

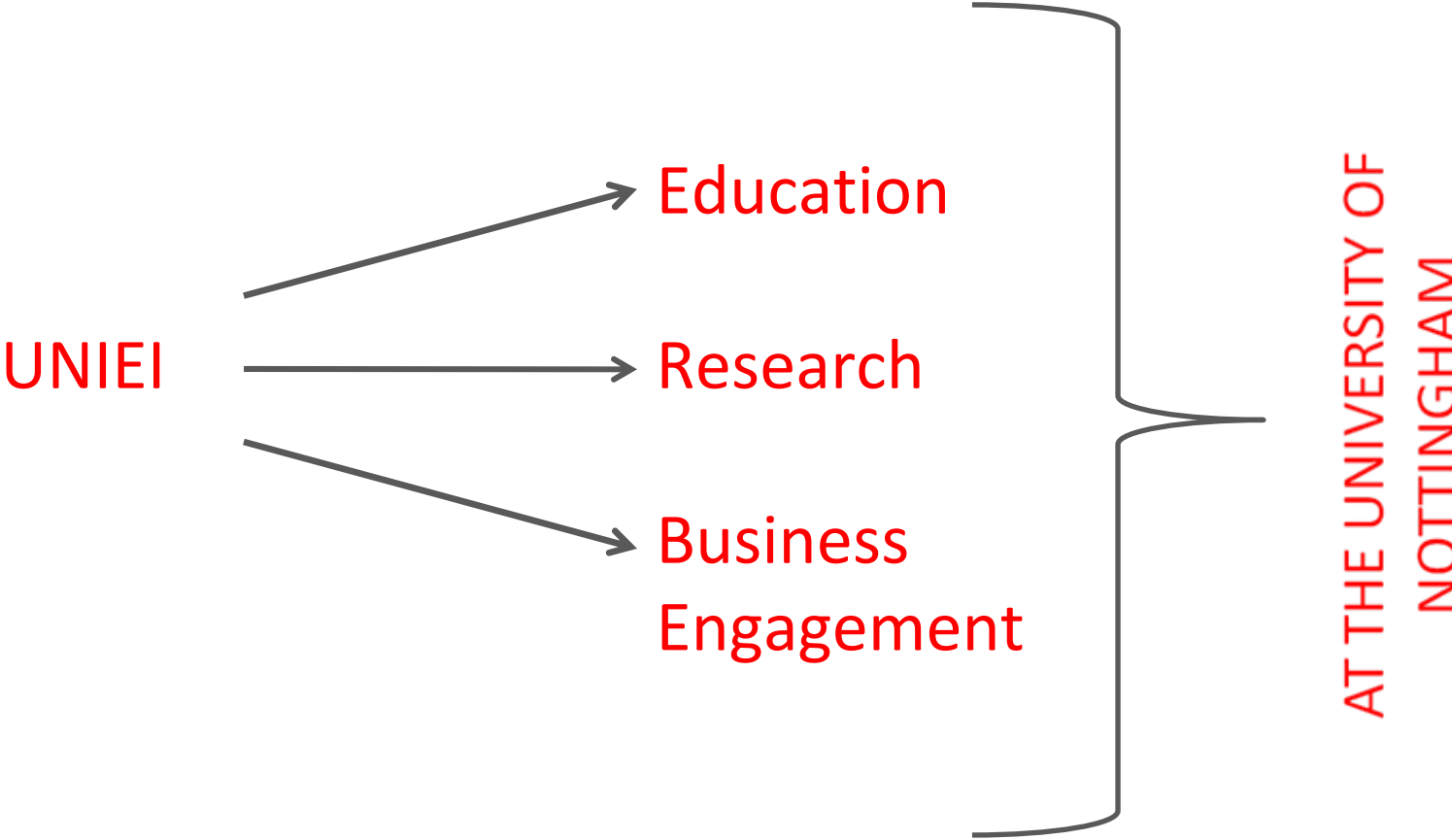


# Teaching Entrepreneurship & Innovation at the University of Nottingham

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# Institute for Enterprise and Innovation



