



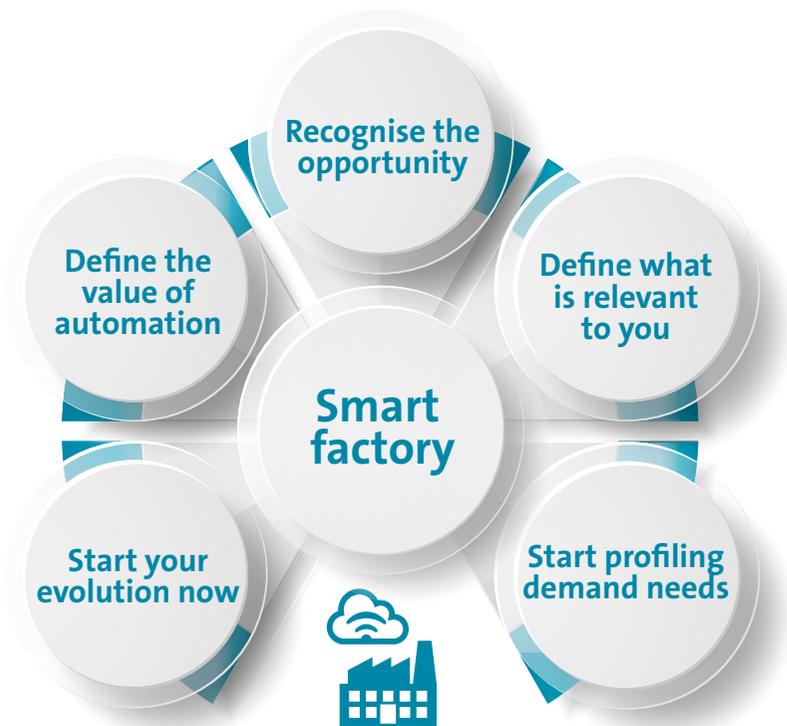
**Royal
HaskoningDHV**
Enhancing Society Together

Industry 4.0: Happening or hype?

Is there really a new business reality awaiting food and beverage companies embracing the factory of the future? And if so, where do you start? A discussion panel of four experts led by David Parkinson from Royal HaskoningDHV concluded that the industry needs to wake up to the opportunities and that it's about much more than technology.



Roadmap to Industry 4.0: Our experts' top five recommendations



1. Recognise the opportunity

There is an urgent need for food and beverage manufacturers to move forward with Industry 4.0 for competitive reasons.

2. Identify what is relevant to you

Many technologies are available but it's important to start from your context and your business. Identify what is relevant and will add value to the business as a whole.

3. Start profiling demand

Profiling demand needs to extend beyond normal forecasting to more sophisticated statistical models. Work out how demand is coming to you and therefore how to configure your plant and equipment more effectively.

4. Define the value of automation

Don't waste time automating something that doesn't need automating - pick your opportunities carefully.

5. Start your evolution now

Make the most of what you have already and at the same time create a roadmap to the future. Walk before you run but be sure to move forward.

Panel leader:

David Parkinson

Senior Engineering Leader, Royal HaskoningDHV. David focuses on the development of integrated engineering and Industry 4.0 solutions for the FMCG industries

Panellists:

We are grateful for the insight provided by our panel members:

Andrew Aitken

Chief Operating Officer, Lanner

John Darlington

Head of Continuous and Lean, University of Buckingham and Managing Director, Value Flow Consulting Limited

Sam Payne

Local Segment Manager Machinery, Weidmuller UK

Matthew Rayment

Technical Manager, Food & Beverage, FMCG, The Manufacturing Technologies Centre



Don't get stuck in today's problems, there's an urgency over competitiveness

Andrew: Industry 4.0 is a necessary response to ever changing markets. Volatile competition is disrupting international markets across all sectors. Costs of automation, robotics and computing power have dropped significantly which has changed the old cost-benefit equations. New capabilities such as predictive simulation and digital twinning used at a strategic level can really help companies prioritise and de-risk the 4.0 investment business case. For companies to remain cost effective, efficient and profitable, they need to change.

