



## Business Innovation in Cornwall – a Combined Universities perspective

### Preface

Businesses benefit from partnering with Universities. Business which interact with Universities are more likely to improve the quality of their goods and services, improve their labour productivity, increase their range of goods and services and more than twice as likely to open new markets or increase their market share compared to those businesses that don't interact with HEIs.<sup>1</sup> The case for encouraging more of our businesses in Cornwall to work with higher education is compelling.

Business innovation is the process of turning new ideas into new products and services that will increase profit and drive growth. Innovative businesses grow twice as fast, both in employment and sales, as those who fail to innovate<sup>2</sup>. In some sectors, innovation is driven by R&D and the discovery and application of new technologies. In others, innovation is driven by the creative application of known technologies to new fields of business, and the creation of intangible assets often through innovative design. But behind every innovation we find people with the skills, knowledge and appetite to create change.

Innovation is accepted as being one of the main drivers of business growth in the UK and Europe, particularly among SMEs. Research from NESTA shows that about 6% of innovative high-growth companies generate 40% of new private sector jobs (op. cit.). Cornwall's innovation performance in recent years shows rapid growth but this is set against a backdrop that still only a very low proportion of Cornwall's businesses are in knowledge-based sectors<sup>3</sup>. We need continued and strenuous action to change this.

This short paper sets out the perspectives of Cornwall's Universities and Colleges, working together through the Combined Universities in Cornwall partnership, on the main opportunities and challenges we face if Cornwall is to accelerate the pace of innovation-led growth. It doesn't pretend to be a strategy, but it does attempt pragmatically to map out the evidence about what our priorities should be and where the opportunities lie, and to give some examples of further action that could be taken.

It is timely that we are considering this just as the UK Government has published its new Innovation and Research Strategy for Growth (Department for Business, Innovation and Skills, December 2011). Introducing this strategy, Secretary of State Vince Cable and Higher Education Minister David Willetts make clear the central role that higher education will play in driving future innovation:

*The UK has a global reputation for Innovation and Research. Our knowledge base, which includes renowned universities and research institutes, is the most productive among the G8... Universities and research, entrepreneurship and risk taking, greater connections between people and organisations, and a more open environment will all be at the heart of our approach.*

The Combined Universities in Cornwall represent a very important asset for Cornwall as the Local Enterprise Partnership considers its future strategy for business growth. When it comes to innovation-led growth, we must work out what more needs to be done to help Cornish businesses make use of that asset to full advantage and how we can build on the increasing success of the Combined Universities in Cornwall partners to draw in new, knowledge-based businesses in areas where being here can offer long term competitive advantage.

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<sup>1</sup> Lambert Review of Business-University Collaboration, HM Treasury 2003

<sup>2</sup> "The Vital 6%" NESTA 2009

<sup>3</sup> <http://warksobservatory.wordpress.com/2011/10/28/updated-lep-league-table>



We are building on strong foundations. The development of the Combined Universities in Cornwall over the last 11 years has been always planned with local economic development as its primary focus. This has led us to develop new centres of excellence which are specifically linked to driving growth opportunities in the local economy in areas like marine renewables, digital and design, health and through support for local innovation, enterprise and skills. The investment strategy adopted by Convergence to shape the programme's engagement with higher education is recognised as a model of good practice in Brussels.

This paper is not the last word on the subject, but we hope that the ideas it contains will be a useful contribution to the development of Cornwall's approach to innovation.

***Sue Brownlow***

***Director, Combined Universities in Cornwall***

***February 2012***

## Executive summary – Business Innovation in Cornwall

Innovative businesses grow twice as fast as those who fail to innovate. Business which interact with Universities are more than twice as likely to open new markets or increase their market share compared to those businesses that don't. Cornwall and the Isles of Scilly need much more of this, faster, if our economy is to be transformed. The good news is that recent growth of innovation has been rapid and there are plenty of examples of successful, innovative local SMEs; we don't need to change direction, we just need to accelerate the pace and expand the impact of our efforts.

This paper sets out some clear proposals for action from a higher education perspective, building on what has already been achieved. Investment finance is a major area of need, both to support innovative businesses and to support better networking and joint work between business and HE, and there are also specific opportunities linked to growth sectors and technologies, to the LEP priorities, and to the capacity of the substantial local public sector to drive innovative growth.

In this short paper we set out: a very short definition of Innovation; the evidence of Cornwall's position; and benchmarking of innovation support in Cornwall to identify future development priorities. Underpinning evidence is provided in a series of Annexes and in accompanying papers.

This paper does not claim to be the last word on the subject, but we hope it will be a useful contribution to the debate and will open up positive suggestions for development that those with strategic economic responsibility can pursue. Combined Universities in Cornwall partner institutions are committed to playing our full part in turning these ideas into reality, continuing our long tradition of supporting the economic transformation of the County in which we are proud to belong.

### The current position

Business innovation in Cornwall is characterised by:

- Presence of innovative small and medium sized business, but very little large company-based R&D
- Very low share of economy in knowledge-intensive sectors, but growing rapidly
- Low rate of higher level skills in the workforce, but again, growing rapidly
- Substantial supply-side capacity to support R&D (through University-based research centres, Innovation Centres etc) coming onstream during 2011/2012
- Growing evidence of high level of business demand for collaborative R&D at postgraduate level
- Strong business demand for industry-specific innovation support e.g. Food & Drink sector, Marine sector
- Rapid take-up of new Innovation Centre facilities from good quality businesses
- Business recognises the importance of commercial networking to stimulate innovation, but peripherality makes such networking difficult

## Key opportunities for further feasibility and development

### *Finance for innovation*

- R&D grants for business - intensifying and making more flexible for SMEs grant schemes such as the TSB SMART awards scheme to support pre-commercial research, perhaps with a particular focus on key sectors and technologies linked to Cornwall's economic growth strategy
- SME Innovation Vouchers, building on successful schemes in Scotland, the West Midlands and other European regions
- Proof of concept funding, making more readily available early seed-corn finance for promising technologies and innovations, accepting that there will be a high level of risk involved and that generally grant funding may be the only realistic approach
- Collaborative research studentships with business, expanding the successful scheme run under Convergence ESF
- Further exploit the capacity of Cornwall's FE sector to promote innovation, building on the South West Innovation Accelerator project and expanding the model to other sectors
- Improved access to commercial finance and co-investment models, supported by investor readiness business advice and advice on intellectual property specifically for innovative business ideas. Linked to schemes at Plymouth University (GAIN) and University of Exeter (CoVentures) and wider networks (e.g. SETSquared) and funds (e.g. the European Investment Bank) leveraging additional funds. Emerging new financing models (peer to peer, crowd financing) should also be considered as part of the mix.

### *Networking, information and promotion*

- Cornwall Innovation Centres providing a clear "hub" for information about these services to business to raise levels of engagement, complementing and supporting all delivery organisations
- Support Cornish businesses to be aware of and engaged in national and international innovation networks e.g. TSB Knowledge Transfer Networks
- Continue to invest in business-facing staff in Colleges and Universities to build local knowledge networks and link to national and international expertise
- Intensive communications campaign, run jointly by CUC and the LEP, to communicate the benefits and practicalities of innovation to business

### *Action to stimulate innovation*

- Use more creative public sector procurement to drive innovation in the delivery of public services
- Harness the knowledge and expertise of staff to stimulate a culture of innovation and change in public services



- Identify opportunities for HE-based but commercially-funded innovation growth e.g. in niche consultancy/advisory services or clinical trials. Support on the same basis as if these were located in private industry
- Develop the Innovation Centres network with an additional centre in the east of the County (perhaps Bodmin or St Austell)
- Facilitate the development of grow-on space around the Innovation Centres, to ensure that companies are able to progress and free-up space for new tenants
- Generate innovation as an outcome of research activity within HE projects eg ESI, AIR, ECEHH and the Enterprise Programme.
- Support the development of entrepreneurship skills linked to innovation, including at postgraduate level
- Better co-ordinate inward investment strategy with the global reach of CUC partners in particular industry-centred international research collaborations

*Longer term action in specific sectors: innovation as part of an integrated strategy for development of key opportunities*

- Further action to build an R&D-led offshore renewables sector in Cornwall, including delivery of Cornwall's elements of the Marine Energy Park and engagement in the national Catapult Centre
- Develop an academic centre of excellence /institute in ICT to drive skills and R&D, linked to at least one major industry player
- Consider targeted innovation support to businesses investing in the Newquay Airport Enterprise Zone, once the profile of potential businesses is more clear



## 1. What is Innovation?

Innovation is the process of turning ideas into business or social capital. In the public sphere this might mean developing new approaches to supporting an ageing population to stay in their own homes, or to adapt communities to climate change – these initiatives can have commercial and well as social benefit. In business, it's about profit and growth through doing things differently from, and better than, the competition.

