UK Automation Forum

EVENT LEARNINGS

How can you attract young people into UK manufacturing?

The panel put together for the FANUC Open Days in November was the seventh event run in this, the first year of the UK Automation Forum. This final event for 2024 was completed with a discussion based around: How industry can attract more young people into UK manufacturing?

It's a massive topic that effects every business in the UK right now, and without attracting new talent into our sector, the skills gap can only get wider and wider. The expert panel included industry experts in this area well as three young apprentices that are making their ways in the world of engineering. Download the report to find out the event learnings.

Learnings from the event included:

1. It's important for manufacturers to engage with their local schools and colleges to explain the opportunities that careers in engineering offer to children of all ages, their teachers and their parents
2. Educators have to have a responsibility to share all opportunities with their students, not just ignore engineering apprenticeships in favour of more academic choices, so their perceptions need changing
3. Young people on the panel felt apprenticeships worked for them because they put their classroom learning into use in their jobs immediately, which helps to cement the knowledge gained throughout their courses
4. Industry should get involved with T Levels, the alternative to A levels, apprenticeships and other 16 – 19 courses that focus on vocational skills.
5. Each T Level includes a 45-day industry placement, so get involved in these to get an early sight of the new talent coming through
6. Trade associations have a role to play in bridging the gap between potential employers and potential young employees, which Automate UK and GAMBICA are

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now providing

So, how can engineering compete with other sectors to attract the best talent into a manufacturing plant? To do this, the panel felt that industry needed to change perceptions at a young age, get into primary schools and you can show young kids the opportunities that are out there. Primary school children are wonderful engineers, they are already building things and so supporting primary school teachers in this area can work really well. Engineering is a complex space as it includes everything from fixing a boiler to designing a Formula 1 car, and so conversations around the varied nature of the subject also needs to be explained to parents.

We are starting to see changes, but perception changing is a key factor in the mix. And let's not forget, engineering is well paid. Engineering also provides students with many transferrable skills and therefore provides many more opportunities as to workspaces they may wish to spend their careers in. Getting in there early, is a key piece to solving the conundrum. This is especially true when you consider that research has found that by the age of 12, half of girls have already been turned off science.

Experiences of the young people on the panel varied but were all positive. For instance, Olivia Lane, a Mechatronics Engineering Apprentice at Amazon, found her route into engineering by being a picker on the line at the company. She saw first hand the difference that engineering made to productivity at the organisation through this role. She was always open to science which then sparked her interest in engineering but felt that primary schools and secondary schools needed to change to show young people what is possible through engineering

Meanwhile, Kathryn Ray, a Machine Vision Engineer at Scorpion Vision Systems said her route into engineering had been a backwards and forwards one, as she had started a degree in something completely different before reassessing her choice. She had thought about subjects she had enjoyed in school, was confident about wanting to make things, and then answered a job advert for Scorpion Vision. And although she had taught herself some coding skills, Scorpion said they could teach her the rest, all they needed was for her to be keen to learn.
At school, she had no idea that engineering was a credible option.

Jason Scott is a Mechatronics Design Engineer at AES Global, Northern Ireland and had always wanted to be an engineer. He took a BTEC qualification before his degree – and now loves messing around with machines. WorldSkills is a massive part of why he has enjoyed things and something he did when at Northern Regional College in Northern Ireland.

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As background, WorldSkills UK is a four nations partnership between education, industry and UK governments. It is a member of WorldSkills, a global movement of over 80 countries which supports young people across the world via competitions-based training, assessment and benchmarking, with members' national teams ultimately testing their ability to achieve world-class standards in the biennial 'skills olympics'. The insights the UK arm gains from training as part of this global network enables it to embed world-class training standards across the UK to help drive investment, jobs and economic growth.

The panel certainly felt that education across all the devolved nations was not seeing teachers extoll the virtues of engineering, which isn't helped by schools being measured on how many pupils they send to university. However, there are some trials incorporating the Gatsby benchmarks which are designed to ensure that every young person aged 13 and over receives exposure to local employers in order to gain a greater understanding of the world of work. However, it was felt that manufacturing industry companies could help in educating the educators to understand the opportunities that manufacturing jobs can bring.

