



PROFESSIONAL LEARNING DIRECTORY

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INSTITUTE FOR MANUFACTURING
DEVELOPING TALENT FOR MORE THAN 50 YEARS



**UNIVERSITY OF
CAMBRIDGE**

Department of Engineering

IfM | MANAGEMENT
TECHNOLOGY
POLICY



INTRODUCTION FROM PROFESSOR TIM MINSHALL HEAD OF THE INSTITUTE FOR MANUFACTURING

A core mission of the Institute for Manufacturing (IfM) is to ensure that the research we undertake has a direct impact in organisations across the world. Our programme of short courses is fundamental to achieving this.

Our courses are designed to share the latest research in technology, management and policy, all developed at one of the world's leading universities. This research is guided by, and often developed in collaboration with, partner organisations. And it's this unique combination that sets IfM courses apart – tools and approaches taught by world-leading academics, grounded in what you do – whether that's designing or developing new products and services, managing innovation and technology or optimising global supply chains. We understand the challenges you face and we devise programmes that deliver the right knowledge, skills and behaviour needed to meet them. This booklet gives an overview of all the courses that we offer. I hope you find something that is of interest and we look forward to welcoming you to the IfM.

T. Minshall





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Cover image: Arthur Tombs and Quang Ha – Double Pendulum 5

Capturing the chaotic motion of the double pendulum. LEDs were attached at several points on the system and a camera was set with long exposure to capture the image. This was performed by Dr Hugh Hunt (Reader in Engineering Dynamics & Vibration, Department of Engineering, University of Cambridge) in a Mechanics lecture.

LEARNING AT THE IFM

The Institute for Manufacturing is part of the University of Cambridge's Department of Engineering. Education is at the heart of what we do and has been for more than 50 years. In that time, we have trained thousands of undergraduates, postgraduates and professionals to have the skills and knowledge required for roles in industry and government.

Our courses are designed to provide the highest-quality learning experience. The courses are highly interactive – with lots of hands-on, practical sessions to help with assimilation, understanding and skill development. Many courses include tools and structured approaches that delegates can take away and apply. By attending IfM courses, delegates can expect to learn new skills and knowledge and have the confidence to apply them directly in their organisation.

Courses are delivered through IfM Education and Consultancy Services, the knowledge transfer arm of the IfM.

»» **The course overall presented some real food for thought and I shall certainly use the tools to more rigorously prioritise our current projects. It was very worthwhile for me.”**

DELEGATE FROM SCOTT BADER

»» **Wholly relevant and recognisable with useful tips and reminders of differences in mind-sets/practices between corporates and start-ups.”**

DELEGATE FROM DE BEERS

OPEN SHORT COURSES

IfM open courses last between one and three days, developing delegates' knowledge and practical skills to extend their capabilities and have an immediate impact in the workplace. They introduce delegates to IfM tools and techniques and show them how they can be put into practice in highly interactive, hands-on courses.

More information and booking

For more information on the courses in this booklet please visit:

ifm.eng.cam.ac.uk/courses

email:

ifm-events@eng.cam.ac.uk

or call:

+ 44 (0)1223 766141

Who are they for?

Professionals from across industry and government looking to develop capabilities in an area of IfM expertise. These courses typically involve between 20 and 25 participants and provide opportunities for networking and discussions with peers.

Who are the course tutors?

Courses are delivered by researchers at the Institute for Manufacturing who are the experts in their field, as well as Industrial Fellows who have experience and knowledge of how the tools and approaches are directly transferred into organisations. For a list of course tutors please see page 47.

Where do they take place?

Open courses take place in Cambridge, providing an inspirational setting for executive and professional development, with dinners and evening events often included as part of the programme.

BESPOKE SHORT COURSES

Many of the open courses can be run in-company, at a location of choice, for companies wanting to develop groups of up to 25 delegates.

These can be tailored to meet specific organisational requirements and offer a cost-effective and time-efficient way of developing employees. Please contact Judith Shawcross, Head, Executive and Professional Development, if you would like to discuss running a bespoke short course for your organisation.

e: jks45@cam.ac.uk

BUSINESS STRATEGY AND BUSINESS MODEL INNOVATION

Course title	Lead course tutor	O	B	Page
Business model innovation: Changing the game	Dr Chander Velu <i>Head, Business Model Innovation Research Programme</i>	●	●	7
Ecosystem strategy	Dr Florian Urmetzer <i>Senior Research Associate, Cambridge Service Alliance</i>	●	●	8
Maturity grids for change management	Dr James Moultrie <i>Head, Design Management Group</i>	●	●	9
Sustainable value innovation	Dr Doroteya Vladimirova <i>Senior Research Associate, Centre for Industrial Sustainability</i>	●	●	10
Strategic performance management	Professor Andy Neely <i>Pro-Vice-Chancellor: Enterprise and Business Relations, University of Cambridge, and Director, Cambridge Service Alliance</i>		●	11

O = OPEN AND B = BESPOKE

»» Structured as a series of interactive sessions within the day which interrelated and showed a tangible output – very good indeed.”

DELEGATE FROM BAE SYSTEMS ON ATTENDING ECOSYSTEM STRATEGY

BUSINESS MODEL INNOVATION: CHANGING THE GAME

OPEN AND BESPOKE

»» Duration:

2 days

»» Course overview

The intensity of technological change due to digitalisation, the progress of globalisation and shifts in industry borders has created opportunities for new business models. Indeed, business model innovation can create huge opportunities while threatening traditional means of generating revenue. Such innovations can, consequently, make the fortunes of some firms while killing the market positions of others. This course will focus on understanding the concept of business models, identifying and implementing new business models to create sustainable competitive advantage.

»» What you will learn

- Understand business model innovation and how it differs conceptually from other forms of innovation
- Cover the strategic challenges for incumbent firms and new firms in responding to opportunities for business model innovation
- Think systematically about digital technologies and their implication for business model innovation
- Consider the key principles of organisational design and leadership issues for implementing new business models

»» Who would benefit from attending?

- Senior executives involved in strategy formulation and business development
- Strategy, marketing and operations executives looking to understand the role of business models, strategy and operations
- Strategy, marketing and operations consultants who provide advice on major strategic innovation programmes
- Functional leaders and managers who are seeking to understand the role of business model design on performance

ECOSYSTEM STRATEGY

OPEN AND BESPOKE

»» Duration:

1 day

»» Course overview

In today's increasingly complex and interconnected world, individual organisations are unlikely to possess all the resources and capabilities required to meet customers' needs. Instead they must draw resources from other firms and successfully integrate them into their offering. Hence, the way in which these "business ecosystems" operate has a significant impact in the delivery of services and value to the end customer.

This course will show you how through understanding your business' ecosystem and leveraging partnerships, you can deliver services quickly and effectively.

»» What you will learn

- Understand what a business ecosystem is and why it is vital in service delivery
- Develop the skills and knowledge to successfully leverage your company's ecosystem for growth
- Consider how to build partnerships to share capability and capacity across multiple companies
- See how innovation can work through partnerships
- Learn how to identify weaknesses in your ecosystem and what approaches you can take to address them

»» Who would benefit from attending?