In business, the commercial case for innovation is very clear. Apple, Twitter and Facebook now regularly top polls asking “who are the most innovative companies”, along with a healthy smattering of more traditional industry players in the aerospace, pharma and other industrial sectors. Identifying the characteristics of these successful innovative firms, factors including actively seeking out the development and application of new technology, design based on deep understanding of markets and customers and culture and processes that support innovation crop up again and again.

The hard evidence is compelling. Research has shown that innovative businesses grow twice as fast, both in employment and sales, as those who fail to innovate. About 6% of innovative SMEs generate 40% of new jobs. Innovation has accounted for 63% of annual labour productivity growth since 2000.<sup>4</sup> Business which interact with Universities are more likely to improve the quality of their goods and services, improve their labour productivity, increase their range of goods and services and more than twice as likely to open new markets or increase their market share compared to those businesses that don't interact with HEIs.

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<sup>4</sup> NESTA Innovation Index 2010

## 2. The Challenge

Cornwall has many great examples of innovative SMEs, proving that it is possible to turn our unique combination of environment, people and ideas into world-beating business propositions. Examples ranging from Mojo Maritime, Zoefitg, Cornish Crabbers, Finisterre, TigerX, Seasalt, Ginsters, The Seafood Restaurant and many more prove that it can be done. But the challenge is that this is still not happening on a scale sufficient to make a real transformational impact on our economic performance.

We have examined in detail the evidence about Cornwall's innovation performance. Two key background research papers "The Innovation Landscape in Cornwall – some initial findings" and "Innovation at Firm-level in Cornwall 2010" prepared by SERIO, University of Plymouth, are available in full through the CUC website ([www.cuc.ac.uk](http://www.cuc.ac.uk)). Some highlights from these and other papers are covered in the Annex. We briefly highlight below the scale of the challenge as evidenced by comparison with other European regions and LEP areas.

There are a number of well established pre-conditions that are required within a local economy that together create an innovative environment where businesses (as well as social purpose and public sector organisations) are provided with the necessary components to innovate and thrive, and that provide the support to the economically important high growth businesses. These can be summarised as:

<b>People</b>	<ul style="list-style-type: none"> <li>• A fundamental pre-condition for high levels of innovative activity is the quality of the workforce</li> </ul>
<b>Demand</b>	<ul style="list-style-type: none"> <li>• What demand is there for innovative services or products, particularly through public sector procurement</li> </ul>
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>• In terms of business space, and ICT infrastructure and business support</li> </ul>
<b>Finance</b>	<ul style="list-style-type: none"> <li>• The availability of investment for innovation</li> </ul>
<b>Research</b>	<ul style="list-style-type: none"> <li>• The levels of public research being undertaken and its exploitation</li> </ul>
<b>Entrepreneurship / competition</b>	<ul style="list-style-type: none"> <li>• Competition in the market is a key driver of innovation. Where there is stagnation in the market, there is less of a push to invest in new services, skills or products</li> </ul>

We take an overview of the evidence in some of these areas below. The narrative runs as follows:

### ***GVA and R&D intensity in Cornwall is poor, on a par with the poorest performing regions of Europe***

Eurostat 2011 data shows that R&D intensity in Cornwall is at as low a level as much of the former Eastern Europe and the poorest performing regional economies in other member states.



***The share of Cornwall's economy in knowledge-based sectors is lower than any other LEP area in England***

Research by Warwickshire Observatory in October 2011 found that the proportion of businesses in Cornwall and the Isles of Scilly in a recognised range of knowledge based sectors is lower than in any other of the 38 areas in which Local Enterprise Partnerships have been approved.

***Employment in Knowledge and Technology Based Activities is lower than other comparator local economies***

Data from national statistics (NOMIS, BRES) shows that, in 2010, levels of employment in a range of broadly-defined knowledge and technology based activities is lower than in 7 out of 8 comparator English places (with only Blackpool worse) and less than half the rate of a thriving economy like Bristol.

***Productivity levels, strongly linked to levels of innovation, are also lower in Cornwall than in other LEP areas***

A report from research organisation Local Futures in June 2011 rated productivity indicators of the LEP areas and found that Cornwall's score was the lowest at 25% below the benchmark average and about half that of the highest performing areas.

***Cornwall has achieved a rapid rate of growth of its knowledge economy in recent years, albeit from a low base.***

Eurostat data 2011 shows that Cornwall's GDP grew at the fastest rate in the UK outside the City of London between 2000 and 2008 and was one of the fastest in the EU27. The Warwickshire Observatory report on the 38 LEPs positioned Cornwall and the Isles of Scilly as having the fifth highest rate of growth of knowledge intensive sectors of all the LEP areas.

***Skills are an important driver of Innovation. The proportion of the workforce with higher level skills in Cornwall lags competitor economies in the UK, and the UK lags the rest of Europe in relation to participation in university-level education. The percentage of the working age population with NVQ Level 4 qualification or above is lower in Cornwall than in high performing comparator areas of the UK.***

Eurostat 2011 data shows that Cornwall, with less than 30% of those aged 20-24 engaged in tertiary education, has one of the lowest rates in the EU. The ONS annual population survey showed that the level of the working age population with higher level skills in Cornwall in 2010, at 26%, is 4 % points lower than the UK and 5 % points lower than the South West.

***Exploring this in more detail, there is some evidence that, although Cornwall has a number of firms who employ high proportions of graduate-level employees, Cornwall also has a higher proportion of firms employing very few or no graduates.***

A SERIO survey of firm-level innovation in Devon and Cornwall in 2010 showed that, among firms in key growth sectors of the economy, while 37% had more than 50% of their employees with a degree-level qualification, this falls off very rapidly for proportions between 10% and 50%, and 16% of respondents had less than 10% of their workforce with degree-level skills.

A richer picture of the nature of innovative activity in Cornish businesses and how this may differ from elsewhere is available in the full SERIO reports.

### 3. Benchmarking Cornwall's innovation support infrastructure

In this section we take a view on the key elements of support that would ideally be available to stimulate and support business innovation in Cornwall, and comment on gaps and opportunities. This is just an initial piece and could be extended further with partners if felt to be a helpful approach.

In broad terms, the types of support available for business innovation can be mapped in four categories:

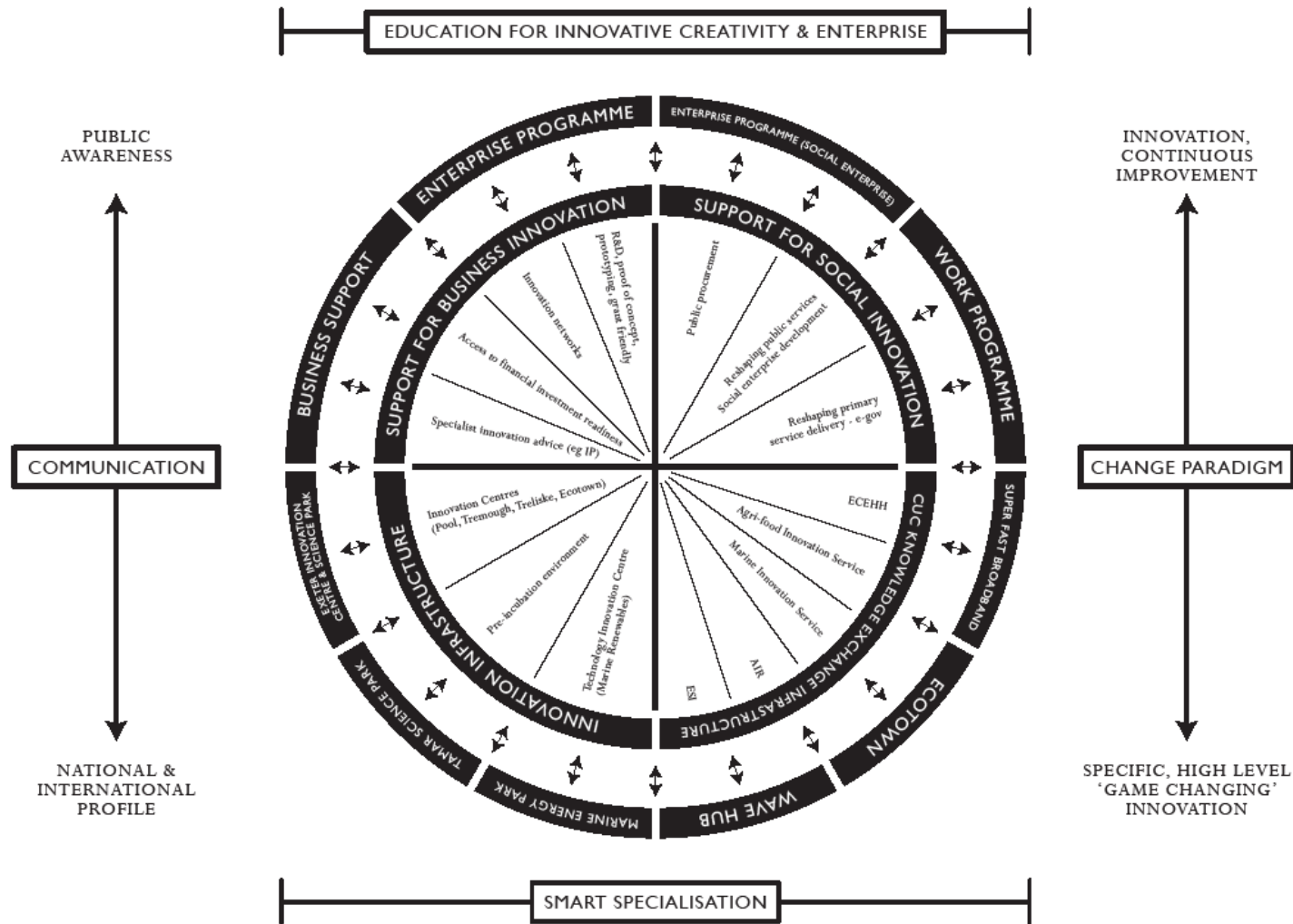
- 1) Support for business innovation: specialist and expert advice and finance to support business innovation. These specialist services need to be backed up by a range of more general business support, advice and access to finance initiatives, and by enterprise skills development opportunities
- 2) Support for social innovation: enhanced initiatives by the public sector to stimulate innovation through e.g. procurement of goods and services. These initiatives can be supported by social enterprise development programmes and by access programmes for disadvantaged groups
- 3) Innovation infrastructure: specialist incubation facilities to support innovative companies, especially new starts and pre-starts, supported by a range of grow-on facilities and access to national innovation centres and science parks
- 4) Knowledge exchange infrastructure: access to specialist R&D, either as a catalyst for the development of new innovative sectors or to support business development through innovation. This is underpinned by the core R&D itself, locally in CUC partner institutions and other research facilities nationally and internationally, and may have a particular focus in specialist technologies e.g. marine renewables linked to the Wave Hub facility.

