Progressive future for UK manufacturing says new report

Future trends, challenges and opportunities for UK manufacturing have been identified in a new study by Cambridge Institute for Manufacturing (IfM). The report, "A landscape for the future of high value manufacturing in the UK", was commissioned by the Technology Strategy Board, the nation's innovation agency, to examine the global manufacturing environment and map out the future of high value manufacturing in the UK over the next fifteen to twenty years.

The IfM study was announced at the Government's Growth Summit in Bristol on 23 February. It will be used to inform public policies, research strategies and investment programmes, particularly in the high value manufacturing Catapult centre, opened in October 2011.

The report identified important trends influencing the changing nature of manufacturing, whilst considering the greatest challenges and opportunities manufacturing firms are likely to face – captured in five strategic themes.

"Using tried and tested roadmapping techniques, coupled with a highly structured consultation process, this report reflects the views of a broad cross-section of senior industrialists, academics and institutions. Their collective expertise provides an excellent foundation on which to build robust and focussed policies to support our vital manufacturing industries."

Professor Sir Mike Gregory, Head of the University of Cambridge Institute for Manufacturing.

"The UK has a well-deserved international reputation for the quality of its science and engineering research. However, the pathway to impact from excellent research can be convoluted. This report highlights a number of areas of clear national advantage, where the prospects for successful innovative outcomes are strong. The strategic focus described within this report provides an opportunity to build and sustain manufacturing competitiveness over the long term."

Mark Claydon-Smith, EPSRC Lead, Manufacturing the Future

Download a copy of the report.

Strategic roadmapping courses
A regular series of training courses are run in Cambridge each year, with the next planned for June and October.

- Two-day course, Wednesday 13 - Thursday 14 June
- One-day course, Wednesday 10 October

These courses cover both the theory and practice of roadmapping, including group-based activities to provide hands-on experience of the techniques.

Please visit here for more information.

**Risk-aware roadmapping for technology and innovation strategy**

The Centre for Technology Management is looking for opportunities to pilot a workshop-based roadmapping process in which risk management procedures are explicitly embedded.

The risk-aware roadmapping process is an improvement on our tried and tested S-Plan roadmapping methodology. It ensures that risks that threaten the achievement of targets are identified and understood, and that appropriate measures in response to these risks are included in action plans. These will include identifying the events that could adversely affect targets and objectives, and developing risk profiles for products, services and technologies on the roadmap so that appropriate mitigating measures can be taken. Also included are measures to help reduce the risk of missing innovation opportunities that would otherwise be great market opportunities and value to the organisation.

The opportunity to apply the process to your firm and reap benefits from it will come to you free of charge.

For more information, please contact: Imoh Ilevbare, E: imi22@cam.ac.uk

**Roadmap visual design process**

One of the key benefits of roadmapping is the ability to articulate and present a strategic plan on a single page. Underlying the technique is a graphical framework that visually aligns the market drivers and organisational goals to the product/service developments and the underlying technology evolutions.

In the public domain there is a rich variety of visual roadmap formats, both in terms of information density and layout, however from the perspective of visual communication there is a large variability in their quality.

Despite the widespread application of roadmapping, there is a lack of guidance on applying graphic design principles to create visually powerful and meaningful communication roadmaps. Such roadmaps are a means to engage with the array of stakeholders by imparting the key narrative of the strategic dialogue and ultimately mobilise action.

In communication roadmaps, information is presented in a highly synthesized and condensed form. Thus, a balance must be achieved between the content and its visual representation – including the aesthetic nature of the visualisation. As an extension to current IfM roadmapping activities, the process of visually prototyping communication-type roadmaps is being trialled. The process is workshop-based and focuses on:

- Defining the audience needs
- Exploring the design options
- Architecting the layout
- Developing the presentation layer

To refine this approach, IfM is offering opportunities to pilot the process. Organisations interested in this opportunity should contact: Dr Clive Kerr E: cick2@cam.ac.uk
Customer-supplier liaison with roadmapping

For a long time, technology roadmapping has been recognised for its ability to link and improve communication within and between different functional areas across an organisation. Based on this strength, a new approach for using roadmaps as a liaison tool between two organisations – one developing and one acquiring technology - has been developed and tested.

The practical application took place in Mexico, between CIDESI (a research centre from the National Council for Science and Technology) and Grupo Carso (a major manufacturing and mining group). The "liaison" roadmapping idea was conceived and designed between the IfM and Nakazawa Consulting Group, with the workshop facilitated by the latter.

The basic purpose of the "liaison" roadmapping application is to facilitate the selling-buying process of technological services and products via generating a long-term relationship where the research centre will become a technology partner of the technology user, as opposed to being a "mere" technology provider.

Although it is still early to assess the final outcome, preliminary results are encouraging as eight major projects were identified and collaboration and trust between both organisations were fostered.

Contact: Ricardo Gonzalez Nakazawa, nakazawaricardo@gmail.com

Support: Roadmapping at the 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.