- Managers and executives involved in strategy and business development of solutions and services
- Senior operations executives looking to inspire thought leadership in complex organisations
- Consultants who support major strategic change programmes
- Functional leaders and managers who are seeking to understand the wider value system of their firm

MATURITY GRIDS FOR CHANGE MANAGEMENT

OPEN AND BESPOKE

»» Duration:

1 day

»» Course overview

This course provides a methodology to structure the creation of maturity grids to facilitate strategic change management.

Maturity-based assessments provide a framework that captures “good practice”, and codifies “next practice” to guide assessment and improvement in capability. In operation, these grids can clarify the capabilities needed to transition towards a desired strategic goal and enable discussion to expose misaligned goals. They enable the elicitation of different perspectives and, unlike more quantitative assessments, they recognise there is not always a single objective view on performance and performance improvement.

»» What you will learn

- Learn the underpinning theory and origins of capability maturity type assessment and improvement methodologies
- Be introduced specifically to maturity grids as a change management tool, with examples from current practice
- Be introduced to a structured methodology to facilitate the creation of maturity grids
- Apply this methodology to the creation of a grid on an agreed topic

»» Who would benefit from attending?

This course has been developed for senior managers involved in planning change and implementing management programmes across a wide variety of domains.

The underlying methodology can be applied to issues as diverse as:

- Operations management
- Strategy
- New product introduction
- Innovation
- Human resources

SUSTAINABLE VALUE INNOVATION

OPEN AND BESPOKE

»» Duration:

2 days

»» Course overview

Discover innovative approaches and new business models to help your business thrive. Learn how your business can use innovation to become more resilient, contribute to social development and unlock competitive advantage.

»» What you will learn

- Gain new perspectives on value creation and capture
- Analyse and deliver sustainable value across a product life cycle
- Identify opportunities for implementing circular economy solutions
- Experience a structured approach to discovering failed value exchanges among stakeholders
- Develop a new lens for business model innovation
- Use an organised method for implementing sustainability innovation
- Develop the ability to design a sustainability strategy and a comprehensive action plan to implement change in your business

»» Who would benefit from attending?

Those working in:

- Strategy
- Sustainability
- R&D
- Innovation
- New product development
- Business development
- Entrepreneurs
- Intrapreneurs
- Change managers
- Stakeholder engagement
- Community relations

STRATEGIC PERFORMANCE MANAGEMENT

BESPOKE

»» Duration:

2 days

»» Course overview

How do you measure the performance of your business? Are you measuring the right things? How well are your measures aligned with your strategy? How well are they supporting the implementation of your strategy? This course will show you how to design and deploy strategic performance management systems that help to drive the implementation of your strategy.

»» What you will learn

- Review the changing nature of the measurement crisis – focusing specifically on the tendency in many organisations to measure too much
- Cover the main strategic performance management frameworks that organisations use today, including the balanced scorecard and the performance prism
- Consider why process – the methodology for selecting what and how to measure – is more important than the framework the organisation chooses to use
- Apply specific tools and techniques associated with the design, deployment and application of strategic performance measures
- Identify appropriate performance visualisations that can be used to help convert data into insight
- Consider the multiple roles of measurement and how well-designed strategic performance management systems drive strategic success and organisational learning

»» Who would benefit from attending?

- Those with responsibility for developing, deploying strategy and/or designing systems to encourage implementation of strategy
- Professionals considering whether they are measuring the right things and/or rethinking their organisation's measurement systems

INNOVATION AND TECHNOLOGY MANAGEMENT

Course title	Lead course tutor	O	B	Page
Evaluating innovation opportunities	Dr Michèle Routley <i>Senior Industrial Fellow, IfM ECS</i>	●	●	13
Strategic intellectual property management	Dr Frank Tietze <i>Lecturer in Technology and Innovation Management, Centre for Technology Management</i>	●	●	14
Strategic roadmapping	Dr Rob Phaal <i>Principal Research Associate, Centre for Technology Management</i>	●	●	15
Technology and innovation management	Dr Rob Phaal <i>Principal Research Associate, Centre for Technology Management</i>	●		16
Technology intelligence	Dr Letizia Mortara <i>Senior Research Associate, Centre for Technology Management</i>	●	●	17
Make-or-buy: are you getting it right?	David Probert <i>Formerly Head, Centre for Technology Management</i>	●	●	18
De-risking the innovation process	Dr Imoh Ilevbare <i>Product Manager, Innovation and Technology Management, IfM ECS</i>		●	19
Strategic technology and innovation management	Dr Rob Phaal <i>Principal Research Associate, Centre for Technology Management</i>		●	20
Technology Venturing Forum	Dr Thomas Bohné <i>Senior Research Associate, Centre for Technology Management</i>	●	●	21

O = OPEN AND B = BESPOKE

»» A practical, intuitive and easy to implement process that has indeed helped clarify our R&D investment strategy.”

VICE PRESIDENT, PACKAGING COMPANY ON ATTENDING STRATEGIC ROADMAPPING

EVALUATING INNOVATION OPPORTUNITIES

OPEN AND BESPOKE

»» Duration:

1 day

»» Course overview

This course will provide delegates with the tools and techniques to evaluate and select appropriate projects or technologies when uncertainty is high and factual information is scarce.

»» What you will learn

- The pitfalls of taking intuitive decisions when information is imperfect
- What tools are available for prioritising and selecting projects, and how to choose the right one
- Roles of the following tools: financial assessments such as net present value (NPV) and internal rate of return (IRR); multi-factor scoring tools; value roadmaps and decision trees
- Management processes to aid objectivity
- How to assemble a portfolio of projects to meet your company's needs

»» Who would benefit from attending?

- Product, technical and innovation managers
- Strategic planners and consultants
- Those involved in evaluating and selecting innovation and technology-based projects or championing new business initiatives where uncertainty is high

STRATEGIC INTELLECTUAL PROPERTY MANAGEMENT

OPEN AND BESPOKE

»» Duration:

1 or 2 days

»» Course overview

The course provides an introduction to the strategic use and management of intellectual property, such as patents, design rights, trademarks, publications, trade secrets and knowledge from a management and engineering perspective to best support technology and innovation processes.

»» What you will learn

- Knowledge and skills that enable you to interact with the different professionals in the highly interdisciplinary field of IP management (managers, R&D engineers, finance and lawyers)
- Understand the opportunities that strategic IP management can create to develop and maintain a competitive advantage
- Key concepts and tools that help to manage and utilise IP strategically for technology-related business problems
- The portfolio approach to IP, challenges in IP transactions and open innovation
- Insights into the organisation for effective IP management and the use of patent analytics to support business decision-making

»» Who would benefit from attending?

Senior managers who have to deal with IP related decisions in technology and innovation processes and those aspiring to such roles

»» Additional information

The course focuses on the strategic management aspects of IP and assumes that participants have a basic understanding of the different IP rights (patents, trademarks, etc.). Prior reading material can be provided.

