



# ADVANCING INNOVATION AND KNOWLEDGE TRANSFER

Identification of and  
Improvement to Technology  
Transfer Best Practice

Work Package 2 - Appendix 1.1



European Regional  
Development Fund  
The European Union  
Investing in Your Future



## **PROTTEC WP2 Appendix 1.1**

**Identification of the range and scope of knowledge transfer activities in Bretagne, France and the South West and South East regions of the UK using quantitative analysis of government and regional statistics and qualitative assessment based on interviews with key staff from partner institutions and stakeholders across the regions.**

## Contents Page

<b>1.</b>	<b>Introduction</b>	
1.1	Introduction	4
1.2	Knowledge transfer in a country-specific context	4
1.3	The French Context	4
1.4	The UK Context	6
<b>2.</b>	<b>Regional profiles &amp; the identification of knowledge transfer and innovation strategies</b>	<b>9</b>
2.1	Regional strategies identified by Work Package One	9
2.2	The South East of England	9
2.2.1	Regional Demographics and Economic Profile	9
2.2.2	Key Regional Economic Drivers	10
2.3	The South West of England	12
2.3.1	Regional Demographics and Economic Profile	12
2.3.2	Key Regional Economic Drivers	13
2.4	The Nord-Pas-de-Calais Region of France	14
2.4.1	Regional Demographics and Economic Profile	14
2.4.2	Key Regional Economic Drivers	15
2.5	The Bretagne Region of France	16
2.5.1	Regional Demographics and Economic Profile	16
2.5.2	Key Regional Economic Drivers	17
<b>3.</b>	<b>Range &amp; Scope: a government perspective</b>	<b>21</b>
3.1	Comparison of regional knowledge transfer and innovation strategies	21
<b>4.</b>	<b>Range &amp; Scope: a stakeholder perspective</b>	<b>24</b>
4.1	A qualitative assessment of regional knowledge transfer and innovation strategies	24
4.2	UK stakeholders	24
4.3	French Stakeholders	24
4.4	Stakeholder organisations	25
4.4.1	Brest Technopôle	25
4.4.2	University of Exeter/Science Park, Exeter	26
4.4.3	Bretagne Valorisation	27
4.4.4	Brest Métropole Océane	28
4.4.5	Devon County Council	29
4.4.6	Brittany Maritime Cluster	30
4.4.7	Marine South East	31
4.4.8	CURIE	32
4.4.9	Praxis	33
4.5	Stakeholder perspective: regional innovation drivers	34
4.6	Stakeholder perspective: knowledge transfer & the role of the university	39
4.7	Stakeholder perspective: a question of time	42
4.8	Stakeholder perspective: room for improvement	43
<b>5.</b>	<b>Conclusions</b>	<b>53</b>
<b>6.</b>	<b>References</b>	<b>58</b>

## Part One: Introduction

### 1.1 Introduction

This report focuses on the identification of the range and scope of knowledge transfer activities, in Bretagne (Brittany), France and the South West and South East regions of the UK using quantitative analysis of government and regional statistics and qualitative assessment based on interviews with key staff from partner institutions and stakeholders across the regions.

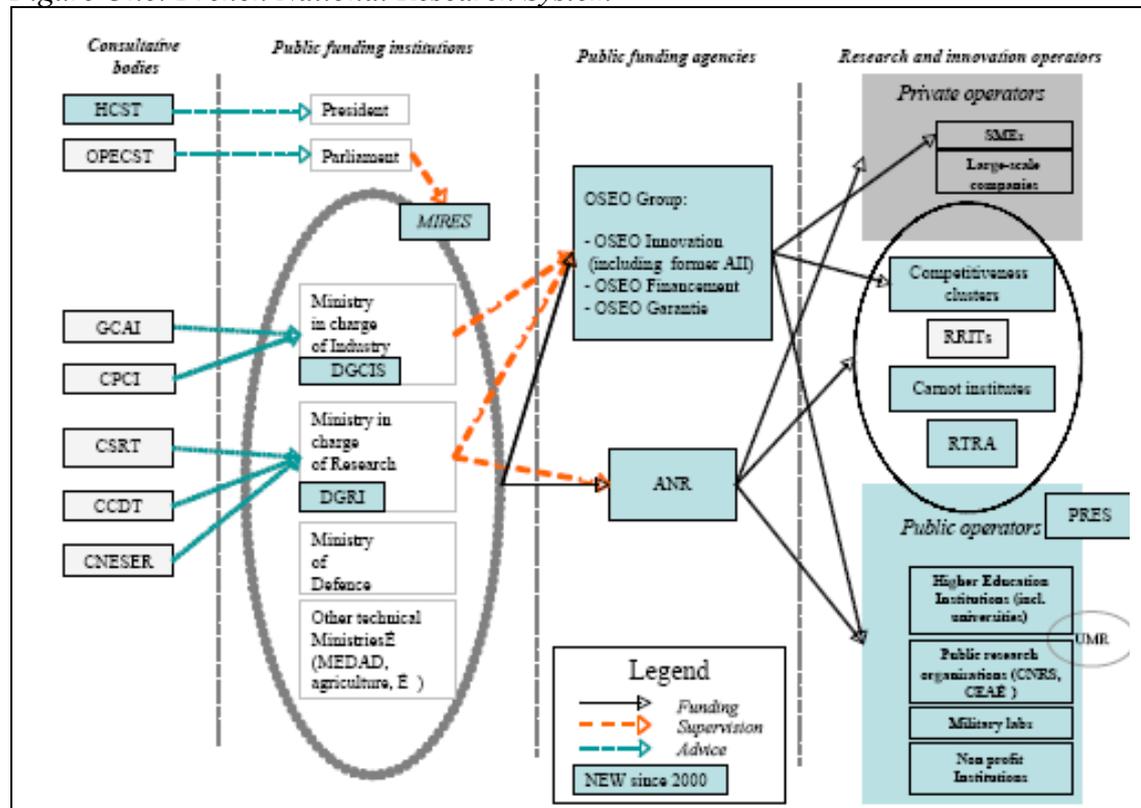
It has been produced as part of PROTTEC Work Package Two, by the University of Exeter and employs the findings highlighted by the University of Plymouth's PROTTEC Work Package One report, Regional Strategies, Partnership Capabilities and Tech Transfer State of the Art (2009).

### 1.2 Knowledge transfer in a country-specific context

The Work Package One (2009) report puts into context the differing positions of France and the UK in relation to its innovation and knowledge transfer strategies. It notes the following:

### 1.3 The French Context

Figure One: French National Research System



Source: ERAWATCH Research Inventory, Technopolis France (European Commission, 2009b)

Innovation policy in France is set within the context of the State's transition from centralisation to decentralisation. The turn of the century has seen a redirection in French innovation policy from a focus on knowledge transfer within large technological companies to a softer knowledge transfer focusing on the exchange of research and results between universities, public scientific and technological research organisations, industrial and commercial research organisations and SMEs.

Within this context, the Ministry for Higher Education and Research and the Ministry Delegate for Industry share responsibility for research and innovation policy. In response to the Innovation Plan, presented by the Ministry in Charge of Research in 2003, the French government prepared the Pact for Research which included an action programme aiming to adapt the French research system in order to face current and future challenges; namely, to reorganise the public research system; to raise private investment in research; and, to reinforce the links between the public and the private sector. Overall, the framework outlines the government's objective to increase private investment in research in order to reach the Barcelona Target of 3% of GDP on R&D by 2010.

In addition, French innovation policy has become more 'bottom-up' in recent years, and links between the different players in the research and innovation system have been strengthened, especially between public and private research, to help boost innovation and competitiveness. Examples of this include; Competitive Clusters which were introduced in 2005 to increase public/private partnerships and to promote and develop key elements of France's industrial competitiveness; and, the Carnot Award which is an award for public research institutes who support partnerships with socio-economic actors.

More recently, in 2009 France launched a programme of work to establish a national strategy for research and innovation that will bring together the overall challenges and priorities for research and innovation and ground future budgetary decisions for the first time.

The responsibilities for the implementation of aspects of the innovation policies are increasingly falling upon the national agencies, such as: the National Research Agency (L'Agence nationale de la recherche - ANR), which distributes research funds based on grant proposals according to research priorities identified by the government and promotes partnerships between public and private companies; and, OSEO innovation which provides R&D and innovation support to SMEs. Research activities are also carried out by higher education institutions, who are the most important research performers in terms of funds, PROs and private companies, all of which have a national presence.

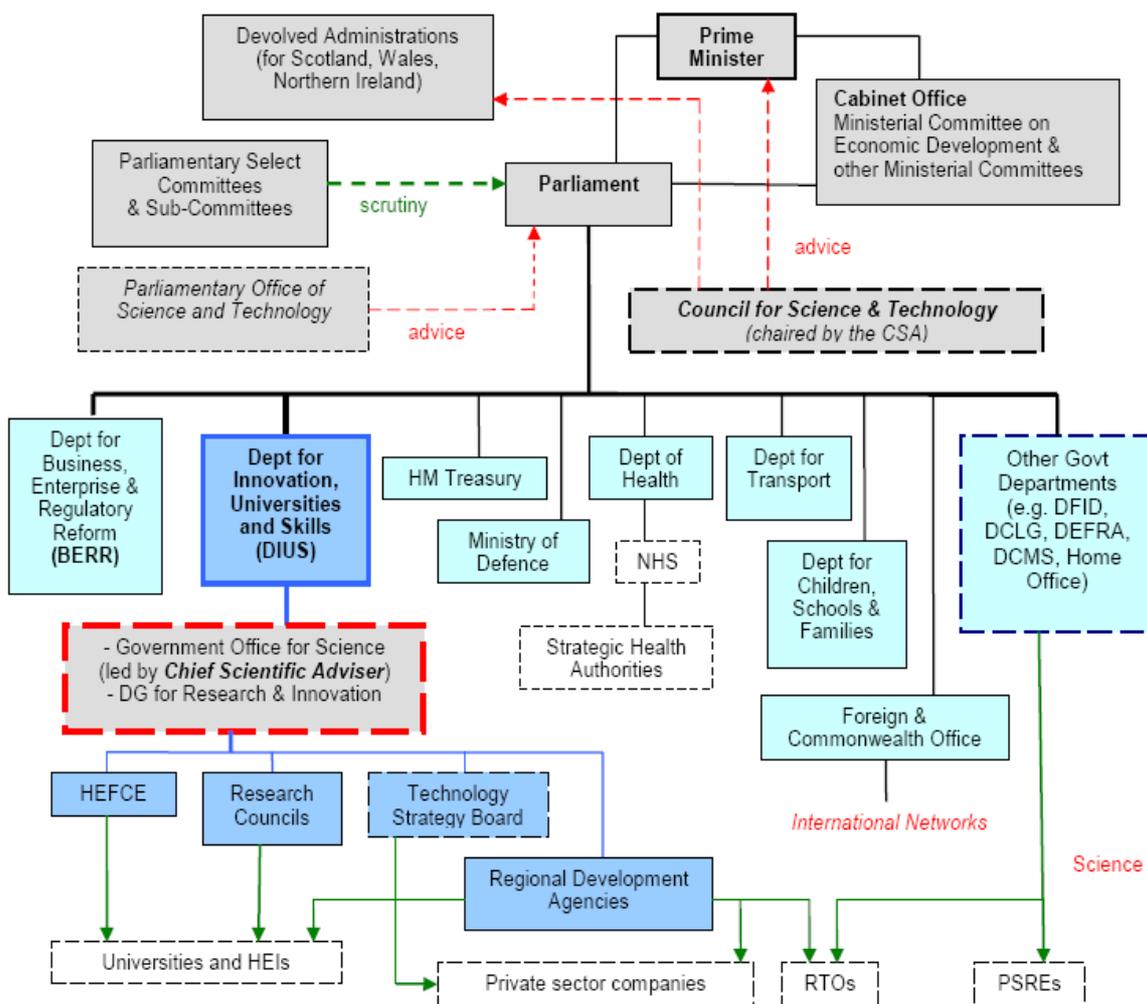
French regions have also been increasingly involved with research, science and technology since the first Decentralisation Act in 1982. Regions are administered by Regional Councils (Conseils Régionaux) whose responsibilities include policy design and planning in matters of research, with the key objective of economic development. This is achieved through the development of a Regional Economic Development Strategy (Stratégie Régionale de Développement Economique – SRDE). More recently, the EC has required that all the regions of France develop a Regional

Innovation Strategy (Strategie Regionale Innovation - SRI) to determine the use of ERDF funds over the period 2007-2013, some of which is managed by the Regional Council under the authority of the State management.

At the regional level the state is represented by: the Regional Delegation for Research and Technology (Délégation Régionale de la Recherche et de Technologie - DRRT) which informs regional partners of national policy programmes and measures, coordinates activities undertaken by public organisations in the region, develops and organises technology transfer activities, and tries to bring together research and business in the region; and, the Regional Division for Industry, Research and Environment (la Division Régionale de l'Industrie, la Recherche et de l'Environnement - DRIRE) which has the key objective of promoting industrial development. In addition the Regional Innovation and Technology Transfer Centres (Centres Regionaux d'Innovation et de Transfert de Technologie - CRITT) act as an interface structure between public research organisations and regional firms.

### 1.4 The UK Context

Figure two: UK National Research System



Source: INNO-Policy TrendChart Policy Trends and Appraisal Report UK (European Commission, 2008)

The UK government accepts that the UK economy must increase its investment in its knowledge base, and translate this knowledge more effectively into business and public service innovation in order to generate growth through productivity and employment. R&D capacity in the public and private sectors forms the core of the knowledge base, enabling it to create, absorb and deploy new ideas rapidly. As a result, Science & Technology policy has evolved into an innovation policy wherein S&T concerns are fully integrated into the broader national system of innovation. A great deal of the UK top level innovation policy is ultimately aimed at increasing either the intensity of research or its effectiveness for the economy.

This approach is made explicit in the Science and Innovation Investment Framework 2004-14 (SIIF), launched by the UK government in July 2004. Overall, the framework outlines the government's long-term objective for the UK economy to increase the level of knowledge intensity (expressed as R&D as a percentage of GDP) from its current level of around 1.9% to 2.5% by around 2014, which, incidentally, is still below the EU's Barcelona target of 3% of GDP on R&D by 2010.

