The internet of things: a nightmare or golden opportunity for the construction industry

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About the speaker

Stephanie Whittaker

- 19 years in the construction industry
- I lead the ENCORD Foresighting workgroup exploring how forces of change will impact the industry
- Senior marketing and communications professional at BAM
- Construction trends, digital, IoT and smart cities blogger





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- IoT: a quick overview
- What are we already doing in construction?
- What are the opportunities?
- What are the challenges?
- Next steps

IoT: a quick overview



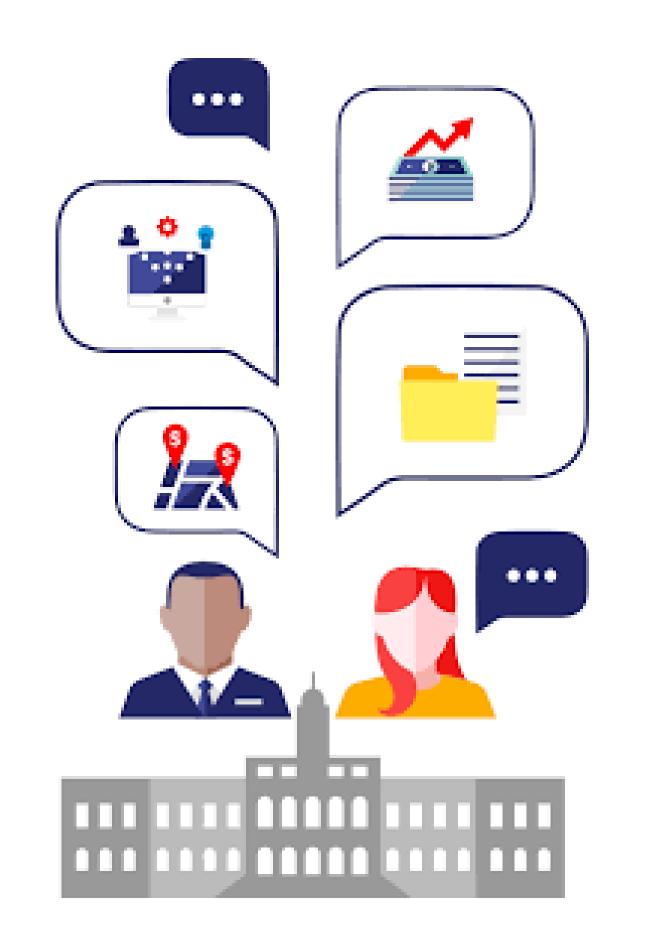
What is the Internet of Things (IoT)?



