

Promoting Research & Development in Ireland

*“Ireland is now competing at the forefront of research in
science & technology”*

Erich Bloch

Former Director, U.S. National Science Foundation

Introduction

IRELAND

- **1200 multinationals**
- **14 of 15 Pharmaceutical/Biopharma companies located here**
- **Worlds largest Biotech Manufacturing facility (€1.3bn) under construction by Wyeth**
- **Most of worlds leading IT companies have operations in Ireland i.e IBM, HP, Compaq, Dell, Apple, Ericsson, Motorola, Xerox and Xilinx**
- **Intel's only European manufacturing facility (investment of €3.2bn/4200 employees)**
- **Largest exporter of software**
- **Microsoft, Oracle, Sun, Symantec**

Government Focus

- **Creation of an innovation knowledge based economy**
- **To establish Ireland as a Centre of Excellence**
- **Development of significant R&D capability**
- **€2.5bn programme of investment in R&D, as part of “National Development Plan”:**
 - **Development of Research capability in 3rd Level Institutions**
 - **Establishment of Science Foundation Ireland €650m budget**
 - **Support for Corporate Research**

Research Capability in 3rd Level Institutions

Main Research Centres in Biotechnology

Collaborative Research

Dublin Molecular Medicine Center

(Trinity College, University College Dublin & Royal College of Surgeons, Ireland)

Dublin City University (DCU)

- National Cell & Tissue Culture Centre
- National Institute for Cellular Biotechnology

Trinity College Dublin (TCD)

- Panoz Institute
- Moyne Institute of Preventative Medicine
- Centre for Bio-Engineering
- National Pharmaceutical Biotechnology Centre

University College Cork (UCC)

- Bioscience Institute
- National Food Biotechnology Centre

University College Dublin (UCD)

- Conway Institute for Biomolecular & Biomedical Research
- National Agriculture & Veterinary Biotech Centre

Royal College of Surgeons (RCSI)

- Institute of Biopharmaceutical Sciences
- Biopharmaceutical Sciences Network (BSN)

National University of Ireland (Galway) NUIG

- National Diagnostics Centre
- National Centre for Biomedical Engineering Science

National University of Ireland Maynooth (NUIM)

- Institute for Bioengineering and Agroecology
- Institute for Immunology

Athlone Institute of Technology (AIT)

- Centre for Biopolymer and Biomolecular Research

Research Capability in 3rd Level Institutions

Main Research Centres in ICT

National Microelectronics Research Centre (NMRC)

- Nanotechnology
- Photonics
- Microtechnologies
- ICT/Bio

University College Cork (UCC)

- Boole Centre for Research in Informatics
- Cork Constraint Computer Centre

Trinity College Dublin (TCD)

- O'Reilly Institute for Communications & Advanced Technology
- SFI Nanoscience Laboratory

University College Dublin (UCD)

- Smart Media Institute
- Digital Signal Processing Research Group

Dublin City University (DCU)

- National Centre for Plasma Science & Technology
- National Centre for Sensor Research
- Research Institute for Networks & Communications Engineering (RINCE)

National University of Ireland Galway (NUIG)

- Digital Enterprise Research Institute
- National Centre for Laser Applications
- Advanced Photonics Group
- Communications & Signal Processing Unit

University of Limerick (UL)

- Software Development Research Group
- Adaptive Systems Group
- Interaction Design Centre

Waterford Institute of Technology

- Telecommunications Software & Systems Group

SFI Funding Programmes

SFI Funding Programmes

www.sfi.ie

SFI Centres for Science, Engineering & Technology (CSET) Campus-Industry Partnerships

SFI Fellow Awards

SFI Investigator Programme Grants

E.T.S. Walton Visitor Awards

SFI Workshop & Conference Grants

CSET Projects Approved by SFI

BIOTECHNOLOGY

The National Centre for Human Proteomics - Royal College of Surgeons in Ireland

Under the Directorship of biologist, Dr. Dolores Cahill (relocating from Max Plank Institute) and in partnership with Servier a €13.5 million award to specialise in technologies to treat cardiovascular disease.