The most recent major government statement on research and innovation in the UK is contained within the White Paper 'Innovation Nation', published in 2008. The aim of the strategy is to "build an Innovation Nation in which innovation thrives at all levels – individuals, communities and regions". In December 2008, the government published its first Annual Report on Innovation Nation detailing progress made and future challenges.

The key elements of the UK national system of innovation are: the government (responsible for policy setting, implementation and funding); the Science and Engineering Base, in the main consisting of the Higher Education sector but also including the remaining (i.e. non-privatised) government laboratories and the research council institutes, which undertake the majority of basic and strategic research in the UK; and, the Business Enterprise sector, which funds and undertakes the largest share of UK R&D.

The key player at the operational level is the recently formed Department for Business, Innovation and Skills (BIS). BIS has responsibility for enterprise, business relations, regional development and fair markets, along with responsibility for science and innovation, further and higher education and skills, and supporting evidence-based policy making across government. BIS works with a range of other organisations that promote UK innovation including: the 'new' Technology Strategy Board (TSB), which funds innovation through Collaborative R&D Programmes, Knowledge Transfer Partnerships, Knowledge Transfer Networks, the Small Business Research Initiative, Mico Nanotechnology Centres and International Programmes; UK Intellectual Property Office (UK-IPO); National Endowment for Science, Technology and the Arts (NESTA), which works across all stages of the innovation process to make the UK more innovative; and, the Research Councils.

The UK's academic research base is supported by a system of funding that provides funds to institutions in two streams; one as part of their core grants, provided by the Funding Councils; and the other commonly in the form of project grants, provided by Research Councils. The Funding Councils provide funding to support the research

infrastructure enabling universities and colleges to undertake ground breaking research. Research Councils award the main grants in science and research within the framework aimed at advancing knowledge and the generation of new ideas which can be used to create wealth and drive improvements in the quality of life. The seven Research Councils fund research and training activities in seven different areas of research.

The UK has nine English Regions and three Devolved Administrations. The Regional Development Agencies (RDAs) are responsible for strengthening the regional innovation infrastructure, developing strategies, and bringing together partnerships to address local and regional innovation challenges. The RDAs provide their regions with a strategic framework for economic growth and regeneration, in which science and innovation plays an important role. The frameworks are provided through Regional Economic Strategies (RES) and Regional Innovation Strategies (RIS).

The RDAs work with a wide range of partners including universities, colleges, local authorities, Research Councils, the Technology Strategy Board and BIS and are also responsible for the delivery of programmes through the European Regional Development Fund (ERDF). Each RDA has a business-led Science and Industry Council (SIC), which influences the innovation agenda both regionally and nationally.

Some aspects of government funding are now being managed at the regional level to ensure that relevant innovation support and expertise is tailored to meet the needs of local businesses. In addition, a number of government innovation support services are delivered at the regional level.

## **Part Two: Regional profiles & the identification of knowledge transfer and innovation strategies**

### **2.1 Regional strategies identified by Work Package One**

The University of Plymouth's PROTTEC Work Package One report, *Regional Strategies, Partnership Capabilities and Tech Transfer State of the Art (2009)*, details regional demographic and economic profiles and identifies strategies for innovation and knowledge transfer.

PROTTEC focuses its research on four main regions: two from France (Bretagne and Nord-Pas-de-Calais) and two from the UK (South East and South West). Work Package One highlights the range and scope of knowledge transfer activities and innovation strategies from across these four regions.

The following summarised regional demographic and economic profiles are predominantly sourced from Work Package One (2009):

### **2.2 The South East of England**

#### **2.2.1 Regional Demographics and Economic Profile**

The South East of England consists of 19 county and unitary authorities and 55 districts, covering a 19,096km<sup>2</sup> arc around London (Government Office for the South East, 2009), as shown in Figure Seven.

The South East's population was estimated to be 8.3 million people in mid-2007, making it the largest population of any English region and the third highest in terms of population density. Since 1997 the region has seen a 5.8% increase in its population, compared to an overall increase of 4.6% for the UK (Office for National Statistics, 2009).

The region contributes substantially to the UK economy, accounting for around 15.1% of total UK Gross Value Added (GVA) in 2007. Generally, "...the South East economy can be categorised as being advanced, high cost, high income, broadly based and service oriented" (Government Office for the South East, 2009).

The South East provides around 4.3 million jobs, predominantly in the service sector, along with significant contributions to the labour market in London. Employment rates for working age people are high, at around 82.3% and 73.3% for men and women respectively. Unemployment is below the national average (7.2%), at 5.5% (Government Office for the South East, 2009).

According to the Revealed Regional Summary Innovation Index (RRSII) (see Section 2.4.2) the South East's innovation performance is ranked 12th in the EU, and 1st within the UK, which is higher than both the UK and EU average. Although the South East experienced a steady decline in innovation performance between 2001- 2006, the region shows relative strengths in life-long learning and relative weaknesses in medium/high-tech manufacturing (Hollanders, 2006).

Within the South East, Higher Education South East (HESE<sup>1</sup>) aims to promote all higher education institutions with a presence in the South East region. HESE aims to strengthen HEIs contribution to the growth of the region, and to influence and shape the regional agenda. The South East is home to 20 HEIs.

The regional development agency for the South East of England (SEEDA) targets key sectors recognised due to their potential to add value to the South East economy. The seven sectors are: Aerospace and defence; Environmental technologies; Health technologies; Marine; Digital content; Construction; and Security.

These sectors have been identified by meeting at least one of three criteria:

- Sectors driven by new and emerging technologies with transformational potential;
- Major employers and economic drivers throughout the region; and
- Manufacturing sectors with high value added growth potential, underpinning the region's international trade performance.

### **2.2.2 Key Regional Economic Drivers**

SEEDA is responsible for the economic and social development of the region, supported by the South East Science, Engineering and Technology Advisory Council (SESETAC) who advise SEEDA on how science and technology can drive regional business performance. SEEDA acknowledge that the prosperity of the South East depends on the success of the region's businesses and have developed a Regional Economic Strategy (RES) 2006-2016 (SEEDA, 2006a). The RES sets a framework to support successful businesses, and sits alongside the Regional Spatial Strategy (RSS). However, as a result of the Sub-national Review (see Section 2.6.3.3) these two strategies will amalgamate to produce a single` Strategy after 2010.

The RES takes account of the current challenges facing the region. As a globally high performing region the South East faces challenges that are yet to impact in many English regions and it is these challenges that are driving economic development within the region. The RES identifies three key challenges driving the economic development of the region:

**The Global Challenge.** In the face of intensifying global competition the South East must maintain its competitiveness by investing in its current success and becoming more enterprising, innovative and skilled.

**Smart Growth.** The South East needs to deliver higher levels of prosperity per head without increasing the region's ecological footprint. This can be achieved through the principles of smart growth and raising levels of enterprise, productivity and economic activity throughout the region.

**Sustainable Prosperity.** SEEDA recognise that long-term regional economic prosperity can only be secured through sustainable development; pursuing growth within environmental limits, which, in itself, can create new opportunities for innovation and

---

1

competitiveness.

### **Knowledge Transfer**

Examples of activities to increase knowledge transfer between universities and business include SEEDA's Emerging Technologies programme, whereby SEEDA is enabling a group of companies and universities to bring new products and services to the market place. SEEDA has allocated funds for four business-led collaborative R&D projects, which promise to lead in new products or services within two to three years. In addition eight knowledge networks have been developed. With a specific focus on a specific technology or group of technologies, knowledge networks bring together businesses and the knowledge base to turn knowledge into commercially successful products and services. SEEDA has also developed the Research Excellence Data (RED) Directory, a searchable directory to help businesses in the UK and overseas explore a web database providing full details of research underway at universities and public sector research establishments (PSREs) within the South East that have the potential for commercial application, and directs users to relevant contacts within each HEI. The Higher Education Entrepreneurship Group (HEEG) has been established by SEEDA to build capacity within the HEIs to promote entrepreneurship.

### **Promoting Innovation**

Examples of activities to promote innovation include the recent establishment of South East Business Development Growth. SEEDA is funding a regional network of eight Innovation and Growth Teams (IGTs), managed by local stakeholders. The IGTs replace numerous regional and local innovation and growth projects with an integrated, regionally consistent and locally delivered business support activity. South East Business Development Growth aims to “unlock and drive forward potential in businesses with real growth ambitions” through the provision of comprehensive and tailored business support at every stage of their growth path across the region. South East universities form an integral part of the IGTs. The IGTs will focus on delivering five areas of support which are part of the ‘Solutions for Business’ initiative funded by the Government. These are:

- Starting a high growth business;
- Innovation advice and guidance;
- Coaching for high growth;
- Understanding finance for business; and,
- Business collaboration and networking.

## **2.3 The South West of England**

### **2.3.1 Regional Demographics and Economic Profile**

The South West covers the largest geographic area of the nine English regions, covering 23,837km<sup>2</sup> and surrounded by 630 miles of coast. It comprises the counties of Cornwall, Devon, Dorset, Gloucestershire, Somerset and Wiltshire, and the unitary authorities of Bath and North East Somerset, Bristol, North Somerset, South Gloucestershire, Bournemouth, Poole, Swindon, Torbay, Plymouth and the Isles of Scilly, as well as district councils.

The South West's population was estimated to be 5.2 million people in mid-2007, the lowest population density of any English region, with the highest proportion of older people. Since 1997 the region has seen a 7.3% increase in its population, compared to an overall increase of 4.6% for the UK, making it the third fastest growing regional population (Office for National Statistics, 2009).

Generally, the South West economy follows UK national trends. In 2007, the South West economy was estimated at £94.2 billion (an increase of 5.8% on the previous year), in terms of GVA, accounting for around 9.0% of the national total and making it the fifth (out of nine) largest English regional economy (The South West Observatory, 2009).

In 2008, roughly 2.5 million people were 'economically active', out of a working age population of just below 3.1 million people, of which 27% were over 50 years of age (above the nation average of 24%). In addition, there was a small decline in the number of economically active 16-34 year olds (The South West Observatory, 2009).

Unemployment in the South West remains lower than that experienced by the other nine English regions, however 2008 saw unemployment increase to approximately 127,000 people in November, an increase of 29,000 on the previous year (The South West Observatory, 2009).

According to the Revealed Regional Summary Innovation Index (RRSII) the South West's innovation performance is ranked 37th in the EU, and 4th within the UK, out of 12, and is higher than both the UK and EU average. Although the region experienced a steady decline in innovation performance between 2001 - 2006, the region shows relative strengths in life-long learning and relative weaknesses in medium/high-tech manufacturing (Hollanders, 2006 as cited in Work Package One, 2009).

The Association of Higher Education Institutions in the South West (HERDA-SW) provides a forum for the 13 Universities and Higher Education Colleges in the region to work collaboratively. Its principal aims include extending the contribution of higher education to sustainable regional development and competitiveness, and influencing the shape of the economic agenda in the South West region. Expert South West aims to promote collaborations between the 13 HEIs and businesses in the South West region.

The South West Regional Economic Strategy (RES) 2006-15, developed by the South West Regional Development Agency, identified eight priority business sectors that are strategically important for the region, show opportunities for future growth, or are in need of additional support in order to adapt to industry change (SWRDA, 2006). The priority sectors are: Advanced engineering, including aerospace; Bio-medical; Creative industries; Environmental technologies; ICT; Food and drink; Marine; and, Tourism.

### **2.3.2 Key Regional Economic Drivers**

SWRDA is responsible for economic growth and development and the wider remit of sustainable development within the region, and have thus developed region's RES 2006-2015.

The RES takes account of strategies and policies at regional, national and European levels. Regionally, the RES aims to reinforce the aims set out in the Integrated Regional Strategy (IRS)<sup>2</sup> and complements the Regional Spatial Strategy, in order to ensure that the region is working towards common goals (SWRDA, 2006). The RES acknowledges that, at the European level, the Lisbon Strategy and Gothenburg agendas focus on enterprise, innovation and sustainability (SWRDA, 2006), and are designed to guide member states' strategy formulation.

Alongside the production of the South West RES, a number of other strategies have been developed at a regional level which focus on the engagement between enterprise, innovation and the wider community. These include:

- South West of England Incubation and Science Park Strategy
- South West of England International Trade Strategy
- South West of England Innovation Strategy - Innovation: the Successful Exploitation of New Ideas
- The South West Framework for Regional Employment and Skills Action (FRESA)
- The South West England Regional Strategy for Enterprise

#### **Economic Drivers**

The RES 2006-2015 recognises three economic drivers that are central to the economic development of the region, which are shown below. SWRDA acknowledges that these regional economic drivers support and complement the Treasury's national 'drivers of productivity' (SWRDA, 2006):

- **Innovation**  
It is suggested that the South West cannot compete on cost alone anymore and, therefore, must concentrate on "...added value through ideas, knowledge and technology" (SWRDA, 2006). In order to achieve this, the South West requires a culture of innovation and enterprise, across private, public and voluntary organisations, in which change and challenge are welcomed.

---

2

- **Skills**  
Staff and managers (i.e. people) that create products and services are the fundamental basis for any economy. At a time when global competition is high and the South West is seeking to gain an advantage through innovation and technology, knowledge-based and technical skills are at a premium (SWRDA, 2006). As a result, high-level skills and an adaptable approach to learning and working are critical for the region.
- **Environment**  
The South West has considerable strength, specifically related to its location. Around 12% of the regional economy relies on the land and landscape and, in addition, the ‘quality of life’ within the South West attracts investment, businesses, workers and tourists to the region. SWRDA identified environmental technologies and services, like renewable energy, as presenting enormous global market potential (SWRDA, 2006). The identification of the environment as a key economic driver highlights the importance of building, rather than diminishing, the region’s environmental and cultural capital.

### **Key Innovation and Knowledge Transfer Objectives**

The RES states that the South West’s vision for economic development will be realised through three key strategic objectives (SWRDA, 2006), which are: Successful and Competitive Businesses; Strong and Inclusive Communities; and An Effective and Confident Region.

Each of the three strategic objectives will be delivered through a number of headline economic priorities that are perceived to be essential to secure sustainable economic development of the region

### **Innovation and Knowledge Transfer Activities**

The South West RES identifies a number of innovation and knowledge transfer actions and supporting activities that will contribute to achieving the strategic objectives and priorities outlined in the previous section. These include: the Business Link Service and a range of networks (such as, Knowledge Escalator South West (KESW), the Great Western Research (GWR) and Knowledge Transfer Partnerships)

## **2.4 The Nord-Pas-de-Calais Region of France**

### **2.4.1 Regional Demographics and Economic Profile**

The region of Nord-Pas-de-Calais consists of two French departments, Nord and Pas-de Calais, and covers 12,414 km<sup>2</sup> which borders Belgium.

