

Reflections...

... on the Changing Innovation Landscape
...and on Opportunities for Wales

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Who am I?



FLINT INNOVATION



The UK HE Landscape

What Has Changed for UK-wide Higher Education in the Past 12 Months?

- **Impact of Covid**
 - Huge pressure on Treasury funds
 - Principal focus on national economic and social recovery
 - Universities seen as key players in the recovery, addressing the skills gap and driving the economy through innovation
 - Place and levelling-up are at the heart of the recovery plan
 - Attention of HEIs highly focused on students
- **Increased urgency to implement the promises in the 2019 election manifesto**
- **Brexit**
- **The USS pensions situation is far uglier than anticipated**

What Changes Are Being Discussed?

- Reduce fees, as recommended by Augar
- Direct funds to priority areas (i.e. healthcare and STEM) through the T-Grant, now rebranded the 'Strategic Investment Fund'
- Force the closure of low value/poor quality degrees
- Reduce the numbers of students going to university
- More options for digital learning and further fee reductions
- Create more and better options for adult workers to reskill/upskill, particularly in the post pandemic period and introduce a flexible funding system which offers all those over 18 funding to study for up to 4 years – 'a life-long learning allowance'

What About Research and Innovation?

- Research and Innovation remain high on the agenda and is a key part of the recovery plan - ***but the road to 2.4% GDP is looking increasingly bumpy***
- Significant uncertainty over the Industrial Strategy which was the foundation of the R and D Roadmap – **but Innovation** is to the fore as a driver of recovery
- The focus on **people and place** is gathering momentum as plans for the recovery start to emerge – research funding will be more ***targeted to place and innovation to drive local economic growth and levelling up***
- Researcher Development Concordat
- KE Concordat



What About Research and Innovation?

- The new **Advanced Research and Invention Agency (ARIA)** will support 'high risk, high benefit' blue skies research. The relationship of its £800M budget to UKRI is unclear
- The recent cuts in ODA funding have already had a major impact with the **slashing of budgets for the Global Challenges Research Fund and the Newton Fund**
- There are concerns over **Horizon Europe** with a lack of clarity as to whether **the £800Mpa cost** is in the Treasury budget
- Increase in research funding in the new Defence proposals



Implications

Financial Pressures

Some of these issues affect Welsh HEIs directly, and some less so thanks to devolution of education powers to Wales, but we can't ignore the UK-wide environment

Some institutions in Wales were already under severe financial pressure before Covid

We can't expect our HEIs to have much cash to spare to cashflow new initiatives unless there's a very strong business case

HEFCW is doing excellent work and makes a real difference, but can't do everything

Innovation isn't an afterthought

The old model of fundamental research that is then 'commercialised' is only one of many routes, and is slow, expensive and fraught with challenges

Co-creation through applied research, strategic partnerships and open innovation models gets knowledge into use more rapidly

Fundamental research, applied research, innovation and commercialisation aren't separate and it's not a linear process – we can build in innovation thinking early in the process if we accept ambiguity

[A sidenote on definitions of innovation]

a new idea, design, product, etc.:

- > innovations in something e.g. recent innovations in technology
- > Product innovations lead to an increase in effective demand which encourages an increase in investment and employment.

the development of new products, designs, or ideas:

- > He says universities should work with the private sector to foster innovation and entrepreneurship.
- > financial/organizational/technological innovation
- > Their success lies in combining an effective innovation process with superior product concept.

