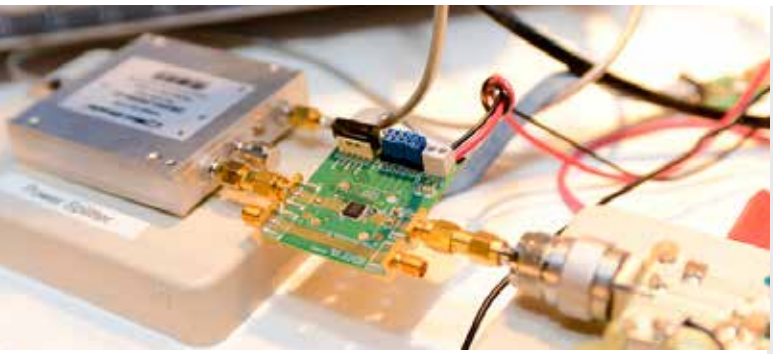
Centre for Future Networks and Communications (CONNECT)

CONNECT is a flagship research centre for communications networking, services, applications and technologies. Its mission is to research, develop and innovate solutions to the communications challenges facing society. New broadband architectures, new cellular technologies and the Internet of Things is at the centre of its work.



CONNECT is co-funded by the Irish government, through SFI, and by industry. It is receiving initial funding of €50 million, which supports 165 researchers. Many of the challenges it aims to address are related to ageing societies, the environment, energy and pollution, the intensification of agriculture, and mass entertainment.

Whether it's connecting small simple Things or big complex Things, we need new ways of rolling out responsive and flexible networks. CONNECT exists to develop these new connections.

Research Areas

- **Future networks, including wireless and optical technologies**
- **Network-aware services and service-aware networks**
- **Responsive Things (key components of the Internet of Things)**
- **Testbed-based experimentation and iterative development**

Research programmes

CONNECT's 165 researchers tackle both significant long-term challenges and nearer-term problems of interest to industry. Their work includes the development of:

- **Energy-efficient ultra-low power smart sensors**
- **Programmable network substrates for multi-stakeholder ecosystems**
- **Extreme-sharing systems for Cloud-RAN architectures**
- **Network-aware reconfigurable multiband/multimode transceiver architectures**
- **Quality-of-experience management for sparse, bursty data networks**

Academic partners

- **Trinity College Dublin**
- **Cork Institute of Technology**
- **Dublin City University**
- **Dublin Institute of Technology**
- **Maynooth University**
- **University College Cork**
- **University College Dublin**
- **University of Limerick**
- **Waterford Institute of Technology**
- **Tyndall National Institute**

Industry and commercialisation

CONNECT works with its industry partners on targeted projects in the areas of Internet of Things, future cellular (5G and beyond), next-generation broadband, software-defined networks and cloud-based services. CONNECT addresses their research needs in a timely and effective manner.

Industry partners include:

- Alcatel Lucent
- Analog Devices
- Arris
- Benetel
- BSkyB
- CISCO
- Decawave
- Digicel
- EMC
- Ericsson
- ESB
- Google
- Huawei
- IBM
- InnaLabs
- Intel
- JCI
- MA-COM
- Movidius
- Natcom
- Nonlinear Systems
- NXP
- ON Semiconductor
- Qualcomm
- Rambus
- RCNx
- Real Wireless
- Rohde & Schwartz
- S3
- Scorpion Networks
- Skyware
- Socowave
- Synopsys
- Taoglas
- UTRC
- Xilinx

Facilities

- **Ireland's largest public data centre**
- **Pan-Ireland network connecting research partners**
- **Indoor/outdoor wireless testbeds for cellular, Cloud-RAN and SDR**
- **Internet of Things testbeds**

Key Contacts

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Linda Doyle is Professor of Engineering and The Arts in Trinity College Dublin and is a fellow of Trinity. She is the director of CONNECT and was the director of CTVR (which preceded CONNECT) since 2009. Her expertise is in wireless communications, cognitive radio, reconfigurable networks, spectrum management and creative arts practices, and she has published widely in these domains. She is active in policy and outreach work, both in Ireland and internationally.

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DIT Dublin Institute of Technology
Maynooth University, National University of Ireland Maynooth
UCC University College Cork, Ireland, Coláiste na hOllscoile Corcaigh
UCD Dublin
University of Limerick, Ollscoil Luimnigh
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