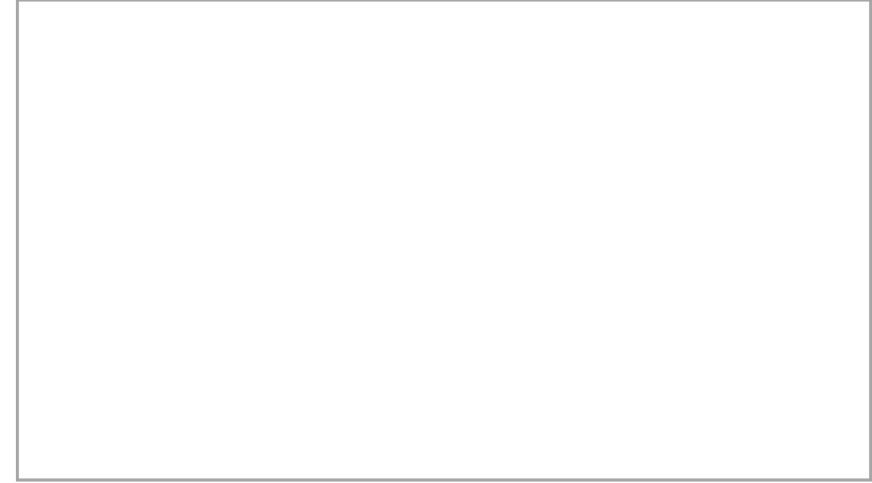# World leading AI needs the right regulatory sandwich

