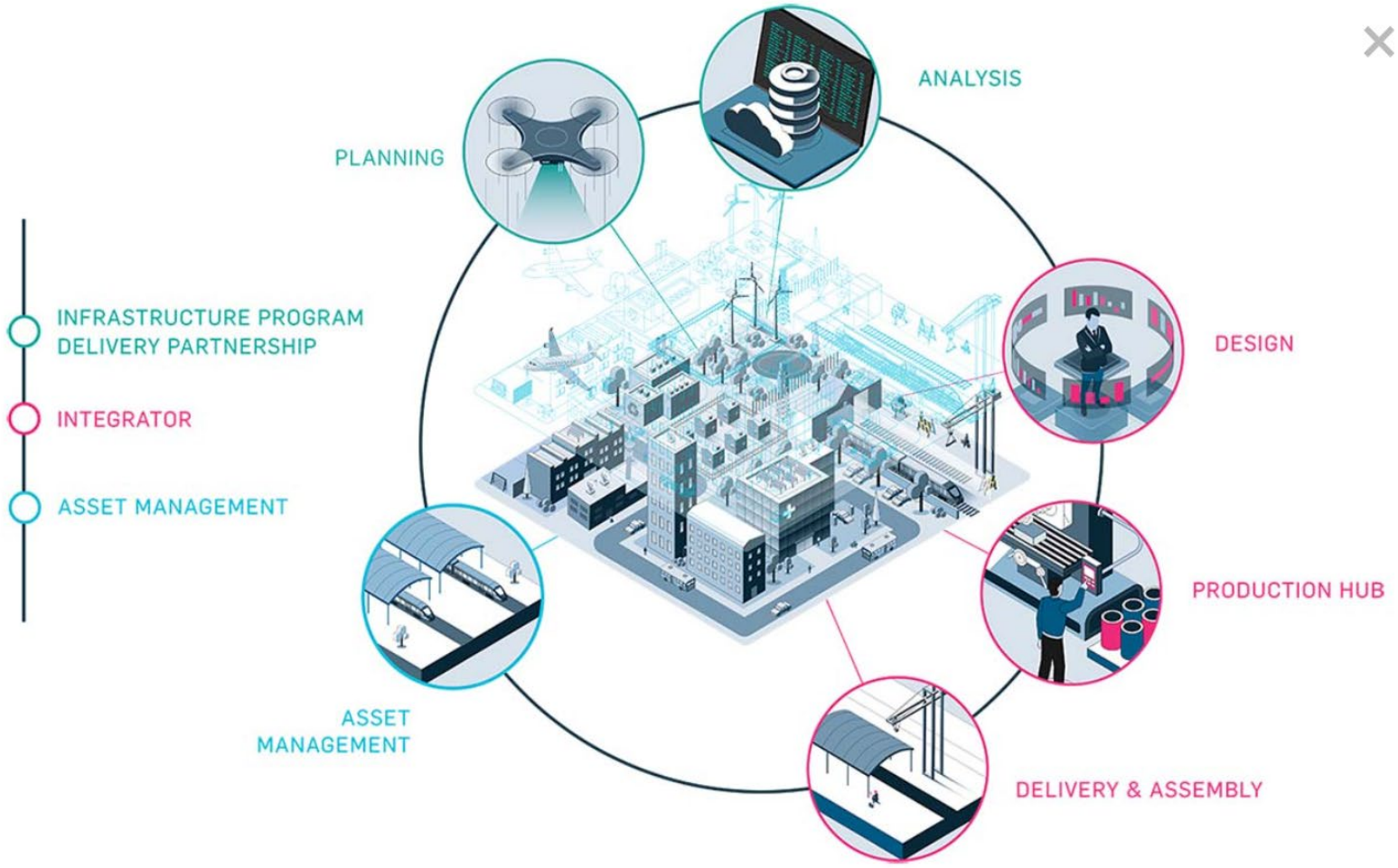
Getting good asset information

automating information handover processes on the journey towards the 'digital twin’

Mark Stilwell is an associate director at Atkins Realis, specialising in project handover and asset integration. Currently working within the defence and aviation sectors to develop new ways of integrating geographical and non-Geographical information into client systems, notably collaborating with Manchester Airport Group to develop a systemised approach to project information management and asset integration.

