

# The Future Photonics Hub Innovation Fund

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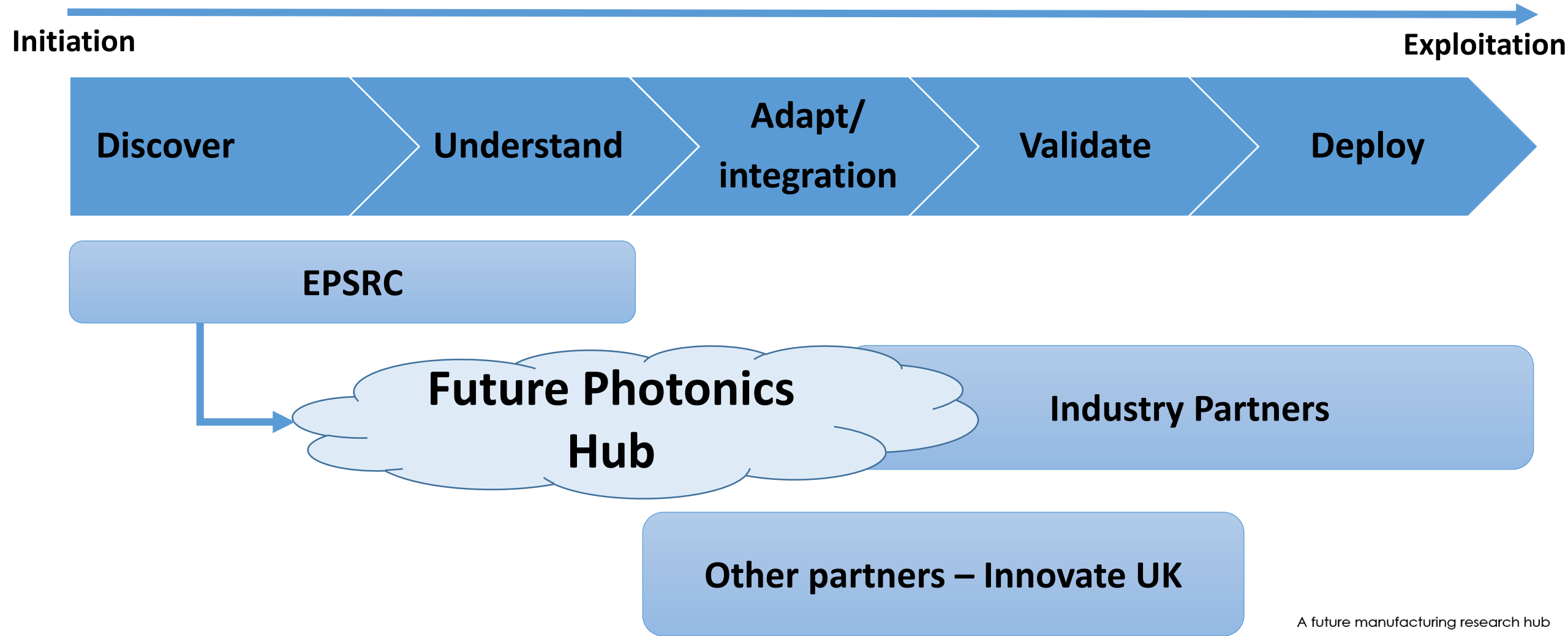
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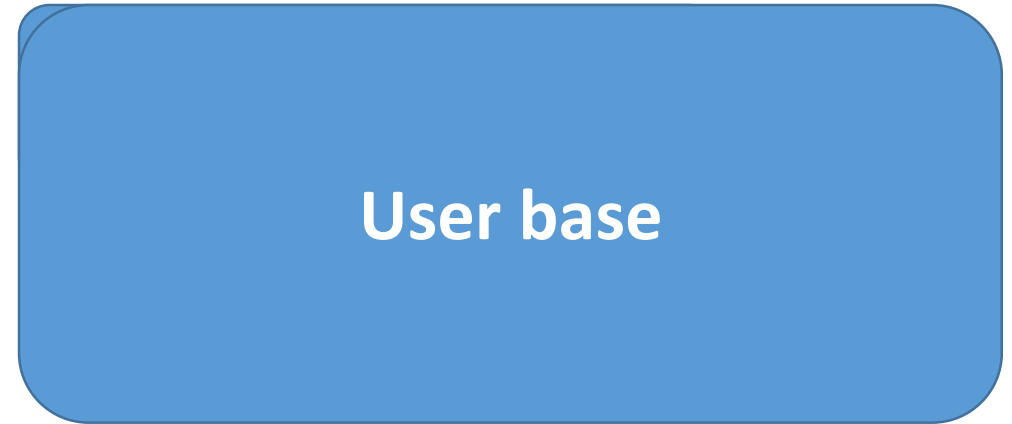
