NDP
NATIONAL DEVELOPMENT PLAN

Western Development Commission
COIMISIÚN FORBARTHA AN IARTHAIR

Enterprise and Employment in the Western Region

Issues, Challenges and Recommendations

Statement to Enterprise Strategy Group

March 2004

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Foreword

In our increasingly knowledge-driven and fast-moving world, there is a strong need to regularly review and reinvent strategies, set out fresh visions and take on new challenges. Thus, the establishment of a high-level group to develop a medium-term enterprise strategy for growth and employment in Ireland is timely. The Enterprise Strategy Group's (ESG) Terms of Reference indicate a strong recognition of the forces that impact on Ireland's competitiveness and the need to build on existing strengths while tackling evident shortcomings.

One of the main outcomes of Ireland's recent period of rapid economic growth has been to bring into sharp relief the need for balanced regional development. It is clear that the enterprise strategy which delivered high growth and employment nationally has been uneven in its spatial effect. As Dublin and the mid-east region have grown at an unprecedented rate, regional differences have become more sharply visible as have the diseconomies associated with disparities. Thus, the Enterprise Strategy Group has been asked to strive for appropriate regional balance in developing a Strategy.

This Statement from the Western Development Commission takes the need for a regional dimension in the Strategy as a starting point. Against the background of national and international trends, we set out key issues and challenges for enterprise development in the Region. Twenty-three recommendations to the ESG are based on our analysis of international trends and regional data, on case studies of various sectors in our Region, and on our own experience of operating the Western Investment Fund and promoting the Western Region. We have tried to be concise and constructive in our arguments and to avoid going over ground that would be well-covered by other agencies. Our main aim was to make clear the particular characteristics of enterprise in the Region and how they should be addressed in a new Strategy.

We submitted this Statement to the ESG in March 2004. Since then, we have appended some additional data on the seven counties in our Region. I hope that those working in the Region will find this document enlightening and useful. We look forward to the ESG's report and to subsequent national policy priorities that will enable the Region to build on its considerable strengths while responding to the challenges.

Lisa McAllister
Chief Executive
April 2004

Western Development Commission's Recommendations to the Enterprise Strategy Group (ESG)

Regional Enterprise Strategy

1. The Western Development Commission (WDC) believes that a coherent Regional Enterprise Strategy for the regions outside of Dublin is necessary. This should set out clear short and medium-term goals for enterprise development specify targets and spell out how they will be achieved. The strategy should aim to build on the strengths of regions such as the Western Region, addressing their weaknesses, and positioning them to compete effectively in an international environment.

Financing Business in the Region

2. As a priority, ensure that the maximum allowable levels of State Aid are provided to businesses in the BMW Region for the remaining period of its Objective 1 status.

3. Encourage private venture capitalists to fill the equity gap in the Western Region through more focused targeting, for example in the EU supported Seed and Venture Capital Programme administered by Enterprise Ireland.

4. Provide higher levels of tax reliefs and thresholds (e.g. BES, Seed Capital Scheme, R&D Relief) in the Western Region to encourage investment targeted at businesses that cannot access conventional bank finance.

5. Promote the various tax relief schemes available – specifically the Seed Capital Scheme.

6. Investigate new models of state support to take cognisance of the changing nature of enterprise structure e.g. greater use of outsourcing of the manufacturing function.

7. The ESG should recommend the continued operation of the Western Investment Fund to national and European authorities, given its important role in filling the equity gap in the Western Region.

Fostering a Research and Knowledge Region

8. Build on the existing knowledge base in the Western Region by supporting additional research capacity within the Region's higher education institutions in those fields where research competence already exists, and which are relevant to the regional economy. NUIG's strength in knowledge production should continue to be supported and enhanced, as it is clear that it will continue to be the main knowledge centre in the Western Region.

9. Facilitate and support the development of a technologically-based knowledge network in the North West (i.e. the Western Region north of Galway) that is based on the existing higher education system and that establishes strong links with surrounding industry. This can only be achieved through the development of an agreed strategy involving the institutions themselves, industries in the Region, and the state agencies that support enterprise and innovation.

10. Support to SMEs in the more traditional manufacturing sectors should be targeted to assisting them to access knowledge, become more innovative, and build relationships with educational/research institutions so that they can engage in joint projects, develop consultancy arrangements, student sponsorships and other mutually advantageous arrangements.

11. State enterprise agencies should be proactive in promoting existing schemes and adapting and tailoring programmes based on the strategy recommended above.

Retaining the Skills Pool and Attracting Skills to the Region

12. To address current skills deficits in firms in the Western Region, state agencies should adopt a regionally targeted strategy for capacity-building in the areas of strategic business and financial management, marketing etc. Such a strategy should incorporate a specific set of supports designed to enhance the skills base of SMEs within the traditional sectors which are facing particular challenges in adapting to changing conditions.

13. Adopt a proactive and creative approach to continually up-skilling the labour force in the Region. This should not be confined to re-skilling redundant workers but should be based on a strategy for lifelong learning and skills development. It should be led by the enterprise agencies and delivered in partnership with the private sector.

Recognising and Supporting the Traditional Manufacturing Sector

14. Recognise the importance of the Traditional Manufacturing sector in the design of enterprise development policies, and tailor supports accordingly.

15. Target support in the areas of strategic business and technological management towards enterprises in the Traditional Manufacturing sector which face particular constraints in their attempts to enhance competitiveness through innovation.

16. Supports to the Traditional sectors from the state development agencies must recognise and assist innovation and knowledge intensity through backing the acquisition of capital equipment, software and other technological applications by Traditional Manufacturing enterprises.

17. Identify geographical areas that have a particular reliance on the Traditional sector and develop strategies to address their vulnerability to restructuring or closures. Such areas, generally outside of larger population centres, are also affected by decline in the agriculture sector. County Enterprise Boards and LEADER companies have a particular role to play in this regard.

Building and Expanding the Hi-tech and Services Sectors

18. A central objective of the Regional Enterprise Strategy, recommended above, must be to ensure the rollout of high quality broadband telecommunications infrastructure and services across the Western Region, including areas of lower population density.

19. It is essential also to address the transport access deficits. A major factor influencing location decisions is that of accessibility to the Region, via air, road and rail. Air access is particularly vital to the hi-tech and ITS sectors. Knock International airport is particularly well located to serve the needs of the northern half of the Region, with Shannon serving the more southern areas, and their continued development should be promoted.

20. Continue to target and support what is one of Europe's largest 'clusters' of medical technologies and devices (MTD) companies, particularly in their efforts to become more knowledge-intensive. State agencies should be proactive in facilitating the creation of networks between firms in the sector and in strengthening the links between them and the third level education sector in the Region.

21. Develop support structures for spin-offs of hi-tech and ITS businesses to help promoters to develop their business ideas, carry out viability studies and generate business plans.

22. Provision of social infrastructure should be regarded as a priority in any strategy to attract hi-tech, ITS and Financial Services businesses to the Western Region.

Agriculture and Fisheries

23. The Regional Enterprise Strategy, recommended above, must require the development agencies to focus on creating alternative employment opportunities in rural areas which will be most effected by declining employment in agriculture and fisheries and in the agri-food industry.

1. Introduction

The Western Development Commission (WDC) is a statutory agency which has responsibility for fostering and promoting economic and social development in the Western Region comprising the seven counties of Donegal, Sligo, Leitrim, Roscommon, Galway, Mayo and Clare. The Western Region accounts for 37 per cent of the landmass and 18 per cent of the population of the state.

The WDC has been active in analysing the socio-economic performance of the Western Region and in making detailed policy proposals to address the development challenges it faces. This work has highlighted regional disparities in employment opportunities, inward investment, transport, energy and telecommunications infrastructure, and rural population loss[1]. In addition to its policy role, the WDC is involved in development initiatives which build on the results of its policy analysis. Programmes in tourism, organic agri-food and sustainable energy are currently being implemented in conjunction with relevant agencies in the Region. The WDC also operates the Western Investment Fund (WIF) which responds to the funding needs of businesses in the Region. The WIF is a dedicated investment fund - one of only two - for the Region. To date, the WIF has made investment commitments of over €10m, of which €7m has been disbursed to small and medium-sized enterprises (SMEs) and social enterprises in the Western Region.

In this statement the WDC sets out a number of recommendations which were submitted to the Enterprise Strategy Group (ESG). The rationale for these recommendations is based on the ESG's Terms of Reference, and the WDC's analyses of statistical data, reviews of international trends, interviews with key informants in the Region and case studies of firms. The recommendations also draw on insights from the WDC's experience in operating the WIF which has involved considerable engagement with enterprises in the Region, particularly in their start-up phase.

[1] See for instance: various Blueprint reports; *The State of the West* (2001); *Update on Telecommunications in the Western Region* (2002); *Jobs for Towns* (2003).

2. The Context

2.1 A Regional Perspective

The national policy objective of balanced regional development as set out in the National Development Plan 2000-2006 underpins the work of the Western Development Commission. The National Spatial Strategy (NSS) provides a strategic framework for spatial development to 2020, and the WDC welcomes the fact that the Enterprise Strategy Group's Terms of Reference require it to take account of the NSS. Thus, the WDC did not feel that it was necessary, in this statement, to make the case for the ESG to adopt a regional perspective. The WDC assumed that the Enterprise Strategy Group was already doing this. This statement, therefore, highlights the issues that are specific to the Western Region and how they might be addressed. These, in the main, stem from the socio-economic characteristics of the Region and the evolution of its industrial and service sectors, particularly the spatial distribution of enterprise and employment (see below).

2.2 Objective 1 Status

Six of the seven counties in the Western Region are in the Border, Midlands and West (BMW) Objective 1 region. The designation of regions as Objective 1 is intended to bring about greater convergence between regions in the EU by concentrating monies from the EU Structural Funds into such regions. The most recent regional data on Gross Value Added (GVA) per person indicate that, between 1996 and 2001, the position of the BMW Region, measured in terms of GVA per person, deteriorated relative to the State, while the position of the Southern and Eastern (S&E) Region improved. Thus, disparities between the two NUTS II regions have widened – the gap in GVA was 31.5 points in 1996 and 34 points in 2001.

The WDC considers that the principle of regional preference associated with the Objective 1 status is of crucial importance for regional enterprise strategy if the widening gap between regions is to be bridged. It is unlikely that the BMW Region will retain this status after 2007. This underlines the urgency of making the most of the benefits of Objective 1 between now and the end of 2006.

2.3 The International Context

As a small, open, trade-intensive economy Ireland's economic progress is very much influenced by global trends. In a global economy dominated by trans-national corporations (TNCs), the strength of regional economies is linked to their capacity to attract or retain footloose international capital through foreign direct investment (FDI). The process of globalisation whereby national and regional economies have become part of international markets has led to an emphasis on competitiveness as a key survival strategy for advanced economies.

The Lisbon Strategy, agreed by EU member states in 2000, commits the European Union to becoming the most dynamic and competitive economy in the world by 2010. This is largely to be achieved through an emphasis on research and innovation in the economic growth strategies of Member States.

Research and innovation is the production of knowledge aimed at the creation of new products and processes and at inventing new forms of organisation for the geographical distribution of economic activities. The production and distribution of knowledge on an unprecedented scale is one of the characteristics of globalisation. Its impacts on finance, trade, business, economic growth and social affairs has been so pervasive as to give rise to the concept of the 'new' or 'knowledge' economy. While the terms new economy or knowledge economy are used interchangeably and do not have an agreed definition, they are generally considered to have the following characteristics:

- a high level of economic activity based on knowledge as a factor of production in itself, or incorporated into production through capital investment;
- significant proportions of the workforce employed in 'hi-tech' firms which both produce and utilise sophisticated information and communications technology (ICT);
- innovation and knowledge as key drivers of growth and sources of competitive advantage;
- creativity and expertise of workers is a critical element and is based on lifelong learning and skill enhancement;
- more people working in service sectors and in flexible production where competitive advantage is based on customisation, design quality, customer service; while at the same time there are increased numbers employed in low-skill, low-wage service occupations.

Knowledge-based production comprises firstly, those who actually produce knowledge itself and secondly, those who manage or convey information. The first group includes, for example, the software, biotechnology and information technology hardware industries which are driven by research, design and development. The second includes services such as telecommunications, banking, insurance, advertising, law, medicine, education and government. It is important to recognise that high technology and knowledge are not synonymous and that apparently low-tech or traditional manufacturing sectors can often be very intensive users of knowledge, although it may be embodied in capital inputs rather than as research and development (R&D) by the sector itself.

