

50 years of manufacturing education in
Cambridge

**Grow your people.
Grow your capability.
Grow your business.**



Executive and professional
development for manufacturing
and technology companies



About us

Institute for Manufacturing (IfM)

The IfM is part of the University of Cambridge. It brings together expertise in management, technology and policy to help industry and governments create sustainable economic growth.

IfM Education and Consultancy Services (IfM ECS)

IfM ECS provides executive and professional development and consultancy – based on the ideas and approaches developed at the IfM – to help manufacturing and technology companies around the world create and capture value more effectively.

To find out more about how our executive and professional development programmes can help your organisation, contact:

Judith Shawcross
jks45@cam.ac.uk

Why choose IfM ECS?

- ▶ **We understand your business.** We work with some of the world's leading manufacturers and technology companies so we appreciate both their challenges and opportunities – and how having good people is critical to their success.
- ▶ **We are education specialists.** We use formal, social and active learning to pass on knowledge, create networks and support on-the-job learning.
- ▶ **We work in partnership.** Every client is different and we work with each of them to develop a programme that is right for them – and is attuned to their organisational culture and values.
- ▶ **We get results.** The companies we have worked with have seen significant benefits to their businesses.
- ▶ **We are not-for-profit.** We gift our profits to the University of Cambridge to fund future research.





You interested me, you challenged me, you surprised me.
Atos delegate



Developing successful people and businesses

As companies face ever more uncertainty and change, having talented managers and leaders who can ‘see the big picture’ and make things happen, is paramount. Disruptive technologies such as the **internet of things, sensors, big data, new materials** and **3D printing** are coming thick and fast. As these new technologies emerge with unprecedented rapidity there is a growing recognition that scientists, engineers and technologists need to be right at the heart of the business, helping to lead it into a new digital era.

To do this, they need the right blend of capabilities and attributes. They also need to be a good ‘cultural fit’. Which is why successful companies choose to develop their talent from within.

How we can help

We run highly customised executive and professional development programmes which develop the skills, knowledge and behaviours your people need to ensure the business meets its goals. We work closely with you to understand your distinct business needs and together develop a programme which meets them, using the Kirkpatrick Business Partnership Model.

We also offer a range of open courses and workshops which extend your capabilities in key areas of IfM expertise.

IfM ECS executive and professional development helps develop people who will:

- Make sound strategic decisions
- Foster innovation
- Drive and manage change
- Feel valued by their organisation

What’s different about IfM ECS?

We know about manufacturing and technology. We understand how products are designed and made and services delivered, how to manage innovation and technology, how to run factories and how to design and manage global supply chains. Because we understand what you do, we can devise programmes which deliver the right knowledge, skills and behaviours for your business.

And we know about manufacturing education. We have been doing it for 50 years. Our approach ensures that everything participants learn is fully understood and assimilated.

Developing specialists into business leaders: bespoke talent development programmes ➤ page 5

Transforming performance: capability development programmes ➤ page 7

Supporting professional development: workshops and courses ➤ page 9

Developing workplace learning strategies and programmes: consultancy ➤ page 11



BESPOKE TALENT DEVELOPMENT

Developing specialists into business leaders

Who is it for?

Scientists, engineers and technologists in global companies who have the potential to play a more strategic role in the organisation.

What is it?

Bespoke programmes for groups of up to 30, usually taking place over a 4 to 6 month period, comprising 3 or 4 one-week modules.

Delivered by leading academics, researchers, industry experts and associates, learning and development experts and, if appropriate, experts from your company.

Technology and manufacturing companies face the same challenge. Your business relies on people with extraordinary expertise such as scientists, engineers, technologists and software architects. These technical experts, by definition, are specialists but they also need to have an end-to-end view of how the business works if they are to find new and better ways to meet their customers' needs. However, experts are often given training and development which deepens their expertise but does not necessarily broaden their organisational understanding.

We work with companies to equip their experts with strategic capabilities and build a global network of people who 'talk the same language', and will:

- ▶ Make a vital contribution to the business strategy
- ▶ Find good solutions for their customers
- ▶ Foster innovation and internal entrepreneurship
- ▶ Create and maintain momentum
- ▶ Stay and grow with the business

Learning focused on outcomes

All our programmes are fully integrated with the company's overarching learning and development strategy, objectives and systems.

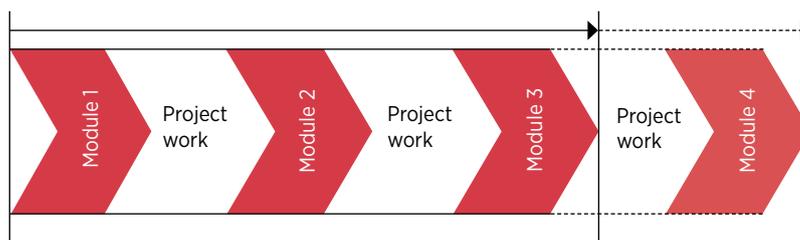
'Active learning' is central to IfM ECS's design ethos: applying new principles both within the modules and back in the workplace so that they are fully understood and assimilated.