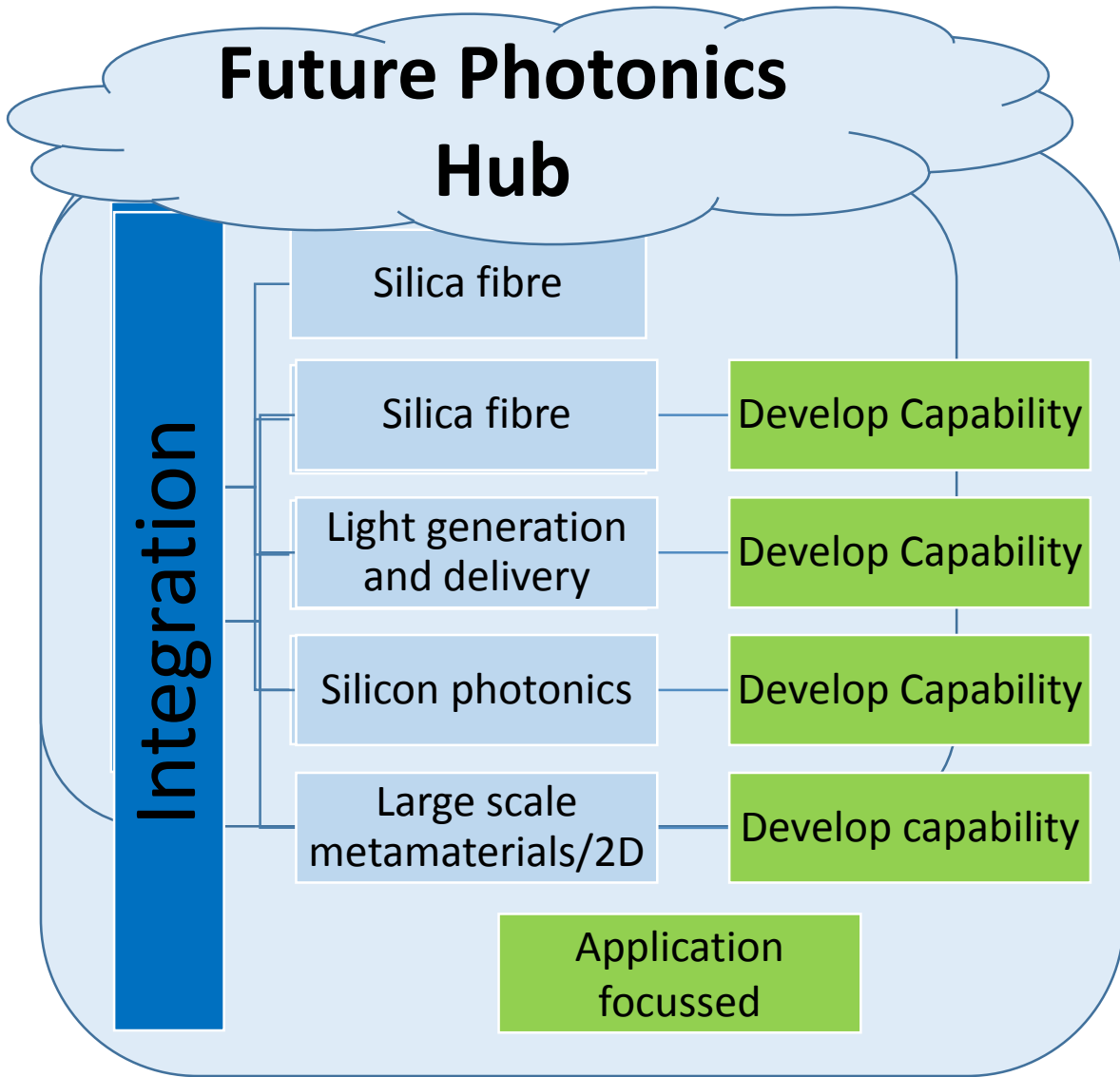
The  
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- Hub model
- Innovation call
- Thematic areas
- Process and assessment

