

# FDI Report

## Appendix F

### SECTION

1	INTRODUCTION	186
2	DEFINITIONAL & CONCEPTUAL ISSUES	187
3	INWARD INVESTMENT TRENDS	190
4	CORK'S KEY SECTORS & INDUSTRY TRENDS	198
5	LOCATION CRITERIA FOR KEY BUSINESS ACTIVITIES	209
6	CONCLUSIONS FOR CORK	216

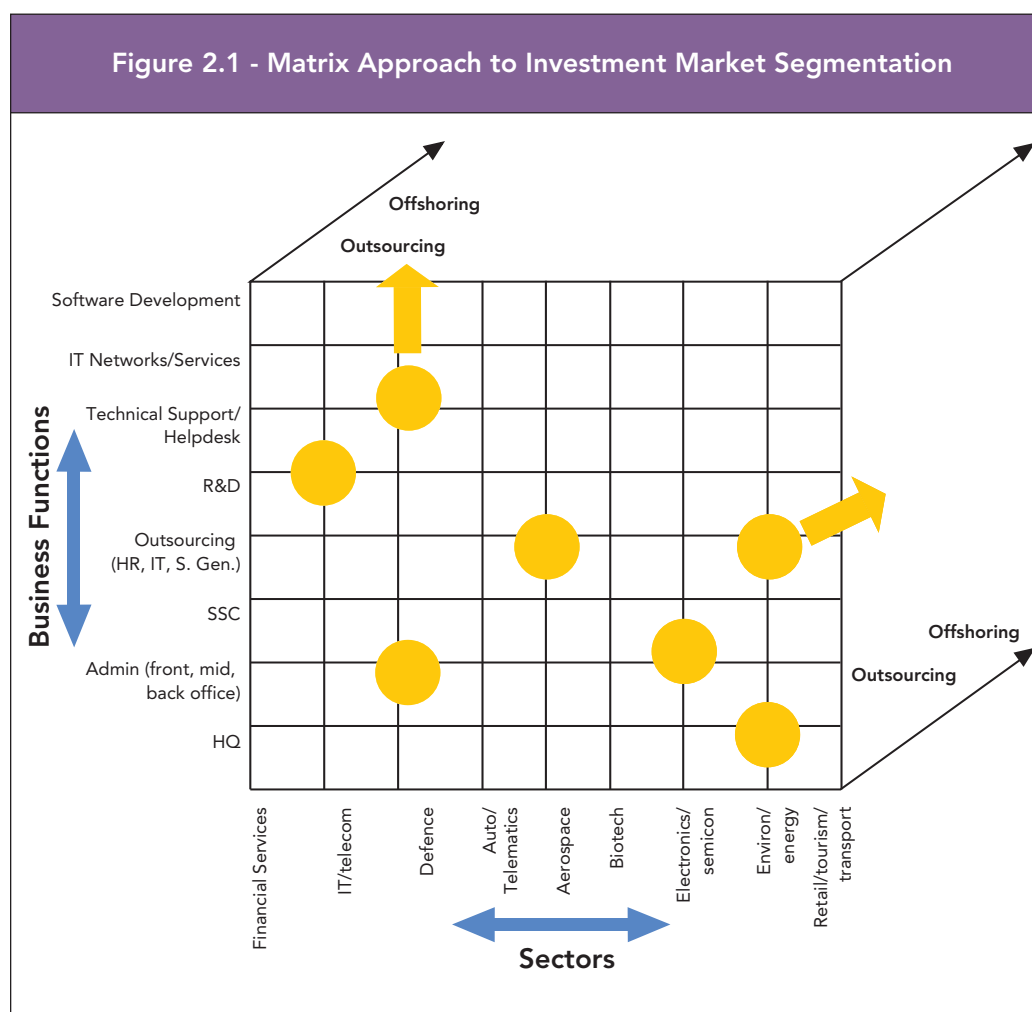


## 1 INTRODUCTION

- 1.1 The inward investment landscape has changed dramatically over the last few years as locations try to respond to the demands and aspirations of corporate decision-makers. Globalisation is taking place in all industries with companies looking to optimise their location strategies based on cost, quality and flexibility to maximise their profits. Over the last 20-30 years, many organisations have shifted from being predominantly national concerns to being multi-national enterprises. The scale of inward investment to Ireland over this period reflects this trend.
- 1.2 In response to these pressures, almost every town, city, region and country in the world is developing its own strategy to attract projects. Efforts to attract investment to Docklands will take place in an extremely competitive market.
- 1.3 The purpose of this study is to assess Docklands as a destination for Foreign Direct Investment (FDI), not that of Cork or Ireland more widely. This report should be seen as *being an element* of Cork's wider inward investment proposition, in much the same way that Cork forms part of the Irish investment story. The background research that enables a sound investment strategy has largely been implemented in Cork by the local authorities, IDA Ireland and other public agencies. This is reflected in the investment strategies being pursued and in the nature of Cork's investment proposition to the market place.
- 1.4 This report presents market trends so that there is a clear understanding of the business sectors and functions that can be attracted to Docklands. The remainder of this report is set out as follows:
  - **Section 2:** proposes definitional and conceptual issues
  - **Section 3:** presents global inward investment trends
  - **Section 4:** sets out Cork's key sectors and sector trends
  - **Section 5:** presents location criteria for key business functions
  - **Section 6:** presents the key conclusions for attracting FDI to Docklands.
- 1.5 This is one of five reports that inform the Cork Docklands Economic Study.

## 2 DEFINITIONAL & CONCEPTUAL ISSUES

- 2.1 To attract investment it is good practice to seek to segment the market and target certain elements rather than to simply brand and promote a location in an undifferentiated 'fits all / catch all' manner. In the past many locations would seek to attract certain sectors but with the convergence of industries and the growth of outsourcing and off-shoring, it is becoming more difficult, and inappropriate, to pursue a purely sector-based strategy. Companies select locations according to the business activities that they intend to undertake. As such it is becoming increasingly important to segment the market according to function rather than sector.
- 2.2 In practical terms, most locations need to pursue a blended or matrix strategy where, according to their competitive strengths and existing industry compositions, they:
- Appeal to certain sectors and sub sectors where they have cluster strengths or niche strengths; and
  - Seek to attract certain types of business functions such as back office shared services, regional headquarters etc.
- 2.3 As such, best practice investment propositions tend to focus around clearly defined market segments which blend sectors and functions (such as Pharmaceuticals, Research and Development) and which can become extremely niche (such as Cancer Diagnostics Research and Development). This approach also assists in the development of an inward investment strategy. By understanding both the sectoral and functional aspects of the location's inward investment position, the investment agency can more effectively pin-point the location's exact position on the value chain.
- 2.4 Understanding both aspects helps identify what elements of an industry or supply chain are missing in order to seek to build a cluster but a functional perspective is critical to understanding where the location sits on the value chain. For example, if a location has a bias towards lower-skilled or low-paying elements of a sector or function it can aim to attract the higher value elements. Consequently, the approach taken throughout our analysis captures both sectoral and functional elements of Cork's inward investment offer and position.
- 2.5 The 'matrix' approach to Investment Market Segmentation is depicted in Figure 2.1 below.
- 2.6 In the remainder of this section we present key definitions under the following headings:
- ICT
  - Pharmaceuticals, Life Sciences, Medical Devices, Medical Technologies and Related R&D
  - Mobile Services
  - Advanced Manufacturing



## INFORMATION COMMUNICATIONS TECHNOLOGY

- 2.7 The Organization for European Cooperation and Development (OECD) defines the ICT sector as a combination of manufacturing and services industries that capture, transmit and display data and information electronically. Some key subsectors highlighted by Forfás are: Software, Hardware and Systems, Telecommunications, Support Services, Digital Content, e-business, Microelectronics Design, IT Technical services and Enterprise Application Integration Software.
- 2.8 The ICT sector is a broad-ranging sector that includes a fairly diverse group of business activities from manufacturing operations to service-based businesses. The key ICT market in Western Europe includes: end-user communication equipment; datacom and network equipment; computer hardware; office equipment; software products; IT services and telecoms carrier services.

## PHARMACEUTICALS, LIFE SCIENCES, MEDICAL DEVICES, MEDICAL TECHNOLOGIES AND RELATED R&D

- 2.9 Industry related to, or engaged in pharmacology or the manufacture and sale of pharmaceuticals and medical devices. The life sciences encompass companies in the fields of biotechnology, pharmaceuticals, biomedical technologies, life systems technologies, nutraceuticals, cosmeceuticals, food processing, environmental, biomedical devices, and organizations and institutions that devote the majority of their efforts in the various stages of research, development, technology transfer and commercialization. For the purposes of this paper, this industry is defined slightly more broadly than definitions traditionally used (eg by OECD) to ensure that new developments in this fast-evolving scientific industry are not excluded. The sector is broadly defined to include all pharmaceutical, medical technology and biotechnology manufacturing and R&D as well as other associated functions within the life sciences such as sales and marketing.

## MOBILE SERVICES

- 2.10 Cork has attracted a substantial number of 'Internationally Traded Services' investments in the past and this 'sector' continues to be a priority for inward investment activity. However, for the purposes of this report, it makes more sense to discuss projects of this type in terms of business function, rather than sector. Elements of traditional services sectors can be traded internationally due to liberalisation of services trade regulations and technological advances but not all activities of companies in these sectors are tradable.
- 2.11 Furthermore, companies base investment decisions on business activities that are to be carried out in any office or facility. We have chosen to frame discussion around 'Mobile Services Projects' for these reasons and also because in practical terms a services investment can derive from any sector for example, an automotive manufacturer may establish a credit processing facility or a retailer may require a new headquarters facility.
- 2.12 Increasingly, mobile international services investments tend to be based and defined according to the functions performed rather than the sector or the investor. Similarly, new technologies and convergence of sectors and activities are creating new industries quite suddenly for example, the emergence of the shared services phenomenon. As such a matrix approach is required when either defining Mobile Services Projects (MSP) or in engaging with the 'industry' for the purposes of investment attraction or economic development.
- 2.13 Key classifications used in this report are:
- Headquarters
  - Regional Headquarters
  - High-value back offices and shared services centres
  - Technical shared services
  - Contact and call centres
  - R&D

## ADVANCED MANUFACTURING

- 2.14 Advanced manufacturing is not a sector and it can relate to the outputs or processes of any manufacturing enterprise. A location can only attract 'advanced manufacturing' in sectors where it has some existing presence. Cork for example has attracted advanced manufacturing elements of the ICT and Pharmaceuticals and Medical Technologies industries but it would be meaningless to seek to attract 'advanced manufacturing' *per se*.

### 3 INWARD INVESTMENT TRENDS

- 3.1 In this section we look at the global, European, and Irish investment markets and review FDI in Cork.