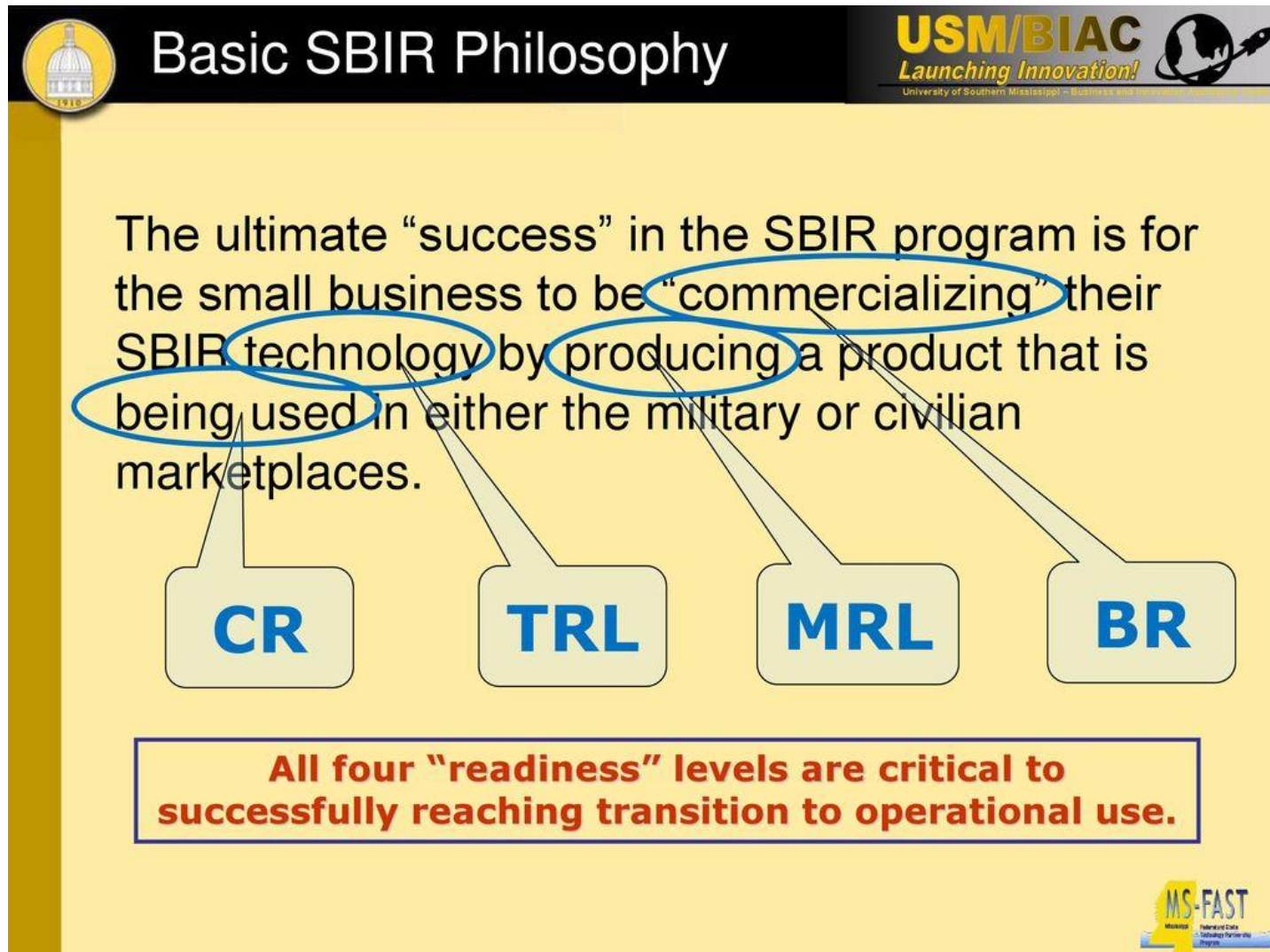
“Research and Development is the transformation of money into knowledge. Innovation is the transformation of knowledge into money.”

Dr. Nicholson, Retired 3M Vice President

[A more useful concept...?]



Technology Readiness Levels as adapted by the CloudWATCH2 project



Interplay of Research and Teaching

We do ourselves a disservice if we divorce the two

Financially, we can't avoid the link at a whole-University level

Our industry partnerships need to span the range of needs of our partners, not reflect our internal silos

Wales has great and diverse strength in both teaching and research and needs to leverage it better

Scale and Place

Trend towards:

- More collaboration
- Larger grants
- More emphasis on impact on people, society and the economy

‘Building Back Better’ means a stronger focus on economic recovery

Skills are a key part of that and need to be considered as an integral part of our work

Growing recognition of different economic geographies

Competing nationally and internationally

Individual Wales HEIs have strong niche expertise

Collectively, we can compete with the best but individually we often struggle

Access to easier funding has led to less experience in highly competitive funds

There is no guarantee the Shared Prosperity Funds will be a direct replacement for Structural Funds, so Welsh HEIs need to build on experience from them and use it to compete for national and international funds

We have to move at pace

What is Brunel doing?

What do we do that's the same as everyone else?

- QR funding
- Student fees, T-grant, accommodation and commercial operations income
- Bid for Research Council, Innovate UK and Horizon funding
- Support our students with a careers service (Professional Development Centre)
- Commercialise IP when appropriate
- Collaborative R&D, consultancy, licensing, spin out, student placements etc

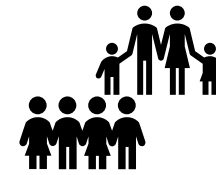
Customer groups



SMEs



Large companies



Public



Government

Modes of engagement



CR&D

Spinout



CPD



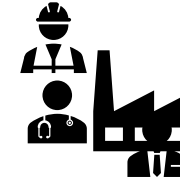
Workshops



Student Projects



Networks



Placements



Lectures



Licensing

Tools and Enablers

KEF Concordat self assessment
Policies and Procedures

CRM and dashboards
Training

Delivery teams

RSDO

PDC

ESSU

Apprenticeships

Hive

SBLP

Co-Innovate

What do we do that's a bit different?

