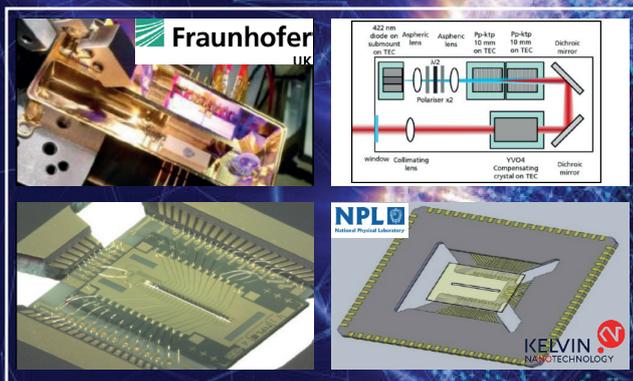


## QUANTUM PHOTONIC PROJECTS

### ■ QUEST: Design and Packaging of a Compact Entangled-Photon Source for Space Quantum Key Distribution

- » Packaged for real-world applications
- » Target space applications
- » Telecoms and space-qualified processes to ensure stability and reliability

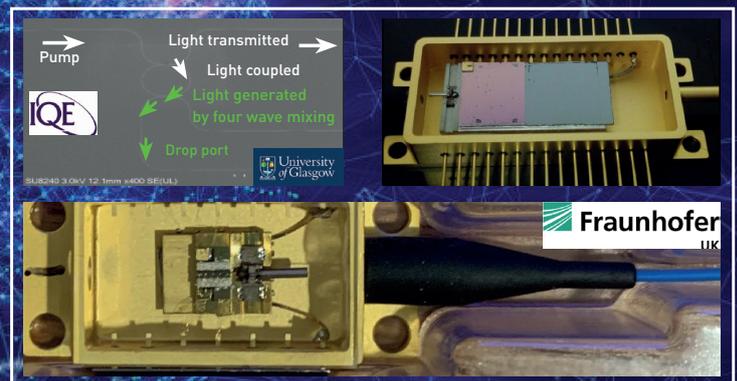


### ■ Single Ion Microfabricated ion trap, coupled with scalable entanglement techniques facilitate advances in atomic clocks and quantum processors

- » Design and manufacture of a bespoke ITCC (Ion-Trap-Chip-Carrier) to hold a double sided MEMS silicon chip
- » Bespoke and scalable assembly processes
- » Withstands UHV application requirements

### ■ SLAM: Vacuum package with fibre optic access & SPADs, with integrated Michelson interferometer to measure a MEMS gravimeter

- » multi-stage TEC < -60 °C
- » High vacuum sealed, fibre coupled
- » Low temperature cold weld crimp sealing processes



### ■ rAmpart: fibre-coupled tapered amplifier for Quantum applications

- » Automated wirebonding, Pick & Place
- » High fibre coupling efficiency
- » SPAD assisted time-of-flight imaging
- » Transferable technology: Quantum cooling, LiDAR applications