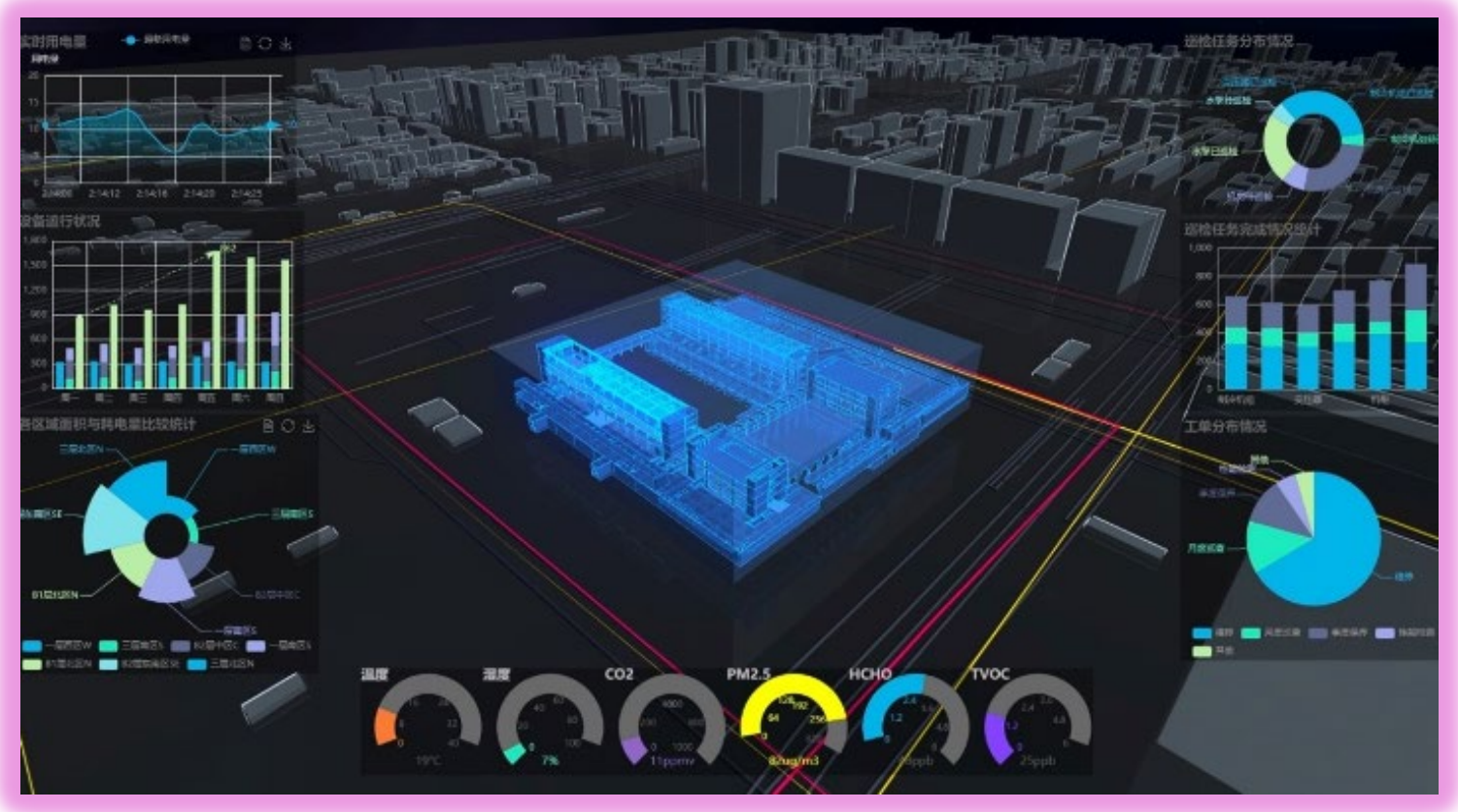
With a career that has spanned 22 years as an electrical systems and commissioning engineer and 9 years asset management experience within the aviation sector, having previously lead the Asset Integration and Operational Readiness teams at Heathrow Airport; successfully ‘bringing into use’ assets totalling over £3Bn. Mark was the project handover subject matter expert and part of the steering group within Heathrow Airport that developed the project gateway lifecycle model, and the successful award of ISO 55001.



