Innovate UK | Business Connect

Global Innovation Network Semiconductors

Webinar Series:

Understanding the UK Semiconductor Ecosystem - PART 2

11th November 2026

Speaking at

Understanding the UK semiconductor ecosystem Part 2



Jessica Dobson

Knowledge Transfer Manager

Innovate UK Business Connect

11 November 2026
9am to 11am (GMT)

Online

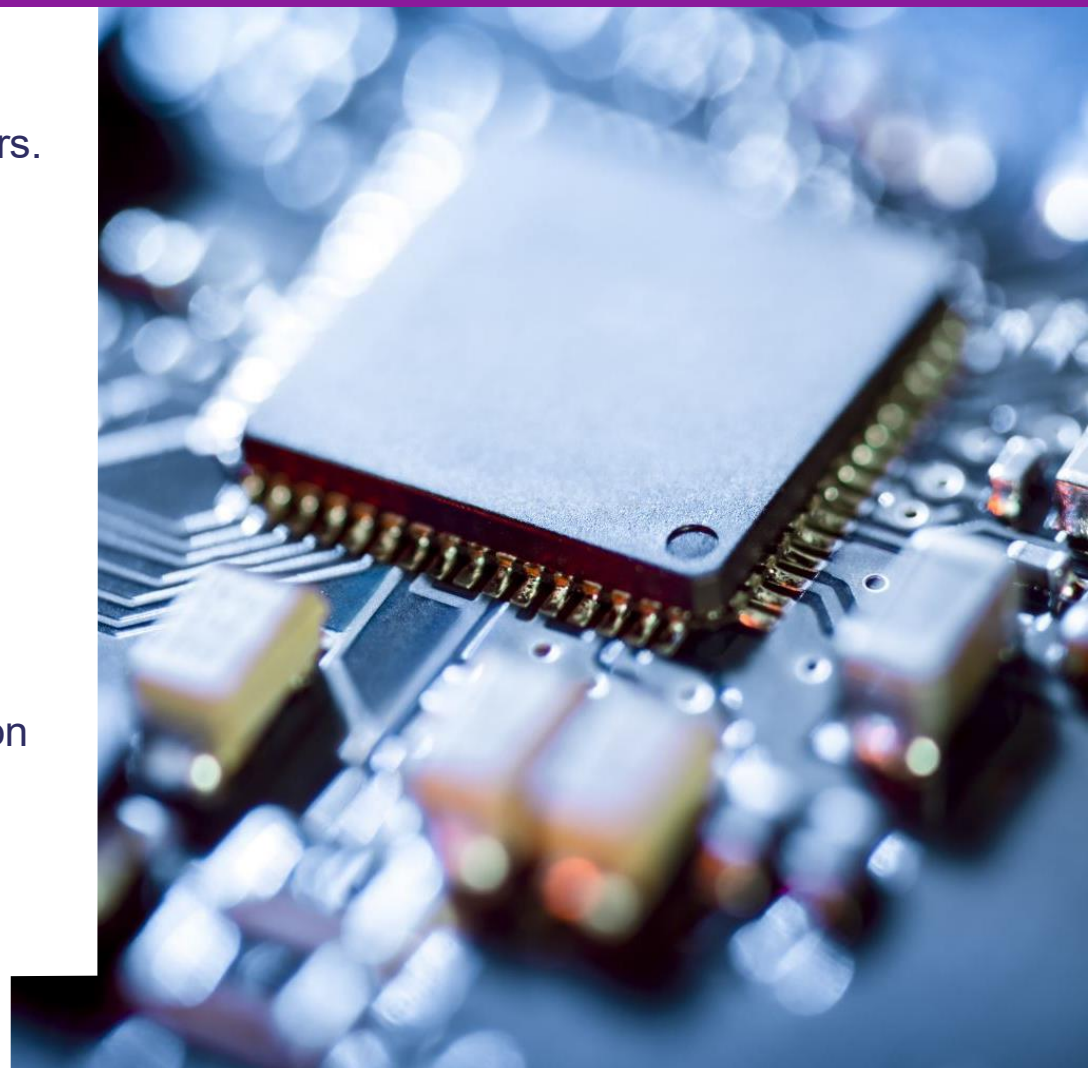
UKRI Innovate UK | Business Connect

WELCOME - Quick Housekeeping

- Please note that this session is being recorded and will be shared on the Global Innovation Network page.
- Should you have any technical issues during the session, please let us know in the chat box.
- Please submit any questions you have in the Q&A box.This is an informative session hence we will not have a session dedicated to questions. However, please feel free to use the Q&A to ask any questions and we will pass it onto the speaker.
- The presentation and recording will be shared with you within a few days of the webinar.

Global Innovation Network (GIN) Semiconductors

- **Global Semiconductor Growth** - The semiconductor sector is rapidly growing worldwide, making it a strategic priority for the UK and its partners.
- **International Collaboration Platform** - The GIN provides a scalable platform enabling continuous global collaboration in the semiconductor industry.
- **Supporting SMEs**: Peer Exchange, Learning and Growth - GIN helps SMEs access new markets and foster innovation through international partnerships. GIN also helps SMEs access peer exchange platforms and learn from some of the UK's leading semiconductor companies.
- **Strengthening UK Innovation** - The programme boosts the UK's position in semiconductor innovation through global collaboration.



How does the GIN work?

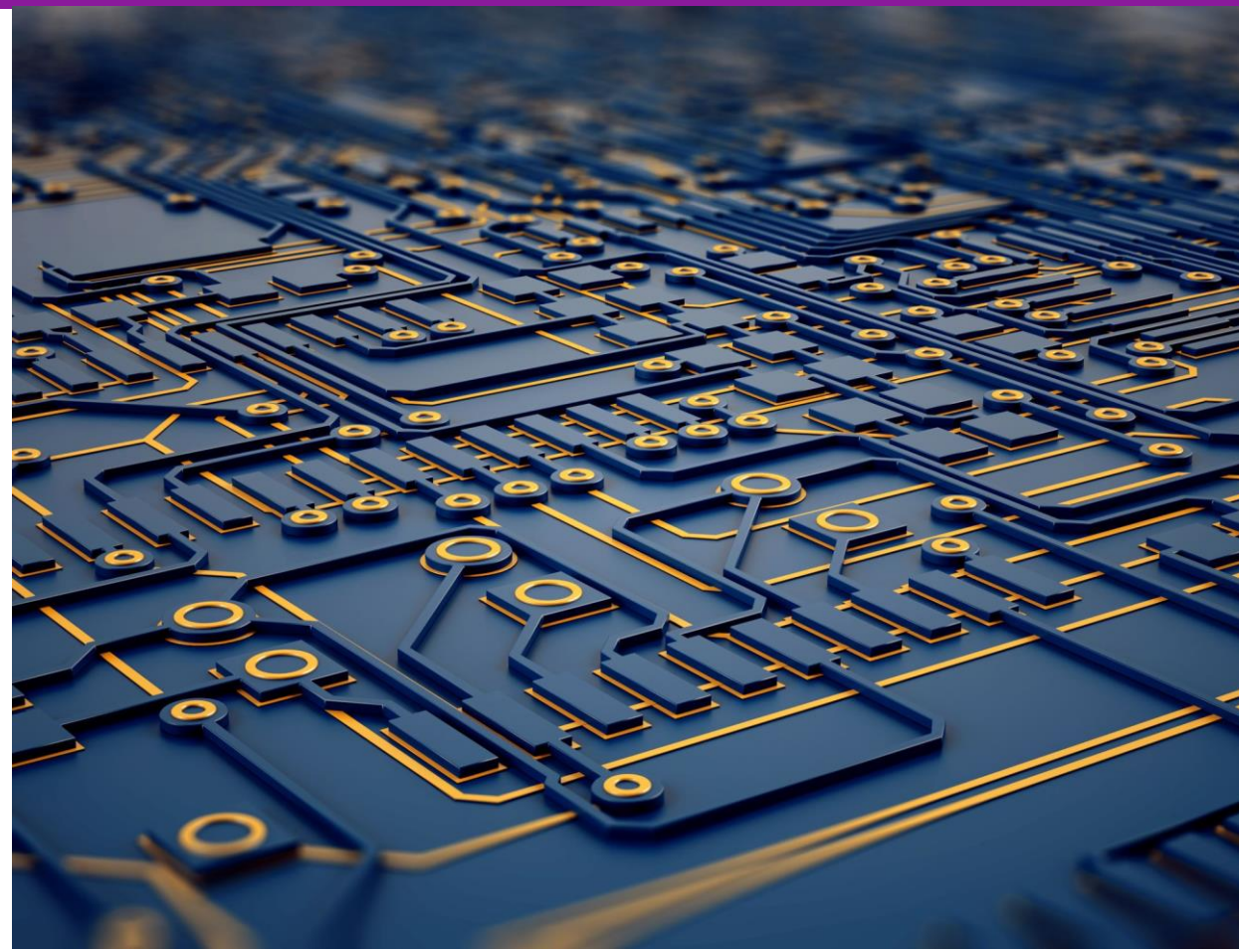
Regular webinars focused on individual countries

- Explore the UK semiconductor sector in a three-part webinar series.
- Learn about each country and global priorities, partnerships, interests and needs.
- Build on our global community and connect with organisations and experts to develop semiconductor partnerships faster.