STRATEGIC ROADMAPPING

OPEN AND BESPOKE

»» Duration:

1 or 2 days

»» Course overview

The IfM is a world centre of excellence for roadmapping and has helped more than 300 public and private-sector organisations, including companies such as BAE Systems, BP, GKN, the Linde Group, Philips, Rexam and Rolls-Royce with their strategic and technology innovation planning.

Roadmapping is a graphical approach that supports strategic planning. It enables companies to align technological capability and business plans so that corporate strategy and technology are coordinated in an integrative manner. This course will provide delegates with the knowledge and confidence to apply roadmapping concepts and methods within their own businesses.

»» What you will learn

- How roadmapping can help organisations to align technology and commercial perspectives
- Approaches for implementing roadmapping at the innovation, business and sector levels
- Multifunctional workshop methods for implementing roadmapping
- The application of roadmapping as a platform for management toolkits
- How to apply visual design principles to support the communication of strategy

»» Who would benefit from attending?

- Strategic planners
- Technical managers
- Product managers
- Consultants

»» Additional information

A copy of *T-Plan: the fast start to Technology Roadmapping. Planning your route to success* will be provided as part of each course (normal price £149), together with a copy of the book *Roadmapping for Strategy and Innovation - Aligning technology and markets in a dynamic world* (normal price £195).

TECHNOLOGY AND INNOVATION MANAGEMENT

OPEN

»» Duration:

3 days

»» Course overview

Technology and innovation are fundamental to organisations looking to drive competitive advantage. Today's public or private organisations need professionals that have the skills and knowledge to develop and deploy technologies and also to ensure that those technologies are strategically aligned.

This course equips participants with key frameworks, tools and techniques that can be used to exploit technological investments.

»» What you will learn

- How to integrate technological considerations into business strategy and long-range planning processes
- Consider which products and components to make in-house and which to outsource
- Manage new product development and introduction processes in the context of the innovation system
- Use appropriate, process-based technology management approaches
- Take part in a new product introduction game, a team-based simulation to design, develop and market a product
- Learn how strategic roadmapping can be used to align product and technology strategy
- Hear about and discuss examples from industry

»» Who would benefit from attending?

The course is suitable for those involved in all stages of the innovation process, from R&D to customer support, including:

- Technologists
- Product managers
- Manufacturing managers
- Strategic planners
- Consultants

»» Additional information

This course is run as an open course only. For a bespoke option, please see the course *Strategy technology and innovation management* on page 20, which is similar and can be run in-company.

TECHNOLOGY INTELLIGENCE

OPEN AND BESPOKE

»» Duration:

1 day

»» Course overview

This course focuses on how to develop and improve your technology intelligence activities to capture the information you need to support strategic planning and decision-making.

»» What you will learn

- Explore the fundamentals of technology intelligence
- Appreciate the organisational structure and processes needed to monitor and interpret new technological trends
- Hear from industrial speakers from leading technology-based companies about their experiences of implementing technology intelligence
- Structure the way you gather technology information to effectively support strategic planning
- Gain knowledge and communicate insights that will inform your technology strategy, including open innovation activities

»» Who would benefit from attending?

- Technology managers, executive managers, directors and those who would benefit from a technology intelligence system
- Technologists, gatekeepers, scouts, open innovation managers and others who take an active part in the technology intelligence activity for their business
- Executives in technology-based companies and organisations seeking to implement open innovation

»» Additional information

All participants receive a copy of the workbook *Technology Intelligence: identifying threats and opportunities from new technologies*, co-authored by the presenters (retail price £75).

MAKE-OR-BUY: ARE YOU GETTING IT RIGHT?

OPEN AND BESPOKE

»» Duration:

1 day

»» Course overview

The make-or-buy question is a fundamental dilemma faced by many companies. Should they keep technologies and processes in-house or purchase them from an outside supplier? The ability to make informed and structured make-or-buy decisions is a key factor in sustaining a company's competitive advantage.

This course presents a structured process to use when making these important decisions. Practical tools help to ensure that strategic issues are taken into account and guidance is provided on implementing decisions.

»» What you will learn

- How to develop a make-or-buy strategy
- The importance of linking marketing and manufacturing
- The competitiveness/importance matrix as a key prioritisation tool
- How to apply the make-or-buy process in your business
- Best practice approaches
- The experience of leading companies in applying these methods
- Implementation issues

»» Who would benefit from attending?

The course will be of particular benefit to anyone involved in the make-or-buy question, including:

- Engineers
- Managers
- Buyers
- Directors

»» Additional information

Two books are provided as part of the course *Make or-buy, a practical guide to industrial sourcing decisions* (retail price £95) and *Developing a make-or-buy strategy for manufacturing business* (retail price £35).

DE-RISKING THE INNOVATION PROCESS

BESPOKE

»» Duration:

1 day

»» Course overview

This course explores innovation risk management, looking specifically at the stage-and-gate system and project risk management. Delegates will be led through practical tools for de-risking the innovation process.

»» What you will learn

- The importance of addressing uncertainty and risk in innovation
- How the stage-and-gate system helps to de-risk the innovation process
- The application of some practical tools that help to operationalise the stage-and-gate system (including “O-F idea/project prioritisation process” and “Making the business case”)
- How project risk management helps to overcome some of the weaknesses of the stage-and-gate system
- The project risk management process with an overview of some applicable tools
- Application of at least one project risk management tool

»» Who would benefit from attending?

- Innovation managers
- Product (or service) development managers
- Product/service managers
- Project managers
- Technology managers

STRATEGIC TECHNOLOGY AND INNOVATION MANAGEMENT

BESPOKE

»» Duration:

2, 3 or 4 days

»» Course overview

This is a highly bespoke two, three or four-day course, run in-company, helping organisations to embed the tools, knowledge and skills to innovate and invest in technologies that will add significant value to the business.

Strategic roadmapping forms the core component of this course and organisations can select from a range of additional modules to develop delegates' innovation and technology management capabilities. Additional modules include: emerging technologies; risk; scenarios; strategic landscaping; technology intelligence; trends and drivers; visioning.

»» What you will learn

- Helps organisations to improve the selection and management of technologies to ensure that investments deliver business value
- Configured to suit an organisation's needs, with practical activities customised to address company-specific issues
- Benefit from course tutors' insight, knowledge and experience of what works, gained from working extensively with leading organisations across the world
- Participants leave the course with a working knowledge of key concepts, methods and tools, which they can then deploy directly within their organisation

»» Who would benefit from attending?

The course is suitable for participants from a range of functions and levels and will benefit from multi-functional/organisational participation, including:

- Technologists
- Engineers
- Researchers
- Designers
- Product managers
- Strategic planners
- Marketing professionals

TECHNOLOGY VENTURING FORUM

OPEN AND BESPOKE

»» Duration:

1 day

»» Course overview

This forum brings together technology venturing peers to discuss how organisations can successfully innovate by combining excellent technology research, great products and attractive markets. Over the course of the day, delegates will consider the latest thinking on research-product-market fit.

»» What you will learn

- The latest insights and practices on key technology venturing topics from world-leading experts. Past topics included insights from venturing psychology, co-design thinking, IP strategies, corporate venture capital and the management of research-market interfaces
- Cover the frameworks and tools to guide important technology venturing decisions such as mental models, heuristics, opportunity space mapping and identification
- Share experiences with technology venturing practitioners from industry-leading start-ups, accelerators, corporate venturing vehicles, independent funds, as well as highly innovative small and medium-sized organisations and multinational corporations

»» Who would benefit from attending?