Asset Management considerations to determine the appropriate digital twin:-

- What do you want it to be not what is it?
- Is it adding value to the business?
- What quality will it improve?
- How will it make Asset Management decision making clearer, based on accurate information?

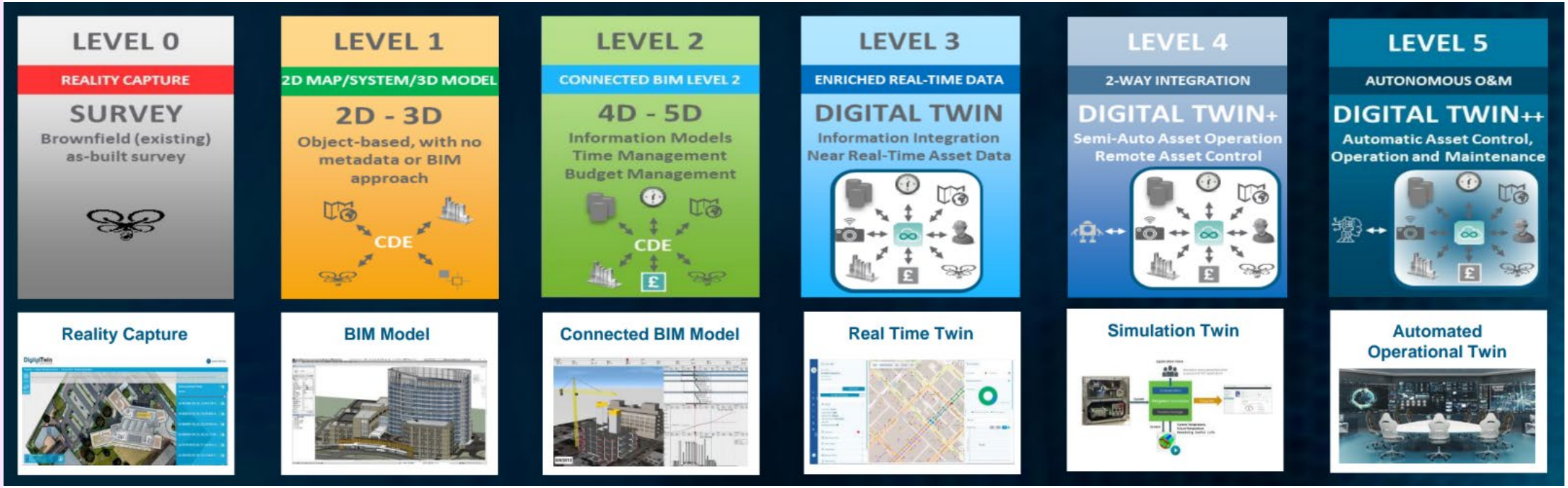
A digital twin enables data-driven and informed decision-making about an asset-related task or activity



THE DIGITAL TWIN IS COMPRISED OF 2 CORE COMPONENTS:

1. A virtual representation of the physical asset – this could be very simple or highly sophisticated, depending on user requirements.
2. A data connection between the physical and virtual worlds – the degree of this connection indicates the maturity of the twin, ranging from no data connection to live streamed sensor data to enable autonomous asset operation.

Our digital twin services are mapped to Digital twin maturity levels. This mapping enables us to focus on delivering the right services to our Clients based on their maturity and objectives.



