

Additive Manufacturing Technologies:

embracing new opportunities

Additive Manufacturing Technologies is the world's first company focused on providing connected digital technology solutions for post-processing 3D-printed polymer parts. Using smart algorithms and machine learning, AMT's patent pending technology is able to accurately control the degree of finishing required. Founded in 2015, the company has developed its technology for a wide range of consumer products, from sports footwear to medical applications, as well as the automotive and aerospace industries.

"One of the biggest obstacles in the UK to introducing Industry 4.0 technologies are the skillsets available, and the mindset of manufacturers," says Joseph Crabtree, CEO. "Skillsets in terms of having qualified people who can transition from quite a rigid way of 'i-learning' to a more lateral way of thinking about problems; mindset in the sense that people are happy just doing things the way they always have.

"A lot of companies have invested a lot of money in training their staff to do specific jobs," says Joseph. "These jobs create good news stories, but they do not necessarily make the company efficient, cost-effective or agile. At worst, this stifles innovation. Industry 4.0 is about looking at the entire manufacturing process and seeing how you can complete the digital process thread – removing people in manual roles, and instead upskilling them into jobs such as programming or IT.

"Perhaps this is a generational issue, but the factories of tomorrow will not contain any people, only automated processes," Joseph says. "An adage says that the factory of the future will have only two employees, a person and a dog. The person will be there to feed the dog. The dog will be there to keep the person from touching the equipment."

Investing in the future

"Not embracing Industry 4.0 is potentially a big issue for manufacturers," says Joseph. "Not taking the step to a fully automated ecosystem will mean that companies become uncompetitive and will eventually go out of business. This isn't a case of a 'nice to have', but rather a necessity. You can already see the benefits to companies, especially in countries such as Germany, who have



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openly adopted Industry 4.0. Companies will always find a reason not to adopt new technologies, but thinking laterally can really help.

"Recently we started recruiting for a lab technician, but the role was going to consist of many repetitive tasks. So instead of employing a person, we 'employed' a robot, or co-bot as they are known. The co-bot is now running, and although the initial capital cost is higher than a person, it will pay for itself within six to nine months. The added benefit of this is that our company now has direct access to robotics and automation."

A positive contribution

"The big misconception is that Industry 4.0 will lead to mass unemployment," Joseph says. "True, jobs that people consider 'unskilled' manual jobs today will disappear and become automated, but this is no different to the way that factory workers have been replaced by automated processes. This however provides a great opportunity to upskill people, and ultimately give them increased value-added skillsets which will increase their net worth and contribute positively to the GDP. People will also have to think more carefully about choosing careers and take steps to future-proof themselves for Industry 4.0."