- Decision-makers who are actively involved in turning early-stage technology into new business — from any company size, any industry and any country
- Professionals who are supporting technology venturing
- Entrepreneurs and technologists who want to join an international network of technology venturing peers and become part of the IfM's technology venturing community

POLICY

Course title	Lead course tutor	O	B	Page
Introduction to science, technology & innovation policy	Dr Carlos Lopez Gomez <i>Head of Knowledge Transfer, Policy Links</i>	●	●	24
From research to economic impact: Designing modern RTO strategies	Dr Carlos Lopez Gomez <i>Head of Knowledge Transfer, Policy Links</i>	●	●	25

O = OPEN AND B = BESPOKE





»» Policy Links' insights helped us identify the essential elements to promote a new Economic Development Policy and to launch a plan which has already proved beneficial in allowing the region to participate in outstanding exchange networks at a European level."

SENIOR POLICY ADVISOR, BILBAO CITY COUNCIL, ON ATTENDING *FROM RESEARCH TO ECONOMIC IMPACT: DESIGNING MODERN RTO STRATEGIES*

INTRODUCTION TO SCIENCE, TECHNOLOGY & INNOVATION POLICY

OPEN AND BESPOKE

»» Duration:

2 days

»» Course overview

This course introduces the latest concepts and international practices in science, technology and innovation policy.

»» What you will learn

- The latest concepts, frameworks and ideas in the areas of science, technology and innovation policy supported by bespoke materials from experts at the IfM's Centre for Science, Technology & Innovation Policy
- An understanding of how innovation policies are being revisited around the world as countries step up efforts to generate high-wage jobs, promote productivity growth and "rebalance" their economies
- The effects of the new global industrial context and how it has the potential to transform manufacturing as we know it
- An understanding of how modern policy-making is taking place in the context of increasing competition for the industrial activities with the most "high value" capture potential
- An overview of the latest innovation policies, programmes and practices in selected industrial countries, as well as the latest technological developments with the potential to disrupt global industries

»» Who would benefit from attending?

- Civil servants in ministries of industry, economics and trade responsible for the promotion of innovation and industrial competitiveness
- Professionals from public and private sectors that would like to gain new insights from theory and international practice to enhance their hands-on policy experience
- Officials in national and regional agencies responsible for drafting industrial and innovation policies

FROM RESEARCH TO ECONOMIC IMPACT: DESIGNING MODERN RTO STRATEGIES

OPEN AND BESPOKE

»» Duration:

2 days

»» Course overview

This course introduces the latest innovation concepts and visual tools to help research technology organisations (RTOs) and similar institutions to align their mission and services.

»» What you will learn

- Key concepts, frameworks and tools in technology and innovation management with relevance to RTOs
- The latest international trends and policy developments in science, technology and innovation policy, with an emphasis on the role and functions of RTOs in the wider context of national innovation systems across selected countries
- Practical challenges for effective technology and innovation management and discussion on the best practices for overcoming them
- Interactive examples of the application of roadmapping concepts and methods for effective technology and innovation strategy development for RTOs

»» Who would benefit from attending?

- Managers from public research and technology organisations, technology and innovation institutes and centres of excellence
- Innovation agency officials responsible for national and regional public R&D portfolio design and management
- Professionals from public and private sectors that would like to gain new insights from theory and international practice to complement their hands-on policy experience

GLOBAL OPERATIONS

The courses in this section can be delivered individually, or as a linked set of up to five courses to form a structured “Masterclass in Global Value Networks”. For more information on the Masterclass please contact Dr Paul Christodoulou, Principal Industrial Fellow, IfM ECS. Email: pac46@cam.ac.uk

Course title	Lead course tutor	O	B	Page
Making the right things in the right places	Dr Paul Christodoulou <i>Principal Industrial Fellow, IfM ECS</i>	●	●	27
Developing end-to-end supply chain capability	Dr Jagjit Singh Srail <i>Head, Centre for International Manufacturing</i>	●	●	28
Digital supply chains	Dr Jagjit Singh Srail <i>Head, Centre for International Manufacturing</i>		●	29
Capturing value from global value networks	Dr Jagjit Singh Srail <i>Head, Centre for International Manufacturing</i>		●	30
Hot topics and trends shaping global operations	Dr Jagjit Singh Srail <i>Head, Centre for International Manufacturing</i>		●	31

O = OPEN AND B = BESPOKE

»» The course enabled me to make clear recommendations to senior stakeholders with confidence, knowing that they would lead to benefits in terms of ambitious growth and delivery of global synergies in cost and innovation.”

GLOBAL ADVANCED TECHNOLOGY MANAGER,
ELECTRICAL ENGINEERING SYSTEMS, ON ATTENDING
MAKING THE RIGHT THINGS IN THE RIGHT PLACES

MAKING THE RIGHT THINGS IN THE RIGHT PLACES

OPEN AND BESPOKE

»» Duration:

1 day

»» Course overview

Take a structured approach to developing and exploiting a global manufacturing footprint strategy. This course will help delegates to reconfigure their company's international footprint of manufacturing activities to deliver real business impact.

»» What you will learn

- Understand manufacturing core competencies and supply strategies by deploying structured “make-or-buy” tools
- Design a global manufacturing and supply network, considering plant roles and network coordination principles, scenario development and evaluation
- Develop network reconfiguration projects that deliver the strategic vision, involving manufacturing location decisions, insourcing and outsourcing, and transferring production
- Explore the impact of market and technological drivers
- Review the latest approaches to advanced analysis that help to guide high-level strategic principles and ongoing footprint development
- Gain practical insights into how the tools have helped leading companies develop competitive advantage through footprint transformation

»» Who would benefit from attending?

This course is suitable for global operations executives involved in guiding long-term manufacturing footprint strategy, including:

- Senior operations executives who guide long-term strategic development programmes across groups of factories
- Mid-level operations executives who lead strategic footprint development
- Strategic planners and internal consultants who support major change programmes
- High-potential functional leaders and managers who are seeking to develop awareness of practical strategic approaches in topics such as make-or-buy and global network design

DEVELOPING END-TO-END SUPPLY CHAIN CAPABILITY

OPEN AND BESPOKE

»» Duration:

1 day

»» Course overview

This course helps attendees develop a strategic approach to identifying, addressing and developing supply chain capabilities, enhancing integration across networks.

»» What you will learn

- How to map complex supply chains to understand the key factors influencing performance in areas such as responsiveness, cost, agility and innovation
- Consider if there are major gaps in your supply chain capability, with particular emphasis on business processes, systems, skills and attitudes
- See how to create capability transformation initiatives in areas such as sales and operations planning/forecasting, inventory management, supplier collaboration, complexity management and procurement excellence
- Instil cross-functional and cross-organisation alignment, improving levels of end-to-end integration, transparency and agility
- Cover recent developments in supply chain modelling, and consider the impact of digitalisation and big data in driving improvements
- Gain insights into some of the latest approaches to supply chain transformation that could be applied to your organisation

»» Who would benefit from attending?

