



Your Research Partner for Photonics Solutions

CENTRE FOR  
ADVANCED PHOTONICS  
& PROCESS ANALYSIS

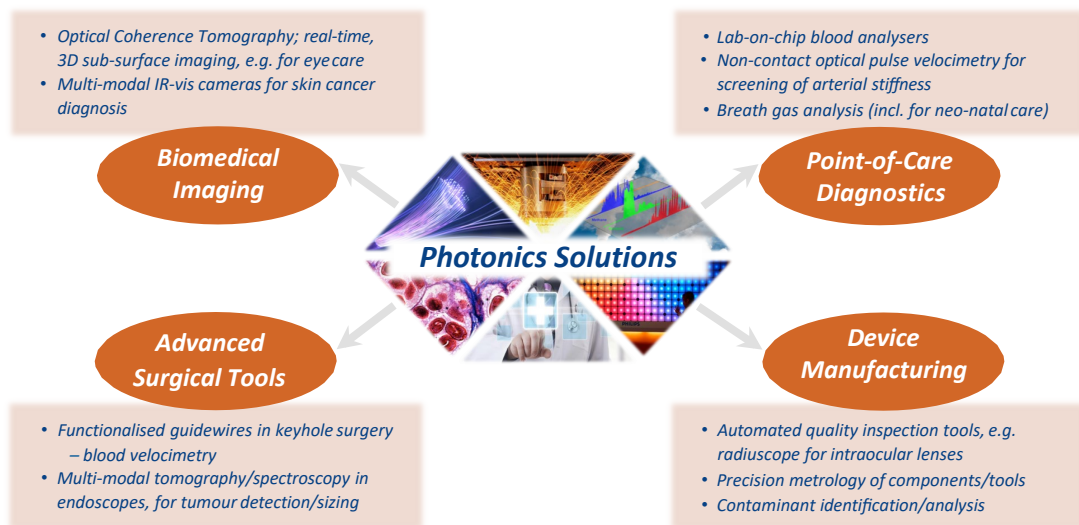
CAPPA

Innovation Through Light

## Photonics for Medical Devices

### Application Case Study

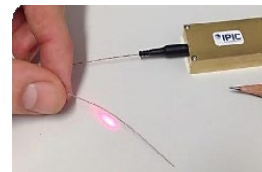
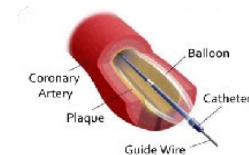
Ireland is one of the leading manufacturing hubs for medical devices: 17 of the top 25 global companies have a base here. The sector employs over 25,000 people nationally, and exports €8 billion worth of medical products annually to over 100 countries. Biophotonics technologies are a key enabler for the current drive towards preventative medicine and personalised ("home health") care.



### Industry Case Study: In-Vivo Blood Flow Measurement

A multi-national manufacturer of surgical guidewires, **Lake Region Medical**, joined the **IPIC Research Centre** on a project to functionalise their guidewires. These are thin, flexible wires used in minimally invasive surgery, introduced initially to define the path to target. Larger items such as catheters are then inserted over the guidewire and guided to the target area.

CAPPA and the Photonics Packaging Group at Tyndall National Institute incorporated an ultra-fine optical fibre within the guidewire, and successfully used it to measure blood flow at the tip via Doppler velocimetry. The company demonstrated the module at TCT 2014, the world's largest interventional cardiovascular conference.



The IPIC side-fire module



**MTU**

Ollscoil Teicneolaíochta na Mumhan  
Munster Technological University

Web: [www.cappa.ie](http://www.cappa.ie) Email: [cappa@cit.ie](mailto:cappa@cit.ie) Twitter @cappa\_ie Phone: +353 21 433 5338

Post: CREATE Building, Munster Technological University, Bishopstown, Cork, Ireland, T12 P928

**TECHNOLOGY GATEWAYS**  
delivering solutions for industry  
an Enterprise Ireland network

**ENTERPRISE IRELAND**