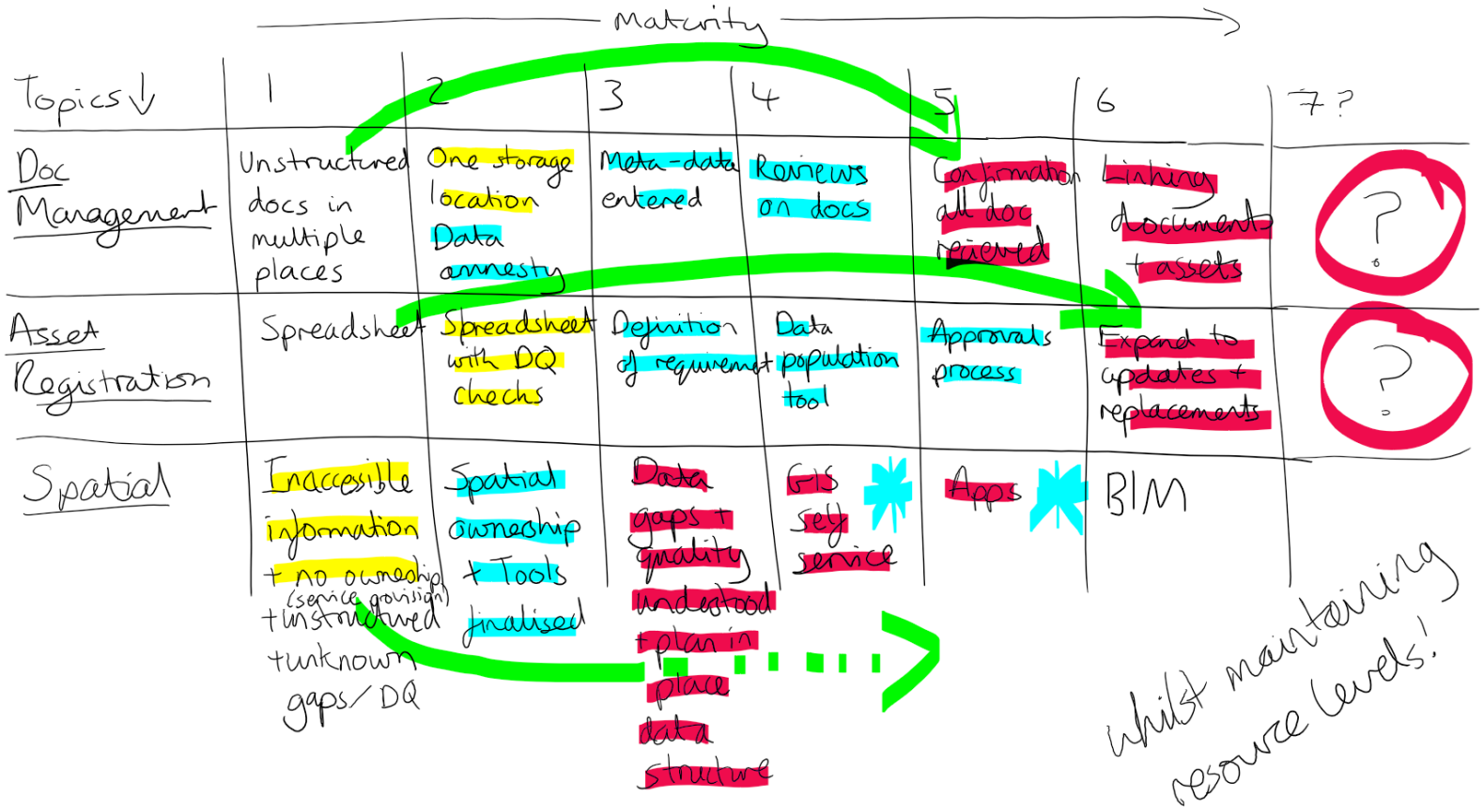
The required benefits of a digital twin

- Accessibility to all Asset Information, by everyone. You don't need to be an IT expert.
- Visualisation of the asset.
- Real time asset health.
- Information anywhere via mobile devices.