Market information and support

Understand markets, rules and new technologies to make informed decisions and enter new markets.

Find the right people and organisations worldwide



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UK Semiconductor Ecosystem: Leading Actors and Clusters

The UK model is distributed: specialist companies, universities, RTOs and regional clusters connect across the value chain.

National Body

- UK Semiconductor Centre
- DBIST
- **Semiconductor Catapult**
- Innovate UK

Gov Funded Ecosystem

- NPL
- Silicon Catalyst UK
- **UKESF**

Industry Organisations

- techUK
- TechWorks
- Technology Scotland
- **CSConnected**

Networks

- eFutures
- **Photonic Leadership Group**

Innovation Knowledge Centre (IKC)

- REWIRE
- Cornerstone
- **CHIMES²**
- NeuroWare

Regional Bodies

- Scottish Government
- Welsh Government
- **Invest NI**

Regional Clusters

- 12 Leading Centres of Excellence nationwide

Universities

- 40+ Universities involved in semiconductor R&D

not exhaustive

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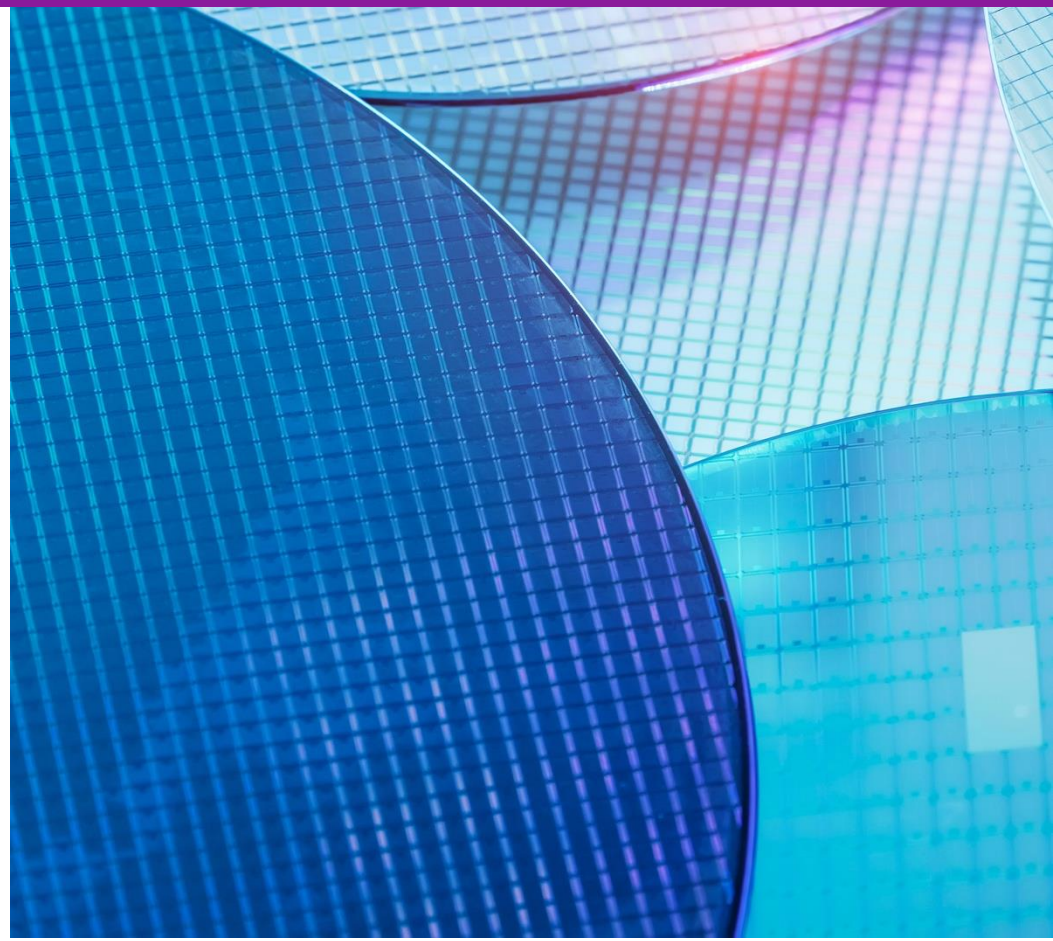
Understanding the UK Ecosystem



First Series : The UK Ecosystem

- Part 1 – October 6
- Part 2 – November 11
- Part 3 – December 2

Innovate UK | Business Connect

Today's Speakers



Semiconductor Catapult

Leonie White

Director of Strategy and External Affairs



CSconnected

Howard Rupprecht

Managing Director



CHIMES²

Professor Chee Hing Tan

CHIMES² Research Lead



Invest Northern Ireland

Sharon Cousins

Client Manager & Photonics Sector Lead



AMIC

Antony Murphy

Head of Photonics



UK Electronics Skills Foundation (UKESF)

Stewart Edmondson

CEO



UK Photonics Leadership Group (PLG)

Dr Lewis Hill

General Manager

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Today s' agenda

Time	Title	Speaker
09:00 GMT	**Welcome and Opening: Introducing the Global Innovation Network on Semiconductors**	**Jessica Dobson** KTM, Innovate UK Business Connect
09:15 GMT	**Welcome to the Semiconductor Catapult**	**Leonie White,** Director of Strategy and External Affairs, Semiconductor Catapult
09.30 GMT	**An introduction to the Welsh Compound Semiconductor Cluster**	**Howard Rupprecht**, Managing Director, CSconnected
09:45 GMT	**Innovation and Knowledge Centre in Heterogeneous Integrated MicroElectronic & Semiconductor Systems**	**Professor Chee Hing Tan,** CHIMES^2 Research Lead, CHIMES^2
10:00 GMT	**Building an Ecosystem for Scale** **Delivering a regionally balanced, productive, sustainable, and prosperous economy**	**Antony Murphy**, Head of Photonics, AMIC **Sharon Cousins**, Client Manager and Photonics Sector Lead, Invest Northern Ireland
10:15 GMT	**Building the Future Skills Pipeline for the UK's Semiconductor Industry**	**Stewart Edmondson** CEO UK Electronics Skills Foundation
10:30 GMT	**Photonics in the UK**	**Dr Lewis Hill** General Manager UK Photonics Leadership Group (PLG)
10:45 GMT	**Innovate UK Business Connect**	**Jessica Dobson** KTM Innovate UK Business Connect
10:59 GMT	**Closure - to allow for Remembrance Day ' minute of silence '**	