Nord-Pas-de-Calais is home to around 6.6% (4.048 million, 2007) of the national population and, since 1999, the region has seen an annual growth in population of 0.16% per annum, which is similar to other northern and eastern regions of France (INSEE, 2008).

The contribution to GDP for the region reached €90.8 billion in 2006 (ranked fourth of all regions in France), although when the ‘size effect’ is taken into account, the region falls to twenty-first nationally (INSEE, 2008).

At the end of 2006, a total of 1.43 million people were employed in the region, of which 75% were employed in the tertiary sector and 23% were in the secondary (industry and construction) sector, which was close to the national average of 75% and 22% respectively. Unemployment in the region remained high in the first quarter of 2008, at 10.2%, roughly 3% above the national average. Between 1990 and 2006, the region witnessed a reduction in the secondary sector of around 19%, and an increase in the services sector of around 30%, above the national averages of 15% and 29% respectively (INSEE, 2008).

According to the Revealed Regional Summary Innovation Index (RSII) (see Section 2.4.4) Nord-Pas-de-Calais’s innovation performance was ranked 140th in the EU, and 19th within France, out of 22, which is lower than both the French and EU average. The region experienced a steady increase in innovation performance between 2001 - 2006 and shows relative strengths in life-long learning and relative weaknesses in business R&D (Hollanders, 2006).

The draft Regional Innovation Strategy (Strategie Regionale Innovation - SRI) proposes three strategic sectors for the region to focus upon. These sectors already have a strong regional presence, either through their excellent scientific knowledge, strong R&D resources with national and international competences, strong industrial networks that include international links, high levels of education, or established facilities. The vision is that, through further support, the region will become a European leader in these sectors by 2015. The three sectors are: Land Transport; Future Trade (particularly in relation to Science and ICTs); and Biology, Nutrition and Health.

The introduction of Competitiveness Clusters in France in 2005 led to the creation of geographic concentrations of partnerships involving businesses, training centres, and public or private research centres, which focus on innovative projects that stimulate the local economy. Nord-Pas-de-Calais is home to six economic Competitive Clusters which have a common commitment to encourage and support collaborations between businesses, research centres and higher education.

In addition the Nord-Pas-de-Calais region has established seven regional excellence centres covering: Science and Technology of Plastics; Digital Picture; Logistics; Wood; Mechanic, Materials and Industrial Equipment; Food Industry; and Eco-friendly Technology and Construction.

## **2.4.2 Key Regional Economic Drivers**

The Nord-Pas-de-Calais region of France is represented by the Regional Council, which is responsible for the economic development of the region, with the support of the central state, the European Union and other authorities. The Regional Council acknowledges the need to develop an economic policy that supports major regional issues over the coming years. The Regional Council developed and adopted the

Regional Economic Development Strategy (Stratégie Régionale de Développement Economique – SRDE) in November 2005, which incorporates a common strategic vision to implement the broad economic policy guidelines for the region (Direction of Economic Action Department (FR), 2004).

The SRDE clearly outlines its ambition to make Nord-Pas-de-Calais a major economic region in Europe, with the main goal to develop activities and jobs in a united region. It is this overarching ambition that is driving the economic development of the region.

The SRDE also organises and leads on a number of other strategies and programmes that aim to drive the economic development of the region, the Regional Program for the Creation and Transmission of business (PRCTE), the Regional Development Plan for Handicraft, the Strategie Regionale Innovation (SRI) and the Plan Innovation Valorisation de la Recherche.

## **Key Innovation and Knowledge Transfer Objectives**

### **Objectives of the SRDE**

The SRDE identifies eight overarching objectives to help the region achieve its ambition to be a major economic region in Europe. These are:

- Support business creation and communication
- Structure the region around 15 centres of economic excellence
- Place innovation, R&D at the very heart of priorities to accelerate transformation of the regional economy
- Anticipate changes to the economic climate
- Rethink the economic activities of the Nord-Pas-de-Calais abroad
- Mobilise and coordinate the financial tools for regional economic development
- Make Nord-Pas-de-Calais a highly progressive region in Information Communication Technologies (ITCs)
- Promote a united region and ensure balance between the districts

## **2.5 The Bretagne Region of France**

### **2.5.1 Regional Demographics and Economic Profile**

Bretagne is divided into four departments, Finistère, Côtes d'Armor, Ile et vilaine and Morbihan, and is the westernmost region of France covering 27,506 km<sup>2</sup>. It is located at the crossroads of the European Atlantic surrounded by 750 miles of coastline.

Historically it also included the Loire-Atlantique department, but this was detached from Bretagne, around the city of Nantes, during World War II. Today, 80% of historic Brittany has become the administrative region of Bretagne, while the remaining area, the Loire-Atlantique department around Nantes (formerly one of the historic capitals of Brittany), forms part of the Pays de la Loire region.

In 2004, according to the National Institute of Statistics and Economic Studies (Institut National de la Statistique et des Études Économiques -INSEE), Bretagne's population was approximately 3.02 million, having increased by an average of 0.8% per annum, since 1999 (primarily due to an increase in immigration levels, post 1999) (INSEE, 2005).

With GDP of 73.5 billion euros in 2005, Bretagne contributed at a level of 4.4% to total national wealth (7th largest contribution nationally). For almost 20 years, Bretagne's contribution to GDP has enjoyed higher average growth than that of France as a whole (Europa, 2005).

In late 2004, employment in Bretagne was around 1.21 million (or roughly 5% of the national total), of which 70% was in the service sector (INSEE, 2005). Employment in the region experienced strong growth up until 2002, after which, growth began to slow. Unemployment in the region after the first quarter of 2009 was 7.3%, which is below the national average (INSEE, 2009).

According to the Revealed Regional Summary Innovation Index (RRSII) Bretagne's innovation performance was ranked 66th in the EU, and 5th within France, higher than both the French and EU average. The region has experienced a steady increase in innovation performance between 2001 – 2006 and shows relative strengths in patents and relative weaknesses in business R&D (Hollanders, 2006).

Whilst food processing and shipbuilding are recognised as strong areas of specialism within the region (INSEE, 2005), the SRDE states that its key sectors are: Agriculture; ICT; Automotive; and Marine. Tourism is also viewed as an important industry to the Bretagne region.

The introduction of Competitiveness Clusters in France in 2005 led to the creation of geographic concentrations of partnerships involving businesses, training centres, and public or private research centres, which focus on innovative projects aiming to stimulate the local economy. Bretagne is home to five economic Competitive Clusters.

### **2.5.2 Key Regional Economic Drivers**

Within Bretagne, the Regional Council is responsible for the development and coordination of the Regional Economic Strategy ('Stratégie Régionale de Développement Économique' - SRDE). The SRDE, adopted in October 2006, was developed in order to provide a shared vision of the medium-term challenges for the economy of Bretagne and common intervention methods to address them. In order to achieve this, the SRDE was deliberately allowed to be flexible, whilst at the same time providing a framework of action to be shared and regularly updated, based on economic and social change (Région Bretagne, 2006).

According to the SRDE, the impetus behind Bretagne's economic development derives from three major aims. Collectively, these constitute the driving force behind the region's overall strategic approach.

- To determine a direction for new dynamic economic growth
- To implement a sustainable development model
- To increase employment along with subsequent social and human development

### **Key Innovation and Knowledge Transfer Objectives**

Bretagne has a multitude of economic development tools, including public and private actors at different levels, comprehensive financial aids, economic development budgets, international expansion and innovation in growth. However, these tools lack coordination at a regional level. The ultimate aim is to give the region and its stakeholders the tools from which a relevant and progressive set of policy measures promoting regional economic development can be developed, with the ability to adapt this to a shifting global environment (Région Bretagne, 2006).

In 2006, a presentation given by H el ene Morvan from Bretagne Innovation, part of the Innovating Regions in Europe (IRE) Knowledge Transfer Working Group, *Regional strategies and policies to support Knowledge Transfer, Brittany*, highlights that government funding should be directed towards creating links between actors (collaborative projects); the provision of external specialist assistance for firms; supporting innovative industrial projects; developing the use of ICT; supporting the creation of innovative firms; supporting competitiveness poles; and funding capital risk and capital development.

Morvan points out that Brittany’s strengths are that it is a high-ranking scientific research area; it has strong regional financial support; it has a high level of training and education; and it has high-quality technical and organisational assistance for innovation projects. In terms of weaknesses, she notes that Brittany needs to improve its level of international openness in the business environment; it has weak foreign investment; insufficient partnerships between businesses and the research sector; it has a high number of small and very small enterprises; and that there is a lack of business intelligence and ‘watch culture’.

### **Innovation**

Innovation is driven by the SRI; the agreement between key innovation actors throughout the region. The SRI has three key strategic objectives in relation to innovation which are:

- Strengthen and consolidate the existing economy through innovation
- Diversify the economy through innovation
- Promote the region to outside companies and other innovation actors

### **Knowledge Transfer**

The SRDE has a number of policies directed at supporting ‘knowledge society’ developments impacting upon regional industries. In order to support regional businesses, the SRDE establishes the following key objectives:

- To promote links between business, research and training in order to put

companies at the centre of a knowledge network (e.g. Competitiveness Clusters, networks of technology transfer centres, technology etc.);

- To support the acquisition of added-value functions (e.g. diffusion of technological innovation, internationalisation of markets, management of human resources, social innovation and quality of employment, the development of simple and clean energy etc.); and,
- To support and encourage the development of new uses of technology in all processes, organisations, internal and external companies, and in the establishment and development of networks of economic development.

While the SRDE does not outline specific actions and activities to assist the region in achieving the objectives to support the knowledge society, the SRI does identify a variety of actions and activities that it will support in order to achieve the strategic objectives and sub-objectives related to innovation.

### **Innovation and Knowledge Transfer Activities**

The SRI identifies a number of innovation and knowledge transfer actions and supporting activities that will contribute to achieving the strategic objectives and sub-objectives. Work Package One highlights the following key innovation and knowledge transfer activities adopted by the SRI within the Bretagne region:

- **Structuring the Innovation Network in Bretagne**  
This is done through a regional network of advisors. Activities include: reaffirming the operating rules of support organisations through the implementation of a Regional Innovation Charter which defines good practice for these organisations; and, establishing communications with businesses about the network through Ready to Innovate, the bi-monthly newsletter published by Bretagne Innovation, and through the Innovation Portal, Bretagne Innovation's website which consists of interactive information and intelligence for SMEs updated on a daily basis.
- **Promoting the Integration of Human Resources into Companies**  
The SRI supports a number of activities to enhance skills within companies. One activity aims to enhance the communication and support for the integration of students into SMEs. One mechanism for doing this is through an industrial agreement for training through research (Conventions Industrielles de Formation Par la Recherche - CIFRE).
- **Implementing the Charter for Collaboration Between Bretagne's Technology Transfer Actors**  
The SRI supports a number of activities with the overarching aim to strengthen research collaborations between public and private sectors.

- **Support Technology Transfer**  
The SRI supports a number of activities with the overarching aim to promote technology transfer and support the creation of new activities.
- **Promote the Creation of Companies and Innovative Activities**  
This includes Business Hotels, which are facilities for young entrepreneurs offering accommodation, support and services to maximise the success rate of start ups. Currently Bretagne is home to 47 Business Hotels. The SRI also supports Technopoles, technology parks that support innovation of start-ups and existing enterprises through the promotion of synergies between industry, higher education and research establishments. Within this the SRI supports the Regional Incubator, Emergys, which supports researchers or young scientists to set up their own business and optimise their research work. Emergys consists of a number of science and technology parks and higher education and research establishments in Bretagne.
- **Educate Individuals to Innovate**  
For example individuals can get involved through the ‘Week of Innovation’, which is a week dedicated to promoting innovation and encouraging partnerships between research laboratories and companies.

## **Part Three: Range & Scope: a government perspective**

### **3.1 Comparison of regional knowledge transfer and innovation strategies**

The University of Plymouth's findings in Work Package One (2009), highlights the following comparisons of knowledge transfer activities and notes the identification of innovation gaps or areas where improvements in innovation and knowledge transfer that could be pursued. Comparisons are as follows:

- All four regions support activities around the development of clusters, supply chains and company networks to support objectives addressing internationalisation and foreign investment. These activities could be enhanced through cross-border collaboration to enable regional companies' access to a network of international companies.
- The South East and South West of England and the Bretagne region of France all adopt activities to support companies in transferring their technology and knowledge at an international level to improve their international competitiveness. This highlights a potential gap in the application of innovation and knowledge transfer activities to improve international competitiveness within the Nord-Pas-de-Calais region.
- The South West of England aims to support an 'aftercare' service to organisations investing in the region to help secure their long term future in the region. This is an activity that could be applied in other regions to develop more sustainable internationalisation and foreign investment.
- The South West of England and Nord-Pas-de-Calais region of France both support activities to promote their regions internationally in some way. These activities could be enhanced within each region to provide a more rounded promotional approach to internationalisation, and also be applied in other regions.
- Both English regions support a number of activities to promote an innovation culture amongst young people, while the South East of England and Bretagne region both support a number of activities to promote an innovation culture and entrepreneurial mindset through competitions. The similarities in the types of activities supported offer the opportunity for sharing experiences, best practice and expertise across the regions to maximise their impact in developing a culture of innovation.
- The South East, South West and Bretagne regions all support activities to deliver business support which presents an opportunity for the regions to share best practice in terms of the business support mechanisms they adopt.
- Both English regions have a focus on promoting woman's enterprise and both regions aim to deliver a strategy or strategic framework for woman's enterprise in the region. This offers the opportunity for sharing experiences to enhance each regions development of woman's enterprise.

