

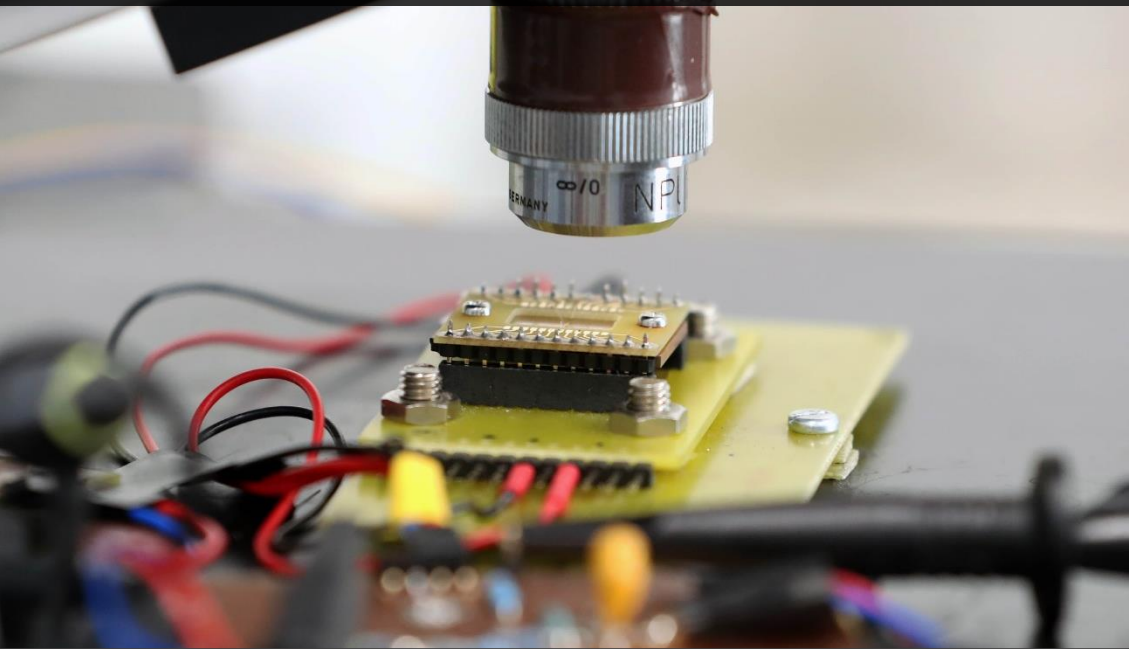


CS Hub

EPSRC

Engineering and Physical Sciences
Research Council

EPSRC Future Compound Semiconductor Manufacturing Hub



<http://compoundsemiconductorhub.org>



CS Hub Research in action, at the clean room facilities and Cardiff University Labs.



Who we are

Areas of expertise

- CS on Si Epitaxy
III-Sb, III-As, III-N
- CS on Si Device Fabrication
- Fast Fabrication integrated growth, fab, characterization
- Manufacturing Technology for optical datacomms on Si
- Advanced RF devices & MMICs, Monolithic integration of RGB LEDs & integrated RF electronics, Magnetic arrays, IR sensors.

Contact Us

Managed from Cardiff University, School of Physics & Astronomy, in close proximity to Cardiff City Centre, with spoke Universities (UCL, Sheffield, Manchester) plus >30 industrial collaborators.

Future CS Manufacturing Hub, Cardiff University, School of Physics and Astronomy, The Parade, Cardiff. CF24 3AA. Phone: 02920688891. Email: taylor36@cardiff.ac.uk

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Services: Extensive equipment available for use, & senior engineers to perform experiments (part of the ICS service package, chargeable).

PhD studentships: Fully funded*, industry linked.

* For UK and EU students

Our Vision

Compound semiconductor materials:

... a key enabling technology, vital for next generation technologies.

Underpinning internet operation & enabling emerging megatrends:

- Smart phones
- Internet of things
- Satellite communications / GPS
- Energy efficient lighting
- Efficient solar power generation
- Advanced healthcare & ground-breaking biotechnology

The demands of these next generation technologies drive the integration or replacement of Silicon with advanced compound semiconductor materials, creating a massive market opportunity for compound semiconductor materials and devices.

The Hub provides an additional link between the UK compound semiconductor research community & routes to impact, as well as economic leverage.

Our vision is to establish the UK as the primary global research and manufacturing hub for Compound Semiconductor (CS) Technologies. We will combine and connect UK research excellence in compound semiconductors, with the very best translational facilities and the new Compound Semiconductor Catapult, to support the UK CS industry and UK industry users of CS.

The Mission

Driven by scientific excellence, the CS Hub will stimulate:

The focal point for Europe's 5th Semiconductor Cluster and the 1st dedicated Compound Semiconductor Cluster world-wide

Focus = key scientific challenges in manufacturing, building on Institute for Compound Semiconductors (ICS) & academic research.

The Hub will feed Compound Semiconductor Centre (CSC) activity, linking with UK manufacturing & the CS Catapult.

Our Hub brings a core element to the cluster: new manufacturing process R&D staff, leveraging existing capital investment.

Key Outcomes

- Radically boost uptake & application of CS technology by applying the manufacturing approaches of Silicon to CS.
- To exploit the highly advantageous electronic, magnetic, optical and power handling properties of CS while utilising the cost and scaling advantage of Silicon technology where best suited
- To generate novel integrated functionality such as sensing, data processing and communication.