#### GLOBAL INVESTMENT ENVIRONMENT

- 3.2 A decade ago, FDI tended to 'triangulate' between the major source and destination economies of the US, EU and Japan. These economies still retain the greatest stock of FDI and they attract the greatest number of expansion investments. However new or 'greenfield' projects are being increasingly located in developing and transitional economies.
- 3.3 Due to technological change, the growth of tradable services and the increasing competitiveness of emerging economies in Asia and former communist-bloc states, investment flows have become more diverse and fragmented. Simply put, there are more host and destination economies.
- 3.4 Compounding this is the fact that there has been substantial convergence of capability between destination economies. When manufacturing became globally footloose in the 1980's, there was a clear distinction between low cost/ low quality and high cost/high quality destinations. With the internationalisation of services, the distinction between cost and quality is less evident. For example, the rise of India as a Business Process Outsourcing (BPO) destination is somewhat historically unique. The quantity and quality of graduates available in India and the extreme cost competitiveness has meant that an investor does not necessarily face a substantial cost/ quality trade off. This development has had a major impact on developed economies, particularly those which are second or third 'rung' national cities, potentially including Cork.
- 3.5 These countries will continue to challenge the traditional R&D areas in the industrialised world. Investors increasingly see India and China as sources of innovation with excellent R&D potential. Indeed one example of this is that the Chinese government has placed great emphasis on trying to create its own biotechnology sector. Its still fairly early days but as the R&D sector becomes more mobile, North America and Western Europe will have to compete more and more with the gradually maturing knowledge centres in the developing world.

#### EUROPEAN INVESTMENT TRENDS

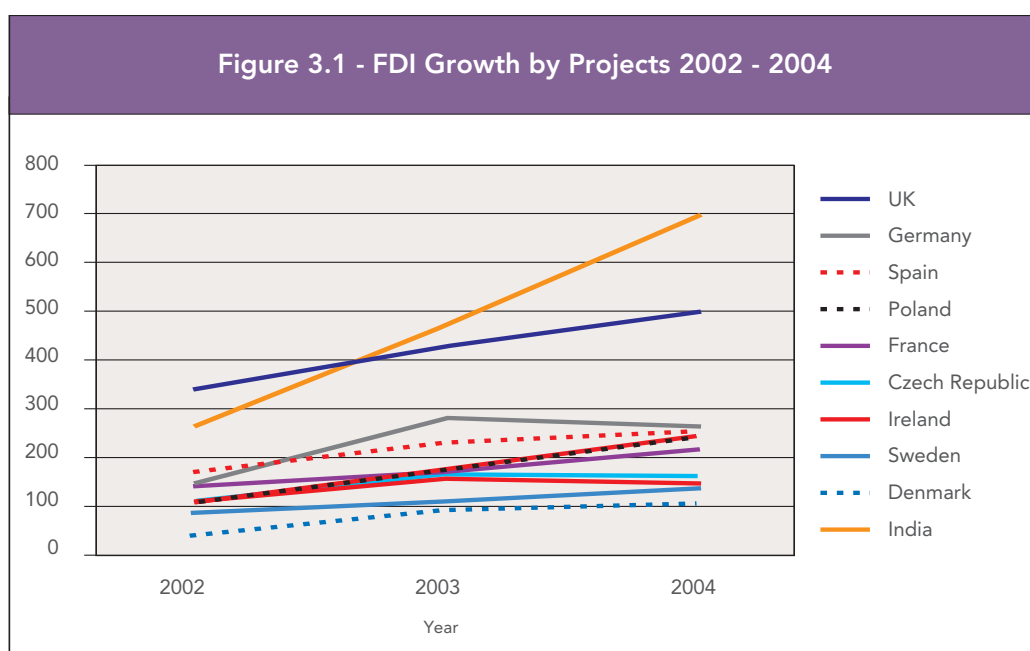
- 3.6 Within Europe, Central and Eastern European countries are predicted to attract a higher share of mobile investment in the future and are posing far stronger competition for Western Europe, which historically has received the lion's share of new investment. According to recent research, these countries now account for approximately one third of all foreign investment projects into Europe. Much of this is due to key business drivers to reduce costs and increase margins. Ireland will face these challenges as well as competition from other developed Western European economies including Germany, France, Denmark, Netherlands and the UK who are stepping up their efforts to attract and maintain FDI from projects at the higher end of the value-added chain.
- 3.7 Within a competitive marketplace Western Europe will continue to attract major inward investment in new technology areas. High-tech production and knowledge-driven R&D are areas where traditional Western European markets will see growth. Manufacturing operations have been shifting further east but technical support, sales, R&D and key administrative and headquarter functions are areas that Western Europe, and in particular Ireland, can continue to target and successfully win.
- 3.8 Direct investment is a mix of new or 'greenfields' investments and expansion or 'brownfields' projects. In developing economies, up to 60% of all 'new' investment is actually brownfield where an existing foreign-owned company invests additional capital. Not surprisingly, most global brownfield investment is directed to developed economies. It is through the analysis of green field investment that the greatest insight into future investment performance is gained.

- 3.9 As Table 3.1 and Figure 3.1 below show, greenfield direct investment into Europe and the EU has been rising but growth has been uneven:

Table 3.1 - Greenfield FDI Projects by Destination 2002 - 2004				
Region:	2002	2003	2004	% change 02-04
Europe	1,814	2,651	2,941	62%
EU	1,770	2,565	2,851	61%
UK	326	414	482	48%
Germany	130	264	247	90%
Spain	153	215	241	58%
Poland	91	154	230	153%
France	126	155	201	60%
Czech Republic	94	141	136	45%
Ireland	93	137	128	38%
Italy	72	110	123	71%
Sweden	68	93	123	81%
Denmark	25	73	86	244%
Netherlands	42	100	82	95%
Estonia	32	29	40	25%
India	250	457	685	174%

Source: UNCTAD World Investment Report 2005

- 3.10 Ireland has tended to attract around 5% of investment into the EU but in 2004, this dropped to 4%. During the same period, investment in India grew by 174%. Ireland and the Czech Republic have tended to attract similar types of investment and as the chart below shows, Ireland and the Czech Republic's fortunes have been similar.



Source: DTZ UNCTAD World Investment Report 2005

- 3.11 The number of greenfield FDI projects is increasing- the market is expanding. Globally the number of projects has expanded by 73% over the period between 2002-2004. Investments in manufacturing has increased 61% and by 83% in services.
- 3.12 As presented in Table 3.2, developed economies no longer attract the majority of investment. In 2002, developed economies attracted 48% of all FDI projects but by 2004 this declined to 42%. In 2002 developed economies attracted 42% of manufacturing investments and 54% of services investments but by 2004 they attracted only 36% of manufacturing investments and 45% of new services investments.

Table 3.2 - Investment Trends				
Region:	2002	2003	2004	% growth
Total FDI Projects				
Global	5,656	9,303	9,796	73%
Developed Economies	2,721	3,843	4,070	50%
Developed Share	48%	41%	42%	
Manufacturing Projects				
Global	1,929	3,176	3,108	61%
Developed Economies	809	1,134	1,119	38%
Developed Share	42%	36%	36%	
Services Projects				
Global	3,510	5,654	6,407	83%
Developed Economies	1,881	2,628	2,906	54%
Developed Share	54%	46%	45%	

Source: UNCTAD World Investment Report 2005

- 3.13 These trends are expected to continue. However, it should be emphasised that the actual numbers of projects going to developed economies continues to rise.
- 3.14 Table 3.3 shows the regions in Europe that attracted the greatest number of investment projects in 2004.



**Table 3.3 - Most Popular Regions in Europe for Attracting FDI in 2004**

City/Location	Number of projects 2004
Greater London	153
Il-de-France/ Paris	136
Rhone-Alpes	64
Copenhagen	55
Moscow	53
Cataluna	50
Stockholm	47
Budapest	38
Nord-Pas-de-Calais	33
Dublin	32
<b>Total</b>	<b>2,884</b>

Source: Ernst &amp; Young European Investment Monitor 2005

3.15 The top locations for service sector investment in Europe are<sup>1</sup>:

- London
- Paris
- Stockholm
- Barcelona
- Frankfurt
- Dublin
- Amsterdam.

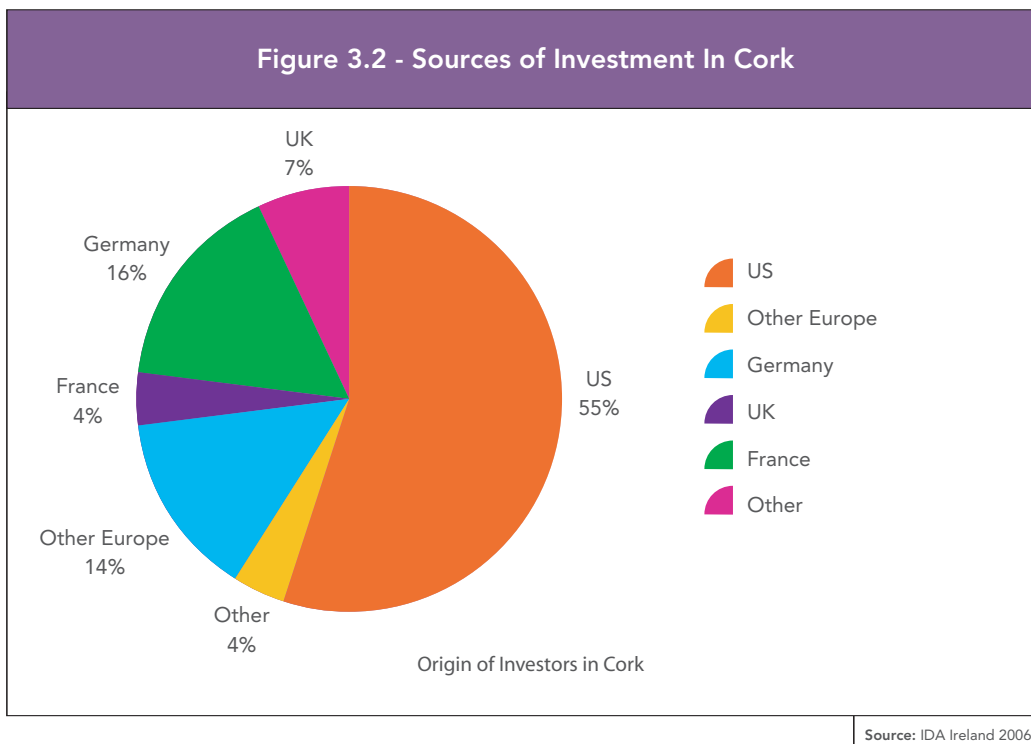
### IRISH INVESTMENT TRENDS

- 3.16 As mentioned above, India has been recognised as a business destination phenomenon for BPO. However, India is the second wave of the revolution – Ireland is recognised as by businesses as being the precursor. When the Irish Government radically and courageously slashed corporate tax rates, while also being able to provide a generous incentive system, it aggressively announced to global business that it was ‘open for business’. Ireland’s education policies also signalled that it was also able to do business.
- 3.17 International business responded with massive inflows of capital and technology. On this basis, Ireland has continued to ‘punch above its weight’ in FDI terms. However, Irish policies and approaches are now being aggressively followed by other ambitious economies in the EU accession states and this has the potential to erode Ireland’s standing as the obvious investment location for certain types of business activity. Compounding this is the fact that the Central and Eastern European states are geographically within the continental European market, which makes them more attractive for certain investors.
- 3.18 Although Ireland is now competing for investment in a much more fragmented and competitive market, it does so in a much larger market. Because more companies are prepared to establish offshore, there is more investment to seeking a destination.
- 3.19 As noted in Table 3.1 Ireland secured 128 FDI projects in 2004, which represented a 38% increase on 2002 but was down from the 137 projects attracted in 2003. In Dublin attracted 32 projects, which placed it at tenth in terms of city level investments across Europe. In 2005 nine investments were announced for Cork.