Clearly, disparities between regions or social groups can be worsened by unequal access to, and distribution of knowledge. On the other hand, ICT can potentially revolutionise access to knowledge and the 'constraints' of spatial location. These are considerations that need to be taken into account in analysis of the problems and appropriate responses to the needs of regional economies.

2.4 The Infrastructure Deficit

There are major gaps in transport and telecommunications infrastructure in the Western Region. As a result of decades of under-investment, weaknesses in road, air, rail and broadband infrastructure are now major inhibitors of growth. Each of the agencies promoting enterprise recognises that the performance of industry in the Region, and the challenge of attracting inward investment and of growing 'high potential' start-up businesses,

are strongly linked to the serious infrastructure deficit. While the WDC recognises that there is ongoing significant investment in infrastructure development under the National Development Plan 2000-2006, it is concerned at imbalances in expenditure and at the continued persistence of major regional disparities in transport and telecommunications infrastructure. The WDC is also aware that the ESG's Terms of Reference requires it to take account of infrastructure issues, but the point here is to underline their importance to regional development. The WDC has continually worked to draw attention to these deficits and they will be referred to again in a later section.

2.5 Recent Trends in Enterprise and Employment in the Western Region

One core city – many smaller centres

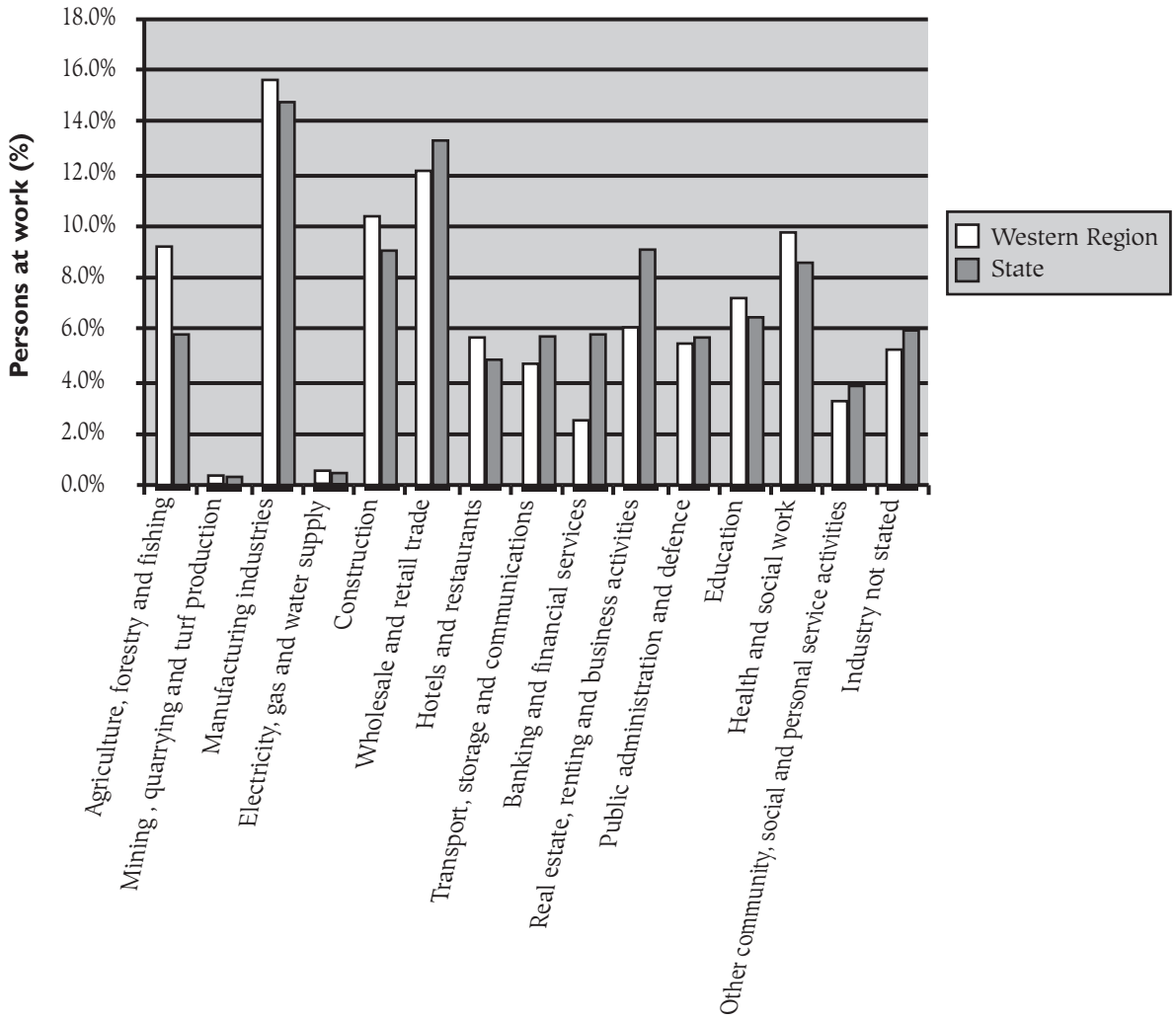
The Western Region is predominantly rural with more than two-thirds of the population living outside population centres of 1,500 persons. There is one major city and four other 'large' towns with populations of more than 10,000. Each of these is designated as a gateway (Galway, Sligo, Letterkenny) or hub (Ennis, Castlebar/Ballina) in the NSS. The spatial characteristics of the Region – concentration of population in Galway/Clare and a predominantly rural/small town structure in the rest – means that intra-regional variation in enterprise and employment is considerable.

Employment in farming and traditional industries high but concentration of 'hi-tech' jobs in Galway/Clare

The Western Region has a higher than average proportion of jobs in the agriculture sector[2] (declining significantly), construction, hotels and restaurants, and in the education and health sectors. The Region has lower than average numbers at work in transport, storage and communications, banking and financial services, and real estate, renting and business activities. This is illustrated in Figure 1 below.

[2] This agriculture sector includes agriculture, fishing and forestry.

Figure 1 Employment by Broad Industrial Group, Western Region and State, 2002



Source: CSO Census of Population, Volume 5 Table 13, 2002

Industry in the Western Region is based more on traditional sectors, in that the food, textiles and wood sectors account for a higher share of industrial units in the Region than nationally[3]. However, the Region also has a higher share of the 'hi-tech' electrical and optical equipment firms. This sectoral mix will be considered in more detail below.

There is considerable variation within the Region. Industrial employment in many counties is particularly concentrated in one or two sectors. For example, over half of all industrial jobs in Roscommon are in the food and drink sector, while a similar concentration applies in Galway in the electrical and optical equipment sector. The risks inherent in such dependence are obvious and are clearly illustrated by employment in textiles in Donegal where the share of industrial jobs in the sector fell from 50.4 per cent to 36.5 per cent in the period from 1996 to 2000 and has continued to fall since then. (See Appendix 5)

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3 CSO, Census of Industrial Production 2000

Net losses in assisted jobs since 2000

The Western Region had net gains in state-assisted jobs[4] throughout the latter half of the 1990s, but has sustained net losses since 2000. The West had 12 per cent of the national gain in the boom years of 1999-2000 but suffered 25 per cent of the national losses in 2001-2002[5]. Indeed, 2002 stands out as the year with highest job losses and lowest job gains. (See Table A6.3, Appendix 6)

Lower growth in foreign owned employment

Nationally, job numbers in foreign owned firms increased at a greater rate than employment in the Irish owned sector between 1997 and 2002. The experience in the Western Region is the opposite – employment in the foreign owned sector increased at a lower rate than indigenous industry. Those companies that did locate in the West went mainly to Galway and Clare. (See Table A6.4, Appendix 6)

Graduate migration leaves human resource gap

Although children raised in the West have high levels of educational attainment, many of the best and brightest leave the seven western counties. Only 9 per cent of graduates with primary degrees, and even fewer with higher degrees found their first employment in counties Donegal, Leitrim, Sligo, Mayo and Galway in 2001. This has resulted in a significant human resource gap in the Region. The absence of a third level institution of university size and status north of Galway means that the Region currently has a limited research and technology capacity and this restricts work opportunities for third level graduates.

In the following sections the WDC puts forward recommendations in key areas particularly relevant to the work of the Enterprise Strategy Group. We pay particular attention to the sectoral composition of employment in the Western Region as this has particular relevance to its future development.

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4 Jobs in firms assisted by IDA, Enterprise Ireland, Shannon Development and Údarás na Gaeltachta.

5 Forfás Annual Employment Survey 2002.

3. A Regional Enterprise and Employment Strategy

Why is this important?

Recent forecasts and projections show that the Irish economy has considerable growth potential over the present decade[6]. However, continued net declines are anticipated in employment from FDI, and in manufacturing industry generally. Market services which are based on skills and knowledge rather than primarily on technology (typically computer, financial, business and communications services) are expected to grow. Forecasts for jobs in market services show that the Dublin region will have the highest growth. The projected lower rates of growth for the BMW Region to 2010 are largely due to the lower concentration of business and financial services in the region. The Dublin region is also predicted to have an increasing concentration of skill levels and persons with third level qualifications. Clearly, the growth of the new, knowledge-based economy has particular implications for regional and industrial policy, for investment in infrastructure, and for policies on research, education and training.

What are the issues?

If employment in the Western Region is to be sustained and grow over the next decade, it must have the capacity to attract inward investment and to nurture indigenous enterprises by building on regional strengths in natural resources, and on existing and potential industry clusters. It must be enabled to build on its considerable strengths and to address shortcomings in infrastructure and the knowledge deficit to enable it to benefit from the new economy and develop international competitive advantage.

There are very significant disparities within the seven counties, with a concentration of economic activity in the south and more dispersed smaller scale activity in the remainder of the Region.

What needs to be done?

A national strategy for enterprise development must have a direct regional dimension tailored to the needs of the various regions outside of Dublin. An explicit regional enterprise strategy which can drive enterprise development is necessary. This needs to be backed up by an effective institutional and administrative framework which has a regional focus, clear priorities, targets and performance measurement criteria. It must engage regional and local interests by being imaginative and visionary and should build on national and international best practice.

A Regional Enterprise and Employment Strategy: Recomendation

The Western Development Commission (WDC) believes that a coherent Regional Enterprise Strategy for the Regions outside of Dublin is necessary. This should set out clear short and medium-term goals for enterprise development specify targets and spell out how they will be achieved. The strategy should aim to build on the strenghts of regions such as the Western Region, addressing their weakness, and positioning them to compete effectively in an international environment.

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6 See Sexton, J.J. et al. *Occupational Employment Forecasts by Region for 2010*, FAS/ESRI Manpower Forecasting Studies Report No. 11, January 2004

4. Financing Business in the Region

Why is this important?
Access to finance and specifically venture capital is considered one of the key drivers of enterprise development. To maximise the opportunity for enterprise development in the West, access to appropriate finance is a critical issue. Firms in the Western Region have limited access to venture capital funds. There is a significant equity gap in the seed and early development stage funding of new ventures.

The Western Investment Fund (WIF) operated by the WDC was established by government to address this equity gap, and became fully operational in 2001. Since then, the WIF has been providing seed and venture capital to start-up and expanding businesses in the West on a commercial basis. To date, the WIF has made investment commitments of over €10m, of which €7m has been disbursed. The WDC has provided funding to a diverse range of sectors, including bio/medical devices, software, food and tourism, across the business life cycle. Over 80 per cent of funds disbursed to the end of 2003 have been in rural areas. This is unique in the context of venture capital provision in Ireland where it would appear that most investments are made in the greater Dublin area.

The WIF is achieving its objective of filling the equity gap and is acting as a catalyst and key support for the development of new ventures in the Western Region. It is also allowing more mature indigenous businesses to take in outside equity to secure their competitive position and facilitate expansion.

The WIF is the only state support mechanism that can provide funds for working capital, which is one of the most critical elements of funding that businesses need to start-up, grow and develop. The manner in which the WIF operates takes cognisance of the changing nature and requirements of business by providing investment funds for the overall development of the business rather than on the basis of direct job creation or certain types of spend. All funds invested by the WDC under the WIF are made on commercial terms and, as a result, the WIF will revolve over time.