The Alimentary Pharmabiotic Centre - University College Cork

Under the Directorship of biologist and clinical scientist, Prof. Fergus Shanahan and in partnership with Procter and Gamble a €16.5 million award to research drug treatments and pharmaceutical products in treatments including Crohn's disease and irritable bowel syndrome.

INFORMATION COMMUNICATIONS TECHNOLOGY

The Digital Enterprise Research Centre - NUI Galway

Under the Directorship of Prof. Dieter Fensel and in partnership with HP and Univ. of Innsbruck a €12 million award to carry out research in semantic web technologies in the areas of information retrieval and personal web applications.

Examples of Science Research Projects - Funded by SFI

BIOTECHNOLOGY

- *Prof. Suzi Jarvis*
From: National Institute of Advanced Industrial Science, Japan
To: Trinity College Dublin
Research Programme: The function of nanoscale complex systems
- *Dr. Kevin Mitchell*
From: Stanford University, USA
To: Trinity College, Dublin
Research Programme: A Molecular genetic approach to Elucidate Brain Wiring Mechanisms
- *Prof. Lothar Steidler*
From: Flanders Inter-University Institute for Biotechnology
To: University College Cork
Research Programme: Study of elements controlling human interleukin-10 expression and secretion in the probiotic "Lactobacillus salivarius UCC 118" and pre-clinical evaluation in inflammatory bowel disease