Sam: Particularly in the UK, manufacturers are realising they will have to automate at a high level to eliminate their reliance on cheap labour. That will accelerate us into Industry 4.0. Even small operations like family bakeries are looking at the use of delta robots to pack cakes because these are becoming more affordable.

John: There is a question of demand. Consumers don't want to wait for a product, they want it now so if you don't analyse demand properly, you'll make the wrong products at the wrong time. That means you need to be much more sure about demand to avoid increasing obsolescence through your business.

Why look to 4.0 if your factory is at 2.0?

Matt: The reality is that many food companies are actually struggling to pass Industry 2.0. They could really benefit from technology that is already available rather than looking too far into the future. Something as simple as switching from bar codes to RFID makes a fundamental difference to how companies can compete. I'm interested in how to digitise the production facility. Once you have done that you can start thinking about Industry 3 and Industry 4. Most companies have a strong development pipeline for new products, ingredients and flavours, but very few have a similar focus on how their production will keep up with new trends.

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Matthew Rayment
*Technical Manager -
Food and Beverage,
FMCG -
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Technologies Centre*

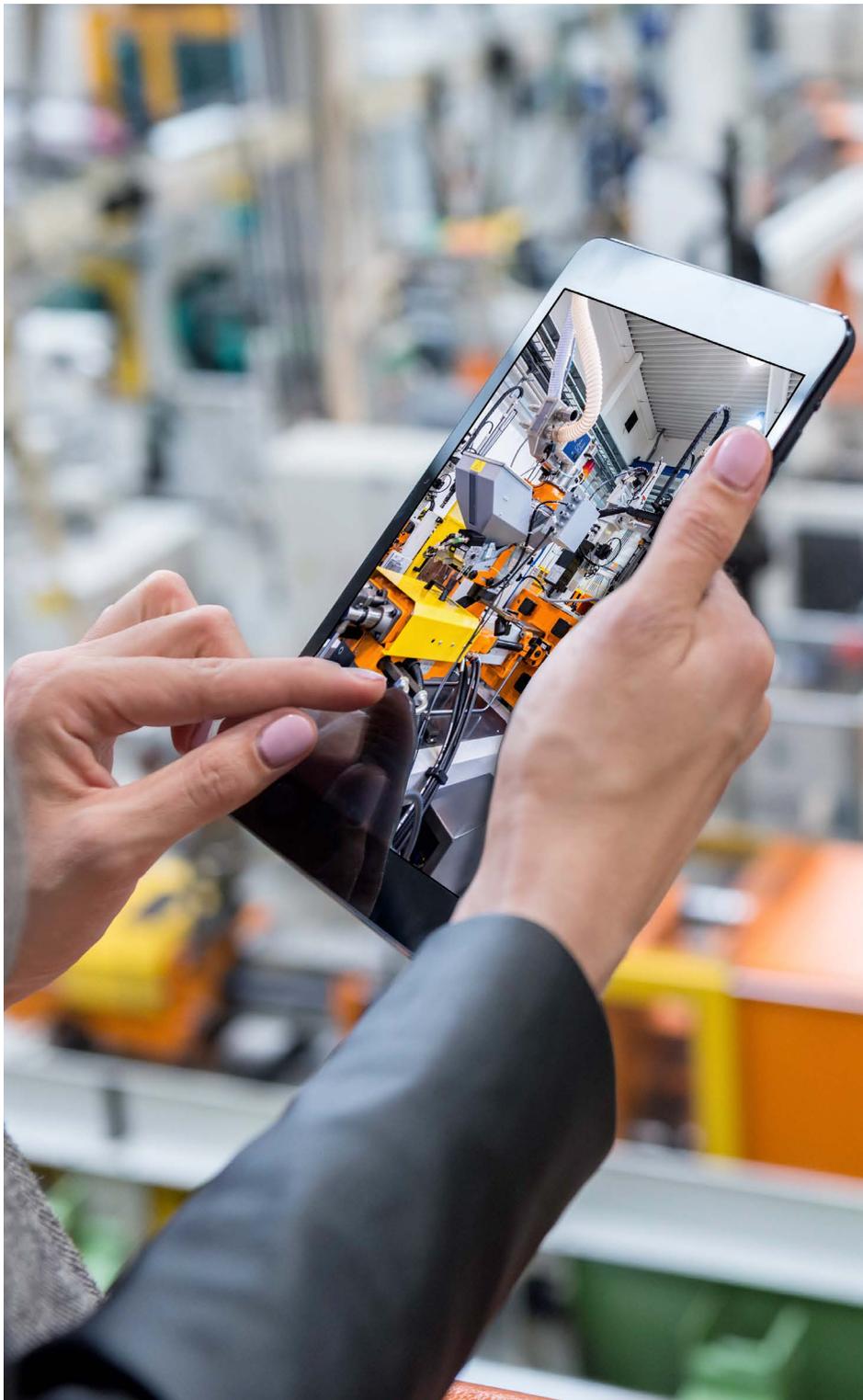
Overcoming barriers: Expand your horizons, look to young people and open your eyes to the potential