Projects – working on real strategic-level company problems – are a very important part of this. Putting what they have learnt into practice, ideally with the support of course tutors and in-house sponsors, is an effective way of ensuring that delegates assimilate new skills and knowledge. Projects can also have very immediate benefits for the company.

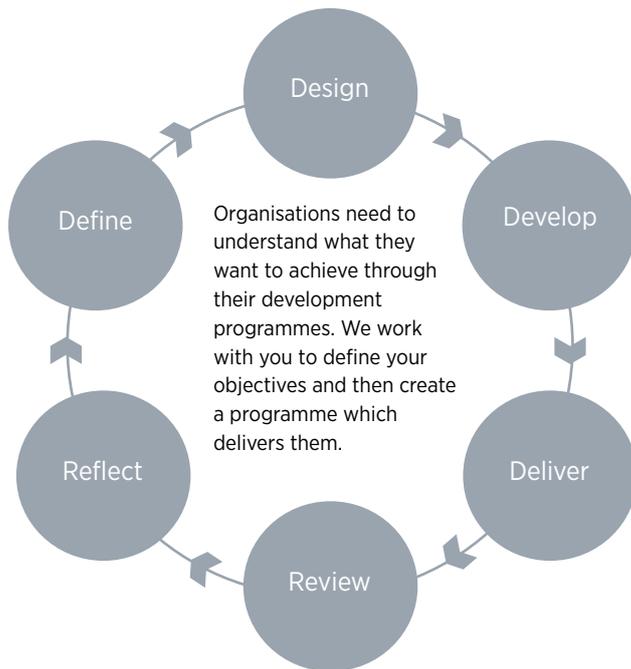


Fantastic learning experience. I feel privileged to have had the opportunity to attend this programme. I can honestly say that having completed the course will make me a better leader.

Delegate on bespoke programme



Bespoke talent development: 3 or 4 modules and projects over 4 to 6 months



I am far more equipped to communicate with clients on what the wider company can offer, with cross service line and global capabilities. My understanding of industry trends and various technologies has been expanded, which means I have a stronger personal capability and knowledge in this area. There is a great network for collaboration and support, which can help in both winning and delivering future work.

Delegate on bespoke programme

Example module topics

- ▶ The future world – mega trends and the global business context
- ▶ Industry, technology and market evolution
- ▶ Innovating business models to capitalise on the 'digital revolution'
- ▶ Embedding sustainability in the business model
- ▶ Making the shift from products to services
- ▶ Strategic technology management
- ▶ Introduction to technology roadmapping and scenario planning
- ▶ Developing and introducing a new product to the market
- ▶ How to build business cases and present to CXO's
- ▶ Building trust and influence
- ▶ Understanding the principles of visual communication
- ▶ Challenges of team working
- ▶ People and performance

Learning outcomes

By the end of the module, participants can:

- ▶ Use their broader technical knowledge, combined with an understanding of the global business context, and how it is changing, to act as business leaders and contribute to the company's business strategy.
- ▶ Create and implement innovative technological strategies and develop new products, processes and services that align with the company's business strategy, and develop and communicate compelling business proposals.
- ▶ Exert their influence in the company by developing, maintaining and contributing to networks and transferring their expertise effectively using their understanding of how the business works across the value chain.



CAPABILITY DEVELOPMENT

Transforming performance

Who is it for?

Companies looking to improve their performance in an area of IfM expertise.

What is it?

These programmes are for groups of 20 to 25 participants and are delivered in one or two blocks of one to three days over a period of one to two months.

Many organisations are experiencing unprecedented rates of change as new technologies and business models emerge more rapidly than ever before – and customers' expectations are higher than ever before.

The IfM has expertise in a number of areas which help companies make the most of their opportunities and address the challenges they are facing. (See right for list of topics). Cambridge researchers are working in

these areas to develop new ideas and approaches which are then turned into tools, techniques and processes which organisations can apply themselves.

In our capability development programmes we share our methods with delegates and give them the practical skills they need to implement these within their own organisations.

Through short programmes based on key areas of IfM expertise

- ▶ Participants learn new approaches – based on the latest thinking by some of the world's leading experts – to tackle major organisational challenges.
- ▶ They apply these approaches to real issues they are facing which helps to embed the learning while having an immediate impact on the business.
- ▶ As well as developing individuals' expertise, the organisation builds its team capability through group learning – establishing a shared vision, skill set and sense of purpose.

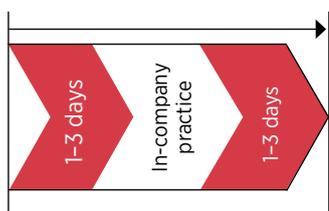


Participants took away a lot of practical tools and insights. They also benefited from discussing the big picture and their roles in supporting the future of our company.

*Leader, Advanced Operations Excellence Programme,
Power and automation technologies company*

Great agenda with sessions of real value and relevance.

