

**Design
Council**

Design in Practice:

**Integrating design into science
and technology enterprise
education**

Design Council

**To improve prosperity and well-being
in the UK by inspiring and enabling the
best use of design**

Innovation in Manufacturing



Innovation in Manufacturing video



Designers' contributions

User-centred approach

Holistic approach

Working with uncertainties

**Connecting product development to
business strategy**

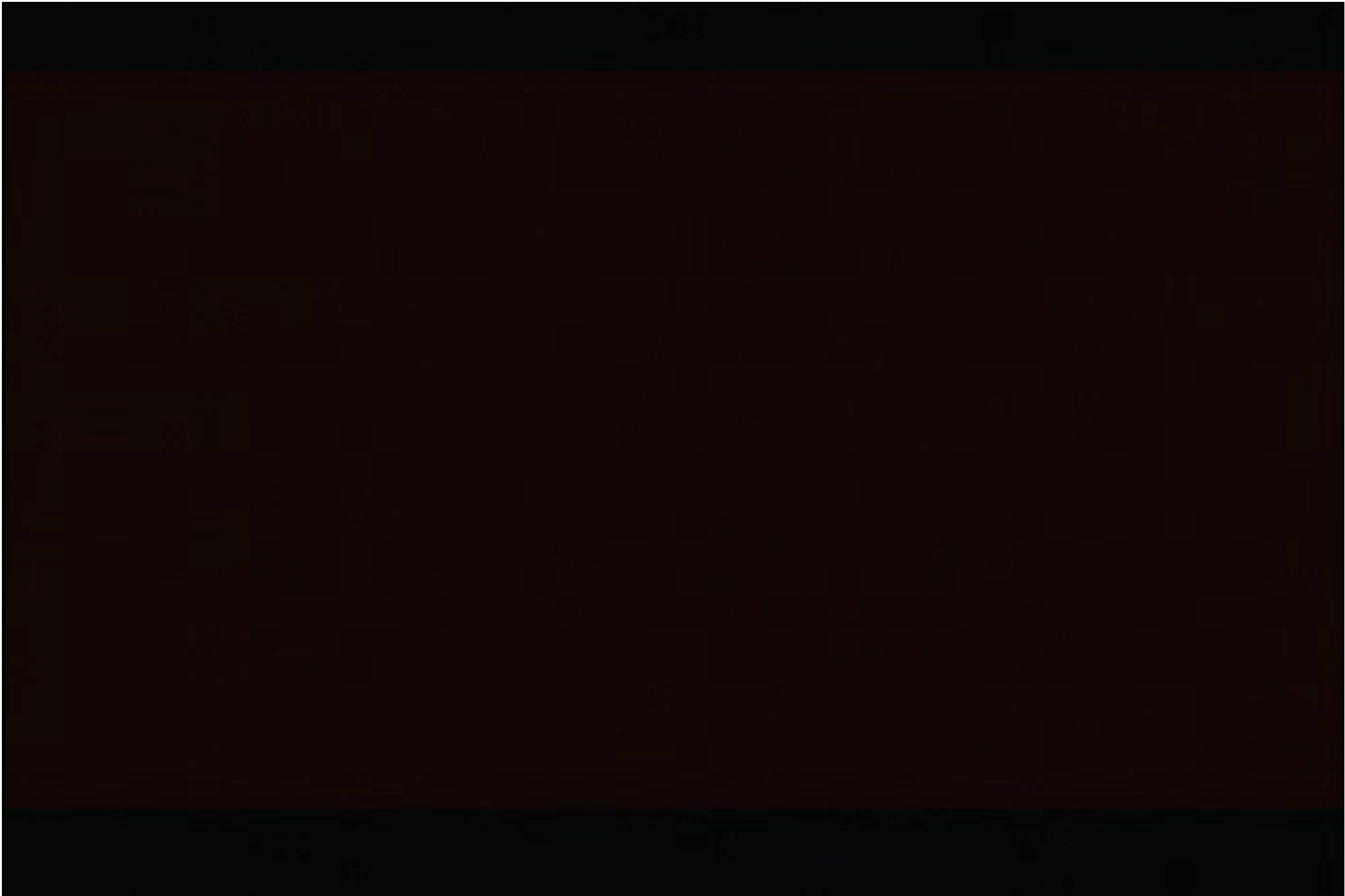
Humanising Technology



Design Council Technology work

**To embed design within the UK's
science base creating deep
innovation, positive economic and
social impact as well as positioning
the UK as a world leader for
scientific and technological
innovation**

Humanising Technology video



Humanising Technology findings



- **Stronger connections to markets**
- **Better management of reputation through branding**
- **Better understanding and mitigation of risk**
- **Stronger, more innovative cultures**

Humanising Technology next steps

- **Pilot with incubation centres in East of England**
- **Development of design programme including training, 'fitness' test and mentoring**

Technology Transfer Project

Pilot project with UCLV

September 2002 – January 2003

**Designers worked with two UCL
projects**

Design opportunities in the technology transfer process

Disclosure

- Communicating the concept to help the research explain the idea
- Developing scenarios that envisage how the technology could be used by end users

Evaluation

- Creating a team through brainstorming and other design methods
- Using 2 and 3-D visual tools to make the IP tangible (and therefore protectable)

Marketing

- Communicating convincingly to potential investors and partners, bringing the technology to life
- Developing tools to allow presentation of the concept in an engaging way

**Legal/
licensing**

- By visualising the possibilities, retaining more upside through better understanding of the value of the IP

**Release
to**

**Post-
license**

- Assisting the researcher in evaluating research direction

Scoping Work

“Students are encouraged to think about the physical principles, design is more an afterthought.”

Design in Science, Technology and Business Education

**Pilot Project: October 2003 – June
2004**



Universities involved

Cambridge University



Imperial College London



UMIST and University of

Manchester



Universities involved

Cambridge Centre for Entrepreneurial

Learn



Imperial College London Entrepreneurship Centre



Manchester Science Enterprise Centre



Pilot Project

**Lectures, presentations, workshops &
tutorials**

**Enterprise modules & business plan
competitions**



Pilot Project

Generating and assessing ideas

User-centred design research

New product development

**Brand design for high-technology
companies**

Pilot Project

Undergraduate and post-graduate students:

Mechanical engineering	Biology	Information Systems
Electrical engineering	Biochemistry	Engineering
Civil engineering	Business	Maths
Computing	Chemical Eng	Medicine
Physics	Chemistry	Materials Science

Faculty and entrepreneurs

Pilot Project

Royal Academy of Engineering

**Visiting Professors – Industrial
Designers**

Projects

Workshops

Course development

Student Feedback

‘Very interesting approach as it was based on "business at work" versus academia’

‘The session helped me understand what to do with ideas’

‘I gained an insight into the design process from a 'designer' which I haven't been able to gain previously’

Student Feedback

‘I learnt a lot about developing products to please the user and how to take the best advantage of research data’

‘I've found [the Design Council input] very useful both for this course and for my Mechanical Engineering projects’

‘The more we can get, the better! Has been eye opening’

Pilot Project: Case Study Imperial College

Design in Science,
Technology and Business
Higher Education

Lecturer Feedback

‘The Design Council contribution has made a tangible difference to the students’ thinking and presentation of their business ideas’

‘...many members of our network could benefit from your expertise’

Issues

**Evaluating the impact of the design
contribution:**

**short term applicability vs long term
relevance**

**Take up of project by Science Enterprise
Centres**

Transferability of project to Science

What next?

Complete pilot project

**Encourage ideas and proposals from the
Science Enterprise Centres**

**Welcome support from other organisations
to develop the work**

**Design
Council**