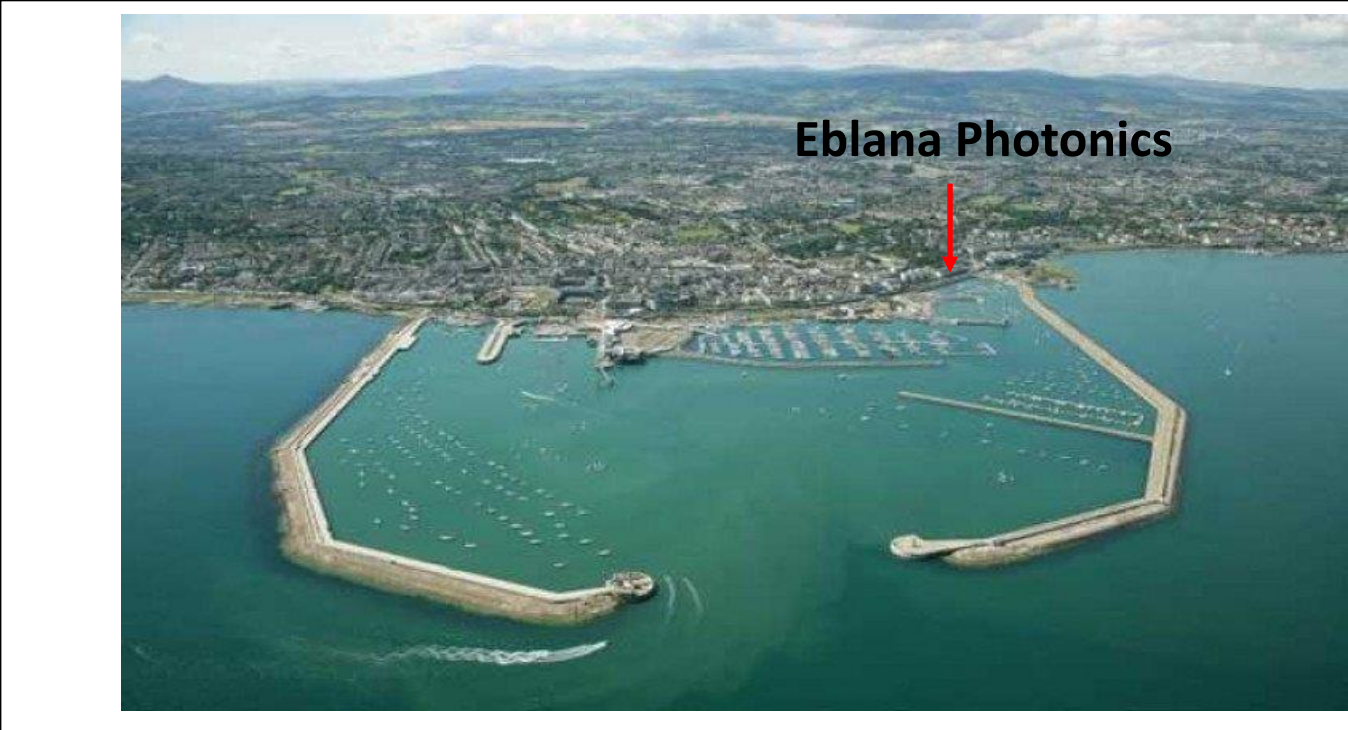




Discrete-Mode Lasers for LIDAR Applications



www.eblanaphotonics.com
Dublin, Ireland

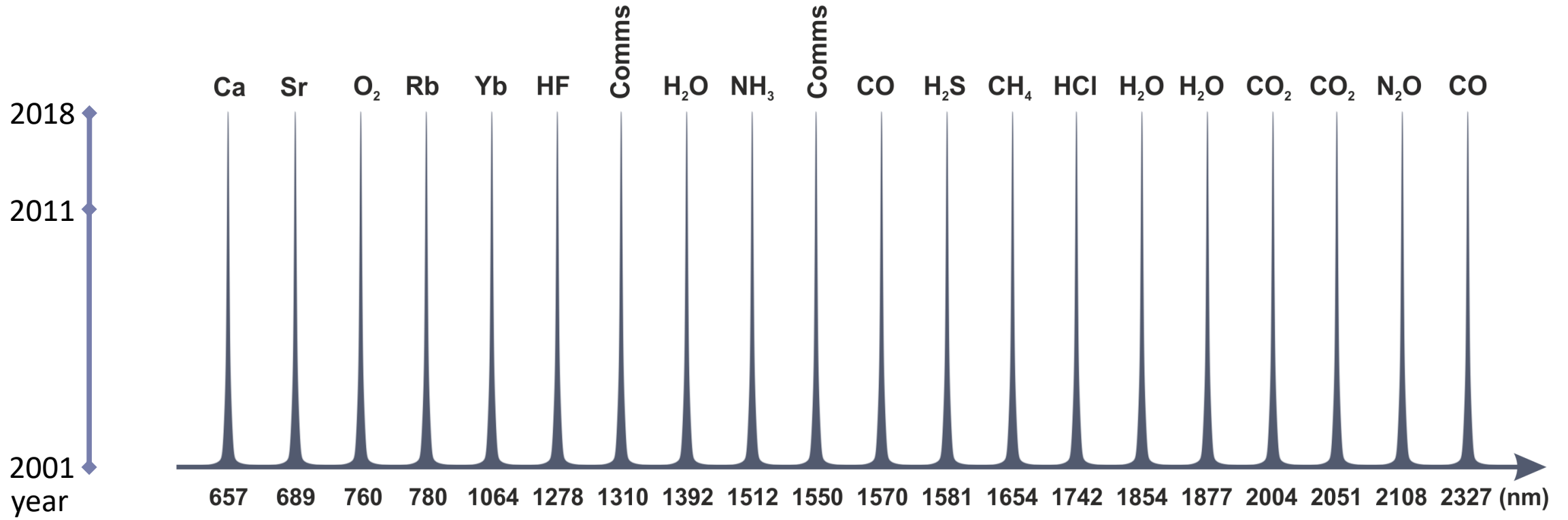


Established 2001
Dublin, Ireland

IP protected over **15** patents
35 employees

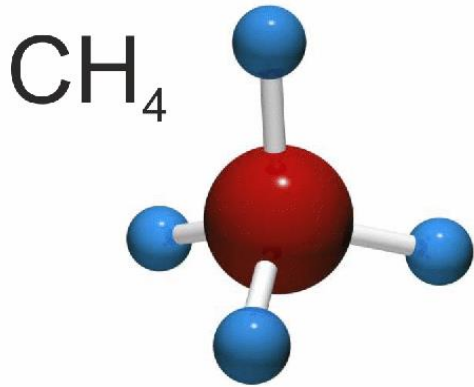
Core technology developed at **Tyndall Institute** and **Trinity College Dublin** (Semiconductor Photonics Group)