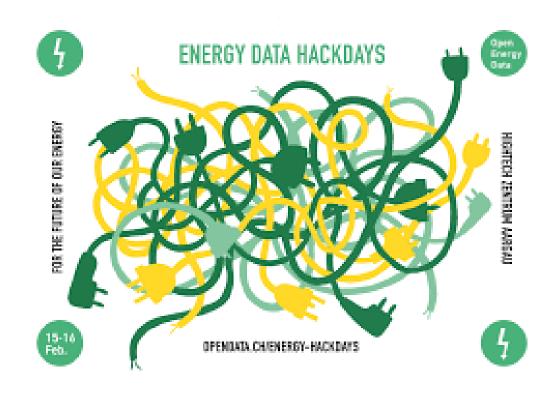
loT: Big data



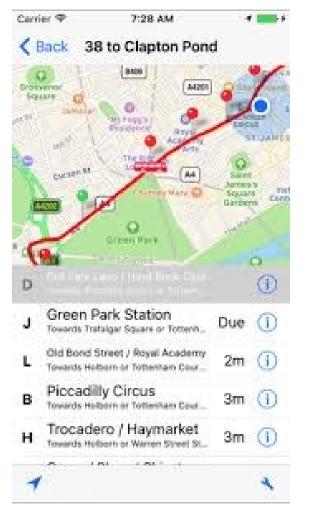
IoT: Open data



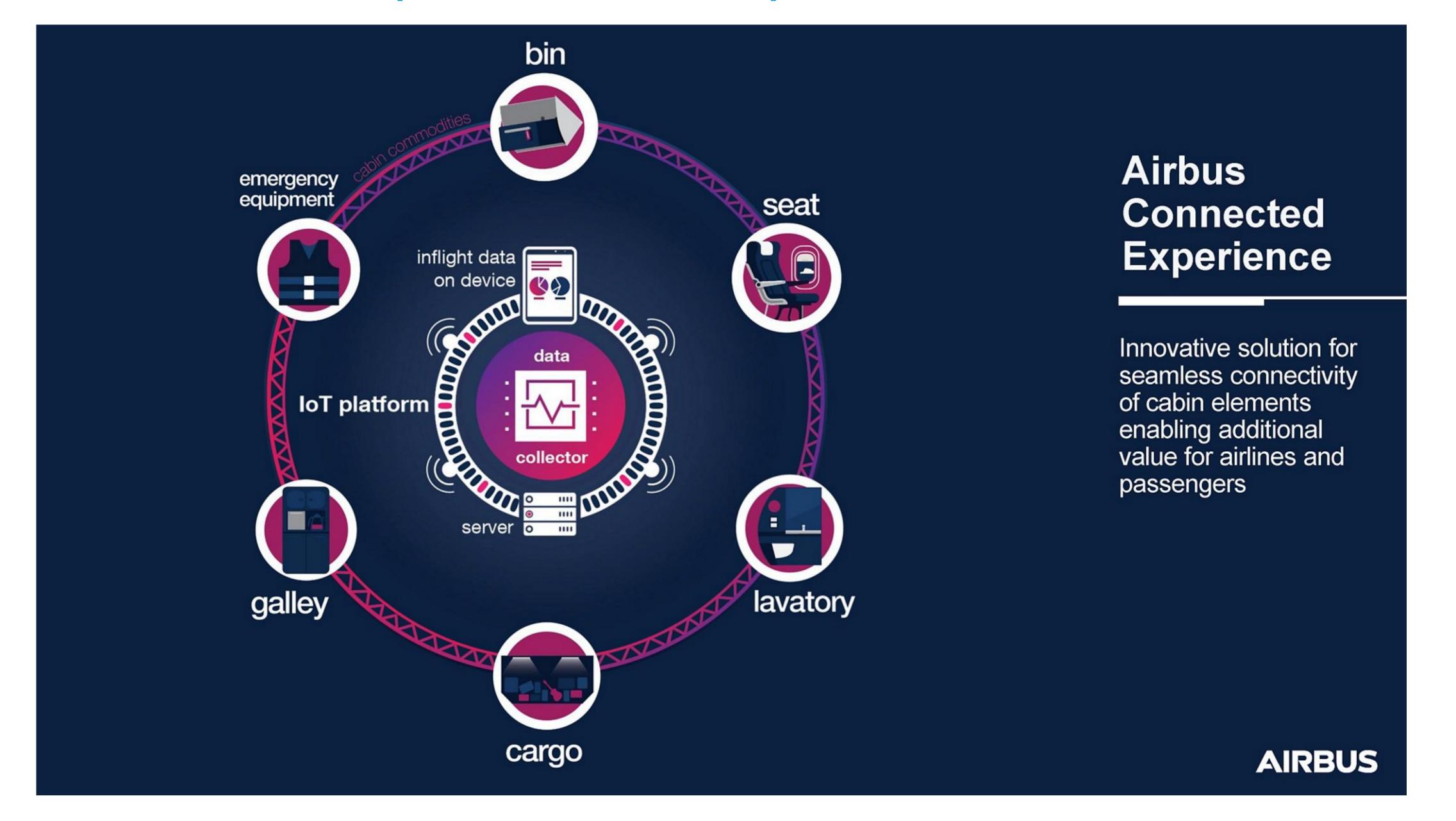






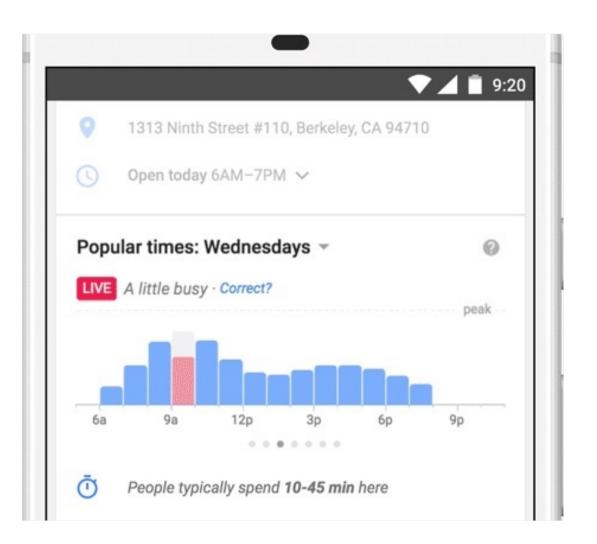


