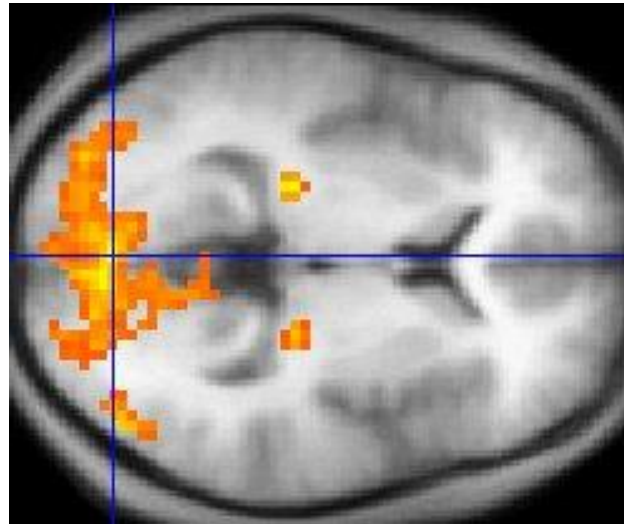


Business engagement with universities – meeting mutual needs



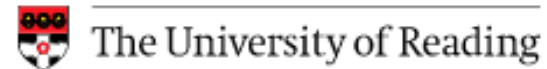
Dr Alison Hodge MBE
QinetiQ University
Partnerships Director

April 2010

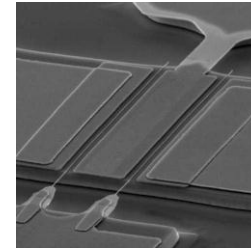


Dr Alison Hodge MBE CPhys FInstP CEng FIET MInstKT

- Chairman of CBI ICARG (Inter-Company Academic Relations Group)
- Former member of EPSRC User Panel and Interim Chairman
- Member of Council of University of Reading
- Industrial adviser to universities:
 - Surrey, Bristol / Bath, Southampton, Aston



QinetiQ Creating value from technology - globally



Technology solutions



Services



Products



Consulting

Patents, Licensing, Joint Ventures, Spin-off

This is a creative business!



Why business links with universities – company specific

- Strategic short and long term need
 - Research, perpetually refreshed through external funding
 - expertise, facilities, resources
- Knowledge and intellectual property
 - Reservoirs of expertise
 - Extended academic network worldwide
- Recruitment, training, skills and recognition
 - Motivated graduates and PhDs, to world leaders
 - Higher qualifications, short courses, secondments and exchanges
- Positioning and visibility with stakeholders and wider public

Benefits for universities from business interaction

- Research
 - Relevant challenges – *market pull versus technical push*
 - Valuable business and market knowledge
 - Specialist equipment, data, models, samples, expert people
 -
- Students
 - Real projects and business insight, genuine teamwork
 - Wider employment opportunities
- Innovation
 - Application of integration of knowledge and expertise
- Strategically
 - Publications and income

Positioning and visibility for funders and stakeholders - IMPACT

Example mechanisms and schemes for interactions

- Joint bidding for contracts / grants
- Research project topics for students - KTP
- Formal training eg short courses, part and full time degrees
- Part funded studentships eg CASE
- Formal and informal recruitment mechanisms
- Access to and development of facilities eg complex and high value capital equipment, software
- Part time appointments and secondments, sponsorships
- Visiting posts with appropriate recognition (eg Honorary Professors / Fellows) - lecturing, tutoring
- Panel / advisory board memberships - universities, hefce, EPSRC etc

Technology transformation – the maturity gap



**QinetiQ –
Swimmer detection system**



**Southampton University –
Laboratory experiment**

University culture

- **Academic freedom**
- **Funders**
- **Pursuit of research frontiers**
- **Quality judged by peer review**
- **Student and staff turnover**
- **IP seen as an income generator**
- **Open publication in technical literature**
- **Protracted timescales**
- **Other parties involved**
- **Attitudes to income and costs**
- **Nationalities**

Business issues

- Corporate strategy and management
- Customers
- Business targets and bottom line
- Quality is suitability for purpose
- Managed staff profile, succession
- IP managed in competitive marketplace
- Selective publication in trade and market press
- Market drivers dictate speed of action; often fast
- Serious attention to commercial sensitivities
- Costs determined by market and internals
- List X defence contractors in the global economy

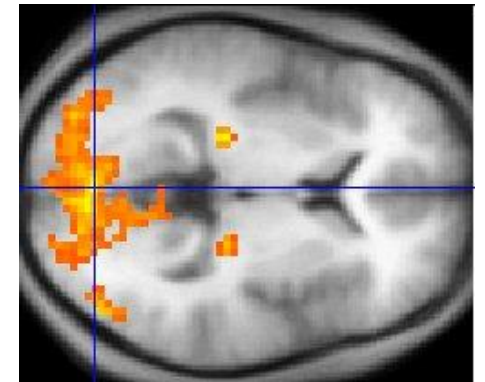
Business engagement with universities

Mind the gaps!

How can we bridge them?

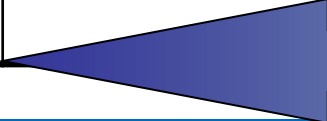
Working with universities – what are the issues for business?

- **Whether existing knowledge or new frontiers?**
 - How do we find what we want?
 - Who does what, where?
 - Facilities, equipment, courses?
 - **No “catalogue”**
 - **“Open” literature is not easily accessible!**
- **What does a university deliver as its output?**
 - Appropriate quality on time, value for money, to spec
 - **Not usually delivered in a package!**
 - **Excellence not determined by peer review**
- **So who will be involved**
 - Knowledge transferred by people
 - Mid career experience, well trained graduates
 - **Are they available?**



Who does what and when in universities?

Original research	Unlikely	Probably	With guidance
Extension of known knowledge	Perhaps	Probably	In part
Known knowledge	Yes	No	No
Maturity of knowledge Timescale	Short consultancy - academic	1 year researcher (PG student / post doc)	3 year doctoral studentship
			Expertise level



And how does QinetiQ typically interact with them?

Original research	Unlikely	Probably	With guidance
Extension of known knowledge	Perhaps	Probably	In part
Known knowledge	Yes	No	No
Maturity of knowledge Timescale	Short consultancy - academic	1 year researcher (PG student / post doc)	3 year doctoral studentship
	Expertise level		

Working with universities – completing the package

- Tackle **THE** challenging problem rather than tackle **A** challenging problem
- Integrated programmes, all the gaps filled
- Avoid new research if something exists
- Different disciplines and skills
- May be high risk and really challenging
- Many different options may exist, may need phased approaches
- Business model, non-technical issues may dictate
- Other suppliers will be available - internationally
- Practical expertise, backed by modelling and simulation
- Domain and context awareness

Summary

- Business needs expertise from universities,and benefits return to universities
 - Known knowledge used in applications
 - New knowledge to be created and explored
 - Trained and motivated, skilled people
- Understand, recognise and exploit the cultural gaps
- Universities, students and their government funders can help business understand by communicating
 - *what is available and where, in non-academic terms*

QinetiQ

The Global Defence and Security Experts