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# Identifying value in Digital Twins

# How much value will a digital twin deliver to your business?

Many organisations believe they can save money using digital twin technology, but don't have the time or know how to develop a robust business case.

BEYON's Mari Huusko, explains the factors that indicate a digital twin could be a valuable investment for your company and how to get started.



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Most industrial organisations appreciate the potential for digital twins to deliver significant savings. For example, a digital twin enables plant and assets to be remotely inspected and maintained, saving time and money, and reducing the safety risks of working on job sites.

Not surprisingly, we're increasingly seeing our clients use digital twins to understand, predict and optimise industrial performance, in the process often dramatically improving business outcomes.

For those companies still toying with the idea of digital twins, you'd think building an investment case would be a no brainer. The idea of being able to use every resource wisely is extremely compelling. But putting robust numbers on that value is complicated.



# Barriers to a business case

When we first started running a benefits calculation process to help our clients figure out a credible business case for a digital twin, we discovered that organisations struggle with three main hurdles.

## 1. Multiple stakeholders

The data thrown off by a digital twin can be put to use supporting many different parts of your organisation, including: engineering, production, product design, maintenance, risk management, capital investment, procurement, safety, and learning and development.

But the initial champions of a digital twin typically only look at its value from their perspective. They often need help to figure out where else the data can help others in the organisation to be more effective and efficient. Sometimes, they discover the digital twin they want to invest in will actually generate more value for another part of the business.

For example, rolling out a digital twin for site induction purposes, although valuable, will never bring the same level of benefits than using the same data to

help the maintenance team increase OEE.

## 2. Non-intuitive benefits

Often value comes from areas no one had imagined. Having constructed a digital twin for a facility, one client realised they could also run procurement through the tool.

Rather than having to accommodate the time and safety issues associated with potential suppliers coming on site to perform measurements, external bidders could now view and get access to everything they need through a secure platform.

In another example, the digital twin created to support the construction of a new greenfield became a lifeline for capital project reviews during COVID. This global client relied on digital twin data to compile weekly reports, supported by 360-degree information and drone scanning. On screen, the review committee could see the actual site side-by-side with the design drawings, creating confidence that the build was on time and delivering the intended result.

### 3. Hidden pockets of value

Most people imagine identifying and calculating value is simple maths. You know how long it takes an engineer to travel to the plant to inspect it. You know the cost of their time. You calculate the saving if they don't have to travel.

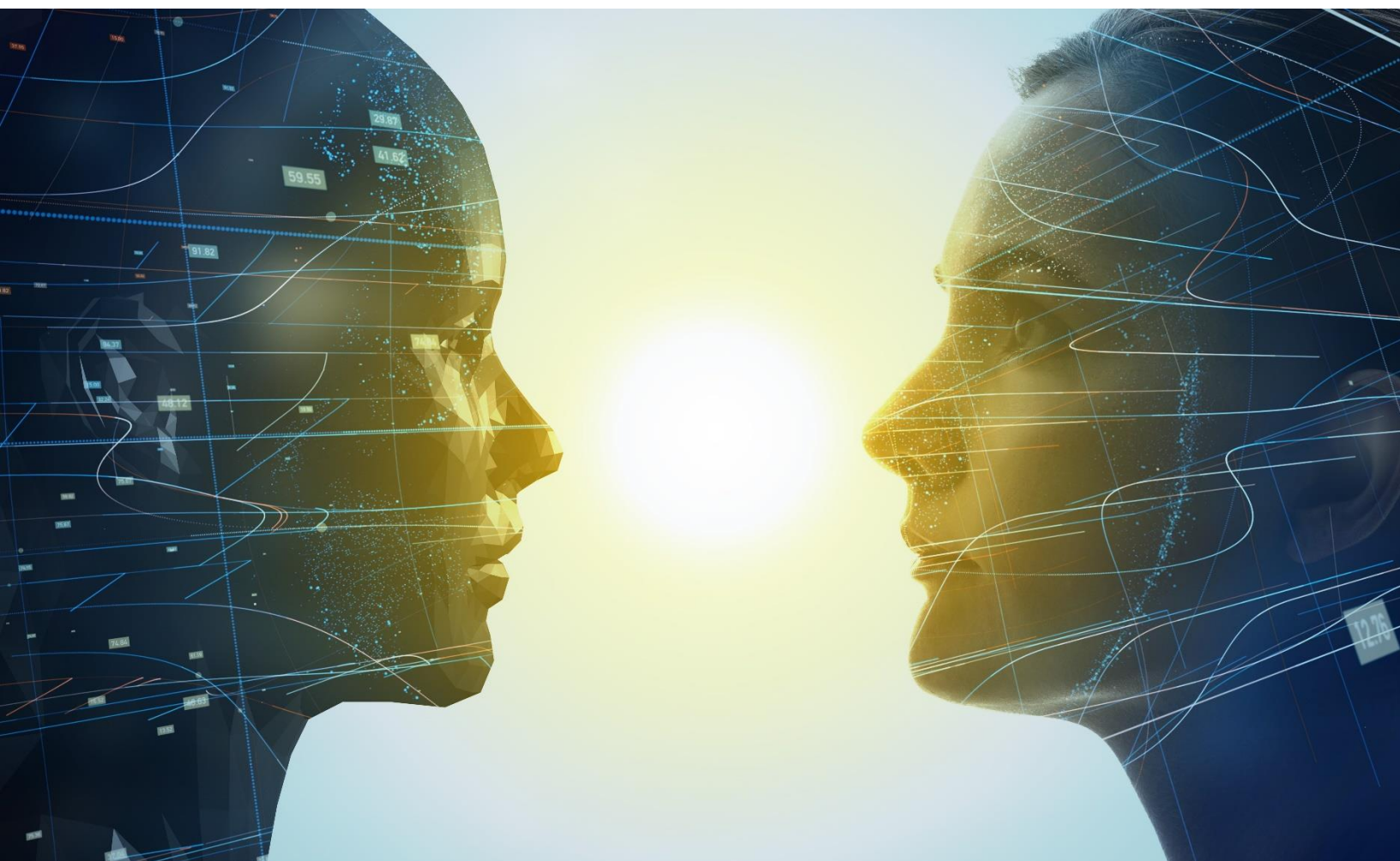
But, in the real world, a lot of the details around value (what it is and how much it's worth) are buried in people's heads.