There are huge opportunities to be gained from adopting industrial digital technology. In the United Kingdom alone a government report¹ identified a potential boost to manufacturing in the Food and Beverage sector of £55bn over the next 10 years. Over 90% of this benefit is expected to come from cost reduction with automation being a key enabler. However, while most companies are aware smart technologies are there to help them and will make a difference, only a tiny minority are actually implementing such technologies now.

Factors identified by panel members that are holding companies back included: an inability to identify where to implement change; the absence of a plan or satisfactory cost-benefit analysis; and a skills gap in the factory and among leaders. How can companies get past these hurdles?

¹ Made Smarter Review, Department for Business, Energy and Industrial Strategy, 2017





A new factory concept: moveable and reconfigurable

One way is by becoming aware of the potential and understanding how value can be leveraged for the right combination of solutions. As an example of what is already possible, panellists described the Factory in a Box concept configured for example for pea harvesting. This is a moveable super-compact factory which can be transported to where it is required. Its virtual twin programmes and commissions the factory offline and 3D printers create the tools and components it needs. Once it arrives it's ready to go. This transforms the traditional notion of centralised manufacturing, bringing processing to where food is grown. With harvesting over, the factory can be packed up and moved on.

Companies need to widen their horizons in looking for recruits and invest in the next generation - the food factory worker of the future will need a much broader range of skills. Matt highlighted the advantages of apprentices and the general capability of young people when working with 3D

modelling / printing, ipad or tablet-based applications, collaborative robots as well as some advanced design engineering tools like BIM and Factory Simulation. The era of continuous improvement is over. Now the mindset of managers needs to move to continuous innovation where decisions are made on future-state scenarios informed by simulation.

It's not just about technology

In summing up, the panel emphasised the need for managers not to be swept away by the technology as an end in itself. The focus should be on productivity, demand and connecting data to the key questions driving business change. Economic pressures and the stronger voice of the consumer require smarter production if companies are to remain competitive. It is a new reality for manufacturers, driving the move to high performance sites and smart solutions. These are areas where Royal HaskoningDHV's business case consultancy and smart solutions can assist.

Smart Solutions to increase efficiency, improve sustainability and create flexibility

Smart Solutions is a new structural approach within Royal HaskoningDHV to help clients solve complex challenges. Working with our industry leading partners we are addressing societal trends affecting our clients, drawing on our expertise in projects to embed digital solutions and other pioneering technologies to ensure flexibility and future functionality for businesses. Specific services we offer to the food and beverage industry include:

- Business cases, technical and financial modelling
- Multi-disciplinary engineering using state-of-the-art tools such as BIM
- Site Master planning
- Parametric design allowing for flexibility and change with limited impact on production
- Productivity and efficiency programmes
- Digital tooling such as 3D scanning, virtual prototyping and simulation
- Circular economy and sustainability initiatives.

We are an independent advisor to ensure your business transformation is a success.

www.royalhaskoningdhv.com/ukfoodandbeverage



For more information about how we can help your business, please contact:

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