

University entrepreneurship and business models

Φ-week, ESRIN
November 2018
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



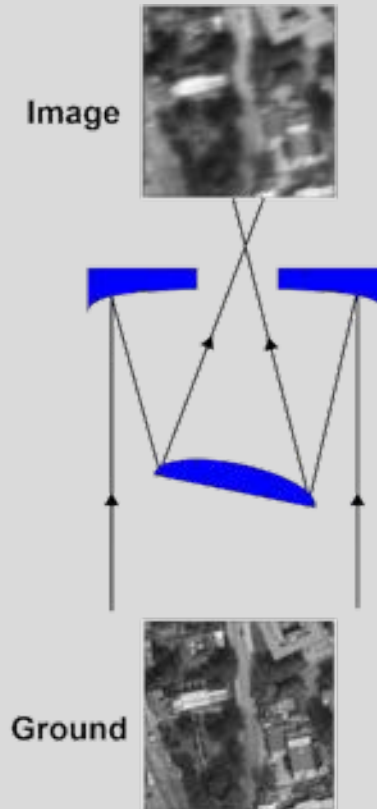
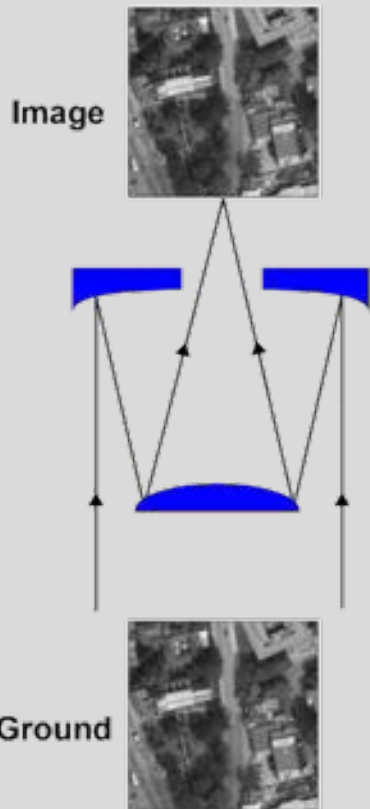
Karen Hampson
Martin Booth



Dave Gooding
Robin Cole



Motivation

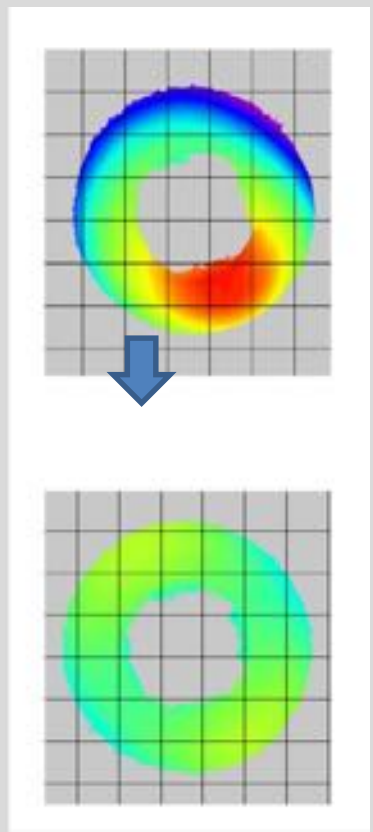
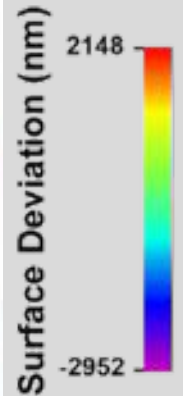
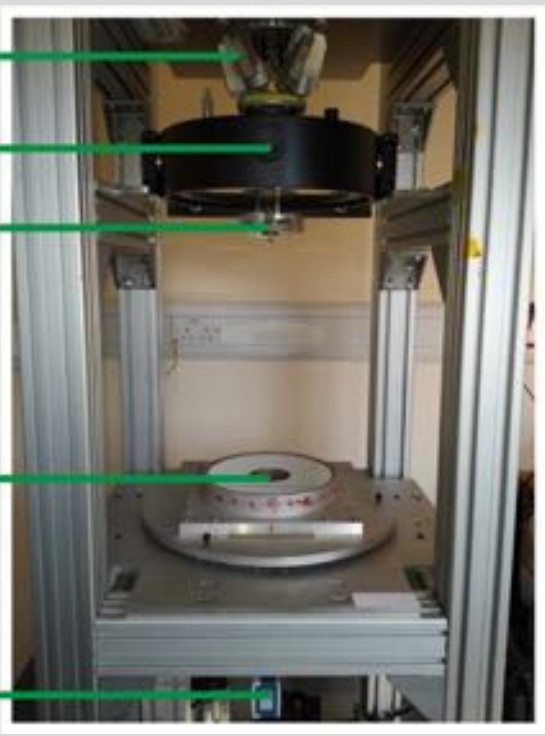
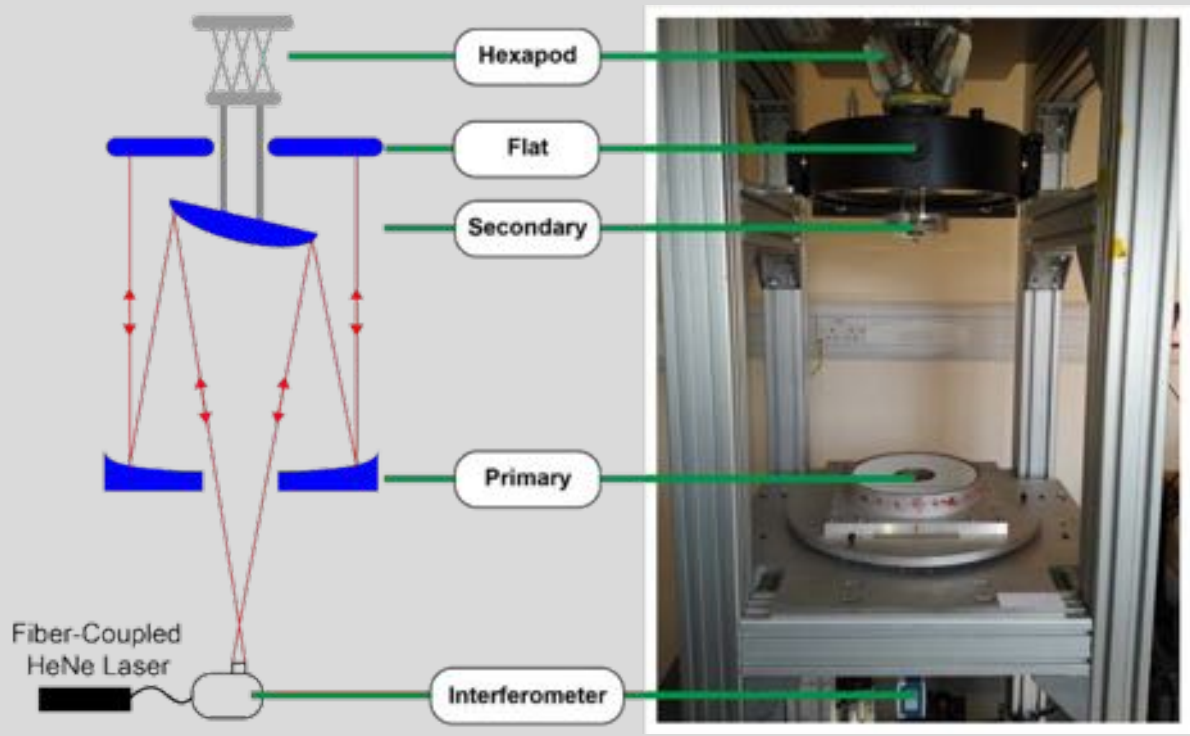


