

# **Overview of Capabilities**

### **CAPPA Provides Photonic Solutions for:**

Research	<ul> <li>Semiconductor Light Sources</li> <li>Dynamics of Complex Systems</li> <li>Interaction between Light &amp; Materials</li> </ul>	
Product Development	<ul> <li>New Semiconductor Materials &amp; Devices</li> <li>Optical Test Equipment</li> <li>Illumination for Industrial Applications</li> </ul>	
Process Improvement	<ul> <li>Applied Spectroscopy for Process Control</li> <li>Advanced Inspection Technologies</li> <li>Analysis of Products &amp; Processes</li> </ul>	
Consultancy	<ul> <li>Wide Array of Contract Services</li> <li>Imaging: Optical, SEM, Surface Profiling</li> <li>Identification: UV to IR, Mass Spec.</li> </ul>	2°°°°°

Rialtas na hÉireann

# **Material Properties**

- Optical: UV-Vis, NIR, FT-IR, Raman, THz
- Mass Spectrometry: LC & ICP-MS
- X-Ray: Energy Dispersive Spectroscopy
- Particle Sizing: Laser Diffraction & Imaging
- Physical: Tensile testing

#### Imaging

- Optical: BF, DF, DIC & Fluorescence
- SEM: Large chamber environmental
- Chemical: Raman & FT-IR Imaging
- Surface Profiling: Contact Profilometry

## Design & Prototyping

- Optical design: Illumination, Fibre Coupling
- Device Simulation & Modelling
- 3D Print fast prototyping
- Equipment Control Software & Interfacing

## **Photonic Integration**

- Nanophotonic device fabrication
- MEMS/NEMS structures
- Ultrafast (fs) processes characterisation: pump-probe, TRPL

Enterprise Ireland

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