*Director, Systems Integration and Deployment,
Oil and gas company*



*Bespoke capability development:
1 to 2 months*



Development programmes

Key topics

Innovation and technology management

How to manage and exploit technology investments and opportunities.

Manufacturing strategy

How to create an effective operations strategy that will deliver your business objectives.

Product design to transform your business

How to design (or re-design) the products and services your customers really want.

Global network design and transformation

How to achieve competitive advantage through production, supply and engineering network design.

Making the shift to services

How to transform your organisation from a product-based business to one that can also provide its customers with services and solutions.

Management tools and techniques

Strategic roadmapping

A step-by-step guide to using this powerful tool for planning technology capabilities that support your strategic goals.

Make or buy?

Strategic approaches to deciding which tasks and functions should be performed in-house and which should be outsourced.

Visual approaches for strategy and innovation management

Using the fundamental principles of visual design for presenting management information.

Manufacturing analytics: aligning KPIs and strategy in an era of big data

Exploiting the new analytics to improve the way you measure performance.



OPEN WORKSHOPS AND COURSES

Supporting professional development

Who is it for?

Companies looking to improve their performance in an area of IfM expertise.

What is it?

Focused short programmes run as open courses, usually for one or two days. Most of them can also be run in-company.

Continuous learning gives people the skills and knowledge to perform at a high level throughout their careers. It keeps them engaged and motivated and more likely to stay with an organisation that supports them.

Our focused short programmes develop knowledge and practical skills to extend delegates' capabilities and have an immediate impact in the workplace. They introduce delegates to the IfM's tools and techniques and show them how they can be put into practice in highly interactive, hands-on, workshop-style courses.

We run these as open courses at the IfM, giving delegates the opportunity to share ideas and network with people from different sectors. They can also be run in-house, tailored to your particular organisation's needs.

For a full list of courses go to:
www.ifm.eng.cam.ac.uk/events



I'm now much clearer on how we can take practical steps to ensure we achieve our aims in this area [servitization]. The IfM team were clearly experts in the field and did a great job of taking us on the servitization 'journey'.

Domino Printing delegate





Wholly relevant and recognisable with useful tips and reminders of differences in mindsets/practices between corporates and start-ups.

Scott Bader Company delegate

Very engaging and grounded in reality.

Ricardo UK delegate

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.

de Beers delegate



EDUCATION CONSULTANCY

Developing workplace learning strategies and programmes

Organisations need to ensure their learning and development programmes support their business objectives. Using the Kirkpatrick Business Partnership Model, we take a structured approach to understanding an organisation's requirements and how they can be met through education programmes.

We can work with you to assess your current capabilities in key areas such as leadership, innovation and technology management, supply chain design and management and service design and delivery.

To support companies who want to ensure their technical experts are also

business-focused, we can review best practice across your sector, review your career structures – and how they fit with other HR processes such as performance appraisal and succession planning – and identify the optimal balance of formal, structured training and on-the-job experience.

Using these findings, we can help you devise a fully integrated learning and development programme.



Skills 2020 is a co-ordinated skills and education programme which touches every part of our UK business and on which we spend £79 million annually. The findings from IfM ECS's strategic roadmapping exercise directly informed our strategy for attracting, developing and retaining the flexible and customer-oriented workforce that we and other UK manufacturers need in this critically important decade.

Education Director & Head of Early Career Programmes, BAE Systems

Strategic workforce planning

All companies need good people. For companies that depend on technology, having people with the right skills and qualifications – particularly in science, technology, engineering and maths (STEM) – is critical and can be difficult to achieve. IfM ECS can work with you to define a long-range strategic plan that will help you recruit, develop and retain the highly skilled and adaptable workforce you need to remain competitive in a global market. We do this by using a version of roadmapping which has been adapted to focus on workforce development as part of the strategic planning process.

To book a place on any of our open courses go to:
www.ifm.eng.cam.ac.uk/events

To find out more about any of our bespoke or in-company courses or education consultancy, contact:

Judith Shawcross,

Head, Executive and Professional Development

Email: jks45@cam.ac.uk

INSTITUTE FOR MANUFACTURING (IfM)

The IfM is part of the University of Cambridge. It brings together expertise in management, technology and policy to address the full spectrum of issues which can help industry and governments create sustainable economic growth.

IfM EDUCATION & CONSULTANCY SERVICES LIMITED (IfM ECS)

IfM ECS works with companies of all sizes to help create and capture value and with national and regional governments to support and grow their industrial sectors. It does this by transferring the new ideas and approaches developed by researchers at the IfM through a programme of education and consultancy services. IfM ECS is owned by the University of Cambridge. Its profits are gifted to the University to fund future research activities.

Venues

Cambridge provides an inspirational setting for executive and professional development. Learning takes place at the IfM or in modern, purpose-built conference centres, lecture theatres and seminar rooms with dinners and evening events often held in historic Cambridge colleges.

