



University  
of Glasgow

# Semiconductor Laser device fabrication with Compound Semiconductor Technologies

*Dr Anthony Kelly, Senior Lecturer in Electronic and Nanoscale Engineering, School of Engineering, in collaboration with Compound Semiconductor Technologies Global (CSTG).*

## **What was done to address the challenge?**

Expertise in the design, development and manufacture of high speed and single frequency lasers at the University of Glasgow has enabled CSTG to develop new products and enhance the specification or manufacturability of existing designs to enter these emerging markets.

## **What was the outcome?**

Improved capabilities in design, test and manufacturing of high-speed and single-frequency lasers for the optical access market at CSTG are underpinned by research at Glasgow and have been driven through this collaboration. The partnership has led to the successful development of the 10Gbit/s laser products and the delivery of this product to customers in volumes of hundreds of thousands per month.

The relationship was supported by EPSRC Impact Acceleration Account funding in 2012 where the project team carried out initial tests and subsequently were awarded a Knowledge Transfer Partnership (KTP), which was highly successful and rated as outstanding. The collaboration with CSTG has resulted in three new product lines being introduced, one new job being created and more than ten jobs safeguarded. The work has significantly increased turnover for the company. This collaboration goes from strength to strength with support of the EPSRC IAA leading on to Horizon 2020 and Innovate UK funded projects. Most recently Dr Kelly has spent 6 month seconded to CSTG.



## **The opportunity**

Lasers have applications in numerous fields including telecommunications, defence and gas sensing. They are a key component for fibre optic telecommunications, and in particular for data centres and access networks where a significant high volume, low cost market for laser devices has emerged over the last 5 years, primarily as a result of network installation and expansion in China and India. This provides an opportunity to create jobs in high-tech, high value manufacturing with the associated exports to Asia. Furthermore, the supply chain largely exists within the UK.

## **To find out more**

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