

# AUTOMATION FORUM – PPMASHOW LEARNINGS

## What would make food manufacturers adopt more robots?

On stage at the PPMA Show 2024, representatives from food manufacturing and retailing as well as robot and automation suppliers joined the UK Automation Forum panel to discuss the positive impact that adopting automation can have on the sector, while also sharing top tips and learnings that help to ensure successful outcomes. At this sixth event since launch, real life projects were discussed as well as ways to overcome the reluctance that UK food manufacturers have in adopting robots and automation.

### Learnings from the event:

- Equipment benefits needs to be easier to understand for procurement personnel, for the installation team, for the operators and for the maintenance engineers
- Short term retailer contracts are not giving food manufacturers the confidence to invest and are not meeting the payback requirements of their businesses
- When embarking on an automation project, don't go straight to lights out as you are going to fail; start your journey with individual cells and build from there
- Equipment suppliers should design their equipment to be as easy to use as an iPhone to get more buy in from a food industry facing skills shortages
- When purchasing equipment, visit a factory that has had it running in their plant for a few years to see how it works and relate it back to your own site

It is a sad fact that the UK lags behind the rest of the world in robot adoption in quite an alarming way; according to the International Federation of Robotics, the UK is the only G7

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country that is below the world average for robot density in terms of robot adoption – our world ranking is 25. And although our automotive industry uses lots of robots, indeed it builds lines from scratch with robots, our food industry has been slower on the uptake.

The first question the panel was therefore asked was why did they think that food businesses are reluctant to use more robots in their factories?

One panellist didn't think it was a reluctance, but more likely the type of foods that were being packed. For instance, in a product line such as ready meals (which have many flavour variants, packaging and ingredients), automation is not always possible because it is more suited to longer product runs. Automation takes up space on a line, too and so how do you automate a simple process like tipping peas into a product as you need a smaller machine that is not as expensive? It was felt that it is hard to justify the finance for such applications, too.

However, another panellist felt there was at times a misconception that robots are not flexible enough to cope with an ever-changing consumer environment. Is the robot going to be flexible enough to adapt to future needs? It is the supplier's job to make sure that the kit can be flexible, the industry needs to recognise that the food industry is ever changing and therefore machines have to be flexible enough to meet these needs. Space requirement is also important, at the end of the line there is often not enough room to install any robotics.

The food industry in the UK can be compared to the fast fashion industry not a European food industry as in Germany, where a food line is probably making four products a day, while in the UK a production line is having to make 30 different variants, while coping with all these product changeovers. Traditionally, automation has been all about long runs, but this is changing. Today, equipment has to be more flexible to handle product variables over the next 5 – 10 years. More flexible and compact technologies have also been developed to meet the changing needs of manufacturers. The use of small, adaptable cobots (collaborative robots) helps in this area as they are basically the robotic version of a Swiss army knife.

Another panellist felt there were two important things to remember in food manufacturing in the UK: the customer and the consumer. For food manufacturers, it is not always easy to know what the consumer will want, but as a lot of food is sold through retailers, the retailer is the customer. However, retailers often only give a year's worth of contract. So, food

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manufacturers have to ask themselves if any automation they are considering is going to be useful in the long term. Can that piece of kit be useful elsewhere or is it specifically for this contract? If you only have a one-year contract (that can move very easily) and payback on the automation is 1-2 years, it is too big a risk.

The retail environment has a massive effect on the adoption of automation. As well as flexibility in use, food manufacturers need to know that automation is not going to bring more waste in a plant, too.

Moving on to the barriers that stop UK food plants adopting more automation, there are many understandable considerations. For instance, the lack of skills in procurement can be a barrier, the actual process of installation can cause problems, the technical competencies in the factories to keep a line running can all contribute to reluctance.

Buy in from senior procurement/finance management in a timely manner was seen as another barrier. However, some felt that the lack of inhouse skills were addressed by most automation suppliers through service packages, advice on consumables stock and the robust software that is now available. No one is asking their customers to have PLC trained engineers, as ease of operation is designed in.

Others felt that automation suppliers have got to get better at the front end of any negotiations through proving the concept and also by having some recognisable standards of how the equipment works. BARA (British Automation and Robot Association) is currently working on standards to address this point.

Complementing R&D on the automation equipment itself, suppliers need to invest in R&D on the service element; let's not sell and forget...the panel felt that the industry needed to get better at offering easy customer service for the full life cycle of the machine.

We also have to make all of our equipment as easy to use as an iPhone...at the moment there's too many things that are technically advanced that is not compatible with a skills shortage at a customer, said one panellist.

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Another panellist agreed with this and said that keeping robotics running in a factory is a difficult thing and that you need qualified people to work on this. For instance, it is difficult to find controls engineers to work in an FMCG factory as they don't like the environment.