The course is suitable for anyone responsible for, or interested in, the integration of end-to-end supply chains, proving especially valuable for those tasked with developing improvement initiatives, including:

- Manufacturing and supply chain professionals
- Lean supply chain practitioners
- Change agents and internal consultants

DIGITAL SUPPLY CHAINS

BESPOKE

»» Duration:

1 day

»» Course overview

This course will help you to consider how digitalisation will impact the design and operation of complex end-to-end supply chains, and includes a novel framework that defines 10 future digital supply chain scenarios that can assist the required transformation.

»» What you will learn

- See how digital technologies relating to the Internet of Things and Industry 4.0 will impact supply chain development
- Consider your company's digital supply chain maturity, reviewing current and required levels of technology and skills capabilities
- Develop awareness of how digital technologies enable tangible business benefits, and explore the relative achievability of key technology applications
- Cover approaches and tools for supply network modelling and optimisation
- See a demonstration of digital network design tools at the IfM network design lab
- Learn how to formulate a digital supply chain transformation strategy

»» Who would benefit from attending?

This course is suitable for global operations executives interested in the opportunities and challenges of digitalisation, including:

- Senior manufacturing and supply chain executives looking to guide digital change programmes and inspire digital awareness and attitudes
- Mid-level manufacturing and supply chain executives who lead change programmes involving digitalisation
- Strategic analysts and internal consultants who support major change programmes
- High-potential functional leaders and managers who are seeking to develop awareness of digitalisation and its potential impact on supply chain management and design

CAPTURING VALUE FROM GLOBAL VALUE NETWORKS

BESPOKE

»» Duration:

1 day

»» Course overview

The briefing covers future trends in global manufacturing and supply networks and describes leading research and practical approaches developed in the IfM's Centre for International Manufacturing.

»» What you will learn

- Consider the trends shaping the future development of global manufacturing and supply networks covering areas such as digitalisation, sustainability and shifts in macroeconomic drivers
- Learn about the findings from 15 years of research and practical application of novel approaches to designing and managing complex manufacturing supply chains
- Learn lessons from applications in leading companies on what works well and what requires further improvement

»» Who would benefit from attending?

This course is particularly suited for briefing a cross-functional global operations team on the wide range of approaches that they might utilise in their ongoing strategic development programmes. This includes:

- Senior operations executives looking to inspire thought leadership in global manufacturing and supply network development
- Mid-level operations managers and executives who lead strategic change programmes
- Strategic planners and internal consultants who support major strategic change programmes
- High-potential functional leaders and managers who are seeking to develop awareness of the important global, enterprise-level strategic challenges that the business is facing

HOT TOPICS AND TRENDS SHAPING GLOBAL OPERATIONS

BESPOKE

»» Duration:

1 day

»» Course overview

This briefing covers the latest research in trends shaping global operations. Topics covered during the day include key economic, social and technological trends impacting the design of global operations. This will include approaches to the design of sustainable supply networks, managing supply chain risk and resilience, reshoring and distributed manufacturing, collaborative supply chains, crowdsourcing, consumer-centric supply chains, e-commerce last-mile logistics and smart cities.

»» What you will learn

- Consider how long-term trends will shape the design and management of complex global manufacturing and supply systems
- Learn about the latest research frameworks that can help to inspire new thinking about how to respond to these trends
- Hear about real-world examples of how the trends are starting to shape particular industries
- Explore how the future trends will impact your company, and consider possible approaches that could be embedded with strategic planning that can help exploit emerging opportunities

»» Who would benefit from attending?

This briefing is suitable for global operations executives interested in the long-term drivers shaping future supply chain design and management, including:

- Senior operations executives looking to understand and guide long-term strategic development
- Mid-level operations managers and executives who lead strategic change programmes
- Strategic planners and internal consultants who support major change programmes
- High-potential functional leaders and managers who are seeking to develop awareness of the important global, enterprise-level strategic challenges that the business is facing

DIGITALISATION AND AUTOMATION

Course title	Lead course tutor	O	B	Page
Automation 2030	Professor Duncan McFarlane <i>Head, Distributed Information & Automation Laboratory</i>	●	●	33
Industry 4.0	Professor Duncan McFarlane <i>Head, Distributed Information & Automation Laboratory</i>	●	●	34
Intelligent logistics	Professor Duncan McFarlane <i>Head, Distributed Information & Automation Laboratory</i>		●	35

O = OPEN AND B = BESPOKE

AUTOMATION 2030

OPEN AND BESPOKE

»» Duration:

1 day

»» Course overview

This briefing examines the current and future trends for automation over a 20+ year period covering automation of what we see, think and how we act. Both industrial and non-industrial automation developments will be covered in the context of a range of future scenarios, ranging from health care, to cities, to agriculture and the environment.

»» What you will learn

- Review the current state of automation across different sectors
- Consider appropriate ways to classify automation developments
- Look to the future and consider what automation could look like in 10 years and what the implications are across key sectors
- Consider what the long-term outlook is for automation (20 years+)
- Reflect on questions like “Should we automate?” and “Should we limit automation?”
- Use these new insights to consider the implications of automation on your organisation

»» Who would benefit from attending?

- Automation planners
- Technology strategists and planners
- Executives in automation systems and ICT organisations
- Government planning specialists
- Academics in technology management and automation

INDUSTRY 4.0

OPEN AND BESPOKE

»» Duration:

1 day

»» Course overview

This briefing focuses on the role that emerging digital systems developments can play in improving manufacturing productivity and flexibility, and will focus on those developments being considered as part of Industry 4.0. The briefing will seek to clarify different terms, approaches and technologies in this space, providing guidelines for selecting and using these developments.

»» What you will learn

- Cut through the jargon and get an overview of digital manufacturing and Industry 4.0 that helps you understand its potential, as well as its limitations
- Hear about the underlying technologies and consider their implications in transforming manufacturing
- Cover some of the benefits that new technologies deliver for manufacturing organisations, including some thought-provoking examples and case studies
- Learn an approach to review whether your organisation is ready to take advantage of Industry 4.0 opportunities
- Leave with an understanding of where you should focus efforts in implementing Industry 4.0
- Discuss what is involved in developing an Industry 4.0 maturity model for assessing your own organisation's developments
- Understand the different digital system requirements and priorities for large multinational organisations and small to medium-sized enterprises.

»» Who would benefit from attending?

- Executives making strategic decisions on ICT investments
- Operations and engineering directors and managers
- Industrial ICT developers and implementers
- Industrial R&D professionals in the ICT space
- Operational and information systems consultants

INTELLIGENT LOGISTICS

BESPOKE

»» Duration:

1 day

»» Course overview

New ICT developments are changing the ways that logistics providers can meet demands, and, in particular, the shift from business to business (B2B) logistics to business to consumer (B2C) is dramatically raising the bar for logistics organisations. This briefing will examine how organisations can transform their logistic operations, improving the visibility, control and traceability of products and ultimately improving the way products are delivered to customers. We will introduce the concept of customer orientation in logistics and examine ways in which logistics offerings can be enhanced by the application of ICT developments.