Quality of Earth Observation Satellite images depend on precise alignment of telescope mirrors

Requires micrometer precision

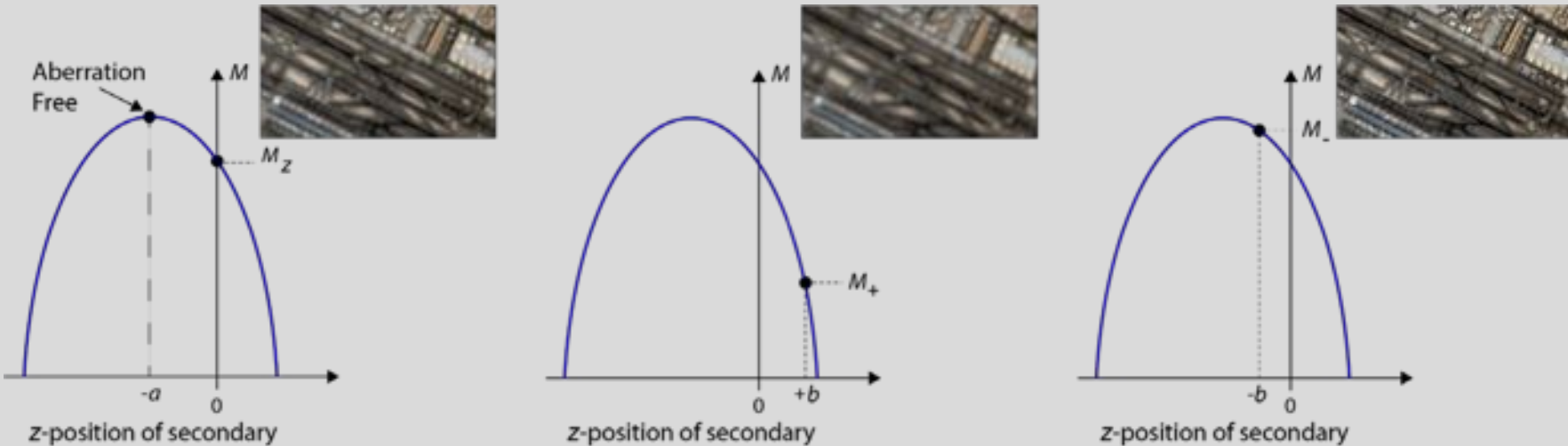
In-Factory Alignment

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-focussed ML with innovative algorithm development
- Technology driven and market pull
- Infrastructure systems as one of 4 initial markets

- Designing spin-out