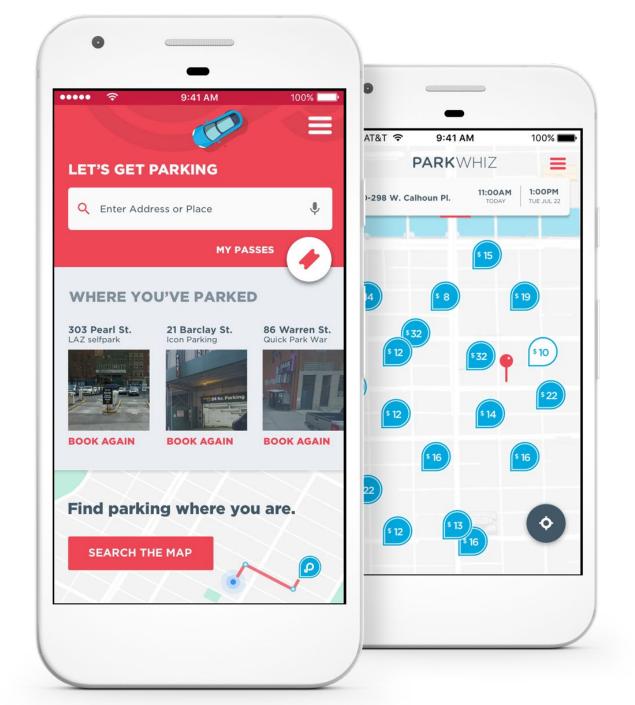
Better user experience and operations

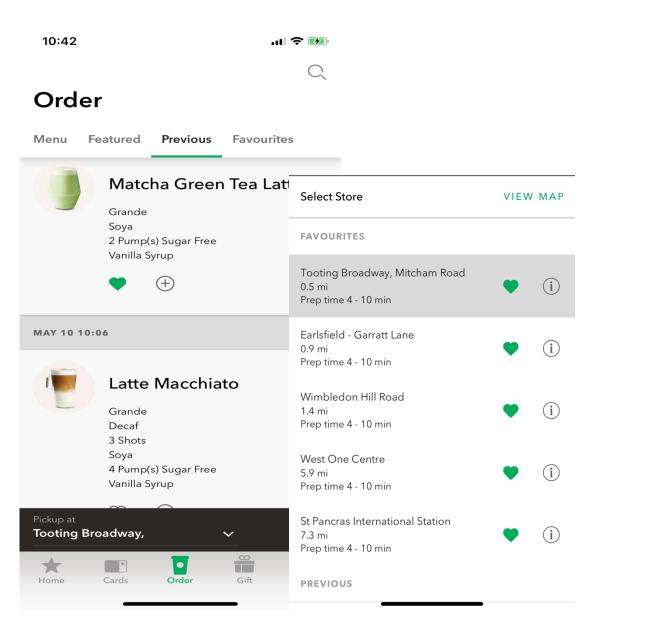


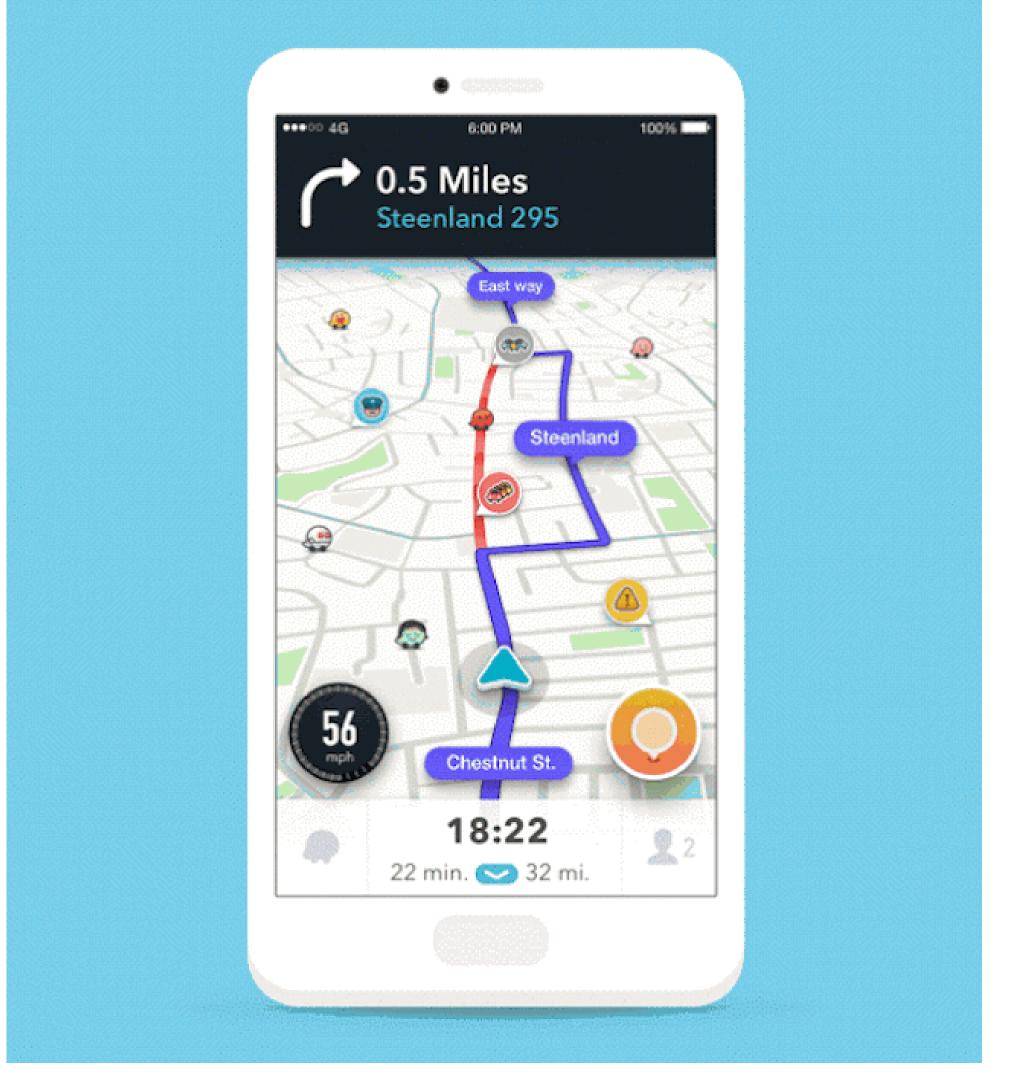
Better decision making and outcomes



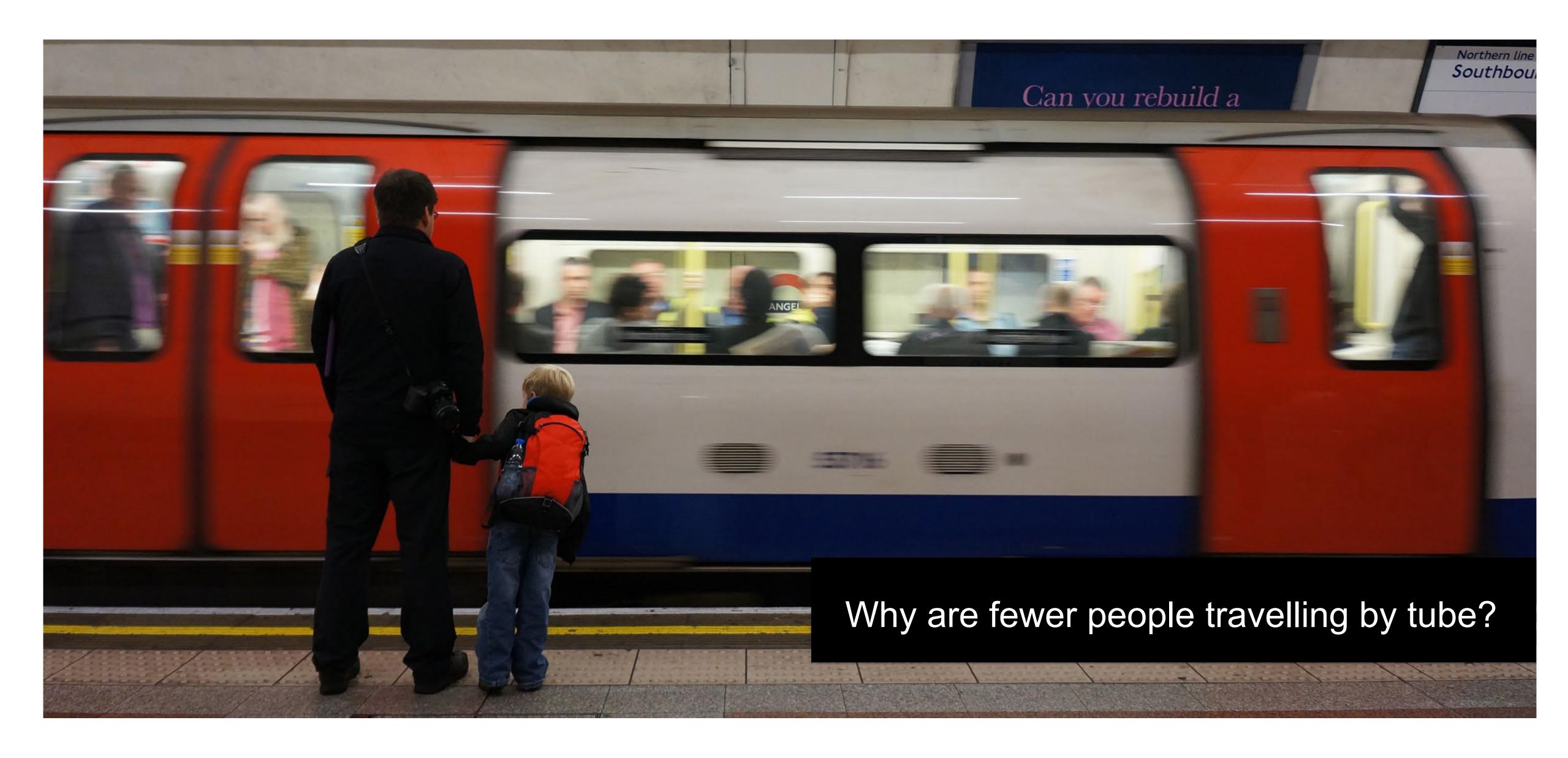