- 3.20 Forfás predict that overseas firms will continue to be a major source of employment and wealth creation in Ireland over the next fifteen years and beyond. Their research indicates that over this period foreign direct investment will grow strongly with the main sources continuing to originate in the USA, Japan, Germany, France and the UK. Electronics, pharmaceuticals, telecommunications and biotechnology will be the main sectors of FDI growth in Ireland. These are all areas where Ireland has traditionally been successful in competing globally for investment projects.
- 3.21 Inward Investment inflow to Ireland involves a wide range of activities from manufacturing to e-business in sectors such as ICT, software, pharmaceuticals, medical technologies and financial services. Despite periods of global FDI decline, Ireland is a world leader in Medical Device and Pharmaceutical manufacturing. Inward Investment has led to the creation of an export-orientated economy with a highly skilled workforce.
- 3.22 According to research conducted by Forfás more than one thousand overseas-owned companies in Ireland employ over 100,000 people directly and support as many jobs again elsewhere in the economy. They account for approximately 55 per cent of manufacturing output and over 70 per cent of industrial exports. Overseas owned companies link Ireland with global markets and international trends in marketing, distribution technology, work organisation and management practice. They have and continue to play a vital role in the outstanding success of the Irish economy.
- 3.23 Investment into Ireland has been highly centralised with Dublin being the primary investment destination, particularly for financial services investments. According to Enterprise Ireland 'between one third and one half of Ireland's FDI, on average, is invested in Dublin's IFSC'<sup>2</sup>.
- 3.24 Ireland has been very successful in attracting foreign investment particularly from the USA. According to Enterprise Ireland roughly half of all foreign inward investors are from the States. However unlike EU investors, US investors have tended towards manufacturing investments, rather than those into the services hub at Dublin's IFSC<sup>3</sup>.

### INVESTMENT IN CORK

- 3.25 Cork's inward investment base is understandably less diversified than that of Dublin and Cork has a higher level of exposure to US and German investment than does Dublin. However proportionately, it attracts less UK, Japanese and Dutch investment.



<sup>2</sup> 'Ireland: Economic Profile', October 2005, Enterprise Ireland.

<sup>3</sup> Over 600 US companies directly employ over 90,000 people. A feature of US FDI is that it is concentrated in manufacturing, unlike much of EU sourced FDI, which is concentrated either within the IFSC or in services such as retailing or banking.

- 3.26 Unlike Dublin, Cork has attracted Norwegian and Russian investment (in data storage and processing and in diodes). Although the number of investors from these countries is low, they are growing as source markets for FDI. Pending additional investigation and investment attraction effort, Cork's status as an existing base for companies in these regions could be leveraged to attract additional investment.

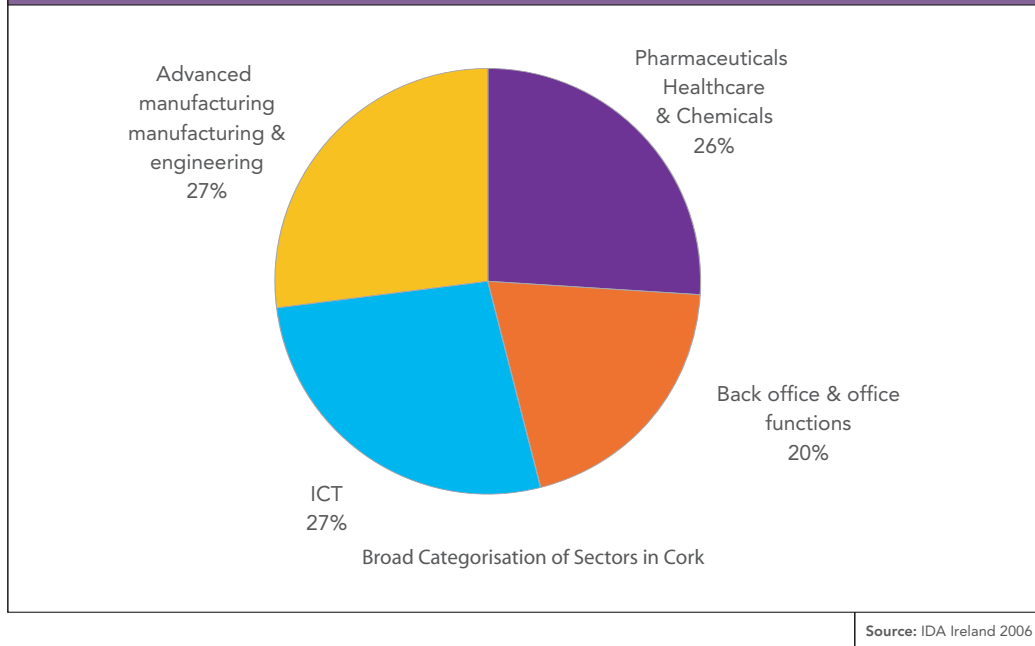
Table 3.4 - Origin of Foreign Owned Companies in Cork and Dublin				
	Number Investors in Cork	Cork Investors %	No. Foreign Investors Dublin	Dublin Investors %
United States	68	56%	162	40%
Germany	19	16%	49	12%
United Kingdom	8	7%	54	13%
France	5	4%	17	4%
Belgium	3	2%	1	0%
Netherlands	3	2%	23	6%
Switzerland	3	2%	9	2%
Australia	2	2%	3	1%
Denmark	2	2%	2	0%
Finland	2	2%	0	0%
Japan	2	2%	17	4%
Bermuda	1	1%	7	2%
Italy	1	1%	19	5%
Norway	1	1%	0	0%
Russia	1	1%	0	0%
Sweden	1	1%	9	2%
Austria	0	0%	5	1%
Canada	0	0%	9	2%
Korea	0	0%	4	1%
Lichtenstein	0	0%	2	0%
Luxembourg	0	0%	2	0%
Nigeria	0	0%	1	0%
South Africa	0	0%	3	1%
Spain	0	0%	3	1%
Turkey	0	0%	3	1%
Total	122		404	

Source: Derived from IDA Ireland 2006

#### Investment sectors in Cork

- 3.27 When grouped, the composition of Cork's industry appears as follows:

Figure 3.3 - Broad Categorisation of Sectors in Cork



- 3.28 Cork has a number of clear clusters and competencies and particular niche strengths within these. The scale of Cork's industry is not large but it is highly internationalised and activities undertaken generally require advanced skills and training. Based on listings of foreign investors in Cork and Dublin acquired from the IDA, it has been possible to broadly group companies into general sector and activity categories. As presented in the National Spatial Strategy, Cork presents the critical mass required to potentially provide a counterbalance to the development of Dublin. Therefore, as presented in Table 3.5 we compare the level of FDI attracted to Cork and Dublin.

Table 3.5 - Investment Trends

DUBLIN Sector/ Activity of Foreign Investor	Dublin	%	Cork	%
Advanced manufacturing	0	0%	13	11%
Back Office/ SSC	28	7%	10	8%
Chemicals	14	4%	7	6%
Construction	1	0%	0	0%
Contact/ Customer Services Centre	18	5%	5	4%
Data centre & storage	0	0%	6	5%
Financial Services	198	50%	0	0%
ICT	14	4%	6	5%
ICT advanced manufacturing	0	0%	12	10%
ICT- design	3	1%	0	0%
ICT- Digital Media	3	1%	3	2%
ICT- Software	48	12%	12	10%
Manufacturing & engineering	28	7%	20	16%
Pharmaceuticals /Medical devices	22	6%	25	20%
R&D (unspecified)	3	1%	0	0%
Retail	7	2%	0	0%
General Services, sales & marketing office	8	2%	1	1%
Technical Services Centre	3	1%	2	2%
<b>Total</b>	<b>398</b>	<b>100%</b>	<b>122</b>	<b>100%</b>

Source: Derived from IDA Ireland 2006

- 3.29 As Table 3.5 above shows, Cork has a significant number of advanced manufacturing companies and advanced manufacturers in the ICT sector. Over 20% of foreign investors are advanced manufacturers, with a strong presence of those in ICT fields.
- 3.30 Cork also has a substantial pharmaceuticals, medical devices and medical technologies cluster. This broad grouping accounts for up to 40% of all foreign investment in Cork, depending on how activities are aggregated ie some ICT software firms, advanced manufacturers and others undertake pharmaceutical related activities.
- 3.31 Although Cork has managed to attract back office, shared services and technical service centres which perform functions for the financial services sector, Cork has not managed to attract the 'front office' financial services activities of international firms. There should be substantial scope to leverage the existing activities to attract the higher value functions of financial services firms but Cork will face difficulties in attracting regional headquarters and branch offices of financial services companies. There will remain a strong bias towards clustering these functions around Dublin's IFSC.
- 3.32 Cork has three multi-lingual customer service centres or technical service centres. This is a relatively high number given Cork's size. Because of the scale of some of the multi lingual operations, such as Amazon.com's recently announced multi-lingual customer service centre (not included in above statistics) there is a danger that the labour market for foreign-language speakers in Cork could become 'tight'. Although University College Cork (UCC) produces enough language graduates per year to meet current demand, there could be an undersupply in the future. Cork may need to rely on attracting graduates from continental Europe in future years in order to sustain growth in multilingual shared services.
- 3.33 Similarly Cork's ICT cluster is dominated by advanced manufacturing activities in micro optics and semi-conductors. This represents a substantial niche capability that can be built upon and is perhaps one of Cork's defining competencies. Cork also has a high density of software engineering and digital media. In pan-European terms the actual numbers are not high enough that Cork could be seen to be a key European centre for these activities. However, Cork can credibly claim to be a European centre for these activities and can be reasonably confident that it can build on these strengths to attract additional investment.

## 4 CORK'S KEY SECTORS & INDUSTRY TRENDS

- 4.1 As the previous section confirms, Cork City Council is correct to focus on ICT, pharmaceuticals and mobile services for investment attraction, as set out in the brief for this study. In this section we analyse industry trends and look at the 'sectors' in more detail. These sectors are not clear-cut and there is a degree of crossover between each of them. The business activity of these sectors is knowledge driven and focused on value added services and advanced processes. Cork's key sectors and sub sectors are set out in Table 4.1 below and presented in the paragraphs that follow.