The WDC sees the continued operation of the WIF as a key element in the development of indigenous enterprise and of a venture capital culture in the Western Region. The Western Region continues to experience a significant equity gap, as outlined above, which is being partly filled by the WIF.

What are the issues?
The first issue is the availability of capital for start-up and expansion. Firms in the Western Region have limited access to venture capital funds. Only 3.4 per cent of all investments by members of the Irish Venture Capital Association (IVCA) in 2001 were made in Connaught[7], whereas more than 80 per cent of IVCA member investment was in Leinster. In practice, this means that the entire membership of the IVCA invested only €4.2m in eight Connaught

[7] Due to the confidentiality of data regarding venture capital and investments, data are aggregated on a provincial basis covering the four provinces of Ireland. Hence, the Western Region is not individually identified, but is presented as a composite of investments made in Connaught, Ulster and Munster.

companies in 2001 versus €99.3m in 70 companies in Leinster. There is currently only one private sector venture capital fund operating from a base within the Region. It also is important to note that in 2001, 47 per cent of funds raised by members of the IVCA came from public sector sources.

The second issue is whether the Western Region, as part of the BMW Objective 1 region, is gaining the maximum allowable benefit from Objective 1 status. Preferential levels of State Aid[8] are permitted in Objective 1 regions according to EU competition rules. In practice this means that State Aid can be higher in the BMW Region. State Aid for industrial investment can be up to 55 per cent of investment for small and medium-sized enterprises (SMEs) in the BMW compared to 20-40 per cent (depending on location) in the S&E. However, this benefit is not always applied in practice.

The WDC has looked at a number of financial programmes available to indigenous enterprise from the County Enterprise Boards and Enterprise Ireland. It would appear that:

(a) companies in the BMW Region are eligible for a smaller percentage grant, relative to the maximum State Aid levels allowed, than companies in the S&E Region; and
(b) the eligibility conditions also imply a smaller project size for firms in the BMW.

An example of this is illustrated in Table 1 below with respect to the Competitiveness Fund operated by Enterprise Ireland.

Table 1 Enterprise Ireland Competitiveness Fund Eligibilities

Aid Level	Dublin/Mid East	BMW
Maximum allowable EU State Aid level for SMEs	27.5%	55%
Competitiveness Fund Maximum grant level	25%	45%
Maximum grant, and proportion of State Aid	€150k or 25% (whichever is the lesser)	€225k or 45% (whichever is the lesser)

Sources: EU State Aid Guidelines and Enterprise Ireland New Financial Guidelines 2003

In relation to (a) above, a Dublin/Mid-East company could be eligible for up to 25 per cent of project cost which equates to 91 per cent of the maximum allowable State Aid under EU rules. A company based in the BMW could be eligible for up to 45 per cent of project cost, this however only represents 82 per cent of the maximum allowable State Aid for an Objective 1 area. A firm in the BMW Region is therefore eligible for a smaller percentage grant, relative to the maximum allowed under EU rules, than a firm in the Dublin/Mid-East region.

8 The term State Aid is capitalised here as it has a specific meaning in EU competition regulations.

In relation to (b) above, the BMW Region is disadvantaged by the operation of the monetary ceiling. For a BMW firm the monetary ceiling of €225k will come into play with a project size of €500k or above (i.e. €225k is equal to 45 per cent of €500k). However, for a Dublin/Mid-East firm the monetary ceiling of €150k only comes into play when project spend is €600k or above (i.e. €150k is equal to 25 per cent of €600k). Therefore, the monetary ceiling imposed upon firms in the BMW Region implies a smaller project size there than is the case for firms in the Dublin/Mid-East region.

The full benefit of Objective 1 status for the BMW Region can only be realised if the maximum allowable State Aid levels (i.e. 55 per cent) are used.

A third and final general issue relates to the changing nature of enterprise structure and the conditions for state assistance. It is the WDC's experience that many smaller firms are not able to access the level of assistance needed to develop their business unless they create employment directly. It is the WDC's view, that this policy may be disadvantageous to the development of indigenous enterprises and overall job creation.

For example, to access state financial assistance a small food producer develops a manufacturing facility, as this is where the majority of jobs will be created. This is inevitably a capital intensive undertaking. Developing a small food business also requires significant amounts of money to be spent on R&D (e.g. new recipes/processes) and on marketing, promotion and packaging. By having to develop the manufacturing facility, the promoter spends time, effort and money on something that is not necessarily going to add value or ensure the success of the business.

In some cases the manufacturing aspect of the business could be outsourced more cost effectively and in full compliance with HACCP and other regulations. This would allow the promoters to concentrate their efforts on developing and selling the product range. As a result, jobs will be created both in the sub-contractor's manufacturing business as well as specialist R&D, sales and marketing jobs being created and sustained in the main business.

Support to enterprises in a similar situation to this (which is based on a case study) should not be dependent on the number of jobs directly created by an enterprise. Rather, supports available should be flexible enough to adjust to structures – i.e. the outsourcing of non-core functions – which are an adaptation to a highly competitive environment.

What needs to be done?

Enterprises in the Western Region are not benefiting fully from the higher level of State Aid available to regions with Objective 1 status. In the less than three year period remaining of this status, it is essential to maximise the benefits of this status in the Western Region by ensuring that the highest levels of State Aid allowed by the EU are actually awarded by the enterprise development agencies.

Incentives for investment in businesses in the Western Region which is part of the Objective 1 region should be provided through, for instance, higher levels of tax relief and thresholds for investment. Investment incentives should be better targeted at the higher risk projects that would not be able to secure conventional bank funding but which have significant international growth potential.

Private Venture Capitalists (VCs) need to be encouraged to take a longer term perspective on their investments and to target the seed and early stage segment. One mechanism to achieve this could be through the Enterprise Ireland Seed and Venture Capital Programme funded by the EU. For example, the Funds assisted could be directed only at the seed and early stages of business development and be required to invest the majority of the funds outside the greater Dublin area, where market failure does not appear to exist. To incentivise the private venture capital funds to take up this programme, the public funds could rank second in repayability, thus reducing the perceived risk to the private VCs.

Models of state support need to be developed that take account of the changing nature of enterprise structure and the increased use of outsourcing as an option by start-up and expanding firms, rather than measured on job creation. The WIF is an example of a state support adapting to the changing nature of enterprise structure.

Financing Business in the Region: Recommendations

1. *As a priority, ensure that the maximum allowable levels of State Aid are provided to businesses in the BMW Region for the remaining period of its Objective 1 status.*
2. *Encourage private venture capitalists to fill the equity gap in the Western Region through more focused targeting, for example as outlined above, in the EU supported Seed and Venture Capital Programme administered by Enterprise Ireland.*
3. *Provide higher levels of tax reliefs and thresholds (e.g. BES, Seed Capital Scheme, R&D Relief) in the Western Region to encourage investment targeted at businesses that cannot access conventional bank finance.*
4. *Promote the various tax relief schemes available – specifically the Seed Capital Scheme.*
5. *Investigate new models of state support to take cognisance of the changing nature of enterprise structure e.g. greater use of outsourcing of the manufacturing function.*
6. *The ESG should recommend the continued operation of the Western Investment Fund to national and European authorities, given its important role in filling the equity gap in the Western Region.*

5. Fostering a Research and Knowledge Region

Why is this important?
The importance of knowledge and innovation in achieving competitiveness has been outlined briefly above, and extensively explored in other submissions to the ESG. As pointed out in Section Two, it is clear that technology and knowledge are dominant elements of future societies and that innovation is seen as the key to competitiveness. This presents considerable challenges for the Western Region to which we wish to draw attention.

What are the issues?
The research capacity of the Region is linked both to its economic structure and its higher education infrastructure. These are strongly interlinked in the West as there is a concentration of hi-tech industries in Galway/Clare which is also the catchment of the Region's only university. This has contributed towards the creation of a distinct spatial pattern in the knowledge base of the Region, with knowledge generation primarily concentrated in the south, while the northern part is predominantly a knowledge taker, being more rural in nature and with a higher dependence on more traditional areas of manufacturing e.g. food processing, textiles, engineering etc. The overall level of research activity within the Region is also affected by its lower profile in Internationally Traded Services (ITS) and Financial Services (See Section Nine).

Research and Knowledge in Business in the Region
The implications of the economic structure of the Region for research activity within industry can be illustrated by the operation of the Enterprise Ireland Research, Technology and Innovation (RTI) Competitive Grant Scheme. From 2000 to mid-2003, the hi-tech sector accounted for a higher share of firms receiving grant approval in the Region (37.5 per cent) than nationally (25.8 per cent) while the Services[9] sector accounted for a lower share, 13.5 per cent compared with 23 per cent nationally. The vast majority of the research grants to the Region in both these sectors went to counties Galway and Clare.

The Traditional Manufacturing sectors are often regarded as being 'low-technology' or as being outside of the knowledge economy. However under the EI RTI Scheme in the Western Region, the Engineering sector[10] represents the second largest share of successful firms (24 per cent of the total) and Natural Resource Based Industries[11] the third largest (20.2 per cent of total). But the size of grants to these sectors was considerably smaller with the actual value of RTI grants received by the hi-tech sector far exceeding the value of grants to more traditional firms. The north-south spatial pattern is again evident as the majority of successful applicants in the traditional sector were also from Galway and Clare, although Donegal also received a substantial portion.

9 All of the grant approvals under the Services category in the Western Region were in software consultancy and supply. This category also dominated the approvals nationally, though there were also a number in the Financial Services area.

10 Basic and fabricated metals, machinery and equipment, and transport equipment.

11 Food and drink, textiles, wood, pulp and paper, and other manufacturing n.e.c.

Clearly, there is considerable research activity ongoing within the more traditional sectors in the Region. However, given the smaller scale of individual grants and the fact that the total number of firms within these sectors greatly exceeds the numbers in the hi-tech or ITS sectors, in-house R&D efforts are far more limited within the traditional sectors. It must also be remembered that there are other methods of obtaining and using knowledge, such as the purchase of capital equipment including machinery and software, and that the traditional sector (particularly SMEs) often relies more heavily on these other methods than on their own R&D.

Research in Higher Education in the Region

The higher education research infrastructure of the Region consists of one university – NUI Galway, three Institutes of Technology – Letterkenny, Sligo and Galway-Mayo and the Galway-based Marine Institute. Research within the higher education institutions in the Region is almost entirely concentrated in NUIG. Indeed, from 2000 to 2004, NUIG was the only institute within the Region to receive funding from Science Foundation Ireland (SFI) for research in the areas of ICT and biotechnology. In fact, NUIG ranked third nationally – behind Trinity College and University College Cork – in terms of the value of grants from SFI over that period.

NUIG also gained the vast majority of funds coming to the Region under the Programme for Research in Third Level Institutions (PRTLI), with half of that funding going to the establishment of the National Centre for Biomedical Engineering Science (€32m over the three Cycles). Some of the other research fields supported in NUIG included marine science and environmental science. Sligo IT also received support under the PRTLI in the area of sustainable treatment of biosolids.

The higher education institutions in the Region have particular research expertise in the areas of biomedical engineering, ICT, marine and environmental science. These areas are closely allied to the industrial structure of the Region, notably the Western Region's particular strengths in: medical devices (in which firms are quite widely distributed across the Region); ICT activities which are concentrated in counties Galway and Clare; and the marine sector, including both primary production and processing. This research expertise, however, is predominantly found in NUIG with the other higher education institutions accessing very little if any publicly funded research grants.

The spatial concentration of knowledge generation, both in industry and in research institutes in the south of the Region, can be seen as both a cause and effect of the West's current economic structure. Many of the interdependencies that exist within the south of the Region are based on intangible factors related to personal relationships, trust etc. A concerted effort will be required to establish a similar situation in the north of the Region, centred on the Institutes of Technology in Sligo, Letterkenny and Galway/Mayo.

What needs to be done?

Given that research competence already exists in the Region – both in industry and also in higher education institutions – in fields of relevance to its economy, the focus should be on building on this capacity. Spreading resources over too wide a range of fields will not achieve the world-class status in research which is considered a crucial ingredient for international competitiveness.

However, if the concentration of research activity in the south of the Region continues, it will further exacerbate intra-regional differences in economic well-being. It is important to recognise that research is already ongoing in other parts of the Region. Industry in Mayo performed well in securing R&D Capability grants[12] from EI in the hi-tech sector, as did industry in Donegal from the RTI scheme in the traditional sectors. A concerted effort is needed to build on the existing research base in the north of the Region to generate the kind of innovative milieu considered essential to progress within the knowledge economy. Such an effort should be based around the Institutes of Technology (ITs), and involve some form of mentoring system to enhance linkages between the ITs and local enterprises in the area of research.