The Wavelengths. 657 – 2350 nm.



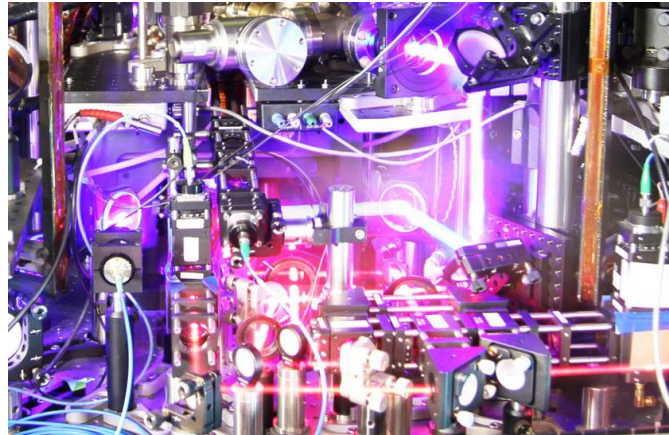
Sensing

High sensitivity detection: **Gas Sensing, Medical, Security & Defence, Aerospace, Industrial, Research.**



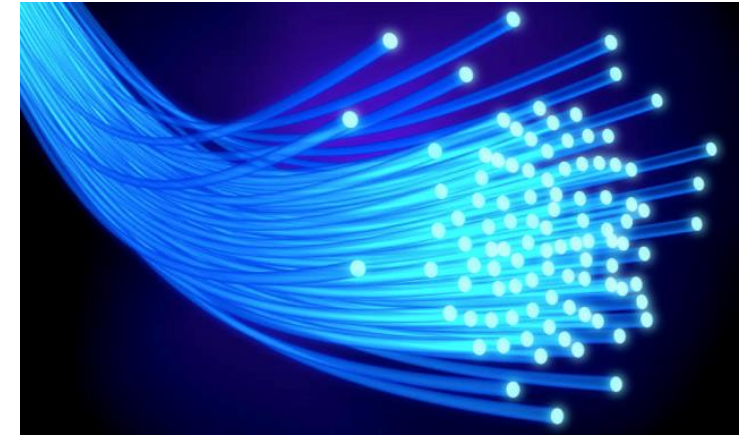
Metrology

Line widths (100kHz) for ultra-precision atomic clock, LIDAR, interferometry, test & measurements.



