Roger Tym & Partners and Innes England for *emda*, October 2005

'Innovation and Incubation Centre Survey, Innovation Centre Manifesto', Nottinghamshire County Council for Alliance SSP and Greater Nottinghamshire Partnership, June 2005

'East Midlands Incubation Accreditation Reviews' prepared for *emda* by UK Business Incubation, April 2005

'Assessment of Demand for Innovation Centres in Lincolnshire', Econlyst, for Lincolnshire Enterprise, March 2005

'Business Incubation in the East Midlands: a Review, *Summary Report*', prepared for *emda* by UK Business Incubation, May 2003

'Innovation in the East Midlands Economy' Local Futures Group, 2004

'Making the Connections: Workspace and skills, hubs and clusters', Derbyshire County Council, 2002

## Annex IV: Facilities reviewed by CM International

**Table 9. Detailed list of infrastructure reviewed and self-classifications**

<b>ID</b>	<b>Infrastructure name</b>	<b>Location</b>	<b>Self classification</b>
1	Bank's Mill Studio	Derbyshire	Incubator
5	Network House	Derbyshire	Incubator
15	The iD centre	Derbyshire	Innovation centre
10	Dunston Innovation Centre	Derbyshire	Innovation centre
11	Tapton Park Innovation Centre	Derbyshire	Innovation centre
17	Westthorpe Innovation Centre	Derbyshire	Innovation centre
24	Markham Vale Environment Centre	Derbyshire	M'workspace
33	Coney Green Business Centre	Derbyshire	M'workspace
34	Eckington Business Centre	Derbyshire	M'workspace
21	University of Leicester RBDO	Leicestershire	Incubator
2	DeMontfort University Innovation Centre	Leicestershire	Innovation centre
3	Loughborough Innovation Centre	Leicestershire	Innovation centre
23	Leicester Creative Business Depot	Leicestershire	M'workspace
36	Beaumont Enterprise Centre	Leicestershire	M'workspace
39	Leicester Business Centre (formerly Wyvern Business Centre)	Leicestershire	M'workspace
6	SparkHouse Studios	Lincolnshire	Incubator
13	Lincoln Innovation Centre	Lincolnshire	Innovation centre
20	Holbeach Technology Park	Lincolnshire	M'workspace
31	Centre for Learning & Enterprise in Organisations (CLEO)	Northamptonshire	Incubator
9	Creative Industries Centre	Northamptonshire	Innovation Centre
28	SATRA Innovation Park	Northamptonshire	Innovation Centre
27	Silverstone Innovation Centre	Northamptonshire	Innovation centre
26	Wellingborough Innovation Centre	Northamptonshire	Innovation centre
14	Southglade Food Park	Nottinghamshire	Business park
4	Mercury House	Nottinghamshire	Incubator
8	The Hive	Nottinghamshire	Incubator
35	Broadway Managed Office Space	Nottinghamshire	Incubator
38	Chrysalis Innovation Centre	Nottinghamshire	Incubator
30	Blue Coat Incubation centre	Nottinghamshire	Incubator
7	BioCity	Nottinghamshire	Incubator & innovation centre
29	Pleasley Vale Business Park	Nottinghamshire	Incubator (part of facilities)
12	Edwinstowe House	Nottinghamshire	Innovation Centre
18	Mansfield I-centre	Nottinghamshire	Innovation centre
37	The Turbine	Nottinghamshire	Innovation centre
16	New Brook House	Nottinghamshire	M'workspace
22	E-Centre, Sherwood Energy Village	Nottinghamshire	M'workspace
25	Nottinghamshire International Clothing Centre	Nottinghamshire	M'workspace (limited)
19	UNIEI Lab	Nottinghamshire	Incubator (pre-start facility)
32	Nottingham Science & Technology Park	Nottinghamshire	Science park

**Table 10. Facilities meeting the basic criteria for physical innovation infrastructure**

<i>ID</i>	<i>Infrastructure name</i>	<i>Location</i>	<i>Classification</i>
1	Bank's Mill Studio	Derbyshire	Incubator
5	Network House	Derbyshire	Incubator
15	The iD centre	Derbyshire	Innovation centre
21	University of Leicester RBDO	Leicestershire	Incubator
2	DeMontfort University Innovation Centre	Leicestershire	Innovation centre
3	Loughborough Innovation Centre	Leicestershire	Innovation centre
6	SparkHouse Studios	Lincolnshire	Incubator
13	Lincoln Innovation Centre	Lincolnshire	Innovation centre
20	Holbeach Technology Park	Lincolnshire	M'workspace
31	Centre for Learning & Enterprise in Organisations (CLEO)	Northamptonshire	Incubator
9	Creative Industries Centre	Northamptonshire	Innovation Centre
26	Wellingborough Innovation Centre	Northamptonshire	M'workspace
27	Silverstone Innovation Centre	Northamptonshire	M'workspace
28	SATRA Innovation Park	Northamptonshire	M'workspace
14	Southglade Food Park	Nottinghamshire	Business park
4	Mercury House	Nottinghamshire	Incubator
8	The Hive	Nottinghamshire	Incubator
38	Chrysalis Innovation Centre	Nottinghamshire	Incubator
7	BioCity	Nottinghamshire	Innovation centre
19	UNIEI Lab	Nottinghamshire	Incubator (Pre-start facility)
32	Nottingham Science & Technology Park	Nottinghamshire	Science park