The framework is populated overleaf in the case of Cornwall, as a basis for systematically considering opportunities and gaps in each segment. As with other ideas presented in this report, the diagram is work in progress and certainly does not at the moment include all of the possible support elements in each category. However, it is enough to begin to take a strategic view on where the gaps and opportunities may lie.

There are other ways of looking at innovation support at regional level, and in particular we draw attention to the approach commended by the recently-launched European Smart Specialisation Platform which suggest that regions audit their innovation infrastructures according to a set of criteria developed from many years international good practice experience. CUC have had initial discussions with Cornwall Council about how Cornwall might look against this audit, and our initial impressions – very speculative at this stage – are attached as an Annex to this paper. The conclusions are broadly similar to those identified above. It remains to be seen whether UK Government will take forward the concept of Smart Specialisation at national or regional level.

UK Government has also recently published its Innovation and Research Strategy for Growth (BIS Dec 2011). The actions it suggests are set out in a further Annex, with an initial indication of what the implications and opportunities of these might be for Cornwall. We have incorporated this into the comments below where we believe the opportunities are material.

Figure 1: Key elements of innovation support architecture in Cornwall



This leads to the following specific suggestions for development opportunities:

*In the “Support for Business Innovation” segment*

- a) Feedback from business clearly indicates a major problem in the area of access to risk finance to support innovation, particularly for pre-commercial development. This is complex; sometimes what looks like an access to finance problem can be masking deeper issues to do with the investability of either the innovation idea or the business vehicle or people taking it forward. So we do not advocate a stand-alone financial instrument to address this issue, rather any intervention must be accompanied by powerful investor-readiness support. But we do share the view that there is a financial gap and specialist instruments designed to grant-fund risky R&D are needed to stimulate growth. There is some evidence that the proof of concept/proof of market stage is one of the most tricky for developing R&D based businesses to access risk finance. New models of financing are emerging in some sectors including new media e.g. crowd financing, peer to peer finance, and these need to be fully explored and awareness of the possibilities they offer promoted throughout the business community. Several CUC partner institutions have their own funding schemes for commercialising R&D (Exeter University CoVentures and the Plymouth University GAIN model) and there may be opportunities to leverage these into a broader LEP approach to attract additional investment. However, we would commend retaining a range of different approaches rather than a single model to respond to different business needs.
- b) Cornish businesses also suffer disproportionately from difficulties in accessing national and international innovation networks, arising from the remote geography and low labour and business mobility. It is encouraging to see from the SERIO survey that, despite this, many view this activity as a vital driver of their innovation and make efforts to engage. In some cases CUC partner institutions also act as a portal to wider networks for businesses working with them. However an initiative to further facilitate and promote this for business in Cornwall, particularly given the policy emphasis that national (Technology Strategy Board) and EU innovation agencies are placing on knowledge networks, would be desirable.
- c) Such networking also extends to awareness of the increasing opportunities that exist for “open innovation” – responding to innovation calls from large companies which help de-risk R&D investment by offering greater market certainty if successful solutions can be developed. Although Cornwall lacks the presence of large R&D intensive companies which commission such innovation, this need not be a barrier to SME participation. Initiatives such as the Innovation Centres, CoVentures and particularly the Academy for Innovation and Research will begin to act as portals to introduce more of these opportunities to businesses in Cornwall
- d) The potential of students and graduates to contribute to business innovation should not be overlooked. The Unlocking Cornish Potential project provides intensive support to businesses for graduate placements and has proven success, although it is able to deal with only a small proportion of students and graduates in Cornwall because of resource constraints. Given that employability is an increasing focus of institutions’ own efforts, there must be scope to further intensify short on-course placements, projects or internships from HE into local businesses, benefiting students, institutions and businesses alike. A key barrier to this is the lack of capacity in many small firms to manage their involvement in an initiative like this, but a modest UCP-type resource applied to this to make it easy for the receiving business, could be the key to unlocking much higher rates of placement. The curriculum implications for institutions should not be underestimated but it is definitely an initiative worth exploring, perhaps through the auspices of the Employment and Skills Board

*In relation to “Support for Social Innovation”*

- a. There have been some good examples of local public procurement initiatives but generally these are one-off. The Public Sector Group could look at this area in a more organised way, for example to identify opportunities to engage with the Small Business Research Initiative in which government departments and other public sector organisations open up challenge-based innovation opportunities to small business.
- b. At the extreme end of the scale, there are examples like that in the region of Navarra in Spain, where the regional government invested heavily in the development of wind energy technology in order to stimulate the growth of a commercial sector. This could potentially be considered in Cornwall in the marine renewables sector or in relation to healthcare/housing solutions for an ageing population.
- c. We support the current initiative being taken by the Public Sector Group to explore how to foster more innovative cultures within public sector organisations by harnessing staff contributions. Consideration should be given to how this can be resourced in the future. Such innovation, as well as improving the performance of our public services, can create significant opportunities for new commercial developments, for example in the area of tele-health care.

*The innovation support infrastructure*

- a. This has taken a big step forward in the last year with the construction of the Pool and Tremough Innovation Centres and agreement reached on the third centre at Treliske, with excellent early signs of the commercial performance of these centres. This nonetheless only creates a minimum innovation centre capacity focused in the West of the County and consideration should be given to building further facilities in other areas, perhaps linked to other economic growth initiatives and/or education campuses. Feasibility studies should be undertaken in relation to expanding this capacity in the Bodmin/St Austell areas, linked to other HE centres as development hubs
- b. Grow-on space requires urgent consideration as these facilities are specifically targeted at early stage companies and pre-formation and the benefits of their intensive support are leveraged on the basis of a steady flow of companies through the centres. An existing partnership project “Beyond the Innovation Centres” <http://air.falmouth.ac.uk/BIC> is making progress here but specific gap-funding and development expertise may be required to support identified sites and premises solutions. The Council is in a good position to provide leadership in this area.

*In relation to knowledge exchange and the supporting R&D*

- a. Convergence investment took a clear strategic view of investing in particular technologies and sectors and that capacity is only now becoming a reality through projects, so it is a little early to identify any particular next steps. This investment is opening up significant new access for business to specialist facilities and expertise within Universities and Colleges, e.g. the moorings test facility and wave tank which is only now coming on-stream and becoming available to business.
- b. There is a key opportunity to use the established and growing global research reach of Combined Universities in Cornwall in a more strategic way to leverage and develop an innovation-focused inward investment strategy. As recently-founded specialist research centres become established, they will become attractors in their own right of high value commercial collaborators<sup>5</sup>, and a strategic approach to leveraging this to the benefit of inward investment would have considerable merit.
- c. The specific opportunity of developing a role in the national Technology Innovation Centre (now called Catapult centre) for offshore renewables, focused on commercial R&D linked to the Wave Hub facility,

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<sup>5</sup> See for example “The Race to the Top”, Lord Sainsbury’s review of the UK science and innovation system, 2007



and similarly a role in the Marine Energy Park. Capturing activity linked to these to Cornwall is vital if the potential economic impacts of the substantial Wave Hub investment are to be realised.

