

Make Innovation HAPPEN

A woman is shown from the side, looking down at a tablet computer. The scene is overlaid with various food items: a plate of broccoli, a hard-boiled egg, and onions; a bowl of apples and pears; and a chart with a pie and bar graph. The text 'MIH Knowledge Article: Skills to Tills - Following Joebot' is centered over the image.

MIH Knowledge Article: Skills to Tills - Following Joebot

Scotland
A LAND OF
food and drink

SCOTLAND
IT'S TIME TO INSPIRE

The logo consists of the word 'CAN' in white letters on a green vertical bar, and the word 'DO' in white letters on a yellow vertical bar, positioned to the right of the 'CAN' bar.

Following 'Joe' Could Be The New Way of Working

'Follow Joe training' is an American phrase that refers to a training tradition in which a new recruit follows veteran employee 'Joe' around to learn the ropes. According to Diane Wolf, former VP of Engineering at Kraft Foods, this isn't effective anymore; "It's the way we used to do things because Joe had been there for 20 years and the person Joe was training would be there for 20 years. But now, the Joes aren't there very long, and the trainees aren't there very long, so technology will need to be part of the solution."

As the competitive landscape shifts in tandem with changing consumer desires, the food production system must change to meet new needs. It's already under natural economic pressures, struggling to keep pace with consumption needs. To battle scarcity, react to climate changes, and meet the consumption needs of a growing urban population, the food production system will be rethought. That means the what, where, why and how of food production will be completely reinvented, and even stages of the food production system will shift. For example, product design will become more creative using new materials to create food; vertically managed portions of the system will convert to platform business models to improve efficiency; and distances between stages will decrease with technologically fuelled step changes in the economics of small scale growing methods. All these changes point to a very different food production system that evolves quickly to deliver on new production needs.

And in order to harness the transformative potential of new food and drink production, businesses will increasingly be called upon to formulate a comprehensive workforce strategy ready to meet the challenges of this new era of accelerating change and innovation.

Four specific technological advances—ubiquitous high-speed mobile internet; artificial intelligence; widespread adoption of big data analytics; and cloud technology—are set to dominate the 2018–2022 period as drivers positively affecting business growth. They are flanked by a range of socio-economic trends driving business opportunities in tandem with the spread of new technologies, such as national economic growth trajectories; expansion of education and the middle classes, in particular in developing economies; and the move towards a greener global economy.

Emerging Roles

Among the range of established roles that are set to experience increasing demand in the period up to 2022 are Data Analysts and Scientists, Software and Applications Developers, and Ecommerce and Social Media Specialists, roles that are significantly based on and enhanced by the use of technology.

Also expected to grow are roles that leverage distinctively 'human' skills, such as Customer Service Workers, Sales and Marketing Professionals, Training and Development, People and Culture, and Organisational Development Specialists as well as Innovation Managers.

Moreover, analysis by the World Economic Forum finds extensive evidence of accelerating demand for a variety of wholly new specialist roles related to understanding and leveraging the latest emerging technologies: AI and Machine Learning Specialists, Big Data Specialists, Process Automation Experts, Information Security Analysts, User Experience and Human-Machine Interaction Designers, Blockchain Specialists and Robotics Engineers. It's no surprise automation is high on the food and drink business agenda when producers are asked how they will handle working in a post-Brexit world. Couple a reducing labour pool with ageing equipment, older workforces, shorter-term supply contracts, a faster pace of change of products and an expanding population,

and the industry is genuinely challenged.

Businesses that are actively protecting existing headcount must find ways to re-train and redeploy staff to more value-added roles. The challenge is how to free up these operators from the roles they're currently engaged in. Automation looks like an answer. All aspects of food production are potentially suitable for automation, and now is a great time to do this, since many operations remain exclusively manual. But automating your workforce is not as simple as getting a robot (or perhaps a 'Jobot') to do a simple job so that people can do more complex ones.



To begin with, trying to find a robot that can cover all the bases is practically impossible. Successful automation projects will not usually involve replacing like for like, or one human with one highly complex robot or vision system. Instead, they will use a range of solutions to undertake a range of tasks. These individual solutions may not be expensive, and by connecting them to share data the sum of the parts can become far greater than the individual elements. And some of the elements may remain human. Witness, for example, the rapid growth in 'collaborative robotics,' where a robot can share the same space as a human operator with reduced or intelligent guarding. This has unlocked potential solutions to traditionally complex problems.

And it's not just processes such as palletisation or product packing where automation could help. APRIL, launched by the University of Lincoln's National Centre for Food Manufacturing in 2016, is a fully automated robotic system that can mix, load and cook ingredients in a manner similar to professional chefs yet on an industrial scale, using modern cooking and material handling technologies. Simon Pearson, professor of agri-food technology at the University, says technologies such as APRIL could help UK food and drink businesses automate even grocery and chilled goods production, which has traditionally been resistant to automation. "These areas have high labour costs and have typically relied on large numbers of seasonal workers."

But whilst replacing some of the tasks currently carried out by people with automated alternatives, food and drink businesses still need to focus on productivity and a more general consideration of work practices. Re-evaluating our idea of work to better fit the desires and expectations of today's workforce is crucial to make it an appealing career choice for those just starting out or attractive to those looking to change.