

Cambridge Weblab: From concept to realisation

The Cambridge Weblab was successfully launched on 8th December 2006 at an opening ceremony attended by more than 50 representatives from industry and universities from across the United Kingdom, Ireland and Germany.

They came to see how cutting edge industrial technology has been made available for the teaching of undergraduates in chemical engineering. This is realised through the use of the internet, which makes the Weblab available to users all over the world, 24 hours a day. Since its inception, this novel educational concept has been steadily gaining momentum and has already been adopted by a number of leading institutions including the Massachusetts Institute of Technology (MIT) and Imperial College London.

The Weblab arose from collaboration between MIT and Cambridge University and was funded by the Cambridge-MIT Institute (CMI). Dr. Markus Kraft, Reader at the Department of Chemical Engineering in Cambridge, and his team from the Computational Modelling Group explored new, web-based methods of teaching by successfully setting up and using internet-accessible equipment.

The Cambridge Weblab consists of a reactor, auxiliary equipment and state-of-the-art industrial process control devices and software. Thanks to the significant contribution of Siemens it was possible to set up the Cambridge Weblab as a fully functional “plant” with monitoring, controlling, and data output performed by a Siemens SIMATIC PCS7 process control system.

Amongst the dignitaries attending the opening ceremony were the Pro-Vice-Chancellor of the University of Cambridge, Prof. Ian Leslie, the Executive Director of the CMI, Prof. Mike Gregory and key representatives from Siemens UK and Germany. These eminent individuals lent their support to this newly forged link between industry and academia. The event culminated with Martin Kremer, Science Director at the German embassy, pressing the button which brought the Weblab to life.

Since it was set up, the equipment has been used at five institutions, the University of Birmingham, Imperial College London, the University of Newcastle, MIT and the University of Cambridge.

The reaction to the project was overwhelming positive as the Principal Investigator Dr. Markus Kraft noted: “I am delighted by the positive feedback the weblab launch received. We feel that this exciting new technology has brought chemical engineering education closer to industrial practice in Cambridge and elsewhere.”

Notes for Editors

1. The Cambridge-MIT Institute was established to explore how academics, industrialists and educators might work together to stimulate competitiveness, productivity and entrepreneurship. As many UK institutions have considerable expertise in knowledge development and exchange, it has collaborated with a wide range of partners. It has sought to make a difference in three main areas:
 - Education for Innovation
 - Knowledge Integration in Research
 - Engaging Industry in Knowledge exchange

It has also developed a better understanding of how to organise and manage complex industrial relationships.

The first phase of The Cambridge-MIT Institute is now complete and the lessons learned are being captured and shared. Its website (www.cambridge-mit.org) provides an introduction to its activities and links to its many partners, projects and initiatives.

The ongoing Cambridge-MIT Partnership will encourage wide participation in the many collaborative activities and communities that have developed and will act as a catalyst for the growing transatlantic academic and industrial community.

2. The Weblabs project has been funded by the Cambridge-MIT Institute (CMI) since 2003. Having arisen from a CMI-sponsored student exchange, Weblabs has furthered that cooperation through the collaboration of Dr Markus Kraft, Reader in Chemical Engineering at the University of Cambridge and Prof Clark Colton, Professor of Chemical Engineering at MIT in taking the Weblabs from concept to realisation.
3. Siemens' Automation & Drives division collaborated in the project by contributing significant industrial state-of-the-art process control equipment and technical support in setting up the equipment.
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