# AMBER, SFI Research Centre for Advanced Materials and BioEngineering Research

AMBER is a dynamic, multidisciplinary partnership between world-leading material scientists, bioengineers and industry. We work collaboratively to address fundamental research questions and create solutions with impact for society in ICT, MedTech, energy and sustainable industrial technologies.

### **Research Areas**

AMBER is built upon an outstanding reputation in research supported by state-of-the-art infrastructure at our Advanced Microscopy Laboratory and Additive Research Laboratory. Our highly ambitious multidisciplinary research programme brings scientists and bioengineers together to work collaboratively in key areas to generate impact for society.

From 2019 – 2025 AMBER will build on the centre's Pillars of Expertise, into 4 fundamental research themes and 5 targeted research areas with industry.

### **Targeted Projects**

| ICT Technologies<br>& Devices | Sustainable<br>Materials &<br>Technologies | Medical Devices |
|-------------------------------|--|-----------------|
| Sensors &<br>Diagnostics      | Industrial<br>Materials &<br>Manufacture   |                 |

#### **Fundamental Research Themes**

| Materials for ICT | Materials for<br>Energy | Materials for<br>Health | Engineered<br>Functional<br>Materials |
|-------------------|-------------------------|-------------------------|---------------------------------------|
|-------------------|-------------------------|-------------------------|---------------------------------------|

### **Underpinning Pillars of Expertise**

| 2D & Emerging    | Modelling &     | Synthesis & |
|------------------|-----------------|-------------|
| Materials        | Theory          | Fabrication |
| Characterisation | Bionengineering |             |

A World Leading SFI Research Centre





### **Facilities**

- > Advanced microscopy and nanofabrication lab
- > Polymer development and characterisation lab
- > Photonics lab
- Clean-room facilities
- Metrology/spectroscopy
- > Additive manufacturing

# **Industry and Commercialisation**

AMBER is focused on driving innovation through excellent science and a vibrant culture of industrial engagement and commercialisation. Together, we contribute a pipeline of highly skilled graduates to the Irish STEM sector, creating jobs and economic growth.

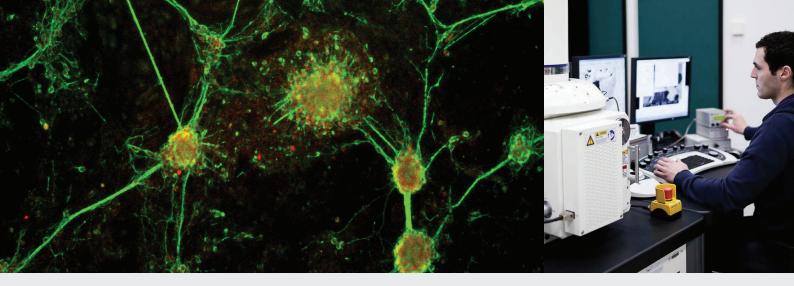
We have over 40 industry partners.

Since 2013 AMBER has grown industry engagement from 18 companies to over 40









# **AMBER Impact**

The outputs of materials science and engineering research are all around us: from wearable health sensors, flexible phone screens and superfast computers, medical devices, drug delivery systems and regenerative medicine, sustainable packaging materials and better energy storage devices.

AMBER's Communication, Education and Public Engagement Programme aims to create dialogue between researchers and publics on materials science and bioengineering and its potential impacts.

From school-going children, young people and educators to policy makers, parents and community groups, our CEPE programme will engage in critical conversations around our work, inspire a new generation of scientists, (bio)engineers, designers and inventors, and ensure that access to the centres research is open to all.

# **Key Contacts**

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# **AMBER, SFI Research Centre** for Advanced Materials and **BioEngineering Research**

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