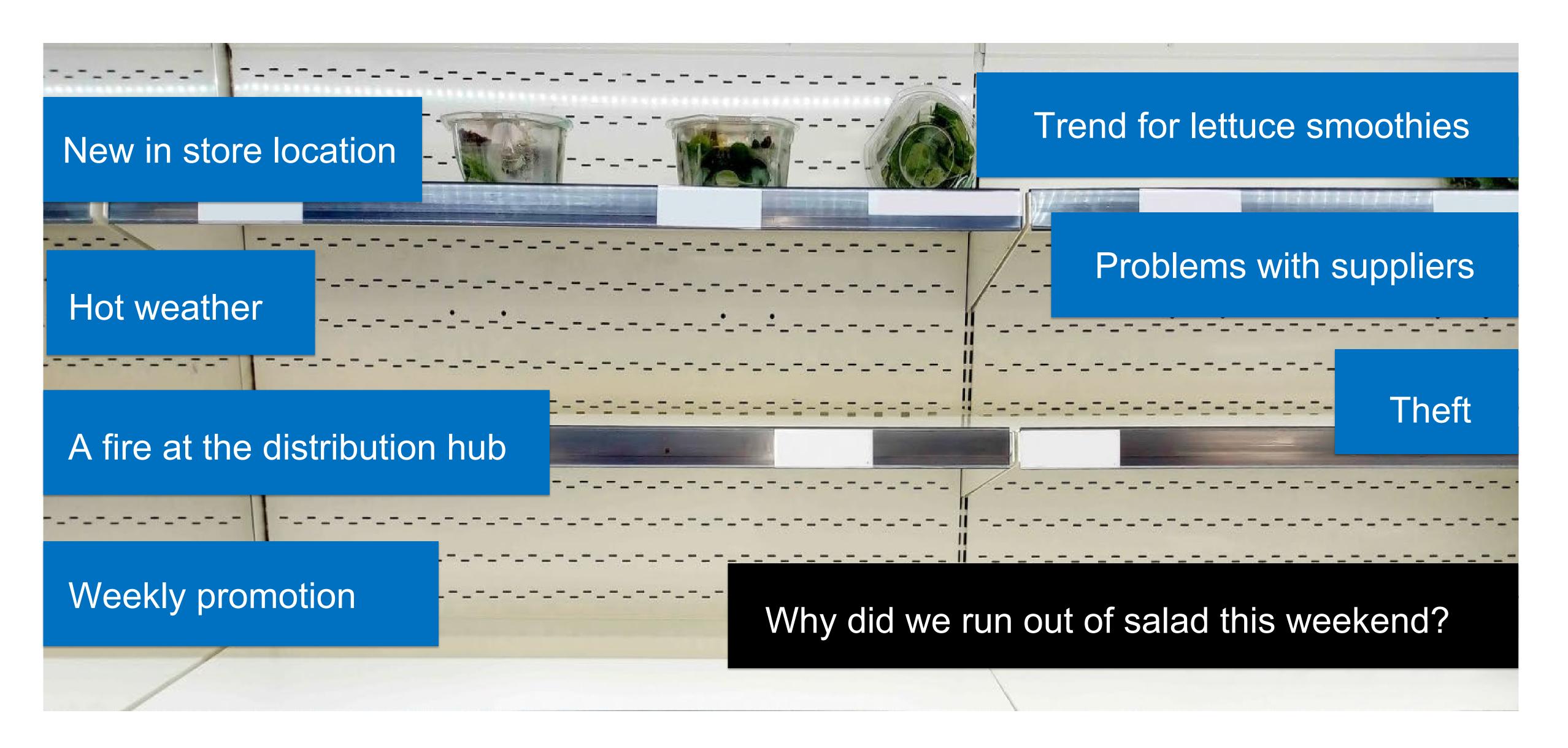




Better insights



IoT: Data analytics – multi-variables



IoT: Data analytics – data collection





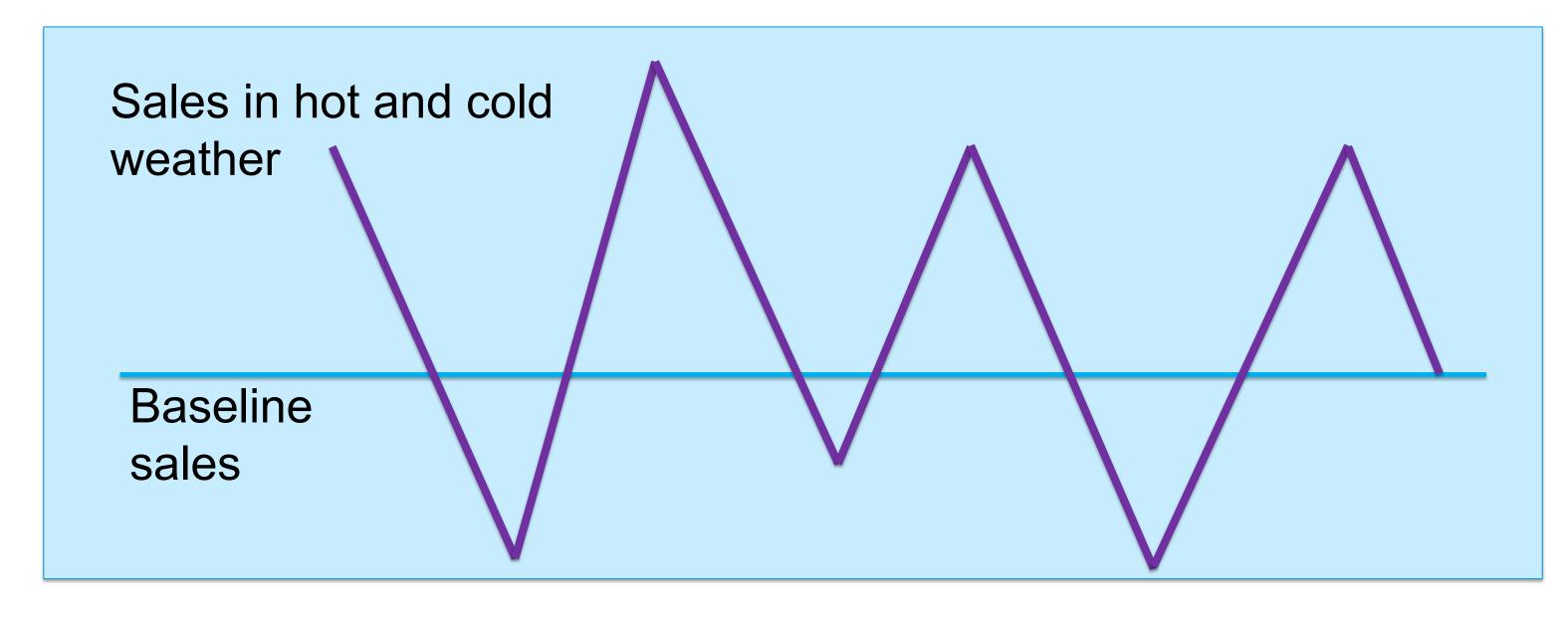