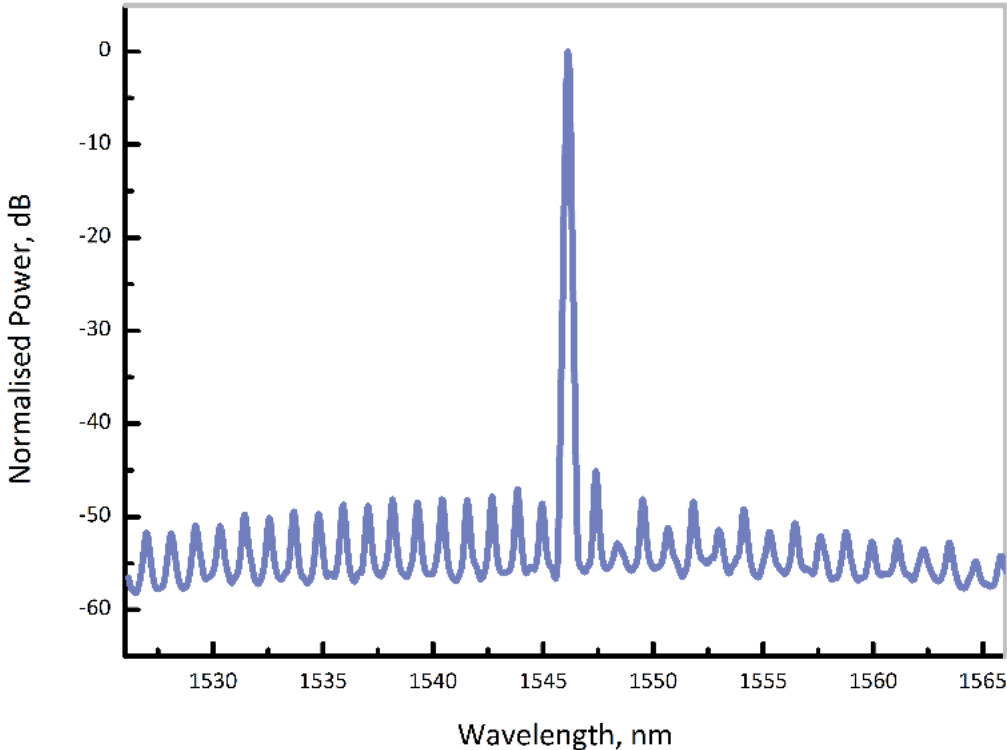
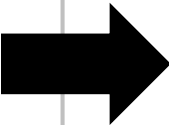
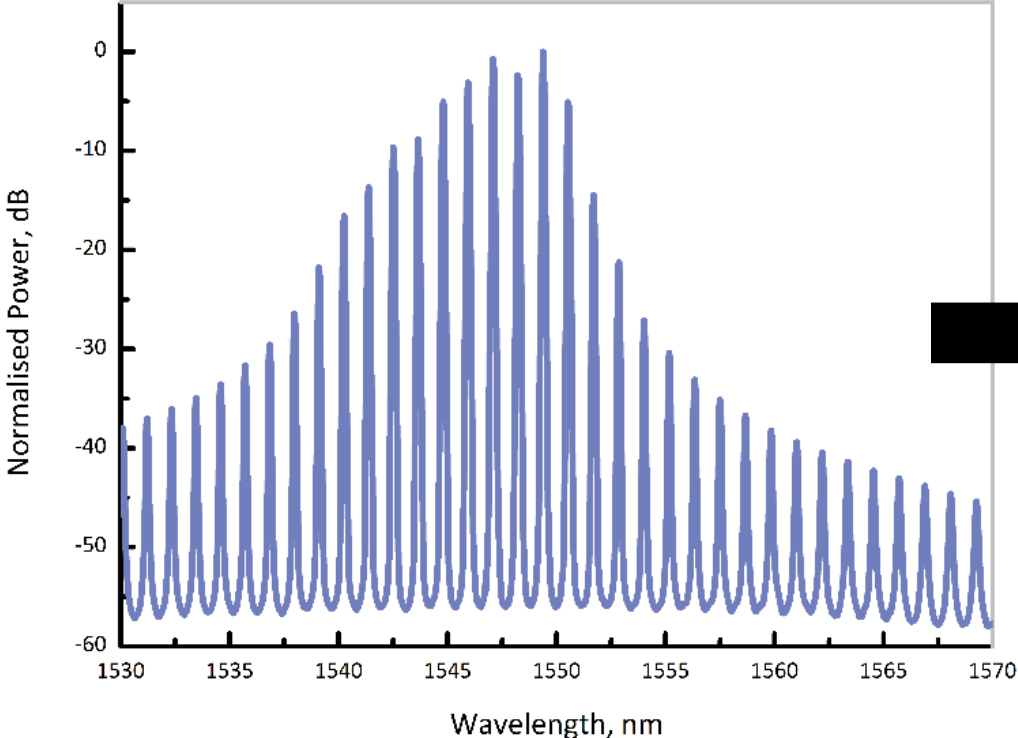
Communications

Eblana has been supplying lasers into the high volume, **fiber optic communications** industry for more than a decade.



