

Shaping the Future Internet

The TSSG is an internationally recognised centre of excellence for ICT research and innovation, we carry out a wide spectrum of industry-informed research in Information and Communications Technologies (ICT).

Our core expertise addresses usability, flexibility, trust and security of communication systems, incorporating innovative services, network infrastructure and social media. We create economic impact by translating our knowledge base and innovation into leading edge products and services, and by continuing our engagement with Industry in collaborative R&D, knowledge generation and transfer.

Since our foundation in 1996, we have become an important catalyst for driving economic change in the South East region, transforming brilliant research ideas into start-up companies, the TSSG has worked with over 90 Irish companies to improve their competitiveness through problem solving, knowledge transfer and technology development.



■ TSSG Building - TSSG, Waterford Institute of Technology, West Campus, Carriganore, Co. Waterford, Ireland.



Future

TSSG is also actively engaged in steering the Future Internet agenda in Europe, and is a partner and member of many European technology platforms and strategic groups of Industry collaborators, including Future Internet Assembly (FIA); ETSI, the Industry Specification Group on Identity and Access Management; TiDI, Trust in the Digital Life initiative; EP3R, European Public-Private Partnership for Resilience. TSSG is the only Irish representative holding a leading position on the steering boards of the Net!Works and NEM European Technology Platforms.

The TSSG was formed as part of the Waterford Institute of Technology, and was co-founded in 1996 by Dr. Willie Donnelly, Eamonn deLeastar and Dr. Micheál Ó Foghlú. Barry Downes joined the promoters to create the TSSG Innovation and Commercialisation centre in 2006.

Students

TSSG refocused its graduate programme on PhDs in 2002 and has graduated 28 MSc (research) and 5 PhD students to date.

The current cohort of 17 Ph.D. students has an expected graduation rate of 5 graduates per year for the next four years. TSSG, together with Waterford Institute of Technology has offered, since September 2004, a taught MSc in Computing, specialising in Communications Software, with a thematic research focus on communications management, service development, security and new developments in ubiquitous and pervasive computing. This programme has since graduated 50 students.

Vision

To provide a world class Innovation ecosystem combining research and innovation in Information and Communications Technologies (ICT) that delivers scientific, cultural, social and economic impact. The TSSG's vision is to leverage science and innovation by addressing usability, flexibility, trust and security of communication systems, incorporating innovative services, network infrastructure and social media to help improve the competitiveness of Ireland. We are helping drive innovation in business and in research.

"We know how to win EU funds for Ireland and co-ordinate international projects but, most importantly, we know how to produce commercially exploitable results."
– Kevin Doolin, Chief Engineer.

Research

Our research teams comprise some of Ireland's leading telecommunications and software researchers, experts, and engineers; this knowledge and expertise has enabled us to work with academic and industry leaders from around the globe.

Our industry collaborators include Nokia, Ericsson, Nokia Siemens Networks and Alcatel-Lucent – as well as Tier 1 operators including Telefónica/O2, T-Mobile, Telecom Italia, Vodafone, Telenor Group, Portugal Telecom and many more.

Ranked as one of the top 10 research organisations shaping 'Future Internet' research by the European Commission, we are currently the only Irish academic leading a large FP7 ICT project.

TSSG research projects are undertaken across core Research Units (RU) relating to a range of research themes, including:

- **Bio-Inspired Networking** - investigating a number of biological mechanisms and processes for communication networks, infrastructure, smart grids and green systems of the future.
- **Data Mining & Social Computing** - Researching the full data analysis life cycle data gathering, data cleaning and warehousing through to modelling and presentation of results. Social Computing investigates methods for modelling social behaviour through computational systems.
- **3MT** - Full lifecycle of integrated services, Inter-discipline service management research, Cognitive mechanisms, Federation, Virtual infrastructure & Cloud Computing
- **Security** - Distributed trust and reputation management, Access control for secure services, Identity, Privacy and Data Protection technologies, Service policy continuity, Coordination of national/international research and policy aspects of trust and security, protection of critical infrastructures.



Innovation & Commercialisation



Over the past 5 years, the TSSG Innovation and Commercialisation Centre (TICC) has created over 11 spin-out/start-up companies and worked with over 90 Irish companies to improve their competitiveness through problem solving, knowledge transfer and technology development via R&D projects.

The TSSG has created many high-tech research jobs through its commercial work, and has helped create jobs within start up companies it has created. Our research has attracted expatriates to return to Ireland, and has inspired the best and brightest global foreign nationals to live and work in Ireland.

Companies that enter into strategic partnerships with the TSSG gain access to world-class knowledge, expertise, resources, staff, research, technologies and facilities. We encourage intellectual exchange, technology transfer and long lasting, mutually beneficial relationships.

"We deliver leading edge research and consulting to Irish companies and international multinationals located in Ireland".

– Barry Downes, Executive Director Innovation & Commercialisation

Contact us



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TSSG

in association with:



Waterford Institute of Technology
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SCIENTIFIC RESEARCH
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HIGHER EDUCATION
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AN tUachtarán um Ard-Éidíochas



Ireland's EU Structural Funds
Programmes 2007-2013
Co-funded by the Irish Government
and the European Union



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ENTERPRISE
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SEVENTH FRAMEWORK
PROGRAMME