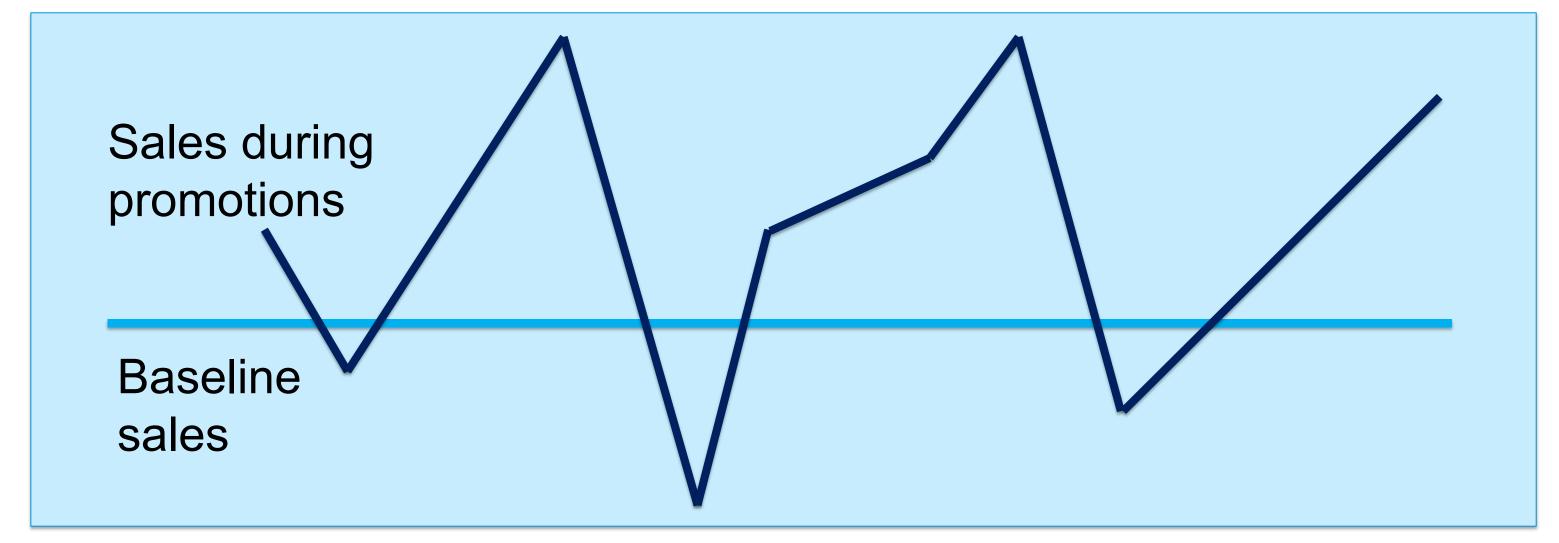






IoT: Data analytics – multi-variables





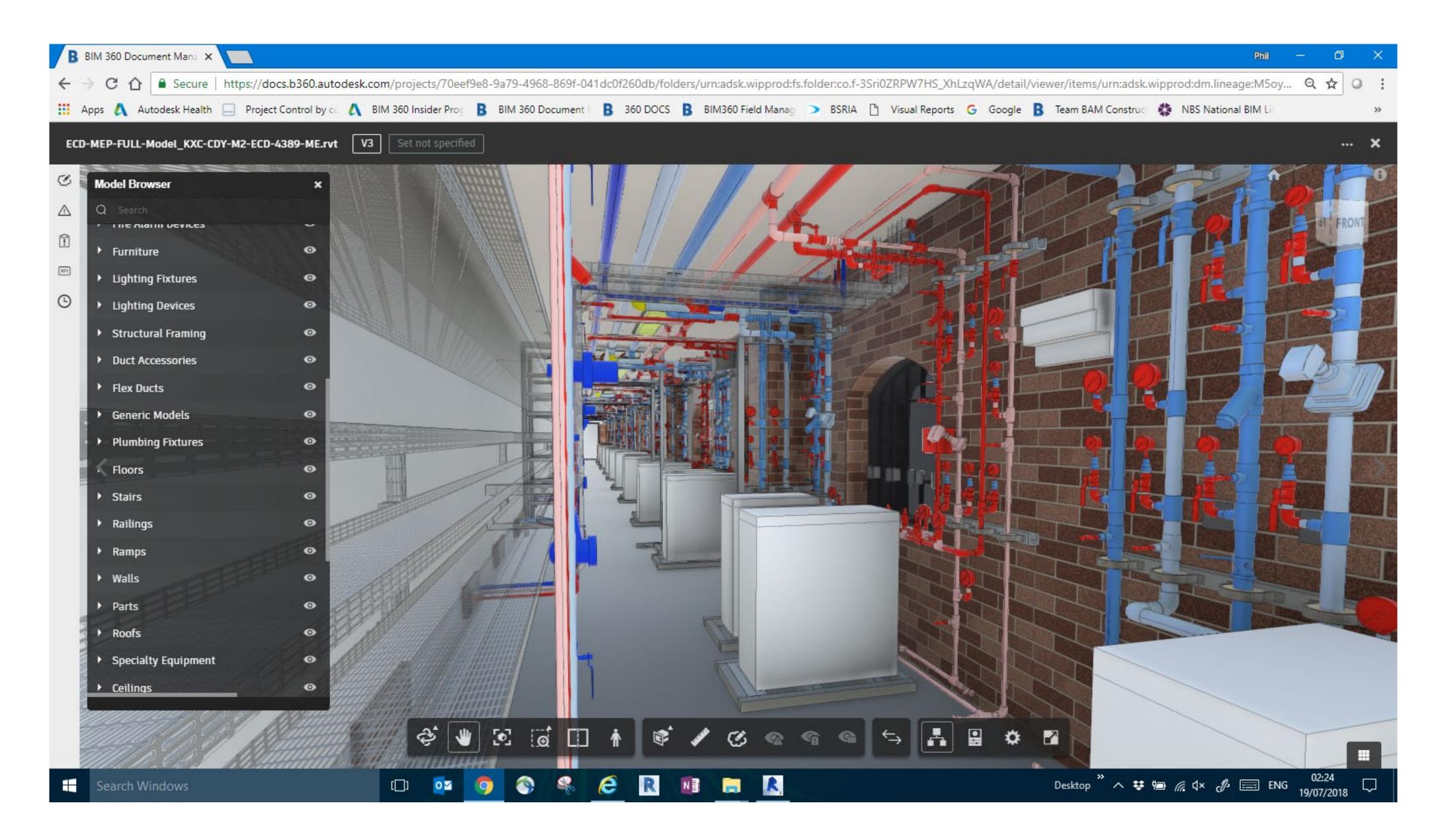




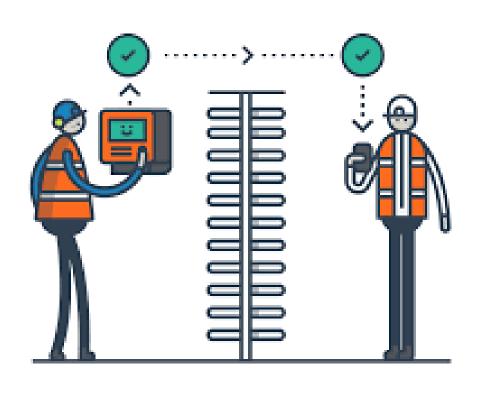
What are we already doing in construction?