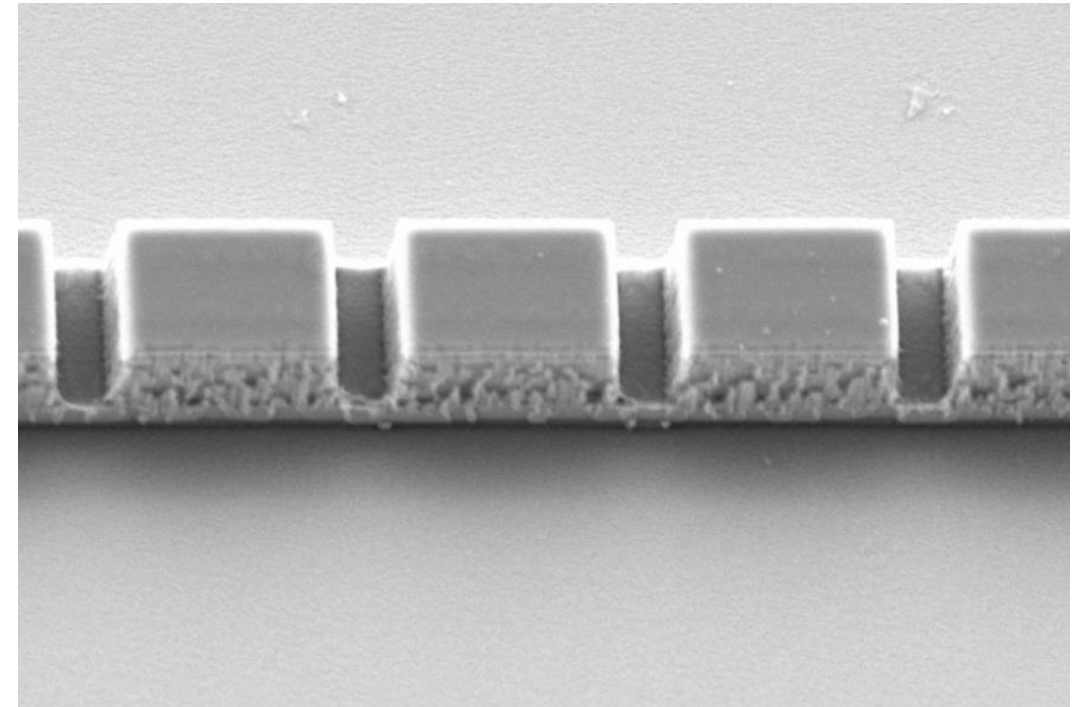
FP Laser

DM Laser

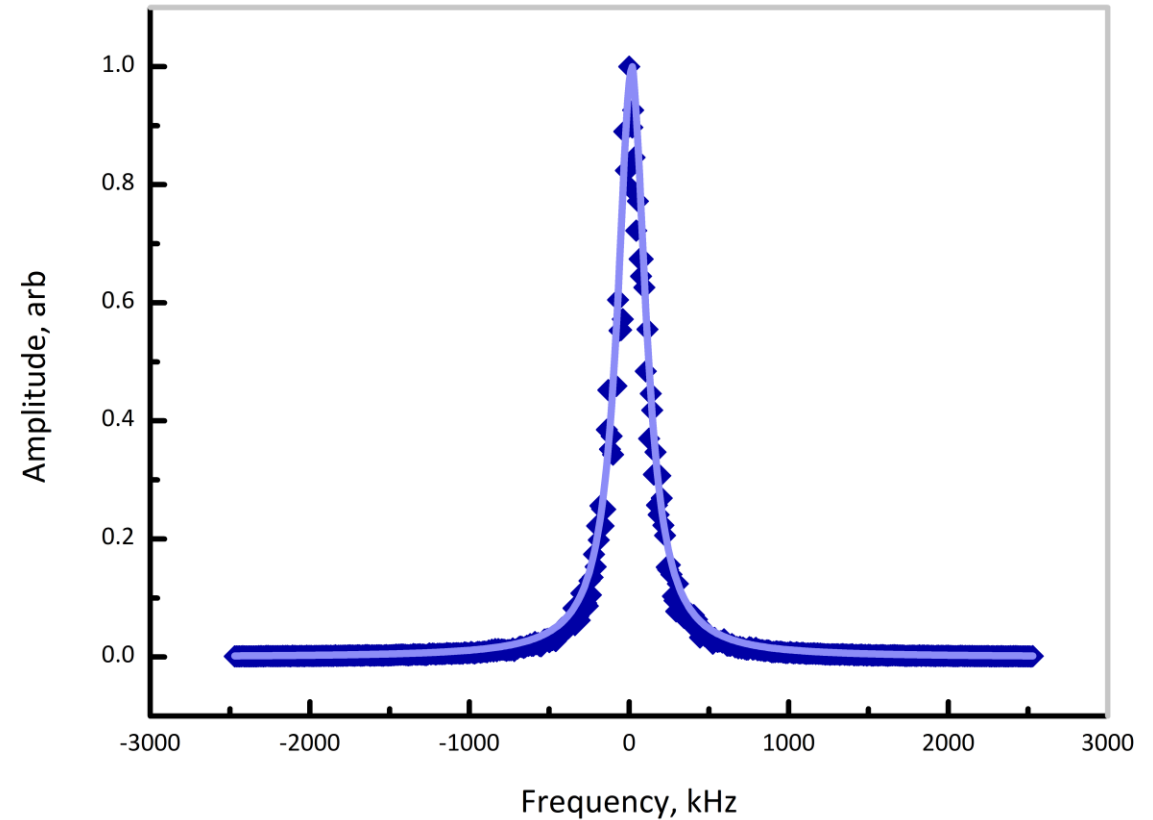


DM TECHNOLOGY *ADVANTAGES*

