

# The Regional Innovation Support Landscape

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## **Workshop: Planning for the Technology Strategy Board**

Nick Buckland and Janet Brown, the regional members of the TSB Board will give a background to the TSB's current work including what the regions have done so far; Graham Spittle, chair of the TSB, and David Evans will then explain why the TSB is changing and start our thinking, ahead of the workshops, on what the new TSB should look like. As an introduction to this focused work of the day I have been invited to give the wider context of regional support for innovation.

### **Outline**

I want to talk about:

1. Firstly the global challenges we all face – the challenge of China & India is not in the call centres. Identify how RDAs and DAs have increasingly identified a regional role to drive competitiveness and lift underperformance through knowledge transfer and innovation. Regional Science and Industry Councils give the key advice to focus our resources and our progress.
2. Secondly, I will set out the wider picture of RDA/DA support for innovation.
3. Finally, looking ahead, to the CSR 2007 and Business Support Simplification Programme (in the English regions) as context for the stronger role for the Technology Strategy Board. Our aim should be even closer alignment, leverage and engagement across the country.

### **A Global Innovation Network**

Let me start by identifying some of the challenges we face in the UK (and in Europe).

At the "Atlas of Ideas" DEMOS conference on the implications of the rise of India, China and Korea a couple of weeks ago [17+18 Jan], the objective was to put the UK at the centre of a global innovation network, a position we cannot take for granted.

With 1% of the world's population we do about 10% of the research. But things are changing fast. 10 years ago, 70% of the graduates from Indian Institutes of Technology went abroad, now only 30%; and "brain circulation" has replaced the "brain drain" as many Chinese entrepreneurs are returning to

China from Silicon Valley to drive the Chinese knowledge economy. Now India too is seeing this phenomenon – especially in ICT.

At the DEMOS conference four challenges were identified for Europe and for the UK:

1. We do have a strong internationally recognised research base. But on its own this isn't enough. There is not enough emphasis on early market creation.
2. We need real focus on addressing global challenges and needs (e.g. global warming and pandemics). This means pooling our talent – collaborating to compete – if we are to make progress on the timescales needed to compete globally. And it means being providing an environment that encourages taking more risks – together – and pooling our knowledge in new ways.
3. The government has increased investment in R&D infrastructure, and we have a much higher percentage of *foreign direct investment in business R&D (45%) than France and Germany (about 30%)*. But a limited global talent pool is not growing fast enough to meet demand. We need more bright people to drive innovation; this is more about how technology is used than created.
4. And the UK (and EU) has low mobility compared with the rest of the world. As well as more overseas researchers to work here we need to stimulate the “brain circulation” that is already taking researchers from Silicon Valley back home to India and China to stimulate economic growth. In particular we need to raise our profile as an innovation economy with overseas businesses. This needs a more coordinated approach within the UK because it is about major image, perception and behaviour change.

There was much agreement that the major challenge to dealing with all these issues is our own complacency.

### **Collaborate to be competitive**

To meet these challenges we need more

- Investment in Business/business and business/knowledge base engagement (Lambert) to drive wealth creation through innovation, releasing the value from our investment in the knowledge base. At the Atlas of Ideas conference Esko Aho (previously PM of Finland) quoted that “R&D creates knowledge from money while innovation creates money from knowledge”, we need this virtuous circle.
- Focus on cross-government collaboration to achieve critical mass in meeting global challenges. RDAs working with DTI across government departments and with the TSB can offer just this.
- Invest in our strengths and change perceptions without creating complacency. The current UK image of “gifted boffins let down by inadequate systems of support” and an inability to commercialise our ideas, needs to change.

To make all this happen we need to go up several gears in how we work together and focus on responding to these global challenges. The Technology Strategy Board has already demonstrated the potential to play a major role through bringing the key partners much closer together, including regions and their Science and Industry Councils, and the Research Councils and Government Departments.

So how are the regions involved?