Table 4.1 - Sectors and Sub-Sectors	
Key Sectors	Key Sub-Sectors & Functions
Information Communications Technology (ICT)	ICT hardware manufacturing, R&D, software development, digital content and digital creative medias.
Pharmaceuticals, Life Sciences, Medical Technologies and Medical Technology	Pharmaceutical manufacturing, medical technologies manufacturing, biotechnology manufacturing and R&D operations across all sub sectors.
Mobile Services*.	Financial Services (financial intermediation; insurance & pension; and security broking), Regional Headquarters, Shared Services and High-Value Back Offices, Technical Shared Services and Contact Centres.
*Note that this is not technically a sector but a categorisation of a sub set of services functions or activities. As mentioned in the earlier section, 'Definitional & Conceptual Issues', we are using the term 'Mobile Services' rather than 'Internationally Traded Services'.	
Source: Ernst & Young European Investment Monitor 2005	

- 4.2 Each of these sectors are reviewed in the paragraphs that follow.

### ICT

- 4.3 The ICT sector is highlighted by City Council as a key business area for the City and a principal area of foreign investment.

#### Key Trends in the Sector

- 4.4 The potential for continued FDI growth in this sector is strong: the sector is growing and there is a good appetite for FDI. However this is slightly balanced by a continued strength in Mergers and Acquisitions activity. For developed economies, growth will be driven by the software sector and by R&D activities rather than hardware<sup>4</sup>.
- 4.5 In 2005 the European ICT market revenues represent 6.5% of GDP and 34% of the worldwide ICT market. IT and Communications are each responsible for roughly half of the European ICT market. The IT component is driving growth primarily because of the service and software sectors. Software in particular has experienced and will continue to experience rapid growth rates, approaching 6% in 2006. The area of telecommunications continues its positive performance, driven in particular by growth in advanced mobile and broadband services<sup>5</sup>.
- 4.6 The ICT sector represents less than 6% of value added in the EU, but in the past 10 years it has contributed more than one quarter of labour productivity growth. Its main contribution to growth stems from its research activities. The sector is responsible for 25% of R&D in the business sector. This is a significant share, although it is below that of the United States where R&D in ICT is 35% of R&D in the business sector<sup>6</sup>.

4 The exception to this has been the recent investments in silicon chip manufacture in Singapore and Israel. Israel is known to have provided a substantial grant.

5 European Information Technology Observatory, 2006

6 From speech by Viviane Reding, Member of the European Commission responsible for Information Society and Media, at Presentation of EITO 2006, Brussels, 23 February 2006.

- 4.7 Asia has been rising in importance in the global Information Technology (IT) industry. Research carried out by IDC consultancy and published in the Financial Times in March 2006 predicts that the sector in the Asia-Pacific region is set to expand nearly twice as fast as North America over the five years to 2009. This is being driven by growth in countries such as India. This growth suggests that more international companies will be setting up in the Asia-Pacific region. According to IDC research, revenues generated by Asia's IT industry are expected to increase at an average annual rate of 8.6%. By comparison, the North American IT industry is expected to grow by 4.9% a year and Europe is forecast to report average annual increases of 6.5%.
- 4.8 Rapid economic growth across the Asia-Pacific region is driving the sector and creating huge demand for hardware, software and services. The biggest IT sector contributors to the economy in the Asia Pacific region are hardware manufacturing and related services. However, as these economies mature there is expected to be a rise in software spending which is already seeing the fastest growth. For example software growth in India between 2004 and 2009 is expected to be more than 19% a year.
- 4.9 The industry is dominated by a small number of corporations that have interests ranging from hardware to software and content development. The top ten global technology companies by revenue are<sup>7</sup>:
- IBM
  - Hewlett-Packard Company
  - Dell Inc.
  - Microsoft Corporation
  - Intel Corporation
  - EDS Corporation
  - Cisco Systems, Inc.
  - NEC Corporation
  - Hitachi, Ltd.
  - Accenture
- 4.10 Telecommunications is also dominated by a number of large players. The global top ten telecoms companies, ranked by worldwide annual revenue for the 2003 financial year, are<sup>8</sup>:
- NTT Corporation
  - Verizon Communications
  - Deutsche Telekom AG
  - Vodafone Group PLC
  - France Telecom SA
  - SBC Communications Inc.
  - Telecom Italia S.p.A.
  - AT&T Corp.
  - BT Group plc
  - Telefonica, S.A.
- 4.11 Elsewhere in the sector, there is more diversity, with software and niche segments such as games, wireless telecoms and other R&D oriented companies driving FDI growth. The smaller players are more difficult to identify when seeking investment targets but there is mobility in the sector once companies move out of pure R&D stages.

#### ICT Investment trends

##### Electronics

- 4.12 The electronics sector continues to be one of the ten most important sectors generating FDI projects. In 2004, the sector accounted for 196 projects or 6.8% of all projects (up from 6.3%).
- 4.13 According to the European Investment Monitor (EIM), over the long term the relative importance of electronics has slightly declined from 8% of all projects but nevertheless, in actual terms, 2004 was not far behind the high point for electronics projects when in 2000, 225 projects were recorded.

- 4.14 Destinations for electronics projects are diverse – reflecting the diverse nature of these investments. In fact since 2000 the average position has not changed significantly. The UK remains the largest recipient of electronics projects and in 2004 maintained its 5-year average of 24% of all projects arriving in Europe. France remains the second most important country and has been increasing share. In 2004, France's share of electronics investment into Europe rose to 17% (15.6% in 2003).
- 4.15 After the UK and France there is no definitive location for electronics projects. Since 2000 Germany's share of projects has markedly declined whilst the Czech Republic and Hungary have increased their shares.
- 4.16 Since 2000, Hungary has been the third most important location for electronics projects but its share of 8% of projects is no longer increasing. It is not only the lower cost economies which have increased their share of investment since 2000 – during this period both Sweden and Denmark have doubled their share of electronics projects, although together they still only account for 11% of projects recorded in 2004.
- 4.17 The top three investors in the sector across Europe are US, Japan and Germany. In 2004 these provided 30% of all investment projects (23% in 2003). As the relative importance of US projects rose in 2004, so the relative importance of Japanese projects fell. Japan accounted for 12% of projects in 2004 (from 18%) which was a return to the long term average. Similarly, Germany has provided an average of 9% of electronics projects and did so in 2004.
- 4.18 In 2004, electronics projects from Asia Pacific reached record levels with 14 projects from South Korea, 11 from Taiwan and 5 from China. The recovery of Asia Pacific investment into Europe is an important trend – although together Asia Pacific investment in electronics remains only 50% of that provided by the US.
- 4.19 Software.
- 4.19 In 2004, the software sector generated 315 project announcements and the software sector has accounted for the highest number of projects recorded in every year since 1998. The proportion recorded in 2004 rose to 11% of all projects (from 9% in 2003) although this remains below the record levels of 2000 when software accounted for 20% of all recorded projects.
- 4.20 The UK is consistently the leading recipient of software investment in Europe. Since 1997 the UK has been the location selected by 37% of software companies investing across Europe and in 2004, the UK also secured 37% of available software investment projects. In 2004, Software accounted for 21% of all investment projects into the UK.
- 4.21 France is the second most important location for software projects. Results for France fluctuate around 14% of all projects (16% in 2004). Over time the big loser in the software sector has been Ireland. In 1997 Ireland secured 16% of all recorded projects but this shrunk to 3.5% by 2004.
- 4.22 Conversely, no country has enjoyed a similarly dramatic rise – although Sweden, Spain and Denmark have all improved their results over time. Czech, Hungary and Russia have also improved performance in attracting software investment but in 2004 the total number of projects attracted remained in single figures.
- 4.23 A challenge for EU Regional Policy is that whilst software consistently generates the largest number of projects, the investments tend to focus on prosperous urban areas. The top ten locations for software investment (1997-2004) are London & South East England, Paris, Dublin, Amsterdam, Munich, Stockholm, Provence-Alpes-Cote-D'Azur, Belfast, Frankfurt, and Madrid.
- 4.24 The US is the largest source of software investment projects across Europe. On average, since 1997, the US has been the source for two thirds of all software investment. In 2004, the EMI recorded 197 US software projects – this represented almost 7% of all investment recorded in Europe.
- 4.25 The second most important source of software projects in Europe tends to be Germany (long term average 5%) but when years are examined on an individual basis, the UK has also generated a significant number of projects (long term average 4%).



- 4.26 Despite the large number of investments made by US software companies, one single company has been responsible for more than 17 investments in Europe since 1997 – this was Microsoft. Since 1997 EIM has recorded 2,333 investments made by 1907 separate companies.
- 4.27 Importantly, the typical size of a software investment is shrinking. In 2004, 58% of software projects reported expected employment at 50 employees or below. The small scale of investments makes it more difficult for investment agencies to identify companies with potential projects. Investment Promotion Agencies (IPAs) seeking to attract software investment, need to have a highly accurate knowledge of their local capabilities as well as a detailed knowledge of niche within the software sector.

### ICT in Ireland

- 4.28 Seven of the world's top ten ICT companies have a substantial presence in Ireland, including IBM, Intel, Hewlett Packard, Dell, Oracle, Lotus, and Microsoft. Direct employment exceeds 45,000, and exports exceed €21 billion annually<sup>9</sup>.
- 4.29 According to IDA Ireland over 300 overseas ICT companies are based in Ireland including IBM, Apple Computers, Hewlett Packard, Dell and Microsoft. These foreign companies employ 45,000 staff in Ireland. Latest figures show that exports in this sector account for approximately a quarter of all exports. These foreign firms are engaged in high-tech manufacturing as well as a full range of other functions including technical support operations, sales and marketing, software development, e-business and R&D. There are numerous examples within the ICT sector of Ireland's positioning as a knowledge driven business location with strong investments in R&D activities by industry leaders.
- 4.30 Ireland has placed considerable emphasis on developing its software development sector. Since the 1980s, a number of leading US software vendors, including Microsoft, Oracle and Symantec, have based their European operations centres in and around Dublin. Indigenous Irish software companies are also well represented in this sector and there is a strong supply chain.
- 4.31 The digital content industry has also been promoted and research has identified target business activities for growth in Ireland. These include: e Learning, Games, Business and Consumer Wireless Services, Digital Libraries, and Non-Media Digital Applications.

### ICT in Cork

- 4.32 Cork has taken proactive steps to attempt to establish itself as a centre for IT Software excellence. The primary aim continues to be the positioning of Cork as the preferred IT regional location outside of Dublin and a leading centre in Europe for IT inward investment. Other important objectives are to create greater collaboration and increased joint ventures between businesses in this sector in Ireland.
- 4.33 Cork is also home to the Tyndall Institute which is an ICT/Life Sciences research institute within University College Cork. Clients of Tyndall Institute include the European Space Agency. This institution is involved in cutting edge research in such areas as Micro and Nano technology and reaffirms Corks position as a centre for R&D and brain ware. Furthermore, the development of the National Software Centre (NSC) and Webworks provides incubation space for high-potential ICT start-up firms in Cork.
- 4.34 Companies in Cork include:
- Apple Computers
  - Motorola Software Development
  - Dow Corning Ireland Ltd
  - McAfee Ireland Ltd
  - Flextronics
  - Tyco Sensormatic Electronics Corp. (Ire) Ltd
  - Alps Electric (Ireland) Limited
  - Molex Ireland Ltd.

- Minelab International Ltd.
- Hoemann Electronics
- Sanmina-SCI Ireland Ltd
- DDC Ireland Limited
- EMC (Benelux) B.V.

