



Making the right decisions about automation

Do you have

- ▶ Increased customer demand?
- ▶ More demanding customers?
- ▶ Rising labour costs?
- ▶ Issues with quality?
- ▶ Concerns about safety?
- ▶ A flexible and changing manufacturing footprint?
- ▶ An idea that Industry 4.0 and data analytics could help your business but aren't sure how?

Automation can be the answer to a whole host of manufacturing and operations questions. But deciding what, how and when to automate is not straightforward, and getting it wrong can be expensive and highly visible. The IfM's Distributed Automation and Information Laboratory (DIAL) has developed a structured approach to guide you through the decision-making process.

Automation assessment

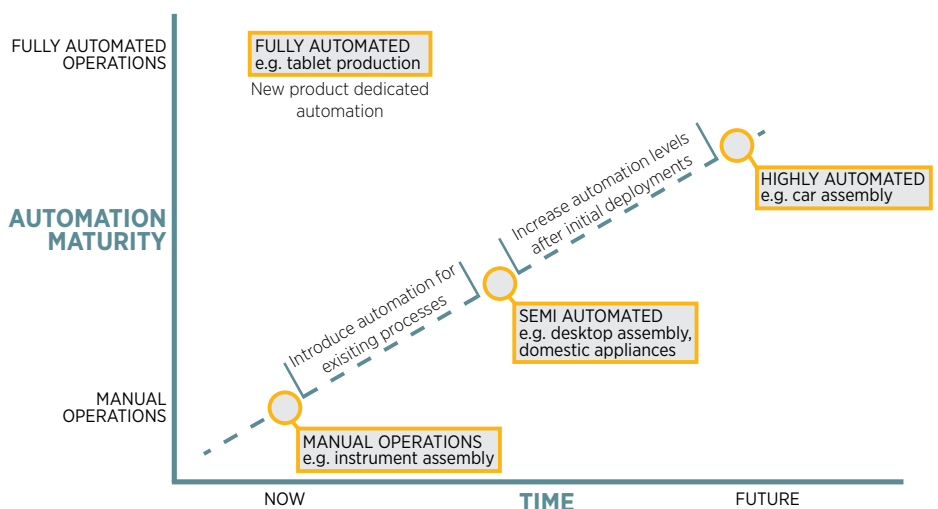
- ▶ We look at where you are now and what you want to achieve: a full assessment of your current production capabilities and your automation objectives
- ▶ We identify the areas you could automate and analyse the feasibility of each option
- ▶ Together we develop a structured and prioritised implementation pathway
- ▶ The process is designed to be highly collaborative: we work with your production engineers so that the assessment is robust and we build a shared, company-wide vision for your automation strategy.
- ▶ This approach has been used successfully with a number of leading companies including Jaguar Land Rover, Foxconn and Schlumberger.

The results

Our approach highlights and prioritises the steps you need to take in order to progress along the 'Automation Maturity Path'.

Companies we have worked with include:



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Previous projects have:

- ▶ Stimulated higher level discussion of automation benefits and issues
- ▶ Clarified automation objectives and given focus and direction to the international automation team
- ▶ Led to the structured assessment approach being adopted across global operations
- ▶ Created a company-wide picture enabling consistent analysis for multi-site manufacture
- ▶ Seen companies rolling out this approach across multiple sites



A four-step process

Overview

Overview of products, processes and current levels of automation

Step 1

Opportunity

Identify and rank opportunity criteria. Score automation opportunities.

2

Feasibility

Score specific potential automation solutions against ranked feasibility criteria

3

Assessment

Plot and review projects. Develop a progressive and integrated automation strategy.

4

Case study 1: adopting a consistent approach that works across different sites and products

The company was looking to improve operations and reduce its head count in the context of rising labour costs, more demanding customers, limited design input and having a flexible and changing manufacturing footprint. The project clarified automation objectives, gave focus and direction to the international automation team and highlighted important differences between sites and products. This resulted in the development of a clear picture across the company and a consistent approach to analysis for multi-site manufacture. The company is now rolling out the assessment approach across six plants.

Case study 2: making the right automation choices

An experienced and expert automation team was evaluating three material handling projects, each with a range of possible solutions. We worked with the company to identify the best fit solutions and to prioritise the work accordingly. By providing a logical and structured approach to considering the automation opportunities, previously unconsidered benefits and drawbacks were revealed.

Case study 3: developing a company-wide automation strategy

The company wanted to modernise its manufacturing in order to reduce costs, support geographical expansion and be more flexible in its manufacturing capabilities. It had already identified a number of automation opportunities but needed a way of categorising and prioritising them. The project reviewed plant structures and then looked at opportunity and feasibility criteria and rankings in order to make decisions about each project both individually but also collectively, taking a company-wide, consistent approach.

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.

DISTRIBUTED INFORMATION AND AUTOMATION LABORATORY (DIAL)

DIAL studies ways in which advanced information systems and automated identification technologies can be combined with advanced production and asset management systems to create and deploy smart products, reconfigurable manufacturing operations and innovative services. DIAL's Automation Lab provides an industrial strength test-bed for trialling smart production control systems.

IfM EDUCATION & CONSULTANCY SERVICES LIMITED: IfM ECS

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