

Increasing and improving levels of investment in R&D, particularly through encouraging greater levels of business investment

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Increasing investment in innovation

- North Sea contexts
- EU and UK perspectives
- Routes to improve R & D %
 - *Structure* – TSB, ITB
 - *Finance* - Public sector approaches and incentives for business investment
 - *Culture* – key business focus, aspirations and belief, enterprise
- What does investment mean?
 - Money, time, engagement in research
 - University-industry links

Increasing investment in R & D

- North Sea area contexts
 - Environment, e.g., 35.696 km of coastline
 - Competitiveness
 - Productivity
 - Global competition / SME focus
 - Societal challenges e.g., regional disparities, demographics
- UK perspectives
 - Lisbon revised /UK General target for 2.5% GDP on R & D by 2014; larger part of this business R & D
 - UK – concerns over STEM subject take up / lower rates of patenting due to industrial mix

Why increase investment in innovation?

- *R & D supports competitive advantage, improves products, services and business practice to gain and retain market share (DIUS, 2008)*
 - Direct impacts of increased R & D and business performance
 - hard to establish econometrically : long lags between R & D investment changes and subsequent performance; effects work at levels difficult to isolate at whole firm level
 - Need more approachable examples for SMEs .
 - Research says:
 - estimates of private sector return for R&D 10-15 %, to 30%
 - Benefits from the R&D also accrue to other firms or industries, so rates of return can reach 100% (IPS, 2000)
 - FTSE100 firms with 4+ % of sales on R&D have 51% portfolio value increases since 2001 : 27% rise for FTSE100 index (DIUS, 2006)

Structure : Govt support for business R & D

- Govt support for **demand** to encourage innovators to meet new needs; Early users – individuals, businesses, or Govt shape innovations and provide critical early revenue.
 - Each Govt Dept will produce a plan to use procurement to promote innovation.
 - The Confederation of British Industry to work with Govt to facilitate secondments and mentoring between private sector companies and Departments
- Via the **Technology Strategy Board** £2 billion extra public and private sector investment 2009-2012 for 5 new Innovation Platforms and to double Knowledge Transfer Partnerships
- **Specific investments** : Up to £1 billion over 10 years to be invested by the Energy Technologies Institute in renewable energy demonstrator projects.
- **Finance** DIUS and RDAs to build an escalator of financial support for innovative firms e.g., agree nationally agreed *proof of concept* specification.
- More collaboration between *knowledge institutions* and businesses, **1000 businesses per year to have an innovation voucher** to subsidise work with their chosen university

(Innovation Nation, 2008)

June 2008 Herning Denmark



Finance - Public sector incentives

□ PPPs - Joint ventures

- QinetiQ, from MoD and DEFRA sale to Carlyle in 2003: 'an innocent at a game of card sharps'? 200% ROI in 2006 flotation on stock exchange (*Times*, 09/06/08)
- E.g., Nov 2007 Government investment of c .£100 million, to generate innovative proposals for business and research community R and D collaboration (DUIS)

□ R&D Tax credits

- Support SMEs, larger companies and vaccine research by covering staffing costs, materials used, externally provided workers and sub-contracted R&D
- **SMEs making profits**; Tax credit = 100% deduction for revenue expenditure on R&D, plus an extra 75% for SMEs and an extra 30% for large companies against taxable profits.
- **SMEs making losses** (i.e. with no corporation tax bill), receive a cash payment from HMRC equal to £0.24 of actual expenditure
- **SMEs becoming large companies** have a 'grace period', to continue claiming SME credit for 2 successive accounting periods as a non-SME

□ Private sector response to innovation

- Dolly the Sheep - born 1996 at the Roslin Institute and attracting global media interest as the first mammal cloned from an adult cell. Led to £5.6 million from 3i and £12.5 million plus Geron shares of £3 million+. (NAO, 2003)

