

5 truths about digital twins and predictive simulation

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With the economy open for business - albeit under constrained operating regulations - manufacturers are faced with a new set of challenges, including how to predict market demand, achieve optimum productivity, and manage workforces in ways that allow for social distancing and other safety measures.



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Digital twinning and predictive simulation are technology tools that allow companies to use the data that they have on hand to test multiple scenarios and validate strategic decisions – without any real-world impact or material cost.

These tools tap into existing data to build holistic digital models of entire production processes, including development, manufacturing and distribution, affording a competitive edge to the businesses that choose to implement and use them.

There are some myths and misconceptions about these technologies, which may stand as obstacles to businesses facing constrained cashflow and other production challenges. However, these two tools could in fact be the key that manufacturers need to unlock the potential of their business. Here's why...

Myth 1: Your manufacturing facility needs to be digitised for a virtual simulation to be possible.

Busted: Digital twinning specialist consultants can gather data about the various parts of a manufacturing plant, whether or not it has been digitised. This data is then used to create a digital model that makes predictive simulation possible.

Myth 2: If I ask a digital twinning specialist for help, they're going to tell me to change everything about my business – and they'll charge me the earth to do it.

Busted: Digital twinning consultants work to the brief you give them. If there's a section of your business that you feel needs attention, they will only focus on issues that affect that specific part of your business. Ultimately, you're the client – and you get to decide whether or not to implement their recommendations or not.

Myth 3: Digital twinning is a fourth industrial revolution technology. Using it means that I'll have to automate or digitise my whole operation.

Busted: Many projects completed by Royal HaskoningDHV have highlighted the fact that full automation and digitisation are usually not the most practical solutions. The extent of automation and finding the right balance is key in positioning your operation and moving towards 4IR.

Myth 4: I know my business better than any external consultant could – I don't need help planning for the future.

Busted: An external consultant could challenge your existing models and processes, using their experience gained in working with similar (or very different) industries. Digital twinning consultants also look at these aspects with a 4IR perspective to help you find new efficiencies, boost reliability, and optimise production processes all with sustainability in mind.

Myth 5: Consultants cost a lot of money – my business can't afford them right now.

Busted: Technical consultants that specialise in manufacturing systems and processes, digital twinning and predictive simulation can help you find ways to maximise efficiency, boost production, and reduce costs – meaning that the return on investment into their time will be to your business's benefit in the long term.

It's also worth noting that digital twins and predictive simulations can be as far-reaching or as focused as your business requires whether you want guidance on your entire production process and supply chain, or whether you just want to interrogate and optimise one part of a production process.

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