



# Industry 4.0 Digitisation Gap Analysis

## PROJECT

Many foundation industries operate on brownfield sites, often with legacy equipment and bespoke process models. Applying Industry 4.0 technologies to these sites requires the digitisation of aging kit and improvements to the PLC data logging infrastructure.

The project involves creating an industrial demonstrator of the application of Industry 4.0 to brownfield steel sites such as the Institute's Normanton Steel Plant which consists of a 7 tonne electric arc furnace (EAF), combined vacuum degassing and ladle furnace and continuous caster for billets and mini slabs.

The project was funded by Innovate UK, the UK's innovation agency, through its Manufacturing Made Smarter Challenge, and part of the government's Industrial Strategy Challenge Fund.

## THE PROCESS

Structured workshops were organised with brainstorming gap analysis sessions to identify areas for improvements requiring new instrumentation. These were scored based on benefits and ease of implementation.

Following the identification of areas for improvement Key Performance Indicators were identified for benchmarking.

## THE OUTCOME

The structured workshops identified the stakeholders, project success factors, project value drivers and potential Industry 4.0 ideas, resulting in a value chain map of ideas and a prioritisation chart based on benefits and ease of implementation.

## THE BENEFITS

Identifying where to start on the digital transformation process together with how the application of industrial technologies such as the Industrial Internet of Things platforms, machine learning, augmented and virtual reality showed how they could be used to:

- Improve process and product
- Gain competitive advantage
- Increase value
- Reduce costs
- Generate key KPIs

