



# The QUESTOR Centre

An International Industry/University  
Cooperative Research Centre for  
Environmental Research & Development



## Partner Institutions

Queen's University Belfast

Dublin City University

Stevens Institute of Technology



# Mission

“To become an international multi-university Centre with an network of academic partners and member companies and organisations”



# Potential Academic Partners

- Dalhousie University, Halifax, Nova Scotia (Canada)
- University of Massachusetts Lowell (US)
- University of Queensland (Australia)
- University of Duisburg – Essen (Germany)



# General Information

- Founded in 1989
- The only Centre outside the US to be part of the National Science Foundation's (NSF) Programme for Industry/University Co-operative Research Centres (I/UCRCs)
- The I/UCRC concept is a highly successful model developed by the NSF where more than 50 such Centres have been operating in the US for 20 years
- Key Activity
  - *Application focussed multi-discipline environmental research with a clear emphasis on technology transfer and commercialisation*



# Milestones

- 1989 QUESTOR Centre Founded in Queen's University Belfast
- 1992 IRTU STRIDE Grant (O.71M)
- 1995 IRTU TDP Grant (£2.74M)
- 1996 IFI TAP Grant (£1.05M)
- 1997 Awarded Queen's Anniversary Prize for Higher and Further Education
- 1999 Applied Technology Unit set up
- 2002 QUESTOR Technologies Ltd established
- 2002 SRIF Grant (£2.4M)
- 2002 INI QUESTOR Environmental Tools Programme (£4.2M)
- 2005 Dublin City University becomes a partner institution
- 2006 The Stevens Institute of Technology (US) becomes a partner institution
- 2006 £30M funding to date



# Expertise

- Water & Wastewater Treatment
- Remediation of Contaminated Land & Groundwater
- Waste Management
- Renewable Energy
- Clean Technologies
- Environmental Monitoring & Sensors
- Environmental Modelling
- Environmental Communication



# The QUESTOR Centre Member Companies & Organisations

## ■ Great Britain

- BP
- Environment Agency
- Shell Global Solutions

## ■ United States

- Exxon Mobil Research & Engineering

## ■ Republic of Ireland

- Enva Ireland Ltd
- Schering Plough
- Astellas Ireland Ltd

## ■ Northern Ireland

- Alpha Environmental Group
- Bombardier Aerospace
- Chemvite Ltd
- Coca Cola Bottlers (Ulster) Ltd
- DoE Environment & Heritage Service
- Water Service
- B9 Energy Ltd
- Natural Energies Ireland Ltd



# Project Selection and Reporting

- QUESTOR operates a rolling research programme on behalf of members
- Each project requires a champion from a member company/organisation
- Ideas for new projects developed at IAB meeting in May
- Call for pre-proposals in May
- Full proposals presented to the IAB at November meeting
- Members vote for new project selection
  - Full Members have 20 votes
  - Associate Members have 10 votes
  - SME Members have 5 votes
- Progress reports every 6 months
- Recommendations for technology transfer at completion of each project