- d. The “Connected Digital Economy” Catapult centre announced in January 2012 will investigate themes including themes being promoted nationally which include: how digital media and content are traded and used; the impact of new technologies and systems such as cloud computing and identity management; looking at how our devices, clothes, cars and other consumer goods become better connected to enhance our physical lives; helping businesses that traditionally are less active in the digital market place, such as health, retail and education, by transferring knowledge and experience from industries which are leading, such as the media and creative sectors. This could create opportunities both for CUC partners and the Cornish businesses with whom they collaborate to play a part in these developments.
- e. There are opportunities to generate innovation as an outcome of research activity within HE projects eg ESI, AIR, ECEHH and the Enterprise Programme. Historically Cornwall has compelling examples of how this worked for example with the Hot Dry Rock project – quality businesses spun out of Camborne School of Mines such as Geoscience, Calidus and Altcom and the renewable energy part of Wardell Armstrong.
- f. The potential of the further education sector to stimulate innovation should not be underestimated, particularly where this is about encouraging and supporting businesses to adopt or adapt known technologies into their own business models (i.e. where the innovation is new to the business in question but does not involve the development of wholly new knowledge). The Marine and Food innovation services, based within Cornwall College group, are excellent examples of this service being delivered out in two specific sectors in Cornwall. An important advantage of this approach is that the centres exploit on the substantial relationships the institution already has with businesses in those sectors through its skills work, so they offer a ready-made route to market for innovation support. The model could be expanded to other volume sectors where there is identified potential to move existing businesses up the value chain through innovation and where significant training relationships already exist. This might include the advanced manufacturing and tourism sectors, and should at some point be mapped against the sector development targets adopted by the LEP.
- g. The NHS Innovation Hub and the PenCLAHRC initiative at PCMD support opportunities for innovation in the healthcare delivery market and consideration should be given to how to build on these. ECEHH linked to these offers strong potential to tackle globally significant markets such as supporting the health and wellbeing of an ageing population.
- h. ICT and digital. The superfast broadband project offers a substantial although very time limited competitive advantage to Cornwall to attract specialist businesses active in the ICT domain and attracted to Cornwall as a place to live and work. It also enables existing businesses across a range of different sectors to exploit the innovation potential of better ICT; the creative sector, telecare and marketing might be good places to start. But lack of specialist skills is a key barrier – nationally as well as locally – and there are high barriers to entry for education and training providers in this area (the need for investment in scarce, expensive staff with advanced skills). If we could break through this, real competitive advantage could be gained. So priorities could be:
  - Financial support for the development of specialist advanced skills, at scale and with links to Cornwall’s leading ICT active SMEs as well as excellent HE providers (Plymouth is one of those with real strength in this area)
  - Clever marketing to attract a cluster of footloose small businesses to relocate to or set up in Cornwall, perhaps aiming for a mini-version of London’s Silicon Roundabout. Co-location somewhere near UCF might be attractive and, again, Enterprise Zone status might be considered
  - Implement intensive support to businesses to exploit the superfast broadband project



We have deliberately not broadened the scope of this paper to include a range of essential underpinning support for innovation. But it is important to mention at least one of these. The success of new-start innovative businesses and the absorptive capacity of existing businesses to innovate depend crucially on underlying levels of enterprise and on enterprise and leadership skills. In the case of very many local owner-managed businesses, this is a critical factor in considering their potential to change and grow. We welcome the very recent Convergence decision to invest in proper skills development in this area through the Unlocking Potential enterprise programme. As in other areas, this initiative is very new and its impact will not be fully realised for some time. There is a view in business that this virtual programme would further increase its impact if it had a physical delivery hub and, while not wishing to detract from the accessibility of the programme to businesses throughout Cornwall (as the widely distributed launch events have demonstrated), we do strongly agree that a hub facility is highly desirable. This could be linked to the development of further innovation centre capacity as we have touched on above. There is also a need to address skills development through acquisition i.e. bringing in expertise perhaps at Board or senior executive level to emerging businesses which have some but not all of the right experience to drive their ideas through to full commercial exploitation.

Finally, we also observe that the research centres developed in CUC partner institutions can themselves be viewed as very successful, innovation-led inward investment initiatives. Increasingly HE institutions are diversifying their funding to the extent that they can no longer be viewed as public sector organisations, and a substantial research unit like ESI or ECEHH which relies on income from private and charitable contract research as well as research council income has a business model which is not wholly different from some private research companies. The economic impact of such developments is, we have proved, substantial. We should not rule out the possibility of fostering other units like this in the future just on the grounds that their corporate parents are academic institutions, if they would otherwise look like powerful inward investment opportunities.



## **Annexes**

Annex A – Summary of key data relating to innovation in Cornwall

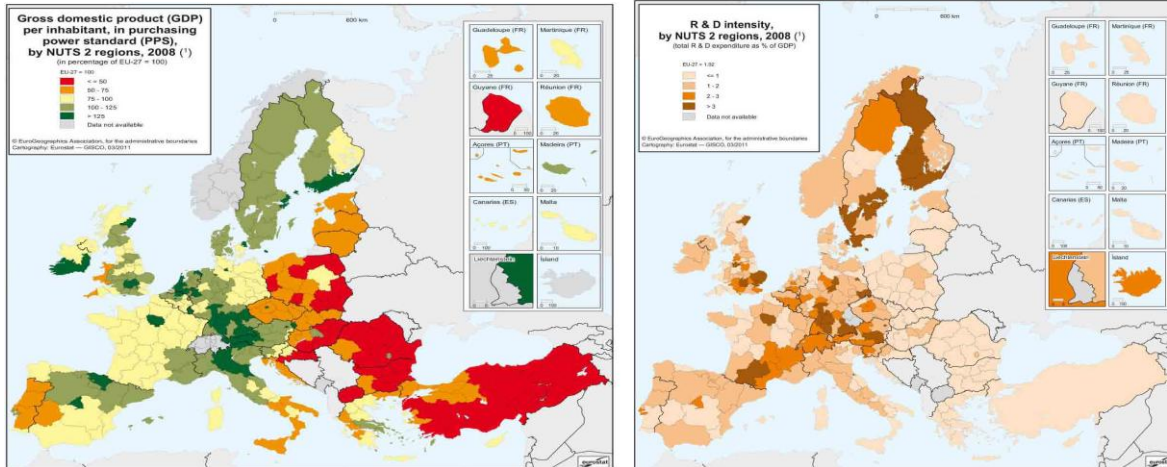
Annex B - Case studies of effective approaches to supporting innovation

Annex C - The Smart Specialisation audit tool applied to Cornwall

Annex D - Opportunities to engage with Government innovation initiatives

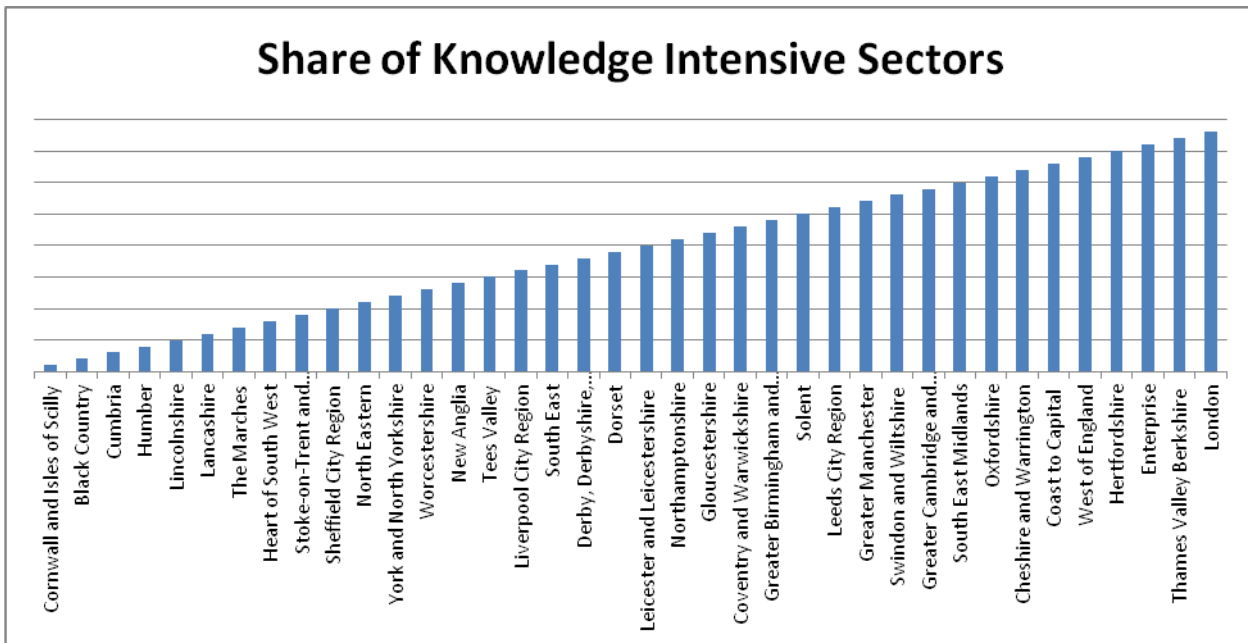
## Annex A – Summary of key data relating to innovation in Cornwall