### **Realising the Potential of All**

An innovative knowledge economy is an essential prerequisite to sustainable economic development and global competitiveness. All regions have recognised the critical importance of science and innovation and this has been embraced in the Regional Economic Strategies (RES) across the UK.

The 9 English Regional Development Agencies (RDAs) now manage well over £2 billion each year, investing in success by delivering and supporting business and skills development across England and lifting underperformance by investing in sustainable community, as well as economic, development. RDAs shape and focus national strategies in science, enterprise and infrastructure at the regional level, we deliver local value through direct support for business clusters, hubs and networks. We are increasing the funding support for innovation programmes which is currently around one-sixth of our budget.

Development Agencies and Devolved Administrations have a parallel remit, in partnership with their national governments.

How?

The regional level has an important role to play in supporting innovation:

- We understand the strengths of regional businesses and the knowledge base identify, with the advice of Science and Industry Councils and Science Committees, priority areas where RDAs/DAs can make a significant impact.
- We provide a focus for SME involvement and investment provide the support needed to overcome the barriers to participating in innovation initiatives.  
The regions support over 100,000 businesses every year, and are well placed to help more businesses, particularly SMEs to improve competitiveness through innovation as well as through improved productivity.
- We catalyse and coordinate partnership working and collaboration between businesses, between universities, and between business and HEIs.

## **Role of Science and Industry Councils**

By providing expert advice on strategic initiatives and prioritising investment to support strengths in science, technology and innovation, the new SICs have been key and extended the capability of the regions to develop science and innovation strategies and deliver innovation support programmes. Members include business leaders, vice-chancellors and research council representatives. The majority are advisory to the RDA Board, guiding investments.

SICs are tasked to take 'the long view', appreciating the magnitude of the challenges faced and the timescales needed.

## **One North East Strategy for Success**

For instance in developing One North East's Strategy for Success which has generated 1,500 new university-business collaborations, leading to more than 30 new businesses, and creating or safeguarding nearly 900 jobs in 2 key sectors, with a focus on a small number of priority technologies and actions.

ONE has established N STAR, an early stage venture company and five national research centres for the region in

- Digital Technology and media
- Life sciences
- Nanotechnology
- New and Renewable energy
- Process Innovation

## **ONE Strategy for Success**

As a result of pledging £200m over 6 years to develop leading expertise within the North East in emerging technologies for growing markets:

- Expenditure on R&D by business doubled between 2002 and 2003;
- Level of technology start-ups is now at the highest in the country;

Major globally significant scientific breakthroughs have led to regional companies attracting interest from international funding; and major private and public sector research/prototyping facilities have been attracted to the NE.

## **The wider support framework**

The broader context of regional support for innovation is shown here in 5 categories:

- Commercialisation
- Knowledge Exchange (*NB increasingly using this term rather than "knowledge transfer", which implies unidirectional*)
- Innovation Promotion
- Networks, and
- Skills for innovation.

This is the framework for our collaborations with the TSB.

Firstly regions support the commercialisation of great ideas for example by ensuring Access to Finance:

### **Commercialisation: Access to Finance**

Regions already have developed, or are now developing, a regional *Continuum of Finance* for technology businesses, via new venture funds, to progress business ideas at every stage of development.

I've already mentioned N-Star which has:

- Established specialist venture capital capacity in the region through the formation of fund management company, NorthStar Equity Investors.
- Encouraged a high quality pipeline of investment opportunities
- Sourced private sector co-investment and additional venture capital funds on a national and global basis, helping ensure a sustainable transformation in the North East.

Although the funds are still developing, early results are impressive:

- NStar's Proof of Concept fund has financed 98 companies to a total value of £5.5M. Already nine of these companies have gone on to secure further finance totalling £6.6M. 6 have generated further funding of just over £4M for a total initial investment of £320K.

At the other end of the commercialisation, the Scottish Enterprise Proof of Concept Programme supports the pre-commercialisation of leading-edge technologies emerging from Scotland's universities, research institutes and NHS Boards. The Programme currently supports 172 groundbreaking projects worth over £28 million and has already created over 400 new jobs. The evaluation by Price Waterhouse Cooper (2006) indicates net gva levels of at least £125 million likely to be generated with initial value for money ratio of costs to benefits of 1:4. Initial long term gva forecasts (over 10 years) for each of the six rounds to date are likely to be exceeded (from £40 million to £100million per round).