- The South West of England's RES supports a comparatively large number of activities focusing on technology and knowledge transfer actions in order to address the promotion of an innovation culture and entrepreneurial mindset compared to the other partner regions. This offers the opportunity for other regions to consider the impact such activities might have on addressing objectives to promote a culture of innovation and entrepreneurialism.
- A number of the regions support the development of networks to assist in the promotion of a culture of innovation. There is an opportunity for knowledge sharing across the regions regarding the structure, working practices and communication of their networks, and partnerships between the regions to maximise their impact on business innovation.
- The South East, South West and Bretagne regions all support activities to market the regional innovation profile which offer opportunities for sharing best practice and expertise across the regions to enhance each region's promotional activity with a view to promote a culture of innovation.
- The South East and South West of England both recognise the importance of engaging with HEIs to ensure they are providing the right skills to the labour market, each adopting activities to support this process. Activities to engage with HEIs in this way could be applied within the French regions to assist in the appropriate development of their workforce skills to compete in the global economy.
- Both English regions also support the Train to Gain initiative, which is a national initiative offering expert skills advice to companies in order to improve business performance by supporting employers to improve the skills of their employees. Bretagne supports an activity to provide training for innovation actors, which could be enhanced through further development along the lines of the UK Train the Gain initiative.
- The South East of England and Bretagne region of France both adopt activities to develop a directory of their competencies. This highlights an opportunity for both tools to be further developed through cross border collaboration to enable them to be utilised regionally, nationally and internationally.
- The South East of England supports a number of activities to provide enhanced innovation support services and infrastructure in order to promote innovation in SMEs. However, neither region's in France adopt activities within this criterion, highlighting a potential gap in their innovation activities.
- The South West of England directly supports a number of activities to provide enhanced innovation support services and infrastructure which focus around the Business Link service. Bretagne's Regional Council supports activities to place advisors within the Innovation Network and to develop tools and skills within the innovation structures that support companies through the innovation process. These activities could be enhanced through the sharing of best practice with established schemes operating within the South West of England.

- The South West of England and Bretagne region of France support similar activities addressing workforce skills development. The techniques used to address this could benefit from cross-border information sharing.

**Table One: Common Innovation Objectives**

Innovation Criteria	Region			
	South East of England	South West of England	Nord-Pas-de-Calais	Bretagne
Mechanisms for better coordination of the innovation system			✓	
Promotion of R&D activities	✓		✓	
Technology/knowledge transfer actions	✓		✓	✓
Development of clusters, supply chains and company networks			✓	✓
Supply of economic intelligence/ technology watch services			✓	✓
Internationalisation and foreign investment	✓	✓	✓	✓
Support to high-tech, high-growth entrepreneurship			✓	
Promotion of an innovation culture and entrepreneurial mindset	✓	✓	✓	✓
Provision of innovation financing			✓	
Boosting innovation in the public sector				
Promoting innovation in SMEs	✓		✓	✓
Provision of enhanced innovation support services and infrastructure		✓	✓	✓
Marketing the regional innovation profile			✓	✓
Workforce skills development	✓	✓	✓	✓

Source: SERIO 2009

## **Part Four: Range & Scope: a stakeholder perspective**

### **4.1 A qualitative assessment of regional knowledge transfer and innovation strategies**

PROTTEC Work Package One (2009) details regional demographic and economic profiles across all four regions. Work Package Two mainly focuses on, but not exclusively, the identification of the range and scope of knowledge transfer activities from interviews with key staff from partner institutions and stakeholders from the South West, UK and Bretagne, France. This was done so that the University of Exeter could interview stakeholders from comparable organisations (see Table Two).

Also, both Bretagne and the South West have analogous qualities: they are coastal, with most demographic and economic activity taking place in and around the coastal areas and benefit from marked economic diversity, but are largely dependent on a rural economy.

The interviews discuss motivations and drivers for knowledge transfer and the range and scope of knowledge transfer activities in different regions. They also give an overview of the knowledge transfer activities that are undertaken on an individual and organisational level.

### **4.2 UK stakeholders**

The UK stakeholders identified in the survey are a Science Park representative; a marine competitiveness cluster representative; a local authority representative; a membership-based voluntary knowledge transfer organisation; and a knowledge transfer office representative.

### **4.3 French Stakeholders**

The French stakeholders identified in the survey are a Technopôle/Science Park representative; a marine competitiveness cluster representative; a local authority representative; a membership-based voluntary knowledge transfer organisation; and a knowledge transfer office representative.

**Table two: Stakeholder representatives' roles**

<b>Stakeholder: France</b>	<b>Stakeholder: UK</b>
Technopôle representative: Deputy Director of Brest Technopôle	Science Park representative: Lay Member of the University of Exeter's Council/Science Park committee/Lay Lead for Dual Assurance in Research and Knowledge Transfer at the University of Exeter
Knowledge transfer office: Technology transfer officer, Bretagne Valorisation	Knowledge transfer office: Director of Research & Knowledge Transfer, University of Exeter
Local authority representative: Research and Service Manager, Brest Métropole Océane	Local authority representative: Chief Economist, Environment, Economy and Culture Directorate, Devon County Council:
Marine competitiveness cluster: Project Manager for the Brittany Maritime Cluster, SEApôle	Marine competitiveness cluster: Chief Executive Officer Marine South East
Knowledge transfer organisation: President, CURIE	Knowledge transfer organisation: committee member UNICO/PRAXIS and occasional course director and committee member for the European Technology Transfer Association (ASTP)

#### **4.4 Stakeholder organisations**

Each of the stakeholders describe their respective organisations, and the knowledge transfer activities that it undertakes, as follows:

##### **4.4.1 Brest Technopôle**

The Brest Technopôle is an association comprising 200 members (150 private technology-based – including service – companies. Its remaining 50 members are made up of research and higher education institutes in the Brest area. This includes large research organisations such as IFREMER.

Its main source of income comes from local authority funding, namely Brest Métropole. Some specific projects are funded by the French government and also some income is generated from private income streams and through Polemar/SEApôle.

Brest Technopôle is responsible for economic development through marine-related innovation in the Bretagne region. To do that it collaborates with companies and other technopôles in the area.

Knowledge transfer activities in Brest Technopôle can be summarised as follows:

- 1) Registering a start-up company: this has to be approved by each technopôle, there are seven in total. These companies can have an innovative technology or service and it is not limited to researchers. Brest Technopôle would help that company start-up and for that it acts on two levels: the first is as an incubator, which essentially means that it supports the company through its early stages – the French Law for Innovation also helps with this process; secondly it can assist the company with market studies, with the supply of specialist technical equipment and can also provide technical assistance.
- 2) Through the development of its own domain of excellence: for example, information technology, marine science, or life sciences, the technopôle was created in 1988 to get people working together, both private and public stakeholders, and both civilian and military. Through working together on collaborative projects it gets to know each other better and therefore can take this forward through developing new projects or new services that address something specific in the market. It also raises the profile of SMEs in the region. If projects are managed successfully then recognition is also achieved.
- 3) Promotion of the territory (locally, nationally and internationally): This is achieved through conferences such as Ocean Europe and through participation in EU-funded projects. Brest Technopôle has been involved with numerous international projects that ensures that it meets many different people. It has won around €1.5 million from Interreg-approved projects. The technopôle guarantees that people work together within an active framework.

#### **4.4.2 University of Exeter/Science Park, Exeter**

The University of Exeter receives around £35 million of research and contracts income a year. Not all of this leads to KT activities, but £13 million is invested into the university through partnerships with external links that could.

It runs grant-funded collaborative research projects, contract research with industry, joint funded PhD studentships and looks to set up collaborative partnerships in simple ways such as KTPs and graduate projects such as its Graduate Business Partnership and student summer schemes such as STEP. It also has the Innovation Centre, which brings companies together and enables networking and supports entrepreneurship amongst students. The university also focuses on engagement with the business school and, of course, students studying within it learn about business management; innovation is a key part of that.

One of the largest and simplest ways that the university participates in knowledge transfer is through teaching students who come onto campus and ensuring they end up in good jobs.

The least important by far, in terms of income-funding, is IP exploitation, however, it is a very important mechanism to encourage knowledge transfer partnership development, which can lead to knowledge transfer.

Long-term collaboration with industry is a strategic aim, by hooking into these collaborations both sides get a better understanding of each other's position. The university is keen to develop its IP portfolio, with a broad portfolio it can develop additional funding streams, another key university strategy.

The university is also involved with the new £120 million Science Park on the outskirts of Exeter, which is currently under development. It is a collaborative project between the South West of England Regional Development Agency (SWRDA), the University of Exeter, Devon County Council, Exeter City Council, East Devon District Council and the Met Office.

The Science Park will attract knowledge intensive firms to Exeter and will also enable the development of new businesses. It will link strongly with the University of Exeter Innovation Centre, which provides start-up units for new knowledge-intensive businesses. As these businesses grow they will be able to relocate to bigger premises on the Science Park.

The university is committed to knowledge exploitation and Exeter Science Park will help it to turn ideas generated at the University into marketable products and services.

#### **4.4.3 Bretagne Valorisation**

Bretagne Valorisation is an organisation that acts as an interface between researchers and industry partners and centralises technology transfer from eight national higher education organisations: four universities of Brittany – Université de Rennes 1, Rennes 2, Bretagne Occidentale and Bretagne-Sud – and four engineering schools – Ecole Nationale Supérieure de Chimie de Rennes, Institut National des Sciences Appliquées de Rennes, Ecole Normale Supérieure de Cachan - Antenne de Bretagne and Agrocampus Ouest.

Its main activities are:

- 1) marketing technology
- 2) securing technology
- 3) finding the best industrial partners to make sure that a project is successful.

When securing new technologies, a large proportion of a technology transfer officer's time is spent validating the technology and also finding potential patents. BV also develops its own technology. It is also necessary to research legal provenance; find all kinds of documents and publications relevant to patents that are in the public domain, so that interiority can be proved. If material is in the public domain then BV is not able to use it.

Searching for the best industrial partner for a project is a complex process and quite often it is achieved in stages. This can take about two years if it hasn't worked with the company before. First BV gives the company a small contract to test the laboratory before progressing to a larger one. It will usually take two or three steps to get to the large contract; and often requires the laboratory to make amendments to the technology to make it commercially viable.

BV's relationship with industry is very important for developing commercial potential. Part of a technology transfer officer's job is commercialising technology and adapting technology to making a final product. It is also important that BV is represented abroad to promote what it can do for technology transfer and for developing commercial viability.

#### **4.4.4 Brest Métropole Océane**

Brest Métropole Océane is responsible for the provision of services including higher education, healthcare, culture and leisure and public transport to a population of almost one million living throughout western Brittany.

Various leading centres of excellence ensure that Brest Métropole Océane has an influential role to play at a national and international level. A substantial network of SMEs, which has developed around the major industrial players such as Thales, DCN, Meunier and Alcatel, contributes to ongoing innovation. There is also a rapidly growing service sector.

Eight communes make up Brest Métropole Océane and are spread over an area of 220km<sup>2</sup>.

The Brest Métropole Océane (BMO) facilitates companies in knowledge transfer activities. It supports enterprises, universities, public research laboratories, schools etc. with infrastructure funding. BMO can help with equipment funding for laboratories for highly-specialised pieces of equipment and can also assist with operating costs.

It helps young companies in the Bretagne region by finding suitable buildings for them and by keeping rents on those buildings at a minimum so that the company can develop and employ local people. It doesn't directly get involved with personnel, but enables the company to grow.

BMO also assists competitiveness clusters in the region with funding. Competitiveness clusters encourage economic growth in the region. Generally they work on three-year collaborative projects, which means that companies within the cluster get to know each other. This, in turn, can lead to further collaborations.

BMO and the state play an important role in developing regional growth. BMO knows its small enterprises and financially assists the companies to remain in the town; this keeps people local and encourages companies to remain. There is no legal obligation for the company to stay if it has received funding in the past.

The funding and other assistance that BMO supports companies with helps to increase their competitiveness and growth.

#### 4.4.5 Devon County Council

Devon County Council's (DCC) knowledge transfer activities can essentially be split into two categories:

The first is its involvement with the University of Exeter, with which it has two or three major contracts. One of which is where the DCC funds a PhD-studentship for three years, which equates to about £15,000. This student will work on research in rural communities. It also has a five-year £90,000 agricultural management project running with the university, which is designed to look at land-based issues affecting rural communities and also investigate the main challenges to rural existence and farming.

Internally it also offers a number of Masters programmes for employees.

Secondly, it performs an economic development role with industry. One key project is the EU-funded knowledge transfer project ATLANT-KIS – Platform of Knowledge Intensive Services for Technology and Knowledge Transfer in the Atlantic Area. The project is aimed boosting trans-Atlantic co-operation in the maritime sector.

The general goal of the project is to enhance the knowledge transfer and innovation processes on SMEs through the promotion and co-operation of knowledge intensive services (KIS) in the Atlantic Area. Additionally, it also aims to contribute to the development of clusters of KIS at the Atlantic Area that might help identify the area as an excellent one in the provision and supply of KIS.

Specific objectives include:

- to design, implement and disseminate a methodology for the identification and transferability check of best practices at the regional policy level, enabling the promotion and dynamisation of KIS.
- to design, implement and disseminate a methodology for the mapping of regional and trans-regional demand and supply of KIS.
- to design and test a new model for the dynamisation and clustering of KIS at the regional and trans-regional level.
- to create a platform for the dissemination of KIS demand and supply maps at the trans-regional level and for the networking of KIS.

The DCC also offers grants for collaborative partnerships that look at improving technology uptake in industries such as hydro-electric power generation. It also provides grants that are used to enable industry to understand the new technologies that are available on the market and to further understand business benefits of the latest technology.

The DCC offers Technology Growth Plans. It has recently been quite active in the hydroelectric field. As a region it has limited manufacturing capabilities, therefore it tends to import the hydroelectric power-generating units. This means that, locally, the region does not create any added value through the uptake of the technology. By enabling Technology Growth Plans, the DCC can work with local manufacturers and collaborative partnerships so that they can commercialise local resources, for

example, manufacturing a local hydroelectric power-generating unit. The DCC would then have revenue share resulting from sales of the technology.

The DCC sees itself as enabling knowledge transfer activities. In May this year (2009) it organised a networking event that brought together the region's renewable energy specialists and the marine sector. This is because the Renewable Energy for Devon campaign had identified that closer collaboration between these two industries could provide an opportunity for marine companies to diversify into the renewables sector. This was because of similarities in technology and also because the renewables sector could benefit from having tailor-made solutions for the area, which could be sourced locally.

Projects such as the Devon Environmental Initiative would not exist without DCC. It can help to identify best practices in this area and also, a year ago, it helped to organise a networking event that encouraged local industries, such as hotels and restaurants etc, to source locally-produced produce. This initiative has been very successful.

