CTM researchers forge links with China and Japan

With the Japanese economy on the road to recovery and China continuing to enjoy rapid growth, the region is proving to be a fertile area for CTM's ideas and research. Here we give details of recent visits by Rob Phaal, David Probert and James Moultrie.

Tokyo symposium focuses on technology transfer

Developing links between universities and industry has been a particular concern of the Japanese government in recent years. This March, for the third successive year, CTM's Director David Probert was invited to present the Centre's work to the Technology Transfer Symposium in Tokyo.

Organised by the Japan Science and Technology Agency, this is a three-day, government-funded event aimed at technology transfer officers who work with universities and industry.

Delegates were particularly interested in the links developed between the University of Cambridge and industry and the methods of encouraging the transfer of technology between the two.

They also gained insights into the CTM approach to technology management and the application of technology roadmapping to research planning and technology exploitation.

Over 100 delegates attended the Symposium, which was followed by a special advanced training programme for 20 selected delegates.

Roadmapping – the Japanese way

The Japan Advanced Institute of Science and Technology (JAIST) hosted a week devoted to technology roadmapping in February, including a two-day industrial course run by CTM.

In addition to running this course, CTM's Rob Phaal contributed to an industry-government seminar, sharing roadmapping best practice in Japan.

There is growing interest in roadmapping in Japan, at both company and government levels. The Japanese government has invested considerable resources in the development of a technology roadmap, covering a range of key strategic research areas. JAIST is working with the Ministry of Economy, Trade and Industry to support the dissemination of this work. www.jaist.ac.jp

Mission looks at the establishment of R&D operations in China

CTM's James Moultrie recently visited China as part of a week-long mission to look at the practicalities of setting up research and development (R&D) operations in China.

While a number of large foreign and local companies have set up successful R&D centres throughout the country, many British business people are unsure about China's R&D environment.

The mission, organised by the China Britain Business Council, conducted around 25 visits in Beijing, Shanghai, Suzhou, Nanjing and Shenzhen.

The organisations visited were chosen to provide a rich overview of science, research and development in China. They included: Regional innovation and science parks; University operated research and development centres and spin-out firms; Government supported research and development centres; R&D departments of overseas firms located in China, and R&D departments of indigenous firms.

A mission report is currently being compiled, which will include a summary of China's recently published 15-year science and innovation plan. To find out more email James at: jm329@cam.ac.uk

Technology intelligence: keeping track of science and technological developments

Representatives from a number of different companies attended a workshop on technology intelligence organised by CTM at Wolfson College, Cambridge. The event was designed to illustrate the Centre's recent findings in this area and provide an opportunity to discuss issues and implications related to the creation of Technology Intelligence capabilities.

Technology Intelligence is the process by which strategic decision makers are kept informed about technology opportunities and threats that could impact their business or require a change in strategy. Companies can respond to such information by setting up bespoke systems according to their specific requirements and capabilities.

Company case studies

Representatives from BT and Xaar presented examples of ways in which their technology intelligence is performed and the choices, challenges and issues relating to their technology intelligence systems.

The newly developed technology intelligence models presented by CTM were well received at the workshop. The theoretical model was illustrated with industrial case studies describing ways to evaluate a company's current capabilities and requirements for technology intelligence.

New project

The research will continue with a new project looking at the development of a system for gathering information about technologies, to be used by multiple stakeholders.

CTOs… do we need them?

While the role of Chief Technology Officer in technology-intensive companies is viewed by many as increasingly important – some boards of management are uncertain about the need for the role or even what exactly its responsibilities should be.

CTM is currently engaged in some pilot work with our European collaborators, the European Institute of Technology and Innovation Management, to explore the various interpretations of the CTO role and the barriers and enablers to its effective deployment.

The work in the UK is being led by Chris van der Hoven of CTM. The methodology that he is developing will be deployed across Europe and on into Japan later this year.

Ultimately we expect to be able to provide practical guidance on the most relevant interpretation of the CTO role under varying organisational conditions. If you are interested in being involved with this work please contact Chris van der Hoven: cv243@cam.ac.uk

First executive training course launched

Building on the success of industrial and post-graduate courses held over the past two years, CTM ran its first executive education course on technology and innovation management in March.

The intensive three-day course was held in the attractive surroundings of Jesus College, Cambridge. It covered CTM's main areas of activity, including:

- an introduction to technology and innovation frameworks
- innovation, new product introduction and creativity
- strategic technology management and intelligence
- the make-or-buy issue
- entrepreneurship and intellectual property

The course involved an unusually large amount of practical activities, including group work, discussion and case studies by invited companies.

The first course was attended by twelve senior managers from a range of sectors, and from both the UK and abroad. Sharing company experiences formed a valuable part of the learning for those participating. It is planned to hold the course again next year, increasing the numbers to about 20.

CTM roadmapping courses continue to be in demand

The demand for technology roadmapping courses is increasing. CTM is running three public training events each year and the Centre is also contributing modules on roadmapping to undergraduate and post-graduate programmes.

The most recent public course in March was oversubscribed. An additional day of informal training and discussions was arranged for three participants from an Australian company, here on their way to Japan.

There is also considerable interest in customised courses delivered within companies. These have been run in the UK and in Hong Kong, Japan, Singapore, South Africa, Thailand and the USA. www.ifm.eng.cam.ac.uk/ctm/events

Technology valuation – companies needed to test new approaches

CTM is looking for companies interested in testing new approaches to technology valuation. This challenging activity is being addressed in a number of different ways by various researchers under the umbrella of the Business Appraisal of Technology Potentials (BATP) project which is due to finish in September 2006.