Bill Mitchell
Director of Policy, BCS – The Chartered Institute for IT

bcs

The
Chartered
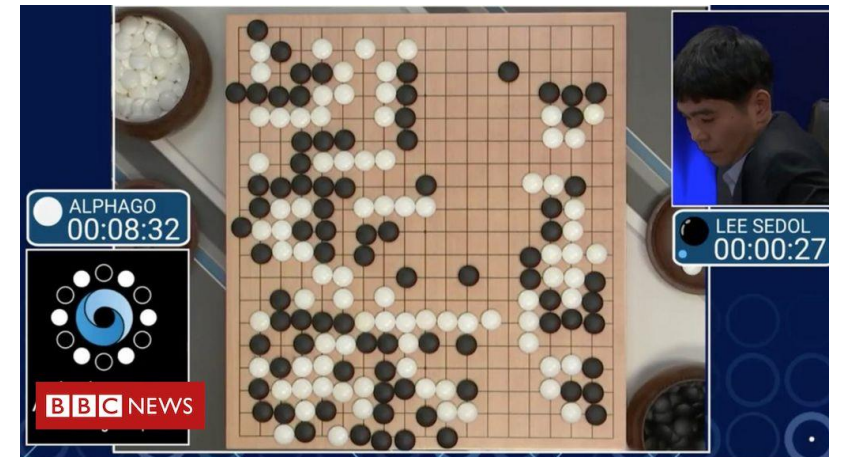Institute
for IT

What AI does well

Screening for cancer in X-rays

Natural language processing

Playing rule based strategy games, like Go

Machine learning what it does

```
[Start with random model] --Try it out--> [Give model example data to process] --Training