UKRI Innovate UK | Business Connect

Our Team



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Speaking at

Understanding the UK semiconductor ecosystem Part 2



Leonie White

Director of Strategy and External Affairs

Semiconductor Catapult

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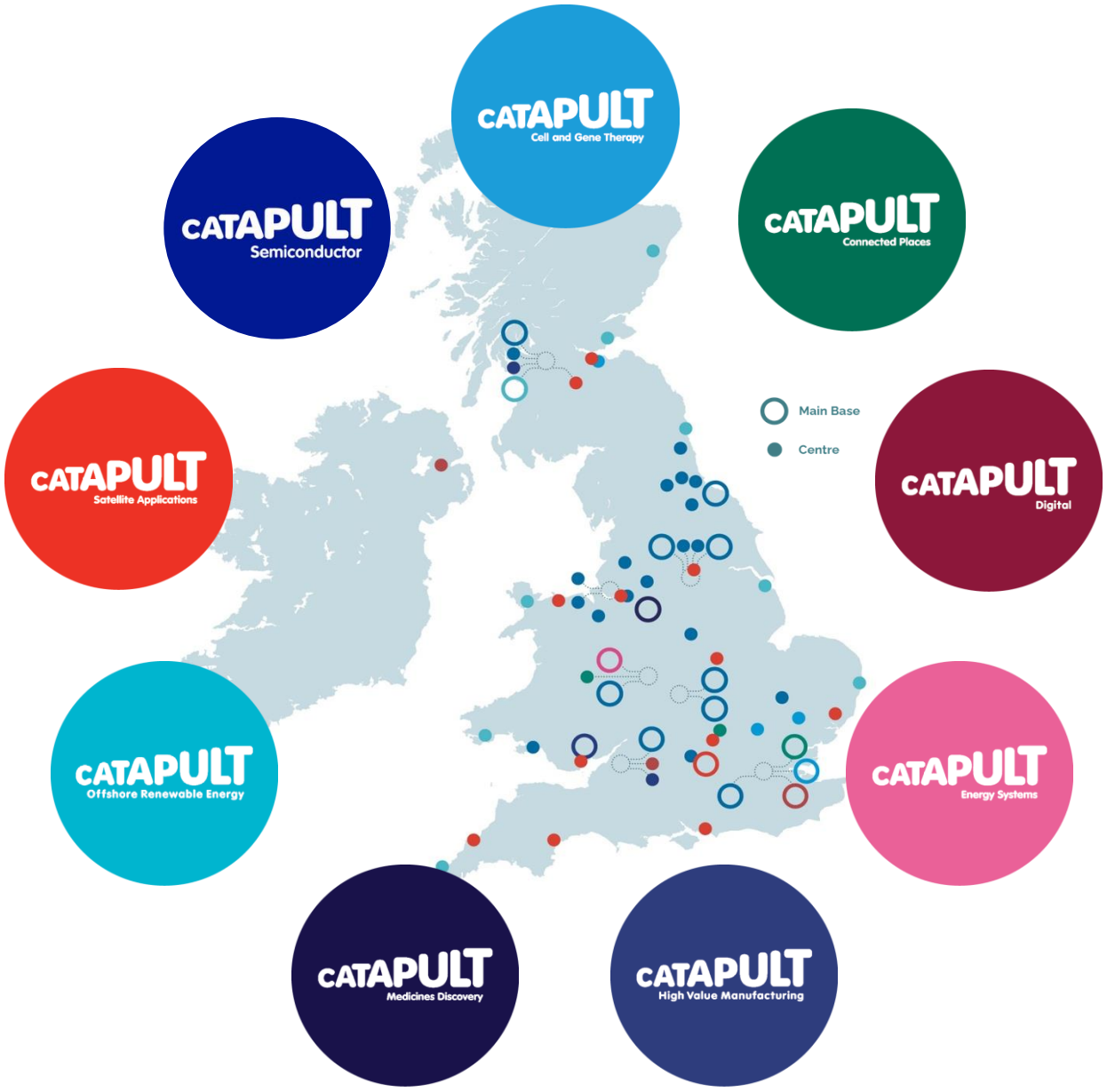
CATAPULT Semiconductor

Welcome to the Semiconductor Catapult

UK Research and Innovation



CATAPULT Semiconductor

UKRI Innovate UK | CATAPULT Network

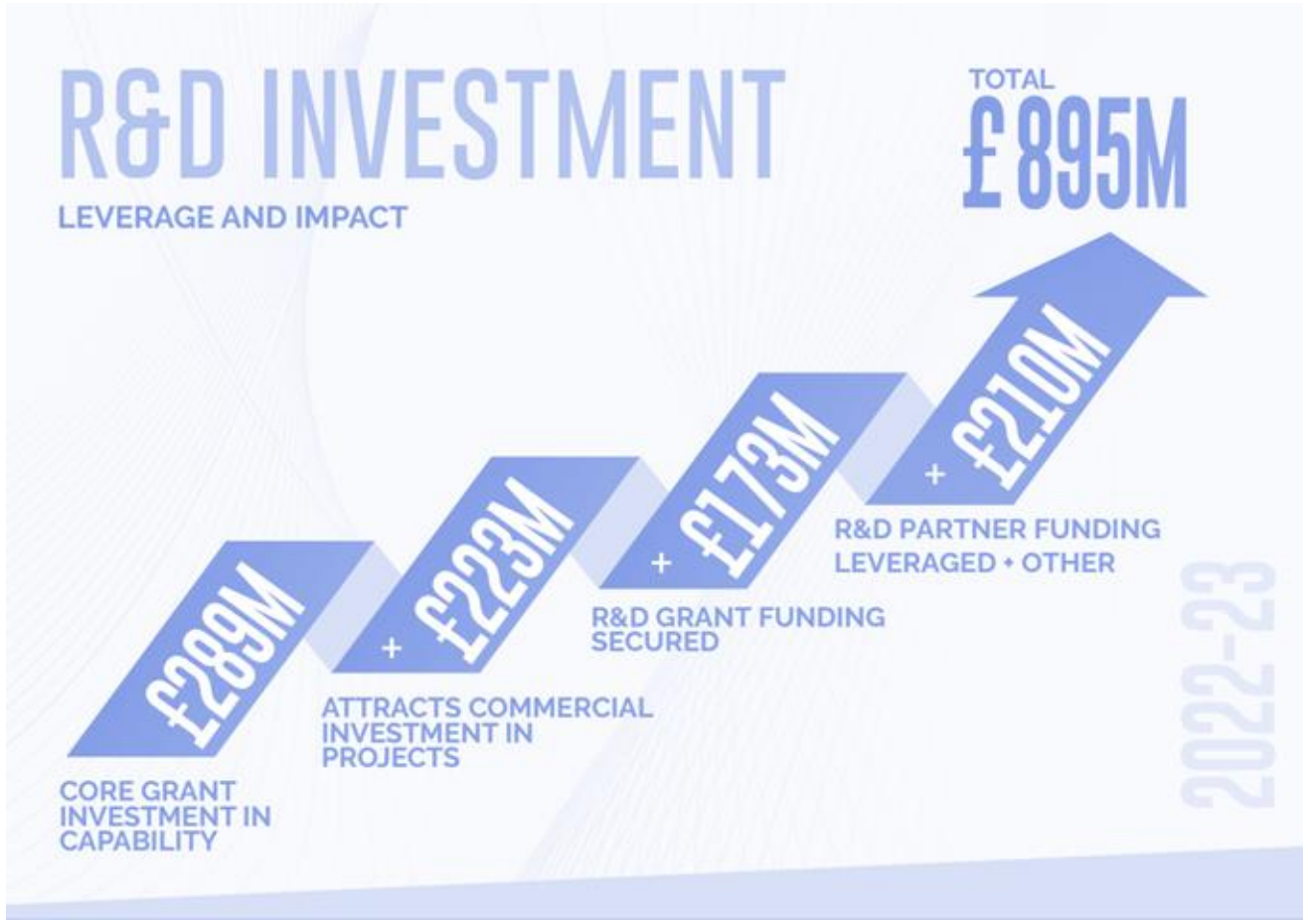
The Innovate UK Catapult Network

Nine world-leading technology and innovation centres with more that 65 national locations

Leveraging capability

Generating…

- New products
- Improved processes
- Enhanced services
- Growth and productivity advances
- Revenue and investment opportunities
- Networking
- Job creation
- Skills advances
- Exports and FDI