### **Knowledge Exchange: Technology Brokering**

The London Technology Network has been supported by LDA, as well as HEIF and the EU. The LTN runs the London Innovation Relay Centre, delivered with the help of its technology consultants and the university business fellows scheme.

The centre tackles barriers that businesses encounter when trying to adopt new technologies or promote their own technological advancements into foreign marketplaces. It will:

- Identify & source appropriate technologies from across the University knowledge base effectively,
- Showcase technology opportunities to the right potential customers throughout the IRC Network; and
- through "Technology brokering" supports the writing of licence/ Joint venture agreements, through to the completion of the deal.

This provides an important and much needed vehicle to showcase London's world class science & technology University base to a global marketplace. The LIRC acts an effective "front door" for businesses to engage with Universities to find appropriate technologies that they wish to embed into their

business offerings. Projects such as these provide vital access channels for businesses to gain access to knowledge assets, so they can take R&D from educational establishments into a commercial arena.

LTN generates approximately £15m per year of collaborative deals between businesses in London and the South East with London's universities using its technology consultants and business fellow networks.

SEEDA and EEDA are also now supporting the LTN business fellows scheme as a key resource for the world class city-region that is the Greater South East.

### **RDA encouraging business collaborations with universities**

Lambert recommended a key role for RDAs in encouraging business collaborations with universities by articulating business needs, particularly for SMEs. Last year, in the first year of our new core measure for "new business collaborations with the knowledge base", RDAs brokered over 7,000 new collaborations.

### **Promoting Innovation**

The **Manufacturing Advisory Service (MAS)** is well established across the country; 4 years in SEEDA has worked with 4,000 businesses. Deeper interventions with 360 businesses have created an added value of £35m for an investment of £3.5m. Lean manufacturing has been clearly understood by the majority of South East Manufacturers and has been implemented by the early adopter type companies. Our challenge now is to push it down the supply chain.

SEEDA's new **Innovation Advisory Service**, builds on best international practice and aims to:

- Raise regional competitiveness by increasing innovation in technology intensive businesses,
- help businesses improve profitability through innovation in products, processes, business models and skills, and
- create a "Knowledge Supply Chain" market place to support open innovation.

The service is aimed at ambitious, technology intensive companies of all sizes, but particularly those with 30 to 1,000+ staff. In the first 6 months of operation the Innovation Advisory Service has directly increased innovation expenditure, mostly R&D, by £3.7m with a further £20-30m expected from on-going projects.

The objectives of the **Leading by Design** project pilot by SWRDA were to:

- Develop more innovative, profitable and sustainable businesses in the South West, through their use of design
- Encourage business intermediaries to offer design as a possible solution to serious business issues and blockages to market
- Stimulate the region's awareness of the benefits of design

- Promote design to creative industries as a relevant sector within the region and, as a result, encourage the growth of the local skills base

Discussions are on going with the Design Council to roll out elements of “**Design Demand**”. The Design Development Programme from Invest NI integrates design into long-term business strategies. In the past twelve months the service has provided tailored advice to 120 companies and support 34 companies more deeply through the Design Development Programme.

In the West Midlands, Different by Design, a geographically focused design initiative managed through Staffordshire University, supports diversification by matching companies with ideas to designers that can help them to turn the idea into marketable new products. Of 50 projects funded, 23 are now in full production. It resulted in 27 design awards including prestigious Millennium Product accolades, 7 exhibitions worldwide and much stronger links between designers and manufacturers.

### **More effective networking**

The UK Micro and Nanotechnology (MNT) Network has been established by the DTI and the 12 Regional Development Agencies and Devolved Administrations working together, to provide a market-oriented focus for the facilities, people and organisations engaged in Micro and Nanotechnologies in the UK. The Network is helping to lower entry barriers and drive the widespread market development and exploitation of these technologies - building a prosperous, world-class MNT sector in the UK.