Data collection via BIM (Design, construction and operations)



IoT- construction



MSITE personnel tracking and verification



Environmental impact sensors/apps – noise, air quality

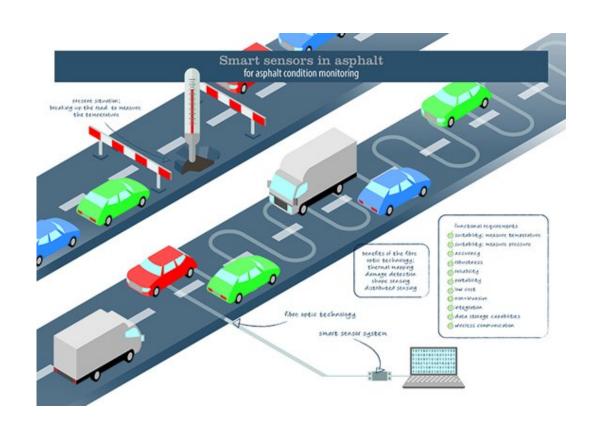


Activity sensors – concrete etc.



Al and machine learning.

IoT- operations



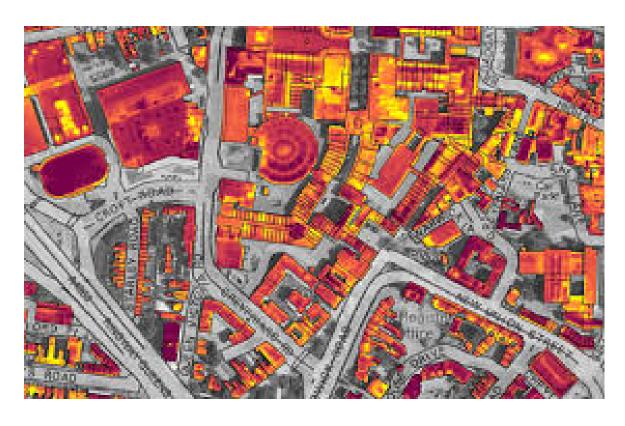
Asset in use sensors (asphalt, footfall)



Smart tech (lighting, BMS)



Space utilisation



Mapping

Digital twin



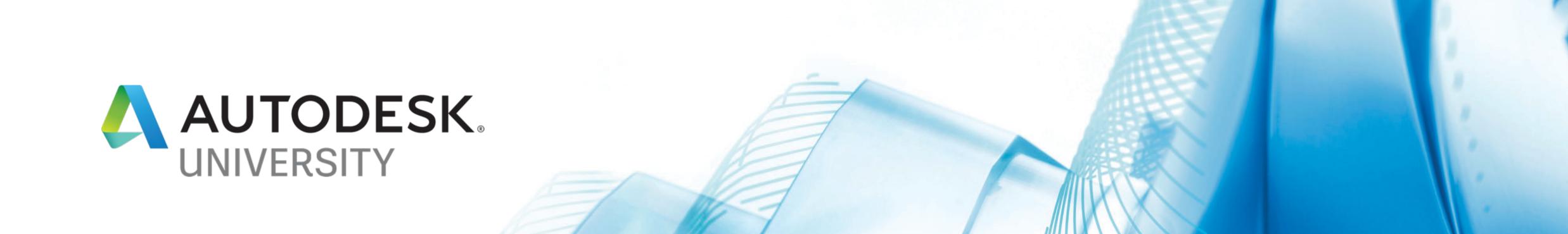


loT to improve decision making and outcomes

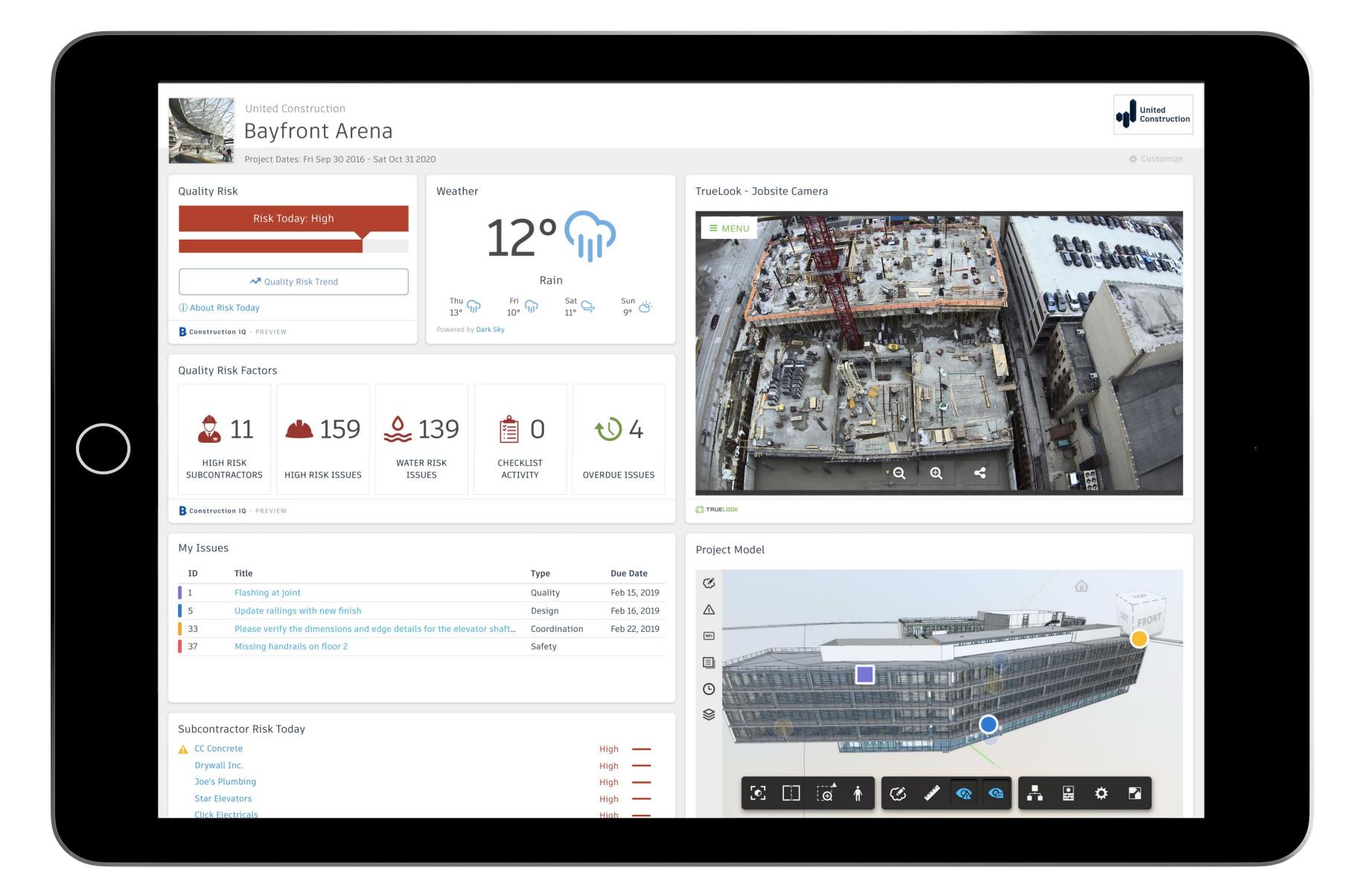
"The use of BIM 360 Field for snagging has made an incredibly laborious and time consuming process much more straightforward. Within minutes of completing site inspections, an automated report is generated giving the team access to a consistent set of information. It is a brilliant tool which I'd be keen to use on all projects going forward"