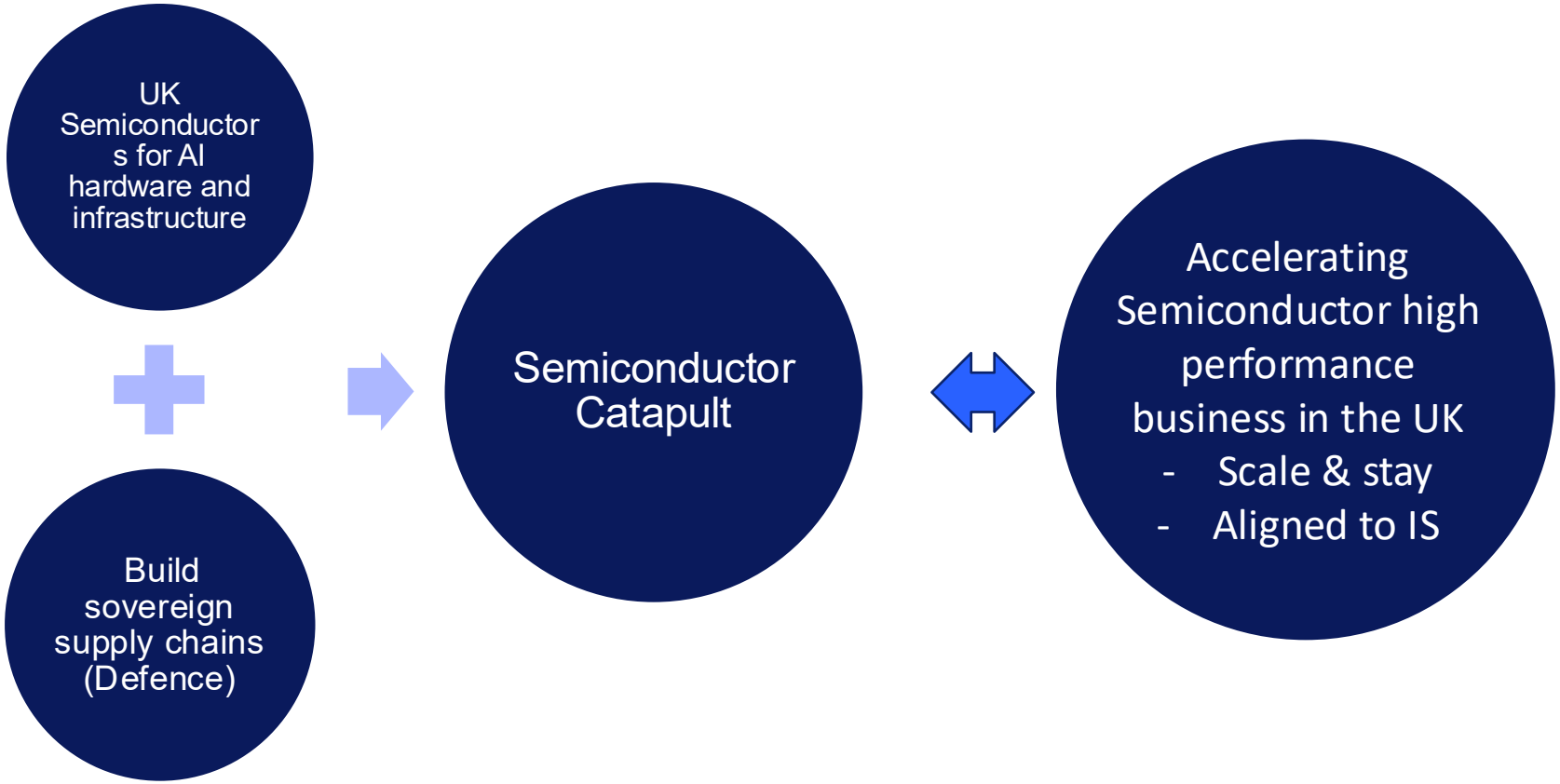
CATAPULT Semiconductor

“

We accelerate semiconductor technologies from concept to reality, building supply chains to deliver long-term economic benefit to the UK.

North Stars

- Scale-up UK semiconductors for AI hardware and infrastructure
- Build a sovereign supply (defence)



The Problem

The current challenges facing the industry include:



High capital intensity and risk



Fragmentation across the value chain



Integration challenges



Time-to-market pressure

Creating supply chains for the UK

A UK wide national asset

The Semiconductor Catapult focuses on four key technology sectors

- **Advanced packaging and heterogeneous integration:** Supporting chiplet and system-in-package architectures to overcome scaling limits

- **Power electronics and thermal management:** Enabling high-density AI hardware and supporting next generation infrastructure

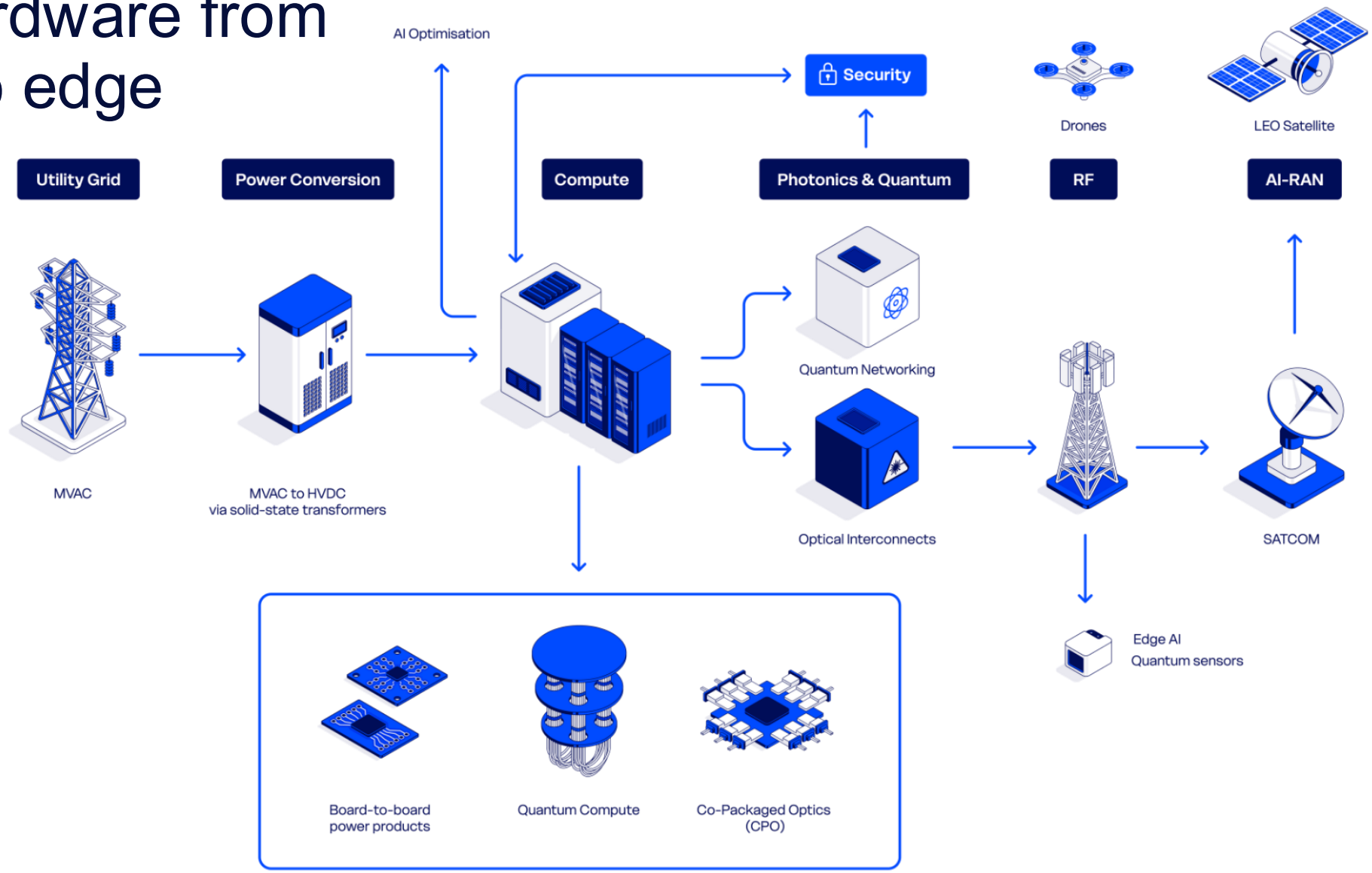
- **Photonics and optical interconnects:** Advancing data infrastructure and emerging applications (including silicon and quantum photonics and sensing)

- **RF and mixed-signal integration:** Facilitating next-generation RF solutions for beamforming applications and analogue integration.

