

# Is it a problem that Research and Practice do not connect : History and Researcher Perspective

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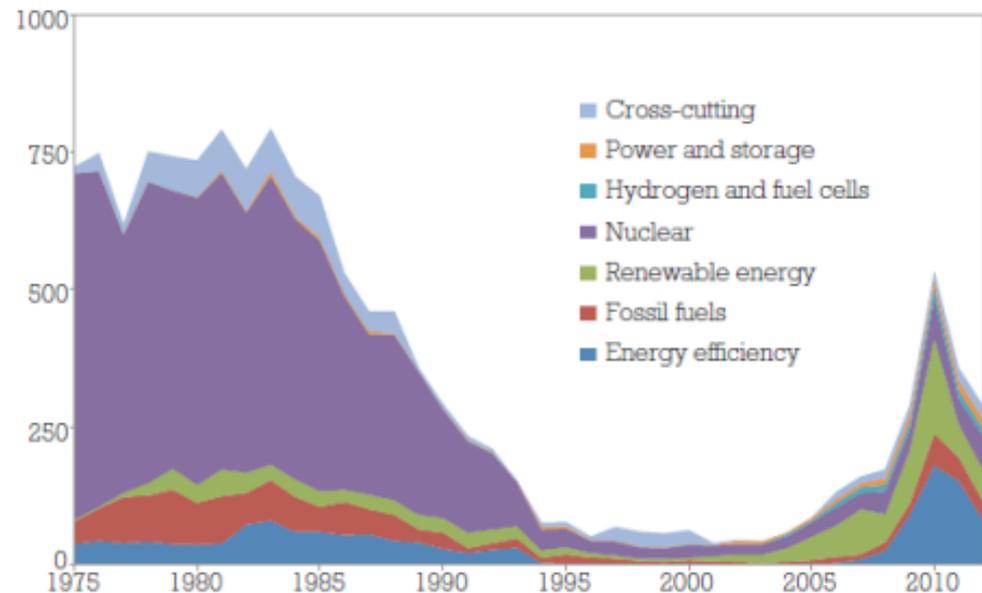
# The problem

- Over the last decade expenditure on R&D performed in the construction sector of UK Business has been reducing - £20M per annum (we spend 10 times this in the shipbuilding industry!)
- Unlike other business sectors most of built environment research is not undertaken in industry but in Universities, and is government not industry funded. The sector does not do research for its own good, in fact it sometimes looks at research as a funding stream!
- The normal motivation to link research and practice does not exist.
- Hence this sector faces a greater challenge in turning research into practice!
- Boom and bust means research (which is often long term) is valued less and sometimes considered a threat! Also the role of subcontracting demotivates research investment.
- Energy research is a challenge for the sector as no financial model to deliver efficient buildings.

# Investment in knowledge transfer: Loss of National Labs

- BRE, backed by Watson House, Electricity Council Research Centre and the Coal Research Station
- Best Practice Program
- Loss of institutional knowledge
- University research undertaken in small groups (20 covering built env, architecture, planning, building science, construction management) with no long term funding.
- Do professional bodies invest enough in knowledge transfer?

*Figure 10: UK Annual Public Sector RD&D Budgets (£m, 2012 money)*



# University Challenges: Evolution of Academia

- REF: Important driver, £30k per annum per academic, if you do well!
- REF Evolution: Just 4 papers (quality not quantity), Impact (only 20%, output 65%, environment 15%), open access. £42k per academic per year project funding. Total funding pot for sector is about £45M, which is reducing in real terms. Engineers have approx. 2 to 3 times the funding.
- The REF has turned academia into research machine optimised for REF. Moving from practice to research is not easy. Academics know less about the industry and what research they need.
- Time is a problem both for academia and practice! How do we fund time for Impact!

## The good news

- Searching and accessing research is much easier – Web, open access publications will transform access. Information overload and separating the wheat from the chaff!
- Impact is being valued more by funders, also understanding that the Technology Readiness Level (TRL) is not applicable to system dominated sectors.

## Is the sector maximising the opportunities for Research Translation?

- Impact Acceleration Accounts (IAAs) (£60M shared between 31 Universities), are blocks of funding (via EPSRC) made to a select group of UK research organisations that aim to speed up the real-world impact of academic research.  
Impact Fellowships
- Knowledge Transfer Partnerships
- Catapults in Future Cities
- Are there lessons to learn from the medics?



- @In the late 1990s, R&D in UK construction was £140million. But higher education and trade associations spent 88 percent of this. In other words, the UK's mainstream building firms spend perhaps £17million on R&D (27).

Net real UK government R&D spending, £m			
	Estimated outturn	2002-3 plan, 2003-4 plan, 2004-5	
Science (Research Councils)	1891	2147	2355
of which			
OST	278	350	498
Medical Research Council	361	397	414
Civil Departments	1760	1816	1508
of which			
DTI, excl OST & Laundh Aid	275	236	232
ODPM	29	30	29
HE Funding Council	1551	1583	1626
<b>TOTAL CIVIL</b>	<b>5201</b>	<b>5546</b>	<b>5489</b>
<b>MoD</b>	<b>2531</b>	<b>2437</b>	<b>2422</b>

**R&D in international construction: Britain lags – again**

*R&D per £1000 building output, 1999*

Britain	£1
US	£2
Japan	£3
Denmark	£7
Netherlands	£10
Finland	£25