**Table 11. Facilities not meeting all criteria for physical innovation infrastructure**

<i>ID</i>	<i>Infrastructure name</i>	<i>Location</i>	<i>Classification</i>
12	Edwinstowe House	Nottinghamshire	BIC type innovation centre
10	Dunston Innovation Centre	Derbyshire	BIC type innovation centre
11	Tapton Park Innovation Centre	Derbyshire	BIC type innovation centre
18	Mansfield I-centre	Nottinghamshire	BIC type innovation centre
16	New Brook House	Nottinghamshire	M'workspace
17	Westthorpe Innovation Centre	Derbyshire	M'workspace
22	E-Centre, Sherwood Energy Village	Nottinghamshire	M'workspace
23	Leicester Creative Business Depot	Leicestershire	M'workspace
24	Markham Vale Environment Centre	Derbyshire	M'workspace
25	Nottinghamshire International Clothing Centre	Nottinghamshire	M'workspace
29	Pleasley Vale Business Park	Nottinghamshire	M'workspace
30	Blue Coat Incubation centre	Nottinghamshire	M'workspace
37	The Turbine	Nottinghamshire	BIC type innovation centre
33	Coney Green Business Centre	Derbyshire	M'workspace
34	Eckington Business Centre	Derbyshire	M'workspace
35	Broadway Managed Office Space	Nottinghamshire	M'workspace
36	Beaumont Enterprise Centre	Leicestershire	M'workspace
39	Leicester Business Centre (formerly Wyvern Business Centre)	Leicestershire	M'workspace

## Annex V: Criteria for innovation centres and incubation centres

**Table 12. Characteristics identified by Alliance SSP**

<b><u>Physical</u></b>	<b><u>Incubation centre</u></b>	<b><u>Innovation centre</u></b>	<b><u>Graduation space</u></b>
High quality business premises	✓	✓	✓
Provide a range of units:			
▪ To a max. of 500 sq ft	✓		
▪ Between 200 and 2,000 sq ft		✓	
▪ From 1,500 sq ft upwards			✓
Demonstrate consideration of tenant progression in terms of linkage to existing or proposed grow-on space		✓	
ICT connectivity installed as standard	✓	✓	✓
Full range of common facilities (e.g. photocopying; meeting rooms)	✓	✓	
Car and bike parking	✓	✓	✓
<b><u>Operational</u></b>			
Tenant entry criteria: -			
▪ Demonstrating ideas based on a strong business plan and management team	✓		
▪ Businesses demonstrate testable innovative ideas based on a strong business plan and management team		✓	
Companies that can show growth potential over a three-year period (e.g. 25% per annum)		✓	
Tenant exit policy (appropriate timescales according to evidenced provision of graduation space)	✓	✓	
Provision of, or facilitated access to, an agreed standard of specialist and intensive business incubation support networks	✓	✓	
<b><u>Other desirable characteristics</u></b>			
Centre staff meet certain standards of capability to support incubation businesses	✓	✓	
Create an internal ladder from smaller incubation units which feed larger innovation units within the same building		✓	
Relationship with first-stage accommodation			✓
Formal accreditation standard for centre	✓	✓	
Centres to demonstrate relationship to university and research sector	✓	✓	
Innovative design of premises to incorporate environmentally friendly and energy efficient considerations	✓	✓	✓
Monitor success and destination of tenants	✓	✓	

*Adapted from 'Alliance SSP Accommodation Strategy', Version 2, December 2005*

## Annex VI: East Midlands UKBI Incubation Accreditation Reviews

The reviews<sup>20</sup>, undertaken by *emda* and UK Business Incubation during Summer/Autumn 2004 examined the activities of the facilities according to four core principles:

### 1. Incubation strategy and delivery

Does the incubator have a strategy that is both internally and externally focused, and is the strategy being implemented in such a way as to bring about the successful development of new and growing ventures? Indicators cover:

- Business plan
- Mission statement
- Targets and monitoring
- External focus
- Deal flow
- Marketing plan/strategy
- Financial plan
- Financial sustainability
- Facilities
- Services

### 2. Selection policy

Do you apply criteria to select clients for support? Indicators cover

- Specific criteria set out in the policy
- Selection process (e.g. linked to incubator objectives; set out in business plan; changes over time; buy-in from team)
- The exit process (to include on or more of: time limit; stepped rents; incentives; removal of subsidy; targets)

### 3. Exit policy

Do you operate a policy whereby clients are only supported for limited period of time before being encouraged to exit? Indicators cover:

- Communication of the policy
- The exit process (to include on or more of: time limit; stepped rents; incentives; removal of subsidy; targets)

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<sup>20</sup> 'East Midlands Incubation Accreditation Reviews: Final Report, *Review forms: incubation environments assessed*', April 2005

#### **4. Incubation team**

Do you have a dedicated incubation management team who are responsible for the success of your clients?

Indicators cover:

- Management team
- Allocation of time
- Skills of the team
- Presence of incubator champion
- Support of incubator Board