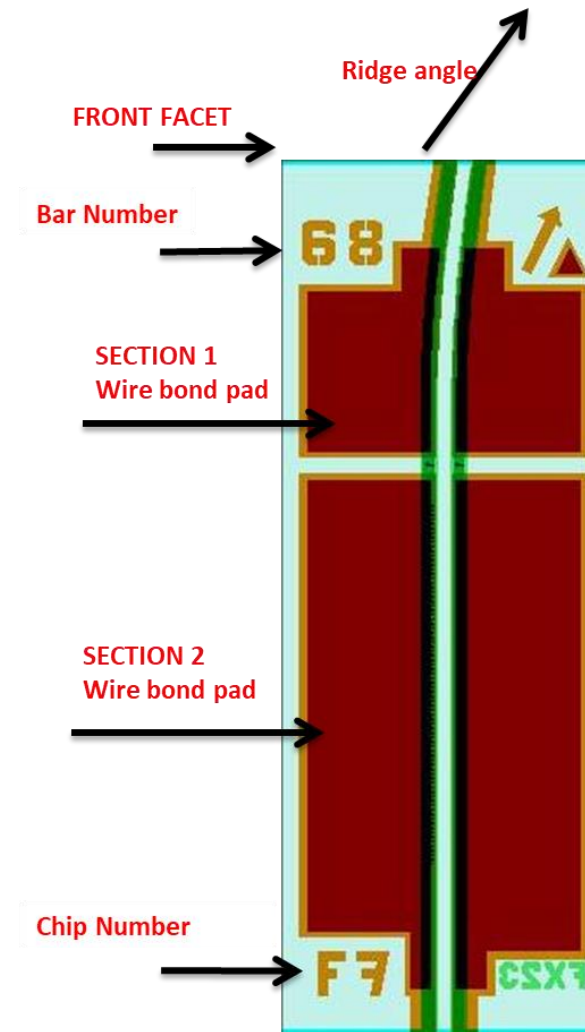
- Simplified Manufacturing Process
- Consistency and Uniformity
- Monolithic Low Linewidth
- Flexibility
- Scalability