*GVA and R&D intensity in Cornwall is poor, on a par with the poorest performing regions of Europe and worse than any other LEP area in England*



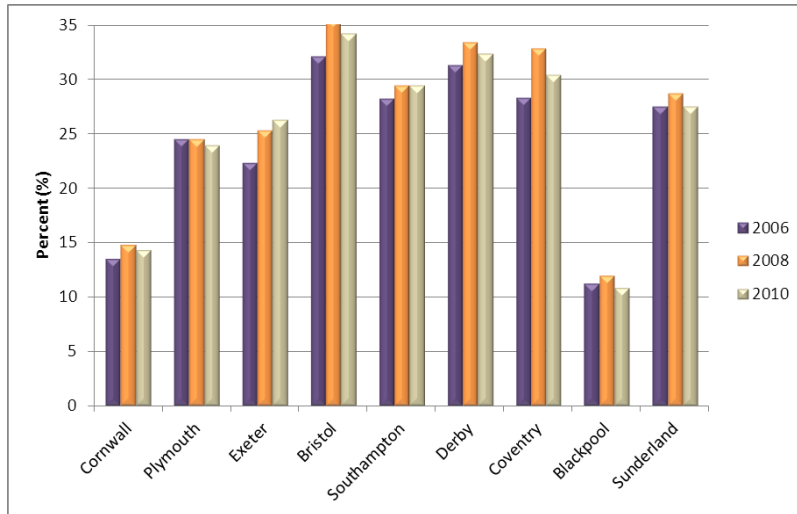
Source: Eurostat 2011

*The share of Cornwall's economy in knowledge-based sectors is lower than any other LEP area in England*



Source: Warwickshire Observatory, October 2011

*Employment in Knowledge and Technology Based Activities is lower than other comparator local economies*



Source: NOMIS, BRES; cited by SERIO

*Productivity levels, strongly linked to levels of innovation, are also lower in Cornwall than in other LEP areas*

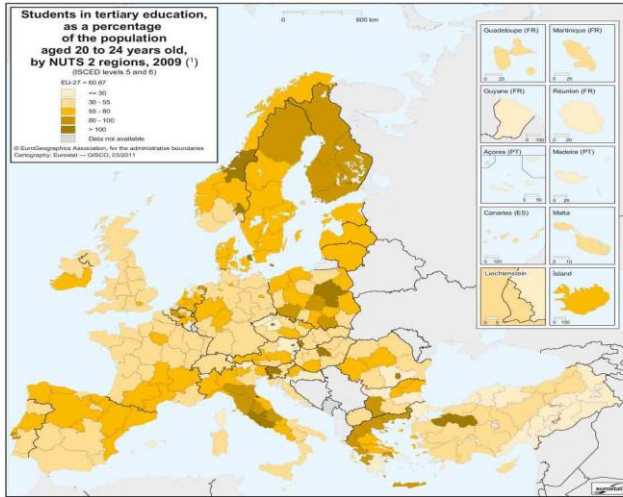
	Productivity score
Cornwall & Isles of Scilly (bottom)	76
Nearest neighbour: Lincolnshire	79
LEP benchmark (national average)	100
Best performers:	
London	159
Thames Valley	142
Hertfordshire	112

Productivity Score provides an indication of an area's productive capacity, combining a measure of gross value added per head, (i.e. economic output per capita), weighted by average gross weekly earnings

Source: Local Futures LEP report June 2011

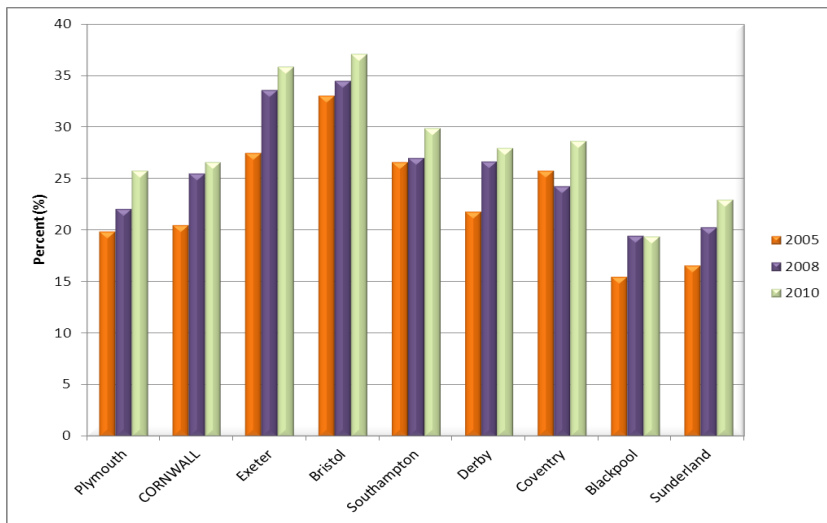


*Skills are an important driver of Innovation. The proportion of the workforce with higher level skills in Cornwall lags competitor economies in the UK, and the UK lags the rest of Europe in relation to participation in university-level education.*



Source: Eurostat 2011

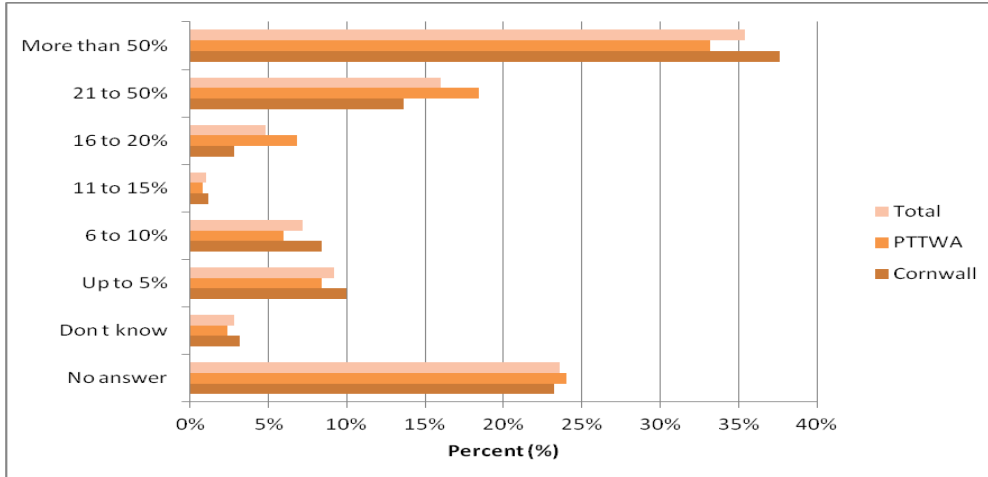
*The percentage of the working age population with NVQ Level 4 qualification or above is lower in Cornwall than in high performing comparator areas of the UK*



Source ONS Annual Population Survey, cited by SER IO

*There is some evidence that, although Cornwall has a number of firms who employ high proportions of graduate-level employees, Cornwall also has a higher proportion of firms employing very few or no graduates.*

Estimated proportion of employees with degree-level qualification in firms in priority sectors



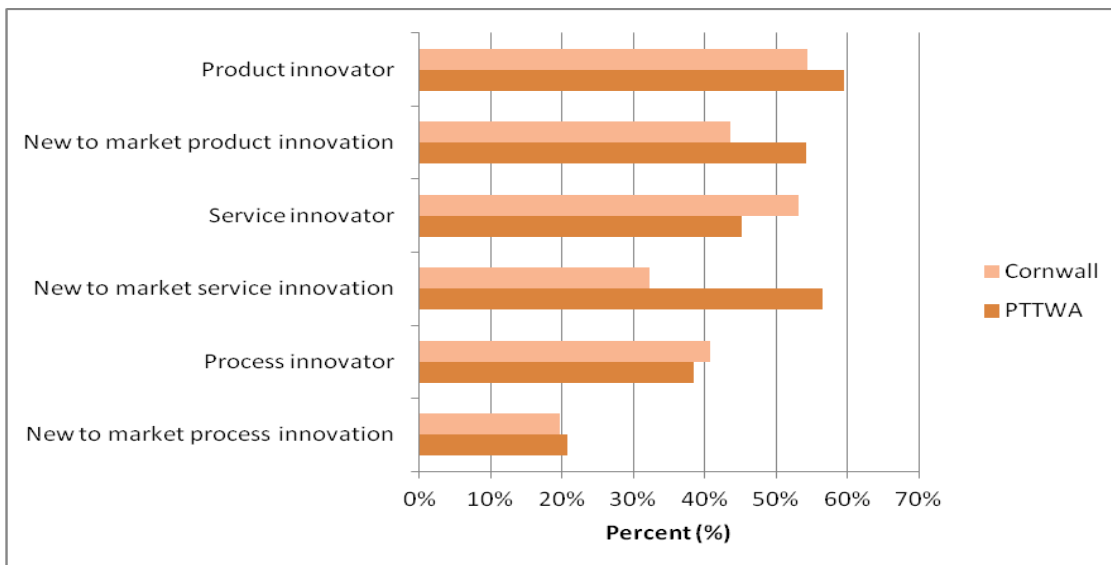
PTTWA – Plymouth Travel to Work Area not including Cornwall