# Education – scale and scope

- Undergraduate
  - Evolution from extra curricula to optional modules to core modules across 3 international campuses
- Postgraduate
  - Evolution from optional modules to
  - MSc Entrepreneurship, Science and Technology
  - MBA Entrepreneurship
  - 7 Masters programmes with other schools
  - Researcher training



# Undergraduate Teaching

- 1<sup>st</sup> Year - 'Entrepreneurship and Business'
  - Business ~700, Engineers ~30 students
  - (China – 650, Malaysia – 250)
- 2<sup>nd</sup> Year - 'New Venture Creation'
  - Business ~450 students
- 3<sup>rd</sup> Year – 'Science, Technology and Business'
  - Business ~20, Scientists ~30, Engineers ~40 students





# STAB - Module Aims

- To give an understanding of the process of commercialising science and technology based innovations.
- Presentations by practitioners
  - Innovation Evaluation & Intellectual Property
  - Business Strategy
  - Marketing
  - Finance
- Developing your own imaginary business.



# STAB - Coursework & Assessment

50% Individual Work

2000 word Essay – Deadline week 4

50% Group work

Business Plan Report – Deadline week 11 (35%)

Presentations the same day (15%)



# STAB - Individual Essay

Choose one of 2 topics:

1. Evaluate the potential for commercialisation of a new technology or scientific invention.
2. Discuss the application of intellectual property law for an invention of your choice.



# STAB - Group Business Plan

1. Form an imaginary company - teams of five
2. Develop an idea for a business based upon a new scientific breakthrough or technological innovation.
3. Write and present a business plan detailing how you will commercialise that idea



# STAB - Business Plan

- A business plan is a selling document to help your new business raise funding
- Where do you get ideas from?
  1. Technological solutions to common problems – ie. ferris wheel bike store
  2. Ways to exploit new technologies – ie. RFID



# STAB - Business Plan

- The team
  - Managing Director
  - Research & Development Director
  - Operations Director
  - Finance Director
  - Commercial & Marketing Director
- Each with specific roles



# STAB - Resources

- Research within your dept
- University spin off companies
- New Scientist
- Nature
- BBCi technology pages
- Focus within first 3 weeks upon essay but also form your business team and think about ideas.



# Postgraduate Offers

- MSc Entrepreneurship
- MSc Chemistry and Entrepreneurship
- MSc Computer Science and Entrepreneurship
- MSc Elec. Engineering and Entrepreneurship
- MSc Sustainable Energy and Entrepreneurship
- MSc Communication and Entrepreneurship



# Common Modules

- Creative Problem Solving
- Finance and Accounting
- Project Management
- Science, Technology, Arts and Business
- Marketing for Entrepreneurs
- **Innovation Management**



# Course Overview

- What is Innovation Management ?
- Paths - exploiting technological trajectories
- Positions - the national and competitive environment
- Processes – how innovation is managed
- Coursework – analysis of innovative firms
  - 30% Group Presentation
  - 70% Individual Report



# Types of Innovation

- To Innovate
  - ‘to make changes by introducing something new’
- Within the business world
  - ‘to make changes that provide a commercial benefit’
- Can take two forms
  - Changes in the things a firm offers (product / service innovation)
  - Changes in the ways in which they are created and delivered (process innovation)
- Sometimes the dividing line is blurred



# Types of Innovation

- Also consider the degree of novelty involved:
- Incremental change
  - The latest Ford Mondeo
- Radical Change
  - The hydrogen fuel cell car
- Transformational Change
  - The flying car



# Innovation Matrix

*Perceived extent of change*

Transformation

Radical

Incremental



Product

Service

Process

*What is Changed*

# The Innovators Dilemma

- Incremental Innovation requires:
  - Close interaction with customers to improve current products
  - Close monitoring of processes to improve quality, speed and costs
- BUT Radical Innovation requires:
  - Picking up weak signals from outside industry
  - Experimentation with new customer groups.