From concepts to reality, at speed, for scale.

CATAPULT Semiconductor

AI Hardware from grid to edge



Technology platforms supporting the UK Industrial Strategy

Solid State Transformer (SST) – Cutting edge 11 kV-class solid-state transformer (SST) platform

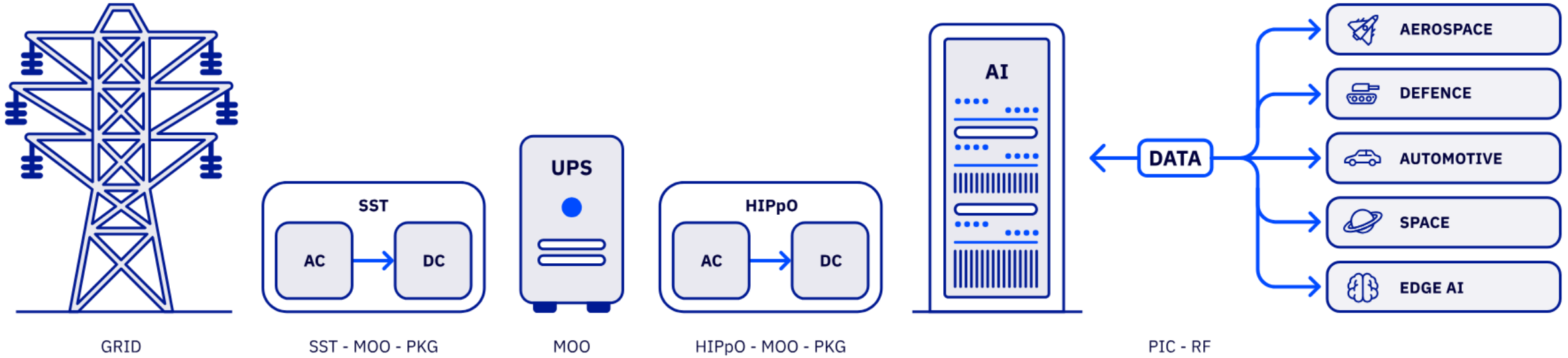
Multi Objective Optimisation (MOO) - AI-driven software platform for the design of next generation power electronics systems

Advanced Chiplet Packaging and Embedded Cooling for AI Hardware (PKG) - Combining hybrid bonding with embedded three-dimensional cooling

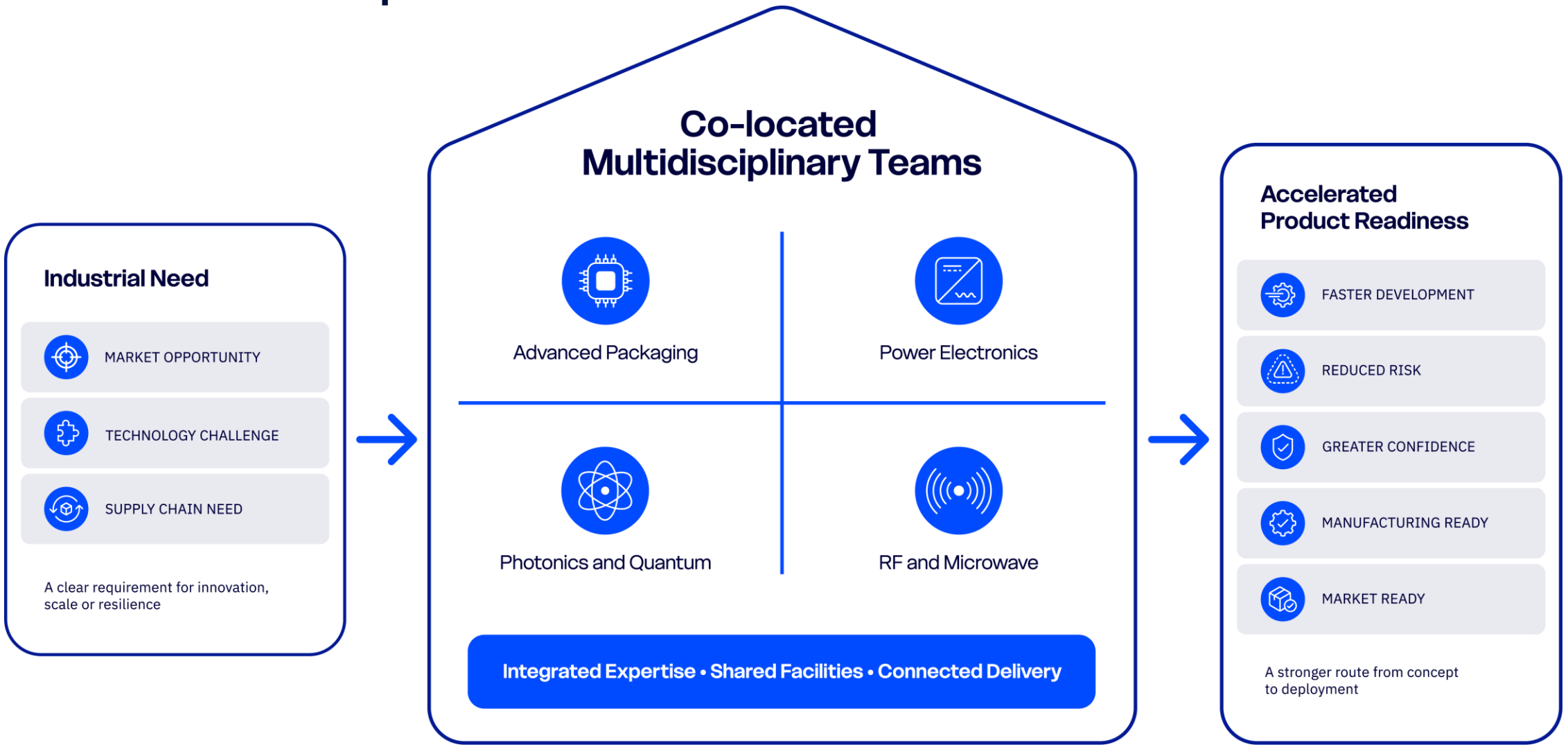
High-Density Power Module Platform (HIPpO) - Next-generation, high-current power-module platform

PIC design platform, testing and fibre attachment (PIC-MAIT/PIC Platform) – Scalable PIC design for AI-data centres, wafer level optical test and integration of semiconductor devices with optical fibres

RF Beamforming Front-End Development - Moving beyond stand-alone power amplifier development into fully integrated RF beamforming front-end systems



