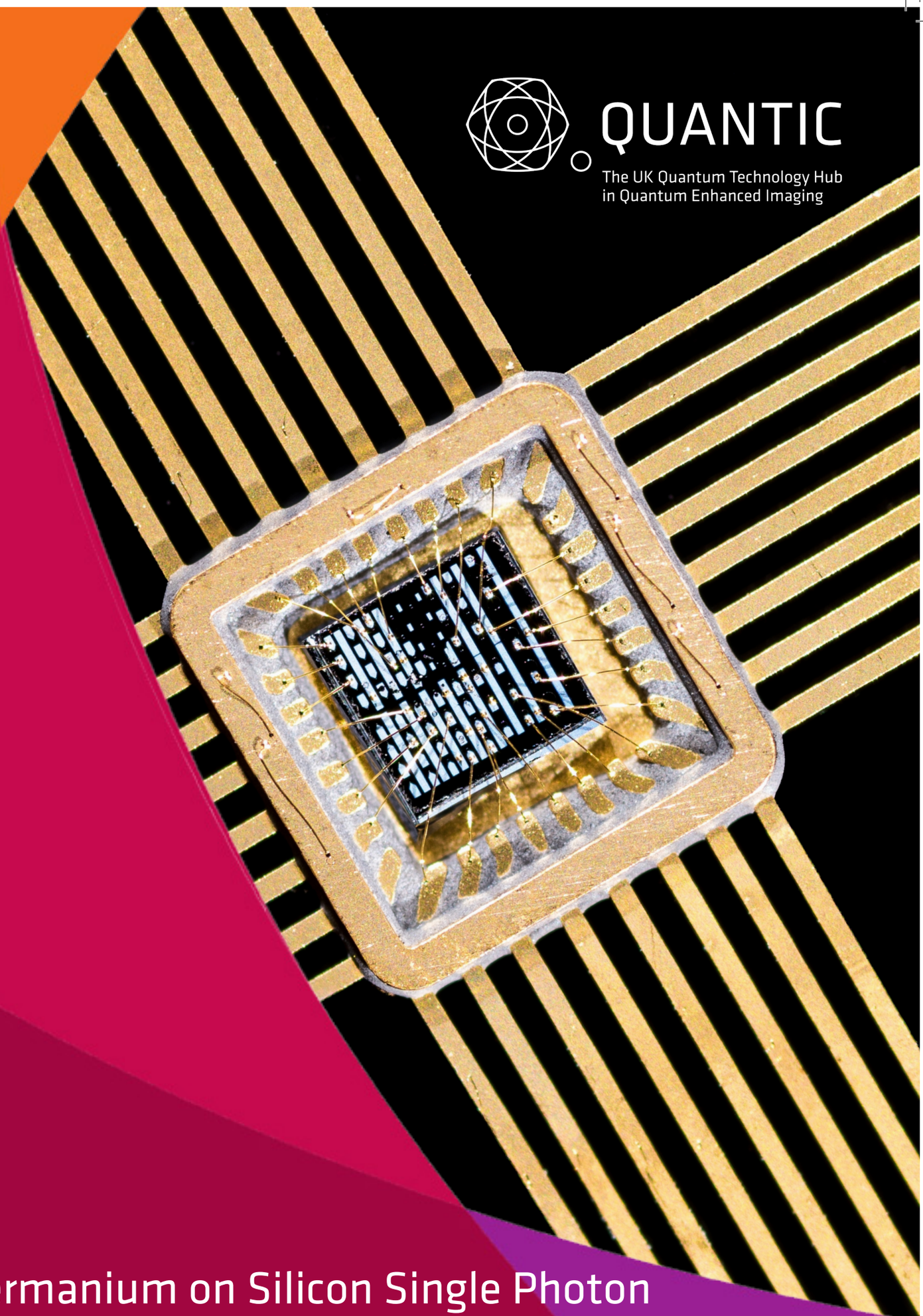
QUANTIC

The UK Quantum Technology Hub
in Quantum Enhanced Imaging



Germanium on Silicon Single Photon Avalanche Diodes (SPADs)

QUANTIC
The UK Quantum Technology Hub in Quantum Enhanced Imaging

HERIOT WATT UNIVERSITY

THE UNIVERSITY of EDINBURGH

University of Glasgow

Germanium on Silicon SPADs

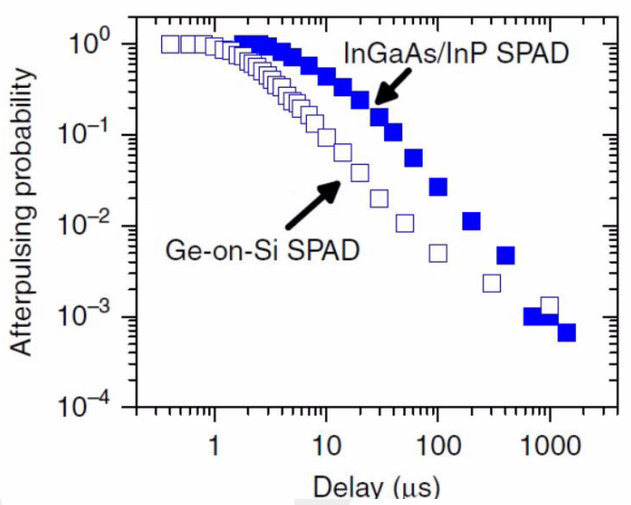
A low-cost technology that allows infrared single pixel and large pixel array cameras to be manufactured using widely available standard silicon processing.

A new low-cost technology for quantum detectors to open-up manufacturing to existing silicon processing.

QuantIC has developed a single-photon avalanche diode (SPAD) detector technology using germanium on silicon (Ge-on-Si), exploring short-wave infrared (SWIR) up to 1450 nm. These detectors offer significantly cheaper fabrication due to their integrated with existing commercial processes for detectors.

By opening-up the potential for mass-production, low-cost ready quantum detectors, QuantIC is rapidly accelerating the realisation for quantum communication and imaging. Ge-on-Si devices can be used for next generation LiDAR for autonomous vehicles, improved cyber security along fibre optics and datacentres, and future medical diagnostic devices.

QuantIC, with Innovate UK, are working with a number of industrial and academic partners on SPIDAR (Single Photon Imaging Detection And Ranging) to develop and supply SPAD arrays for prototype LIDAR systems for autonomous vehicles & defence applications.



SPIDAR

NetworkRail

TOSHIBA
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A HORIBA COMPANY

IQE

UKRI Innovate UK

For more information, please contact:

Business Development Manager
Christopher.Payne-Dwyer@glasgow.ac.uk

Project Leads:
G.S.Buller@hw.ac.uk
Douglas.Paul@glasgow.ac.uk
Ross.Millar@glasgow.ac.uk

quantic.ac.uk