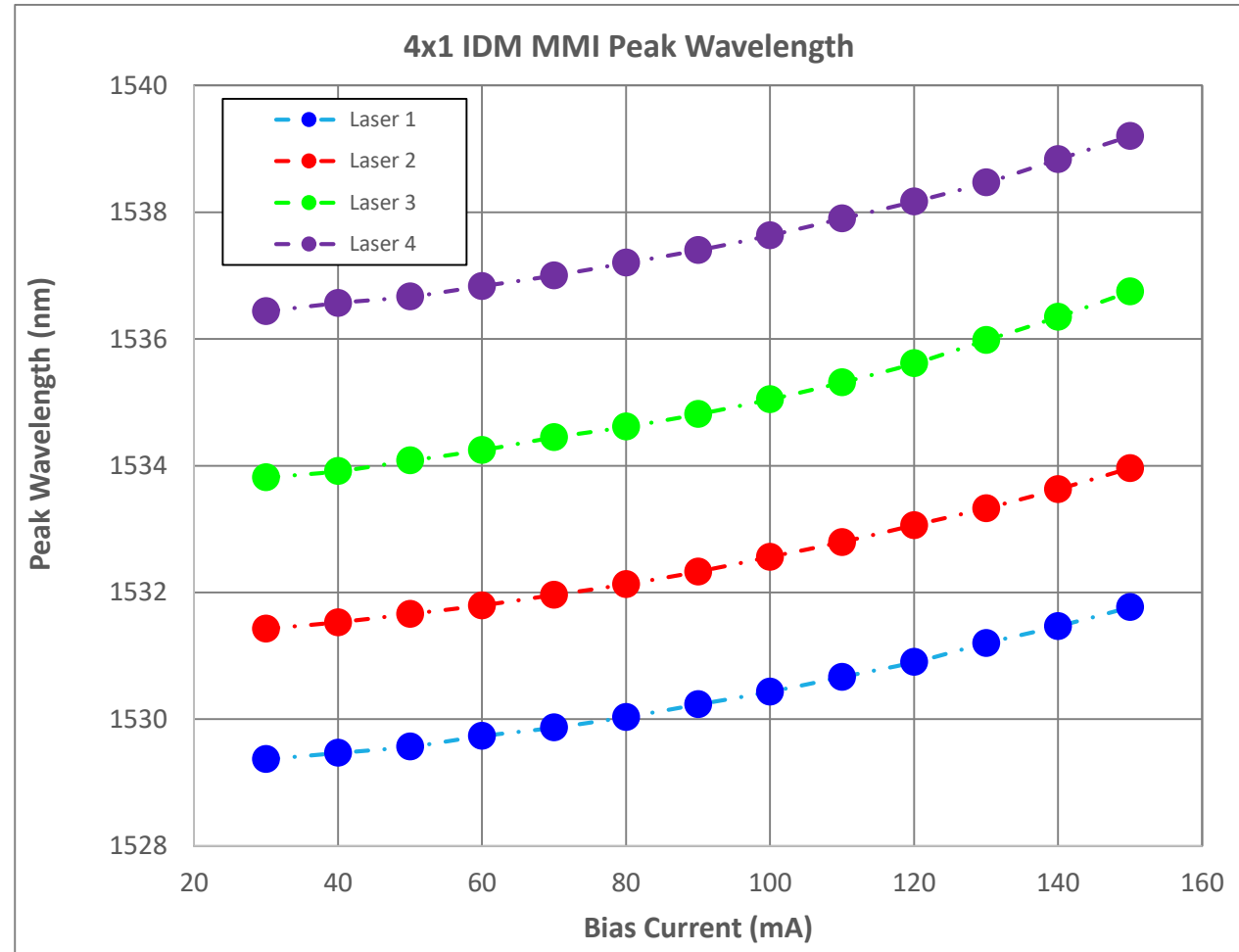
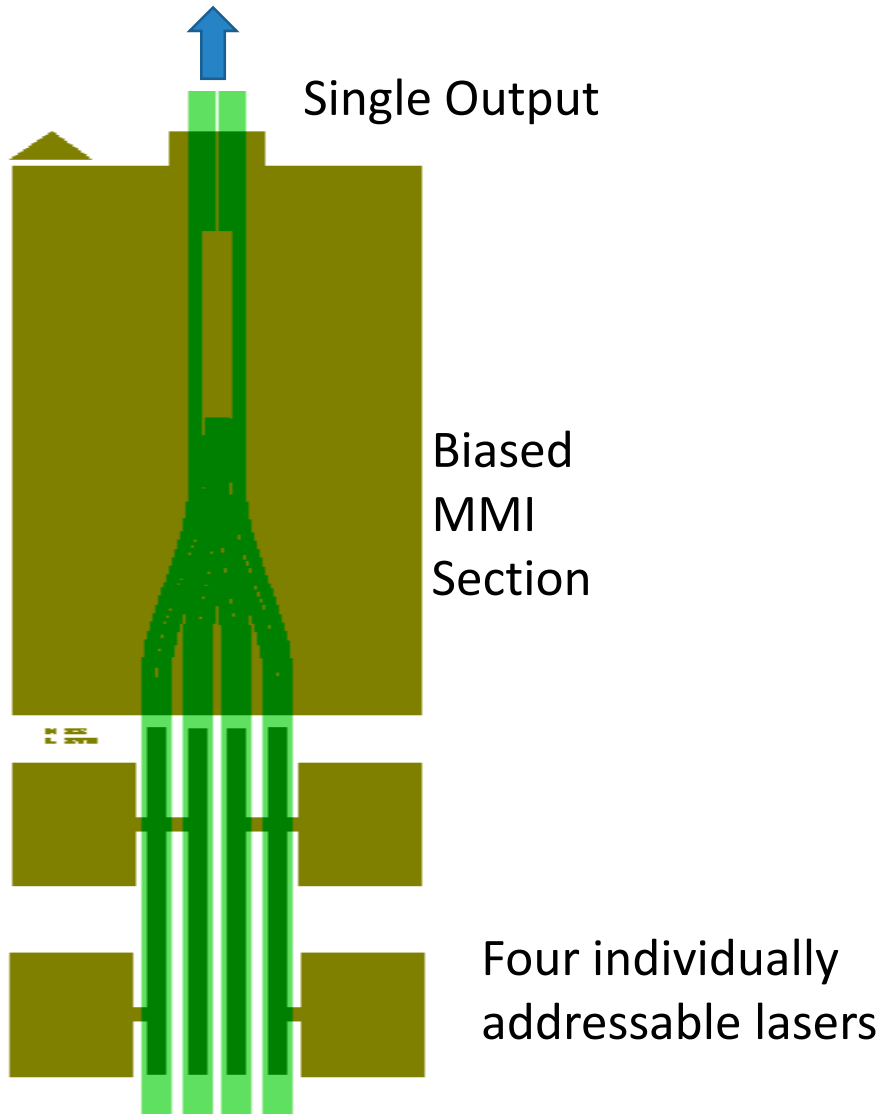