finished (no more example data)--> [Output model]

[Give model example data to process] --Evaluate--> [Tweak model to be 'better']

[Tweak model to be 'better'] --Repeat with new examples--> [Give model example data to process]
```
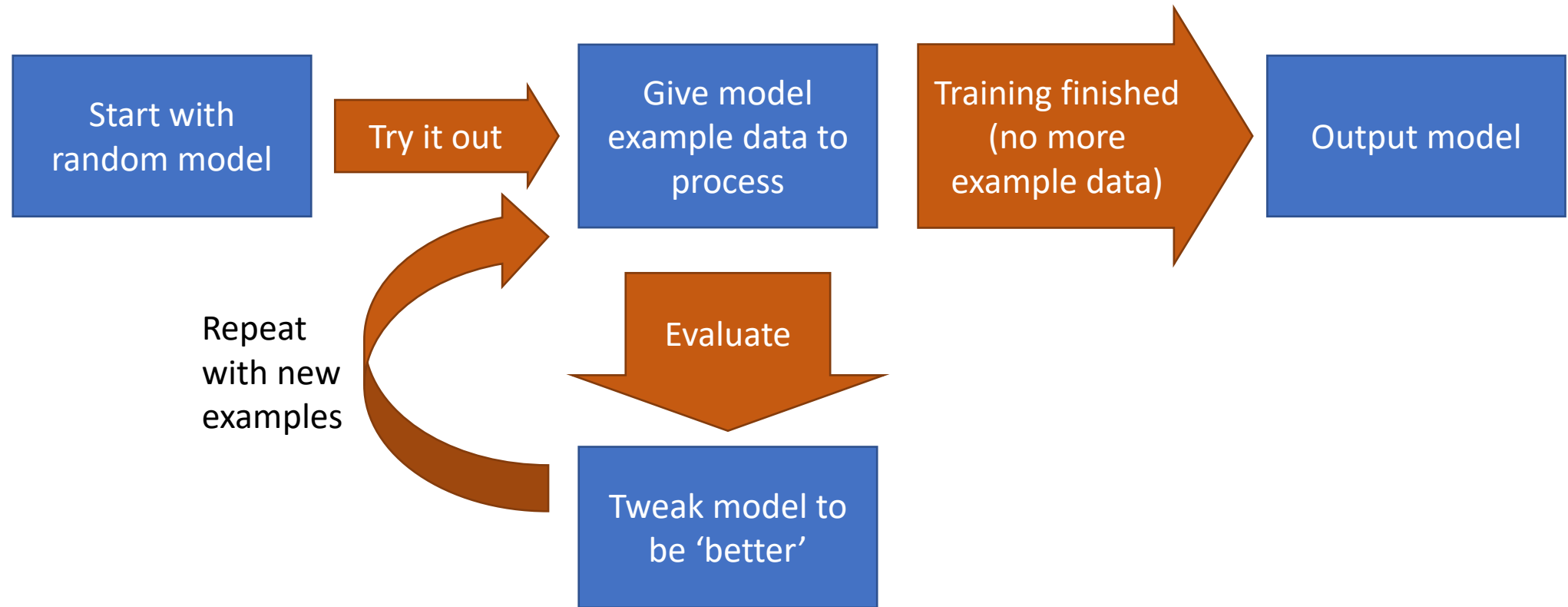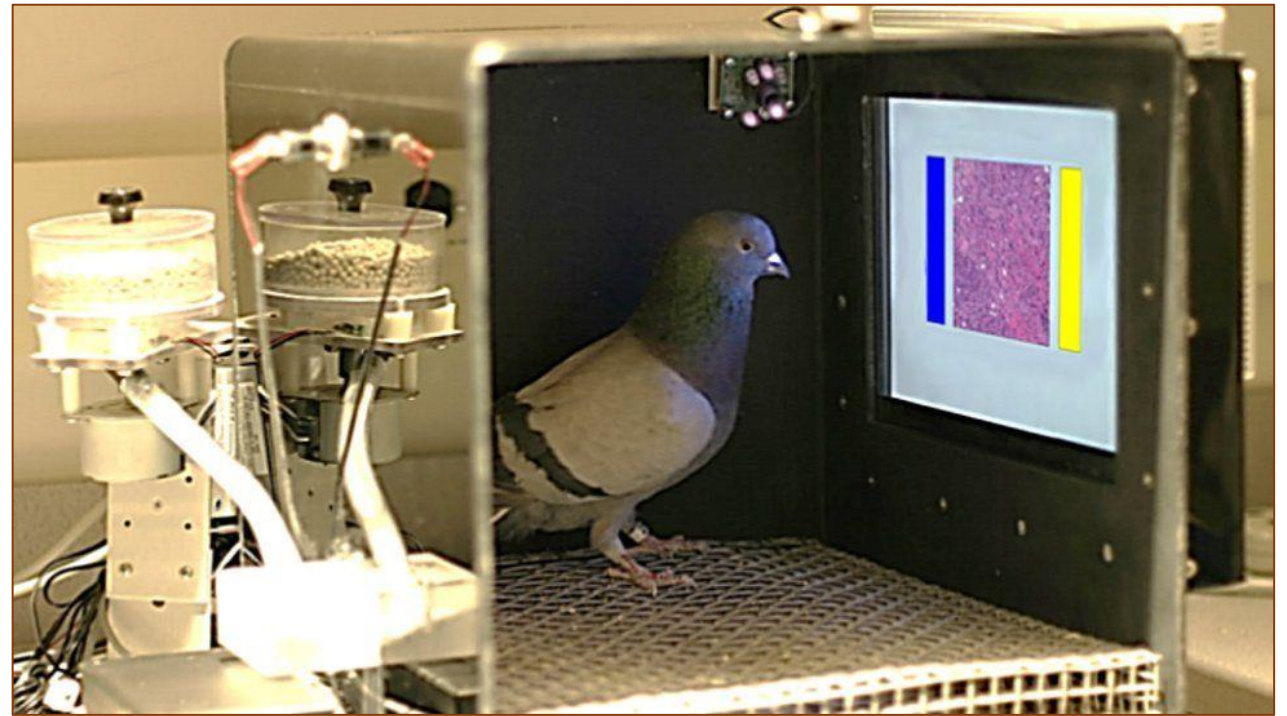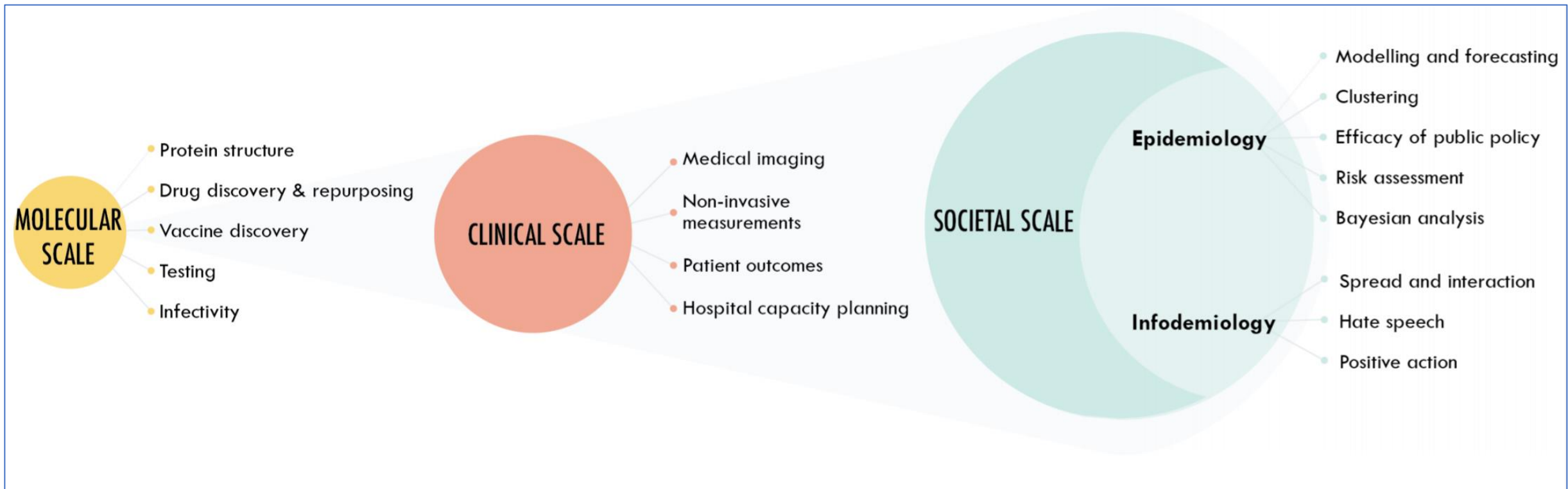
ML – how intelligent is it?