4.35 These organisations have chosen Cork as an important base for their global operations. Growth in this sector is continuing.

## PHARMACEUTICALS, MEDICAL DEVICES AND MEDICAL TECHNOLOGIES

4.36 The potential for FDI growth in this sector is strong in segments and in certain functions. However there is heavy Mergers and Acquisitions activity and cash flow issues for the US companies. In addition, the Homeland Investment Act was adopted in the USA in 2003. This provides tax relief for profit repatriation for R&D activities in the US. As a result of this legislation there has been an appetite to redirect R&D activity of US companies towards the US, making it harder for countries to attract this function to their respective jurisdictions.

### Key Trends in the Sector

4.37 According to Ernst & Young research<sup>10</sup>, publicly traded biotech companies across the globe saw revenue rise 17% in 2004 to \$54.6bn – with more than three-quarters of that accounted for by the US alone. While the US remains far ahead of Europe in terms of the maturity of the sector, competition is growing as Europe's financial performance improves. Asian countries have also stepped up their efforts in the biotech arena – it is now a priority area for investment by governments across the continent, with stem cell research providing some of the stimulus. There is a clear growing demand for new drugs and new treatments which are currently not met. The 2006 Ernst & Young report indicated that greater competition and a search for opportunities in new markets were among the factors internationalising the biotech industry. Global leaders such as Amgen have market valuations which rival some of the biggest Pharmaceutical industry businesses.

4.38 The top ten global pharmaceutical companies are<sup>11</sup>:

- Pfizer Inc
- Johnson & Johnson
- GlaxoSmithKline Plc
- Novartis AG
- Roche Holding AG
- Merck & Co., Inc.
- Bristol-Myers Squibb Company
- Sanofi-Aventis Group
- Abbott Laboratories
- AstraZeneca PLC

4.39 The top ten global Medical Technologies companies are<sup>12</sup>:

- Medco Health Solutions Inc
- UnitedHealth Group
- HCA, Inc.
- WellPoint Inc.
- CIGNA Corporation
- Aetna Incorporated
- Anthem, Inc.
- Tenet Healthcare Corporation
- Express Scripts
- Humana Inc.

10 European Investment Monitor, Ernst & Young, 2006  
 11 Datamonitor 2005  
 12 Datamonitor 2005

## Pharmaceutical Investment Trends

- 4.40 According to the European Investment Monitor, the pharmaceutical sector was responsible for 144 investment projects in 2004, which represented a fall in the percentage of all investments (6.6% in 2003 to 5% in 2004). The pharmaceutical sector consistently generates over 100 investment projects across Europe per annum.
- 4.41 Manufacturing projects only accounted for 48% of investment in the sector in 2004. This is a reduction on 2002 and 2003 levels. There was however an increase in the number of pharmaceutical projects which involved R&D activity. These projects now account for 23% of investment projects (19% in 2003).
- 4.42 France and the UK continue to be the main recipients of pharmaceutical investment. Together, France and the UK continue to be the location for over a third of all investment location decisions in the sector with the UK marginally ahead of France (18% compared to 16% of recorded investments).
- 4.43 Ireland continues to win approximately 10% of all pharmaceutical investment into Europe but in 2004 Eastern European economies began to attract substantial investment. 16 investments went to Poland and the Czech Republic. Several other accession countries demonstrated large increases in projects.
- 4.44 At a regional level, there has been a high level of concentration in pharmaceutical investment. Capital city regions continue to dominate – London, Moscow, Madrid, Dublin and Paris remain within the top 10. In 2004, Warsaw joined this list with 5 investments. Catalonia and Alsace also maintained their importance in the sector with 5 further investments recorded for each region.
- 4.45 The US remains the most important origin for pharmaceutical investment with more than double the number of recorded investments than Germany, the second placed source. The dominance of the US declined in 2004. The US recorded an absolute decline in projects from 2003 to 2004 (47 projects to 42 projects).
- 4.46 The share of pharmaceutical investments across Europe from Germany has steadily increased and now accounts for its highest level recorded at 13% whilst Swiss investment recovered to its previous high of 1999 at 11%. The UK share of pharmaceutical investment is traditionally erratic and at 4% in 2004 the UK was outside the top 5 sources of projects.
- 4.47 Investments were recorded from a wide range of companies with Novartis AG leading the way with six investments in Europe in 2004.

## Pharmaceuticals in Ireland

- 4.48 Ireland has over 170 companies employing 35,000 people in the wider Life Sciences sector. This sector includes sub sectors of Pharmaceutical, Biopharmaceuticals, Medical Devices and Diagnostics. According to statistics from IDA Ireland these sectors combined generated €43bn in exports in 2002. The Life Science community in Ireland is well represented by Global leaders such as Pfizer and GlaxoSmithKline. A key trend has been that Life Science companies have tended to make investments across multiple operations and functions within Ireland. This is a good indicator of the country's strengths in this sector.
- 4.49 Ireland has established itself as a location for Pharmaceutical industry investment. Initial investment in this sector came to Ireland in the 1960's and the sector is now very well established. According to IDA Ireland, 13 of the top 15 pharma companies in the World have a base in Ireland and in total there are 83 facilities employing more than 17,000 people. As the sector has become well established future investors can now rely upon excellent supply chain infrastructure not just in terms of sites and utilities provision but also in the form of specialist support companies and related services. IDA Ireland state that the sector has become increasingly integrated in recent years. Initial investment in fine chemical plants producing bulk active materials has been followed by investment in final product pharmaceuticals. Ireland is now one of the world's largest exporters of Pharmaceutical products.

- 4.50 Ireland is now a well established global medical technology manufacturing and R&D location. Initial investments within this sector came to Ireland in the 1970's. This initial investment was primarily in manufacturing operations but in subsequent years increased FDI and plant expansion has meant growth in R&D and sales and marketing functions. Ireland now has a comprehensive supply chain made up of overseas companies as well as indigenous businesses.
- 4.51 According to IDA Ireland 15 of the World's top 25 Medical Technologies companies are based in Ireland including Boston Scientific, Becton Dickinson, Bausch and Lomb, Abbott, Johnson & Johnson, and Stryker. The sector employs over 22,000 people in 110 companies with sales in excess of €4bn annually and annual growth approaching 10%. Ireland is a clear global leader and compares well alongside some of the biggest medical technology clusters in the USA. Many investors in this sector operate multiple facilities across Ireland and serve worldwide markets. A recent article in Medical Device Daily stated that medical products now account for approximately one third of Ireland's total manufacturing exports representing \$34 billion annually and that half of these medical manufacturers also carry out R&D activities within Ireland. Furthermore, the growth in the Medi-tech sector has meant that about 10% of the total number of employers in the country are from this sector with virtually all the key US Medi-tech companies represented.
- 4.52 Currently 13 of the top 15 world pharmaceutical companies have substantial operations in Ireland, and six out of the ten of the world's top selling drugs are produced here (including Lipitor and Zocor). Exports exceed €35bn annually and over 17,000 people are directly employed.
- 4.53 Companies based in Ireland include Wyeth, Schering-Plough, Merck Sharpe and Doehme, Pfizer, Novartis, Allergan, and GlaxoSmith Kline<sup>13</sup>. The €1.8bn Wyeth Biopharma Campus near Dublin is the largest biotechnology campus developed as a single project anywhere in the world.

### Pharmaceuticals in Cork

- 4.54 Cork also has a substantial presence of companies in pharmaceutical and medical technologies sectors. GlaxoSmithKline for example has established a €34 million R&D facility at their plant in Cork. Also, in 2006 Amgen invested US\$1 billion investment in a new process development, bulk manufacturing and fill and finish facility in Cork. Other companies in Cork<sup>14</sup> include:
- Novartis Ringaskiddy Limited
  - Pfizer Cork Ltd.
  - Pfizer Ireland Pharma (Loughbeg)
  - Cambrex Cork Ltd
  - Rowa Pharmaceuticals Limited
  - Pfizer Drug Product Plant
  - Eli Lilly SA J
  - Janssen Pharmaceutical Limited
  - Altana Pharma Ltd.
  - Recordati Ireland Ltd
  - Alcon Laboratories Ireland Limited.
  - Donovan Medical Equipment Ltd
  - DePuy (Ireland) Ltd
  - Stryker Orthopaedic
  - Cara Partners
  - Centor Biologics (Ireland) Ltd

### MOBILE SERVICES

- 4.55 The mobile services market is growing. Although the services sector is much larger than the manufacturing sector, only some 10% of its output enters international trade, compared with over 50% for manufacturing.

<sup>13</sup> Ireland: Economic Profile', October 2005, Enterprise Ireland.  
<sup>14</sup> Source: IDA, Enterprise Ireland

## Key Trends in the Sector

- 4.56 Globally there continues to be a bias towards India for mobiles services projects. The World Investment Report 2004, shows that South and South East Asia has been a dominant recipient of projects to date. The region accounts for around 80% of all IT services projects outside industrialised countries. Call centre projects show the greatest geographical dispersion, with most going to developed countries in 2002-03, but the share going to developing nations is rising.
- 4.57 For India off-shoring of software development and later, back office and call centre services has driven its rapidly growing services exports. Exports of software and other services jumped from less than US\$0.5bn in the early 1990s to US\$12bn in 2003-04<sup>15</sup>. Whereas software development accounts for the bulk of these exports, IT-enabled services are increasingly important, rising from US\$0.6bn in 1999-2000 to US\$3.6bn in 2004. The market for IT-enabled services is estimated to be US\$17bn by 2008. IT-enabled services off-shored to India include customer care, finance, human resources, billing and payment services, and content development.

## Mobile Services Investment Trends

- 4.58 As presented in Table 4.2, there are different location outcomes depending upon type of activity being off-shored and also by origin country.
- 4.59 Within India, the most frequently cited cities/ regions include: Delhi, Mumbai (Bombay), Bangalore, Chennai (Madras), Kolkata (Calcutta), Hyderabad. Outside of the Indian off-shoring phenomenon, according to McKinsey, leading off-shoring locations (primarily from US and UK companies)<sup>16</sup> in decreasing order are: Ireland, India, Canada, Israel, China, Mexico, Australia, Eastern Europe, Philippines, Russia, and Thailand.

Table 4.2 - Investment Trends		
Type of Activity	UK Origin	US Origin
IT Software & Data	Russia, South Africa, Ireland	Ireland, India, Philippines, South Africa, Malaysia, Vietnam, Russia, New Zealand
Voice- Contact Centre	India, South Africa, Ireland	India, Canada, Philippines, Australia

Source: UNCTAD World Investment Report 2005

- 4.60 However as AT Kearney states, every project is different and there are trade-offs so that no one location is universally ideal. Similarly labour costs are not the only factor: skills and productivity are also key<sup>17</sup>.
- 4.61 Skills are important when attracting and retaining mobile services activities. For Cork as with other locations, this means ongoing investment in human resources, whether by the public or private sector or the individual.