Industrial involvement

The research group would welcome industrial involvement with the approaches they have developed - see panel right.

There are a range of ways companies can get involved with these techniques including:

- historical case studies of past valuation decisions
- reviews of current practice
- pilot applications of the value roadmapping approach
- using decision tree software to prompt options thinking
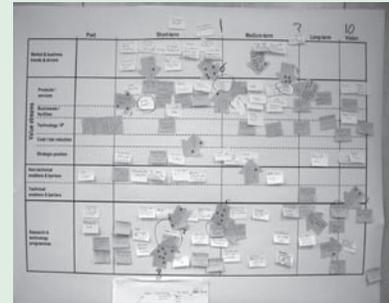- implementation of the value range diagram

We are also interested in running workshops to investigate how best to involve a wider range of functions in the valuation process and how to communicate the outcomes effectively. If you are interested in finding out more please contact Clare Farrukh: cjp2@eng.cam.ac.uk

Examples of some of the new ways to tackle technology valuation…

Tool compendium to support companies tackling valuation problems by giving them access to existing techniques and new, integrated approaches.
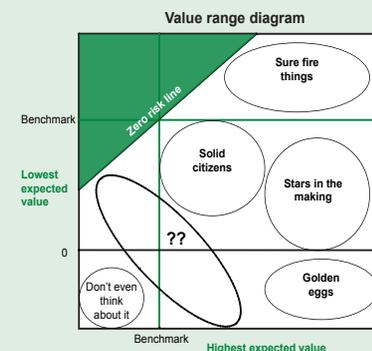
Value based roadmapping – an approach specifically designed for early-stage or technology push applications. This has been tried out in a number of companies, including two university start-ups and two large companies, with more applications planned in the UK and Spain.

Quantitative approaches – visualising value as a range not a point estimate; methods of estimating data for input into models.

Value range diagram

Tim helps Design Council project supporting technology start-ups

CTM researcher Tim Minshall (right) recently completed a one-year appointment with the UK's Design Council as part of a special project supporting the growth of technology-based start-ups through the use of design.

The project, called the Technology Campaign, is one of a series of campaigns run by the Design Council to accelerate innovation and transformation in industry. Having successfully completed regional pilot programmes, the project will now be rolled-out nationally.

Tim, whose research interests include technology entrepreneurship, was a member of the Technology Campaign Expert Board. The Board brought together representatives of the venture capital, technology transfer, incubation and business support communities to provide guidance to the Design Council through a series of workshops. These have led to:

- clarification of the strategy for the transfer from pilot to national programme

- design of more user-focused support channels
- integration of these activities with other forms of support from the Design Council for small firms

The Design Council is the UK's national strategic body for design. It aims to strengthen and support the economy and society by demonstrating and promoting the vital role of design in making businesses more competitive and public services more effective. For further information on its work see: www.designcouncil.org.uk

Technology management research at Cambridge

- Good design practice
- New product introduction collaboration
- Strategic technology management
- R&D project selection
- Software sourcing in manufacturing
- Product planning
- Enhancing creativity in new product development
- Technology management: a process approach
- Technology selection

- Technology evolution in hi-tech firms
- Innovation management in hi-tech firms
- Technology management in software production
- Technology scanning and intelligence
- Strategic make-or-buy
- Industrial make-or-buy decisions
- Sustainability and knowledge management
- Technology valuation
- Technology foresight

Technology Management Symposium will focus on creativity and innovation

This year's Technology Management Symposium will be on September 21-22 in Downing College, Cambridge. Entitled 'Create, design, innovate: Enhancing business performance', it will feature key speakers from the Design Council, BMW, Motorola and many other leading companies.

As usual the Symposium will include recent research findings and provide a great networking opportunity. Further details of the event, including a downloadable booking form, can be found on the Symposium website at: www.ifm.eng.cam.ac.uk/ctm/symposium

Book early to avoid disappointment! E-mail Jo Griffiths at: jg393@eng.cam.ac.uk

CTM research students organise annual workshop on research methods

Research students from CTM organised the 13th annual Research Methodology Workshop in March.

The participants – PhD students from 12 different Universities – had the opportunity to discuss different research approaches as well as network with staff and students from other institutions and disciplines.

The 2-day event is held in Cambridge and sponsored by the Engineering and Physical Sciences Research Council. It has proved to be a valuable way to build links between members of the research community throughout the UK.

The workshop was well received with nearly all attendees saying they will be returning next year.

People on the move at CTM

There have been a number of changes at CTM in the last three months.

Dr Simone Ferriani (right) and Dr Erik Stam (below) have joined us to work on the Innovation and Productivity Grand Challenge project.

Pete Fraser has left the IfM after seven years as an Industrial Research Fellow. Visiting Scholar Thomas Stehle has also left CTM to return to Munich.

CTM's Administrator Geraldine Guceri is now on maternity leave. Geraldine is expecting her second child in May. We welcome Jayne Riley who is looking after CTM during her absence.

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June		
14-15	*Strategic roadmapping*	Two-day workshop New Hall, Cambridge
July		
12	*Sourcing software for products*	Half-day workshop Wolfson College, Cambridge
Sept		
21-22	*Create, design, innovate: Enhancing business performance*	Technology Management Symposium Downing College, Cambridge