»» What you will learn

- The challenges that logistics providers face in a business to consumer world
- Think about how logistics can be made more customer oriented
- Consider how logistics provision can be more robust and flexible to meet changing customer demands
- Cover ICT developments that are currently having the biggest impact on logistics and what you should keep an eye on in the future
- Consider what ICT developments would be most appropriate for your organisation
- Learn how to evaluate new technologies that impact logistics operations

»» Who would benefit from attending?

- Logistics executives making strategic decisions on ICT investments
- Logistics operations directors and managers
- Warehouse directors
- Logistics ICT system developers
- Academics involved in logistics, operations and IT research
- Supply chain directors and managers
- Logistics, sales and marketing executives

DESIGNING PRODUCTS AND SERVICES

Course title	Lead course tutor	O	B	Page
Making the shift to services	Dr Mohamed Zaki <i>Deputy Director, Cambridge Service Alliance</i>	●	●	37
Design for assembly	Dr James Moultrie <i>Head, Design Management Group</i>	●	●	38
Product platform planning	Dr James Moultrie <i>Head, Design Management Group</i>	●	●	39
On a page tools: product, project, process and portfolio	Dr James Moultrie <i>Head, Design Management Group</i>	●	●	40
Design for transformation	Dr James Moultrie <i>Head, Design Management Group</i>		●	41

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»» A key learning for me was how to take a structured approach to fleshing out and refining a new or existing service.”

DELEGATE ON ATTENDING *MAKING THE SHIFT TO SERVICES*

MAKING THE SHIFT TO SERVICES

OPEN AND BESPOKE

»» Duration:

2 days

»» Course overview

Customers increasingly demand services and solutions, not just products. For companies this can be an opportunity to increase their revenues and develop long-term relationships with their customers.

Service offerings are often complex and need a detailed understanding of, and solid approach to, design if they are to satisfy customers and generate revenues. This course provides a holistic overview of how to design, develop and integrate services into an organisation.

»» What you will learn

- Consider key questions that are vital in the creation of any new service, including: What will be offered and how? What are the risks? How do we deliver and create – as well as capture – value?
- How to design services that satisfy your customers and create new revenue streams
- How working with partners can help to deliver successful services
- Change your organisational thinking to support service delivery
- Use new technology and big data to develop innovative services and solutions

»» Who would benefit from attending?

- General managers and directors
- Service directors
- Operations managers and directors
- Business development and sales managers
- Technical managers and service engineers
- Global operations and service delivery managers
- Design and innovation managers

DESIGN FOR ASSEMBLY

OPEN AND BESPOKE

»» Duration:

1 or 2 days

»» Course overview

This course covers the IfM's proven approach to improving product design to make production line assembly as easy as possible – dramatically increasing the number of units you can make and the speed with which you can make them. Bespoke courses delivered using this approach have resulted in assembly times being cut by more than half and generated significant increases in productivity.

»» What you will learn

- Cover the principles of design for assembly
- Consider targets for improvement – what should you be aiming for?
- Take apart a product and put it back together to see what works and what doesn't
- Learn how to identify potential design problems and potential improvements that could be implemented
- Assimilate knowledge of key design rules
- Review an assembly line process, considering key metrics such as the rate at which products come off the assembly line and how much total work is involved in each product
- Learn how to benchmark against competitor designs
- Decide on an appropriate action plan to change a product's design and assembly process, which often involves radical rethinking

»» Who would benefit from attending?

- Engineers
- Product managers
- Design managers
- Factory managers

»» Additional information

This course can be delivered in-house with design and engineering teams. During the course we review your product design and assembly processes and identify areas for improvement. You end up with a clear action plan and your designers and engineers acquire the knowledge and skills to use the same approach on products developed in the future.

PRODUCT PLATFORM PLANNING

OPEN AND BESPOKE

»» Duration:

1 day (open)
2 days (bespoke)

»» Course overview

Creating and designing a product platform is a strategic issue and one that has implications for the product offering, production, installation, maintenance and other downstream activities.

Thus, deciding on the balance between integrated and modular designs has significant commercial implications. These decisions must be made in the context of the markets being served, emerging technologies and changing customer needs.

This course provides a structured methodology to enable the planning of future product platforms, recognising that it is a complex and multi-dimensional problem.

»» What you will learn

- The underlying theory and principles behind product platforms
- An introduction to a structured methodology for planning future product platforms
- Application of this methodology to a case example
- Reflection and discussion on the challenges of implementation from different perspectives

»» Who would benefit from attending?

This course has been designed for managers and executives involved in strategic product planning decisions, whether they have a focus on marketing or technology. This includes:

- Product managers
- R&D management
- Senior project managers
- Marketing and R&D executives

ON A PAGE TOOLS: PRODUCT, PROJECT, PROCESS AND PORTFOLIO

OPEN AND BESPOKE

»» Duration:

Half-day to 2 days

»» Course overview

Improve the way your organisation captures information relating to product, project, process and portfolio planning. Each of these areas has separate tools to help organisations focus on gathering the right information, then presenting the information clearly on a page to inform quick and effective decision-making. Each of these tools can be run as separate courses, or organisations can choose to run a combination of them, depending on their requirements.

»» What you will learn

- **Product on a page** helps to bring focus to the products you select to develop, encouraging consideration of issues beyond the physical product and improving clarity on a product's key deliverables and purpose
- **Project on a page** focuses attention on critical measures important for successful project execution, with an emphasis on clear communication throughout the organisation
- **Process on a page** improves new product development and introduction, providing an overview of your new product development as a single illustration, including project phases, review or decision points, activities, outputs and documents to be completed at each phase
- **Portfolio on a page** provides an overview of the company's project portfolio, helping you to select and review projects against key criteria, including financial and non-financial methods

»» Who would benefit from attending?

This programme has been designed for managers and senior executives involved in defining their organisations' range of products and services:

- Product managers
- Manufacturing managers
- Marketing specialists
- Technical specialists and engineering

DESIGN FOR TRANSFORMATION

BESPOKE

»» Duration:

2 days

»» Course overview

Customers are more demanding and competition is tougher. Manufacturers are finding that they need to transform their products more radically based on a better understanding of customer needs and in the context of future market trends such as digitalisation. Changing the approach can be a challenging task; however, some manufacturing firms have already made the shift and are successfully providing the right solutions.

This course considers how to make a step-change in the approach to designing products. The presenters have a highly engaging and interactive style and have delivered workshops to a host of clients in the public and private sectors.

»» What you will learn

- How to make a step-change in the design, performance and range of benefits your products offer to customers
- Cover the IfM tools and approaches that help organisations to make a transformational shift
- Consider how design of form and function can be a game changer
- Review how external factors can help to create a future vision using customer personas
- Hear examples of how organisations successfully design and re-design products and services
- Learn a process for turning concepts into revenue
- Consider how to gain internal support for new ideas

»» Who would benefit from attending?

