EMiT 2019: Emerging Technologies

Welcome to the University of Huddersfield

Prof Liz Towns-Andrews
Director Research & Enterprise
3M Professor of Innovation

UK Industrial Strategy

Foundations

5 foundations of productivity

Ideas
the world's most innovative economy

People
good jobs and greater earning power for all

Infrastructure
a major upgrade to the UK's infrastructure

Business environment
the best place to start and grow a business

Places
prosperous communities across the UK

INDUSTRIAL STRATEGY

Grand Challenges

AI & Data Economy
We will put the UK at the forefront of the artificial intelligence and data revolution

Future of Mobility
We will become a world leader in the way people, goods and services move

Clean Growth
We will maximise the advantages for UK industry from the global shift to clean growth

Ageing Society
We will harness the power of innovation to help meet the needs of an ageing society

Sector Deals

Confirmed:
- Life Sciences
- Construction
- Artificial Intelligence
- Automotive
- Industrial digitalisation

Under discussion:
- Creative Industries
- Nuclear

University of Huddersfield key institutes and centres:

Centre for Industrial Analytics

EPSRC Future Advanced Metrology hub

Institute for Rail Research

3M Buckley Innovation Centre (3M BIC)

National Physical Laboratory North of England hub

Overview:

- Forefront of applied research into visualisation and comprehension of complex and fast-moving sources of data in particular challenges faced by industry

- Supporting companies to diagnose and fix inefficiencies, provide intelligence about new market opportunities, and coach individuals through the challenging path of new technology adoption.

- Critical role in educating tomorrow's professionals through links with undergraduate and postgraduate courses.

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Capabilities:

Industrial Analytics   AI & Machine Learning

Data Visualisation   Cyber Security

Autonomous Systems   Distributed computing

Internet of Things   Supply Chain Analytics

Cognitive Psychology   Behavioural Science

Wider UoH capabilities: Metrology, Machine Tooling, Condition Monitoring, Predictive Maintenance, Risk Analytics, Precision Engineering, Rail, Chemicals and Textiles

Focus on SMEs through the Digital Enablers Network (DEN)

TEF **Gold** Teaching Excellence Framework

HEA Global **Teaching Excellence** Award

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- ERDF Grant (£12M)
- UoH and Kirklees Council
- Named after Sir George Buckley
- Triple 'A' offer
  - Access to Markets
  - Access to finance
  - Access to Technology

- Tenants, network members
- Business Support events
- Home to DOYYEC and BEC

TEF Gold Teaching Excellence Framework

HEA Global **Teaching** **Excellence** Award

- Huddersfield Incubation & Innovation Programme (HIIP)

- LCR Local Growth Fund capital grant (£2.9M)

- Builds on existing 3M BIC/UoH equipment available for business

- Technology adoption initiative

- De-risks evaluation of expensive technology for companies

- Priority access for LCR SMEs and grants available

- Available March 2018

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(1) Additive manufacture centre of excellence

Metal and polymer powder bed printing from Renishaw and EOS. Design for AM, post-processing and verification

