Developing Partnerships

Wednesday 24th May 2017

Dr Steve Fish
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Faculty of Science and Technology
Themes

- The significance of ERDF to LU
- Immediate and emerging initiatives
- Linking ERDF to opportunities
The Impact of ERDF at Lancaster InfoLab21
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InfoLab21
Resident Companies in InfoLab21

- bsi.
- Quantum Base
- TNP
- DEMO PAD
- gaist
- intersperience
- flexMR
- xyone Cyber Security
- novi.digital
- Relative INSIGHT
The Impact of ERDF at Lancaster cTAP
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ERDF has allowed Lancaster University to develop a Business Ecosystem

- Lancaster University’s top ranking in UK for economic development & regeneration
- Over 5,000 successful partnerships
- Creation of circa 4,000 jobs
- ERDF can act as a gateway to other activities
Live ERDF projects at Lancaster University
Centre for Global Eco-Innovation

- Partnership between Lancaster University, Centre for Ecology and Hydrology, Universities of Liverpool, Central Lancashire, Chester, Cumbria and Liverpool John Moores
- 1 or 3 years in-depth R&D
- 6 month dissertation projects
- 1 month paid internships
- 3-4 week innovation challenges
R&D projects in CGE

Opens R&D resources of Universities targeting:

- Energy
- Water
- Waste
- Food
- Resources efficiency
- Natural capital
LUMS programmes delivery

- 6 month management and development programmes
- Workshops, access to masterclasses, business development tools and signposting to student consultancy projects
- Benefits:
  - Develop a network of like-minded SMEs
  - Access to a series of inspirational speakers
  - Supportive space to work on business development and planning
  - University support and student consultancy
  - Online platform
Lancaster University Management School

Low Carbon Innovation Forum

- **For:** SMEs in Lancashire
- **Focus:** innovation for a better environment
- **Aim:** reduce the carbon footprint
- **Partner:** Centre for Global Eco-Innovation

Lancashire Forum

- **For:** SMEs in Lancashire
- **Focus:** business growth
- **Aim:** Grow the business
- **Partner:** Boost, LEP, LCC, UCLan

Cumbria Forum

- **For:** SMEs in Cumbria
- **Focus:** business growth
- **Aim:** Grow the business
- **Partner:** Cumbria Growth Hub
Cumbria Innovations Platform

• Cumbria Innovations Platform (CUSP)
  – Partnership between Lancaster (Chemistry, Engineering, Physics, Computing and Communications, Management School) and the University of Cumbria

• One entry point to Cumbrian SMEs to develop new innovation projects, products and services

• Multiple mechanisms of engagement to suit business need
  – Workshops on open innovation and supply chain development – enabling peer to peer learning, building capacity for innovation
  – Access to facilities – additive manufacturing, chemical characterisation & analysis, chemical process innovation, nanofabrication
  – Access to both academic expertise and student/graduate talent for both short and long term interventions – utilising data science, cyber security, digital innovation

European Union
European Structural and Investment Funds
Cumbria Innovations Platform

1. Business Recruitment
   The University of Cumbria will hold series of recruitment events which will lead to engagement on the programme and encourage deep-seated collaborations between SMEs and the knowledge base. These sessions will form the initial gateway in helping SMEs navigate the innovation support landscape in the county, including wider relevant organisations and programmes beyond the project partners.

2. Workshops
   The University of Cumbria will develop a series of workshops taking the Open Space approach utilising peer-to-peer learning around the SMART specialisation priority sectors.

2. Deep Trust Networks
   Lancaster University Management School will create a network of cross-sectoral large and small firms, with priority given to those in key growth sectors and their supply chains, and supported by LUMS, as the anchor organisation.

3. Deep Intervention
   The University of Cumbria and Lancaster University will support a select group of companies across all sectors in the county with deeper intervention assists. These may include access to specialist facilities, student placements, deep-technical assists and Ph.D. supported R&D collaborations that may vary from a few months to a few years.

120 Enterprises receiving support.
60 Enterprises cooperating with research institutions.
50 Enterprises supported to introduce new to the firm products.
10 Enterprises supported to introduce new to the market products.
25 New Jobs.
How ERDF links to other activities and funding opportunities

✓ Co-locate on our campus
✓ Student engagement & recruitment
✓ Start up & IP development
✓ Organisational innovation & growth
✓ Facilities use
✓ Professional education & training
✓ Access to networks
✓ Community activities
✓ Collaborative research & consultancy
Opportunities, including funding...Post 2020

1. Science and Innovation Audits
2. Welsh Strategies, BEACON as a national capability
4. Co-operation between ERDF networks e.g. CGE and BEACON
# Challenge Areas