Methods other than in-house R&D activity e.g. purchase of machinery, software etc., are central to knowledge acquisition in many firms, particularly within SMEs in the traditional sector whose knowledge intensity is often underestimated. The development agencies must recognise the role that such methods play in enabling firms to innovate, and that such firms are often repositories of valuable tacit knowledge. They must ensure that their support structures are not unduly biased towards R&D activity by the firm itself.

Fostering a Research and Knowledge Region: Recommendations

1. *Build on the existing knowledge base in the Western Region by supporting additional research capacity within the higher education institutions in those fields where research competence already exists, and which are relevant to the regional economy. NUIG's strength in knowledge production should continue to be supported and enhanced, as it is clear that it will continue to be the main knowledge centre in the Western Region.*
2. *Facilitate and support the development of a technologically-based knowledge network in the North West (i.e. the Western Region north of Galway) that is based on the existing higher education system and that establishes strong links with surrounding industry. This can only be achieved through the development of an agreed strategy involving the institutions, industries in the Region and the state agencies that support enterprise and innovation.*
3. *Support to SMEs in the more traditional manufacturing sectors should be targeted to assisting them to access knowledge, become more innovative, and build relationships with educational/research institutions so that they can engage in joint projects, develop consultancy arrangements, student sponsorships, and other mutually advantageous activities.*
4. *State enterprise agencies should be proactive in promoting existing schemes and in adapting and tailoring programmes based on the strategy recommended above.*

12 EI's R&D Capability grant scheme supports long term strategic R&D projects designed to build the overall R&D capability of the firm.

6. Retaining the Skills Pool and Attracting Skills to the Region

Why is this important?

Previous publications by the WDC[13] have highlighted the fact that although young people born in the Western Region have a high rate of participation in third level education, only a small proportion actually find employment within the Region leading to a significant 'brain drain'. The implications of this trend will become even more serious as the West attempts to shift its economic profile towards higher value, higher skill intensive activities. Also, future research capacity depends on firms' and educational institutions' ability to attract graduates.

What are the issues?

As noted earlier, only 9 per cent of all graduates with primary degrees and 7 per cent of those with higher degrees found their first employment in counties Donegal, Leitrim, Sligo, Mayo and Galway in 2001. In comparison, 55.4 per cent of graduates with primary degrees and 62.4 per cent of those with higher degrees found their first employment in the East[14] in the same year. Even given the relative populations of the two areas, this still means that the Western Region attracts a substantially lower share of graduates.

There are also regional differences when it comes to the disciplines of those graduates. There is a strong linkage between the economic structure of the Western Region and the disciplines of the primary degree graduates finding their first employment in the Region. The West[15] and North West[16] regions attract a higher share of graduates in agriculture, engineering and medical professions than they do of total graduates and a slightly lower share of science graduates. The Region performs particularly poorly in relation to attracting graduates in the business services area including law, architecture and those with business and commerce degrees.

This pattern also applies to the existing skill profile within industries in the Region. In the course of conducting reviews of key sectors, one of the difficulties reported by those interviewed was of recruiting individuals with business management and marketing skills.

The recent Occupational Employment Forecast by Region for 2010, published by FAS/ESRI, forecasts that 62 per cent of net new jobs created in the state between 2001-2010 will require a third level qualification[17]. This compares with a situation in 2001 when just 29 per cent of all jobs in the state required a third level qualification. In the BMW in 2001, only 22 per cent of jobs required a third level qualification and the BMW is predicted to continue to have a lower share in the coming decade. Indeed the forecasts indicate that third level graduate employment will become even more concentrated in the Dublin/ Mid-East region in the future.

An increasing concentration of higher skilled workers in the Dublin/Mid-East region, in conjunction with a general shift towards higher skilled, knowledge intensive economic activities, will intensify regional disparities and undermine the stated government policy of balanced regional development.

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13 Western Development Commission, *The State of the West: Recent Trends and Future Prospects*, 2001.
14 The East region as defined by the Higher Education Authority includes Dublin, Kildare, Meath and Wicklow.
15 The West region as defined by the Higher Education Authority includes Galway and Mayo.
16 The North West region as defined by the Higher Education Authority includes Donegal, Sligo and Leitrim.
17 This refers to the dynamic projections which assume that over the coming decade the average educational level within particular occupations will increase in line with the increases which occurred over the 1991-2001 period.

What needs to be done?
The future competitiveness of the Region largely depends on the ability to shift economic activity towards higher skilled, higher value added, knowledge intensive activities. This will involve both entry into new activities in the hi-tech and ITS sectors as well as increasing value added in existing industries.

The Western Region can only retain or attract highly skilled graduates by building the knowledge base, attracting knowledge intensive industries, fostering higher skill capacity in traditional industries and supporting entrepreneurship and enterprise development. This will happen largely as a result of actions recommended in other sections of this statement.

Implementation of the recommendations given in the research section above would greatly enhance the Western Region's ability to attract third level graduates. The development of a knowledge network in the North West would facilitate greater participation by higher education institutions in supporting enterprise development.

Retaining the Skills Pool and Attracting Skills to the Region: Recommendations

1. *To address current skills deficits in firms in the Western Region, state agencies should adopt a regionally targeted strategy for capacity building in the areas of strategic business and financial management, marketing etc. Such a strategy should incorporate a specific set of supports designed to enhance the skills base of SMEs within the traditional sectors which are facing particular challenges in adapting to changing conditions.*
2. *Adopt a proactive and creative approach to continually up-skilling the labour force in the Region. This should not be confined to re-skilling redundant workers but should be based on a strategy for lifelong learning and skills development.It should be led by the enterprise agencies and delivered in partnership with the private sector.*

7. Recognising and Supporting the Traditional Manufacturing Sector

Why is this important?

The Traditional Manufacturing sector[18] plays a central role in the economy of the Western Region, and its importance to industrial employment varies considerably across the seven counties within the Region. The share of total industrial employment accounted for by the Traditional Manufacturing sector ranged from over three-quarters in Leitrim, Roscommon and Donegal to around half in Galway and Mayo in 2000 (See Appendix 5). This intra-regional variation is related to a range of factors including the link between industries and natural resources, associations with primary sectors such as farming and fishing, particularly in predominantly rural parts of the Region, and the tendency for hi-tech industry to locate in urban centres.

Given the wider spatial distribution of the Traditional Manufacturing sector, how industries in this sector fare in the future will have implications across the entire Region. The greatest impact will be felt in the more rural areas that are also facing declines in agricultural employment.

What are the issues?

The increasing importance of knowledge and innovation as the sources of competitiveness in advanced economies presents a challenge to the Traditional Manufacturing sector. This sector is likely to face greater difficulties in its attempts to develop and adopt new approaches and technologies due to greater rigidities within its make-up including embedded organisational structures, an older age profile among the workforce and relative weaknesses in business management skills. Thus, industries in the Traditional Manufacturing sector are likely to be less competitive in a globalised environment.

The share of employment accounted for by Traditional Manufacturing is declining. Among firms in the Western Region which receive assistance from the state development agencies, employment in the Traditional Manufacturing sector declined from 57.3 per cent of the total to 48 per cent, over the period 1997-2002. The largest decline occurred in the Natural Resource Based Industries. Despite the decline, however, this sector still accounts for nearly half of all agency assisted employment in the Region and this is also the case nationally[19].

The impact that the Traditional Manufacturing sector actually has on the regional economy is even more extensive than the above may indicate. This is due to the fact that this sector tends to be dominated by Irish owned enterprises, typically using raw materials with a relatively low import content compared to foreign owned firms. Sixty-six per cent of employment in agency assisted firms in the Traditional Manufacturing sector in the Region is in Irish owned firms[20] compared with 18 per cent in the hi-tech sector.

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18 We include here three categories of industry: Natural Resource Based Industries, Engineering and Materials. Natural Resource Based Industries include industries within the NACE Rev. 1 classifications 15–22 and 36-37 (Food and Drink, Textiles, Clothing, Wood, Pulp and Paper and Other Manufacturing n.e.c). Engineering includes classifications 27-29 and 34-35 (Basic Metals and Fabricated Metal Products, Machinery and Equipment, and Transport Machinery). Materials include classifications 25-26 (Rubber and Plastic Products and Non-metallic Mineral Products). This categorisation has been adopted simply for ease of presentation and it does not imply any underlying assumption in relation to the level of knowledge intensity within particular sectors.

19 Annual Forfás Employment Survey 2002. The Survey includes enterprises which receive assistance from the four state development agencies: IDA, Enterprise Ireland, Udarás na Gaeltachta and Shannon Development.

20 Within the Traditional Manufacturing sector there are differences, however. Eighty per cent of employment in agency assisted Natural Resource Based Industries is in Irish owned firms compared to just 43 per cent in the Engineering sector.

The issues facing enterprises in this sector include the cross cutting matters of Finance, Research and Knowledge, and Skills Development discussed above. However, there are some additional issues which are of particular importance. One of these is the shift in Foreign Direct Investment (FDI) towards the services sectors, and within the manufacturing sector towards more capital, knowledge and skill intensive industries.

Linked to this trend in FDI activity, and also to Ireland's declining cost-based competitiveness, is the shift of labour intensive manufacturing production to lower cost locations mainly in the Far East and Eastern Europe. This is illustrated very dramatically by the decline in employment in Donegal's textile industry in recent years and by the case study of the Toolmaking sector given in Appendix 1.

A worrying aspect of this trend is that it is no longer confined to the location decisions of TNCs, but now also applies to the manufacturing location decisions of indigenous Irish enterprises. This not only affects the Traditional Manufacturing sector but also hi-tech industries. Even though lower wage rates have provided an incentive for location in the Western Region in the past[21], and average wage rates in industry in the Region remain below the national average[22], it must be accepted that the Region can no longer base its competitiveness on labour costs. The Traditional Manufacturing sector in the Region needs to develop other sources of competitiveness in order to survive.

To better illustrate some of the issues facing Traditional Manufacturing enterprises in the Western Region we have attached two case studies covering the Toolmaking (Appendix 1) and Marine Food (Appendix 2) industries.

What needs to be done?

Any new national and regional enterprise strategy must recognise the central role played by the Traditional Manufacturing sector in the economy. This sector will continue to be a major employer for many years to come and will be the dominant industrial employer in many areas. In such areas the performance of this sector will also be the primary driver of the performance of the locally traded services sector. While the importance of Traditional Manufacturing is predicted to continue to decline, the negative impacts of this can be lessened if appropriate policies are implemented by the state development agencies.

Given the intra-regional variations in the contribution of the Traditional Manufacturing sector to overall industrial employment, it is clear that area based policies are among the approaches needed to address the challenges facing this sector. For example the role played by the meat processing industry in County Roscommon's economy and the expected decline in this industry partly as a result of the reform of the CAP will clearly require specific policies aimed at the provision of alternative employment opportunities in those areas particularly affected. The same would apply to those areas within Donegal which have suffered particularly from the decline in the textile sector.

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21 Slightly lower wage rates in the Region compared with the rest of the country were cited by a number of firms interviewed as one of the factors in their location decision.

22 CSO, Census of Industrial Production 2000

Industries within this sector face particular challenges in addressing problems of cost-competitiveness, and in their ability to move up the value chain. This may be as a result of the nature of certain industries' organisational structures, among other things. Removing the barriers to innovation within the Traditional Manufacturing sector will be central to its future prospects. Shortcomings in the areas of strategic business and technological management in the Traditional Manufacturing sector have been identified by those involved in these industries themselves and by external observers.

It is important to recognise that industries in the Traditional Manufacturing sector may be highly knowledge intensive but that they often import such knowledge rather than conducting their own research. Writing the sector off as 'knowledge light' is too simplistic.

The Traditional Manufacturing Sector: Recommendations

1. *Recognise the importance of the Traditional Manufacturing sector in the design of enterprise development policies, and tailor supports accordingly.*
2. *Target support in the areas of strategic business and technological management towards enterprises in the Traditional Manufacturing sector which face particular constraints in their attempts to enhance competitiveness through innovation.*
3. *Supports to the Traditional sectors from the state development agencies must recognise and assist innovation and knowledge intensity through backing the acquisition of capital equipment, software and other technological applications by Traditional Manufacturing enterprises.*
4. *Identify geographical areas that have a particular reliance on the Traditional sector and develop strategies to address their vulnerability to restructuring or closures. Such areas, generally outside of larger population centres, are also affected by decline in the agriculture sector. County Enterprise Boards and LEADER companies have a particular role to play in this regard.*

8. Building and Expanding the Hi-tech Sector in the Region

Why is this important?