Pigeons are able to correctly spot tumours in microscope images as well as humans do

Example of AI across value chains

United Nations Global Pulse Jan 2021: https://arxiv.org/pdf/2003.11336.pdf

Is this where we want to use AI?

- Filtering CVs for job applications
- Deciding on whether to fire someone from their job
- Deciding on the length of a prison sentence
- Constant monitoring of performance at work from real-time biometric data
- Determining someone's sexuality from their image
- Flagging your social media account for spreading hate speech
- Automatically scanning your phone for sexual images that may be illegal

Verbatim from an AI report on HR

- Recommend jobs to candidates:
AI can alert the right people with the right skill sets to available jobs prior to their posting.

- Predict candidate performance:
AI-based candidate matching uses HR data to calculate a candidate's likelihood to accept a job offer, project performance outcomes, and estimate their expected tenure.

https://www.oracle.com/a/ocom/docs/applications/hcm/oracle-ai-in-hr-wp.pdf
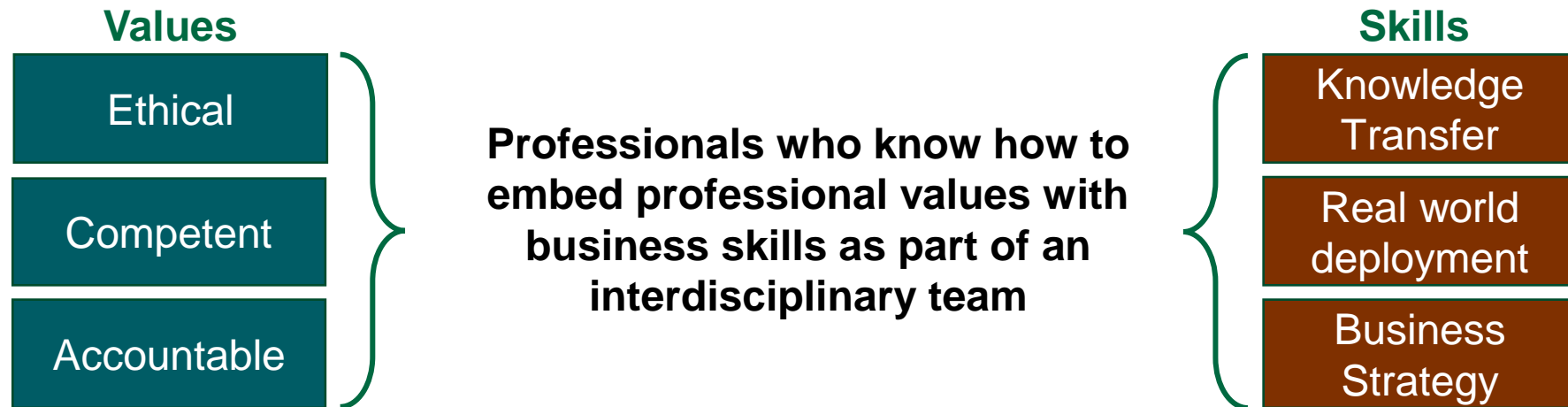
BCS/YouGov Survey on public trust

- Over half (53%) of UK adults have **no faith** in any organisation to use algorithms when making judgements about them, in issues ranging from education to welfare decisions.

- 63% of UK adults **disagree** with the statement "*Students graduating with a computer science university degree are qualified to write software that makes life decisions about people*"

- 62% of UK adults believe someone who for a living develops computer software that can significantly affect people's lives should be qualified as a government-approved **Chartered professional**

https://www.bcs.org/more/about-us/press-office/press-releases/the-public-dont-trust-computer-algorithms-to-make-decisions-about-them-survey-finds/
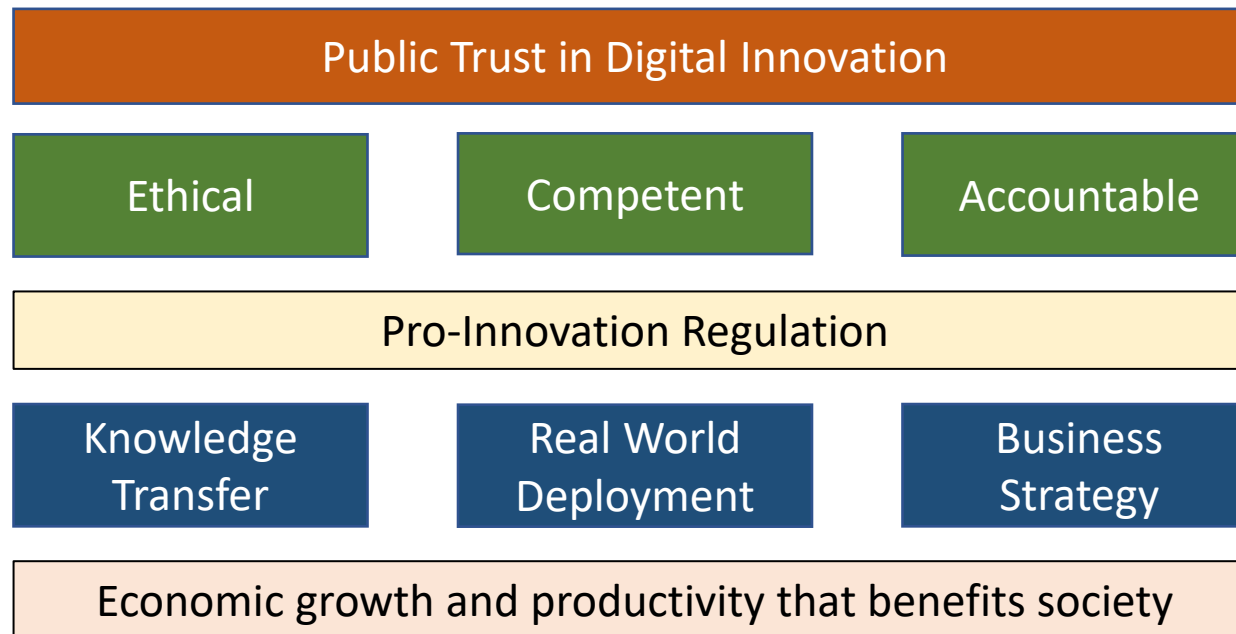
Supportive AI not judgemental AI