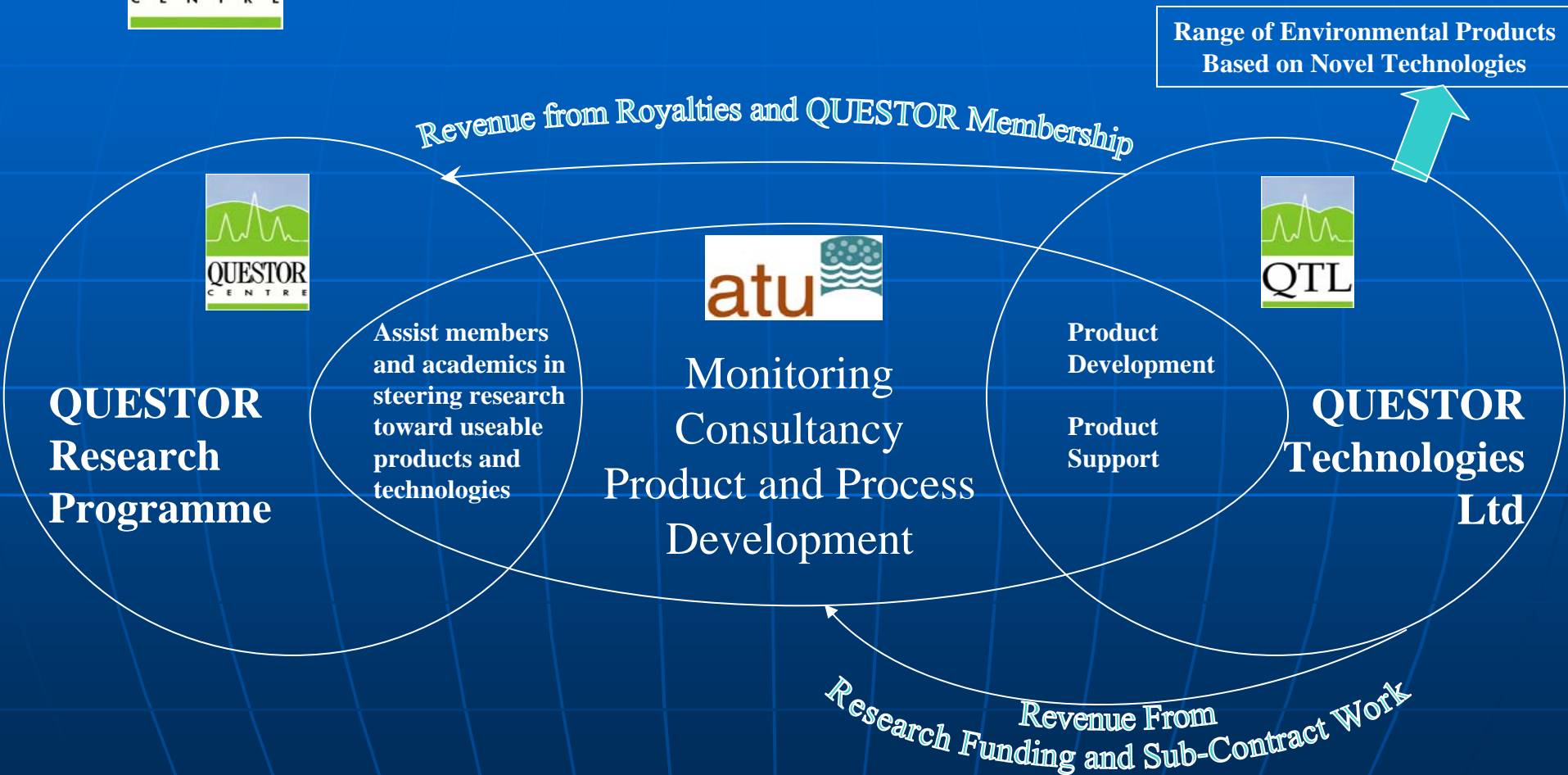


# Technology Transfer & Exploitation

- **Applied Technology Unit (ATU)**
  - Unique group of 12 scientists and engineers with access to QUESTOR facilities
  - Monitoring, technical consultancy, new product and process development
  - Work with members to demonstrate/commercialise technology
- **QUESTOR Technologies Ltd**
  - Established to develop products/processes derived from technologies developed within the QUESTOR Centre



# The QUESTOR Model





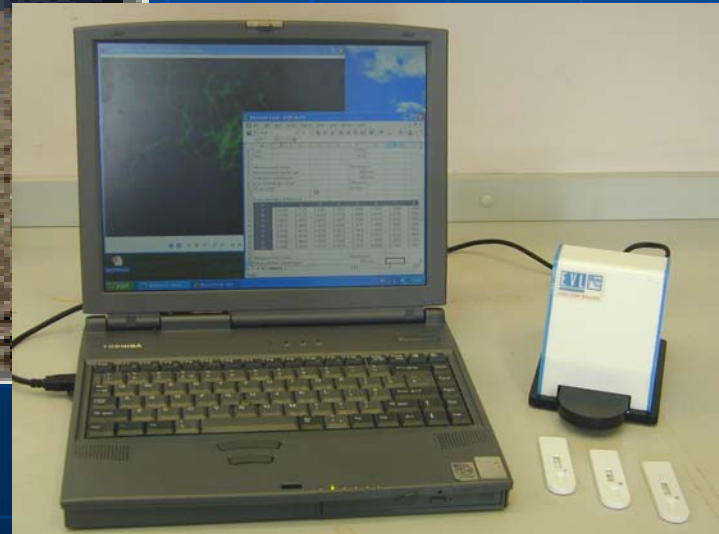
# Enva Ireland Limited

- Based in Cork
  - Water & wastewater treatment
  - Remediation of contaminated sites
  - Hazardous materials
- QUESTOR Member Company
- Trial and potential licensing deal for SLUDGE GUARD Technology



# SLUDGE GUARD

- Early warning/prevention kits for sludge bulking



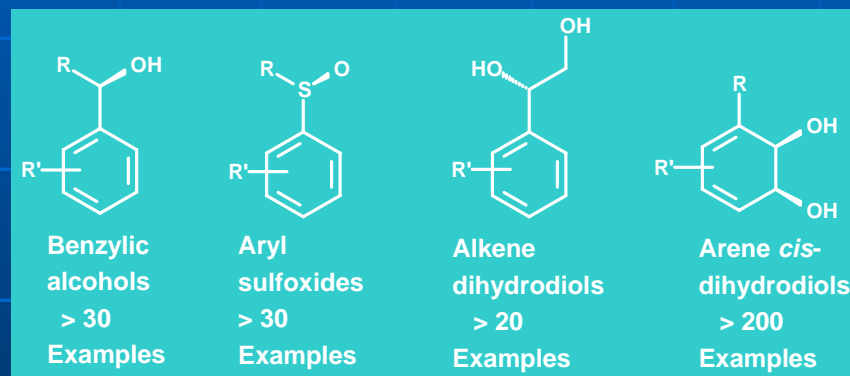


# Celtic Catalysts Limited

- Based in Dublin
- Manufacturer of speciality chemicals for the Pharmaceutical sector
- Spin-out from UCD
- Exclusive profit sharing licensing deal for the sale of cyclic chiral intermediates and their derivatives

# Cyclic Chiral Intermediates

- Developed from a novel biocatalysis process developed within the QUESTOR Centre
- Can provide significant cost reduction for synthesis of a large range of drugs





# Greyhound Recycling & Recovery

- Waste Management company based in Clondalkin, Co. Dublin
- FUSION project with QUESTOR (2005 - 2006) to:
  - Install a pilot plant producing BioDiesel from UCO
  - Design a full scale plant for production of Biodiesel in Clondalkin



# MOT Relief Scheme

- Mineral Oil Tax Relief Scheme
- Announced in April 2005
- Greyhound awarded MOT tax relief
  - 2005 - 50,000 Litres
  - 2006 - 200,000 Litres
  - 2007 - 950,000 Litres



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