The Hi-tech Manufacturing sector includes the production of office equipment, computer hardware, consumer electronics, medical devices, chemicals, pharmaceuticals and man-made fibres, among other things. The hi-tech sector ranges from highly knowledge intensive, high value added activities closely associated with the new or knowledge economy, to low value, mass production assembly type operations.

Hi-tech manufacturing is the largest single generator of employment in state assisted firms in the Western Region[23]. In 2002 it accounted for a third of all agency assisted employment in the Region, which was considerably higher than the national proportion of 26 per cent. The West had 22 per cent of all employment in agency assisted hi-tech manufacturing in the state in 2002 – significantly more than its share of total employment (17 per cent). The sector clearly plays a major role in the economy of the Region.

While there is a tendency for concentration of the hi-tech sector in counties Galway and Clare, influenced by the presence of NUIG and Shannon Airport, hi-tech firms are spatially distributed. Mayo has a particular concentration, accounting for 13 per cent of all hi-tech employment in the Region.

What are the issues?

The Western Region has developed a number of strengths in the hi-tech sector, notably in the health care industry (medical technologies and devices (MTD) and pharmaceuticals). These include a skilled workforce – ranging from operatives to managers with experience in a highly regulated and complex industry. A number of MTD firms are 'clustered' in the Region and they have developed a strong international reputation and spawned a supplier industry made up of both TNCs and indigenous firms[24]. A key challenge is to sustain and build on these strengths in an increasingly competitive international environment.

The implications of the substantial role played by hi-tech firms within the Region became very evident as a result of the global downturn in the ICT industry which occurred in recent years. Over the period 2001-2002 there was an overall net decline in agency assisted employment in the Region (See Section Two) and the hi-tech sector accounted for 60 per cent of this decline amounting to a net loss of 1,686 jobs.

The impact of the downturn in the ICT sector was not felt evenly across the Region. Counties Galway and Clare experienced the bulk of the growth over the late 1990s and by 2002 had 61 per cent of all jobs in hi-tech agency assisted firms in the Region. These counties also bore the brunt of the downturn with Galway losing a net 675 jobs, and Clare 649. The relatively high dependence on the hi-tech sector within the Region, and in particular within Galway and Clare, heightens its vulnerability to international fluctuations in a sector prone to boom and bust cycles.

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23 Although the entire Traditional Manufacturing sector accounts for 48 per cent of state assisted employment, that sector is made up of three distinct sub-sectors, Natural Resource Based Industries, Engineering and Materials. Therefore the hi-tech sector is the single largest generator of state assisted employment.

24 See case study in Appendix IV.

The hi-tech sector in the Region, as is the case nationally, is dominated by foreign ownership with over 80 per cent of employment in the sector being in foreign owned firms. The tendency for TNCs to shift their operations to low-cost economies represents a threat to the hi-tech sector in the Western Region. In particular, this applies to the lower value, assembly type operations where labour costs represent a significant proportion of the overall cost structure. Such operations are at greatest risk of relocation to lower cost economies. The future of the hi-tech sector in the Region can only be secured by moving towards higher value, higher skilled activities. In this regard, the research capacity and skills availability within the Region will be central to its future.

Poor quality road infrastructure is a major issue for firms engaged in manufacturing activities in the Region, particularly in smaller centres. Firms engaged in product innovation need regular access to their customer base and to marketing groups located abroad. In these circumstances air access is also a key concern. The availability of quality telecommunications infrastructure and services is essential for hi-tech firms and is crucial to attracting and sustaining investment in this sector in the Region.

What needs to be done?

To ensure that they remain competitive and can grow in increasingly globalised markets, hi-tech firms need to continually move up the value chain. For companies already involved in product innovation this will mean diversifying, developing better integrated product lines, or introducing a service element into their products. Branch plants of TNCs may still need to win a mandate from their corporate headquarters to move into product innovation. Those involved in contract manufacturing's route to moving up the value chain is by way of focusing on the creation of high value products[25].

To remain competitive, hi-tech firms will need an increasing number of highly trained specialists to drive and support product innovation. Unless these can be recruited in the Region, or within Ireland, R&D facilities are likely to be located elsewhere. While some firms have established links with science and technology institutions in the Region, there is potential for much more engagement at both formal and informal levels.

The issues which need to be addressed in order to build and expand the hi-tech sector are also relevant for the Internationally Traded and Financial Services Sectors which are discussed in the following section. The actions required are also broadly similar and are set out at the end of that section, including one recommendation which relates particularly to the MTD industry.

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25 These observations are based, in particular, on a study of eight companies in the MTD sector (four US TNCs and four indigenous companies employing around 2,600) undertaken for the WDC in summer 2003 by the Centre for Innovation and Structural change in NUIG (viz. Ramirez, P. The Medical Technology and Devices Industry in the West of Ireland: an industry-based case study).

9. The Services Sector – High Growth, Mixed Skills

Why it this important?

The Services sector is the largest employer within the Western Region accounting for 59 per cent of employment in 2002[26]. Employment in this sector is extremely diverse, ranging from retail and leisure to public services and health. The largest service sector in employment terms in the Western Region is the wholesale and retail trade sector accounting for 12.3 per cent of employment, followed by health and social work, and education with 9.9 per cent and 7.3 per cent respectively (see Figure 1). The Region has a noticeably lower share of total employment in real estate, renting and business activities, and banking and financial services than does the state.

What are the issues?

The Services sector can be divided into three distinct categories: Locally Traded Services, Public Services and Internationally Traded Services, each of these has broadly differing skills profiles.

Locally Traded Services

Locally Traded Services are, for the most part, supplied and consumed domestically. Examples would include retail, hospitality, personal services and real estate. As can be seen from Figure 1, such services are major employers in the Western Region. Wholesale and retail services would be included within this category. The Locally Traded Services sector is involved in complex interrelationships with many other elements of the regional economy. It is dependent on the local population size, but conditions within the local economy and tourist activity also affect demand for these services. In rural areas, they also play an important role in providing employment opportunities for part-time farmers. While explicit policy recommendations for these services will not be made here, their relationship with other sectors are relevant when formulating enterprise policies.

Public Services

The supply of Public Services is largely determined by non-market forces such as government policy and expenditure, demographic changes etc. In the Western Region, public administration and defence, education, and health and social work combined account for 23 per cent of total employment, a higher share than nationally. It has been predicted[27] that this sector will have the strongest employment growth over the 2001-2010 period. While developments in public service employment are beyond the scope of the ESG, it is likely that it will become a more significant source of employment within the Region in the future. The government programme for relocation of government departments and state bodies will increase the numbers employed in public services in regional locations as well as stimulating demand for local services.

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26 CSO, Census of Population 2002.

27 Sexton, J.J. et al, *Occupational Employment Forecasts by Region for 2010*, FAS/ESRI Manpower Forecasting Studies Report No. 11, January 2004.

Internationally Traded Services and Financial Services

Internationally Traded Services (ITS) and Financial Services are operating in global markets so that international competitiveness is crucial for their success. These services are most similar to the manufacturing sector in terms of the factors which influence their development and have been identified as having significant growth potential.

Similar to the Services sector as a whole, the ITS sector covers a broad range of activities and skill levels. It incorporates so-called back office operations (such as payroll, and cheque and credit card clearing), advertising, legal, marketing services, R&D services and software development among others. Indeed Enterprise Ireland has identified ten high-technology ITS sectors as having high potential for development[28].

Among the areas included in the Financial Services sector are financial intermediation, insurance and pension funding.

The Western Region has a relatively small share of agency assisted firms in both of these sectors – only 4 per cent of all Financial Services firms and 16 per cent of all ITS firms. Most Financial Services firms are located in the Irish Financial Services Centre (IFSC) in Dublin. Within the Region, the ITS sector accounts for 10.7 per cent (5,607 persons) of all agency assisted employment, while Financial Services only account for 1.5 per cent (799 persons).

The importance of these sectors to the Region is increasing rapidly however, and in 2002 these were the only two sectors in the Region to experience a net increase in state assisted employment. Indeed the ITS sector recorded the largest gross job gains in the Region and its net increase in employment in the Region was in contrast to the net decline in this sector nationally.

In terms of ownership, the ITS sector in the Region is characterised by relatively high levels of indigenous ownership with 40.3 per cent of employment in agency assisted firms in Irish owned companies compared with 38.8 per cent nationally. Some examples of indigenous companies operating within the Region are included in Appendix 3.

The Financial Services sector on the other hand is dominated by foreign ownership; foreign owned-firms accounting for 93.2 per cent of employment in the sector in the Region. This is far higher than the foreign owned share nationally which is 69.6 per cent.

The ITS sector in particular would appear to offer substantial potential for the Western Region as this sector should be more flexible in terms of location than manufacturing industries which need to transport materials. A case study of two sub-sectors within the ITS sector in the Western Region is provided in Appendix 3, including profiles of a number of highly successful ITS enterprises in the Region.

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28 Enterprise Ireland, *ITS 2007: Opportunities for Ireland's High-Technology Internationally Traded Services (ITS) Sector to 2007.*

Difficulties in attracting ITS to the Region, both foreign and indigenous, do exist however, and the trend of increased concentration of foreign owned agency assisted employment in the South and East has occurred in parallel with the shift in economic activity towards the Services sector. In 1997, 75.3 per cent of employment in foreign owned firms was in the S&E Region; by 2002 this has increased to 80.1 per cent.

Some of the difficulties inherent in attracting ITS investments to the Region include the availability of sufficient telecommunications capacity, and access to a large labour pool with appropriate skills. However, the example of MBNA, located in Carrick on Shannon, given in Appendix 3, illustrates the potential that exists for the ITS sector in rural areas within the Region.

What needs to be done?

The ITS and Financial Services sectors offer potential for significant employment generation in the Western Region, and there is already encouraging evidence of this. Firms in this sector however, cite access and telecommunications infrastructure as critical factors in location decisions. Addressing the shortcomings in telecommunications and access infrastructure (particularly air access) will be critically important in attracting ITS businesses to the Western Region.

Support structures for spin-off ITS businesses should be enabled, to encourage promoters to develop their business ideas, carry out viability studies and generate business plans. In many cases this might be best achieved through a structured facilitated process, and the Spinner initiative in the Emilia-Romagna Region of Italy described in Appendix 3 is one possible example.

As the main resource required by the ITS and Financial Services sectors is people, the attractiveness of a place to employees will have a key impact on location decisions by firms in these sectors. The supply of social infrastructure including health facilities, schools, arts and recreation facilities therefore plays a significant role in attracting such enterprises. The Western Region is widely perceived as having a high quality of life in terms of a clean environment, lower house prices, less traffic congestion, etc. and the provision of social infrastructure must be a priority in any strategy to attract ITS and Financial Services businesses to the Region.

The Hi-tech and Services Sectors: Recommendations

1. *A central objective of the Regional Enterprise Strategy, recommended above, must be to ensure the rollout of high quality broadband telecommunications infrastructure and services across the Western Region, including areas of lower population density.*
2. *It is essential also to address the transport access deficits. A major factor influencing location decisions is that of accessibility to the Region, via air, road and rail. Air access is particularly vital to the hi-tech and ITS sectors. Knock International airport is particularly well located to serve the needs of the northern half of the Region, with Shannon serving the more southern areas, and their continued development should be promoted.*
3. *Continue to target and support what is potentially one of Europe's largest 'clusters' of medical technologies and devices (MTD) companies, particularly in their efforts to become more knowledge-intensive. State agencies should be proactive in facilitating the creation of networks between firms in the sector and in strengthening the links between them and the third level education sector in the Region.*
4. *Develop support structures for spin-offs of hi-tech and ITS businesses to help promoters to develop their business ideas, carry out viability studies and generate business plans.*
5. *Provision of social infrastructure should be regarded as a priority in any strategy to attract hi-tech, ITS and Financial Services businesses to the Western Region.*

10. Agriculture and Fisheries

Why it this important?
Agriculture and Fisheries remain more important to employment in the Western Region than to the state as a whole. In 2002, 9.3 per cent of those at work in the Western Region were involved in agriculture, forestry and fishing, compared with just 5.9 per cent of those at work in the state. As already noted the population of the Region is predominantly rural, and in addition to primary production, the Region also has a high dependence on industries which process the output of these sectors (See Section Seven).

