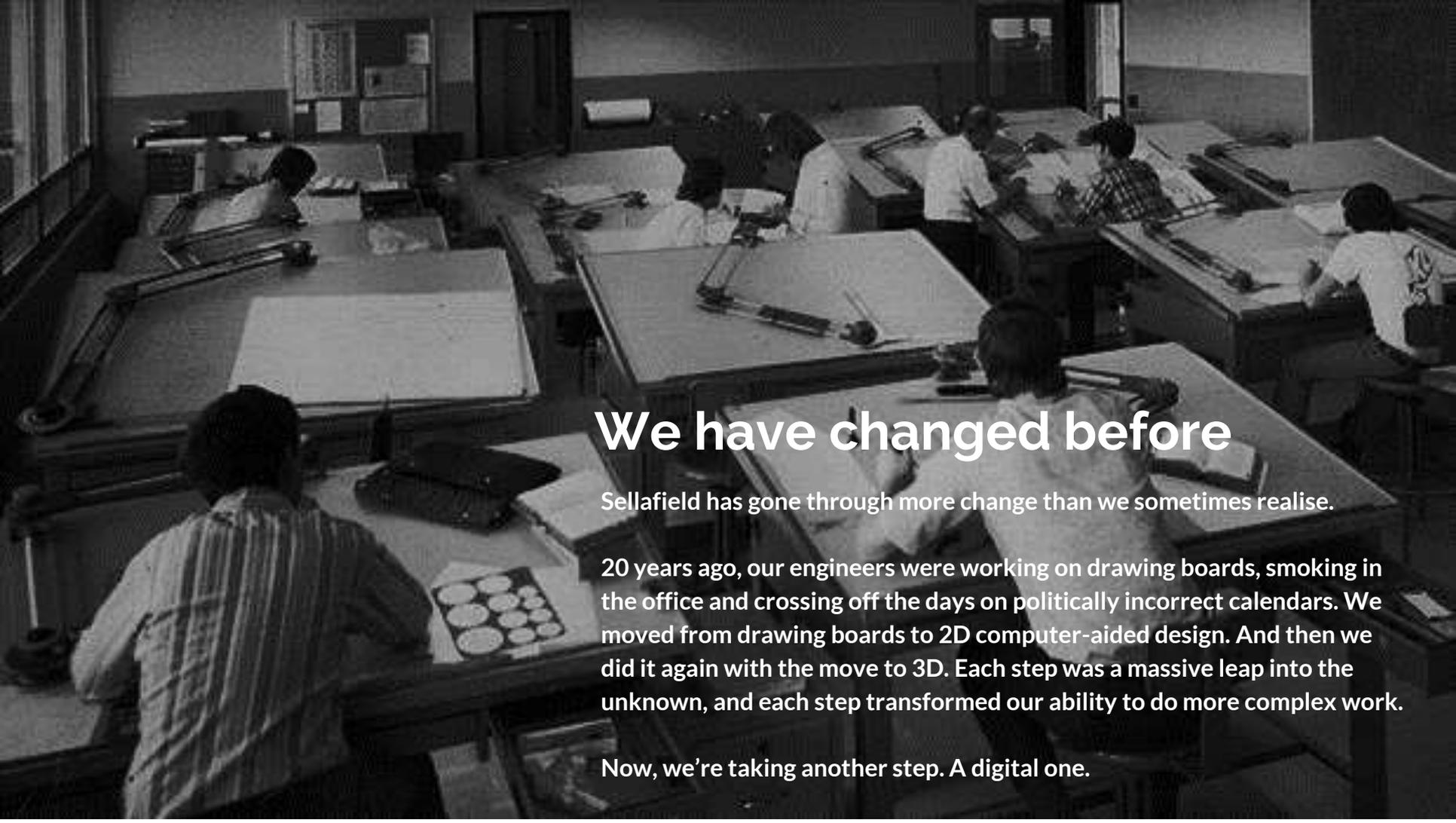


Sellafield's digital journey

Introducing our shared digital journey.



John Robison, Head of Digital Engineering Capability.



