

PEOPLE AND TECHNOLOGY

PEOPLE, TECHNOLOGY AND PRODUCTIVITY

Combining investment in technology and investment in people is key to determining the productivity of individual firms. Nestlé's experience shows how important it is to consider these two forms of investment as closely linked – and in many respects highly interdependent.

In most advanced manufacturing there is no such thing as automation: at Nestlé's UK sites skilled people become more important to productivity performance as higher value machinery is introduced. This is partly related to the key productivity measure of 'Asset Intensity', which measures the production rates of complex and often high speed machinery. This puts a premium on fast diagnosis and remedy of problems, and on workers being ready to

get the most out of new machines from the day they are installed.

A further contribution to productivity for Nestlé sites has been the ability of technically-literate operators to feed back suggested improvements to the original suppliers of machinery. This can then be reflected in future expansions of production and lead to further step changes in the output of individual lines as superfluous features and stages of production are eliminated.

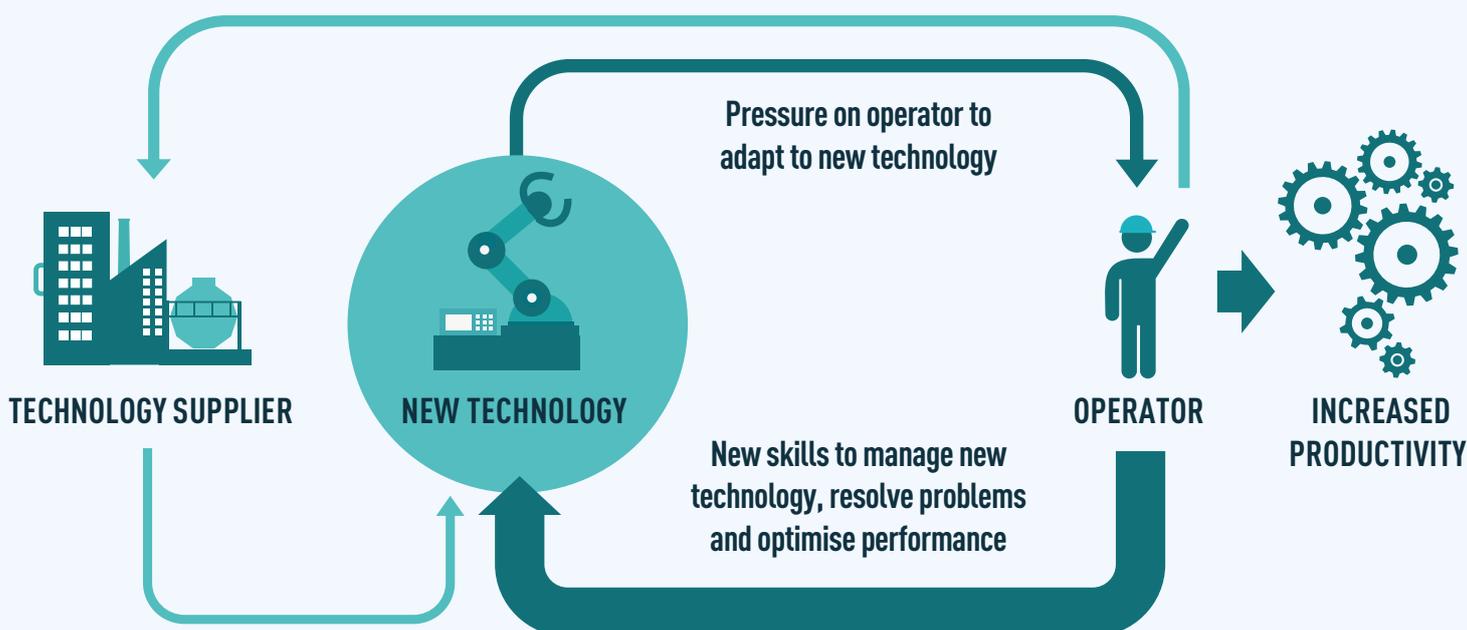
The impact of technology on business models and the world of work will be a key theme for the UK in the years ahead and Nestlé participates actively in the 'Industrie 4.0'* agenda in Germany, where many of these

insights into the relationship between technological complexity and human skills are well understood.