Co-located experts



Our impact so far

£29.7m
Collaborative R&D Projects

5,938
Jobs created and safeguarded

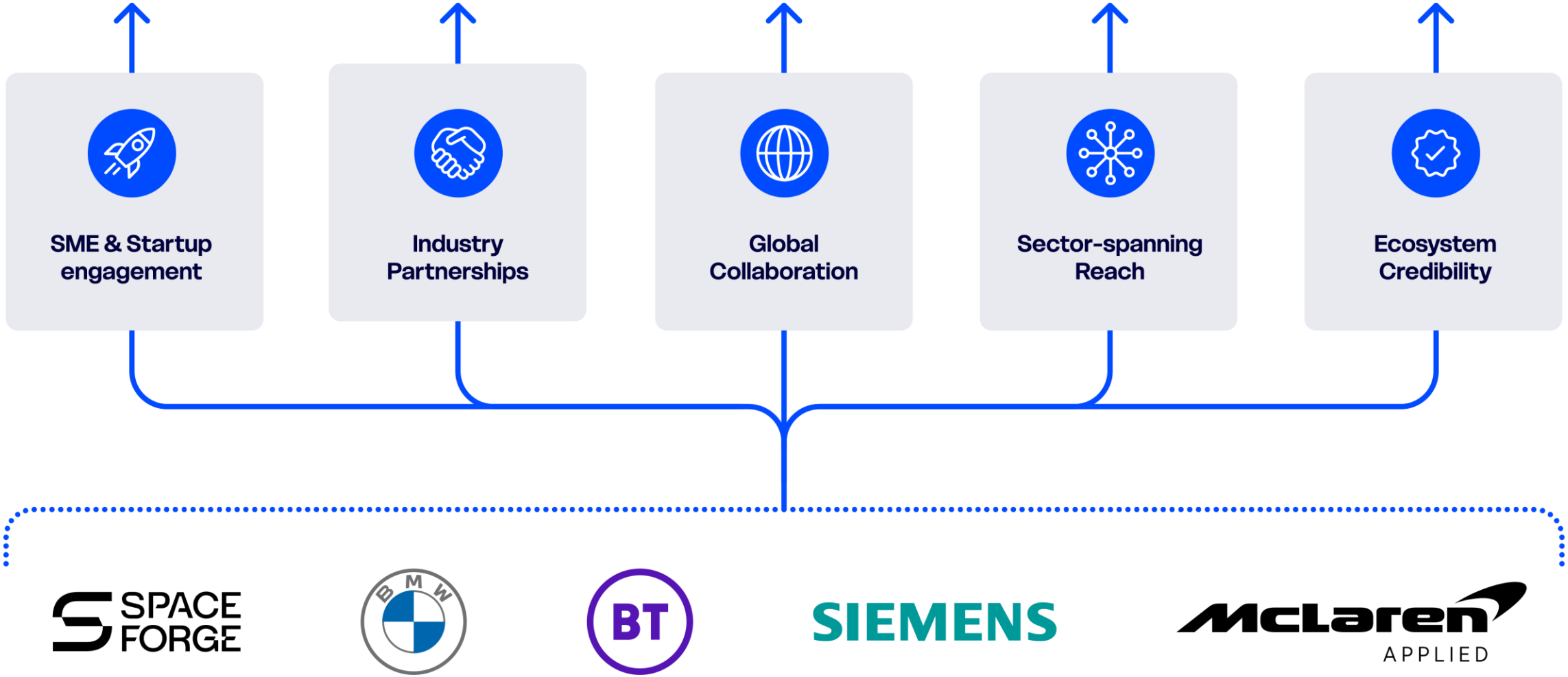
£819m
SME Investment leveraged

£600m
GVA Contribution

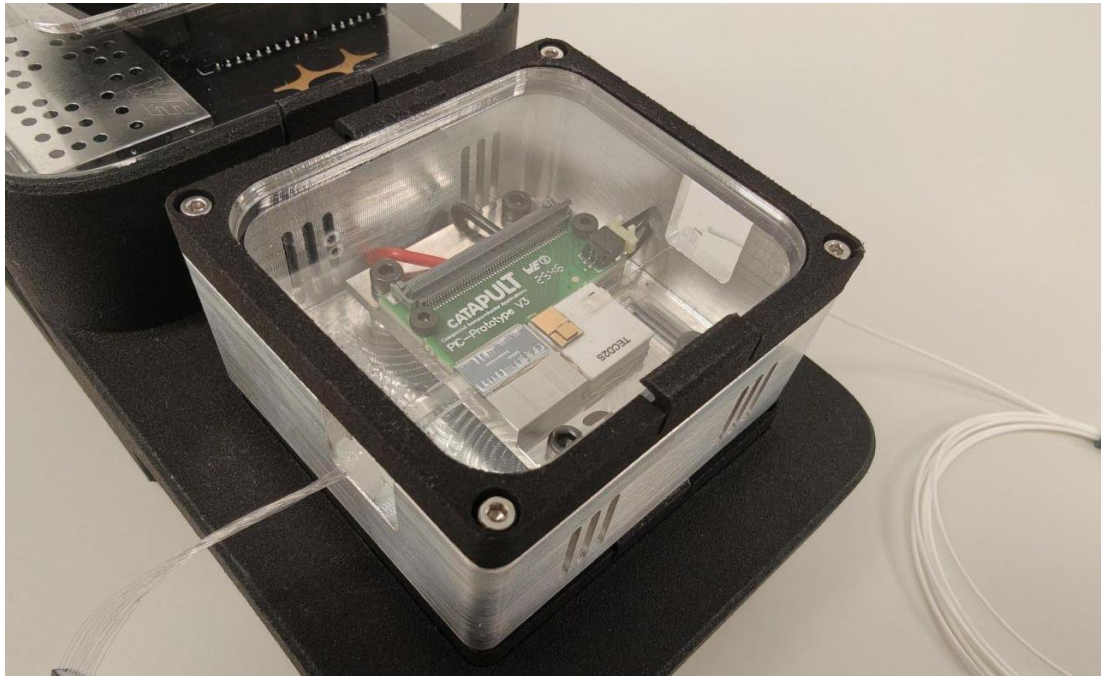
2.1
Average TRL increase

200+
Projects with 215 organisations

Success stories



Success stories



UK-Canada Partnership Delivers Photonics Prototype in Six Months

Semiconductor Catapult, Canada's Canadian Photonics Fabrication Centre and C2MI delivered a fully tested, co-packaged optical engine prototype in just six months, demonstrating a fast-track approach to photonics innovation for AI, communications and quantum technologies.



UK–Taiwan Partnership Advances AI Photonics

Semiconductor Catapult and Taiwan's ITRI successfully collaborated on next-generation co-packaged optics technology, developing new approaches for photonic system design and integration while strengthening international partnerships across the semiconductor ecosystem.

Success stories



SMD Semiconductor Opens R&D Hub at CSA Catapult

29th April 2025 - Malaysian firm SMD Semiconductor opened a new R&D Innovation Hub at Semiconductor Catapult to develop edge-AI compound semiconductors. Potential investment £10 million



£6M Chip Design Centre Launches

21st March 2025, CSA Catapult, Cadence, and the Welsh Government opened a £6M Semiconductor Design Centre in Cardiff, set to create 100+ jobs, contribute £34M to the UK economy, and train graduates while supporting chip design

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Howard Rupprecht

Managing Director



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An Introduction to the Welsh Compound Semiconductor Cluster

