

# FAB S and LAB S

## Compound Semiconductor Applications Catapult



Launched in October 2017, the Compound Semiconductor Applications (CSA) Catapult is the latest Catapult to join the existing nine Catapult centres based across the U.K. The Catapult centres have been funded and established by U.K. government to help support innovation in U.K. business. Their vision? To bridge the gap between the expertise of the U.K.'s world-class research and development communities and ambitious businesses.

Compound semiconductors are at the heart of many cutting-edge electronic devices. They offer advantages such as higher speed, better efficiency and smaller form factor compared to their predecessors, such as silicon, and will be a vital part of the devices to power our future technologies. These performance benefits are applicable to a wide range of applications from wireless networks, defence/space, autonomous vehicles to smart sensing devices for the IoT and 5G applications. In addition to this, they will contribute towards challenges identified by the recent U.K. government Industrial Strategy such as an ageing society, the future of mobility, clean growth and AI and the data economy.

As part of its mission to make the U.K. a global leader by developing and commercialising new applications for compound semiconductors, CSA Catapult will bring together businesses large and small from across the supply chain and collaboratively work with them on R&D and commercial opportunities.

To support its strategy and vision, the Catapult has opened a state-of-the-art Innovation Centre based in the world's first compound semiconductor cluster (CS Connected) in Newport, South Wales. The centre gives companies access to dedicated laboratories specialising in RF and microwave, power electronics, advanced packaging and photonics to help companies develop and demonstrate new products.

The RF and microwave laboratory will offer a range of services spanning design, modelling and simulation of CS devices, circuits and systems, packaging and assembly through to characterization, evaluation and qualification of devices and modules. It will also provide access to high frequency, automatic on-wafer probing with full thermal control, load-pull characterization, 5G signal generation and analysis and a suite of equipment dedicated to burn in, life test and qualification.

The innovation centre and CSA Catapult's expertise will help to de-risk and accelerate research and development, reducing time to market giving U.K. companies a competitive advantage. CSA Catapult will deliver long-term benefits to the U.K. economy by accelerating the application of compound semiconductors in industries to create a competitive advantage and enable new products or end markets. This will drive growth in the U.K. electronics sector, keeping more companies ahead of international competition and creating new highly skilled jobs in the businesses they supply. By 2023, CSA Catapult aims to have helped create 1,000 jobs in the businesses it supports.

Over the last six months, CSA Catapult has begun to establish a unique U.K. SiC supply chain, from fabrication of compound semiconductors through to end use and deployment in electric sports cars and has led a consortium of industry partners committing over £500 million for the Industrial Strategy "Driving the Electric Revolution." It has leveraged over £23 million industrial investments with its first five CR&D projects and has translated academic excellence through collaboration in CR&D projects.

<https://csa.catapult.org.uk/>