Innovation Culture – key business focus, aspirations and *belief*, enterprise

- **Embedding innovation and R & D as normal practices**
- **Implies**
 - Risk evaluation and acceptance and R & D as part of decision-making
 - recognition of creativity at all stages in innovation process
 - Effective social capital as innovative companies
- **Might be supported by e.g.,**
 - Innovation voucher schemes etc
 - Knowledge Transfer Partnerships
 - Establishing innovation as more than S & T/ Encouraging understanding of wider R & D
 - Raising awareness of wider actors, e..g, NE Role Model Platform for Innovative Women
 - Soap operas/media involvement in business R & D
- **Examples HE / business associations**
 - Internationalisation (MWTF)
 - Competitiveness (developing global footprints - UKITA)
 - Productivity (working out what this means in practice for companies)
 - Routes to risk

What does investment mean?

- Initial focus on monetary investment and structure
 - Public v private sector R & D investment
 - Regional v national R & D investment
 - Public and private sector partnerships, bodies etc
- Recognition of investment as *involvement*
 - University-industry knowledge transfer
 - Cross sector / region collaboration
 - Sectoral e.g., creative sector, joint regeneration projects
 - Demand and supply components
 - Innovation platforms for societal issues
 - Not for profit sector / women as innovative drivers in varied markets (e.g. Role Model Platform)
 - Innovative finance / bankruptcy effects

How does this work in practice?

□ Voucher scheme university-industry

- The Index Scheme run by Aston University; £3000 to support company innovation, competitive approach; company match
- Work with InterQbit, a company with a groundbreaking new management strategy game and approach for larger firms

□ Knowledge transfer partnerships

- Company and govt co-fund a graduate within a company to tackle a specific innovation-related issue; Soft issues like innovations in NPD, business service and in voluntary sector business practice
- **New Product development**
- Birmingham Institute of Art and Design – new design in furniture via new materials, new ergonomic approaches, linked with technological applications for traditional furniture makers; Jewellery Institute and advanced materials
- TIC – new design in ICT applications via Open Source
- **New Service Development**
- Mediation Works and Groundwork UK, not-for-profit organisations supporting societal change, KTPs to establish brand, allow diversity of product and service development

Ideas to consider?

- *Change you can believe in (Obama)*
- Encouraging public sector to adopt more innovative approaches, e.g., to procurement
- Encouraging companies to see R & D as 'normal' as part of the evolution of the region to retain innovative strengths and raise competitiveness/productivity
- Innovation voucher scheme
- Whole process innovation recognition
- SME targets – schemes available but understandable concrete messages still needed
- Recognising innovative actors – women, NGOs
- *And thanks for inviting me here for this fascinating and important event!*

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InterQbit

□ Context

- Serial entrepreneur Prof Daniel Steenstra based at Warwick University, won a voucher through a competitive process to obtain the time and energies of an innovation specialist to establish the brand, develop awareness a, boost market share – for commercialisation of the product and associated services

□ Process

- He chose Lynn Martin at Birmingham City University to help this aim be achieved
- She set up an entrepreneurial support team of 3 academics and a student to work on processes; workshops and large company evaluations have resulted

□ Progress

- Trials by 3 major large organisations, discussions with public sector departments and RDAs; academic presence raised e.g., via ISBE, BAM etc

Service by design HEIF project

- Higher Education Innovation Fund Grant, £500,000
- Aims included
 - To research and support knowledge transfer university-industry
 - To work with 25 businesses to develop innovative service design projects
 - To test private sector models e.g., that offered by the Engine group as a way to facilitate university-industry KT
 - To raise the capacity of a group of academics across the university to respond to the needs of industry

Service by design HEIF project

□ Results

- 30 companies working with the university on KITTS programme, KTPs or as consultancies
- 60 academics from across the university as a community of practice sharing ideas and develop working practice in meeting business needs
- Embedding lessons learned in staff development programmes via online and offline means
- Research papers emerging on KT for conference and publication outcomes