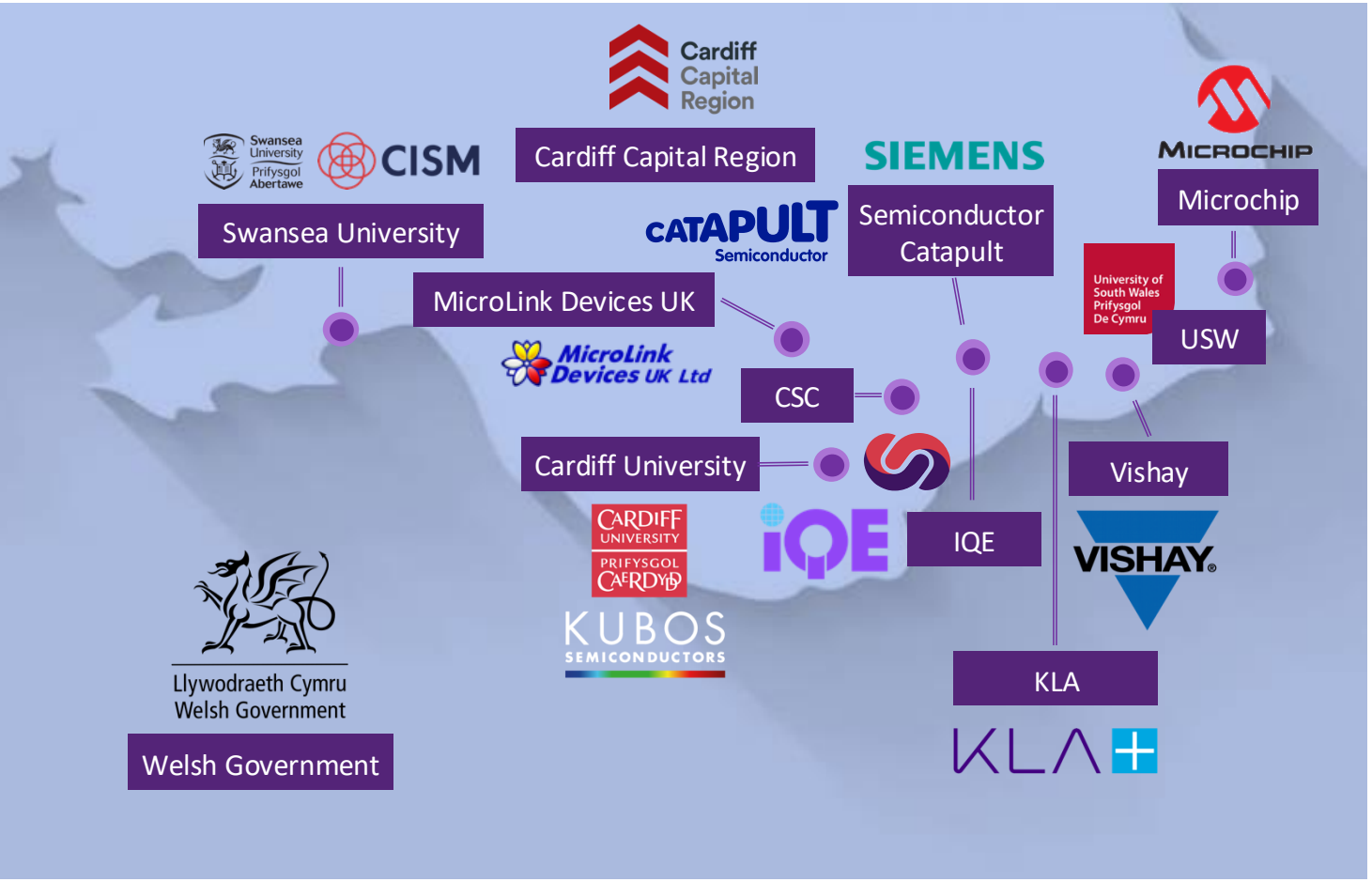
GIN Webinar

Howard Rupprecht

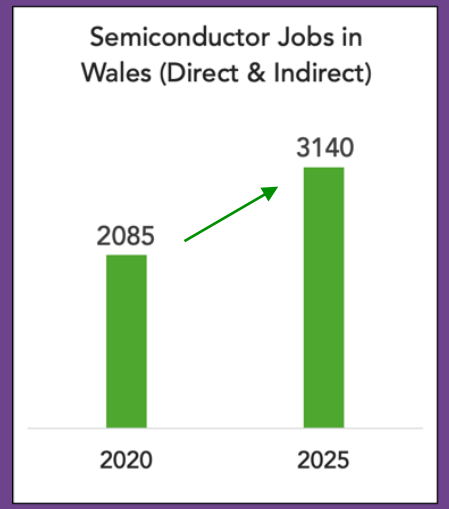
11th November 2026

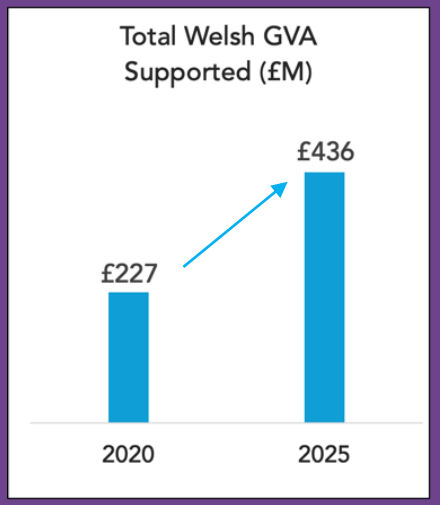
Compound Semiconductor Cluster Overview

A growing end-to-end design & manufacturing supply chain



A track-record of delivering strong growth while capturing local economic benefit





51% Growth since 2020

Versus largely flat UK employment

92% Growth since 2020

Added value through manufacturing

What's all this talk about re-industrialization?

Welsh Semiconductor Heritage builds on a rich industrial history

UK's largest Wafer Fab (still!)



Inmos – started in Bristol, Scaled Manufacturing in Wales 1982

inmos

UK's largest Epi provider – Compound foundry model pioneer



Spun-out from Martlesham Heath & incorporated in 1988 to scale in Wales. IPO 2001

State-of-the-art Equipment Manufacturing



Started in Bristol in 1968 – Scaled in Wales, Further expansion in Wales

SPTS

The Welsh cluster contains all the key elements of a dynamic innovation and commercialization eco-system

Cardiff Capital Region
Llywodraeth Cymru Welsh Government

Public / Joint Funding Investment Capital & Skills Development

World-class Innovation

Swansea University Prifysgol Abertawe
Cardiff University Prifysgol Caerdydd
University of South Wales Prifysgol De Cymru
CATAPULT Semiconductor

Technology Platform Development for KET

CISM



Cardiff University Prifysgol Caerdydd — Institute for Compound Semiconductors — Sefydliad Lled-ddargludyddion Cyfansawdd



Unique research infrastructure

Innovative new product development

New IPR & Skilled People

Open access to infra.

Vibrant Business Ecosystem

MICROCHIP
MicroLink Devices UK Ltd
KUBOS SEMICONDUCTORS
KLA
IQE
VISHAY

Leveraged public funding for R&D and commercial exploitation

HM Government
UK Research and Innovation

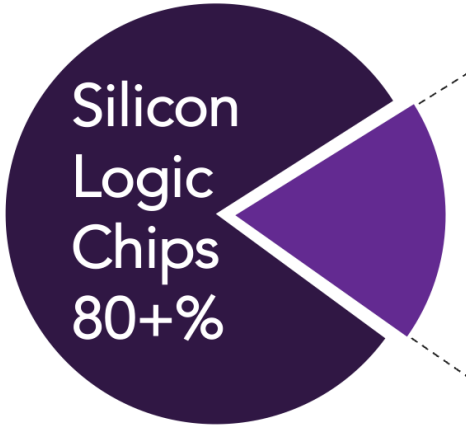
Venture Capital & Angel investors for new venture creation

Banc
Banc Datblygu Cymru
Development Bank of Wales

Private Equity

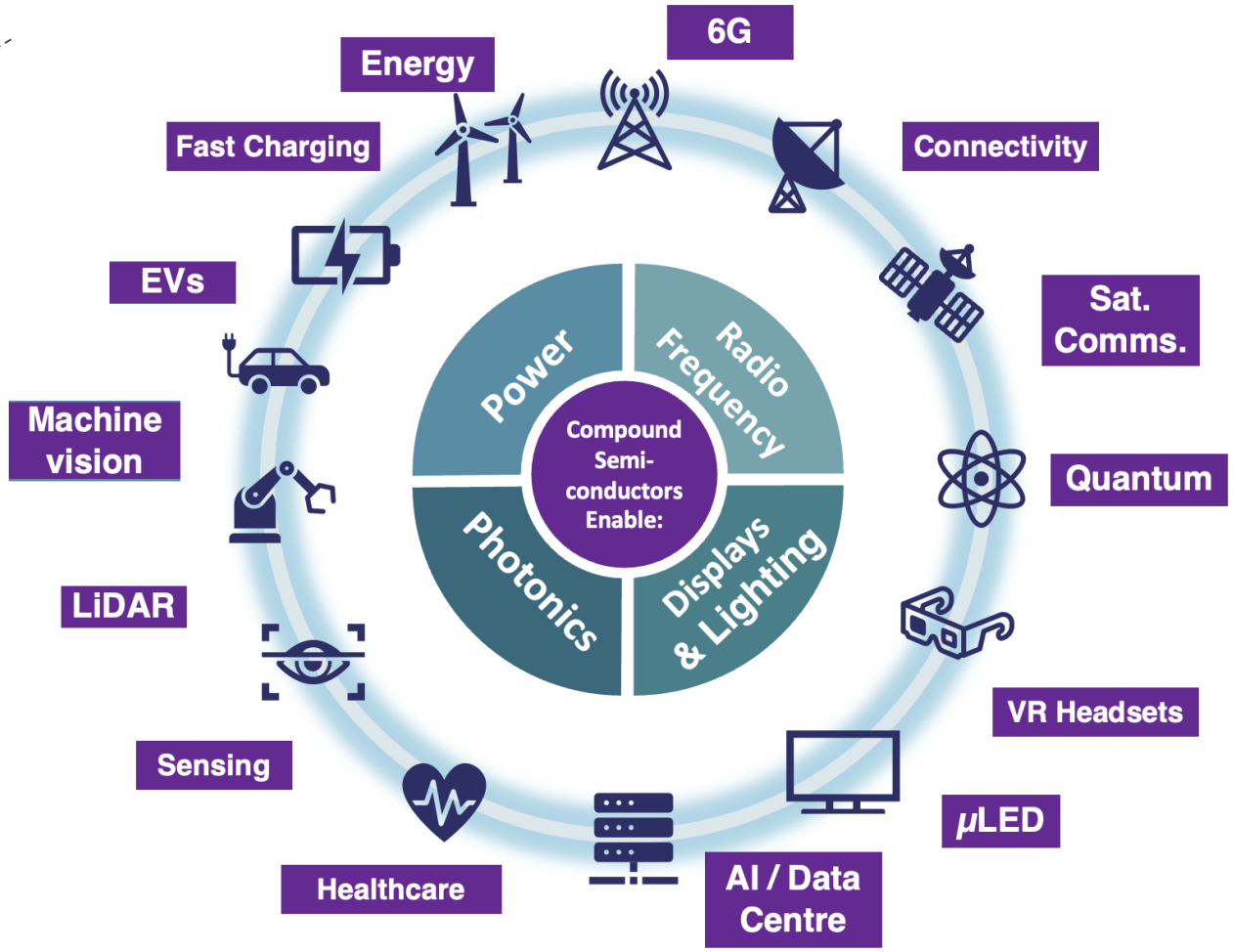
Why are *Compound* Semiconductors Important?