- Providing guidance on skills gaps in CVs
- Spotting when someone's struggling with work and finding them support
- Deciding on best way to prevent reoffending
- Helping people reach good work life balance from use of opt-in biometric data
- Helping to moderate social media to become more civilised

How to make AI benefit people

Values

Ethical

Competent

Accountable

Professionals who know how to embed professional values with business skills as part of an interdisciplinary team

Skills

Knowledge Transfer

Real world deployment

Business Strategy

Regulatory sandwich

Public Trust in Digital Innovation

| Ethical | Competent | Accountable |

Pro-Innovation Regulation

| Knowledge Transfer | Real World Deployment | Business Strategy |

Economic growth and productivity that benefits society

Government strategy

National Innovation Strategy

Department for Business, Energy & Industrial Strategy

National AI Strategy

Office for Artificial Intelligence

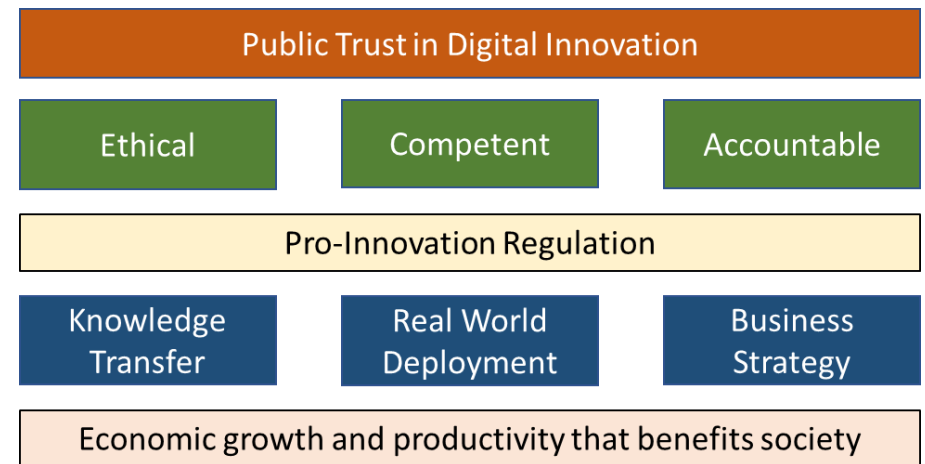## Plan for Digital Regulation (Consultation)

Department for Culture Media & Sport

Plan for Digital Regulation

Plan needs to be clearer and more compelling about the role of digital regulation and of digital regulators in:

- **building public trust** that digital technologies are developed and used to benefit society

Public Trust in Digital Innovation		
Ethical	Competent	Accountable
Pro-Innovation Regulation		
Knowledge Transfer	Real World Deployment	Business Strategy
Economic growth and productivity that benefits society		

Plan for Digital Regulation

Where the Plan talks about the need for regulation to foster innovation, it should emphasise that:

- Regulation needs to foster **ethical**, **inclusive**, and **sustainable** innovation