We have changed before

Sellafield has gone through more change than we sometimes realise.

20 years ago, our engineers were working on drawing boards, smoking in the office and crossing off the days on politically incorrect calendars. We moved from drawing boards to 2D computer-aided design. And then we did it again with the move to 3D. Each step was a massive leap into the unknown, and each step transformed our ability to do more complex work.

Now, we're taking another step. A digital one.

Digital Transformation

Why digital is important to Sellafield

Digital, under the banner of Building Information Modelling (BIM), is one of the most notable aspects of the UK Government's strategy for improving efficiency in the project delivery, construction and long-term care of national assets. Adopting it enables Sellafield to do more for less and reduce the risk we carry in what we do.

National industry bodies such as the Infrastructure Projects Authority and the Institute for Asset Management have identified the key components as pivotal to the future of the UK infrastructure sector.

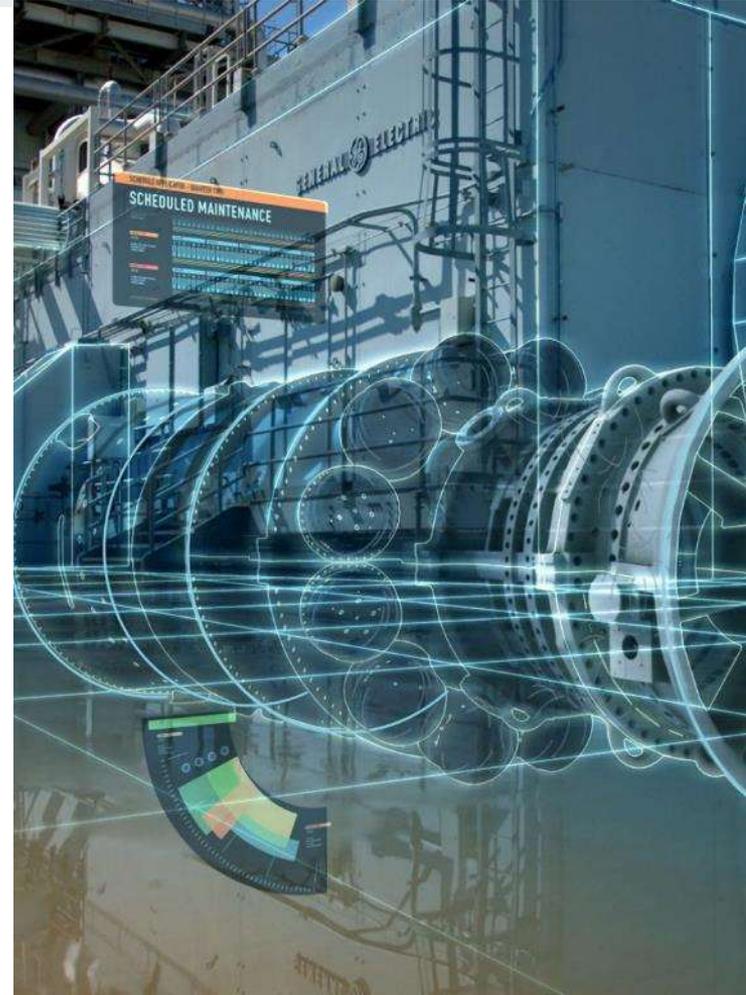
In recognition of these opportunities, our supply chain is working alongside us, deploying BIM within current projects, and this will be a central theme to the delivery of projects under the PPP arrangement.



What is BIM?

BIM (Building Information Modelling) is a framework that helps us translate our requirements and physical assets, such as buildings and components, into the digital world. The three core concepts are:

1. **The Digital Twin:** BIM helps create intelligent representations of facilities, equipping us with a 'single source of truth' for engineering information.
2. **Integrated Systems:** BIM brings information systems together, taking processes like drawings, planning construction sequences, estimating costs of care and maintenance, and managing inventory to a new level
3. **Creating Collaborative Communities:** the BIM method uses controlled, collaborative environments that allow us to share information between our teams, suppliers and stakeholders with far more efficiency and transparency.