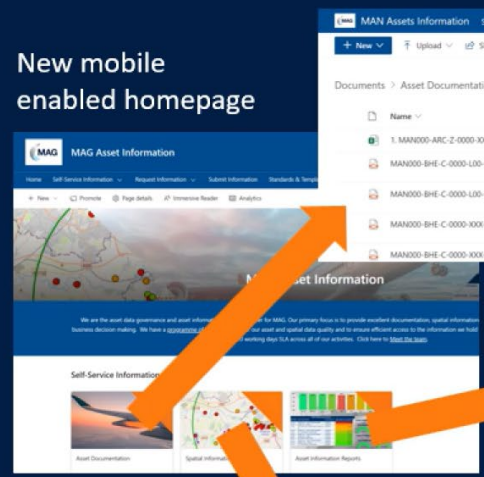
Matt Linnell

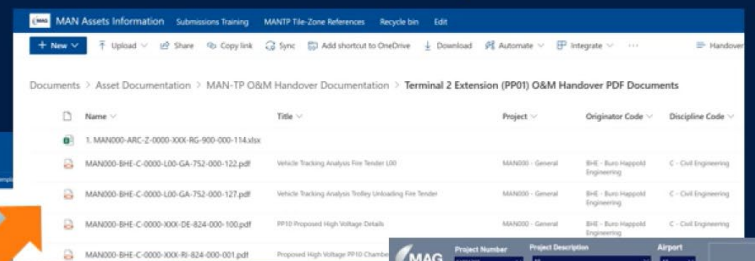
Asset Information Manager for Manchester Airport Group

"I've been on a journey and I've not left the airport"

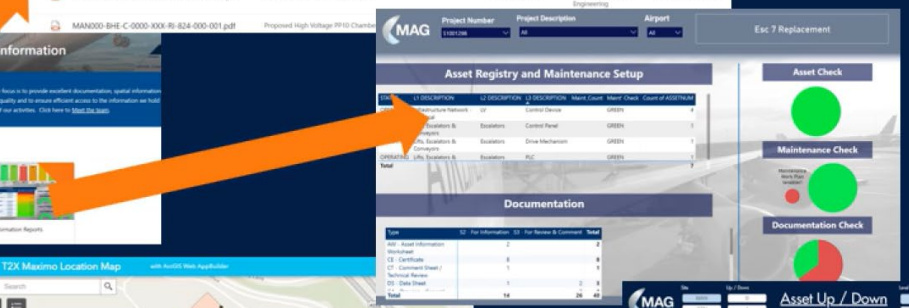


New mobile enabled homepage

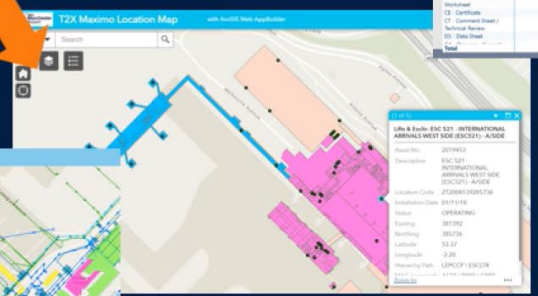


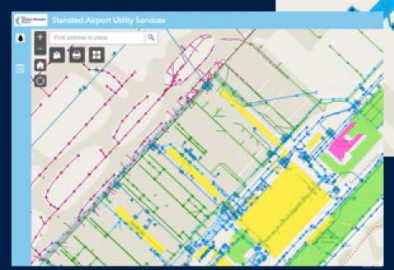


Document management system for approving project submissions, fully searchable meta-data

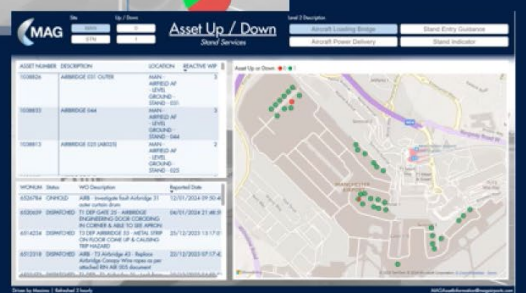


Project information deliverables tracking, enabling contractor and approvals management





Interactive spatial self-service portal – site maps, terminal layouts, asset locations, utilities drawings