- Discrete Mode lasers demonstrate lower linewidths than equivalent DFBs due to the laser structure.
- Linewidths of 100 kHz for standard 1550nm narrow linewidth DM laser.
- Demonstrated linewidths of 50 kHz in monolithic chip (no external cavity).



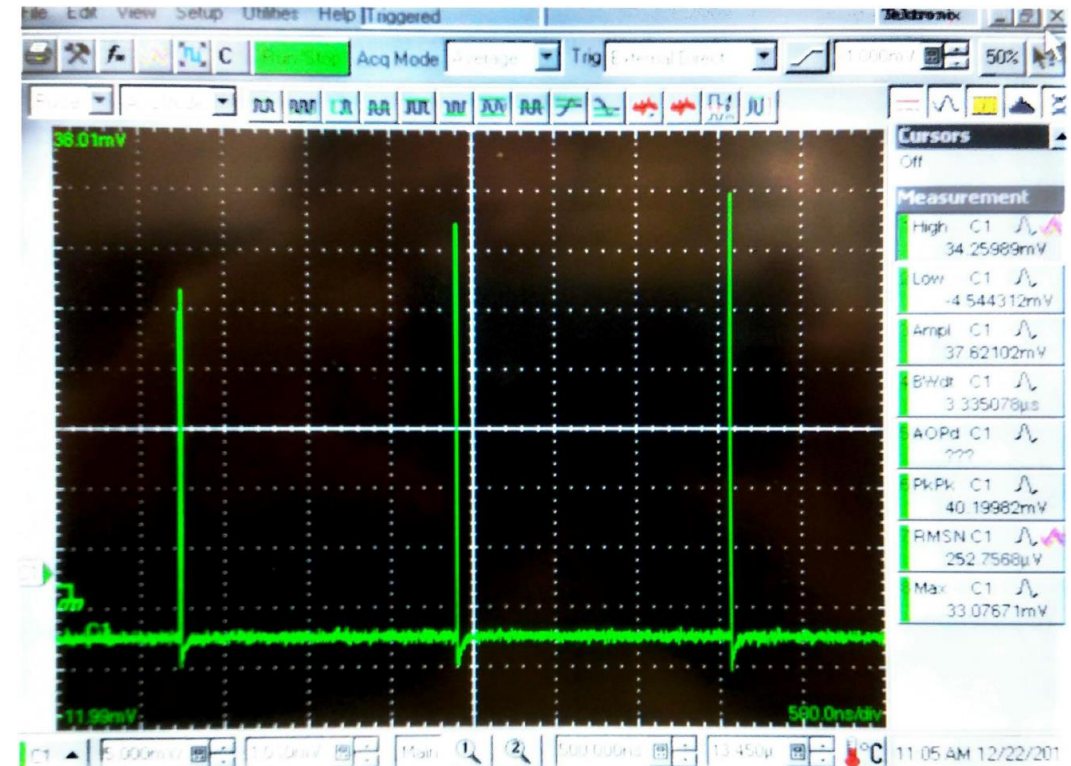
- Individually addressable laser and SOA sections – SOA acts as amplifier and gate for pulsing output.
- Laser chip is monolithic - ridge incorporates slotted features in order to produce single mode emission.
- Curved output in order to reduce reflections