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*Pathway to manufacturing, technical risk, alignment to Hub themes, User engagement and contribution*

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***The development of next generation photonics manufacturing processes to provide lower-cost, higher-performing integrated sensors, lasers and sub-systems***

- Launch – 13 September 2016
- Fund new ‘spokes’
- £250k available for first call – 2016/2017
- **Industry encouraged** to participate - pathway to manufacture/exploitation
- **Alignment** to overall Hub objectives
- **Benefit** to the Hub – e.g. develop new/complementary capability, new applications
- One month to several years (although evaluated after one year and re-submitted)
- UK based academic research group/individual inc **other disciplines**
- **Deadline 7 November 2016**

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## Silica fibre

- Improving loss, gain and power handling
- Increasing the transmission window to enable new applications
- Integration with III-V sources

## Light gen/delivery

- Integration of semiconductor sources with Si/SOI, based on bespoke metamaterials and micro-structured fibres
- Reliable and integrated mid-IR delivery fibres

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## Silicon photonics

- Integration with optical fibre devices, III-V light sources and the key components of wafer-level manufacturing, e.g., on-line test and measurement
- Manufacturing processes to enable the growth or integration of metamaterials, chalcogenide glasses or III-V light sources directly on the silicon platform

## Large scale manufacture metamaterials/2D

- High-throughput manufacturing of metamaterials
- Epitaxy and integration processes for the manufacturing of large area (wafer scale) 2D materials, from proof of principle to industrial validation
- Characterization and optimization of 2D materials for emerging applications

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## Integration

- Novel device transfer methods - methods such as transfer printing, or microfluidic assembly are of interest for assembling large numbers of discrete devices on to novel substrates including Si-SOI and fibres.
- Photonics packaging technologies

## Applications

- Application focussed user driven projects that involve the development of new photonics manufacturing technologies – e.g. use of photonics in life sciences, data storage, security etc

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- Two page proposal emailed to [contactus@photonicshubuk.org](mailto:contactus@photonicshubuk.org)
- Project title, names of PIs/Cols, project description, costs at full fEC (directly allocated, directly incurred both allowed)
- Total funding pot £250k (100% fEC, we fund at 80% fEC)
- Projects can be any size up to this amount (or more if external contributions) – although we would expect to fund a number of projects
- Normal EPSRC capital equipment rules apply
- Deadline 7 November
- Proposals to be ranked by Future Photonics Hub Management Board with input from and Advisory Board
- Notification of successful proposals – mid December

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- Prof David Payne – PI/Director
- Prof Gilberto Brambilla – Deputy Director – Integration
- Prof Jon Heffernan – Deputy Director – Integration/Light Generation
- Prof Jayanta Sahu – Fibre fabrication
- Prof Dave Richardson – Fibre lasers
- Prof Michalis Zervas – Fibre lasers
- Prof Francesco Poletti – Light delivery
- Prof Graham Reed – Silicon photonics
- Prof Goran Mashanovich – Silicon photonics
- Prof Nikolay Zheludev – Metamaterials
- Dr Kevin MacDonald – Metamaterials
- Prof Dan Hewak – 2D materials (e.g. MoS<sub>2</sub>)
- Dr Ian Farrer – 2D materials

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# TECHNOLOGY IS **GREAT** BRITAIN

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The Optoelectronics Research Centre invented the optical fibre amplifier that powers the internet. They are now transforming manufacturing with fibre laser technology. For outstanding innovation, choose the UK.

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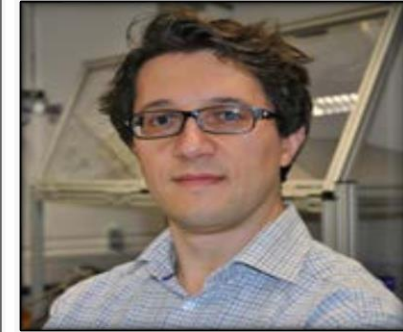
Prof Sir David Payne

PI and Director



Prof Jon Heffernan

Deputy Director, Sheffield  
Lead



Dr Gilberto Brambilla

Deputy Director, Soton lead

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