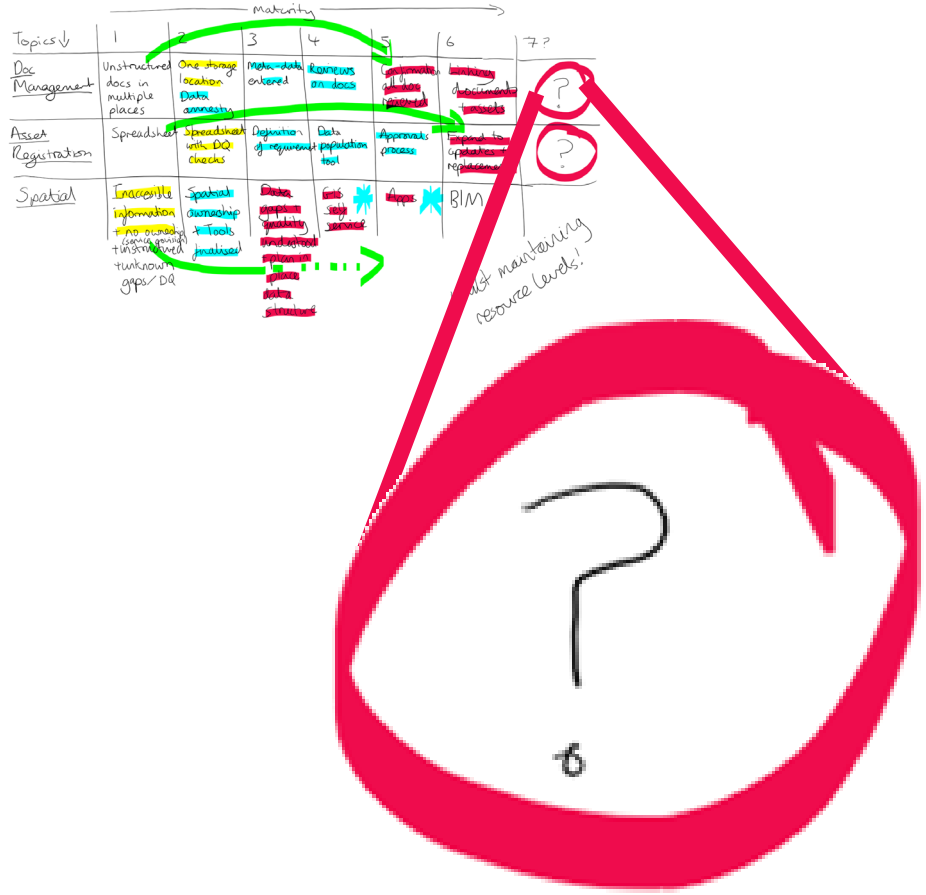


Maximo asset information reports e.g. work order analysis

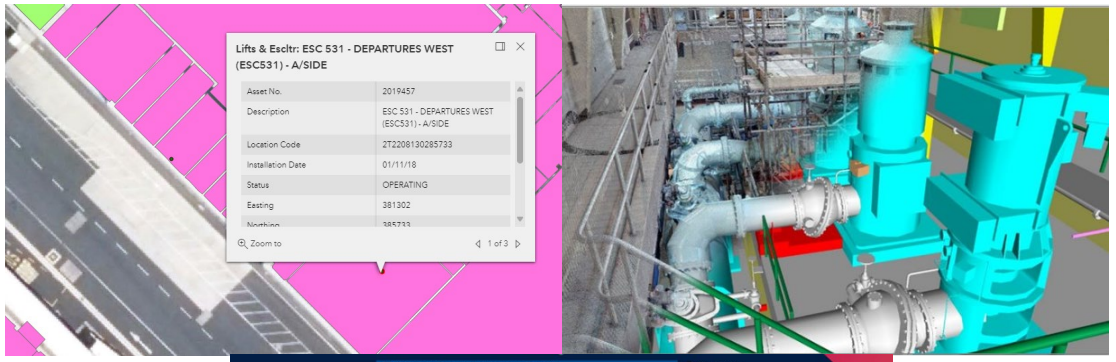
Problem	Solution
Accuracy / clarity	We developed a asset registration tool which not only clearly defines specific asset record requirements, but documentation, drawing and asset tagging requirements too.
Time / efficiency	We developed an automated process to populate a MIDP, enabling IT to do the IT and allowing the team to focus on the quality of the documentation they are delivering not the administration.
Delivery / trackability	Using Confidence Points to prescribe the last responsible moment for information to be delivered. Ensuring information is seen as important as the physical assets they support.
Disparate record keeping	By generating asset information requirements from our EAMS we have been able to link the requirements to specific asset records
Digital twin	Challenged the status quo that a digital twin needs to be 3 or even 4D and focussed on the interconnectedness and availability of our data