Examples of Science Research Projects - Funded by SFI

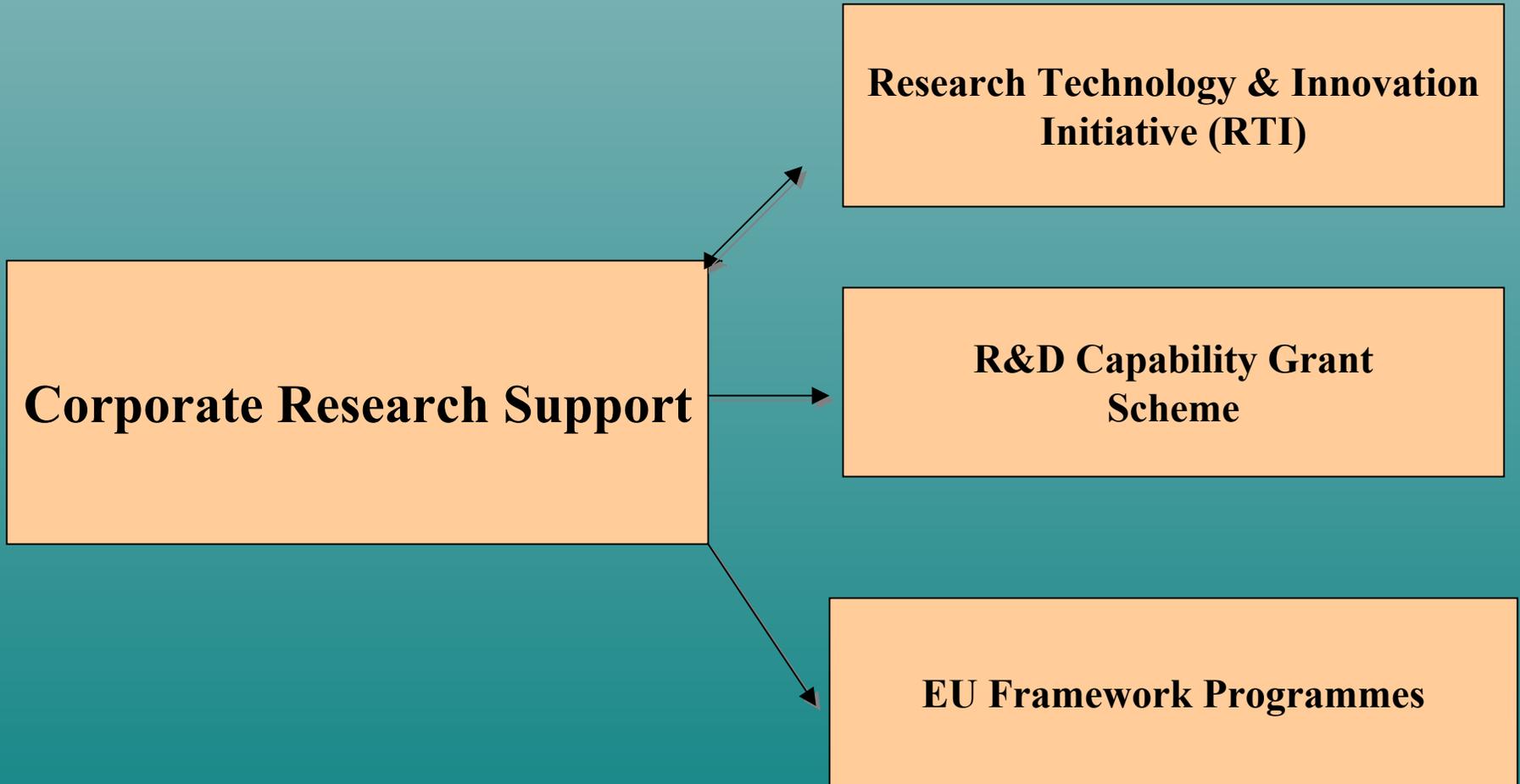
INFORMATION & COMMUNICATIONS TECHNOLOGY

- *Prof. David Lorge Parnas*
From McMaster University, Canada
To: University of Limerick
Research Programme: Mathematical Foundations, Practical Notations, and Tools for Reliable Flexible Software

- *Dr. Chris Dainty*
From: Imperial College, London
To: National University, Galway
Research Programme: Advanced Techniques of Optical Imaging and their Application in Biomedicine and Information Technology

- *Prof. John Pethica*
From: Univeristy of Oxford, London
To: Trinity College, Dublin
Research programme: Nanostructures and Molecule Mechanics.

Corporate Research Support



Examples of Corporate Research

Biotechnology

➤ Schering-Plough

Centre of Excellence in Development of Key Blockbuster Products

➤ Bristol-Myers Squibb

Innovative Process Development on Early Stage New Drugs in Clinical Trials

➤ Wyeth

Wyeth BioPharma Campus with a drug development facility, a drug substance facility, and a drug product facility.

➤ Henkel-Loctite

Strategic Centre of R&D with European responsibility for development of products

➤ Boston Scientific

Research & Development In Cardiovascular Products

➤ Medtronic

Research & Development in Cardiovascular Products

Examples of Corporate Research

Information Communications Technologies

- **Intel**
Two R&D centres in Networking, comms and web systems
- **Hewlett Packard**
Software development centre
- **Xilinx**
Integrated Circuit Design Capabilities and New Product Development
- **Motorola**
Development of GSM Software & Radio Frequency Technology
- **Nortel Networks**
Global Research & Development Centre for Computer Telephony Integration
- **Ericsson**
Strategic Product Design & Service Hub
- **Philips - Silicon & Software Systems (S3)**
Integrated Circuit and Communications Design Activities for Philips Global

Why Ireland

- **Highly developed educational base with demonstrated academic and applied research capabilities.**
- **Strong Government commitment to research and technology.**
- **Demonstrated track record in assisting global companies to grow and prosper.**
- **Direct R&D cost advantages associated with lower operating costs, flexibility and innovation from a highly educated people.**
- **Significant Government funding available for Industry related research and for academic and joint research programmes.**
- **Strong links between Industry, 3rd Level Institutions, European Universities and EU Institutions.**
- **Royalty Patent income is tax exempt for Corporates and Individuals on R&D undertaken in Ireland.**
- **State support from SFI and IDA in establishing research activity in Ireland**