Knowledge transfer activities also take the form of business support and community engagement. The DCC is involved with social enterprises and the production of tool kits that outline ways in which communities can undertake regeneration schemes. This empowers the community to make its own changes.

Most of its projects are long-term initiatives that are designed to really identify areas that need support through evidence-based research. This takes time.

Devon has an unemployment rate of only 2.3%, but a low economic value, as the region has some of the lowest salaries nationally. In fact, many are at subsistence level, which has a ripple effect on the economy. It squeezes wages to a minimum level, leaving the area relatively poor for such high employment. Also, despite employment being high, rates of innovation are low. This is why DCC works with businesses in the region to encourage knowledge transfer activity.

#### **4.4.6 Brittany Maritime Cluster**

The Brittany Maritime Cluster is one of sixteen global competitiveness clusters recognised by the French government in July 2005. It is a globally-focused hub of economic competitiveness, bringing together major companies, SMEs, public and private research laboratories, universities and selected higher education institutions located in Brittany. All work in the maritime sector. The Brittany Maritime Cluster combines its skills and expertise with those of the Toulon-based PACA Maritime Cluster on joint project work. Their ambition is to develop innovative products and services based on key technologies in order to achieve a competitive edge on world markets and to create opportunities and jobs.

The Brittany Maritime Cluster has a current membership of 300 members, 52% small and medium businesses, 17% are large companies and 17% are research centres and selective HE establishments; the remaining are professional representatives, Chambers of Commerce and Science Parks.

Members of the Brittany Maritime Cluster Association are divided into five constituent groups whose members elect representatives to the board of directors. The Brittany and PACA Maritime Clusters have set up a joint executive body – the committee for interregional management and co-ordination (CPCI) – comprising 4 members of the Brittany Maritime Cluster Bureau and four members of the PACA Maritime Cluster Executive Committee. The main aim of the CPCI is to guarantee consistency, avoid unnecessary duplication, ensure complementarities of projects recognised by the two Clusters and encourage promotion of excellence within the French maritime industry at a national and international level.

By joining the Brittany Maritime Cluster, members have the opportunity to:

- 1) meet potential professional and scientific partners to have a level playing field for maritime sectors. The cluster is divided into groups of common interest: maritime safety and security, shipbuilding and leisure boatbuilding, marine energy resources, marine biological resources, coastal environmental planning and development. Opportunities are created for these groups to meet on many occasions to join forces with companies and laboratories to share and enhance skills and expertise, find opportunities to cooperate among each other.
- 2) access resources relating to technology monitoring and economic intelligence, data and information sharing. Monthly publications for the members: the journal *Les ECHOS* and *BALISES* (economic intelligent information)
- 3) participate in joint economic development activities to promote opportunities to network and co-operate: common booths in different events; meetings with other organisations in Europe and worldwide.
- 4) partner in innovative projects proposed for approval to the Board of Directors of the cluster. To be eligible, the projects must have at least three partners: Minimum two enterprises (SMEs and major groups) and minimum one research organisation. The projects fall within the cluster's subject area remit and must also meet certain criteria in terms of innovation, technical standards and global positioning in the market.
- 5) benefit through such R&D projects from financial help earmarked for competitiveness clusters. From December 2005 to May 2009, the Board of Directors of the Brittany Maritime Clusters have approved 76 R&D and innovative projects with a budget of €218 million; 55 projects have secured funding with a total budget of €141 million and public grant of €50 million.

#### **4.4.7 Marine South East**

Marine South East is the regional marine initiative of the South East of England Development Agency (SEEDA). It was developed to tackle the critical issues affecting marine businesses in the region and support the economic development of the marine sector in the South East.

Marine South East consists of a small team that works with strategic partners to address the needs of marine businesses in the South East.

Specific aims include:

- increasing productivity through innovation.
- increasing market share by promoting business support services, clusters,

- networks and joint venturing.
- developing skills for the marine sector and workforce development initiatives.
- cross sectoral collaboration to improve innovation, research and development.
- development of international trade opportunities.
- liaison with Government to raise the profile of the industry.

Essentially its role is to help businesses access the technology that they need. It sees itself facilitating these interactions and the opportunity for technology transfer through collaborations. Marine South East says that is important to note that the transfer of technology comes from a business pull rather than an HEI/PRO push.

It is active in a number of EU-funded projects including PROTTEC and other collaborative projects including PATCH.

#### **4.4.8 CURIE**

CURIE is the French national association for public research realisation. It is a non-profit organisation and offers its services at cost. It aims to bringing together different actors working in the public technology transfer sector and help train them through various methods to promote innovation to industry and to give value to public research.

CURIE undertakes numerous training sessions for university staff about different aspects of technology transfer. Its first goal is to educate staff about patents & licensing and its second is to focus on how universities and research organisations can work with each other and collaborate with main stakeholders.

It divides its main activities into education, advocacy, networking and communication.

CURIE has 117 active members; 75 universities (83 in France); 25 engineering schools (with research activities); and 17 research institutes: contributing with universities. It also has 45 associate members, which are made up of consulting firms, industrial firms, venture capitals and structures involved in technology transfer.

CURIE tries to promote specific tools for technology or innovation transfer such as its laboratory notebook. It also aims to promote this and the French technology transfer model to the international community i.e. encouraging TTOs to work with several universities to strengthen knowledge transfer activities.

CURIE would like to become more active in setting out new initiatives and ventures and proposing new models and start-ups linked to Technopoles. CURIE's role in the process is to accelerate it.

CURIE has four full-time members of staff, but has very limited government funding. Most of its financial backing comes from sponsors and members.

Every year CURIE organises a staff exchange: promoting good practices and

transatlantic co-operation with USA, FAT2E.

This is part of a mandate given by the French Ministry of Research and Ministry of Foreign Affairs to organise hosts for French TT officers in a US office with the operational support of AUTM. There is an annual call for proposals and five people a year go on the exchange with lasts between one to three months in an American TT office. Feedback is then given at an open seminar.

CURIE aims to upgrade the skills of people working in the field of technology transfer in organising dedicated meetings, therefore as well as the staff exchange with the US, CURIE also organises an annual congress; workshops & technical days; and Capital IP and Capital transfer training sessions.

Other services that CURIE offers its members include:

Information sources such as daily emails; access to documents, analyses, notes, available on its website [[www.curie.asso.fr](http://www.curie.asso.fr)]; access to working groups, called “commissions”; job opportunities in the market place – offers & demands; a network members' directory.

CURIE also offers a techno push, which is a unique portal which makes available technology offers from the public research for companies and venture capitals: [www.f2t.fr](http://www.f2t.fr). And a techno pull, which is a search interface for companies to identify their required skills, which is available through technology transfer officers.

We also have a portal on our website that highlights technology offers from the public research and dedicated towards industrials and ventures: capitalists.

CURIE has a lawyer service and it can offer mediation services to researchers to help them deal with issues between the TTO and the university.

#### **4.4.9 Praxis**

Praxis delivers knowledge-based training on technology transfer issues by combining a thorough, professional education model with international academic and business excellence. Courses are offered on many subjects including:

- fundamentals of technology transfer
- creating spinout companies
- advanced licensing skills
- research contracts
- business development
- with associated workshops focusing on specialist topics.

Praxis is non-profit making, but market-driven and aims to continue to deliver excellent courses that meet a market need for the profession; and to maintain the financial stability necessary to deliver the courses at a price that makes them

accessible to staff at all levels. It does this pretty well – ratings for courses are consistently over 80% satisfaction.

#### *Programme Committee*

The programme curricula are designed by a volunteer committee comprising experts from universities, industry and government who are actively involved in different key aspects of the commercialisation of research.

The committee constantly looks at gaps in training provision; when it finds a gap it tries to plug it by designing the most appropriate course (long or short). Each committee member has a responsibility to plan and direct one course each year. The volunteer committee members have to be respected in their field and possess a desire and personal drive to participate. These are essential elements of all the volunteers.

Praxis currently doesn't have membership fees, it exists through course fees and some sponsorship. Praxis is now rolling in with UNICO, which, like ASTP, does have a membership-based fee system, whether Praxis will switch isn't known yet.

Praxis is self-sustaining and thus able to maintain complete autonomy (though PRAXIS received some capital at the outset even it now pays its own way from course subscriptions & sponsorship). This autonomy allows it to make decisions based purely on what it believes to be the best thing for members – it does not have to ask anyone or please everyone.

The Associations are, however, heavily reliant on a central secretariat, comprising paid staff that manages everything from project management, course logistics to publicity and finances.

#### **4.5 Stakeholder perspective: regional innovation drivers**

A number of main drivers and motivations for knowledge transfer in the region were identified by the stakeholders:

In the UK, the Science Park representative stakeholder, believes that, although the South West region is mainly dependent on a marine, rural and tourist economy, there is a healthy drive for innovation in the region. He does not believe that the region is satisfied with a wish to simply sustain its current existence.

He says that: 'The main drivers, motivators and barriers to successful knowledge and innovation transfer are: 1) supply 2) demand and 3) the barriers that exist between supply and demand.'

'There are pockets of natural innovation in the South West, but they are not numerous and need to be supplemented by spin-outs from its universities. The transfer of significant innovation-driven organisations, such as the Met Office, would have a significant impact on the region's economy; they would also transplant a little innovation zeal into the region. It would only take a handful more moves such as this to highlight the potential of Exeter's Science Park. Such moves would complement

and catalyse self grown organisations coming from people already in the South West

‘I think that there is a natural appetite for innovation in the region and the Science Park will be part of the region’s ability to diversify its economy and to essentially create a knowledge-based economy. A knowledge economy is this country’s future. I can see the South West’s wish to participate in that, as its current economic situation is not enough to sustain the region in a way that the leaders of the population wish

He notes that: ‘Physical proximity definitely acts as a catalyst to knowledge transfer activity. If you look at some areas of the US, this is very apparent. Examples include the development of Silicon Valley and the Research Triangle in North Carolina – here, physical proximity means about 15-20 miles.

‘When we look at the US and see what has driven innovation there are some significant differences. One obvious one is that they have been doing it a lot longer. They also have a pioneer spirit that naturally migrated to a wish to innovate and a wish to get rich. Also in the US, there is a well-established culture of investors not taking fees from emerging companies, but being paid in shares in the company instead; some of these shares grew to be worth a lot, some don’t but the culture accepts this,’ highlights the UK Science Park stakeholder.

He notes that: ‘At the moment, I think that innovation is largely being driven by industry activists; clusters also drive innovation. In my view, people are naturally innovative and substantial parts of businesses are naturally innovative, but there are some intentional and non-intentional barriers that stop this natural appetite.

The UK Science Park representative stakeholder also hopes that the Science Park, which is planned for the South West will help to drive innovation in the region. He says that: ‘In Science Parks, proximity works. I also believe that you need clusters comprising similarly positioned businesses and also suppliers and customers. Communication is also a life-blood for innovation. For many activities modern methods of communication have pretty much negated the need for travel. However, nothing replaces the impact that face-to-face contact creates. Other methods of communication work well once a relationship has already been established.’

The UK knowledge transfer organisation representative stakeholder says that: ‘The main motivation for knowledge transfer has to come from academics and research.’

When thinking about his work for Praxis – which delivers knowledge-based training on technology transfer issues – he says that: ‘Our main role is to support knowledge transfer professionals to do a better job; government likes what we do, but we aren’t driven by them; also we help TTOs and KTOs to do a better and more enlightened job, raise visibility (through case studies) and show what we can do and illuminate what we do actually do.’

‘From a personal perspective there isn’t much incentive to drive knowledge transfer; universities do undertake some financial consultancy, which works well if the academic is interested, but definitely doesn’t if they’re not. If interested, many academics will do the research for fun!’

He also believes that clusters work well for driving innovation and adds that: ‘If you have competition then you get innovation; clusters can work well in this capacity.’

Sharing a similar viewpoint is the knowledge transfer office representative stakeholder. He says that: ‘I don’t think that there is an effective innovation framework in the region. There have been repeated attempts at creating one and, in my opinion, none have been successful. Where the region has been successful is in building property-based innovation such as Innovation Centres... To drive knowledge transfer in the region, we need to create a vibrant sector-based innovation culture and grow the investor base and professional expertise networks.’

As for other innovation drivers, the knowledge transfer office representative stakeholder thinks that the professional community has a role to play. He says that: ‘Individuals drive innovation and these are supported by networks within which an innovation culture comes into play.’

Speaking as a stakeholder for the South West local authority, the representative says that: ‘I think that the main drivers for knowledge transfer in the region are a top down push from government and, to a much lesser extent, a bottom up pull from businesses. So legislation and demand.

‘Incomers to the region also drive knowledge transfer; this is particularly evident in the IT sector, where there is a level of service expectation which can drive the local standard, this however, is a pretty small driver.

‘Other motivators include the fact that businesses innovate because of pressures from competitors and we also can’t exclude the impact that public sector procurement has on the region. Regional economic development is a significant factor in knowledge transfer activities,’ he adds.

He also agrees that Business and Science parks could serve to drive innovation in the region, but he think that universities and industry could also play a larger role.

The UK local authority stakeholder representative says that: ‘Companies in the region are already in a competitive market, and maintaining that competitiveness means that you need to innovate. Relatively speaking, however, there is not a major competitive drive in Devon.

‘The fact remains that Devon is not a particularly innovative area and the potential to innovate seems limited. Five per cent of the regions businesses are farms, are apart from diversification and perhaps switching to organic production, there aren’t many innovative leaps that this industry could make. Also 15 per cent are hotels & B&Bs that are quite often run on a life-style basis. Over half the businesses in Devon earn less than £50,000.

‘Twelve per cent of Devon’s employment is in manufacturing, which potentially has the largest scope for innovation, but these companies are often family-run businesses that change little over the generations. Family-run businesses also create the idea that there is no need for the next generation to go to university because they will simply

enter the family business. This exacerbates the limited opportunities for these businesses to change.

‘It would be good to have a way for all businesses, including the leisure industry, to learn through work placements, secondments and job rotation. But the fact is that Devon has a life-style led economy; people tend to innovate in other regions and then settle in Devon for the ‘quiet-life’; this does not make for a region driven by innovation and entrepreneurial spirit. We also find that graduates from the region’s universities don’t remain; however, they tend to migrate back once they have families.’