Priority sectors: Advanced Engineering, Business Services, Creative Industries, Marine Industries, Medical and Healthcare, Tourism and Leisure

Base: All respondents (n=500, PTTWA=250, Cornwall=250)

Source: SERIO Firm Level Innovation, 2010

*In terms of the nature of innovation in Cornwall, there is some evidence that businesses in Cornwall are less engaged in “new to market” innovation than elsewhere*



Base: All respondents (PTTWA=250, Cornwall=250)

Source: SERIO, Firm Level Innovation 2010



## Annex B - Case studies of effective approaches to supporting innovation

### MARINE RENEWABLE ENERGY AND PRIMARE CASE STUDY

The marine environment of the north Cornwall coast has significant potential for wave energy generation. SWRDA (South West England Development Agency) responded to an infrastructure gap identified by marine energy device developers who needed a demonstrator facility for full scale wave energy converters. They invested £42m of RDA and EU funding in Wave Hub, a 'socket under the sea' to meet this demand. The unique feature of this facility is that it links into the grid enabling full scale commercial electricity generation which is essential in proving the commercial viability of the technology. At the same time the RDA recognised the need to develop research expertise within local universities to support the emerging technology and invested a further £12m in academic expertise and research equipment and infrastructure development through PRIMaRE, a partnership between the University of Exeter and University of Plymouth.

Both institutions appointed academic teams who proactively engaged and developed strong relationships with device developers including OPT and Fred Ohlson, and local supply chain businesses such as A & P Falmouth (marine fabricators and port facility managers) and MoJo Maritime, experts in marine device deployment. A & P Falmouth are engaged in a KTP (knowledge transfer partnership) with the University of Exeter, which aims to assist them to diversify their business and access the marine renewables market. The KTP associate is a graduate from the University's Renewable Energy degree programme. Similarly, the University is collaborating with MoJo Maritime in contract research through a funded PhD programme which is developing a toolkit to improve the application of their technology.

The investment in PRIMaRE has resulted in the development of a number of research facilities available as test facilities to the industry which map onto the Technology Strategy Board's Technology Readiness scale, ranging from desktop/lab scale, through small scale testing in the new wave tank at University of Plymouth's Marine Science facility, to the component reliability test facility housed at A & P Falmouth and the SW Moorings Test facility, deployed in Falmouth Bay.

More recently, a consortium of businesses, the Cornwall Marine Network, the University of Exeter and Falmouth Harbour commissioners developed plan for a consented site (Fabtest) in Falmouth Bay to enable full scale device or component testing to take place in a less harsh and more accessible environment than Wave Hub itself, adding another technology readiness level towards achieving full technology commercialisation; it is likely to accelerate demand for Wave Hub. Fabtest was also part of a recent Cornwall Council RGF Infrastructure bid, and if successful, funding will enable the University of Exeter to provide baseline and monitoring data to device developers over the next two years which will accelerate their device development process, possibly by a year.



The Academy for Innovation & Research (AIR) at University College Falmouth is supporting business to innovate using superfast broadband (SFB). Being producers and distributors of content means that the creative industries in particular can benefit from both the upload and download capability of SFB to develop new types of content, new business models and attract new customers/audiences/investors.

AIR issued a call to businesses for feasibility project proposals and a panel drawn from UCF, Superfast Cornwall, Oxford Innovation and BT selected 5 proposals. Whilst each project is exploring a specific product or service, the lessons learnt from these have wide ramifications. The projects are

- 1 A test of connection reliability, speed and characteristics to support media post production in Cornwall
- 2 A test of SFB delivery infrastructure for real-time animation
- 3 Virtual reality delivery for training and safety procedures based on game engine technologies
- 4 A new online interface for photographic libraries
- 5 An exploration of how SFB can enrich the experience of film crowd investors

AIR is supporting these projects in a variety of ways including providing access to high speed connections at Tremough and hosting specialist equipment. The business involved in these studies join the growing group of businesses, academic researchers working with AIR, BT and CDC on innovation with SFB under the umbrella brand 'Superfast Cornwall Labs'. The results of these studies are being presented on 20 February 2012



### **Example of a local innovation hub:**

#### **Interface - The knowledge connection for business in Scotland**

Established in 2005, Interface is a central hub connecting businesses from a wide variety of national and international industries to Scotland's 24 higher education and research institutes.

Connecting businesses quickly and easily to Scotland's world class expertise, skills and research facilities, it's unique service is designed to address the growing demand from organisations wanting to collaborate with academia.

Interface's free and impartial service aims to stimulate innovation and encourage companies to consider academic support to help solve their business challenges.

Through Interface, Scottish businesses can now increase their competitiveness, develop new products, and exploit new market opportunities by connecting with academia.

#### **How Interface Works**

- We quickly establish your company requirements whether it is to solve a particular problem or help your business development activities
- We then identify a range of potential academic partners and help match the appropriate academic expertise to support your company in moving the business forward
- We also offer ongoing support, including progress monitoring, guidance and contractual and fund-raising advice

Interface employs 11 professional staff and is funded by the Scottish Funding Council, Highlands and Islands Enterprise, Scottish Government and European regional development funds.

One of Interface's most impressive achievements is that of the 455 companies engaged in joint projects with academia, 73% had not previously worked with an academic partner.

*(Extracts from Interface website)*



## West Midlands Innovation Voucher Scheme

The Innovation Voucher scheme gives small and medium enterprises the opportunity to apply for a £3,000 Innovation Voucher to purchase academic support and research from any of the 13 Universities in the West Midlands.

Over the last 4 years the scheme has awarded 660 £3,000 Innovation Vouchers to companies across the West Midlands. The schemes aim is to increase the transfer of knowledge between universities and businesses, and boost innovation in SMEs. Innovation is not just about technology, but also the management of the innovation process. It is about doing things differently to improve effectiveness and efficiency.

In the recent December 2010 evaluation of Round 5 of the scheme for 104 vouchers conducted by Ecorys UK highlights included:

- **Demand for the vouchers has exceeded supply by a factor of 3**
- **46% of SME had no previous experience of working with a University**
- **56% continue to work with the same or different University in the West Midlands**
- **Total net additional economic impacts are predicted to be 85 jobs and £5.9 million in GVA**
- **Round 5 generated a return on investment of £11.89 for each £1 of public sector funding, higher than the national average for science, R & D, innovation interventions of £8.30.**

The Innovation Voucher scheme has been funded through Advantage West Midlands (AWM), Economic and Social Research Council (ESRC), Engineering and Physical Sciences Research Council (EPSRC), the European Regional Development Fund (ERDF) and the Higher Education Funding Council for England (HEFCE).



### **Scottish Innovation Vouchers scheme: Evaluation by Biggar Economics on behalf of Scottish Funding Council**

The Scottish Funding Council for Further and Higher Education (SFC) established an Innovation Voucher Scheme in February 2009. The Scheme, modelled on similar ones across the UK and Europe, aimed to establish initial projects between Scotland's higher education institutions (HEIs) and small and medium sized enterprises (SMEs). The Scheme was designed to focus on registered Scottish companies across the breadth of the economy, including those active in service delivery and the third sector.

The Scheme offered funding of up to £5,000 but no more in any individual case than 50% of the total value of the engagement. Partner organisations were allowed to cite "in kind" contributions to meet their contribution. Funding was channelled to the HEI by the SFC.

This evaluation was carried out in February and March 2010 and considered the first phase of the Scheme which ran from February to July 2009 and supported 27 individual projects. The evaluation examined the applications and final reports for the completed projects and sought the views of the SMEs, academics and HEI commercialisation staff on the purpose, design and operation of the scheme.

The Scheme is meeting the aims set for it.

From the SME perspective, the Scheme is supporting new, formal R&D and consultancy relationships. The projects established would either have not otherwise happened or would have happened at a much slower pace or smaller scale. The projects are at least meeting the expectations of companies and are enhancing the standing of the academic partners with the company. The SMEs find the project application process straightforward and appropriate to the scale of activity. SMEs prefer funding to be channelled through their academic partner, thereby avoiding additional administration.

Academics and commercialisation staff were also supportive of the Scheme. It was bringing some new academics to work with SMEs and establishing new R&D and consultancy relationships with companies. Again, the straightforward application process was broadly welcomed. A range of follow-on activity with companies was reported including Knowledge Transfer Partnerships and joint PhDs. Academics also reported good additional benefits from their involvement in a project to their teaching and research activities.

For SMEs, too, there is evidence of both financial and non-quantifiable benefits from the supported projects. SMEs reported allied benefits in the context of marketing and, whilst there has been a limited time since project completion to assess the formal economic impact, this is projected as being very strong.