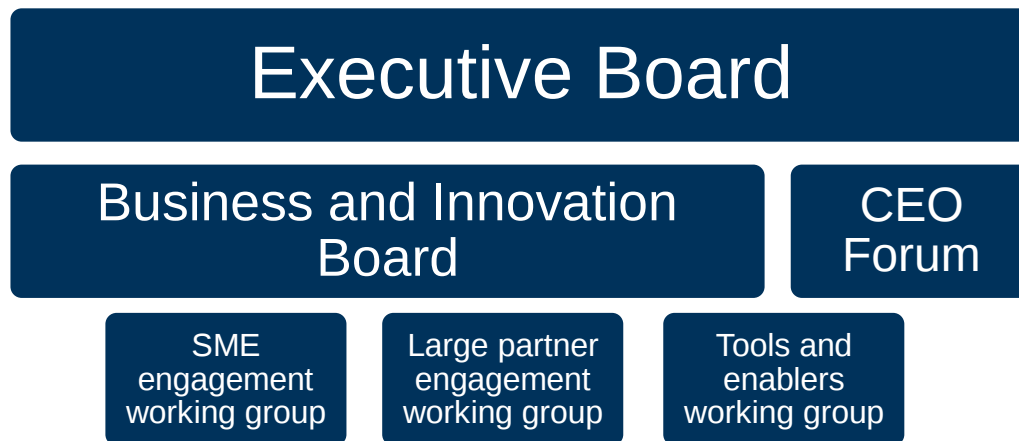
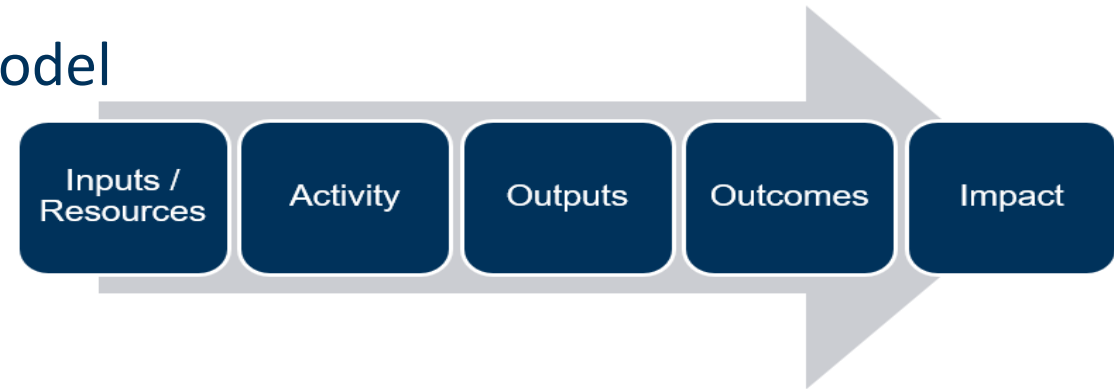
- Creating the CBIO role
- Bringing together ALL external engagement
 - Student-based
 - Volunteering
 - Public engagement
 - Research collaboration and commercialisation
 - Workforce development (Apprenticeships, CPD)
- A new strategy for External Engagement, Innovation and Entrepreneurship with these strands interwoven

EEI&E Strategy – Delivery Workstreams

- Relationship Management for large external partnerships
- SME engagement and coordination inc central enquiry service and focus on West London SMEs
- CPD development
- Apprenticeships rollout
- Placements and internships
- KEF and KE Concordat implementation
- CRM and Dashboards
- Staff and student training programme
- Policies and Procedures
- Long term planning inc Innovation Centre on campus

What do we do that's a bit different?

- Piloting parallel commercialisation
- Piloting intrapreneurship and innovation thinking training for staff and students
- Setting clear objectives using a logic model
- West London coordination
- Reporting structures



Opportunities for Wales

The prize

Currently, the biggest game in town is UKRI and the R&D Roadmap.

ARIA is coming, as are the Shared Prosperity Funds. The new proposals to increase defence spending on R&D are also a big opportunity

If we get this right, we can WIN more funding, greater recognition and a clear place on the national and international stage across a greater breadth of our activity

What we need to do

STOP separating Education, Research and Innovation in our thinking

STOP the special pleading!

START looking at collaboration as an early option not last resort

EMPHASISE the value of Wales-wide trials and pilots – the Wales Test Bed

INVEST in removing barriers and creating the conditions for success, not in providing 'easy money'

How can we achieve it?

END University push vs 'Market' pull dichotomy and find the sweet spots

AVOID the failures of the past (c.f. WEFO abdication of responsibility at the start of the Structural Funds)

TAKE risks and accept they won't all pay off

How can we achieve it?

UNDERSTAND the written and unwritten rules of the game

REMOVE the barriers at all levels

INTRODUCE the right incentives at all levels for the outcomes we want

PRIORITISE ruthlessly

CLEARLY set out our routemap and logic models

In practical terms...

Exercise to map the strengths and gaps in more depth

Bottom up - what do we want to do when funds are available? Marry that with top down view of what Government priorities are

BD and TT capacity - pool resource, leverage external funding and support

Don't get distracted by shiny things

Give any umbrella structure a clear remit and don't fudge it

Understand our 'customers'

Summary

The external environment has changed faster than I can remember in the last year, and it's not all down to Covid

We need to keep our 'big picture' view, whilst responding to this change

The opportunities are there and we need to think in a more 'systems' way that we're used to if we are to seize them

Collaboration and acting on behalf of the wider Wales HE sector is key, as is facing difficult conversations with honesty and integrity

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