## Financial Services

- 4.62 Historically the sector has provided 5% of all investment projects across Europe but investment is highly sensitive to economic downturns and market fluctuations. In 2002 financial services provided only 1.78% of investment and only 2.9% in 2003. In 2004 the sector provided 143 projects or 4% of total investment.
- 4.63 The UK is generally the largest recipient of financial services investment but in 2004, as financial services investment recovered across Europe, the UK market share decreased significantly (from 45% in 2003 to 24% in 2004).

15 Nasscom

16 McKinsey

17 AT Kearney, 'Making Offshore Decisions', 2004. "Companies cite greater productivity, improved service and superior skills as other reasons to move operations offshore. Indeed, a major factor contributing to the attractiveness of India and China-and to a lesser extent Russia, Brazil and the Philippines- is the sheer breadth and depth of the skill base in terms of education levels. At the other end of the scale, Singapore, New Zealand, Canada and Ireland boast excellent infrastructures and education systems, high degrees of global integration and business-friendly, low-risk environments. These countries continue to drive offshore interest despite their heavy costs"

- 4.64 Whilst the UK share of financial services investment significantly declined in 2004, an increasing number of investments were recorded in France (2nd place with 10.5%), Russia (3rd place with 7.5%) and Spain (with 6%).
- 4.65 Of the remaining countries, on a historic average basis, Ireland and Germany remain the second and third most important locations for financial services investment. Ireland attracts a significantly smaller proportion of projects than its best performance in 1999 (1999 12%; 2004 6%) whilst German investment has fluctuated over time.
- 4.66 The leading five cities for the receipt of financial services projects since 1997 are London, Paris, Frankfurt, Stockholm, Dublin. Perhaps surprisingly, Moscow, Budapest and Warsaw have been the next most important locations. In 2004, London's share of investment projects declined from 18% in 2003 to 12% in 2004.
- 4.67 Financial services projects arise from an extremely wide range of locations. The US is consistently the major investor and accounts for an average of 33% of all recorded projects. Germany and the UK are the next most important sources of investment but as the amounts of investment have shifted over time, so does the contribution of the 'big 3' (US, Germany and UK). In 1999, the 'big 3' contributed 68% of all investment projects in the sector, by 2003 the contribution had slipped to 39% but in 2004 the contribution recovered to 48%. The sector is therefore somewhat unpredictable in terms of investment projects but, in general, when the financial services sector is booming, it can be concluded that the financial services hubs of New York, Frankfurt and London generate a large number of European investment projects.
- 4.68 Since 2000 there have been very few mega projects. In 2004, 2% of all recorded projects expected to result in job creation of over 350 staff. In 2000 the same proportion of projects was 11%.

#### Mobile Services by Major Functions

- 4.69 As stated in the previous section dealing with global investment trends, the volume of service sector investment to developed economies has increased but developed economies are attracting increasingly lower proportions of the total number of projects. If the services sector is considered in more detail, it can be seen that in all categories, the proportion of overall investment going to developed economies has declined as presented in Table 4.3.

Table 4.3 - Developed Economies Share of Service Sector New Investment Projects 2002 & 2004		
	2002	2004
Electricity	46%	41%
Construction	43%	38%
Retail	57%	53%
Internet or ICT infrastructure	63%	40%
Business services	43%	41%
R&D	51%	30%
Sales, marketing & support	58%	47%
Headquarters	67%	59%
Testing	53%	28%
Customer support centre	62%	45%
Logistics & distribution	57%	53%
Maintenance/service	39%	35%
Shared service center	43%	32%
Technical support centre	72%	42%
Training	49%	23%

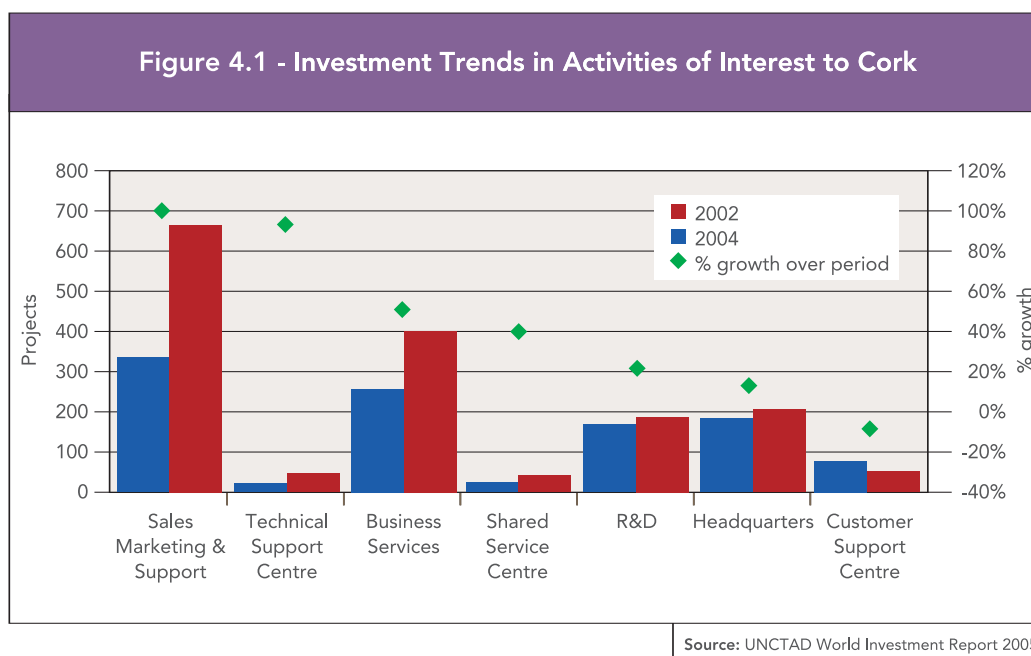
Source: UNCTAD World Investment Report 2005

4.70 However, as presented in Table 4.4, in most cases the actual number of projects has increased.

	2002	2004	% growth
Sales, marketing & support	336	682	103%
Technical support centre	13	26	100%
Electricity	12	24	100%
Retail	420	774	84%
Logistics & distribution	157	269	71%
Maintenance/service	16	26	63%
Business services	254	388	53%
Shared service centre	18	25	39%
Construction	113	140	24%
Internet or ICT infrastructure	45	55	22%
R&D	168	194	15%
Headquarters	195	210	8%
Customer support centre	77	65	-16%
Training	26	17	-35%
Testing	31	11	-65%

Source: UNCTAD World Investment Report 2005

4.71 Investment trends and project volumes for those business activities of the most relevance to Cork are highlighted in Figure 4.1.



4.72 As the chart shows, there has been a substantial increase in project flow from activities such as:

- Sales, marketing and support
- Technical support centres; and
- Business services.

- 4.73 However the actual number of customer support centre projects has declined and growth is flat for R&D and headquarters activities. Similarly, the actual number of technical support centres and shared service centre projects is relatively low. However Cork does have a good offer for these sort of activities and has already attracted this sort of investment.

#### Mobile Services in Ireland

- 4.74 Ireland is a leading European destination for mobile services. Dublin is a substantial financial services destination and is also home to various back office activities.

#### Mobiles Services in Cork

- 4.75 Cork has a substantial number of companies performing mobile services activities. Cork also has a substantial density of companies in 'internationally tradable services' but investors have tended to base 'back office' rather than headquarters and client-facing activities in Cork. As such, Cork tends to have a presence of companies performing the functions such as business services and technical support, rather than service sector clusters (such as banking, finance or insurance for example). Amazon.com the online retailer has recently announced that it will be moving its European Customer Service centre from Slough (UK) to Cork creating 450 jobs. One of the primary drivers for this decision was to capitalise on Cork's skilled labour economy particularly in relation to multilingual skills. The company has found difficulty with recruiting multilingual staff in the more restricted labour pool in Slough and is confident that Cork will offer a solution. Amazon's director for European customer service was recently quoted in the Financial Times on the relocation stating:

*"As our business has grown, and as we have expanded the categories of products we offer we need to expand our customer service support as well. We believe our new Cork Centre will provide our many millions of European customers with an improved level of service."<sup>18</sup>*

- 4.76 Some key investments have been:
- Amazon's recently announced multilingual contact centres with up to 450 jobs.
  - McAfee, the US software security company, established a 152 job software operations centre in Cork, with the support of the IDA, to service international markets.
  - Altera Corporation, a US company established its European Shared Services Centre (60 jobs) at Cork Airport Business Park. The operation will include management of their network of European distributors; product pricing; contract negotiations and financial shared services.
  - AL Pharmaceuticals, a Norwegian company announced plans to 220 job European Service Centre in Cork including data storage and processing, software development and training facilities
- 4.77 Other investors in shared service centres, data centres, call centres and technical service centres include:
- Logitech Ireland Services Limited;
  - Black & Decker Limited LLC;
  - Citco Data Processing Services Ltd;
  - Kvaerner Ireland Ltd; and
  - RCI Call Centre (Ireland) Ltd.



## 5 LOCATION CRITERIA FOR KEY BUSINESS ACTIVITIES

- 5.1 In this section we look at the factors influencing location decisions across the core business activities. Depending on the type of activity they intend to pursue, companies will evaluate locations according to key location criteria or factors. In the main report, we apply these principles to appraise the scope to attract various functions and sectors to Cork.
- 5.2 Companies do not necessarily locate all their activities in the one place, they may locate them in a variety of locations or outsource them to a third party who may themselves locate different elements of their business in a variety of locations. Different types of business activities have different needs and drivers, which is why they tend to be located in various areas. For example, although it may make sense for a company's headquarters to be in a major city in order to meet with clients and suppliers, its telephone support for customers does not need to be in the same place, nor its manufacturing.
- 5.3 Thus the attractiveness of Cork needs to be assessed not only according to the relative attractiveness of Cork from a sectoral perspective but also from a business functions perspective. Cork is seeking to attract investment in the following broad sectors:
- Internationally traded services (internationally mobile services from an inward investment perspective);
  - ICT and digital media (although this sector can also be considered to fall under the internationally traded services umbrella);
  - Pharmaceuticals, lifesciences and medical devices.
- 5.4 Any of these sectors can generate projects across the following core business functions, which are reviewed in the paragraphs that follow:
- Headquarters;
  - Regional Headquarters and high value back office activities;
  - Technical Shared Services;
  - Contact Centres and Call centres;
  - Research and Development and
  - Advanced Manufacturing (for some sectors).
- 5.5 In location decision-making, it is generally the location factors surrounding the function to be carried out, rather than the sector per se which has the greatest influence on the final location outcome. For example, companies, regardless of sector, will group functions based on the key location factors as they apply to functions. As such we will outline Cork's competitive position by function with commentary against the key sectors as they apply under each function.
- 5.6 The issues that investors consider when making investment decisions are generally known as 'key location factors' (KLFs). The relative importance of various criteria will alter depending on the type of business activity being proposed, the sector and the individual company. For example, when proposing to undertake R&D activities, a company will pay more attention to the availability and skills levels of certain workers and salary cost will be of less importance. A call centre operator however will tend to make initial location assessments based on the volume and cost of workers with more basic skills.