What are the issues?
While the share of those in employment who are involved in these sectors remains higher in the Western Region than nationally, this is declining rapidly and this trend is predicted to continue, although it is not yet clear whether the extent and pace of the decline may be accelerated by the recent reforms of the Common Agricultural Policy. The characteristics of farming in the Region however, do make it particularly vulnerable to employment decline. Farmers tend to be older, to farm smaller holdings and are predominantly involved in drystock farming systems[29]. This structure contributes towards lower economic returns from farming, with the average Family Farm Income (FFI) in the BMW in 2002 just about half of that in the S&E Region[30].

There has been a significant increase in part-time farming, most prominently in the less developed regions. On 42 per cent of farms in the BMW Region, the holder has an off-farm job, whereas in the S&E this is the case on only 27 per cent of farms. This trend towards part-time farming is predicted to continue and it is likely that part-time farming will come to dominate agriculture in the Western Region.
Obviously part-time farming is dependent on the existence of alternative employment opportunities to supplement family income. This intensifies the interdependencies between the farm and non-farm economies and underlines the need for job creation in rural areas.

The fishing industry is particularly important to the Western Region. While there were over 2,000 jobs in the fishing fleet in the Region in the late 1990s, these numbers have declined in recent years, and its future will depend on developments within the EU Common Fisheries Policy. In contrast, employment in aquaculture has been increasing, with 988 full-time job equivalents in the Region in 2001, 63.3 per cent of the state total[31]. The majority of this employment was in Donegal and Galway. The marine food sector is examined in Appendix 2.

The primary importance of the fisheries sector derives not so much from the actual levels of employment, but rather from the fact that it is concentrated in peripheral locations along the western seaboard where few alternative employment opportunities exist. As there is a high incidence of part-time and casual employment in fishing, the comments made above in relation to the need for supplementary employment opportunities in rural areas apply equally to those areas dependent on fisheries.

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29 CSO, Census of Agriculture 2000

30 Teagasc, National Farm Survey, 2002

31 Bord Iascaigh Mhara Surveys

What needs to be done?

It must be recognised that farming as a major employer within the Western Region is in decline and the future of this sector within the Region will be based on part-time farming. In addition, the fishing industry has substantial levels of part-time and casual employment. Thus, there is a strong need for alternative jobs in rural and coastal areas, particularly those remote from large urban centres, to ensure that the decline in agricultural employment does not lead to widespread rural depopulation.

Agriculture and Fisheries: Recommendation

The Regional Enterprise Strategy, recommended above, should require the development agencies to focus on creating alternative employment opportunities in rural areas which will be most effected by declining employment in agriculture, fisheries and in the agri-food industry.

APPENDIX 1

Case Study: Engineering Sector: Toolmaking in the Western Region[32]

The toolmaking industry is part of the Engineering sector involving the supply of injection moulds, press tools and dies for the manufacture of products containing plastic injection moulded components and pressed parts. Customers include automotive, domestic appliances, consumer electronics, toys and medical devices manufacturers.

The toolmaking industry in Ireland developed in the 1960s and 1970s to service Ireland's industrial development and this industry is highly concentrated in the North West of the country. It is for this reason, and also because many of the challenges facing this sector are common to all light engineering, that it is examined in greater detail here.

There are approximately 40 toolmaking companies nationally employing 450 persons. There are 28 of these in the Western Region employing a total of 315 employees[33].

Recent Trends in the Toolmaking Industry

Many of the companies in the Region report declining sales levels, particularly over the past two or three years. This is in line with the national trend and is occurring in most developed economies[34]. The main reason for the decline in toolmaking in most developed countries is that the industry's main customers, namely assemblers and component manufacturers, are shifting to lower cost locations and are sourcing their toolmaking needs locally from lower cost suppliers.

In the Irish case, this overall trend is exacerbated by the relatively low rate of investment in equipment, technology and software by Irish companies compared to those in developing countries (with a few notable exceptions). Also by the fact that the industry has undergone a rapid change in skills requirements, moving from traditional craft metal cutting skills towards the skills associated with ICT (design, programming, robotics etc.) as well as manufacturing and team skills. Business management, sales and marketing skills are now also required. The older age profile of management and employees in Irish toolmaking companies makes it more difficult to adjust to these changing requirements.

Portugal is one of the few developed countries that is experiencing growth in its toolmaking sector and the approach taken in that country can provide some useful direction for the industry here. In general, toolmakers in Portugal tend to be highly specialised, involved in export markets and are shifting from being purely mould makers to becoming integrated suppliers of design and manufacturing services. They are also becoming increasingly capital intensive so as to offset rising labour costs through the use of automation.

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32 This report was prepared for the Western Development Commission by North West Consulting in October 2003.

33 Estimate obtained from Enterprise Ireland by North West Consulting.

34 US International Trade Commission.

Future Strategy for the Toolmaking Industry in the Western Region

The strategic importance of toolmaking to manufacturing in Ireland has declined. Irish-based firms seeking tooling can now source from suppliers worldwide. This fact, in tandem with the continuing decline in the manufacture of commodity type products in Ireland, means that in order to survive toolmaking firms in the Region will need to put in place clear survival strategies.

Unless this is done it is likely that employment in toolmaking will reduce significantly over the next three to five years.

The future of manufacturing in the Western Region is likely to be found in the manufacture of high margin, high value added and innovative products and the toolmaking industry needs to position itself as an effective resource to such manufacturers. To do this, toolmakers must develop better design capability:

a) Be part of new product design and development teams and not just an external resource to product designers.
b) Design products, components and the necessary tooling, in response to the innovators' design concept or design brief.
c) Focus on design for function and design for manufacture rather than simply design for moulding.

Companies could also concentrate on marketing, design and project management, together with inspection, testing and validation of tools and provision of post-delivery customer service while manufacturing could be restricted to critical functional areas only. All other processing could be outsourced to local toolmaker groupings that concentrate on specialist processes and can operate at much lower cost than a traditional integrated business.

At the industry level, joint ventures or other permanent linkages could be formed with key international operators in the industry providing better entry to international markets, faster access to new and emerging technologies and access to funding for investment.

In the longer term, a proposal to raise the education, training and certification standards and status of the toolmaking, tooling engineer and tool design professions has been recently generated within the industry. Raising the educational standards within the industry will be a long term project, extending perhaps to ten years.

One strategy which has been adopted by some toolmakers in the Region is to develop a specialised relationship with the Medical Devices sector. This often involves the provision of high level service support, required due to the highly regulated nature of the Medical Devices industry. This relationship can also extend beyond toolmaking into the actual moulding of the components for which the tools were designed. Caragh Meditech is an example of a firm which has adopted this strategy.

Caragh Meditech, Galway
Caragh Meditech is a subsidiary of Caragh Tool & Die. The subsidiary specialises in microprecision machining for the Medical Devices industry and has a special expertise in the production of components and fixtures for other manufacturers of medical devices. The company also operates as a contract manufacturer for transnational corporations in the Region. Caragh Meditech sees itself as an engineering solutions provider in machine tools and an innovator in the design and production of fixtures. The company has been operating in the Region since 1982 and the Irish market accounts for 60 per cent of its sales.

The main skills required by the firm are engineering, skilled machining and toolmaking. The company is involved in process innovation activities and on occasion it interacts with NUIG, GMIT and UCD in order to access specialised equipment or to commission consultancies on specific technical issues. Caragh Meditech is also involved in extensive collaboration and exchange of information with its medical devices customers in the Region in the design and manufacture of fixtures. Caragh Meditech has recently signed an exclusive manufacturing agreement with an international Medical Device manufacturing company.

APPENDIX 2

Case Study: Natural Resource Based Industry: Marine Food Sector in the Western Region

The food and drink sector accounts for 12.5 per cent of all employment in agency assisted firms in the Western Region and is particularly significant to employment in Roscommon and Donegal. One of the segments of the food sector in which the Region has a particular advantage is in the marine food sector. In 2000 40 per cent of all seafood processing plants in the country were in the Western Region. At that time the Region had 54 plants, 30 of which were located in Donegal. The linkage between primary production and downstream processing is clearly evident in the dominance of Donegal in seafood processing.

In employment terms the seafood processing industry is even more important to the Region which accounted for approximately half of national employment in 2001[35], when the Region had 1,441 jobs in the sector. Again the dominance of Donegal is particularly stark, accounting for over a third of national employment in the sector.

On a less positive note, employment in this sector has seen a decline over the past number of years both nationally and regionally. There was a decline of 8.6 per cent in employment in the Western Region over the 1999 to 2001 period with only Sligo and Donegal experiencing employment growth. This decline occurred in parallel with declining sea fish landings.

Polar West Ltd. a small company in Gurteen, Co Sligo, developed a range of prepared fish products in the late 1980's. Despite the initial market reaction and success, this business was then sold to Green Isle who, unlike Polar West, had the resources to develop the range into a national branded product range under the name of Donegal Catch. Green Isle now operates two state of the art fish plants, one in Gurteen employing 74 persons and one in Boyle, Co Roscommon employing 85 persons.

In light of declining fish landings and considering that the future of the industry will be heavily influenced by developments within the EU Common Fisheries Policy, there is an increased need for innovation within the marine food sector. This must focus on the area of further value added consumer products. This may also include expanding beyond fish as the primary raw material with areas such as specialised flavoured sea salts and speciality products from seaweeds presenting opportunities.

[35] In Full Time Equivalent terms.

Carrokeel Seafoods Ltd. is a marine food producer based in Killala, Co Mayo. The company manufactures a range of retail pack smoked salmon, trout and mackerel products as well as a range of added value mussel products. It has a product range in excess of 36 different items and had a turnover of €8m in 2003. The company employs 85 persons at two plants in Killala and obtains its raw materials from sustainable sources. It supplies the US supermarket chain Wild Oats and has customers in the UK, Europe, Asia and North Africa. It also supplies own-brand salmon products to Dunnes Stores and Tesco Ireland. The company was sold in January 2004 to William Carr & Sons, a producer of similar products mainly focussed on the domestic market. Carrokeel will continue to operate from its Killala plants. The sale was seen as a step towards consolidation of the marine food sector within the country.

APPENDIX 3

Case Study: Internationally Traded Services in the Western Region[36]

The Internationally Traded Services (ITS) sector offers considerable potential for future growth in the Western Region. Two key ITS sub-sectors will be examined here:

1. Contact Centres, both foreign and indigenous[37]
2. Indigenous software producers[38]

Foreign Owned Contact Centres

Attracting multinational call centre type business to Ireland has been a major element of IDA policy for several years and it has achieved some notable successes – particularly in the large centres of population: Dublin, Cork, Limerick and Galway. Ireland has become a major global base for contact centre activity with an estimated 150 call centres in the country, of which approximately 60 are foreign owned[39]. The IDA estimates that there are about 15 such centres within the Western Region.

Prumerica Systems Ireland Ltd is a subsidiary of the US Prudential Group and is located in Letterkenny, Co Donegal. There are two aspects to the Letterkenny operation, firstly a call centre handling product related issues, employing about 100 and secondly a software support unit for the various US based offices of Prudential, employing about 270. The majority of the staff are EU nationals but are augmented by technical specialists from elsewhere. The second element of the operation provides 24/7 technical support to Prudential's mission-critical mainframe applications. Although set up to reduce the strategic dependence on external technical support, its US based clients are not restricted from seeking quotations elsewhere to carry out the work. This brings Letterkenny into the realm of being a profit centre and it is successfully managed as such, thus setting an example of what can be achieved i.e. developing a cost centre into a profit centre.

However, while the IDA has provided several advance office buildings to attract further businesses to the West, such buildings are available but unoccupied in Sligo and Galway. While there was dramatic growth in this sector from 1998 to 2001, this has now slowed due to many factors including:

- The global downturn in the ICT sector.
- Lack of large population centres with the necessary social infrastructure to encourage highly educated, qualified and experienced people to relocate.
- Inadequacy of telecommunications, particularly of broadband access for IT dependent services.
- Inadequate road, rail and air access.
- In some cases, the high labour costs prevailing in Ireland have diverted the lower level businesses (e.g. predominantly incoming call activity) to lower cost locations e.g. India.