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<th><strong>Bioscience &amp; Biotechnology</strong></th>
<th>Increase UK self-reliance in food, energy and materials production.</th>
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<td><strong>Leading Edge Healthcare &amp; Medicine</strong></td>
<td>Improve patient outcomes through cutting-edge, personalised therapies and new antimicrobials and establish the UK as a world leader in the development and commercialisation of cell and gene therapies.</td>
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<td><strong>Manufacturing &amp; Materials of the Future</strong></td>
<td>Ensure that the UK leads the world in the sustainable manufacturing and delivery of the next generation of products and components.</td>
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<td><strong>New Energy Technologies</strong></td>
<td>Become the global lead in solving the energy challenge of supplying clean, affordable energy securely to ever more-demanding societies around the world.</td>
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<td><strong>Quantum Technologies</strong></td>
<td>To create UK economic wealth, and an economy that works for everyone, by overcoming challenges using next generation quantum technologies in areas such a sub-surface imaging, GPS-free navigation, advanced sensing and communications.</td>
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<td><strong>Robotics and Artificial Intelligence (RAI)</strong></td>
<td>To create UK economic wealth, and an economy that works for everyone, by overcoming challenges using RAI technologies in areas such as hazardous environments, autonomous transport, health &amp; social care and advanced decision making with AI.</td>
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<td><strong>Space and Satellite Technologies</strong></td>
<td>To create UK economic wealth, and an economy that works for everyone, by overcoming challenges using satellite-based technologies in areas such communications, navigation and earth observation.</td>
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<td><strong>Transformative Digital Technologies</strong></td>
<td>To create UK economic wealth, and an economy that works for everyone, by overcoming challenges using digital technologies such as data, AI/ML, cyber security, immersive, HPC, modelling and 5G.</td>
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<td><strong>Integrated &amp; Sustainable Cities</strong></td>
<td>Establish the world’s best smart city demonstrator, introducing 5G technologies and applications, attracting global mobile companies to the UK.</td>
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<td><strong>Technologies for the Creative Industries</strong></td>
<td>To create UK economic wealth, and an economy that works for everyone, by overcoming challenges to anchor and grow the UK creative sector and its contribution to wealth generation and society.</td>
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**BioScience Challenges**

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<td>1</td>
<td><strong>Deliver a sustainable food system resilient to global shocks, able to respond to new market opportunities, and enables health and well-being.</strong> Rapid population growth and growing affluence is increasing global demand, with diet-related disease and malnutrition as challenges. The UK’s world leading Bioscience and Biotechnology research and innovation could be used to increase productivity across the sector, open up export opportunities for high-value produce, products and services, and ensure a safe, nutritious and affordable food supply for all. Innovations may come in areas such as precision agriculture, synthetic biology, new business models, or crop plant genome editing leading to new varieties better suited to their environment.</td>
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<td>2</td>
<td><strong>Be the world leader in Industrial Biotechnology by 2030.</strong> To manufacture bio-based products, materials and energy at the yields necessary for key markets such as chemicals, plastics, biofuels and biopharmaceuticals while reducing reliance on fossil fuels and scarce natural resources. The UK is a world leader in IB research, as well as underpinning biosciences such as genomic and systems biology, synthetic biology and engineering, but these capabilities need to be translated more quickly and sustainably for business benefit. A challenge here is to attract investment and enable small, innovative companies to scale-up their developments quickly to hit the market and allow them to grow.</td>
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<td>3</td>
<td><strong>To establish UK biorefinery demonstrator facility by 2020,</strong> capable of converting a range of feedstocks from all organic wastes and resources (e.g. solid municipal waste, agricultural waste, forestry and industrial gases) to produce valuable platform chemicals, opening up new revenue streams for UK bio-based businesses in a circular bioeconomy, and cutting waste through bioprocessing to zero by 2030.</td>
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<td>4</td>
<td><strong>To apply synthetic biology to accelerate biologics development</strong> and safely reduce the time required to bring a new biological therapeutic (e.g. vaccines, immunotherapeutics) to market by 50%.</td>
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<td><strong>To be the world leader in protein engineering,</strong> enabling &gt;50% of proteins with industrial utility to be expressed at an acceptable economic yield by 2030.</td>
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<td>6</td>
<td><strong>To harness synthetic biology, advanced technologies and systems biology to exploit biodiversity for industrial challenges and opportunities.</strong> A major challenge is for modelling and assembly systems to be developed that can reliably assemble &gt;10 enzyme pathways in useful industrial organisms. Multicellular or colony-based systems are more complex still and the further challenge is to tailor environmental populations, e.g. biofilms and microbiomes, to our healthcare, nutritional and industrial needs. Mapping the “Dark Biome” to access the 90% of undescribed and currently non-cultivable microbial species would lead to novel biomics that could significantly increase the size and scope of the synthetic biology “toolkit”.</td>
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Thankyou

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