### HEADQUARTERS & REGIONAL HEADQUARTERS

- 5.7 Headquarters and Regional Headquarters (HQ) are generally the office that serves as the administrative centre of an enterprise. In the past, they were the location for most administrative and office-based activity. However, as companies have become more sophisticated and able to take advantage of technology, many activities can now be moved away from the central administrative centre. HQ operations are the client-facing end of the business where company decisions are made and where generally most senior executives are based. When choosing locations for these operations, companies will frequently place particular emphasis on a number of factors ahead of cost. Decision makers are still driven by the need to remain competitive but they will compromise to some extent in order to build prestige and brand and to fulfil their requirements. These business requirements usually include: business friendly regulation,

the location choice of competitors and specific intermediaries, good access to markets both globally and internally, a demand for high skilled labour and prestige office floorspace. They will also only consider areas with economic and political stability. These drivers limit company location options to well-established and usually more costly business areas.

- 5.8 HQ investments are not highly mobile. Few companies relocate HQ or are truly 'footloose' when making their HQ location decisions. HQ locations tend to be decided by a mix of intrinsic factors relating to the individual company's history and extrinsic clustering trends that are historical and also because many companies spin out of existing companies in their sectors. As such, there is a heavy bias towards well known global headquarter centres such as Paris, London, Tokyo and New York as well as HQ centres that are historically sector focused for example Silicon Valley for ICT, Boston or San Francisco for Life Sciences and London for financial services.
- 5.9 The more HQ operations a location has the more it can hope to attract. Dublin has evolved to become Ireland's headquarter capital because it has generated the greatest number of indigenous Irish firms and consequently it is the location of choice for Irish-based HQ of foreign firms. However, appeal as a HQ location can develop over time based on the growth of niche sectors or functions. For example, Dundee in Scotland has become the HQ choice for Scotland-based software games companies on the strength of a small number of internationally recognised local firms and because of the appeal of the local educational and research infrastructure.
- 5.10 The key location factors for Headquarters & Regional Headquarters functions are set out in the Table 5.1 below.

Table 5.1 - Key Location Factors for Headquarter & Regional Headquarter Functions	
Very Important	
<b>Business Environment</b>	HQ's functions demand political and economic stability within a business friendly taxation and regulatory environment. Corporate, social and environmental responsibility issues and concerns over terrorism are also increasingly important. The historical location choices of individual companies and location preferences within the wider sector can also influence decision-making.
<b>Clusters</b>	The presence of competitors as well as how well the business location is established for HQ operations and how this fits with company brand recognition from a global as well as regional perspective. The proximity of suppliers, customers and intermediaries.
<b>Access</b>	Outstanding transport infrastructure for international, national and regional travel and excellent local transport connections with the City. Excellent access and proximity to decision makers including regulators and finance.
<b>Markets</b>	Excellent access to established national, regional and international markets as well as the size of the market as it relates to the sector and customer base.
<b>Labour</b>	Excellent availability of sector specific highly skilled labour with some sensitivity to cost competitiveness.
<b>Property</b>	The availability of prestige Category A office space with excellent property services combined with a need to build value from a corporate real estate portfolio.
Important	
<b>Quality of life</b>	High quality of life including good opportunities for a work life balance with location strengths such as culture and entertainment and wider social factors. The senior executive and decision makers preferences are important including where they live.
<b>Telecoms</b>	Excellent telecommunications and connectivity.
<b>Intellectual Infrastructure</b>	Good links with Universities

Source: DTZ Consulting & Research 2006 - Derived from the Literature Review

## BACK OFFICE OPERATIONS AND SHARED SERVICE CENTRES

- 5.11 Back office operations and shared service centres combine administrative, communication and financial expertise to create central hubs for companies whose operations often have a global or multinational dimension. **Shared Service Centres** involve the bringing together of a number of back office services often from geographically disparate areas into one central office. The centre will typically handle operations relating to accounts payable; accounts receivable; general ledger; cash management; credit control; pay roll, customer service and HR for a number of clients within one centre. A wide range of companies from multiple sectors have requirements for Shared Service Centres. Furthermore these centres can involve a range of complexity in activities. For example a centre can accommodate large numbers of professional accountants as well as handling general administration functions.
- 5.12 When making decisions on location, these operations will focus their decision-making on good availability of skilled labour, competitive property options, good accessibility and good telecoms provision. They will look for locations that can still provide easy access to the HQ operation but with significant property cost savings to the company. They may choose therefore to locate on the periphery of a City whilst retaining easy access to the central HQ.
- 5.13 Issues that are of most importance when choosing to locate back office and shared service centres are listed in Table 5.2 below.

Table 5.2 - Key Location Factors for Headquarter & Regional Headquarter Functions	
Location Factors	
Very Important	
Labour	Excellent availability of sector specific skilled labour including graduates and specialists - Sensitive to cost competitiveness.
Property	Good quality cost effective office space - pressure to reduce costs.
Access	Good transport infrastructure especially for national and regional travel and in relation to the location of the HQ and other company branches.
Telecoms	Excellent telecoms & connectivity
Important	
Clusters	The presence of competitors and the location of suppliers, customers and intermediaries. A sustainable business cluster is beneficial for workforce and skills feed to the business.
Markets	Expansion into new markets and repositioning the business within existing markets.
Quality of life	A good working environment with high quality of life and good local services for staff.
Business Environment	A business friendly environment that can make the company more competitive. Corporate, social and environmental responsibility issues will be drivers to decision making and regional incentives provision.
Less Important	
Intellectual Infrastructure	Good links with Universities

Source: DTZ Consulting & Research 2006 - Derived from the Literature Review

## TECHNICAL SERVICE CENTRES

- 5.14 Technical Service Centres are where customer technical support needs for IT systems or other complex computer systems are handled. Outsourced IT help desks are a common example of these.

These operations place emphasis on skilled labour availability including IT graduate recruitment. They demand cost effective property with excellent access to clients and their market. Telecoms and communications infrastructure is a vital driver to decision making. These operations benefit from links to Universities as well as clusters of IT business operations, which can feed skilled labour. New IT products and services and growth in outsourcing IT functions have increased the demand for these operations.

- 5.15 The key location factors for Technical Service Centres are presented in Table 5.3.

Table 5.3 - Key Location Factors for Technical Service Centres	
Location Factors	Technical Service Centres
	Very Important
Labour	Good labour availability including IT graduates and experienced engineers and specialists within labour pool
Property	Good quality cost effective office space - pressure to reduce costs
Access	Good accessibility for staff with excellent regional and local public transport provision.
Telecoms	Excellent telecoms infrastructure & connectivity and choice of telecoms providers.
	Important
Clusters	The presence of competitors and the location of IT suppliers, customers and intermediaries. A sustainable IT business cluster is beneficial for workforce and skills feed to the business.
Business Environment	A business friendly environment that can make the company more competitive. Corporate, social and environmental responsibility issues will be drivers to decision making and regional incentives provision.
Intellectual Infrastructure	Good links with Universities.
Markets	Expansion into new IT markets potentially driven by growth in outsourcing as well as new products launched to the market.
Quality of life	A good working environment to attract staff with high quality of life and local services.

Source: DTZ Consulting & Research 2006 - Derived from the Literature Review

## CONTACT CENTRES

- 5.16 Contact Centres are a centralised office of a company that deals with a range of customer service enquires. Other common functions include sales and telemarketing. The term Contact Centre is often applied when multiple functions are blended in one office. Contact Centres expect cost efficiencies and cost reduction both in terms of property and labour. They also require excellent telecoms and communications provision, which can help to drive down costs. They favour locations that offer a degree of flexibility in terms of costs, labour and regulation. A common trend has been for businesses to move these operations to lower cost locations as well as to off-shore them.
- 5.17 Off-shoring is the transfer of activities, within the same corporate family, to another, typically lower wage country. There are various off-shoring models but the most common is captive off-shoring where the company owns and maintains control of the operation. Countries such as India have benefited through cost driven off-shoring. India in particular has a great deal to offer this business function with huge availability of skilled labour and a comparatively low cost property base.

- 5.18 Companies not only off-shore activities but they can also 'near-shore' whereby activities are relocated to a location not particularly far from their core centres. Near-shoring is often adopted by a firm that sees advantage of relocating some activities from headquarters but also wants to retain a high degree of control or retain the activities within their immediate market. This is a trend that has been increasingly driven by consumer preferences. Near-shoring is also a preferred mid-step solution by firms who believe that the security of their data or information is best protected if kept close to their management centre.
- 5.19 In practice companies are increasingly moving towards blended solutions where some activities are off-shored and some are near-shored. Companies are increasingly able to make sophisticated judgments on the requirements of each project and to identify tailored solutions for their various requirements. A common practice is to perhaps off-shore tasks with a high degree of repetition but to near-shore tasks that involve more complex customer services or more sensitive data analysis. The key drivers of Contact Centres or Call Centre location decision are set out in Table 5.4 below.

Table 5.4 - Key Location Factors for Contact Centres	
Key Location Factors	Contact Centres
Very Important	
Labour	Good labour availability including flexible workforce as well as good availability of permanent staff with low comparative wage costs.
Property	Demand for functional, low cost city centre and business park property with flexible terms.
Telecoms	Excellent telecoms infrastructure & connectivity and good choice of telecoms providers.
Important	
Access	Good accessibility for staff with excellent local public transport provision.
Clusters	The presence of similar operations will help to reduce risk for the decision maker.
Business Environment	Good flexibility of labour laws and regulation. Government regional incentives including intensive recruitment support are also attractive.
Quality of life	A healthy working environment with adequate local provision of services for staff.
Less Important	
Markets	Market growth will fuel demand for Contact Centres but technological developments mean that Contact Centres do not always need to be close to market.

Source: DTZ Consulting & Research 2006 - Derived from the Literature Review

## RESEARCH AND DEVELOPMENT (R&D)

- 5.20 Business R&D is principally concerned with extending overall knowledge or capability in a field of science or technology. This may involve creating a new product or new process or improving existing products or processes. It can also involve making innovative changes to the production techniques of a new product. In general terms R&D involves applying innovation and technology to business outputs and methods in order to increase competitiveness. Within the wider Life Science and ICT sectors, investments in R&D are a vital component and are considered core business operations.
- 5.21 R&D facilities require excellent links to knowledge centres and will frequently establish close to leading academic institutions e.g. Cambridge, South East England. This relationship works both ways and the R&D operation can benefit from highly skilled labour and close collaboration on projects. The key location drivers are set out in the Table 5.5 below.