Two issues for the future development of the Scheme were identified:

- whilst the Scheme has been designed to be broad in its application, the creation of a number of case studies and additional guidance for applicants would help to reinforce this. A number of HEIs with particular strengths in the creative industries and/or the third sector would particularly welcome this;
- there is a strong case for further expansion of the Scheme. The views of HEIs in this evaluation, coupled with the development of similar schemes in the UK, suggest that a 10 fold expansion to 200 vouchers annually should be considered.



### Exeter University case study “CoVentures”

The Gatsby Charitable Foundation provided funding to the University of Exeter over a six year period between 2005 and 2011 to support the development of a business mentoring programme for the environmental goods and services sector in Cornwall. The rationale behind the Foundation’s engagement with CUC partners was to find ways of enhancing the economic impact of higher education on businesses in an area of rural economic deprivation such as Cornwall, using lessons learned from their engagement in other regions.

The development programme was based on evidence from the businesses themselves who identified that a significant barrier for innovation and growth was their lack of ability to commercialise new ideas. The project set out to develop a model of intensive support that enables the businesses to attract the investment they need, and thus enhance their capacity and capability to take new ideas to market.

Despite the very challenging economic climate, the project has been successful. Two high level mentors were recruited with venture capital and financial sector backgrounds. Crucially, they are well networked with business angels, corporate investors and investment funds. The approach they adopted in the development of the CoVentures Toolkit complements the growing opportunities to small, specialist businesses and to the University from open innovation strategies in the corporate environment.

The CoVentures Toolkit for business intervention has been developed and captured; 55 eco businesses have been supported, an estimated 60 jobs have been created and others secured, and a total of £4.85m of investment funding has been secured by client businesses. It is estimated that this contributes an additional £4.5m GVA to the Cornish economy annually. Four student entrepreneurs have been supported and all are now trading.

The key benefits the CoVentures intervention brings to businesses are :

1. Support from mentors with high level knowledge of the eco-technology markets, experience in the venture capital sector and access to investor networks
2. Cost model which enables the business to access the expertise up front with payment for services kicking in once investment is secured.
3. Mentors are able to join the Boards of client companies and this provides a means to influence change from within the company, generally necessary for investor readiness
4. The model also supports research spin outs and student start ups from within the University

Examples of successful interventions include:

**Kraft Maus**, a student start up business who has developed a mobile renewable energy generator; the mentor helped shape and develop the business idea, secured investment from a business angel and helped secure a large contract to develop a version for the MOD.

**Cloud Nine Living** : a company started by one of the mentors to demonstrate how to develop and shape a business selling pre-constructed eco-housing for the tourism market, and secure start up investment and follow on investment.

**Kensa Engineering** : a long standing relationship though NED involvement which includes the development of an investment strategy, IP and partnership management.



## **CORNISH CRABBERS**

### **Builders of Cornish Crabbers & Mystery Sailing Yachts**

#### **Background**

Cornish Crabbers are a boat-building company based in Rock, North Cornwall with over 30 years experience. The company focuses on quality products with a traditional look and feel and all moulding is undertaken on-site. There are currently seven products in the “Crabber” range and three in the “Mystery” range.

The Marine Innovation Service team from Falmouth Marine School were engaged by Managing Director, Peter Thomas to undertake a project to resin infuse a new 12ft dinghy hull in order to have a production boat ready for the London Boat Show in January 2012.

Support was provided by Marine Innovation Service (MIS) Manager Alex Whatley and Stephen Leonard-Williams from Composite Integration Ltd. Composite Integration are an industry partner to the Marine Innovation Service and based on over 25 years experience, provide market-leading, innovative, and well engineered solutions to the composites industry, specialising in Resin Transfer Moulding (the process of producing composite components within a mechanically-clamped, rigid, normally two-part (male-female) mould).

The support team worked closely with the Cornish Crabbers Production Team and a Production Graduate from the Unlocking Cornish Potential Programme, Will Harris also employed by Cornish Crabbers.

#### **Objective**

The project objective was principally to enable the Cornish Crabbers team to resin infuse their first 12ft dinghy before the end of October 2011. To achieve this, the following activities were necessary:

1. Provision of a project management plan to establish the key activities, timeframes and milestones required to manufacture a 12ft production boat by January 2012
2. Supply of a workshop-based, practical resin infusion session for the Cornish Crabbers project team at the Marine Innovation Service, Composites Workshop in Falmouth
3. Hands-on support from the Marine Innovation Service team and Composite Integration Ltd to infuse the first Cornish Crabber 12ft dinghy hull – the “Crabber 12”

#### **Project Outcomes**

On 31st October 2011 the first Crabber 12 resin-infused hull was produced with assistance from the MIS and Composite Integration support team. See the footage at:

<http://www.cornishcrabbers.co.uk/index.cfm/boat/Crabber.Crabber12>

The Cornish Crabbers Team now have the task of getting the boat production-ready for the London Boat Show and had already taken orders off-plan in November 2011.

The project to resin-infuse the Crabber 12 was the first stepping stone in supporting Cornish Crabbers to roll-out resin infusion across production of the entire Crabbers and Mystery range.

As a result of the support provided by MIS and Composite Integration, Cornish Crabbers now have the insights, hands-on experience and industry contacts required to take their plans forward.

The support team will continue to work closely with the Cornish Crabbers team to plan, deliver and embed the new production processes within the company over the coming months and years.

## **Annex C - The Smart Specialisation audit tool applied to Cornwall**

### **Strategic Approach**

Cornwall has had a clear strategy for innovation growth during the Convergence period but this now requires review. National policy has shifted considerably since this strategy was developed, in response to the changing economic climate and a new government. There is scope for improvement in linking innovation in Cornwall better to national initiatives (principally those led by the Technology Strategy Board) and increasing levels of participation among Cornish businesses in national support schemes. A local hub in Cornwall, building on the information and advice already available to business through CUC, might be of value here (see case study box for example in Scotland)

### **Prioritisation**

Cornwall's innovation priorities have been clearly defined and linked to national and EU challenges. Investment in developing research capacity is closely linked to economic growth sectors and areas in which Cornwall can gain competitive advantage

### **International Dimension**

We are weak in linking innovation initiatives to international (and even national) opportunities in a structured way, although recent work to develop the offshore renewables TIC as part of a national centre is encouraging. Linkages with other EU or non-EU regions are not made strategically, nor are the funds available to support this fully and systematically exploited. Many businesses in Cornwall lack international and exporting experience (although this is not true of the most innovative).

### **Policy mix and framework conditions**

Co-ordination of policies and implementation of different initiatives (innovation, business support, skills) is not as strong as it could be and feedback from business consistently shows difficulties in navigating the support on offer. Innovation policy included supply- and demand-side action but implementation has been weak on the demand side leading to a relative lack of support to help businesses engage with the knowledge base and lead the agenda. This is a particular challenge in an economy dominated by SMEs. This might now be getting put right with the reintroduction of initiatives such as the TSB Smart awards to support business-led R&D, but achieving penetration of these schemes in Cornwall has historically proved a challenge.

### **Entrepreneurship**

The climate for business investment in innovation is extremely challenging, with a lack of available venture capital and other forms of risk capital particularly for the commercialisation of new technologies. The Gatsby Foundation model adopted in Exeter CoVentures has had some success here but only so far on a small scale (see box). Levels of business start-up in Cornwall are high, but the vast majority are not knowledge-based despite intensive start-up support readily available for such companies.

### **Human resources**

The establishment of the Combined Universities has improved the availability of a graduate labour force for Cornish business, although there are still pressing skills shortages in some specialist areas (eg ICT), often reflecting a wider national and international position. Mobility of researchers between academic institutions internationally is good, with this being a ready source of new blood and new ideas for Cornwall, but mobility

and links between academia and industry and currently at a low level. The ESF-funded collaborative research scheme has proved the appetite for business-academic research collaboration and could be built on.

### **Public sector**

There is scope to increase the extent to which public procurement is used in Cornwall to stimulate innovation, and the involvement of Cornish businesses in the Small Business Research Initiative.

### **Education and research**

Recent investment in CUC has built a good higher education skills base, although it remains to be seen how radical HE funding changes will influence this in the future and what opportunities and challenges this will bring. There are many examples of extensive and long-term HE collaboration with business although these are not always recognised in the perceptions of the business community. There is concern voiced among business about the responsiveness of skills and education providers to business needs and a current lack of consensus about where improvements are required and how this can be achieved. It is a good sign that the Employment and Skills Board is being properly established to provide business leadership to address these issues.

### **Evaluation**

The evaluation framework at policy level is particularly weak, although evaluation of the measurable outputs of individual projects tends to be robust. There is a lack of international benchmarking.

### **Finance**

Public investment in research is stable and Cornwall is well-positioned to capture a share of this through its high quality research institutions, but finance for education and innovation is changing rapidly with a highly unpredictable bidding model operating on short deadlines. Support schemes are fragmented into individual products.