Renishaw metal laser AM
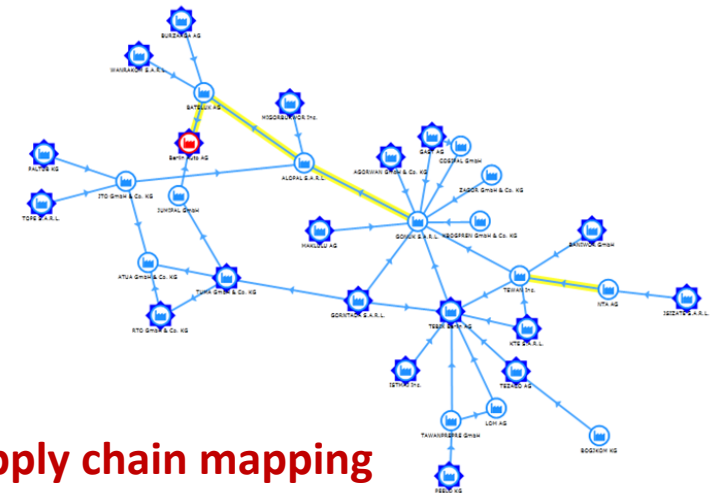
EOS polymer AM

X-Ray CT scanner

TEF Gold — Teaching Excellence Framework

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(2) Business Data Visualisation Suite
Including supply chain mapping, market analytics etc. using HPC, data analytics, VR, AR, eye tracking ….
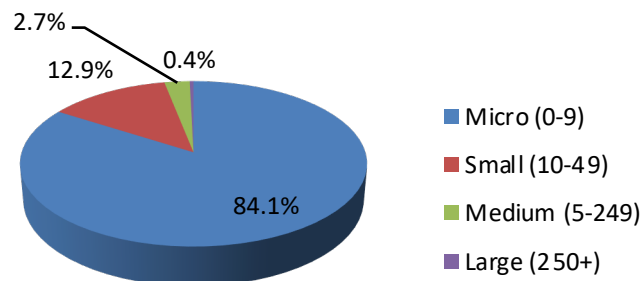
Tobi Eye tracking

Supply chain mapping

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(3) The Byte and Digital Training Suite

Self-serve digital workshop for early technology adoption. Includes table-top 3D Printing, design tools, VR from Oculus, HTC, Microsoft Mixed Reality and PlayStation
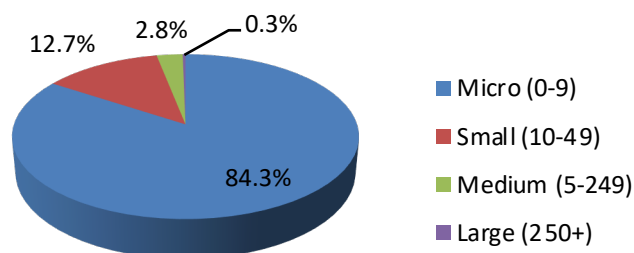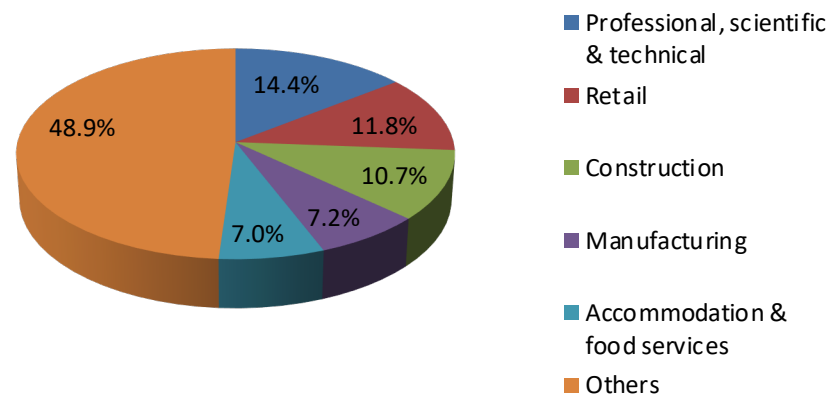
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Great Britain

2.7%
0.4%
12.9%
84.1%

- Micro (0-9)
- Small (10-49)
- Medium (5-249)
- Large (250+)

South Kirklees

12.7%
2.8%
0.3%
84.3%

- Micro (0-9)
- Small (10-49)
- Medium (5-249)
- Large (250+)

- ONS data, Business Counts by size and sector
- South Kirklees mirrors the UK as a whole
- Transformation and scale-up of micro and small businesses is key for growth and productivity
- ~22% of South Kirklees businesses are professional, scientific, technical or manufacturing

14.4%
11.8%
10.7%
48.9%
7.0%
7.2%

- Professional, scientific & technical
- Retail
- Construction
- Manufacturing
- Accommodation & food services
- Others

In Summary:

- Digital transformation of UK business will unlock productivity and deliver the Industrial Strategy

- Focus on scale-up and in key areas will be critical

- Importance of knowledge providers in creating economic clusters has been recognised

- Technology adoption and raising awareness of emerging technologies is critical for growth!