One important insight from the manufacturing sector in this regard relates to the way that technology can make workforces more flexible, but also impose strict limits on flexibility. Nestlé's skilled operators oversee complex processes running to tightly defined schedules. While Nestlé works hard to give operators as much flexibility as possible across a year of work, on shorter timeframes they work to strict shift patterns with consistent handover procedures between different teams. The 'gig economy' is only part of the picture of technology and the future UK workplace.

THE HUMAN ROLE IN RAISING PRODUCTIVITY THROUGH TECHNOLOGY

Operator insight to technology supplier helps optimise design



* Industrie 4.0 is an important German policy debate about the future of manufacturing in the digital age.

SMART MACHINES, SMARTER PEOPLE

Nestlé's successful creation of a Coffee Centre of Excellence in Tutbury depended upon integrating new advanced machinery investments with ambitious workforce skills development. Getting the best out of next generation Nescafé Dolce Gusto machines, each producing 600 multi-component coffee pods per minute, started with shop floor operators in advance of installation.

Contrary to misperceptions about automation, this investment increased rather than reduced Nestlé's need for highly skilled manual workers. This has been further proven with the building of a new freeze-dried coffee plant on site, with frontline operators participating in early procurement decisions, exposing them to the technology at overseas suppliers and other Nestlé sites. Operators and engineers systematically share knowledge with their peers, provide feedback and recommend improvements for further procurement and capacity expansions.

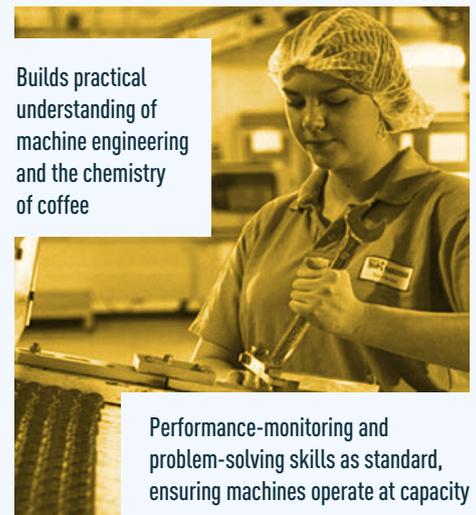
New operators start with a robust onboarding programme to ensure safety and quality compliance, followed by mentoring by experienced colleagues for 3-12 months depending on the complexity of the machinery. On top of job specific training in filling, packing and production, every year Nestlé invests over £1 million at Tutbury in 40-60 hours of continuous development per person. On-site coffee technologists, trained through a global network of coffee experts, develop robust training materials to enhance product mastership and provide education and assessment. In-house training experts support long-term technical and engineering skills acquisition through on-site programmes and NVQ accreditation.



Training duration for a Nestlé UK operator in the coffee business:

6 months in filling and packing

12 months for roasting, extraction and freeze drying



Builds practical understanding of machine engineering and the chemistry of coffee

Performance-monitoring and problem-solving skills as standard, ensuring machines operate at capacity



Learn standard operating procedures

Then mentored by an experienced colleague on the line

Followed by accredited competence-based education



Over time, knowledge of the complex interactions between machinery, processes and final product becomes mainstream at all levels

LEARNING FROM THE NESTLÉ EXPERIENCE



Nestlé's UK experience with technology strongly reinforces the imperative of supporting lifelong learning. For example, advanced manufacturing techniques have meant helping staff master digital communications, word processing and photography skills to integrate them into their problem diagnosis.



Current UK incentives for capital investment focus solely on the investment of new capital in machinery. Is there a case for making these tax incentives also applicable to training when it is clearly linked to maximising the value of capital investment?



On-the-job training is often inadequately recognised in early stage career planning and in assessing firms' contributions to the UK skills base. Tutbury's formal accreditation as a Further Education provider offers a strong example of how in-work mentoring can be combined with more structured learning, and the clear business and productivity benefits of investing in automation and skills at the same time.