It is true that apprenticeships are growing in value and that attitudes are changing as there are more kids studying STEM and engineering. However, another issue is that education is struggling to get science and engineering teachers. Perhaps a science A level rather than single science A levels would make a difference as it might open science up to more people. However, Further Education colleges struggle to keep skilled engineers as lecturers, as industry pays more.

Maybe we need tax breaks for employers to release their own skilled people to lecture in colleges? The young people on the panel certainly felt that industry involvement is massive in teaching skills. It is hard to imagine jobs or careers that you don't know anything about, but if someone would share their experiences, or firms offered placements, this would be hugely beneficial going forward.

Indeed, if industry doesn't engage more in T Levels – which is a great pipeline into apprenticeships – then the number of 16-17-year-olds coming into the sector will reduce. Engineering T Levels are really popular, and colleges are currently struggling to meet demand for T Level placements, so please contact Further Education colleges to get involved.

Opening doors of factories to students is a fantastic way to provide exposure to, and knowledge of what is involved in modern plants. It is no longer dull, dangerous and dirty, in many cases, and companies such as Amazon offering site tours by dedicated teams is a great thing for young kids to see. It breaks down barriers and busts misconceptions. Inviting students to do projects in engineering is also better than pure classroom learning, as are competitions such as WorldSkills.

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But how can you make engineering more attractive/flashy so that we don't lose STEM students to other industries that may pay more? Maybe engineering youtubers could help and be a fantastic way to reach out to kids who are leaning towards engineering. Or perhaps engineering needs to rebrand – call it applied innovation, for instance – to make it more attractive?

Trade bodies such as GAMBICA have a responsibility to bridge gaps between students who can't get a job, and members that can't get young people into their businesses. That is why GAMBICA has now invited Universities to become members. Meanwhile, Automate UK BEST, helps apprentices as they come into the industry by offering grants and bursaries, as well as building a network of apprentices to offer mutual support.

The panel felt the Government is now listening, they are consulting, and hopefully this will lead to more consistency, a coherent strategy, and more long-term planning.
Some consistency is certainly needed for industry from the government,

The young people on the panel then shared their own experiences of becoming apprentices in engineering, with all of them feeling very well looked after by their training, their employers, other experienced work colleagues and the general support they had received. They also felt the balance between learning and practical skills was exactly right as it's a great mix of both. The information learnt on their courses, was put into practice in their jobs, with the help of skilled colleagues. Being able to work on actual projects is a big confidence boost, and going to sites, meeting customers, feeling part of the team is all part of the learnings. Some were surprised at how much their opinions were actually appreciated and how other colleagues really appreciated a new perspective on a problem in hand.

And looking to future career progression, Olivia felt apprenticeships prepare you for the industry as a whole as the knowledge can be used in other industries. Also, there are so many jobs that don't exist yet and this constant evolution and progression in engineering is the exciting and rewarding part. Kathryn said that you can't underestimate the job satisfaction you get from your training and there are still so many opportunities for further learning on different aspects to progress in the future. At the same time, Jason felt that working at a small company meant that he got to do a lot of different things in the business. It doesn't matter what your degree is in, it's lifelong learning and going forward, he said.

Finally, a second-year apprentice in the audience asked how the experience from their apprenticeships had benefited the panel, rather than coming out as a postgraduate student and struggling to get a job…

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All agreed that it's the range of relevant experience that was key; that the difference in knowledge is night and day, and the firsthand work, rather than the theory, which are the main benefits. "It's like a free super-power at the end, and you don't get this in a classroom which is a huge benefit of apprenticeships," said Olivia. And, of course, you don't have a circa £50k debt.

If you wish to learn more about the Forum, rewinds and reports of our previous events are on our website:
www.ukautomationforum.com

The panel included:

Gail Hunt
Host and facilitator for the UK Automation Forum

Rosa Wells
Deputy Chair on the Engineering Council's Education and Skills Advisory Panel

Scott Pepper
Sector Head - Process Instrumentation & Control at GAMBICA

Kathryn Ray
Machine Vision Engineer at Scorpion Vision Systems

Olivia Lane
Mechatronics Engineering Apprentice at Amazon

Jason Scott
Mechatronics Design Engineer at AES Global, Northern Ireland