

AUTOMATION UK EVENT LEARNINGS

Fourth roundtable event covered how to bridge the skills gap

The fourth panel discussion organised by the UK Automation Forum took place on stage during the first day of the Automation UK exhibition in Coventry this June.

The panel of experts included participants from Automate UK, the MTC (Manufacturing Technology Centre), Rockwell Automation and Cranfield University.

It's a big topic and one that is certainly impacting many businesses across the UK in 2024, so we hope our report on the event will help you combat this issue.

Takeaways from the event were:

- Investment in the latest automation and/robotics technology by a manufacturing business attracts both trained engineers and young people to a manufacturing business – legacy equipment is not seen as attractive
- Today's manufacturers need skills for today and tomorrow, and young people need to be supported in their career aspirations with clear pathways developed
- In terms of education delivering for manufacturers, it should be remembered that education has its own skills shortages, especially in teaching these specialised subjects, well. It was suggested that the UK needs to be open to say, overseas hires to fill this gap, so that education is not a blocker
- The skill sets of young people need to be from a more diverse range of subjects, not just engineering and STEM as this brings a range of new learning to businesses. The panel felt there was a need to find ways to attract a more diverse cohort of skills but also a more diverse range of people into manufacturing

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- Fostering partnerships between businesses and educators is important and getting involved in the local community. Get involved in work experience, do talks, work in STEM – it was felt that partnerships are key
- One of the key enablers is education and building the skillset inhouse is invaluable.

It is interesting to note that the general election campaigns of 2024 saw quite a bit of coverage on the topic of skills and shortages of skills in manufacturing in particular. It included the Conservatives espousing the scrapping of some university courses to fund more apprenticeships and labour promising to give businesses more flexibility over how they spent government money currently earmarked for apprenticeships.

For the manufacturing sector, however, skills shortages are affecting businesses across the board and so the panel was firstly asked about what impact they felt that skills shortages were having on businesses right now.

It was felt that certain industries were finding the right skills, some were not. It was also felt that automation is not being taken up in the UK, whereas Europeans seem to understand the benefits of automation more readily, and people/workers are educated accordingly.

One current UK challenge can be seen in welding, for instance – we can't find enough welders and there are also challenges in the food and beverage markets for skilled personnel.

It was felt that the UK doesn't necessarily have the right skills in enough young people just now.

In some ways, it is not always that welders cannot be found, but more that today's young people want to develop from being welders into other areas of a business, whereas previously, welders would be welders for their entire careers. We therefore need skills for today and tomorrow to support this development and young people's career aspirations.

Young people want to continue learning and developing – so we need to develop the right pathways to make this happen.

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It was felt there was a gap between the expectation from companies of the people that will come through from colleges and universities in terms of education. The real problem of this lack of skills is that it is stifling innovation – which needs to be addressed quickly otherwise it will have a detrimental effect on UK PLC. Graduates are not the whole answer, they can't do everything and so promoting the benefits of apprenticeships would be a great way of getting more people into manufacturing. It was also felt that apprentices often have more stickability and loyalty to a company that trains and supports them.

It was argued that one way of attracting young people into manufacturing today was through using the very latest automation technology. Kids are used to technology, phones, computers, video games, and they expect this in their working environment, too. If companies get new technology into the working environment, this will attract the workers of the future.

There is always a lot of talk about the delivery side of education and whether the best information is being taught when educating engineers – but it should be remembered that education has its own skills shortages, especially in teaching these specialised subjects well. It was suggested that we need to be more open about acquiring these teaching skills through overseas hires, for instance, to address this shortage. We need to be open so that education is not the blocker.

The panel then discussed whether the skills shortage was impacting the ability of firms to adopt new technologies, robotics and automation. It was argued that as the UK has a lot of legacy equipment as well as emerging technologies, then the skills required are vast. Indeed, a lot of firms are now looking at broader and a more diverse range of skills, not just kids from engineering but also from science, from academia as they can apply their knowledge and skill set to new technology.

The skill sets need to be from a more diverse background, not just engineering and STEM subjects as this brings a range of benefits to businesses by bringing new learnings. The panel felt there was definitely a need to find ways to attract a more diverse cohort of skills but also people into manufacturing. We need to get all children engaged into manufacturing, not just boys. A better balance coming through is required.

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Robots are certainly a way of bringing diversity into manufacturing, but we also need to get them enthused about all kinds of automation in the manufacturing sector. It's a chicken and egg, more technology will only help getting more young people in.

Surely automating repetitive and laborious tasks allows existing staff to focus on the more skilled tasks that are harder to fill? The panel felt it has certainly been the case that customers that employ robots, don't lose people, as they get upskilled to operate the robots or move onto more rewarding tasks in a business.

