

Don't try for AI perfection, just get going, says engineer

In the third in our five-part series on companies using AI, we talk to Rotherham-based Aesseal about how the technology is improving customer service and productivity

A 45-year-old component maker might not jump to mind as a likely hive of AI innovation. But Aesseal challenges stereotypes. The Rotherham-based business designs and manufactures mechanical seals, bearing protectors and other industrial components for customers around the world. It sits within a group called AES Engineering, which spans 72 companies operating in 42 countries and employs 1,934 people. AES was formed in 1979 by Chris Rea, its managing director and majority owner. The group expects sales of about £265 million this year, up from nearly £234 million in 2022.

'We believe investing in AI-powered robots will pay off'

Rea, 69, started exploring automation technology a decade ago and says his company has now invested about £17 million in its digital plans and AI technologies.

"What we're trying to do is cut out every single boring and unnecessary human intervention so human beings can do what they do well — do business with people, create, develop things, develop products, develop processes," he said.

"Our business in the last three and a half years has doubled its profitability. It's gone from about £30 million to £64 million ebitda [earnings before interest, tax, depreciation and amortisation] ... and I would say our IT director is probably the biggest single reason that our business has become more productive. But it's not about running the network, it's about using software, robots in every form, to take care of unnecessary human interventions."

This year the company made a £13.1 million investment in 32 robots. There are six, £1.25 million "robotic machine tool cells", fully automated robots requiring no intervention, leading to increased speed and efficiency in production. The company also has 26 AutoStore robots produced by the German group SAP. "I've been told we're the first engineering company in Britain to install one [an AutoStore]," Rea said.

These robots integrate with Aesseal's software and Rea is confident that they will massively speed up the process of storing and retrieving items when they go live on the factory floor in January, in turn helping the company create products faster and more efficiently.

"There are 26 robots on top of a grid. The



Chris Rea, chief executive of Aesseal, has invested £13.1 million investment in 32 robots, some of which use AI to become more efficient over time. DOMINIC LIPINSKI FOR THE TIMES

grid has 16,000 trays in it, and the robot uses a form of artificial intelligence to determine what you use most. Automatically, over time, it realises what you use most and it places those trays at the top. So it doesn't have to go down 20 or 30 layers to something that you don't use very often."

Rea expects the investment in AI-powered robots to significantly boost long-term productivity. "We've already automated our stores, and in the last ten years we have trebled the throughput [there] with the same number of people — just by use of modern technology. This is just the next logical step."

Using AI to speed up customer service

Aesseal is also using Azure, Microsoft's cloud computing platform, to deploy AI to search its internal databases for information and rapidly find answers to customer queries. This is a process that would previously have required a human spending time on several internal requests.

"Somebody will go in and they'll say 'write

me a presentation on this product,' and it will go and find the brochure, it will find the data sheets, it will find the technical information," Rea said. "It is much, much more efficient than it is for people to click multiple buttons to go through multiple digital pathways to find the information."

Rea has employed more than 230 apprentices in the past five years. One IT apprentice is working full-time on a project looking to ensure that "we can put together a complete report, a quotation that we can send to a customer from doing the equivalent of putting plain language commands in [to the database with Azure]. And we think that's going to add a lot of value in the future."

Using AI to help deliver on dream projects

Rea said AES' bearings business has grown substantially in recent years and he was now on a mission to be the first company in the world to be able to tell customers when their bearings are going to fail. However, achieving that goal will rely on the Aesseal team investing

in giving AI tools better, cleaner data to work with. The company is on the case.

"We have used AI, we've used data lakes, and we've used Azure, and we've concluded that the 70 million pieces of data we have were useless [for AI to work with] ... We concluded that we need to prepare for artificial intelligence. So we wrote much more sophisticated rules, we made sure that the data was better quality and we are collecting it," Rea said.

The company now expects to grow its data collection by a thousand times, over the next five years. "We couldn't handle that level of information without proper [AI] filtering tools."

The CEO added that gathering more data to feed the AI is already delivering advantages on the ground. Due to the company closely monitoring 220,000 machines for data, very few are experiencing bearing failure.

'We're hiring more people because of AI, because we're taking market share'

Rea stressed that, despite delivering efficiencies and making some roles redundant, AI will not replace humans in his business. He said that, partly due to delivering efficiencies with its digital roadmap, Aseal has taken market share and so has actually hired more people.

"We will never, ever allow it to make decisions for us without human beings checking it. We're going to use it to make sure that human beings don't waste their time."

Plan ahead and don't try for perfection — just get going

The journey to increased productivity with AI has not all been easy at Aseal. Transitioning to SAP IT systems in order to support the



Aseal has six fully automatic robots that cost £1.25 million each

AutoStore robots was difficult, and cost £2.6 million in consultancy fees. There were issues with data transition, and the process was slower than expected.

Rea suggested anyone considering transitioning systems expects hiccups and glitches. And he recommends keeping manual systems in place in case of any technological failure. "Our old [pre-robot] system will be permanently in place, as the last thing a company can do is fail to supply its customers. I don't expect it to go wrong, really, but just in case."

Rea also advised leaders to plan ahead on AI, but to "expect that master plan to have expired by the end of the first week of implementation". To help combat this, he recommends having weekly meetings to check in on progress and decide on whether to pivot approaches and strategies.

Ultimately, based on over four decades leading a manufacturing company, Rea stressed the importance of getting going rather than waiting for a perfect solution to arrive.

"The advice I would give everybody is: don't try and get perfection, get minimum viable solutions. If it's better than what you had before and you can introduce it tomorrow, don't wait for another six years until you make it perfect. Introduce that productivity enhancement, that continuous improvement tomorrow. With the time that you've saved, you can invest more in improving more things over time. It's a general rule that we've always applied."