Jen Ponting – Argent LLP, Senior Project Manager

What are the opportunities for construction?



Better decisions and outcomes



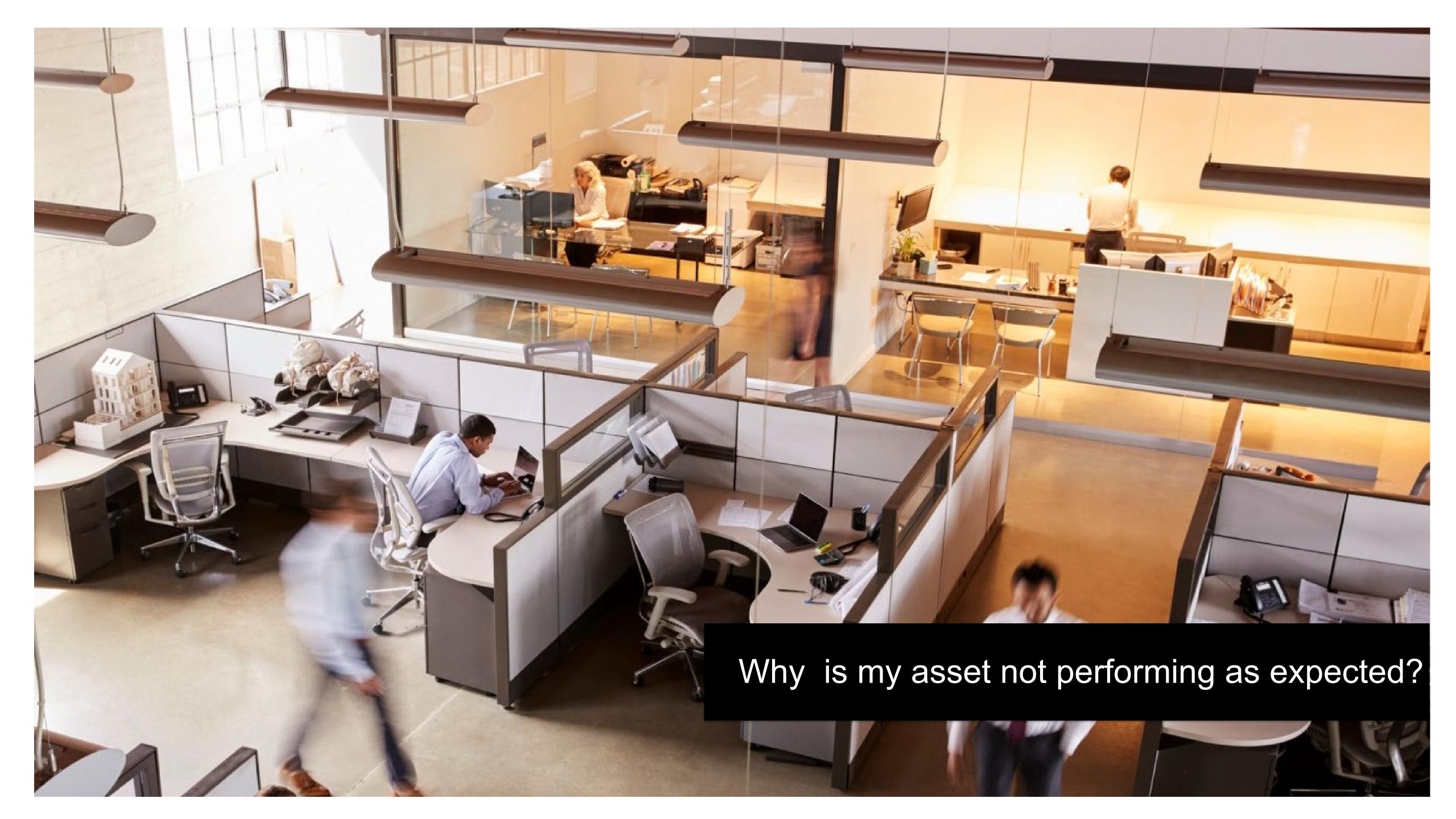
Better customer experience and operations



Better insights (individual, portfolio and citywide)



Rather like BIM we need to understand what data we need and how and when we will get it