### **Economic Structure**

Small, innovative firms are growing rapidly in Cornwall across a range of sectors, but from a very low base. There is an almost total lack of large, international R&D-intensive firms and it is unrealistic to suppose that growth is achievable in this sector. Many sectors record low levels of innovation compared to national norms.

## Annex D - Opportunities to engage with Government innovation initiatives

The following action is proposed in the recently published Innovation and Research Strategy for Growth (BIS Dec 2011). The right hand column suggests those areas that may have particular relevance or offer specific opportunities for Cornwall. As with the previous section, the reflections below represent only an initial response certainly not the last word on the subject, and we offer it only to stimulate further analysis and dialogue, if it is seen to be a helpful approach.

Action	Lead	Timetable	Opportunities for Cornwall
<b>Discovery and Development</b>			
<p>We will invest over £200 million between 2011-15 in establishing an elite national network of Catapult centres</p> <p>We have announced the first three Catapults in High-Value Manufacturing, Cell Therapies and Offshore Renewable Energy</p>	TSB	The technology areas for the final three TICs will be announced in early 2012, with all six centres being operational by 2013	Cornwall has an interest in the Offshore Renewables Catapult Centre, through the Universities of Exeter and Plymouth and the Wave Hub
We will identify our priorities for investment in emerging technologies through the Technology Strategy Board, focusing initially on synthetic biology, energy efficient computing and energy harvesting	TSB	By 2012	
We will invest £50 million in the development of a Graphene Global Research and Technology Hub	EPSRC with TSB	The centre will be fully operational by 2015	
<p>We will raise the rate of tax relief for the SME R&amp;D Tax Credit to 225% of qualifying expenditure. To increase usage of the R&amp;D Tax Credit we will:</p> <ul style="list-style-type: none"> <li>- Work with HM Treasury, HM Revenue and Customs and the Devolved Administrations to increase awareness and take-up of the SME scheme</li> <li>- Work with the Design sector to raise awareness of how the Scheme can help support research and development</li> <li>- Further simplify the scheme piloting a pre-approval scheme for smaller companies.</li> </ul> <p>We will introduce an 'above the line' tax credit to encourage research and development activity by larger companies</p>	<p>BIS/HMT</p> <p>HM Treasury</p>	<p>The rate will be raised from 1 April 2012</p> <p>Increase take up of the SME scheme by 2014</p> <p>HMRC to start the pre-approval pilot in late 2011</p> <p>Consultation at Budget 2012 Implementation in 2013</p>	Promotion of this scheme in Cornwall to relevant SMEs should be pursued to raise awareness
We will increase our funding of Designing Demand to £1.3 million enabling more businesses to benefit	Design Council	Up to 100 SMEs a year will receive design mentoring from April 2012	UCF is involved as a partner in Designing Demand
We will invest £25 million in enabling large-scale demonstrators in areas such as integrated systems for cities	TSB	Establish Demonstrators by 2014	
We will deliver a major conference in London 2012 around the Olympics with the British and US Venture Capital	BIS, US dept of Commerce	July 2012	



Associations and NESTA, to showcase and secure investment for some of the UK's leading innovative companies	BVCA, NVCA, NESTA, UKTI, TSB		
We will establish a team based in the Technology Strategy Board, that enables us to make maximum use of European Regional Development Fund (ERDF) funding to support innovation investments	TSB	The team will be recruited and operational by 2012	This will be a key point of liaison for Cornwall in view of the current and possible future ERDF programmes
The IPO will adapt Masterclass training courses for advisors into modules to make it accessible for a wider range of business advisors. The IPO will also develop an online business advisor training tool	IPO	By March 2013	Implementation through the Innovation Centres and other adviser networks in Cornwall
The IPO will consult businesses, business advisors and IP specialists on providing additional specific lower cost legal advice at a 'paralegal' level	IPO	By March 2013	
The IPO will redevelop its dispute resolution service to be more customer focused	IPO	The IPO will consult businesses to determine what is needed during 2012 By March 2013 we will have developed the business needs for the service	
<p>We will work to increase innovation levels across economically important sectors starting with agri-foods and utilities</p> <ul style="list-style-type: none"> <li>- Work with the Sector Skills Council to improve skill levels including management and leadership skills</li> <li>- Enable innovation in power distribution working with the Technology Strategy Board and the knowledge base</li> <li>- 'Help the UK water industry, working with the knowledge base, to innovate and so compete more effectively in overseas markets'</li> <li>- Targeted support from the innovation infrastructure to ensure that agri-food and utilities businesses are able to access Government support including raising awareness of support from the Technology Strategy Board and the R &amp; D Tax Credit</li> </ul>	<p>Lantra &amp; Improve Sector Skills Council</p> <p>TSB</p> <p>TSB</p> <p>BIS/HMT/TSB/HMRC/Design Council/IPO</p>	<p>2012</p> <p>2012</p> <p>2013</p> <p>2012</p>	<p>Duchy College lead on links with agri-food sector</p> <p>University of Exeter has expertise in power distribution</p>
<b>Knowledge and Innovation</b>			
We will invest £158 million to boost Britain's e-infrastructure	BIS	The Investment will be made by	



and make the UK a world leader in supercomputing research		March 2012	
We will implement a new innovation voucher programme to support collaboration between SMEs and external knowledge providers	TSB	We will invest at least £1 million pa in a staged implementation of innovation vouchers programme in 2012-13, with the first vouchers awarded in 2012	Innovation vouchers were a key plank of the Convergence framework for demand stimulation, not implemented (although general business vouchers now in place). Consider links and intensification.
Research Councils UK, working with the Funding Councils and in discussion with individual universities and consortia, will develop a principles-based Framework for treatment and submission of multi-institutional funding bids	Research Councils	The framework will be published in February 2012	
We will extend Launchpad to support new and emerging clusters in other parts of the UK	TSB	The Technology Strategy Board will run three Launchpads in 2012	Networking Cornish businesses into national clusters and networks
We will introduce the EU VAT cost-sharing exemption to enable universities and charities to ensure that a VAT cost isn't incurred when services are shared	HMT	2012	
We will respond to Sir Tim Wilson's forthcoming review of University-business collaboration	BIS	Spring 2012	
<b>Global Collaboration</b>			
UKTI will deliver a package of measures to assist innovative UK SMEs to connect with overseas finance	UKTI	New programme to be announced before end of 2011	Possible promotion and intensification through Convergence
We will use the Olympic Games to provide a showcase of British business and research capability in front of an international audience under the GREAT brand	UKTI	Programme of events announced by Prime Minister 21 <sup>st</sup> September in New York. Events to take place during Summer 2012	""
UKTI will launch a collaborative online platform called "Open to Export", enabling innovative companies and service providers to support one another	UKTI	A beta version of the platform will be launched by Spring 2012	""
We will undertake a review of the support-system for potential UK proposers to EU funding programmes to ensure we have an effective system in place for Horizon 2020	BIS and TSB	New system to be in place by Summer 2013	Cornwall HEIs to consider including engagement with research-intensive SMEs
Establish an agreement with the Chinese Ministry of Science and Technology to fund bi-lateral research projects in key areas of mutual interest	BIS,RCUK, TSB	Details of implementation agreed by April 2012. Joint research calls expected	



		during 2012.	
<b>New Innovation Challenges</b>			
We will consider and act on recommendations of the Dame Janet Finch Publications Working Group	BIS	Autumn 2012	
We will consider and act on the recommendations of the Alan Langlands Administrative Data Task Force	BIS	Late 2012	
Research Councils will develop a web based publicly searchable 'Gateway to Research'	RCUK	By 2013/14	
An Open Data Institute will be developed, based in East London and co-directed by Professor Tim Berners-Lee and Professor Nigel Shadbolt	TSB	Implementation plan published by April 2102	
NESTA will develop a new UK Prize Centre and Prize Fund to run inducement prizes in challenge areas where innovation is most needed	NESTA	The centre will be established in Spring 2012 The first prize will be awarded in 2103	Consider promotion to Cornish businesses
We will work with others across the public sector to develop Procurement Centres of Expertise for innovative products and services, in key areas with an initial focus on sustainability and healthcare	BIS	We will establish at least one centre in both the initial areas by Summer 2012	Link to CLAHRC (PCMD)
We will develop Public Private Procurement Compacts in the areas of catering; heat and power for buildings; and low carbon vehicles	BIS (with the Prince of Wales' Corporate Leader's Group)	The compacts will be signed in Spring 2012	Possible links with ESI
The Design Council will deliver a design-led commissioning toolkit for adoption by government departments and more widely across the public sector; and a coaching programme for senior civil servants	Design Council	The toolkit and the coaching programme will be developed and made available in 2012	UCF engaged with Design Council – possible mechanism to promote to Cornwall public sector organisations
NESTA and ESRC will work through the UK Alliance for Useful Evidence to advance the public sectors understanding of evidence and the case for backing what works	NESTA and ESRC	Alliance launched and work plan in development	