He highlights a relatively untapped innovation resource in the form of retired business people. He explains that: ‘They often become members of commerce, which could give the region significant advantage. It seems that we have valuable resource of experienced business personalities and a youthful population ready to learn, which if bought together could prove extremely valuable for knowledge transfer activities.’

The UK marine competitiveness cluster stakeholder representative says that customer-driven needs or new-customer requirements are the main drivers and motivations for knowledge transfer in the region. However, he adds that: ‘Knowledge transfer is driven by companies needing an enhanced product or a solution to a problem or a new product. In the marine industry particularly, knowledge transfer is also driven by regulations.’

He adds that: ‘The increased need for profitability is also an innovation driver. It is important that companies become more profitable because unless they do they can’t innovate.’

‘Often small companies can’t innovate because they can’t afford to take on new staff or adopt new technologies, so they effectively rely on obsolete technology and an existing customer base, which is unsustainable. However, it is difficult for companies to find time or resources to do this and even better-off companies still only manage to find a small amount of time dedicated to innovation,’ he says.

A similar range of opinions were voiced in France, with the French knowledge transfer organisation representative stakeholder noting that: ‘The main economic drivers for knowledge transfer are innovation; the economic growth of the region, and globally, is dependent on innovation. Politics are organised around this. France also has competitiveness clusters that are organised at the regional level and therefore are responsible for driving innovation at the regional level.’

‘The opportunity for innovation is driven by regional politics; this is certainly the case in Brittany and probably for every region. I would like us to consider the concept of open innovation.’

‘If politics dictate that innovation is key for economic growth, then how do we organise this? In this sense, competitiveness clusters are not that efficient and therefore can’t innovate as effectively as we would like. Universities need direct links with industry to be more efficient.’

He adds that: ‘I also think that universities have an increasingly important role to play in the development of SMEs as they have to look for sources of innovation to survive. CURIE can help by organising IP workshops and being a source of information. This assistance is needed for a few years while the company establishes itself. Part of the problem is that, in general, SMEs don’t have enough innovation support and need organisations like CURIE.’

Helping to form these links is CURIE, the French national association for public research realisation. It is a non-profit organisation and offers its services at cost. It aims to bringing together different actors working in the public technology transfer sector and help train them through various methods to promote innovation to industry and to give value to public research.

‘The key part is to work together. In this region people work well together, but this is unlike other regions in France. Brittany has the capacity to work together and improve regional innovation. It is a question of the team that you work with and the project. It is important that you have the best team for the job, something that is often difficult to get right,’ stresses the knowledge transfer organisation representative.

‘Main drivers of knowledge transfer in the region [Brittany] are competitiveness clusters. However, there are no current strategic drivers and motivations for knowledge transfer in the region,’ says the French knowledge transfer office representative stakeholder. ‘In my opinion they are random and accidental. If there is no real strategy to engage industry and universities in technology transfer in the region, then there is no real chance to exchange information and understand what is needed.’

‘France has begun to change this situation with the introduction of technopoles, which have been created to undertake industry-focused research, but there needs to be more of a link between universities and industry,’ he notes.

The French Technopôle/Science Park stakeholder representative says that: ‘The main drivers for knowledge transfer in the region are the development of new businesses and private enterprises. These are then responsible for regional economic development. If Brest is to remain competitive then Brest needs to strengthen its research position.’

‘We need to attract more companies to the region and we need to develop strategies for keeping business in the region because these will ensure its economic sustainability. All of these reasons are good motivations for regional knowledge and technology transfer,’ he notes. The French Technopôle/Science Park stakeholder representative also sees funding as an innovation driver, along with the fact that a high diversity of research can drive innovation for the region.

The French marine competitiveness cluster stakeholder representative also sees competitiveness clusters as having an important role in regional knowledge transfer activities: ‘The collaborative and innovative projects selected by the cluster are likely to generate significant economic returns for the region. Their ambition is to develop innovative products and services based on key technologies in order to achieve a

competitive edge on the markets and to create opportunities and jobs.’

The French local authority stakeholder representative considers regional economic development and improvement of the territory to be important drivers in knowledge transfer. ‘If organisations like BMO encourage growth in the region then companies will come. This encouragement helps to create new projects and adds value to the region. Although we are positioned on the coast, the sea isn’t our main source of regional income, other things such as science and technology and information and communication technologies are much more influential drivers.’

She says that: ‘Research drives innovation in the region. Without research there is no innovation and no added value. It is important for the collective environment and is a good source of new ideas, therefore we need to support it. The local government and regional government must drive innovation.’

And adds: ‘If we had more money we could do more. I think that the transfer of innovation to industry is limited by funding.’

#### **4.6 Stakeholder perspective: knowledge transfer & the role of the university**

On a UK-wide level, the Lambert Review (2003) finds that universities are playing an increasingly important role in regional economic development, building bridges between business and universities across the regions and nations. It recommends that the targets set for the English Regional Development Agencies should be changed, to give a greater emphasis to building such relationships.

This viewpoint is echoed by the French National Strategy for Research and Innovation (2009), which calls for research organisations and universities to collaborate more with companies, particularly with SMEs, both in regional and national poles to create an ecosystem for innovation and competitive at an European level.

The Lambert Review also shows how universities are working together with local and regional agencies to develop their own science-based clusters. It suggests that the UK’s Department of Trade and Industry (DTI) should shift the pattern of regional support away from job creation schemes and towards more value-added programmes, including collaborative R&D projects with universities.

From a stakeholder’s perspective, the perceived role and importance of HEIs in knowledge transfer activities are mixed. Although all agree that HEIs, Public Research organisations, and entities like the technopôle that exist in France, have a part to play, opinion is divided as to how important this part is.

The UK Science Park representative stakeholder says that: ‘I think that HEIs are an absolute essential. In my experience, dynamic industries have developed from having strong links with HEIs. The way to develop this is through clusters of innovation and technology. This is happening with the University’s Innovation Centres and we hope to develop it further with Exeter’s Science Park.’

‘The region has an appetite for innovation, not homogenous, but it is significant. It has an appetite to go down the path of a knowledge economy and the region’s universities have a significant role to play.

The region has some brilliant academics, and many are strongly motivated to transfer knowledge to improve regional economic development, to improve social issues and to solve technological problems, however, I would say that only about 10% are active in knowledge transfer and perhaps about 20% would be active if it was made easier for them or more rewarding,’ he notes.

The UK local authority stakeholder representative says that: ‘They are increasingly important. The university is getting better. This has been driven by a top push down from central government in terms of funding strategies and national policy, but it has also been because of a bottom pull down from industry increasing its engagement with universities.

‘An issue that universities continue to struggle with is research application. They still do research for the sake of research, there has to be much greater involvement with industry for universities to become more important in region knowledge transfer activities. However, they are changing internally without external pushes or pulls, but they are at an early stage.’

The UK marine competitiveness cluster stakeholder representative notes that: ‘They are important in the sense that some companies recognise that they are a source of innovation and technology. Their non-commercial nature makes them more approachable by businesses, but engagement is on an ad-hoc basis. They are important, but they certainly aren’t the only source of knowledge transfer activities in the region.’

‘They are a drop in the ocean,’ says the UK knowledge transfer organisation representative stakeholder. ‘On a regional level they have little impact, but perhaps this changes on the national and global level. Some schools, namely architecture and Medicine, at some universities are well connected with industry, but essentially there is a lot of work to be done in this area. Some impact is made with PhD studentships and Knowledge Transfer Partnerships, but this is limited.

‘Universities can’t do much alone, but if part of a regional plan for innovation, then they could probably do a lot more.’

UK knowledge transfer office stakeholder representative says that: ‘‘They have an important role to play, but in terms of innovation generation, they have a limited any impact on the region.

‘If we are considering HEIs from a research perspective, and trying to create a centre in the region that specialises in key specific areas of research, which attracts commercial interest and jobs , then we are quite important. However, we certainly wouldn’t limit our effort to this to a regional perspective alone.

The UK knowledge transfer office stakeholder representative adds that: ‘We are selective in who we engage with for a number of reasons. One reason is that we wouldn’t necessarily be able to deliver every customer need, therefore we focus on what we can do. In my experience there is not a huge demand from companies desperately trying to engage with the university in knowledge transfer activities (with money). There are some, and these tend to gain great benefits, but not many. And given how time-consuming it can be for us to engage with each business problem, it is difficult to see how to drive up the volume of activity in a sustainable way. There is a very under developed market and not enough understanding by business of the significant value that university engagement can bring so therefore the price we can attract is not high enough to justify the effort.’

In France, the strength of opinion was also varied as to the importance of HEIs in regional knowledge transfer activities. French local authority stakeholder notes that: ‘The founding principles for the cluster are to keep the local dynamism (cluster effect); respect the territorial anchor; and maintain a local function, which includes the HEI. However, co-operation with other regional clusters in France and in Europe are also encouraged to develop this dynamic approach and to stimulate a shared investment portfolio of innovation around shared interests, and facilitate the access of SMEs to internationalisation through clusters.’

The French Technopôle/Science Park stakeholder representative says that technopôles, HEIs and public research organisations are key to knowledge transfer activities: ‘Without the technopôle there would be no science park. They are the main drivers of knowledge transfer activities in the region. Without the determination of the technopôle there would not be a new satellite reception station in Brest. This is a critical piece of technology for many marine-based institutions and without this, much research funding and credibility would have been lost to another region because we wouldn’t be able to undertake projects that require the satellite link. We are a fundamental source of technology transfer.’

The French Knowledge transfer office stakeholder explains that: ‘The government has no current strategy for knowledge transfer activities in the region. We see ourselves as an interface between HEIs and industry. I think that the future success of technology transfer in the region will come from a more strategic design.’

Adding that: ‘Technology transfer activities will become more dependent on government strategies that target funding into particular areas. In general it is important for the universities to attract the best students and also PhD applicants so that the region retains the best sources of innovation.’

French knowledge transfer organisation stakeholder, notes that: ‘In terms of an actual figure they are 6% responsible for technology transfer activities in the region. However, that isn’t to say that they are not key to the region, specifically in Brest; without them there wouldn’t be a source of innovation for development in Brest.’

French local authority stakeholder, says that: ‘Financially they are extremely important even though there are not many. We provide them with the tools that they need to develop. There is also funding provided to help universities with introductions

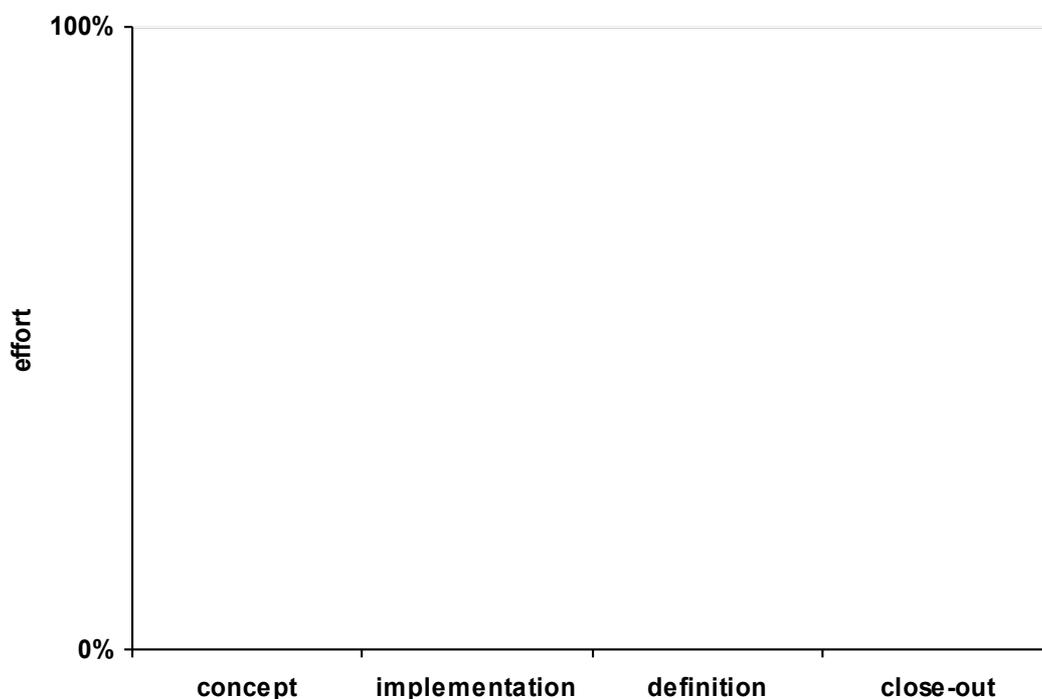
into networks.

She explains that: ‘Politics have a significant impact on the types of knowledge transfer activities in the region. This funding acts as a framework for projects. An example of this is CPER. CPER (State-Region Project Contract) is a document signed by the state and a French region; they agree on programming and funding major projects for six years, such as infrastructure building or industrial activity support. Other communities (local councils, urban communities) may join a CPER and contribute to project funding.

‘The Ministry of Research participates in CPER through its regional services, and the DRRT (Regional Delegations for Research and Technology). The CPER acts a framework for decisions about funding new initiatives, but it is not a real objective for the region,’ says the French local authority stakeholder.

#### 4.7 Stakeholder perspective: a question of time

Each of the stakeholders were asked about their input into the knowledge transfer activities that they undertook, some commented on a personal level, while others considered the organisation as a whole. Their responses were plotted on a graph to gain a visual representation of input.



*Figure three: Example of knowledge transfer input graph used in questionnaire*

On the graph, the knowledge transfer activity was presented as a four-stage process: concept, definition, implementation and close-out (Figure Three). What the findings note is that interviewed stakeholders are most commonly involved with the initial concept creation and definition stages. This is because many stakeholders' managerial roles require them to set-up and establish knowledge transfer activities rather than action them.

UK Knowledge transfer office stakeholder notes for his personal input, that: 'I start outside the graph because I am responsible for clearing the path with key university personnel before many knowledge transfer activities begin. However, if this were representing my office, then the graph could almost be reversed.'

Where stakeholders have been involved in the initial phases, the findings then note a final engagement in the activity. In France this can be in the form of a grant for helping a young SME to become established, or the input could be about ascertaining how the project progressed, and areas where it could be improved.

