University entrepreneurship and business models

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Dr Simon Jackman
Senior Innovation Fellow
Where am I coming from?
Growing ecosystem

- 21 spin-outs (2018)
- New social enterprises
- £600m captive VC fund
- 50% of Oxford shares
- Patient Capital
- Student-led start-ups
Two types of entrepreneurship?
Adaptive Optics for Satellite Instrumentation

- Technology transfer from microscopy
- Licence from Oxford to SSTL
Motivation

Quality of Earth Observation Satellite images depend on precise alignment of telescope mirrors.

Requires micrometer precision.
In-Factory Alignment
Reduce alignment time from days to minutes
In-Orbit Alignment

For telescope designs that open out in space

3 Measurements  ➔  Fit parabolic curve  ➔  Correct mirror placement
Climate services for infrastructure

- Interdependencies modelling for planners and decision-makers
- Predict failures, risks and knock-on impacts
- Weather, seasonal forecasting and climate impacts (including from UK Met Office)
Focus

• Electricity network utilities
• Weather and seasonal forecasting
• Operational decision-making
• Service providers

BUT BUSINESSES WANTED

• Real systems and environmental data
• High resolution
Pivot

- Geography to Machine Learning
- Problem-focused ML with innovative algorithm development
- Technology driven and market pull
- Infrastructure systems as one of 4 initial markets

- Designing spin-out