When someone is trying to sell a new automation offer, then show me a factory where this has been working for five years and let me talk to those engineers about the challenges they have had. It's important to get their experience, has the machinery been reliable, for instance. We want someone to share their learnings before we go ahead and commit to investment. As an engineering community, we are pretty good at sharing our experiences and if you can preferably go around the factory without the sales rep, then that's even better.

One of the major hurdles is the business benefits of the new equipment and the pay back terms. A few years ago, it had to be under two years for payback...but we are starting to see this is extending. It was acknowledged that this is still an extremely high bar to clear. Another area that feeds the reluctance to press the investment button is the skills issue. Automation providers need to give a thorough business case to get over the barriers.

Many thought Brexit and less availability of cheap labour would see more automation being adopted, but has this happened? It was acknowledged that Brexit had caused many issues, but it has given a bit of an advantage to automation products in fresh food. But although it had given a bit of a Nespresso shot, the panellist felt that the industry was still on catch up on the flexibility side of automation. There is now a lack of labour, but automation suppliers haven't taken advantage of it yet. The key driver for some change post-Brexit was definitely the lack of people.

And so, what could retailers do differently to help the UK food manufacturing industry adopt more automation?

It was felt that as retailers are always wanting reliable service to keep their shelves full of products their food suppliers should be looking to see what they could actually automate quite easily. For instance, at the end of a line automation can be used to stack products into trays or onto pallets while getting rid of repetitive tasks for workers.

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Meanwhile, the swing towards own label products was felt to have held back food manufacturers from automating. Once, own label was 5-10% of what a manufacturer made, whereas now, it can be 50-60% of a business, even for owners of strong brands. And it doesn't matter how long you've had a contract, retailers can move their business overnight, and we've seen factories close on the back of this.

Unless you are going to get 2-3-year contracts, and some more certainty, food manufacturers are not going to put their money into it because there is a fear of failure. Most financial directors stipulate the rate of return required on an installation, and if it's too long, you are not going to get the money.

Automation/robot integrators are trying to help in this area, as there are now suppliers that will offer leasing or the hire of robots, so that it doesn't have to be a cap-ex purchase. Many integrators will offer this to offset against their customer's operational costs.

Moving forward, it was felt that a partnership between food manufacturers and their suppliers was the only way that a project was going to work technically. Having that confidence in a purchase needs the help of suppliers and integrators on the journey.

One of the issues in the food industry is that we tend to go from 20 people on a line to lights out in one leap and expect it all to work. We need to be more pragmatic in our approach to automation, literally do one work cell at a time, build towards automation as you will be amazed that of those 20 people, at least one or two of them will be doing subtle things that makes or breaks the line. Don't go from one extreme to another, as automation adoption is a journey, not a one-off project.

There's an element of standardisation that would also work in encouraging people to adopt automation. If we could work with two or three plastic crates that could be standardised, for instance, then this would offer a more economic and sustainable element to the mix. So, to make these end of line elements work, food manufacturer and retailer agreements could make a huge difference.

See an operation, take that offer, that's going to give you a lot more confidence in what you are buying. Off-line simulations are now offered that also help. Before you give the PO across.

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Trials are important; look at the testimonials, come to the PPMA Show or Automation UK and talk to people directly. Make sure you select the integrator that has a lot of experience in your particular application. Suppliers are specialists in different areas, so get the right one to suit your business and really vet them, enquire if their after sales are up to scratch, see how many engineers they have on the road, go into detail in these areas.

Retailers need to be encouraging automation as the skills gap continues to grow. Food manufacturers could sell their automation offer to the retailer as a USP, for instance.

The panel was then asked if they thought the new Government would make a difference?

Everyone acknowledged that anyone trying to get any type of grant or support was currently faced with a wall of red tape. The investment is there, it's just far too complicated to access, so it was hoped that this element would change. Most felt that the new Government would do more to support industry going forward but simple schemes such as an automation levy that could be used to offset tax would be a start. Automate UK, along with Make UK, was already lobbying for changes in this area.

As the conversation came to a close, the panel talked about the one thing that would encourage food firms to invest in more automation. There's no question that it's not about taking people out of the business, we know it's hard to recruit, it's all about increasing capacity, said one panellist. What would be helpful is more reports/feasibility studies on factories; what the automation looks like and how it works in a factory. We need to get better at this, we need to sell the journey, not just the machine/robot.

More commitment from the end users is required to justify the investment and the retailers need to give longer term commitment/contracts to suppliers. If the payback is four years, you can see the suppliers would find it difficult to justify this on a one-year contract with a retailer.

European retailers are giving 7-year contracts, but only handling 15% of the SKUs – longer contracts and less products. But we can't convince people in this country to have less varieties of crisps. The market is changing, but it will take time – as people want many flavours. Retailers can't take their customers for granted as their products need to attract people come into their stores.

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We're not integrating factory automation for operators to be as easy to use as their iPhones during a tea break; a lot of R&D is needed to make the interface and support better as this would make a difference.

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