Table 5.5 - Key Location Factors for Research and Development

Location Factors	
Very Important	
<b>Intellectual Infrastructure</b>	Outstanding links to leading knowledge hubs including scientific, academic, applied research and innovation.
<b>Labour</b>	Good labour availability especially for workers with industry experience and graduates. A need for very highly skilled and specialised staff.
<b>Clusters</b>	Location of competitors and the location of key industry regulators. Access to R&D networks including centres of excellence across sectors and opportunities for technical collaboration are important.
<b>Access</b>	Good transport infrastructure for regional, national and international travel including access to Universities, R&D hubs and customer base.
<b>Business Environment</b>	Access to sources of finance and venture capital as well as leading knowledge/ brainware. Government Support for R&D activity including grant provision, R&D tax credits and stamp duty exemption can influence.
<b>Property</b>	Excellent Business Park / Science Park property with sensitivity to cost competitiveness and with potential for expansion and future growth.
Important	
<b>Quality of life</b>	Good quality of life issues and working environment with good local services for staff.
<b>Markets</b>	Expansion into new markets as well as new products launched to the market.
<b>Telecoms</b>	Excellent telecoms & connectivity

Source: DTZ Consulting &amp; Research 2006 - Derived from the Literature Review

## HIGH-TECH MANUFACTURING

- 5.22 High-Tech Manufacturing or Advanced Manufacturing differs from general manufacturing by involving greater use of new technology, improved production techniques and management methods to create more advanced products. High-Tech Manufacturing is more efficient, more reliant upon skilled labour and is likely to involve a greater degree of R&D functionality.
- 5.23 Manufacturing is driven heavily by cost, which has enormous implications for markets within high cost areas. Developed economies are finding it increasingly difficult to compete with goods production in the Far East where the cost base is far lower. Manufacturers are having to change production methods and to embrace increased technology and innovation in order to compete in the global marketplace. High-Tech Manufacturing is about adding value to a more technical product and is the future of manufacturing in developed economies. Table 5.6 illustrates Key Location Factors for the High-Tech Manufacturing sector.

Table 5.6 - Key Location Factors for High-Tech Manufacturing

Key Location Factors	
Very Important	
<b>Clusters</b>	Manufacturers will locate close to their supply chain. As such, while OEMS (original equipment manufacturers) may pursue cost savings and are substantially footloose, their tier one and two suppliers are not- they will follow the OEM. As such manufacturing legacy including existing supply chain and location of competitors is critical to attracting investment.
<b>Markets</b>	Market size and location of key markets for final products.
<b>Access</b>	Excellent access to customers, markets, suppliers and materials especially by road. Good accessibility for staff including public transport provision.
<b>Labour</b>	Good labour availability especially for workers with previous manufacturing industry experience.
<b>Property</b>	Cost effective sites and premises with good functionality for manufacturing production.
<b>Business Environment</b>	Utility Costs and reliability and planning regulations. Government incentives including grants, recruitment and training assistance.
Important	
<b>Incentives</b>	Grants and incentives often play a role in the location of manufacturing facilities.
<b>Intellectual Infrastructure</b>	Good links to sources of technical expertise and innovation and technology advances. Manufacturers will import technology and skills if required.
<b>Quality of life</b>	A safe and healthy manufacturing environment with adequate local provision of services for staff.

Source: DTZ Consulting &amp; Research 2006 - Derived from the Literature Review

## 6 CONCLUSIONS FOR CORK

6.1 Built on the findings of the previous sections, in this section we present the key requirements to attract FDI to Cork for the following sectors:

- Pharmaceuticals, Life Sciences and Medical Devices
- ICT & Digital Media
- Financial Services & Internationally Traded Services / Mobile Services.

### PHARMACEUTICALS, LIFE SCIENCES AND MEDICAL DEVICES

6.2 As stated, Cork is a credible player within the pharmaceuticals, life science and medical devices market:

- i. Cork has an existing presence of firms;
- ii. Inward investment is expected to continue at present levels or above; and
- iii. Cork has acceptable levels of competitiveness and as such, Docklands will be an attractive proposition for companies in this sector.

6.3 Companies in this sector will evaluate locations according to the nature of business activity proposed. Regardless of activity, companies will generally require that the location has an existing presence. Based on functions, within this sector Docklands will be able to compete for:

- **Pharmaceuticals- R&D:** and potentially R&D with small pilot plants, elements of manufacturing (dependent on land availability and project scale); and back office activities of pharmaceutical companies. It is possible but unlikely that Docklands would attract a regional headquarters or headquarter project of a major multi-national but Cork is well placed to attract regional headquarters for medium sized companies and the headquarters of indigenous pharmaceutical firms.
- **Life Sciences:** the key offer in life sciences will be for the R&D of life science firms particularly for those firms that will leverage the skills and research from Cork's university and Medical Technologies institutes.
- **Medical Devices:** once again, large scale manufacturing production is a poor fit with the proposition of Docklands however advanced manufacturing and development of prototypes is a good fit with the Dockland's offer. Cork is also a strong candidate for headquarters and regional headquarters projects for companies of this type, particularly medium sized firms.
- **Supporting and consulting services for the sector:** there is a substantial presence of the major global pharmaceutical companies in Cork. These companies have made substantial investments in Cork and due to the scale of their operations, there is substantial scope to leverage these to attract the predominantly office-based activities of business service providers that these major operations will require.

### ICT & DIGITAL MEDIA

6.4 Cork is well placed to continue to grow its ICT sector and may be able to develop its content and software sector, particularly as a result of Docklands development:

- Cork has an existing presence of firms; and
- Cork has acceptable levels of competitiveness and as such, Docklands will be an attractive proposition for companies in this sector.

6.5 However, Cork will need to be realistic in its expectations. Although the inward investment market is healthy, it is highly competitive with manufacturing activities unlikely and software projects being small and hard to identify. As such, Cork will need to evaluate whether to invest substantial resources in **targeting software**. Cork does have capability that it can build upon and is well placed to develop a proposition for software firms. Cork needs to be realistic in respect to its growth ambitions in this sector but if Cork can develop a proposition for software firms and get the proposition delivered by partner agencies (IDA Ireland and Enterprise Ireland), it can pursue software investment in a cost-effective manner.



- 6.6 Companies in this sector will evaluate locations according to the nature of business activity proposed. Regardless of activity, companies will generally require that the location has an existing presence. Based on functions, within this sector Docklands will be able to compete for:
- i. **ICT Software:** Cork is well placed to attract R&D activities although the market is highly competitive. Cork could expect to grow its base of software businesses as a second city alternative to Dublin. Likewise, Cork is an ideal location for headquarters and regional headquarters offices of SME firms in the sector.
  - ii. **ICT Electronics:** Cork has a strong presence of companies in this sector and will need to put effort into retaining companies given the cost advantages of competitor locations. The Dockland's development could appeal to companies wanting a prestige headquarters location on competitive terms.

## FINANCIAL SERVICES & INTERNATIONALLY TRADED SERVICES / MOBILE SERVICES

- 6.7 Mobile services activities and financial services firms are likely to be a strong source of investment in Docklands. In relation to all activities except headquarters functions of multinational firms, Cork is well placed to continue to grow its services sector since:
- i. Cork has an existing presence of firms; and
  - ii. Cork has acceptable levels of competitiveness and as such, Docklands will be an attractive proposition for companies in this sector.
- 6.8 However, there may be issues relating to the number of projects Cork could hope to attract. As the second City, it will struggle to attract the headquarters activities of multinationals. There will remain a strong bias towards clustering these functions around Dublin's International Financial Services Centre (IFSC) at Dublin docklands. However the rising costs in Dublin may encourage companies to venture to Cork. For general back office activities, the cost advantages of Central and Eastern Europe erodes Cork's attractiveness but Cork does remain highly competitive for projects originating in the UK. Cork is highly competitive when compared to the regional cities of the UK.
- 6.9 There should be substantial scope to leverage the existing activities to attract the higher value functions of financial services firms but Cork will face difficulties in attracting regional headquarters and branch offices of financial services companies.
- 6.10 As revealed through the consultation process, there is substantial demand from indigenous firms for new office space and expansion space. This market should be a key target for Cork. The next key market would be those firms requiring a more cost effective solution to Dublin or the UK.
- 6.11 Companies in this sector will evaluate locations according to the nature of business activity proposed. Based on functions, within this sector Docklands will be able to compete for:
- **Headquarters:** Cork could expect to attract headquarters activities of medium sized and large Irish firms. To strengthen its appeal for these firms **Cork would need to improve international connectivity, build a critical mass of headquarter functions and provide prestige Category A office space. Docklands provides the opportunity to achieve this.** This is a critical issue is that it will be necessary to develop office space in advance of attracting Headquarter Functions. Failure to be able to achieve this will mean the potential and opportunity is lost as is illustrated by Amazon.com's decision to locate at Cork Airport Business Park rather than at the City Centre.
  - **Back Office Operations and Shared Service Centres:** Cork has an excellent proposition but office space would need to be made available at Docklands at a cost competitive price. With low congestion and improving local connectivity, the City would be an attractive site for this activity. Given the lack of opportunities within the City Centre, **Docklands provides an important location for this potential to be harnessed.**
  - **Technical Service Centres:** Cork is found to represent an attractive location for IT Support Centres. Specifically, Docklands may emerge as a good location for Technical Services Centres as the area is developed as a transport hub facilitating access to the area by employees. With low congestion and improving local connectivity, the City would be an attractive site for this activity. Given the

lack of opportunities within the City Centre, **Docklands provides an important location for this potential to be harnessed.** This stated, as with other activities, this function is **cost competitive** and **Docklands will compete with office locations in the suburbs of Cork.**

- **Contact Centres:** cost competitiveness and the scale of labour pools elsewhere would indicate that Cork is unlikely to attract large scale, high volume call centres. However, where companies are sensitive to consumer perceptions, Cork is extremely well placed and the local accent makes Cork highly desirable. While Cork has attracted contact centres, to continue to do so the City will need ensure that a supply of labour with language skills continues to be available. Due to the relatively low unemployment in the Cork Metropolitan Area, this may require continued supports for migrant workers. In addition, **Contact Centres would require cost competitive flexible accommodation, which may be more readily available in suburban locations than in the City Centre or Docklands.**

## SUMMARY

- 6.12 To summarise, the study bears out the City Council's selection of target sectors however it does indicate that Cork has to carefully consider which activities within these Cork can realistically seek to attract. The following table summarises those sectors and activities where we feel that Dockland's proposition for investors is strongest:

Table 6.1 - Investment Trends				
Region:	Headquarters/ RHQ	Back Office	R&D	Advanced Manufacturing
Pharmaceuticals, life sciences & medical devices				
International	Weak but strong scope for attracting supporting services and consultancy for the sector	Strong	Strong	Potentially appropriate
Domestic/indigenous	Strong	Strong	Strong	Weak
ICT and digital media				
International	Moderate	Strong	Strong	Weak
Domestic/indigenous	Strong	Strong	Strong	Moderate
Financial Services				
International	Weak	Strong	na	na
Domestic/indigenous	Strong	Strong	na	na

- 6.13 From our analysis of the key location factors, to harness further investment, Cork will need to demonstrate that it:
- Has a good existing base of companies in each sector
  - Has the requisite skills for each function, be it R&D, back office, headquarters, technical shared services, contact centres and advanced manufacturing
  - Has good connectivity to European and international centres
  - Has excellent quality research within its universities within each target sector
  - Is a location makes financial sense depending on the activity that the company proposes to conduct in Cork. This does not necessarily mean that Cork is a cheap location but that it is a cost competitive location and that any cost-quality trade-off is acceptable
  - Has the property is available and on-line at Docklands when a company is evaluating locations. Ideally this property should be cost effective and flexible.
  - Is certain that R&D incentives and Government support will continue
  - Has excellent ICT infrastructure.