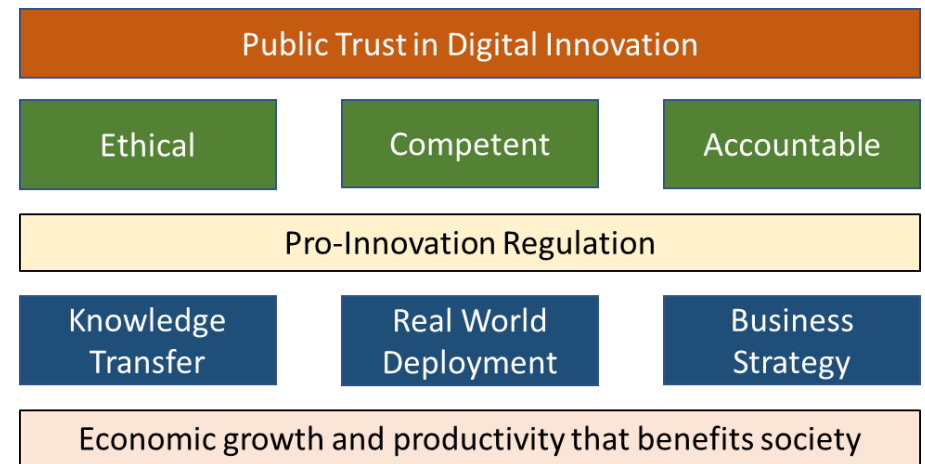| Public Trust in Digital Innovation		
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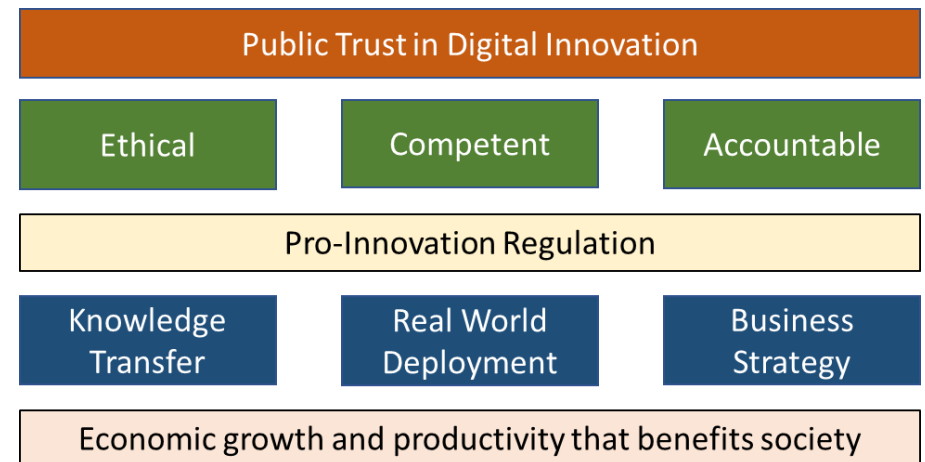
Plan for Digital Regulation

Where the Plan talks about the need for regulation to encourage competition, it should also emphasise that:

- Regulation has an important role in developing competitive markets so that they favour organisations and professionals that are highly **competent**, **ethical** and **accountable**
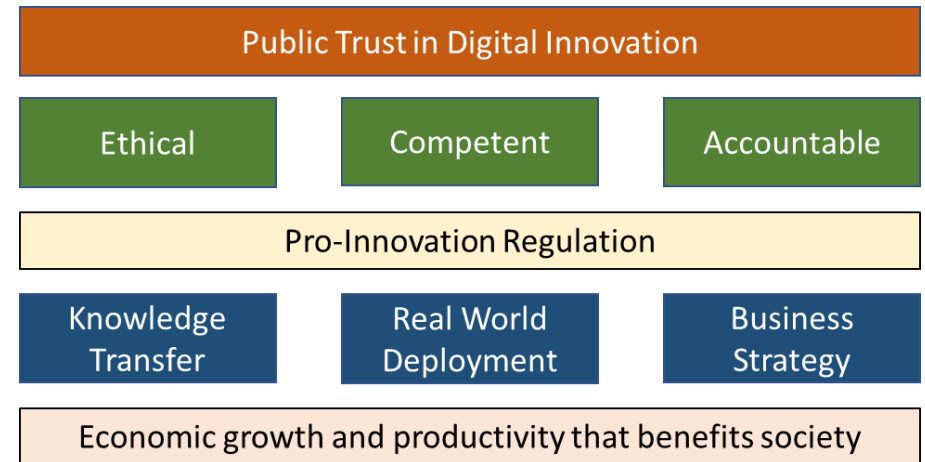
Plan for Digital Regulation

- Regulation should incentivise stakeholders to **advance digital technologies to solve key societal challenges**, such as concerning climate change, an ageing population, and the digital divide

Public Trust in Digital Innovation		
Ethical	Competent	Accountable
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Economic growth and productivity that benefits society		

BCS interim survey data

How confident are you that IT and digital technology is being used effectively by industry to combat climate change?

Base % Respondents		
	Base	100.0%
	Mean	2.38
Not at all confident (1) / Very confident (5)		
	Not at all confident (1)	18.9%
	2	42.2%
	3	23.2%
	4	13.1%
	Very confident (5)	2.5%

United Nations Climate Change

The different futures that lie ahead.

+1.5 °C   +2 °C   +3 °C