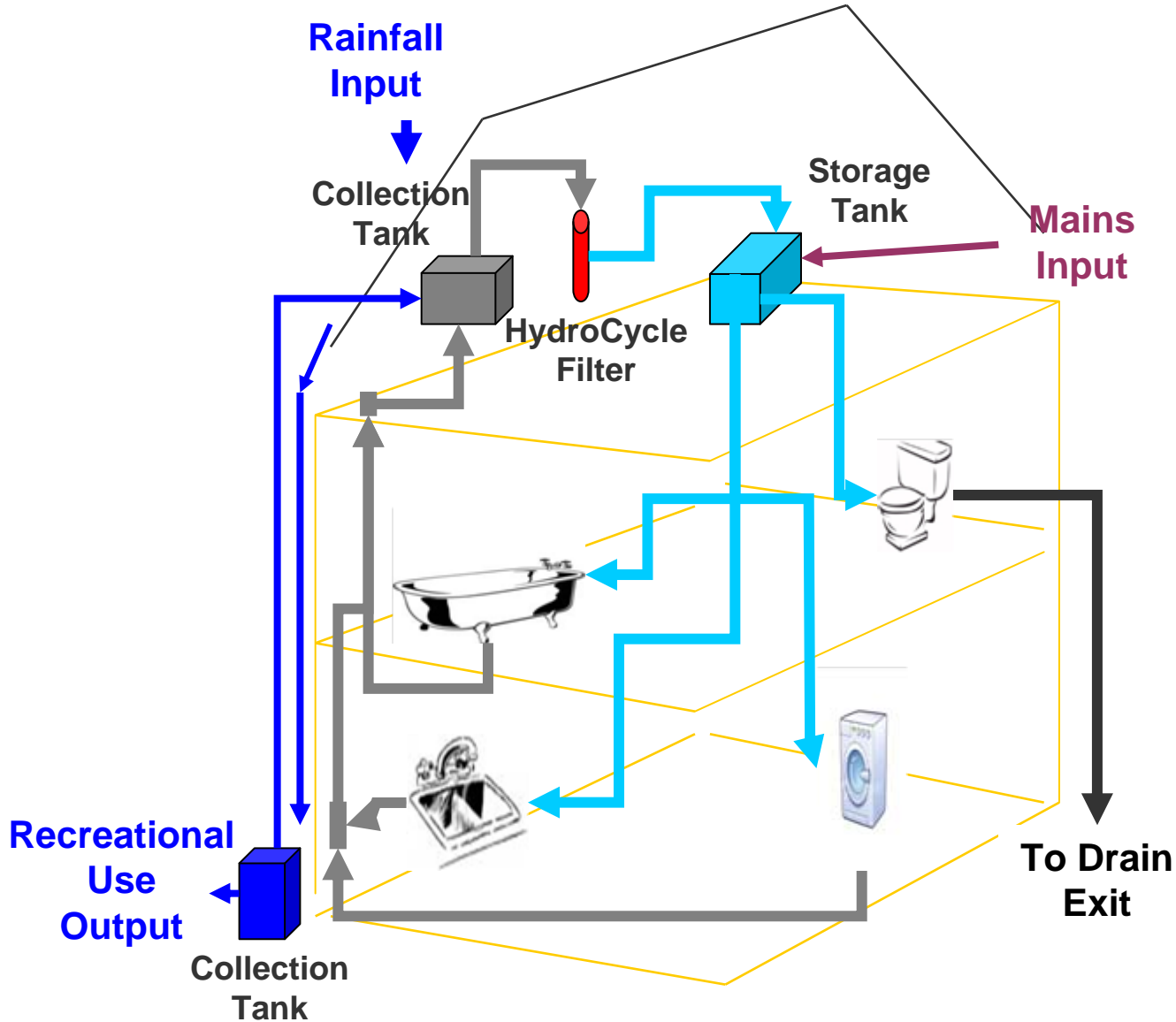
# Researchers Training

- One day offers through the Graduate School:
  - Meet the Entrepreneurs
  - Ingenious Entrepreneurs
- Week long block module:  
**‘Innovation and Technology Transfer’**
  - 20 Doctoral Training Centre Researchers per year:
    - Low Carbon Energy Technologies
    - Ubiquitous Computing





# The HydroCycle System



# Summary

- Providing an integrated offer is key to a sustainable model.
- Optional modules are popular if they:
  - Balance theory and practice
  - Utilise external expertise
- Demand for entrepreneurship and innovation education is growing.
  - Need for scale and scope to meet that demand.