This course has been designed for managers and senior executives involved in any aspect of the design and delivery of products and services:

- Marketing
- Product management
- Business development managers
- Technical specialists and engineering
- Manufacturing managers
- Global marketing, product and operations managers

SKILLS AND TECHNICAL DEVELOPMENT

Course title	Lead course tutor	O	B	Page
Visual communication	Dr Clive Kerr <i>Senior Research Associate, Centre for Technology Management</i>	●	●	43
The Cambridge tribology course: friction, wear and lubrication	Professor Ian Hutchings <i>Emeritus Professor of Manufacturing Engineering</i>	●		44
Microfabrication techniques	Dr Michael De Volder <i>Head, NanoManufacturing and Engineering Design</i>		●	45
Nanomanufacturing	Dr Michael De Volder <i>Head, NanoManufacturing and Engineering Design</i>		●	46

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»» **Excellent theory and interesting overviews into all aspects of tribology.”**

DELEGATE FROM MCLAREN RACING ON ATTENDING THE *CAMBRIDGE TRIBOLOGY COURSE: FRICTION, WEAR AND LUBRICATION*

VISUAL COMMUNICATION

OPEN AND BESPOKE

»» Duration:

1 or 2 days

»» Course overview

The ability to communicate clearly and with impact is a critical skill in business. The appropriate use of visualisations can provide clarity, emphasise a narrative thread and highlight critical information to key audiences/stakeholders across an organisation. This course outlines the fundamental principles of designing visualisations and provides practical guidance on how to apply them in a business/management context.

»» What you will learn

- The purpose and functions of visualisations
- The principles of visual design for presenting data/information
- Representational form, information architecture and composition layout
- A range of both common and specific graphical forms
- Good-vs-poor practices, including industry examples
- Implementation guidelines, together with the opportunity to share experiences of using visual methods to enhance presentation and decision support

»» Who would benefit from attending?

Managers, engineers and consultants – particularly those who present at board level or engage with the public. It will be of specific interest to those that prepare reports and presentations (especially those tired of the visual content of typical PowerPoint slide decks).

»» Additional information

For in-company training, the material and group activities can be readily adapted to focus on areas of specific interest to companies, and combined with consulting support to rapidly apply and transfer the methods across the organisation. The current range of consulting offerings available include: design advice and art direction, visual prototyping (wireframing and templates), design sprints and design studio practice, critiques (individual, group, panel, expert) and eye tracking.

THE CAMBRIDGE TRIBOLOGY COURSE: FRICTION, WEAR AND LUBRICATION

OPEN

»» Duration:

3 days

»» Course overview

Tribology – the science and technology of friction, wear and lubrication – makes a vital contribution to almost every area of industrial activity and yet is often under-represented in the education of scientists and engineers.

This highly successful annual course explores the theory and practice of friction, wear and lubrication in an industrial context.

»» What you will learn

- Surface topography and contact mechanics
- Hydrodynamic, elasto-hydrodynamic and boundary lubrication
- Rheology and lubricant chemistry
- Wear and friction of metals, ceramics and polymers
- Surface engineering
- Nano-tribology
- Test methods in tribology
- Industrial case studies

»» Who would benefit from attending?

- Scientists and engineers who need an appreciation of the technical basis of the subject
- Design and research engineers who have recently moved into the field and wish to improve their background knowledge and understanding

MICROFABRICATION TECHNIQUES

BESPOKE

»» Duration:

Half-day

»» Course overview

This course provides a comprehensive overview of lithography, along with microfabrication etching and deposition processes. This course includes many examples of microfabrication problems and applications, including MEMS actuators and sensors.

»» What you will learn

- Introduction to lithography techniques
- Bulk silicon fabrication methods (etching and deposition methods)
- Surface processing methods
- MEMS applications, including actuators and sensors

»» Who would benefit from attending?

- Companies interested in microfabrication and lithography
- Companies interested in microsystems technology

NANOMANUFACTURING

BESPOKE

»» Duration:

Half-day

»» Course overview

This course gives an overview of the current state of the art in the synthesis and assembly of nanomaterials and their assembly in devices. We focus, in particular on carbon-based nanomaterials such as carbon nanotubes, graphene and their hybrids. The course covers current challenges in nanomaterial processing, as well as how this technology will revolutionise products, including batteries and sensors.

»» What you will learn

The overall focus of this course is on carbon nanomaterials. The following topics will be covered:

- Definition and introduction of nanotechnology
- Current methods for mass-producing nanoparticles
- Nanomaterial characterisation methods
- Methods for processing and assembling nanoparticles
- Detailed description of which applications might be revolutionised by nanotechnology

»» Who would benefit from attending?

- Technology scouts
- Companies considering using nanomaterials in their products
- Companies using advanced materials

COURSE TUTORS

Courses are delivered by researchers at the IfM who are the experts in their field, as well as IfM Education and Consultancy Industrial Fellows who have experience and knowledge of how the tools and approaches are directly transferred into organisations.

For course tutor biographies please visit ifm.eng.cam.ac.uk/people

Dr Thomas Bohné	<i>Senior Research Associate, Centre for Technology Management, IfM</i>
Dr Paul Christodoulou	<i>Principal Industrial Fellow, IfM ECS</i>
Dr Michael De Volder	<i>Head, NanoManufacturing and Engineering Design, IfM</i>
Dr Don Fleet	<i>Principal Industrial Fellow, IfM ECS</i>
Colin Haden	<i>Senior Industrial Fellow, IfM ECS</i>
Eric Harris	<i>Senior Industrial Fellow, IfM ECS</i>
Professor Ian Hutchings	<i>Emeritus Professor of Manufacturing Engineering, IfM</i>
Dr Imoh Ilevbare	<i>Product Manager, Innovation and Technology Management, IfM ECS</i>
Dr Clive Kerr	<i>Senior Research Associate, Centre for Technology Management, IfM</i>
Dr Carlos Lopez Gomez	<i>Head of Knowledge Transfer, Policy Links, IfM</i>
Dr Veronica Martinez	<i>Senior Research Associate, Cambridge Service Alliance</i>
Professor Duncan McFarlane	<i>Head, Distributed Information & Automation Laboratory, IfM</i>
Professor Tim Minshall	<i>Dr John C. Taylor Professor of Innovation and Head of IfM</i>
Professor Rick Mitchell	<i>Visiting Fellow, Centre for Technology Management, IfM</i>
Dr Letizia Mortara	<i>Senior Research Associate, Centre for Technology Management, IfM</i>
Dr James Moultrie	<i>Head, Design Management Group, IfM</i>
Professor Andy Neely	<i>Pro-Vice-Chancellor: Enterprise and Business Relations, University of Cambridge, and Director, Cambridge Service Alliance</i>
Dr Eoin O'Sullivan	<i>Director, Centre for Science, Technology & Innovation Policy (CSTI), IfM</i>
Dr Rob Phaal	<i>Principal Research Associate, Centre for Technology Management, IfM</i>
David Probert	<i>Formerly Head, Centre for Technology Management, IfM</i>
Dr Michèle Routley	<i>Senior Industrial Fellow, IfM ECS</i>
Dr Jagjit Singh Srai	<i>Head, Centre for International Manufacturing, IfM</i>
Dr Frank Tietze	<i>Lecturer in Technology and Innovation Management, Centre for Technology Management, IfM</i>
Dr Florian Urmetzer	<i>Senior Research Associate, Cambridge Service Alliance</i>
Dr Chandar Velu	<i>Head, Business Model Innovation Research Programme, IfM</i>
Dr Doroteya Vladimirova	<i>Senior Research Associate, Centre for Industrial Sustainability, IfM</i>
Dr Mohamed Zaki	<i>Deputy Director, Cambridge Service Alliance</i>

ORGANISATIONAL CAPABILITY DEVELOPMENT

Find out more

To find out more, contact Judith Shawcross, Head, Executive and Professional Development at IfM ECS:

email:
jks45@cam.ac.uk

or call:
+44 (0) 1223 765603

Our capability development programmes focus on transferring the knowledge, skills and tools related to a specific area of IfM expertise into an organisation so the capability can be performed in-house.