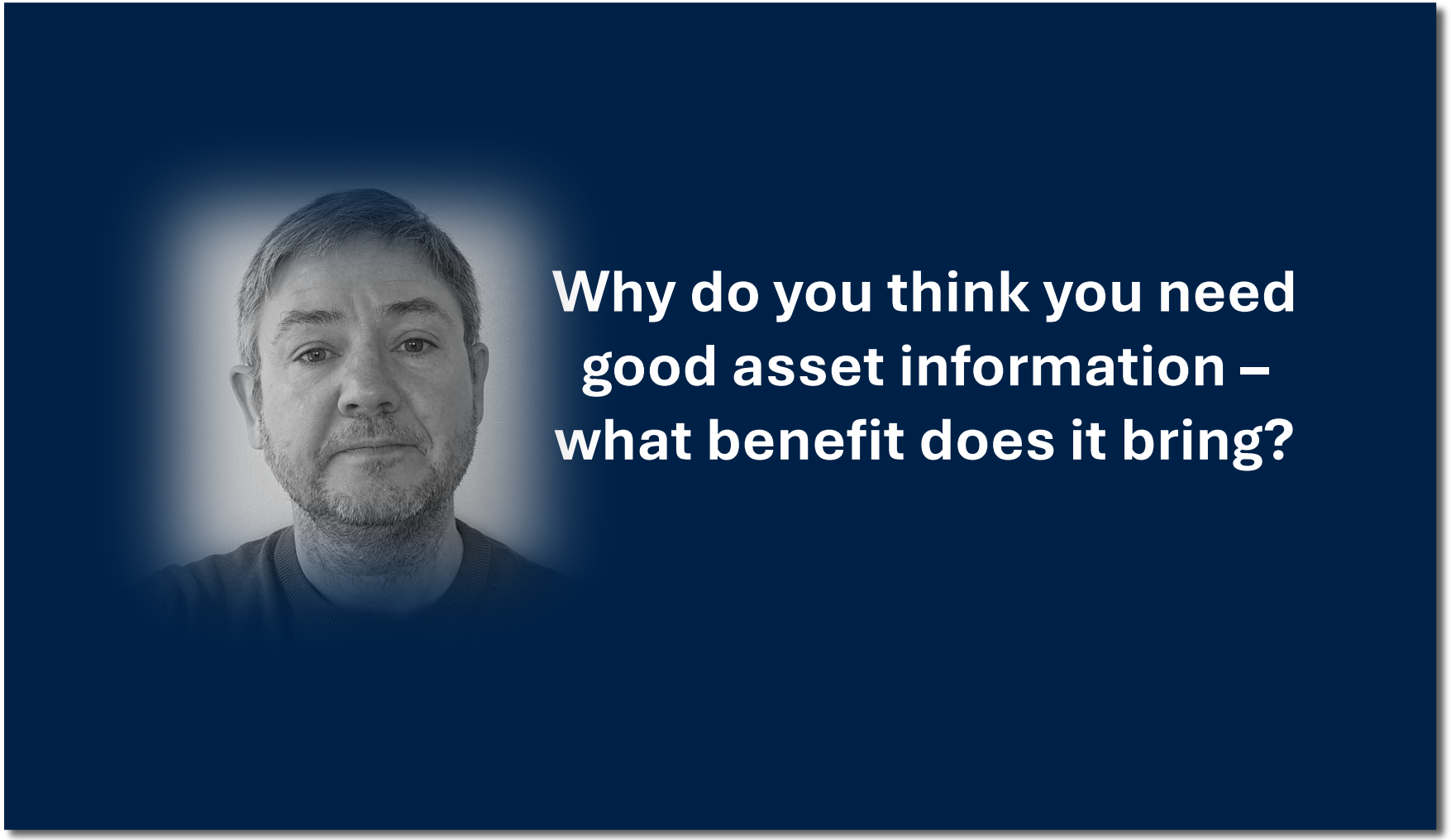
Matt Linnell

Asset Information Manager for Manchester Airport Group

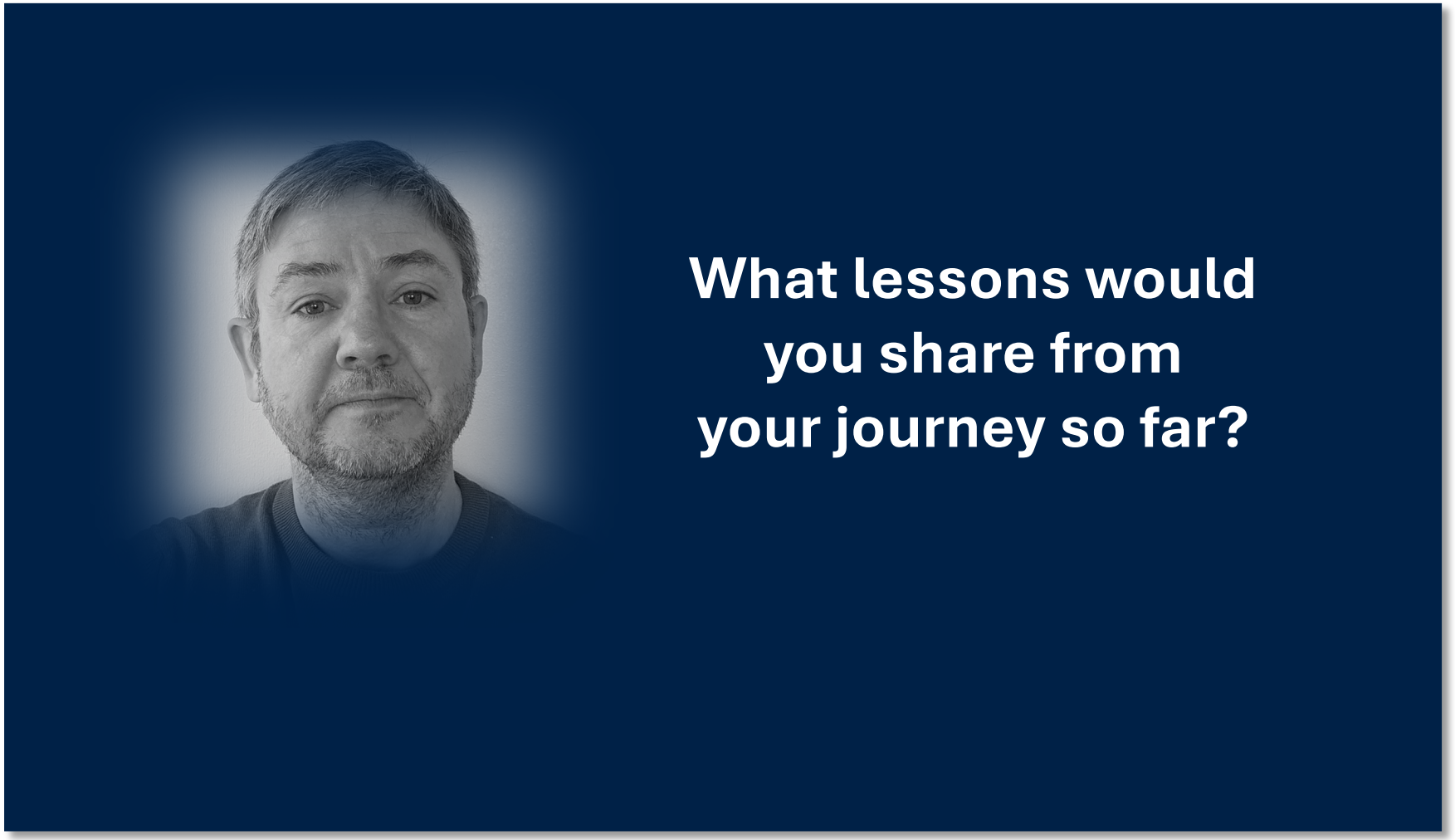


"I've had the sat nav programmed for a while now, so I've known where I'm heading"




Why do you think you need good asset information – what benefit does it bring?

What have been the biggest challenges on your journey so far?


What lessons would you share from your journey so far?

Whats next?

What has MAGs journey created?

- Accessibility – through interconnected systems
- Simplicity – through clarity and consistency
- Time – through automation
- Quality – through systemisation

Our tips?

Start thinking digital now

Figure out an appropriate target

Map your journey

Collaborate!