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36 This case study was prepared for the Western Development Commission by North West Consulting October 2003.

37 Mintel and Call Centre Association in the UK define a contact centre as "a clearly defined unit within an organisation consisting of 20 or more seats where the primary role is to make or receive telephone calls be it for customer service, accepting, handling billing enquiries, technical support and telemarketing, working to preset measurable objectives. Its operation is usually dependent on the application of sophisticated IT and telecommunications technology."

38 Indigenous Software Producers refers to those companies producing packaged software or bespoke solutions to customers located either in Ireland or in overseas markets. It specifically excludes support house, resellers of proprietary solutions, web design or similar local market service providers.

39 Tele Services Forum of Ireland.

There is a general perception that jobs within this sector tend to be of a low-grade, repetitive nature, with little prospect for career development and very high labour turnover. This review does not support that impression. Such jobs certainly do exist, mainly in centres which are run, and viewed by their owners, purely as cost centres with the main driver being productivity improvement. Such facilities are at greater risk of either transfer to low cost countries or replacement by automated facilities. The foreign owned contact centres visited during this review were at a much higher operating level providing high quality jobs in a very people focused culture. These companies exhibited highly motivated, committed and satisfied employees, very low labour turnover and excellent working conditions.

MBNA is a US based contact business which opened its centre in Carrick on Shannon, Co Leitrim in 2001 and now employs 1,100 persons. The influence of the company's establishment has contributed towards a 20 per cent increase in the town's population between 1996 and 2002. Its operation comprises both incoming calls (cost centre) and a growing outgoing call business (sales type, profit focused activity). MBNA recently topped a list of Best Companies to Work for in Ireland.

PacifiCare International Ltd. was established in 1999 and is based in Letterkenny, Co Donegal. It is a subsidiary of PacifiCare Health Systems in the US, which is a primary healthcare insurer with about 3.5 million members and annual revenues of $11.0bn. The operation in Letterkenny, providing claims processing services, is one of two such facilities within the group and the only one outside of the US. The company employs 350 persons in Donegal and expects this to grow over the coming years. The majority of staff come from within an hour of Letterkenny and many relocated back to the county from centres such as Dublin and other cities in the UK and Europe. Success of the business is staff dependent and the company invests heavily in recruiting the right staff initially and then in training them in the necessary skills. The remuneration package is commensurate with other similar jobs in the area and includes an exceptional benefits package. Both the management style and the remuneration package are designed to reduce employee turnover.

A feature of most of the foreign owned contact centres is that they are cost centres rather than profit centres i.e. they were established as a means of reducing the company's cost structure rather than as a means of generating profit. While the majority of the centres are of high quality, providing added value services they are not profit judged. Given that in excess of 50 per cent of total costs are accounted for by labour and telecommunications, maintaining a competitive cost base is vital for retaining such businesses.

Indigenous Contact Centres

It is difficult to accurately quantify the number of indigenous contact centres in Ireland as the centre is often embedded in the core of the business and not separately identified. For instance Hibernian Insurance has a claims centre in Galway but they do not identify either employee or turnover figures separately. Indigenous contact centres vary from relatively low skill sub-contract call centres to very creative, innovative businesses offering stimulating employment to third level graduates who can apply skills including financial, IT, languages and technical support. This sector is somewhat thinly represented in the Western Region, but a number of examples do exist.

Forward Emphasis Ltd. is an Irish owned facility located in Malin, Co Donegal. The company employs 100 persons, many of these on a part-time basis. It located in Donegal in 2000 having outgrown its facilities in Belfast. The company provides inbound and outbound services on a contract basis to clients in Ireland, Great Britain and the US. The inbound services relate to fulfilment and back office type services, while the outbound focus upon revenue generating services such as telesales, again for third party clients. The company was attracted to the location initially by the fact that there was a suitable building, but equally due to the ready availability of labour and a good telecommunications infrastructure. Access by overseas clients is facilitated through the proximity of City of Derry airport. The company has invested heavily in staff development and training and believes that the "esprit de corps" that exists gives them a strong sustainable competitive advantage.

Key Challenges Facing the Contact Centre Sector

There is much positive news to report with regard to this sector, however a number of challenges have been identified by the Tele Services Forum of Ireland (TSFI):

- A ready pool of skilled labour is the most crucial industry driver. Competition for staff, especially those with language skills and experience, is intense, particularly in Dublin. The continuing upward pressure on both labour and housing costs will have a negative impact on the future growth of the industry. These pressures are not so great in the Western Region and so should increase its attraction as a location.
- Telecommunications services, particularly with regard to the provision of broadband, are uneven and inconsistent even within the metropolitan areas. More critically, many non-urban areas do not have broadband access, giving rise to the "Digital Divide" across the country. This situation has been well documented by the WDC[40].
- The requirement for foreign language skills is increasing. While many of the companies are targeting English- speaking markets, given the importance of EU markets, language capability is becoming a greater issue.
- Staff retention, motivation and training. All of the companies interviewed demonstrated commitment to this goal and had systems in place to deal with it. The economics of the industry are such that it makes pragmatic commercial sense to recruit the correct employees in the first place and then to train and motivate them, thus reducing staff turnover.

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40 See *Update on Telecommunications in the Western Region*, 2002.

Indigenous Software Producers

There has been a rapid growth in the number of indigenous software companies over the 1991 to 2001 period, increasing from 260 firms employing 4,000 persons to 770 firms employing 19,000 persons[41]. According to Enterprise Ireland, the majority of this industry is located in the main urban centres with a relatively small group of companies, approximately 30 companies employing 760 persons, located in the BMW Region.

The characteristics of the industry have also changed over the last decade with a shift away from a service focus, mainly bespoke software development, to a focus on development of products thus making export market development a priority. Most of the companies compete in niche markets which are not dominated by international software companies. A further positive feature of the industry is that there are considerable numbers of serial entrepreneurs and serial investors, which supports the entrepreneurial concept.

Infacta Ltd., founded in 1996, is a software company located in Strandhill, Co Sligo. The company has developed a range of group email/messaging solutions targeted at corporate and commercial users using the Internet as a distribution medium supported where necessary by a US based fulfilment centre. Their products and solutions are used in over 130 countries around the world. The company employs five persons. Due to lack of terrestrial broadband the company experimented with satellite but this proved unsuccessful. As a result they have had to rent server space in Dublin and access this via ISDN. Lifestyle considerations influenced the location decision but do not fully overcome some of the infrastructural difficulties, the most prominent being lack of broadband access.

The majority of indigenous software companies are located in the East Region with a concentration in Dublin. In addition there are concentrations of such companies in the main university cities. While there is a certain need for peer group networking by these companies, there is no compelling requirement for them to be located in urban locations, assuming that the basic requirements of access to telecommunications and staff can be met.

While a number of software companies in Ireland, some of which originated as small Irish start up companies, are today leading their markets with innovative middleware and internet solutions, the majority in the indigenous software sector have remained small. The average employment in these firms is about 25 persons but some of the larger city based companies employ several hundred and serve to increase the average employment figures. For example, in the North West there are only four software businesses employing over ten people[42].

41 Enterprise Ireland

42 Source: Enterprise Ireland interview

Key Challenges Facing the Indigenous Software Sector

- Deepening the technology level in the industry.
- Improving commercialisation of research and development and ability to bring products to market.
- Improving (international) marketing and selling skills.
- Strengthening links between the indigenous and multinational sectors.
- Ensuring a continued flow of seed capital to support the next generation of entrepreneurs.
- Maintaining a regular supply of skilled personnel at all levels.
- Many of the smaller companies lack the necessary management skills to ensure the growth of the companies.
- Mechanisms to ensure that the innovation ethos is embedded within companies.
- Access to equity funding.

Spinner. Most funding initiatives which support spin-off companies target their funds on the fledgling firms. An alternative model - where funding is provided for individuals setting up a company to support themselves and pay for services - is the basis of the Spinner initiative in the Emilia-Romagna Region of Italy.

The **Spinner** project has two objectives; firstly to help students and researchers who want to set up spin off companies and secondly to support technology transfer from third level to industry. The **Spinner** grants go to people not companies. Recipients receive up to €1,300 per month every month for a year and in addition receive support towards relevant travel costs and purchase of services such as training, business plan writing, marketing or legal assistance. While there are few restrictions as to who may apply, the target audience consists of graduates and researchers. Typically grants are paid to groups of three to six people working in concert. The programme has been successful to date with one company providing software used by Ferrari F1 Team to monitor racing performance.

A programme such as *Spinner*, directed at potential promoters would provide a very cost effective mechanism to significantly increase the number of start ups and improve their quality. Existing support mechanisms come into play after the start up concept is already in place. Promoters supported by *Spinner* funding have the time to research their ideas and develop the necessary business management skills and would subsequently utilise the existing support framework more effectively.

In addition to skills development within companies a number of infrastructural supports are also required. Office accommodation, suitably equipped for an ITS company, is needed on a flexible tenancy arrangement. The Webworks developments that are taking place within the Region will provide much of this, particularly in terms of flexibility of use and wiring. In addition they will require active management to encourage networking and to ensure that the correct development environment is nurtured. As with the contact centres, the provision of broadband is critical. The issue of the "Digital Divide" is very evident in the indigenous software sector and is seen as a barrier to growth.

Cora Data Teo. Cora Data Teo is a Research and Development company, which has developed monitoring and data logging solutions using embedded Internet technology. The company has recently launched a HACCP monitoring and recording product for the Irish Food Service industry and is confident of export markets for its products. In addition the company also has application-monitoring sites as far apart as Georgia, USA and Ontario, Canada. Cora Data Teo employs seven skilled specialists at its Donegal HQ where it finds the location ideally suited to its activities. In common with many other small companies, securing the necessary equity capital to fund growth has presented a major challenge and the company is of the view that its location is a factor in this. The commercial banks, while supportive, are not the providers of long term development funding and this has been an issue with Cora Data Teo. The Western Investment Fund (WIF) has recently agreed to inject a substantial amount of money into the company to complement private equity secured by the company thus enabling the company to exploit the potential of its products.

APPENDIX 4

Case Study: Indigenous Medical Devices Firm in the Western Region[43]

Company: ANSAmed Ltd.
Address: Boyle, Co Roscommon

Company Background

ANSAmed is a medical devices firm that started life in 1992 as an IDA-supported inward investment subsidiary of a US company. In January 2001 it was bought out by the management, with venture capital assistance, and is now Irish owned.

The company specialises in the design and production of plastic precision extrusion based components and sub-assemblies for leading edge medical device manufacturers. ANSAmed's main customers are large medical device companies. Their three largest markets, in order of importance, are Germany, UK and Ireland.

At the time of the buy-out the company employed approximately 50 people. This has subsequently risen to 80. Over the same period turnover has risen substantially. The workforce is highly skilled, encompassing complex plastics processing (including the manufacture of small batches, which minimises the scope for automation), plus expertise in quality control, R&D and regulatory requirements.

For technology support, ANSAmed has made use of the Polymer Development Centre in Athlone and is currently trying to establish relationships with NUI Galway and the Institute of Technology in Sligo.

The West as a location

One of the advantages of being located in the West is proximity to one of Europe's largest clusters of medical device companies, centred around Galway. Boyle, however, is considered to be a little too far from this cluster to derive the full benefits. Another advantage of Boyle is that there is a reasonably strong supply of well qualified production personnel.

The principal disadvantages of the location are infrastructural, particularly the roads, but also the non-availability of broadband communications in the past, and poor electricity and water supplies have been a problem. A further drawback is the difficulty in recruiting and retaining key staff due to Boyle's perceived remoteness from a main centre of culture, education and commerce. ANSAmed counter this by emphasising that Boyle is 30 minutes from Sligo.

Challenges and opportunities

The main opportunity for sub-contract manufacturers of medical devices arises from the increasing trend towards outsourcing by the major manufacturers. This is supplemented by the high barriers to entry faced by potential new competitors – the capital-intensive nature of the business and the challenges faced in gaining the necessary regulatory and product approvals.

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[43] This case study was compiled for the WDC by Evaltec, Dublin in August 2003.

The principal challenge is achieving good profitability and growth in the face of the rapidly escalating cost of doing business, principally wage rates, insurance and services.

Responses to challenges and opportunities (a) Technological Innovation
In response to these challenges the company has moved up the value chain, no longer relying so heavily on undertaking sub-contract manufacture of 'standard' components for major companies. To pursue this course it established an R&D facility in the late 1990s (before the buy-out).

