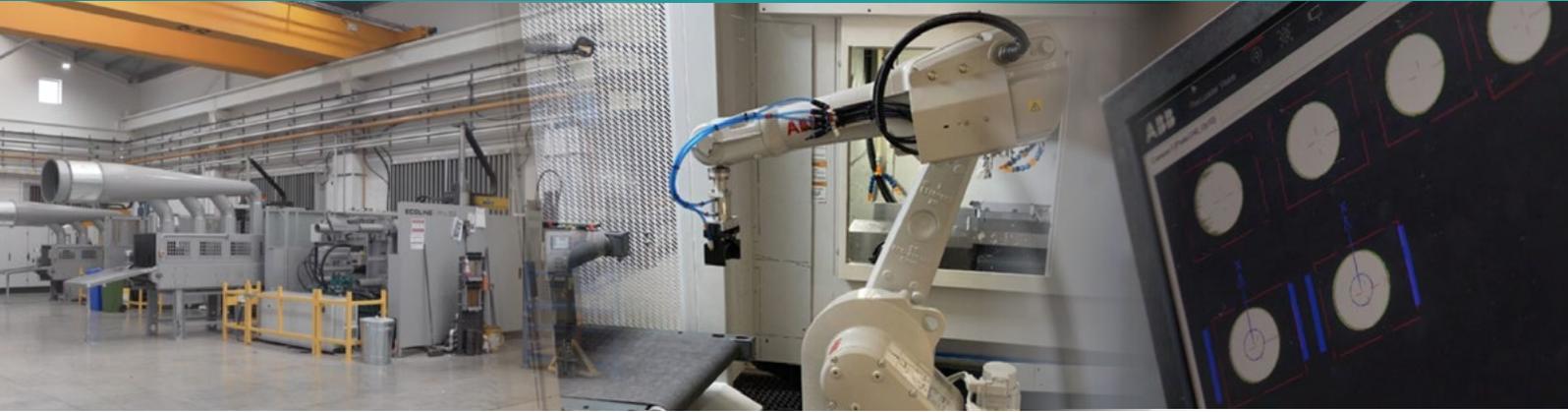


MRT CASTINGS

Factory re-design and new technologies to boost manufacturing productivity and agility



MRT Castings, manufacturers of aluminium die-castings and machined components, approached the MTC to support with the delivery of their new foundry, to include layout, automation and technology selection, and robotic handling.



The project was a real collaboration; the MTC team spent time onsite getting to know our operations, our people and our skill sets, so the findings and proposed strategy were extremely relevant to our business. The MTC's enthusiasm for innovation and problem solving was infectious, and their fresh and energetic approach was really inspiring.

Phil Rawson, Managing Director – MRT Castings



THE CHALLENGE

A privately owned family business, MRT Castings has been operating from its base in Andover, Hampshire, for more than 50 years. In 2019, in response to growing demand and a commitment to providing its customers with greater flexibility and productivity, the organisation began construction on a new, purpose-built 20,000ft² foundry.

To support the delivery of the new facility, MRT Castings approached the MTC to advise on the factory layout and equipment selection, technology solutions to introduce automation, and robotic handling.



MTC'S SOLUTION

An SME team from the MTC's Manufacturing Support Services (MSS) operation worked closely with managers and operators from MRT Castings to help plan the layout for the new foundry.

3D modelling and visualisation were used based on data from existing and proposed equipment, which enabled visuals to be laid out within the architectural plans. Workshops were then held using virtual reality technology to enable MRT Castings' staff to view, adapt and optimise the layout before construction was completed.

The MTC then provided a technology roadmap to support the introduction of automation and robotic loading solutions for the facility's CNC machining centres.

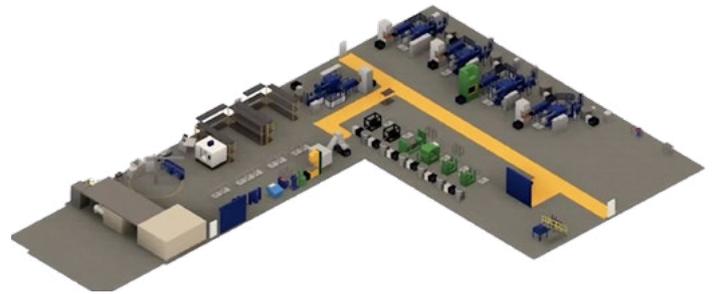
3D printing approaches were also developed for manufacturing bespoke grippers for the automated loading cells.

THE OUTCOME

- ▶ MRT Castings' new foundry opened in March 2020. Through the work of the MTC, staff were engaged throughout the facility design process, which helped to encourage internal buy-in and ease of adoption of new technologies.
- ▶ As an independent RTO, the MTC were able to provide impartial advice to ensure the proposed solutions met the specific needs of the business; specifically, improved productivity and agility, and a first-class manufacturing environment utilising the latest technology.
- ▶ The project also resulted in knowledge transfer and skill development of MRT staff in new subject areas including robotics and design tools. This was also supported by site visits to the MTC.
- ▶ The project delivery met the original objectives outlined by MRT Castings, including budget, timescales, space utilisation, targeted productivity levels and support in futureproofing the business's activity moving forwards.
- ▶ MRT Castings are now exploring future projects with the MTC, including the potential development of in-house additive manufacturing capabilities.

BENEFITS TO THE CLIENT

- ▶ Increased manufacturing productivity and improved agility to respond to changing demands and new opportunities e.g. component parts for ventilators in response to COVID-19 pandemic
- ▶ Expansion of knowledge and skills amongst workforce
- ▶ Speed of project implementation enhanced by support from the MTC and its network of partners, delivered within 16 weeks
- ▶ Increased staff motivation from improved working environment and access to new technologies



What's been great working with MRT is their attitude towards looking to the future; always looking for new ideas and how can they optimise them. From machine automation and the use of VR to support factory layout, we're now exploring an additive manufacturing project to help MRT make the right choices, and set them on the journey to improve their productivity even further.

Nigel Knapp, Senior Business Development Manager, MSS



↑ 100%

increase in
manufacturing space

↑ 500%

increase in production of key
component parts for ventilators in
response to COVID-19 pandemic

↑ 300%

increase in sales
within 12 months