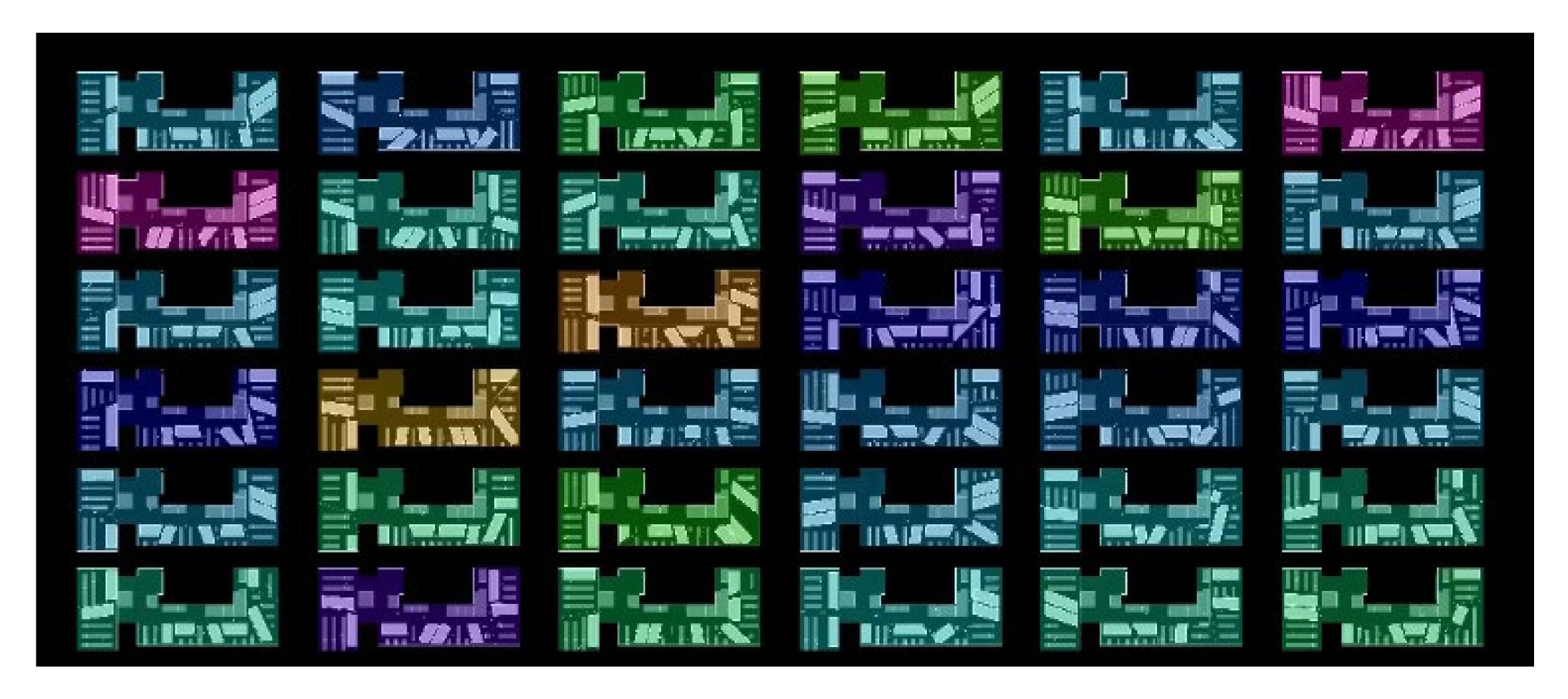




Benchmarking assets – trends and lessons learnt



Generative design based on data collected and client requirements





Colouring London



Sharing lessons learned to create better assets



Collaborative design and innovation



Community design – via platforms



The challenges



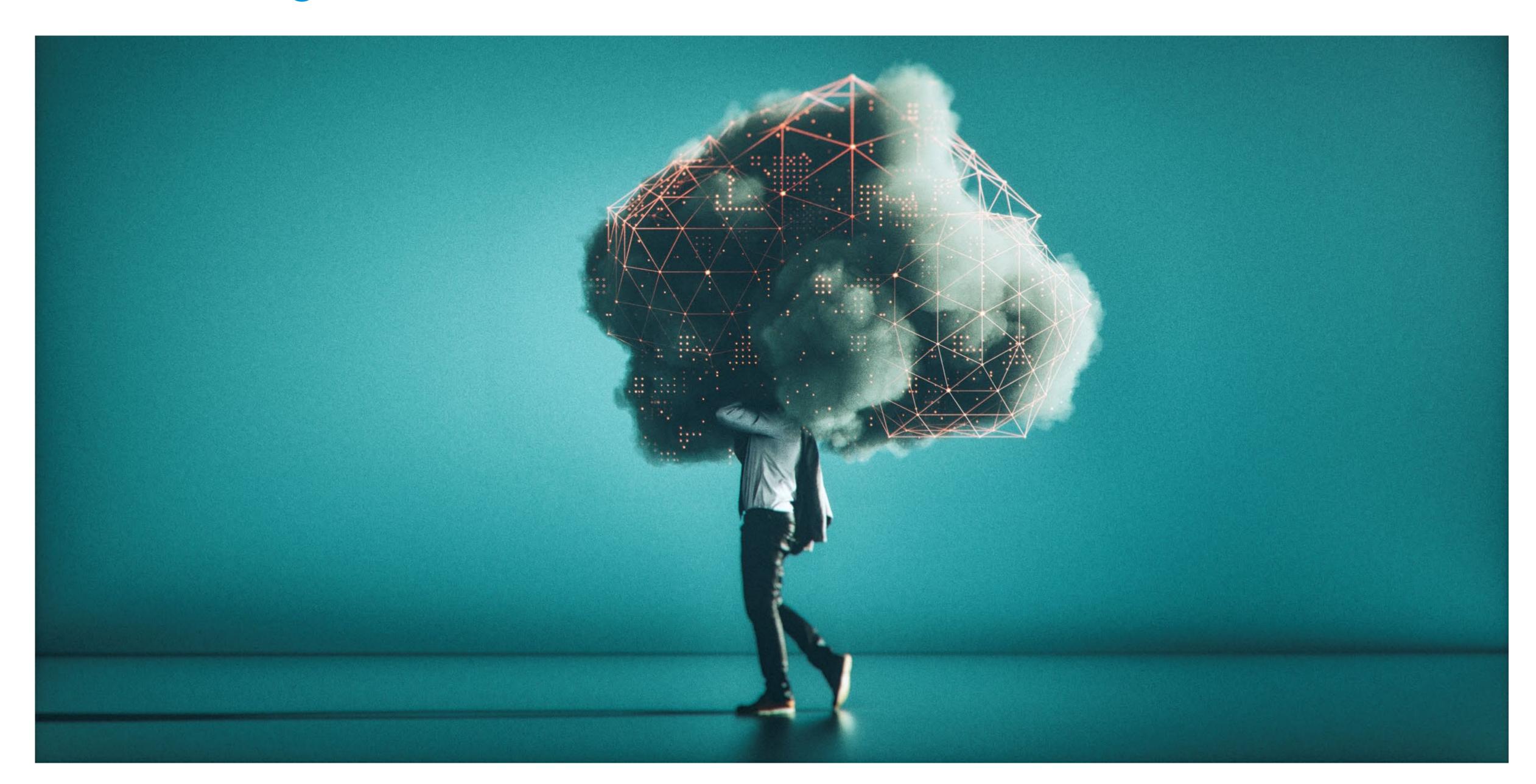
Silos and other issues prevent data sharing and analysis



End user behaviour and its impact on assets



Data storage



Privacy and security



Regulatory framework



Next steps







loT offers a golden opportunity for the construction industry but we need to resolve the challenges we face before we can realise its benefits



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