It takes someone with institutional knowledge to know how much time people are wasting because they don't know where to find the information they

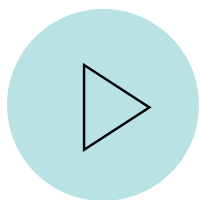
rely on to do their job, which with a digital twin would be instantly available in the right context.

It takes decades of experience to put a number on the value delivered if 70% of the walkthroughs for shutdown planning – or all the clean room familiarisation training – can be carried out remotely.

When we run benefits mapping workshops, the most important information comes from people who have hands on use of the data. These are the people with knowledge in their heads that no system currently captures. The people whose pain points the digital twin will help to resolve.







# How to get started

The first thing to recognise is your organisation needs to be on the path to digital transformation – with digitised assets, systems, and processes – before digital twin technology becomes viable. The second is that not all digital twins are created equal. For your digital twin to deliver real value it must be:

## ✓ **A true replica**

Your digital twin must look like, behave like and be connected to the real thing. A lot of people start their journey with the visualisation aspect on its own because seeing it 'makes it real' for people and you can start deriving tangible value immediately. But that's not enough. To support multiple use cases and predictive analytics, you need all three aspects in place.

## ✓ **Platform agnostic**

Your digital twin must integrate with all your systems and pull data from them, so there's no possibility of inaccurate data, data replication or keyed-in data.

Now you can start to look at value. As a quick rule of thumb, the value delivered by digital twins increases exponentially when you have:

## ✓ **Multiple use cases**

Value comes from 'create once, use many times'. To find your use cases, identify the hands-on people you think will benefit most from a twin and get them to map out and co-design the activities and identify with them the most opportunity for value adding. This will tell you where the twin needs to be pointed.

## ✓ **Data contextualisation**

This happens when you combine insights from different data sources and types to empower people with real-time information. For example, an asset management system on its own will be able to highlight to a maintenance engineering the proper procedure to replace a broken component.

On the other hand, data contextualisation means the digital twin can tell a maintenance engineer: "This is where the broken component is located and what it looks like. Here's where the tools you'll need are stored. Here's a map of the plant and the safest path to get to the component. Here's a video on how to fix it following the right procedure."

The more data sources you add, the more context you weave, the more value you get out of a digital twin.

✓ **Experienced, engaged veterans**

Digital twins offer an opportunity for veterans to encode their institutional knowledge, creating a lasting legacy that can empower future generations to optimise their use of the plant or asset.

Finally, to quantify value, you need to involve the people who will be hands on with the tool. Get the people who experience pain points every day – the ones who truly know the realities of your business – to assess the gains and the cost of not addressing current issues.

Now you're ready to approach the business with an exciting proposition to deliver value across the enterprise.

**If you think a digital twin would deliver value in your organisation, we can help you with discovery and benefits mapping to build a robust business case.**

**Get in touch to learn more**

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