French local authority stakeholder is responsible for the provision of services including higher education, healthcare, culture and leisure and public transport to western Brittany, says that: 'If this is an example of our input into a start-up company, for example, our input during close-out increases to improve the companies' competitiveness once they have been established. The close-out phase of a project could also include a two- to six-month secondment or a six-month to one-year placement funded by BMO.'

Stakeholders that conduct most of their input in the implementation phase, include representatives from the French marine competitiveness cluster, the UK local authority, the knowledge transfer organisation and would also include the UK knowledge transfer office representative if it had been taken from office-perspective.

#### **4.8 Stakeholder perspective: room for improvement**

Many of the stakeholders shared their views about improving innovation uptake by industry and the effectiveness of regional knowledge transfer strategies. A general comment was that the regions lacked an overall knowledge transfer strategy, this was particularly highlighted in Bretagne, France.

In discussing the reasons as to why Europe has lower rates of innovation uptake when compared to the US or Japan, the UK Science Park stakeholder representative had the following comments: 'I believe that difference in the rates of innovation uptake in the US and in Japan in comparison to Europe happen for a number of reasons. Firstly, in the US, they have been doing this type of work for much longer than in Europe. Also there is a fundamental difference in attitude with the American people. In America the pioneer spirit still exists along with a very strong drive to 'get rich' and to do well. This pioneer spirit transferred well into successful activities in science and technology.

'In the US, it has been my experience that across cities and states, if a barrier is encountered then something is done about it. This has resulted in significant areas of

innovation such as the North Carolina Research Triangle, which was developed because of a need to revive a failing economy. Through a natural drive for innovation and significant investment in infrastructure, this is now an excellent example of a dynamic innovation centre, with a strong self-help mechanism in place. It also came about because of a strong top down push from government.

‘I think that the reasons for success in Japan are very different and can’t be used in comparison with Europe. After the humiliation of the Second World War, Japan strived to do what it could to regain a sense of pride and status, this manifested itself in a significant drive to rebuild the economy and along with that, it undertook huge technological advances. The culture that exists in Japan around failure is another reason for its success; failure is so publicly humiliating that the drive for success is superseded almost everything else.

‘In the South West we have some brilliant people who are highly motivated in their fields. In Exeter we have a top class Higher Education, which is now in the Top 10 in the UK and will be in the Top 100 in the world in the next decade. It is committed to creating and assisting innovation. We also have an excellent environment and a great quality of life. Economic and social progress through innovation is there for the taking. We need to identify and break down barriers where they exist and to fund the best mechanisms for innovation,’ he concludes.

UK knowledge transfer organisation representative says that: ‘Essentially we need to build on strengths and negate weaknesses.’

He adds that: ‘Technology transfer will disappear unless 1) we receive a continuous stream of ring-fenced funding 2) academics and universities cannot possibly work without our input and therefore the universities divert resources to us.

‘How many things can you actually do to improve knowledge transfer activities? The list isn’t that long:

- 1) Build spanners that can facilitate interactions between separate stakeholders. By building spanners, the focus of ASTP and Praxis, you can help form the appropriate links between universities and industry that are needed.
- 2) Spend money effectively and more professional information mechanisms.
- 3) Provide seed funds for more proof of concept projects rather than just for research potential.
- 4) Gap funding, for building the framework for knowledge transfer, as the key is for it to be an embedded activity.
- 5) Marketing, publicity and events for en masse interactions, which raise your profile and ability to network.

‘Also physical proximity in places such as science parks are an effective way to engage both universities and industry in knowledge transfer activities, they form the stepping stones for spin-outs and potential business opportunities,’ he highlights.

The UK knowledge transfer office stakeholder points out that: ‘Over the years many different strategies have been used to try and create a coherent strategy to advance

knowledge transfer activities in the region. None quite work and I wonder whether or not this is because there simply isn't enough of an incentive.

'The RDA has been ineffective in developing innovation in the region, but it has been successful at developing a good infrastructure. If we now have the infrastructure, it could therefore be possible to undertake many more things that enable innovation and knowledge transfer growth, both regionally and internationally, but the difficulty is how to go about it,' he says.

The UK local authority stakeholder says that: 'The public sector recognises the need for knowledge transfer activities in the region and also understands that it needs to do more to drive innovation. It sees organising networking opportunities as crucial to the success of knowledge transfer activities,' he adds that: 'The DCC needs to continue to offer support in a variety of forms to SMEs.'

The UK marine competitiveness cluster representative stresses that: 'The biggest need is to have more joined-up thinking from policy makers. Innovation only happens if there is a customer need, the technology and resources available to meet it, and the skills to make it happen. Government tends to separate these issues into three separate problems instead of thinking about them in a combined way.'

From France, its knowledge transfer office representative says that: 'Knowledge transfer has a lot of growth potential in France. It takes time to secure technologies for transfer and to find the right people to develop them.

'In the future, Brittany must bring the public domain closer to the university research community; we need to open up universities to the public and explain, in a language that people will understand, what universities can do for industry. We also need to attract people back to universities as student numbers have been falling year-on-year in the region.

'Significant changes are happening to universities in France and funding will become even more competitive. At the moment technology transfer is a small aspect of university activity, but with these changes and a more strategic drive from government, I hope that technology transfer will grow to support new ventures and innovations in the region,' he points out.

In addition to her comments about funding driving innovation, the French local authority stakeholder explains that: 'Our budget for research and innovation has remained, so we are happy that it has not been reduced and hope for the same next year.

'The idea of technology transfer and knowledge transfer are new for the region, so it will take time for some good practices to become established. We also need to develop our relationship with enterprises and to work more closely with all involved in the process of innovation transfer. It would also be good to have a common fund for some projects and it is important to have a project leader that has experience in industry,' she highlights.

The report also notes that the majority of stakeholders were not aware of specific strategies to engage SMEs in knowledge transfer activities. Contact with SMEs was arranged, for the majority, on an ad-hoc basis. The two respondents that highlight specific strategies were from corresponding UK and France marine competitiveness clusters.

**Table three: Overview of stakeholder responses**

<b>Stakeholder: France</b>	<b>Stakeholder: UK</b>
<p data-bbox="236 600 719 667"><b>Technopôle representative: Deputy Director of Brest Technopôle</b></p> <p data-bbox="236 857 687 925"><b>Type of activities undertaken for organisation</b> Managerial responsibilities for the Brest Technopôle &amp; responsible for economic development through marine-related innovation in the region.</p> <p data-bbox="236 1151 624 1184"><b>Regional innovation drivers</b></p> <ol data-bbox="284 1189 799 1440" style="list-style-type: none"> <li>1) Technopôles</li> <li>2) Development of new businesses and private enterprises</li> <li>3) Funding</li> <li>4) a high diversity of research, both in the civilian and military sectors, can drive innovation for the region</li> </ol> <p data-bbox="236 1480 699 1547"><b>The role of the HEI in knowledge transfer</b> They are key. And technopôles are a fundamental source of technology transfer</p> <p data-bbox="236 1664 703 1731"><b>Input into the knowledge transfer activities</b> Most active in definition phase, but quite active in concept phase. Active to a lesser extent at close-out.</p>	<p data-bbox="826 600 1342 813"><b>Science Park representative: Lay Member of the University of Exeter’s Council/Science Park committee/Lay Lead for Dual Assurance in Research and Knowledge Transfer at the University of Exeter</b></p> <p data-bbox="826 857 1278 925"><b>Type of activities undertaken for organisation</b> Offers commercial, technical and academic expertise to the University of Exeter focusing on the organisation’s science strategy and innovation flowing from this.</p> <p data-bbox="826 1151 1214 1184"><b>Regional innovation drivers</b></p> <ol data-bbox="874 1189 1326 1406" style="list-style-type: none"> <li>1) Supply</li> <li>2) Demand</li> <li>3) The barriers that exist between supply and demand</li> <li>4) Industry activists</li> <li>5) Clusters/science parks</li> </ol> <p data-bbox="826 1480 1289 1547"><b>The role of the HEI in knowledge transfer</b> HEIs are an absolute essential.</p> <p data-bbox="826 1664 1294 1731"><b>Input into the knowledge transfer activities</b> Lay Member of the University of Exeter’s Council; Lay Lead in Dual Assurance for Research and Knowledge Transfer at the University of Exeter; and sits on the University’s Science Park Board.</p> <p data-bbox="826 1955 1369 1989">Most activity in concept phase with equal</p>

<p><b>Specific strategy to engage SMEs in knowledge transfer activities with HEIs</b> No specific strategy; ad-hoc basis at conferences etc.</p> <p><b>Suggestions for improving innovation uptake/effectiveness of knowledge transfer</b></p> <ol style="list-style-type: none"> <li>1) Strengthen its research position</li> <li>2) Attract more companies to the region to ensure its economic sustainability</li> </ol>	<p>amounts of smaller input in definition and implementation phases.</p> <p><b>Specific strategy to engage SMEs in knowledge transfer activities with HEIs</b> Limited: some mentoring activity</p> <p><b>Suggestions for improving innovation uptake/effectiveness of knowledge transfer</b></p> <ol style="list-style-type: none"> <li>1) Need to identify and break down barriers where they exist</li> <li>2) Find the best mechanisms for innovation</li> <li>3) Look at US best practice for developing an innovation culture</li> <li>4) Investigate successful clusters</li> </ol>
<p><b>Knowledge transfer office: Technology transfer officer, Bretagne Valorisation</b></p> <p><b>Type of activities undertaken for organisation</b></p> <ol style="list-style-type: none"> <li>4) marketing technology</li> <li>5) securing technology</li> <li>6) Finding the best industrial partners to make sure that a project is successful.</li> </ol> <p><b>Regional innovation drivers</b></p> <ol style="list-style-type: none"> <li>1) Competitiveness clusters</li> <li>2) Technopôles</li> </ol> <p><b>The role of the HEI in knowledge transfer</b> No current strategy for knowledge transfer activity in the region.</p>	<p><b>Knowledge transfer office: Director of Research &amp; Knowledge Transfer, University of Exeter</b></p> <p><b>Type of activities undertaken for organisation</b> Leads on strategically important initiatives, such as international collaboration and the University's Innovation Centre and Science Park, and on building links with the business community.</p> <p>Shapes the environment in which the university's knowledge transfer activities are conducted and the direction in which they develop. Also involved with some of the key strategic industry negotiations.</p> <p><b>Regional innovation drivers</b></p> <ol style="list-style-type: none"> <li>1) The professional community</li> <li>2) Individuals</li> <li>3) Training and support for people that go into businesses</li> </ol> <p><b>The role of the HEI in knowledge transfer</b> They have an important role to play, but in terms of innovation generation, they have a limited any impact on the region.</p>

<p><b>Input into the knowledge transfer activities</b>  Apart from the three core activities, approximately one month a year is spent representing BV in France and abroad and engaging with politicians representing the region.</p> <p>Most active during latter half of concept and the beginning of the definition phase and again at close-out.</p> <p><b>Specific strategy to engage SMEs in knowledge transfer activities with HEIs</b>  No specific strategy</p> <p><b>Suggestions for improving innovation uptake/effectiveness of knowledge transfer</b></p> <ol style="list-style-type: none"> <li>1) Bring the public domain closer to the university research community</li> <li>2) A more strategic drive</li> </ol>	<p><b>Input into the knowledge transfer activities</b>  Active prior to start of knowledge transfer activity; most active in concept and definition phases.</p> <p>At the end of the process, there is input again, which is essentially about relationships; fostering closer company ties, assessing how the project went etc.</p> <p><b>Specific strategy to engage SMEs in knowledge transfer activities with HEIs</b>  Limited strategy</p> <p><b>Suggestions for improving innovation uptake/effectiveness of knowledge transfer</b>  Create more of an incentive for knowledge transfer</p>
<p><b>Local authority representative: Research and Service Manager, Brest Métropole Océane</b></p> <p><b>Type of activities undertaken for organisation</b>  Managing the direction of economic development of Brest and the collective economic development of the city</p> <p><b>Regional innovation drivers</b></p> <ol style="list-style-type: none"> <li>1) Regional economic development and improvement of the territory</li> <li>2) Research</li> <li>3) regional government must drive innovation</li> </ol> <p><b>The role of the HEI in knowledge transfer</b></p>	<p><b>Local authority representative: Chief Economist, Environment, Economy and Culture Directorate, Devon County Council</b></p> <p><b>Type of activities undertaken for organisation</b>  Economic analysis; strategy development, overseeing major economic initiatives undertaken by DCC, including business parks such as Sky Park and Exeter Science Park.</p> <p><b>Regional innovation drivers</b></p> <ol style="list-style-type: none"> <li>1) top down push from government</li> <li>2) lesser extent: a bottom up pull from businesses</li> <li>3) competition between businesses</li> <li>4) public sector procurement</li> <li>5) regional economic development</li> <li>6) Business parks and the Science park</li> </ol> <p><b>The role of the HEI in knowledge transfer</b></p>

<p>Financially they are extremely important even though there are not many</p> <p><b>Input into the knowledge transfer activities</b> Main aims to help higher education institutes and research organisations with competitiveness cluster projects; to assist students with new equipment and the development of new technology (BMO input into a start-up company).</p> <p>Mostly active in the concept and definition phases with input again at close-out.</p> <p><b>Specific strategy to engage SMEs in knowledge transfer activities with HEIs</b> No specific strategy (case-by-case basis); but the BMO does differentiate between SMEs and large companies; as its main focus is on SME activities.</p> <p><b>Suggestions for improving innovation uptake/effectiveness of knowledge transfer</b></p> <ol style="list-style-type: none"> <li>1) The transfer of innovation to industry is limited by funding.</li> </ol>	<p>Increasingly important</p> <p><b>Input into the knowledge transfer activities</b> Mostly in the latter part of the concept, definition and implementation phases</p> <p><b>Specific strategy to engage SMEs in knowledge transfer activities with HEIs</b> No specific strategy, but the DCC does differentiate between SMEs and large companies; as its main focus is on SME activities.</p> <p><b>Suggestions for improving innovation uptake/effectiveness of knowledge transfer</b></p> <ol style="list-style-type: none"> <li>1) It would be good to have a way for all businesses, including the leisure industry, to learn through work placements, secondments and job rotation.</li> <li>2) Successful business people tend to retire here. They often become members of commerce, which could give the region significant advantage. It seems that we have valuable resource of experienced business personalities.</li> <li>3) The DCC needs to continue to offer support in a variety of forms to SMEs. One such method that is still currently running is business angels.</li> </ol>
<p><b>Marine competitiveness cluster: Project Manager for the Brittany Maritime Cluster, SEApôle</b></p> <p><b>Type of activities undertaken for organisation</b></p>	<p><b>Marine competitiveness cluster: Chief Executive Officer, Marine South East</b></p> <p><b>Type of activities undertaken for organisation</b></p>