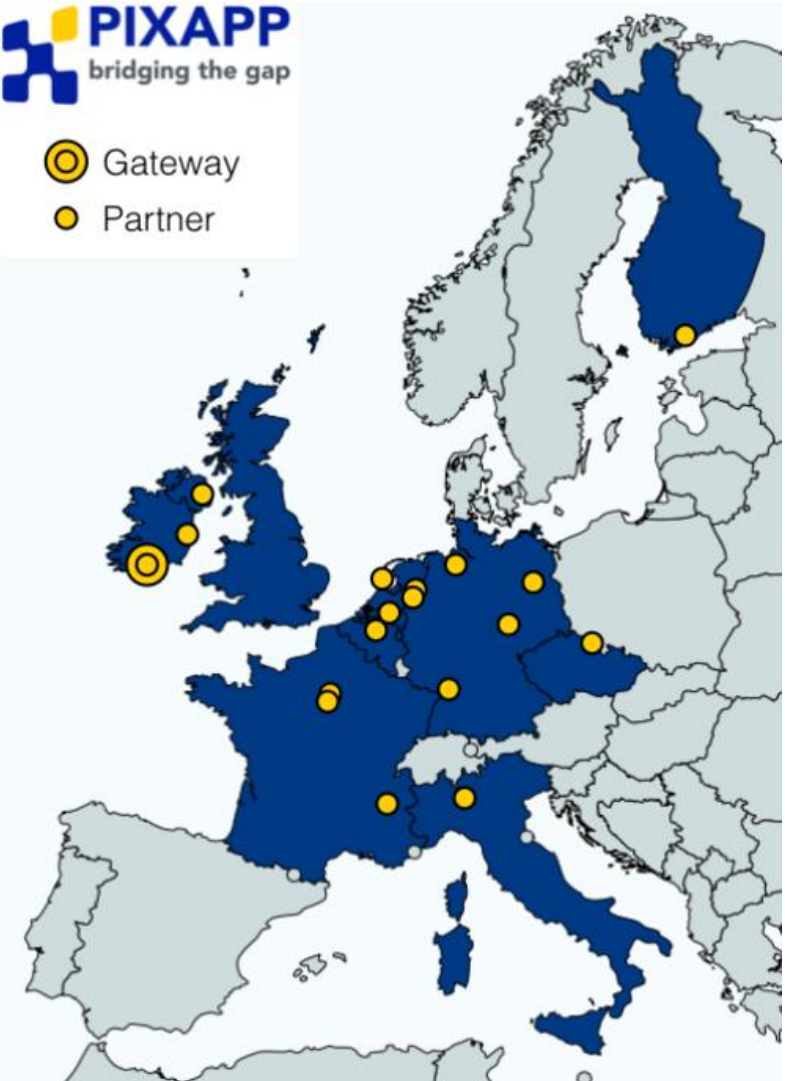




luzwavelabs | THz & Photonics

- Design of custom drive electronics for LIDAR emitters – discrete and ASIC.
- OEM modules for packaged laser and PIC testing.
- Demonstrated temporal extinction ratios of 60dB for ToF LIDAR measurements with 2ns pulse width using standard Eblana 1550nm DM laser.





A grid of logos for various organizations involved in PIXAPP:

- Tyndall National Institute
- imec
- RANDOX
- Argotech
- LINKRA Networks
- KIT Karlsruhe Institute of Technology
- EPIC European Photonics Industry Consortium
- PhoeniX Software Solutions for Micro and Nano Technologies
- III-V lab
- microfluidic ChipShop
- TU/e
- cea leti
- eblanaphotonics
- Technobis group
- XiO photonics Excellence in integrated optics
- ficONTEC micro assembly machines
- VTT
- Fraunhofer Heinrich Hertz Institute

Why work with Eblana?

Small team mainly focused on design - ability to respond with agility to customer requirements, but with the ability to scale.

What are we looking for?

Partnerships with LIDAR sensor builders working in the 1550nm window, looking for a flexible and responsive partner.

This presentation was presented at EPIC Meeting on LIDAR Technologies for Automotive 2019

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