Businesses should look at the business case for future hires that robot adoption brings – we want to upskill people into the drivers of automation and to support this future upskilling into higher value roles in automation.

Building on skills to get people out of low-skilled tasks is something the education sector is working on, particularly around robotics and apprenticeships.

The argument, the accusation about taking jobs...has been around since the first PLC was adopted but what is happening now, is that we have a lack of people to take any job vacancies at all levels. For instance, there is a lack of forklift truck drivers...to take product from the dock to the line...people don't want to do it...so fulfilling this role with robots is becoming a necessity. And automating certain areas can keep people loyal to a business.

Today's manufacturers need multiskilled maintenance people– but to recruit them is tricky. Companies need to widen their searches and maybe recruit someone who has some of the skills, but then upskill them internally to become the whole package. This helps to retain them too. It was felt that if you train them, then they are more likely to stay with your company. This, in turn, breaks the constant need to recruit for a business through just offering higher salaries etc.

A company that the UK Automation Forum has been working with is Walsall Wheelbarrow, an SME that started looking at robots 10 years ago, and now have 20 robots installed – and they have not made anybody redundant...the workforce has been upskilled to programmers, and machine minders, instead. It's a great example of what can be done, working with the workforce and working with automation to take a business forward and build loyalty in the workforce, too.

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The panel was then asked about how manufacturing addresses these recognised skills shortages?

Acknowledging that there's certainly not one silver bullet, one thing that should be adopted is businesses building more partnerships between themselves and local schools and colleges, even universities...so that families – young people and parents – will then know about opportunities that are available.

We could also do better at getting partnerships between firms and educators, including getting involved in the local communities. Businesses need to do this for themselves as they can't rely on other people doing for them. Get involved in work experience, do talks, get involved in STEM, as we still have a long way to go with getting STEM associated with manufacturing. It was felt that partnerships are key.

We also need to create role models for young people to aspire to. For instance, Formula One gets 50-60 apprentice applications every year, so we need to get engineering career pathways to look like this. And then tell their stories, apprentices get out into competitions etc, so then schools understand the recognition...

We need to make sure the right skills are being delivered into education – companies in the UK deliver schools competitions to motivate young people. It's a fantastic way to inspire young people. Then there's the World skills competition – thousands of young people are competing in this. A diverse and broad range of people is the way forward.

The key to robot competitions in schools can be some kind of support from industry, as schools don't have any money. Build a positive relationship between schools and a business as that is where your workforce is going to come from.

A little bit of time and a relatively small amount of investment is all that is required – we would encourage SMEs to engage with their local schools/colleges.

Moving to the role that our educators play in this area saw the panel acknowledging that there are many great initiatives at school level but not always in higher education.

The biggest mistake was getting rid of polytechnics as although these were less academic,

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they were a great route through to engineering. Technician apprenticeships are helping but a need to think about a more connected education system would help in this area.

Its our role as educators to deliver the courses, but we also need help from industry in ensuring we are delivering the correct curriculums.

Parents attitudes also need to change towards apprenticeships as they need to be as valued as, say a more traditional degree.

But what can individual SMEs do to attract skilled people into their businesses?

Smaller companies have a much better chance to innovate and change things, they can have more flexible working and are not held back by the process that many larger firms experience. This can be a very attractive place to work for young engineers, but you need to get to know them while they are in education.

SMEs are important and a very significant element of our manufacturing sector – we need them to be successful as they often form the supply chain to larger businesses. Ultimately, it's a big challenge, there's lots to do, but the key thing is to start working in this area. Just start... get engaged, because it can develop from there.

MAKE UK have a manufacturing day in September in which SMEs can open up their facilities, and this is a good start. Changing the culture is the first big step to ensure that automation adoption comes first when growing a business.

Get in touch with the MTC as it can provide support with apprentices. Open up the dialogue and have the conversations. Learn what is involved in the apprenticeship programmes – and get help with recruitment etc.

Also, it was felt that we need to value education more – it's often seen as a cost, but education is a value-add activity, not a cost. Draw down on apprenticeship levy money...Cranfield offers L6 and L7 robotics engineer apprenticeship programmes, for instance.

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As for advice from the panel as to where to start...it was felt that adopting automation to be more efficient, more productive, more successful and to increase quality, would need a skilled workforce to take it on. To do this, be open to a more diverse range of people and skills.

Understand a long-term strategy – and maybe change the internal culture for adoption.

We can all learn from each other, SMEs, large firms, supply chain, local colleges to bring through the apprentices of the future. It's probably not as complicated or expensive as you think it might be. Get some independent advice first and don't always go for the biggest challenge you have. It's often the most complicated. Start simple, do the easy tasks first, and therefore build your expertise, and workforce skills in parallel, and then go from there.

One of the key enablers is education and building the skillset inhouse is invaluable.

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