Who is it for?

Organisations that would like to embed IfM tools and approaches in their business to improve capability.

What is it?

The programmes are for groups of up to 20 participants, delivered in two blocks with in-company practice in-between to develop skills and reinforce learning.



Benefits of the programme include:

- Participants learn new approaches – based on the latest thinking by some of the world's leading experts – to tackle challenges faced by your organisation
- Approaches are applied to real issues your company is facing, helping to embed learning and have an immediate impact on the business
- As well as developing individuals' expertise, your organisation will build its team capability through group learning – establishing a shared vision, skill set and sense of purpose

»» Participants took away a lot of practical tools and insights. They also benefited from discussing the big picture and their roles in supporting the future of our company.”

LEADER, ADVANCED OPERATIONS EXCELLENCE PROGRAMME, POWER AND AUTOMATION TECHNOLOGIES COMPANY

BESPOKE TALENT DEVELOPMENT PROGRAMMES

Find out more

To find out more, contact Judith Shawcross, Head, Executive and Professional Development at IfM ECS:

email:
jks45@cam.ac.uk

or call:
+44 (0) 1223 765603

The IfM works with companies to develop specialists into business leaders with strategic capabilities

Who is it for?

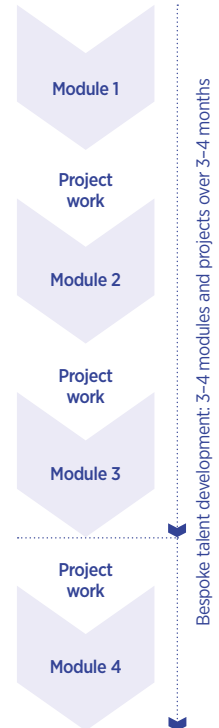
Manufacturing and technology based companies who want to develop and retain their talent. Experts that benefit from attending include scientists, engineers and technologists who have the potential to play a more strategic role.

What is it?

A practice-oriented programme tailored to your companies' needs, for groups of up to thirty, usually taking place over a four- to six-month period comprising three or four one-week modules and a strategic team project. Programmes are delivered by leading academics, researchers, industry experts and associates, learning and development experts and, where appropriate, experts from your company.

Benefits of the programme include:

- Better retention of talent
- Increased confidence in the individual
- Creation of momentum and impact
- Dynamic global talent network
- Stronger strategic thinking
- Different ways of thinking and behaving
- Broader and deeper understanding of your business
- New knowledge and skills for now and the future



»» **Fantastic learning experience. I feel privileged to have had this opportunity to attend this programme. I can honestly say having completed the course will make me a better leader.”**

DELEGATE ON A BESPOKE PROGRAMME



CASE STUDY: GOING FOR GOLD

IfM ECS has been partnering with Atos SE in the delivery of a highly bespoke talent development programme for exceptional experts within their organisation. In 2018 IfM ECS will deliver the 10th Atos “Gold for Experts” programme, developing the skills and knowledge of around three hundred employees.

About Atos

Atos SE is a global company with annual revenues of around €12 billion and 100,000 staff working in 72 countries. It provides a range of digital services such as business and platform solutions, infrastructure and data management, big data and security, as well as transactional and payment services. Atos is also the Worldwide Information Technical Partner for the Olympic and Paralympic games.

The challenge

Business relies on people with outstanding expertise. These experts, by definition, need to be specialists but they also need to have an end-to-end view of how the business works – to see “the big picture” – if they are to find new and better ways to meet their customers’ needs. However, experts are often given training and development that deepens their expertise but does not necessarily broaden their knowledge of organisations. Atos decided to address this challenge by developing a wide-ranging programme specifically for its most talented experts.

Sven Geerts, from Atos’s Global Talent team, said: “With our experts working in so many different countries and divisions, we need them to see beyond their own geographical and functional boundaries and develop an ‘end-to-end’ view of the business – understanding what the client (and often the client’s customer) wants and how the whole organisation works together to make that happen.”

Atos sought a partnership with an organisation that would co-develop the programme. To give the programme the appropriate level of prestige within the organisation, Atos looked to world-leading universities and business schools that were willing to create a programme tailored to their specific needs.

Find out more

To find out more, contact Judith Shawcross, Head, Executive and Professional Development at IfM ECS:

email:

jks45@cam.ac.uk

or call:

+44 (0) 1223 765603

The solution

IfM ECS worked with Atos senior executives to understand the business, its strategy and challenges, how they defined their “expert talent” and what they wanted them to achieve. A core requirement was working in partnership with the University of Paderborn in Germany, where Atos has a joint research and development laboratory.

The programme, Atos “Gold for Experts” consists of three one-week modules taking place over a six-month period, the first and last held in Cambridge and the middle one in Paderborn. It is difficult to get a place on the programme, with just 30 participants selected each time.

A major feature of the programme is project work, where participants work on a project designed to address issues of strategic importance to Atos and present their findings back to a panel of very senior executives on the final day.

Results

The Atos “Gold for Experts” programme has delivered results, including:

- A higher than average retention level among course participants
- Employees that are confident and able to take the knowledge and tools they have learned and directly apply them in the workplace
- Project ideas that have developed into new business offerings, for example, the Nymi Band, an authentication wristband based on a person’s heartbeat for ultra-secure authentication enabling secure hands-free access to company information systems
- A network of experts they can call on across the business

»» You interested me, challenged me, surprised me, even irritated me sometimes but you certainly did not leave me indifferent. I have had some very inspiring times and appreciated all this knowledge put in its global perspective giving a consistent vision of the challenges we, as Atos, but also as individuals, are going to face in the coming years.”

FEEDBACK FROM A PARTICIPANT

INSTITUTE FOR MANUFACTURING: IfM

The IfM is part of the University of Cambridge's Department of Engineering. With a focus on manufacturing industries, the IfM creates, develops and deploys new insights into management, technology and policy. We strive to be the partner of choice for businesses and policy-makers, as they enhance manufacturing processes, systems and supply chains to deliver sustainable economic growth through productivity and innovation.

IfM EDUCATION & CONSULTANCY SERVICES LIMITED: IfM ECS

IfM ECS is owned by the University of Cambridge. It transfers to industry the new ideas and approaches developed by researchers at the IfM. Its profits are gifted to the University to fund future research activities.