£90 million will be spent on collaborative R&D and a new network of Micro and Nanotechnology facilities, and forms the first step of developing and implementing a new Technology Strategy. Within this initiative, the DTI has allocated £50m for an applied research programme that will support collaborative research and development projects and technology transfer initiatives, and £40m for Capital Projects for a UK Micro and Nanotechnology Network

### **Skills for Innovation**

People are the resource that will drive and deliver the future. Through an overview of the skills needed for innovation, including specialist and critical shortage subjects, leadership and advanced technical skills, the TSB may be able to guide and leverage funding from the funding bodies.

To give one example, many RDAs now identifying Leadership Skills as fundamental to successful implementation of innovation. NWDA, SEEDA and SWRDA have Leadership Academies to promote and deliver skills associated with Leadership of innovation and commercial success.

In my own region a £2.5 million leadership and management investment in 1,200 (approx) managers has led to an attributed annual profit of £35million.

AWM is targeting 100 businesses that will make the biggest impact on regional growth, providing 6 days of free high level specialist support to develop skills solutions for business improvement.

### **Opportunities for closer working**

So – today we are here to talk about the future and build on the best of existing practice.

In the CSR we need to explain how all 5 areas of intervention can best be tailored to regional needs by RDAs/DAs.

We are now simplifying business support for innovation as for other areas and need to ensure we don't throw out best babies – eggs given – with bathwater.

RDAs infrastructure development can underpin strategic initiatives at a national level, for example the Centres of Excellence in One North East and Yorkshire Forward; the Manufacturing Centre in Warwick; and the Cockcroft Institute at Daresbury.

New Information, Advice and Guidance brokerage service through Business Links can work well alongside and as a gateway to specialist innovation interventions.

We have many networks – some highly effective, some less so. We need to understand better how the most effective local, regional, national, and international networks can be encouraged and supported.

Networks, such as the Food and Drink Forum in EMDA, have been very effective at increasing business and driving innovation. We are seeing some good examples of regionally focused networks working closely with KTNs, for example with the KTN for cyber security. We need to do more to encourage networks to operate on whatever scale is sensible. It may be local, it may be pan-regional (Northern Way, GSE), and, increasingly, it must look to international marketplaces.

### **CSR 2007 – RDA recommendations**

In our input to CSR RDAs are emphasising the need for

- Support for publicly-funded R&D to impact on business investment and economic development;
- Support Lambert's call for at least another £200m pa directed towards greater business engagement with the knowledge base on top of existing funds RDAs & DAs have refocused on this area.

Strong support for the establishment of the new Technology Strategy Board

- Advisory Council formed by the Chairs of Regional SICs (with RDA representation on the main Board)

**Today should take our thinking forward on how we might do this well**

- But as well as closer regional engagement with the Board, can we influence, through the TSB, the whole of government to align its R&D and innovation support?
- Can we broaden the role of the TSB to strengthen our international collaboration on R&D to maintain our global competitiveness?
- Can we identify where we can each make the most effective contribution to using public procurement to drive innovation?

We are already beginning to see how we can address some of these challenges through mission-led R&D, where the Innovation Platforms are showing great promise. I sense a lot of excitement about working together across government and the regions to get critical mass on some major issues which will help create new markets and give UK businesses a boost. The Innovation Platforms can create early markets with global potential and we have a mechanism for engaging many more businesses in large procurement programmes.

### **Summary**

There is general agreement that we need much stronger:

- Business to business and business to knowledge base collaboration
- Regional and national alignment and flexibility
- Identification of key initiatives and critical mass for Innovation Platforms to deal with most exciting cross-disciplinary issues in ways which will release value from the greatest excellence in our knowledge base and stimulate new markets to the benefit of UK companies.

We are better placed than we have been for some time to achieve this together if we can make the most of our tremendous bank of knowledge and experience. That is what today is about.

Thank you.