<p>engineering &amp; animation team, in charge of coastal environmental planning and development and international co-operation</p> <p><b>Regional innovation drivers</b></p> <ol style="list-style-type: none"> <li>1) economic from collaborative and innovative projects</li> <li>2) Key ‘historic’ players: leading companies and research institutions</li> <li>3) Historical dynamic of networks</li> <li>4) Strong regional based links</li> </ol> <p><b>The role of the HEI in knowledge transfer</b></p> <p>Important for keeping cluster effect</p> <p><b>Input into the knowledge transfer activities</b></p> <p>Mainly involved in the definition and implementation phases</p> <p><b>Specific strategy to engage SMEs in knowledge transfer activities with HEIs</b></p> <p>Yes, aimed to help establish dialogue between the scientific community, the SMEs and the major groups.</p> <p><b>Suggestions for improving innovation uptake/effectiveness of knowledge transfer</b></p>	<p>Running MSE and helping businesses access the technology that they need by facilitating these interactions and the opportunity for technology transfer through collaborations. The transfer of technology comes from a business pull rather than an HEI/PRO push.</p> <p><b>Regional innovation drivers</b></p> <ol style="list-style-type: none"> <li>1) customer-driven needs</li> <li>2) new-customer requirements</li> <li>3) regulation driven (marine industry)</li> <li>4) increased need for profitability</li> </ol> <p><b>The role of the HEI in knowledge transfer</b></p> <p>Important in the sense that some companies recognise that they are a source of innovation and technology, but engagement is on an ad-hoc basis.</p> <p><b>Input into the knowledge transfer activities</b></p> <p>Split between identifying and facilitating the opportunity for collaboration and then the background work of managing the contract.</p> <p>Mainly active in concept and definition phases</p> <p><b>Specific strategy to engage SMEs in knowledge transfer activities with HEIs</b></p> <p>Yes, related to SEEDA’s Regional Economic Strategy</p> <p><b>Suggestions for improving innovation uptake/effectiveness of knowledge transfer</b></p> <p>Biggest need is to have more joined-up thinking from policy makers. Innovation only happens if there is a customer need, the technology and resources available to meet it, and the skills to make it happen. Government tends to separate these issues into three separate problems instead of</p>
---	--

	thinking about them in a combined way.
<p><b>Knowledge transfer organisation: President, CURIE</b></p> <p><b>Type of activities undertaken for organisation</b> All aspects of CURIE; promote exchanges between French and foreign technology transfer professionals</p> <p><b>Regional innovation drivers</b> 1) The main economic driver is innovation 2) Universities 3) competitiveness clusters 4) people working well together</p> <p><b>The role of the HEI in knowledge transfer</b> 6% responsible for technology transfer activities in region, but they are a key source of innovation for the region, specifically in Brest</p> <p><b>Input into the knowledge transfer activities</b> 50% of time as Deputy Director of Bretagne Valorisation and 50% for CURIE</p> <p>Fairly consistent involvement in activities, but mainly in concept and close-out</p> <p><b>Specific strategy to engage SMEs in knowledge transfer activities with HEIs</b> No specific strategy</p> <p><b>Suggestions for improving innovation uptake/effectiveness of knowledge transfer</b> 1) Universities need direct links with industry to be more efficient.</p>	<p><b>Knowledge transfer organisation: committee member UNICO/PRACTIS and occasional course director and committee member for the European Technology Transfer Association (ASTP)</b></p> <p><b>Type of activities undertaken for organisation</b> For Praxis: participate in the training courses; planning, creating and running them</p> <p><b>Regional innovation drivers</b> 1) academics and their research 2) Clusters</p> <p><b>The role of the HEI in knowledge transfer</b> From a London perspective: almost no impact (though they may impact a small number of firms enormously)  Regionally: little impact</p> <p><b>Input into the knowledge transfer activities</b> Two weeks per year to Praxis/ and Unico, and about three weeks per year to ASTP</p> <p>Mainly active in implementation and then delivery</p> <p><b>Specific strategy to engage SMEs in knowledge transfer activities with HEIs</b> No specific strategy and also no differentiation between SMEs and large companies</p> <p><b>Suggestions for improving innovation uptake/effectiveness of knowledge transfer</b> 1) Boundary spanners that can facilitate interactions between separate stakeholders. By building spanners, the</p>

	<p>focus of ASTP and Praxis, you can help form the appropriate links between universities and industry that are needed.</p> <p>2) Spend money effectively and develop more professional administrative mechanisms (professional support offices for the various types of interaction mechanisms).</p> <p>3) Provide seed funds for more proof of concept projects (any pre-commercial - not just limited to technology transfer projects).</p> <p>1) Building capacity in the academic community itself (by training academics)</p> <p>4) Marketing, publicity and events for en mass interactions, which raise your profile and ability to network.</p> <p>Physical proximity in places such as science parks are an effective way to engage both universities and industry in knowledge transfer activities, they also form the stepping stones for spin-outs and potential business opportunities.</p>
--	---

## Part five: Conclusions

All stakeholders are aware of knowledge transfer activities and innovation strategies within their respective organisations. Each of their roles come with some degree of knowledge transfer expectation and differing knowledge transfer channels.

Stakeholders are keen to undertake the expectations essentially set out by Regional Economic Strategies or Regional Innovation Strategies, in the UK, or through Regional Economic Development Strategies (Stratégie Régionale de Développement Economique – SRDE) in France. However, how strategic these were for engaging SMEs in knowledge transfer activities differ considerably.

Employing the findings of the University of Plymouth's Work Package One (2009) report, a number of comparisons could be drawn between the quantitative analysis of government and regional statistics and qualitative assessment based on interviews with the stakeholders:

- Where Work Package One (2009) finds that all four regions support activities around the development of clusters, supply chains and company networks to support objectives addressing internationalisation and foreign investment. Stakeholders unanimously suggest at different points that clusters, in various forms, such as technopôles and science parks, support knowledge transfer activities.

Stakeholders also support suggestions that these activities could be enhanced through cross-border collaboration to enable regional companies' access to a network of international companies.

- Work Package One (2009) finds that the South East and South West of England and the Bretagne region of France all adopt activities to support companies in transferring their technology and knowledge at an international level to improve their international competitiveness. And highlights a potential gap in the application of innovation and knowledge transfer activities to improve international competitiveness within the Nord-Pas-de-Calais region.

Although mention of transferring technology at an international level was limited, the majority of stakeholders from Bretagne and South West, saw the promotion of knowledge transfer activities on broader international platform as important and stakeholders such as, the France and UK Knowledge Transfer Office representatives, saw international collaboration as key to their knowledge transfer activities.

- Work Package One (2009) finds that the South West of England aims to support an 'aftercare' service to organisations investing in the region to help secure their long term future in the region. This is an activity that could be applied in other regions to develop more sustainable internationalisation and foreign investment.

The UK local authority stakeholder representative supports this finding.

However, in general, all stakeholders believe that some input is invested at the end of knowledge transfer activities to improve the chances of competitiveness and success.

- Work Package One (2009) finds that the South West of England and Nord-Pas-de-Calais region of France both support activities to promote their regions internationally in some way. These activities could be enhanced within each region to provide a more rounded promotional approach to internationalisation, and also be applied in other regions.

Again, mention of transferring technology at an international level was limited, but the majority of stakeholders from Bretagne and South West, saw the promotion of knowledge transfer activities on broader international platform as important.

- Work Package One (2009) finds that both English regions support a number of activities to promote an innovation culture amongst young people, while the South East of England and Bretagne region both support a number of activities to promote an innovation culture and entrepreneurial mindset through competitions. The similarities in the types of activities supported offer the opportunity for sharing experiences, best practice and expertise across the regions to maximise their impact in developing a culture of innovation.

From a stakeholder perspective, the UK local authority stakeholder representative supports this finding and notes that its organisation undertakes a lot of work with 14 to 19 year-olds. This has enabled particular projects that look to engage young people with industry, such as the maritime sector. It also suggests that as successful business people tend to retire in the South West, they could give the region significant advantage in the form of a valuable resource of experienced business personalities and a youthful population ready to learn.

- The South East, South West and Bretagne regions all support activities to deliver business support which presents an opportunity for the regions to share best practice in terms of the business support mechanisms they adopt.

All the stakeholders, in one form or another, highlight knowledge transfer activities that deliver business support, from funding equipment or schemes to offering training and networking opportunities. Stakeholders report that a range of mechanisms are helpful, but a more targeted approach could be more effective.

- Work Package One (2009) finds that the South West of England's RES supports a comparatively large number of activities focusing on technology and knowledge transfer actions in order to address the promotion of an innovation culture and entrepreneurial mindset compared to the other partner regions. This offers the opportunity for other regions to consider the impact such activities might have on addressing objectives to promote a culture of innovation and entrepreneurialism.

Stakeholders from the region do comment about the need to enhance the innovation drive, mostly because it has a rural lifestyle-led economy, and the RES is designed to meet this need.

- A number of the regions support the development of networks to assist in the promotion of a culture of innovation. There is an opportunity for knowledge sharing across the regions regarding the structure, working practices and communication of their networks, and partnerships between the regions to maximise their impact on business innovation.

The majority of stakeholders mentioned some form of networking and iterated how important this activity was to the effectiveness of knowledge transfer. The Science Park representative stakeholder from the South West also stressed how important communication was to innovation, saying that for many activities modern methods of communication have pretty much negated the need for travel, however, nothing replaces the impact that face-to-face contact creates.

- The South East, South West and Bretagne regions all support activities to market the regional innovation profile which offer opportunities for sharing best practice and expertise across the regions to enhance each region's promotional activity with a view to promote a culture of innovation.

There was limited mention of the regional innovation profile and best practice considerations from stakeholders.

- Work Package One (2009) finds that the South East and South West of England both recognise the importance of engaging with HEIs to ensure they are providing the right skills to the labour market, each adopting activities to support this process. Activities to engage with HEIs in this way could be applied within the French regions to assist in the appropriate development of their workforce skills to compete in the global economy.

Stakeholders from France support this finding and stress that a more strategic approach to engagement would be beneficial.

- Work Package One (2009) finds that the South East of England and Bretagne region of France both adopt activities to develop a directory of their competencies. This highlights an opportunity for both tools to be further developed through cross border collaboration to enable them to be utilised regionally, nationally and internationally.

Again, some stakeholders from Bretagne stress that a more strategic approach to this type of tool would improve cross-border collaboration.

- Work Package One (2009) finds that the South East of England supports a number of activities to provide enhanced innovation support services and infrastructure in order to promote innovation in SMEs. However, neither

region's in France adopt activities within this criterion, highlighting a potential gap in their innovation activities.

The majority of stakeholders, in both the UK and France, were not aware of specific strategies to engage SMEs in knowledge transfer activities. Contact with SMEs was arranged, for the majority, on an ad-hoc basis. The two respondents that highlight specific strategies were from corresponding UK and France marine competitiveness clusters.

- The South West of England directly supports a number of activities to provide enhanced innovation support services and infrastructure which focus around the Business Link service. Bretagne's Regional Council supports activities to place advisors within the Innovation Network and to develop tools and skills within the innovation structures that support companies through the innovation process. These activities could be enhanced through the sharing of best practice with established schemes operating within the South West of England.

Again, some stakeholders from Bretagne stress that a more strategic approach to the use of these types of tools would enhance their use.

Almost all stakeholders made suggestions to improve innovation uptake and the effectiveness of knowledge transfer activities. Bretagne highlights include: research positions need to be strengthened; more companies need to be attracted to the region to ensure its economic sustainability; universities need direct links with industry to be more efficient; funding limits technology transfer; a more strategic approach is necessary.

South West stakeholder suggestions include: the need to identify and break down barriers where they exist; fund the best mechanisms for innovation; investigate the mechanisms behind successful clusters; create more of an incentive for knowledge transfer; encourage business work placements, secondments and job rotation; employ the region's retired source of business acumen more extensively; continue to offer support in a variety of forms to SMEs.

Others general suggestions include an identification of the need to have more joined-up thinking from policy makers; develop an understanding that innovation only happens if there is a customer need, the technology and resources available to meet it, and the skills to make it happen; develop boundary spanners that can facilitate interactions between separate stakeholders; spend money effectively and develop more professional administrative mechanisms; provide seed funds for more proof-of-concept projects; build capacity in the academic community itself (by training academics); marketing, publicity and events for en mass interactions, which raise profiles and the ability to network; and take into account the effectiveness of physical proximity in places such as science parks.

Work Package One identifies numerous suggestions for filling innovation and knowledge transfer gaps. Regional stakeholders strengthen these findings through their suggestions, and although some are new, many suggest that HEIs don't need to do a many things differently to engage industry in innovation uptake; they simply

need to do it better.

There is no quick-fix for this, however, findings suggest that consistent, correctly-targeted, ring-fenced funding allocated to these activities would improve the effectiveness of these activities and therefore generate more innovating regions.

HEIs, public research organisations and the government bodies that support them need to improve their communication with each other and the best way to do this is through face-to-face contact.

Industry also needs to understand that HEIs, rather than being relatively cheap, non-commercial, antiquated organisations, are a valuable resource of innovation that can directly impact a company's success.

[ends]

## **Part six: References**

Lambert Review of Business-University Collaboration, December 2003

Local Futures Group, 2003, Benchmarking the Information Society: e-Europe Indicators for European Regions (BISER)

Morvan, M. (2006). Regional strategies and policies to support Knowledge Transfer, The IRE (innovating regions in Europe) Knowledge Transfer Working Group (Brittany), presentation, Madrid, Spain, 19th - 20th February, 2006

University of Plymouth, 2009, PROTTEC Work Package One report, Regional Strategies, Partnership Capabilities and Tech Transfer State of the Art

South West UK Brussels Office <http://www.southwestuk.eu/regional-profile>

South West Regional Development Agency (South West RDA)  
[www.southwestrda.org.uk](http://www.southwestrda.org.uk)



<http://www.prottec.eu>