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IfM Roadmapping Newsletter

Autumn 2011

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Australia on track to 2040

IfM has been collaborating with ANU Edge, to develop a route map for the Australian railway supply industry, building on the successful automotive supply chain project completed in 2010 www.autocrc.com/2020.htm.

The overall aim is to identify future opportunities for the rail supply industry, building on current and developing capabilities. The IfM contribution is

being led by Dominic Oughton and Bill Colquhoun.

The programme comprises four phases, the first of which has recently been completed:



- 1. Setting out the 2040 vision for the sector a united direction and priority areas to guide the remaining phases.
- 2. Determining the size and strength of Australian capability, identify the strongest potential market opportunities.
- 3. Defining the top opportunities in each priority areas, outlining the barriers to be overcome and capability gaps to be filled.
- 4. Establishing a sector-wide implementation strategy including establishing frameworks around stakeholder governance, funding, policy and industry collaboration.



The process is highly participative, involving consultation with multiple stakeholders from across the industry, together with a series of interactive and creative workshops.

For further information, please contact: <u>Dominic Oughton</u> E: do251@cam.ac.uk

Marine Industries Roadmap and Capability Study

The Technology Strategy Board along with its partners BIS and the Transport KTN are supporting the UK's Marine Industries by developing a roadmap and assessing UK capability. This will help to prioritise future research support options to maximise economic growth of UK marine companies. The Institute for Manufacturing is facilitating the roadmapping programme.

An initial "Landscape Roadmap" has been developed, with input from over 50 experts drawn from across the marine industry, academia and other stakeholders. The workshop took a baseline, developed from the Council's

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Workshop: Valuing and selecting technology projects

<u>Podcast</u>: Roadmapping for agile strategy - linking technology to business objectives.

<u>Briefing</u>: Technology roadmapping: facilitating collaborative strategy development

<u>T-Plan</u>: a 'fast start' roadmapping approach

Course: Strategic Roadmapping

<u>Textbook</u>: Roadmapping for strategy and innovation

You might be interested in...

<u>Practitioner Support</u>: We offer practitioner support to assist you implement roadmapping in your organisation

<u>Technology Intelligence</u>: Monitoring science and technology developments 2010 roadmap, published reports and input from the project steering group. This was then extended further to identify priority trends & drivers and to characterise the future market opportunities in the light of these. This highlighted priority opportunities right across the broad spectrum of Marine Industries, where attractive future markets are well matched to the UK capability for delivery.

For further information, please contact: Dominic Oughton do251@cam.ac.uk

Strategic Roadmapping Conference

Roadmapping Technology will be hosting its 6th annual roadmapping conference on 8th November at the Heathrow Sheraton Hotel. These events are well attended, and provide a good opportunity to hear from roadmapping experts and to network with participants from a range of industries and countries.

Presentations will include contributions from Rolls-Royce, Thales, the UK Aerospace, Aviation and Defence KTN and the University of Cambridge.

Further details can be found here.

Treatment of uncertainty and risk in roadmapping

This research investigates how to address uncertainty and risk in roadmapping for strategic (technology) planning. It proposes an adapted roadmapping framework to develop strategic plans in which future uncertainty and potential risks are given full consideration. To assess its utility, the framework is now being applied in different organisations free of charge. Organisations interested in this opportunity should contact limohullevbare E: imi22@cam.ac.uk.

Conference report

The annual PICMET conference was held in Portland, Oregon, 31st July-4th August www.picmet.org. This is one of the largest international technology management conferences, with several papers presented by researchers from the Cambridge Centre for Technology Management:

"A philosophical stance on developing industrially relevant strategic technology management toolkits", presented by by Clive Kerr. When considering the potential uptake and utilization of technology management tools by industry, it must be recognized that companies face the difficult challenges of selecting, adopting and integrating individual tools into a toolkit that must be implemented within their current organizational processes and systems. This paper provides a conceptual foundation to the development of toolkits by outlining an underlying philosophical position based on observations from multiple research and commercial collaborations with industry.

"Exploring the impacts of the interactions between lifecycles and other dynamics that influence the development of technology-based industries", presented by Michèle Routley. To address future uncertainty within strategy and innovation, managers extrapolate past patterns and trends into the future. Several disciplines make use of lifecycles, often with a linear sequence of identified phases, to make predictions and address likely uncertainties. This paper explores some typical dynamics associated with technology-based industries, using illustrative examples from the automotive industry. To optimise alignment of the important dimensions within any development, and for future strategy decisions, understanding these interactions will be critical.

"Understanding and communicating the value of technology: a process perspective", presented by Clare Farrukh. Technological investment is an important driver of innovation and the evaluation of technology potential is becoming increasingly important in this context. Although there is a range of possible approaches and tools for understanding and communicating the value of technology to potential customers, not all are useful or accessible in practice, where the situation is often complex and constantly evolving. In this paper, the current literature and practice related to technology valuation is reviewed and summarised in a five step process for building a business case for technology investment that gives guidance on where and when to use specific valuation tools.

"Towards a process framework for assessing the potential value of technologies", by Clare Farrukh. Current technology valuation literature predominantly focuses on explaining the merits and implications of specific tools, but little research is available that takes a contextual process perspective. The aim of this paper is to further develop an integrative process framework that supports the structuring of the valuation process and the more systematic choice of valuation techniques for new technologies. The multiple factors involved in the evaluation activity are identified with respect to the changing nature of the appraisal process as the technology matures and the implications for associated tools. The result is a process framework which provides a conceptual basis for integrating valuation techniques. This framework is then populated with the results of industrial case studies on technology valuation to allow conclusions on its applicability to be drawn.

Roadmapping Courses 2012

A regular series of <u>training courses</u> are run in Cambridge each year, with the next planned for June and October. These courses cover both the theory and practice of roadmapping, including groupbased activities to provide hands-on experience of the techniques.





Support: Roadmapping at IfM

The Institute for Manufacturing (IfM) is an international centre of expertise in roadmapping. The techniques have been developed over many years and

have been applied in more than 250 projects around the world.

Working closely with an organisation's key stakeholders, facilitators design the roadmapping architecture, customise the workshop approach and deliver the roadmap findings. IfM's highly regarded 'Fast-start' roadmapping tools ensure that an initial roadmap can be developed in a single one-day workshop.



More information is available here.

The Institute for Manufacturing (IfM) integrates research and education with practical application in industry, providing a unique environment for the creation of new ideas and approaches to modern industrial practice. The IfM is a division of the Department of Engineering.



Institute for Manufacturing

Department of Engineering, Alan Reece Building, 17 Charles Babbage Road, Cambridge, CB3 0FS, UK

t: +44 (0)1223 766141 | e: ifm-enquiries@eng.cam.ac.uk | w: www.ifm.eng.cam.ac.uk

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