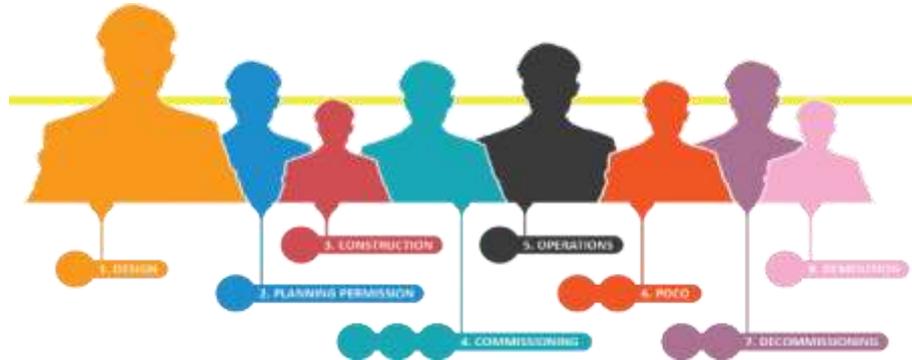


Benefits across the lifecycle; starting at Design

At the **Design** stage designers, clients and end-users to all work on the Digital Twin. Where they can test that everything works long before anything gets built.

At the **Construction** stage, the supply chain efficiently share precise information about components which reduces the risk of errors and waste.

In **Operations**, the world of the Digital Twin can be fully exploited, automating many of our manual tasks and reducing asset maintenance costs by up to 30%.



In **Commissioning**, we use the Digital Twin to ensure that all functional requirements are met, and that the end-product matches our designs.

POCO and Decommissioning, we use the Digital Twin to estimate costs and timescales with a high degree of accuracy. We can instantly value our waste streams and simulate the removal of high-hazard assets.

These benefits can only be realised if we work together.



The key to the digital lifecycle

Digital Engineering is the key to Sellafield's digital transformation for our built assets.

To get value from our assets across their lifetime, we need to create valuable information at the front end.

Digital Engineering procedures and assurance processes are the key to realising this trusted information.

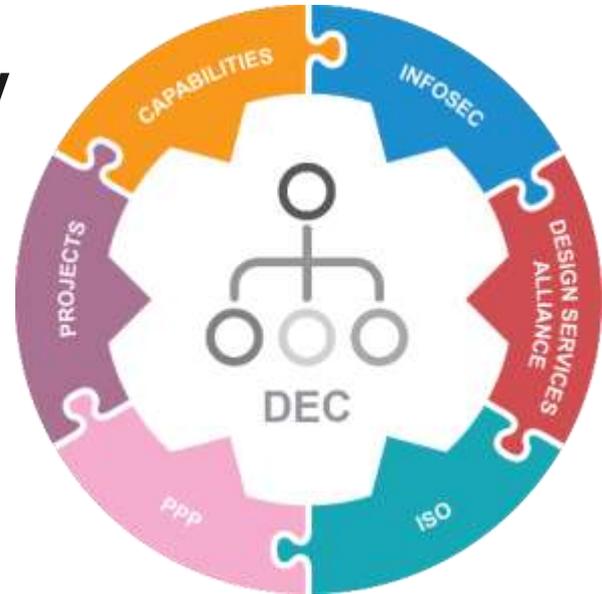


Digital Engineering Capability

The DEC replaces and increases the capability of the CAE CoE, the Digital Engineering Capability (DEC) has responsibility for Sellafield's adoption of BIM, making sure we realise the opportunities for better, safer digital working.

The DEC is there to support projects, transformation initiatives and other stakeholders in understanding the positive impact digital engineering approaches can have. It also provides support in deploying them across the business.

DEC can help with guidance and oversight for digital engineering, digital process improvement and project inception.



A multidisciplinary, team from across Sellafield's functions and delivery partners.

Digital Transformation

Sellafield are leading the way

Across the UK nuclear sector, digital engineering is taking hold. In new build, Hinkley Point C, Hitachi /Horizon's Wylfa development and a raft of SMR, developers are all basing their project delivery on Digital processes.