The Global Semiconductor market is $1Tr+ (exc. Equipment)



…Moore's Law, more transistors, smaller and cheaper, processing & storage.
Fabless & Foundry Model

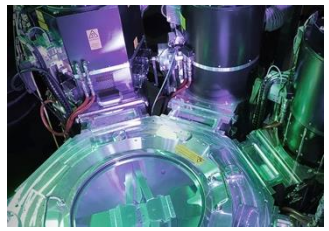
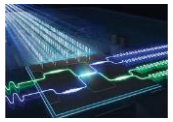
Compound semiconductors enable critical functionality in many important areas



Most components are manufactured using non-standard proprietary process flows which suit the IDM rather than foundry model

Compound Semiconductors enable the UK industrial strategy

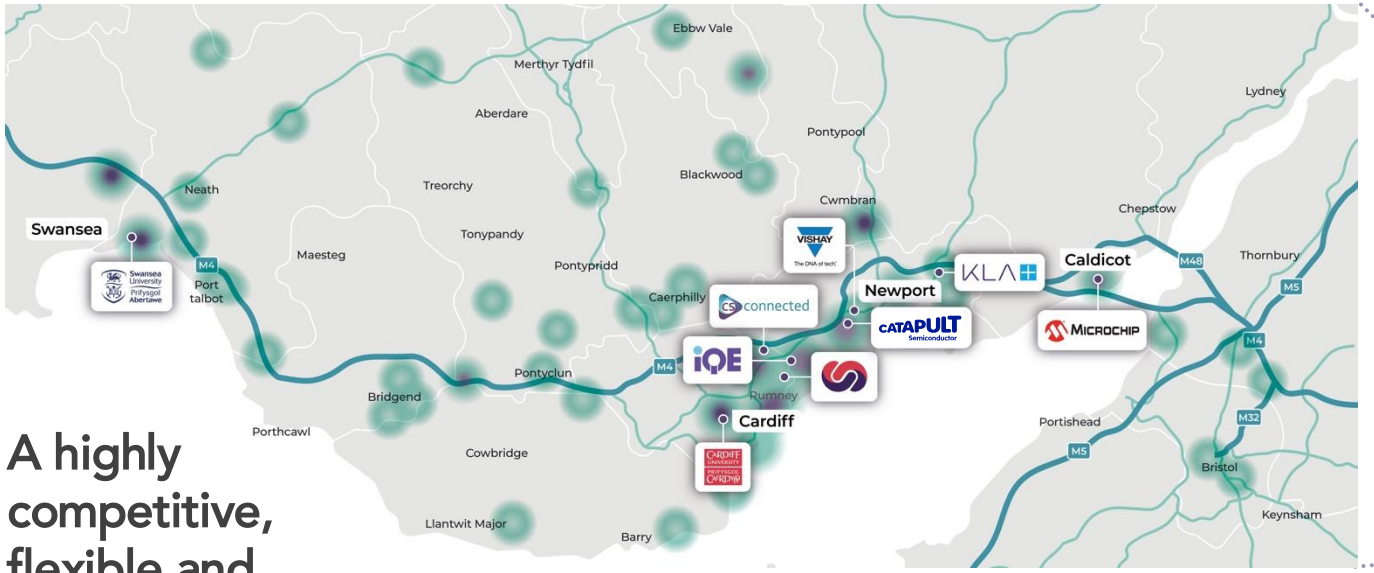
Strategic alignment with government policy & focus areas

INDUSTRIAL STRATEGY Compound Semiconductors enable	Advanced Manufacturing	Clean Energy	Defence	Digital and Technologies			Life Sciences
					Quantum 	ACT  6G	AI 	
Power/Energy	●	●	●				●	
RF	●		●			●	●	
Photonics	●	●	●	●		●	●	●

5 of the 8 Industrial Strategy Sectors are reliant on semiconductor innovation for core functionality

Welsh Differentiators

An ideal location to scale your business



A highly competitive, flexible and resilient local-supply chain to support businesses



Strong UK commercial & academic connections

A skilled workforce & curated talent pipeline with a focus on design & manufacturing of specialty components – No skills, no growth



Summary

Proven high value-added manufacturing of specialty components in Wales is ‘sticky’ and is spearheading UK reindustrialization.

FDI is less about attracting new large companies, it’s about supporting existing multi-nationals to invest here versus other locations.

There’s ample opportunity for continued growth in a Tn$ market, aim for higher value-capture from activity beyond design.

Structural change in what we choose to do will drive productivity & local prosperity



ICSCRM WALES · UK · 2027

24th International Conference on Silicon Carbide and Related Materials

19 – 24 September 2027

ICSCRM 2027 Headline Sponsor

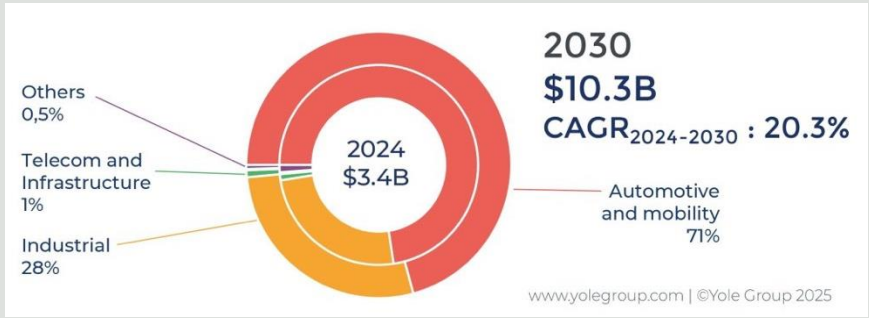
ICSCRM 2027 will bring the event to Wales for the first time and attracts senior industry leaders, researchers, engineers & students.

Attendees **~2,000**	Exhibitors **~200**
International Representation* **60% +**	Direct visitor spend** **£1.8m est.**

*International visitors are predominantly expected from Europe, North America, and Asia-Pacific.
**Based on VisitBritain Business Events 2024 survey and BoE inflation data.

Applications & Markets

Silicon Carbide and Related Materials enable smaller, cooler, and more energy efficient chips. Driven by these performance gains, the Silicon Carbide power device market is expected to triple from 2024-2030.



- Industrial Power
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Swansea University Prifysgol Abertawe

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