In addition to developing their products and processes with grant assistance from IDA before the buy-out and from Enterprise Ireland (EI) subsequently – they also undertake contract R&D for other companies, developing products to the prototype stage. In many cases, but by no means all, a contract to manufacture the product may follow.
Three staff are engaged full-time on R&D activities, with several others being involved part-time, giving an overall full-time equivalent of six.

Responses to challenges and opportunities (b) General Business Innovation
The main business developments over recent years have been those associated with the establishment of the R&D facility, outlined above. In addition, the company is making increased use of the internet, to research trends in the sector, thereby getting ideas for possible new products, and to seek and assess new company contacts. The also find that the ANSAmed website provides a useful source of enquiries from potential customers.

APPENDIX 5

Table A5.1 Share of Industrial Employment by County and NACE Manufacturing Sector 1996 and 2000

NACE	Donegal		Sligo		Leitrim		Roscommon		Mayo		Galway		Clare	
	1996	2000	1996	2000	1996	2000	1996	2000	1996	2000	1996	2000	1996	2000
Food, beverages & tobacco	16.3	20.8	14.9	14.9	6.9	2.9	18.3	57.9	14.6	16.9	17.5	7.4	39.8	2.0
Textiles & textile products	50.4	36.5	2.0	2.0	27.4	6.1	4.3	0.9	7.3	3.4	5.8	1.2	12.1	1.5
Leather & leather products	0.1	0.1	n/a	n/a	n/a	n/a	0.1	n/a	n/a	n/a	0.1	1.1	3.1	0.4
Wood & wood products	1.1	1.4	2.4	1.9	12.1	42.5	2.8	1.2	1.4	1.8	1.3	3.4	6.5	2.6
Paper, printing, publishing, repro. of recorded media	0.7	1.0	2.0	1.9	3.0	2.3	11.0	7.0	6.5	4.0	5.9	6.2	4.4	3.1
Chemicals, chemical products & man-made fibres	6.5	9.3	19.1	17.2	n/a	0.7	17.6	6.1	8.2	14.9	9.8	1.9	0.6	9.7
Rubber & plastics	4.7	4.6	17.3	17.0	4.0	4.1	10.3	2.0	3.0	6.3	1.0	2.0	0.5	3.7
Other non-metallic mineral products	2.4	3.2	1.4	1.0	8.3	12.4	7.2	3.3	3.9	3.7	7.1	2.9	6.9	1.6
Basic metals & fabricated metal products	1.9	2.8	5.1	4.3	8.2	3.4	4.5	3.0	6.2	5.1	3.3	5.8	13.0	8.9
Machinery & equipment n.e.c.	0.2	n/a	12.4	12.3	7.4	6.3	5.4	1.4	3.0	6.2	2.4	9.3	5.1	9.1
Electrical & optical equipment	11.5	13.3	21.0	24.9	0.6	2.5	13.6	6.7	14.1	31.7	39.3	51.5	0.3	32.8
Transport equipment	1.6	2.3	0.4	0.0	19.5	0.5	0.7	3.4	4.8	0.7	1.8	0.3	0.5	13.2
Manufacturing n.e.c.	1.3	2.5	1.1	1.6	2.2	1.9	2.4	0.1	14.7	3.0	3.7	5.7	2.2	8.3
Total Manufacturing [44]	98.7	97.8	99.1	99.0	99.6	85.6	98.2	93.0	87.7	97.7	99.0	98.7	95.0	96.9
Total Employees (No.)	9,983	7,991	3,730	4,179	1,064	1,097	2,026	2,125	6,376	7,419	11,333	14,844	7,791	8,928

Source: CSO Census of Industrial Production 1996, 2000. Special run.

[44] The figures do not sum to 100 because the distribution is calculated based on total industrial employment which includes total manufacturing employment (which is included in this table) plus employment in mining, quarry and turf production, and electricity, gas and water supply which are not included here.

The data in this table are based on the Census of Industrial Production and relate to employment in local industrial units in the manufacturing sector classified according to the NACE Rev 1 classification. This does not include any employment in service enterprises.

Main points

- The total number of employees working in manufacturing enterprises increased in all counties between 1996 and 2000 with the sole exception of Donegal which experienced a 20 per cent decline.
- The role played by the decline in the textile sector in Donegal is obvious, it fell from accounting for half of all industrial employment in 1996 to just 36.5 per cent in 2000 and it is likely that this share has continued to decline.
- In most counties just two or three sectors account for the bulk of industrial employment and in some counties there is particular dependence on a single sector. In Roscommon, for example, 57.9 per cent of all industrial employment is in the food, beverages and tobacco sector, while in Galway 51.5 per cent is in the electrical and optical equipment sector. Donegal, Leitrim and Clare also exhibit considerable dependence on a small number of sectors.
- In contrast, industrial employment in Mayo, and in particular in Sligo, shows a more even distribution among a larger number of sectors. The electrical and optical equipment sector is the largest in both counties but there is also substantial employment in food, beverages and tobacco, chemicals and, in the case of Sligo, rubber and plastics.

APPENDIX 6

Permanent Full-Time Employment in Agency Assisted Companies

This appendix contains data taken from the Forfás Annual Employment Survey, 2002. They measure key trends in those sectors which are supported by the four industrial development agencies, namely IDA, Enterprise Ireland, Shannon Development and Údarás na Gaelachta[45]. The purpose of presenting these data is to provide a more detailed picture of employment trends in agency assisted firms at the individual county level in the Western Region.

Table A6.1 Employment in Agency Assisted Companies by County and Region 1998-2002

County/Region	1998	1999	2000	2001	2002
Donegal	10,526	9,392	9,177	9,041	8,623
Sligo	4,105	4,285	4,334	4,164	4,126
Leitrim	1,304	1,330	1,319	1,650	1,643
Roscommon	2,974	3,056	2,992	3,051	3,078
Mayo	6,746	6,720	7,178	7,504	7,112
Galway	16,407	16,744	18,964	18,676	17,404
Clare	10,088	10,728	11,173	10,884	10,183
Western Region	52,150	52,255	55,137	54,970	52,169
Southern & Eastern	204,663	219,636	240,987	238,787	232,067
BMW	73,630	73,207	75,758	74,669	71,640
State	278,293	292,843	316,745	313,456	303,707

Source: Forfás 2003. Note: Refers to permanent full-time employment only.

A similar pattern is evident nationally and in the regions, agency assisted permanent full-time employment rose year on year up to 2000 then between 2000 and 2002 the numbers declined.

Within the Western Region:

- Five of the seven counties experienced a decline in agency assisted employment since 2000. Leitrim and Roscommon were the only counties to experience an increase over this period.
- Between 2000 and 2002, Galway experienced the highest decline (1,560), followed by Clare (990).
- County Donegal was the only county that experienced a decline in full-time permanent employment in agency assisted firms year on year for the entire 1998–2002 period.

45 It does not include other state assisted companies or employment generated by County Enterprise Boards.

Table A6.2 illustrates the ownership structure in 2002.

Table A6.2 Employment in Agency Assisted Irish Owned and Foreign Owned Companies by County and Region, 2002

County/Region	Irish		Foreign	
	No.	%	No.	%
Donegal	5,550	3.7	3,073	2.0
Sligo	1,565	1.0	2,561	1.7
Leitrim	691	0.5	952	0.6
Roscommon	1,878	1.3	1,200	0.8
Mayo	3,644	2.4	3,468	2.3
Galway	8,346	5.6	9,058	5.9
Clare	2,631	1.8	7,552	4.9
Western Region	24,305	16.2	27,864	18.2
Southern & Eastern	109,347	72.7	122,720	80.0
BMW	41,002	27.7	30,638	20.0
State	150,349	100.0	153,358	100.0

Source: Forfás 2003. Note: Refers to permanent full-time employment only.

The Western Region accounts for a higher share of all agency assisted foreign owned employment than it does of all Irish owned employment, 18.2 per cent compared with 16.2 per cent.

Within the Western Region:

- Donegal, Roscommon and Mayo have greater numbers employed in Irish owned than foreign owned agency assisted companies. The other four counties, and the Region as a whole, have a greater number employed in foreign owned companies.
- The difference between Irish and foreign owned employment is most striking in Clare which only accounts for 1.8 per cent of all Irish owned employment but nearly 5 per cent of foreign owned.
- The difference between foreign and Irish ownership is also quite striking in Donegal which accounts for 3.7 per cent of all Irish owned employment but only 2 per cent of foreign owned employment.

Job Gains and Job Losses in Agency Assisted Companies

Cumulative Gross Job Gains, Gross Job Losses and the Net Change over the 1998-2002 are outlined in **Table A6.3**

Table A6.3 Cumulative Gross Job Gains, Gross Job Losses and Net Change in Employment in Agency Assisted Companies by County and Region, 1998-2002

County/Region	Cumulative Gross Job Gains 1998-2002		Cumulative Gross Job Losses 1998-2002		Cumulative Net Job Creation 97/98-01/02	
	No.	%	No.	%	No.	%
Donegal	4,615	2.7	-6,588	-5.1	-1,943	-4.9
Sligo	1,421	0.8	-1,270	-1.0	151	0.4
Leitrim	948	0.5	-645	-0.5	303	0.8
Roscommon	1,278	0.8	-954	-0.7	324	0.8
Mayo	3,710	2.2	-2,810	-2.2	900	2.3
Galway	9,760	5.7	-7,566	-5.8	2,194	5.5
Clare	5,185	3.0	-4,384	-3.4	801	2.0
Western Region	26,917	15.9	-24,187	-18.7	2,730	6.8
Southern & Eastern	133,316	78.8	-94,614	-73.3	38,702	96.9
BMW	35,713	21.1	-34,483	-26.7	1,230	3.1
State	169,029	100.0	-129,097	-100.0	39,932	100.0

Source: Forfás 2003.

Note: Refers to permanent full-time employment only. The data on Cumulative Net Job Creation may not be exactly the same as a simple addition of the data on Gross Job Gains and Gross Job Losses as it is from a later data source and slight revisions are made to the data each year.

There was a cumulative net increase of 2,730 agency assisted jobs in the Region over the entire period. Gross job gains peaked in 2000 and have declined since then. Meanwhile gross job losses have steadily increased since 2000. Although the Region did experience a net increase over the entire period, it accounted for a larger share of national cumulative gross job losses (18.7 per cent) than it did of cumulative gross job gains (15.9 per cent).

Within the Western Region:

- All counties except Donegal experienced a net increase in agency assisted employment over the entire period. Galway experienced the largest net increase, as well as the largest gross gains and losses.
- Donegal experienced a net decline of 1,943 in agency assisted employment over the period and was the only county to experience a net decline.

The ownership structure of the cumulative net change in agency assisted employment is outlined in **Table A6.4.**

Table A6.4 Net Change in Employment in Agency Assisted Irish Owned and Foreign Owned Companies by County and Region, 1997/98-2001/02

County/Region	Irish Owned Net Cumulative Job Creation 97/98-01/02		Foreign Owned Net Cumulative Job Creation 97/98-01/02	
	No.	%	No.	%
Donegal	56	0.3	-1,999	-9.2
Sligo	-8	0.0	159	-0.7
Leitrim	-47	-0.3	350	1.6
Roscommon	238	1.3	86	0.4
Mayo	350	1.9	550	2.5
Galway	1,445	8.0	749	3.4
Clare	17	0.1	784	3.6
Western Region	2,051	11.3	679	3.1
Southern & Eastern	14,976	82.6	23,726	108.8
BMW	3,157	17.4	-1,927	-8.8
State	18,133	100.0	21,799	100.0

Source: Forfás 2003. Note: Refers to permanent full-time employment only.

In the Western Region, in contrast to the national picture, there was a far greater net increase in employment in Irish owned companies over the period than in foreign owned, 2,051 compared with just 679. The Region accounted for 11.3 per cent of the overall net increase in Irish owned employment but just 3.1 per cent of the increase in foreign owned employment.

Within the Western Region:

- The pattern in the Region was very heavily influenced by the net decline of 1,999 jobs in foreign owned companies in Donegal.
- In Galway, Roscommon and Donegal there was stronger employment growth in the Irish owned sector. Indeed the strength of indigenous employment growth in Galway is one of the factors contributing to the overall better performance of this sector within the Region.
- In Clare, Leitrim, Mayo and Sligo foreign owned employment growth was considerably greater than employment growth in Irish owned agency assisted companies.

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