In benchmarking discussions, Sellafield have been shown to be at the forefront of implementation, demonstrating excellence against national nuclear and major infrastructure programmes in our maturity of approach to digital.

The NDA estate has highlighted Sellafield's BIM strategy as being an exemplar for the rest of the NDA estate. – but we need to do better, we can learn from other industries.

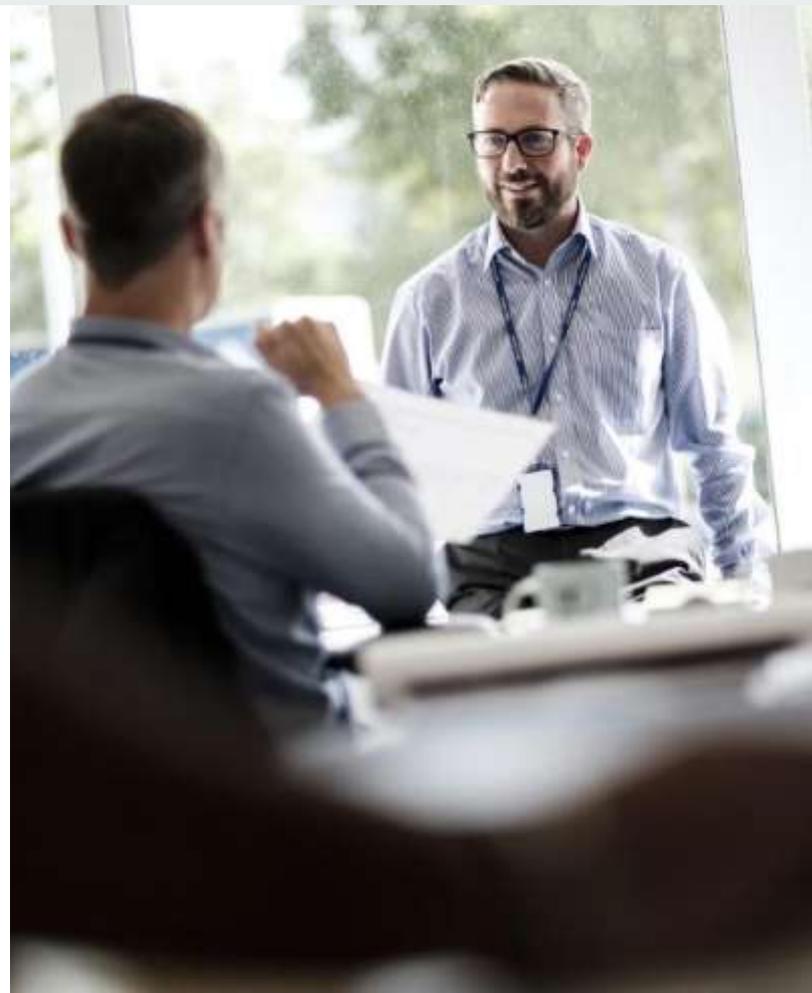


Story for all

What you need to be doing now

Benefits can only be achieved if all parts of the lifecycle adopt the new ways of working. To do this the following needs to be happening across the whole lifecycle.

1. Each value stream within the organisation needs to have its own **BIM adoption plan** that fits within the Sellafield-wide transformation plan. Each value stream needs to be doing this in advance of PPP.
2. Each area needs to **understand which parts of BIM present opportunities** to do things better and more efficiently for them.
3. Each area needs a **locally relevant transition plan** which includes time to test a number of concepts on pilot projects to determine what is appropriate for them.



Story for all

Next steps for PDD

To ensure that our work delivers greatest value, we have the following requests for PDD Leadership...

1. Act as advocate, to spread the word about digital engineering change amongst the leadership team and value streams.
2. Act to ensure that digital engineering's central role is recognised throughout SL's transformation strategy.
3. Support our work in transitioning projects into new ways of working, helping to overcome resistance to change and reassure project stakeholders.



The end

Thank you for listening; you are part of the digital journey.

