HMP Full Sutton Component-Tracking
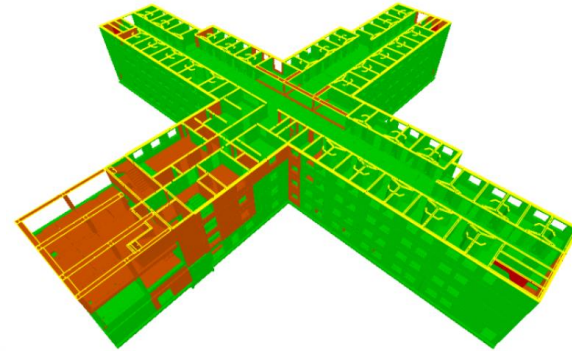
Constructing Excellence

Nov 22

Intro

HMP Five Wells

- Exemplar offsite delivered project

- £250m / 2½ years

- 20+ Awards

- 15,183 precast units

- Close monitoring of offsite activity

- The "supermarket shelf" approach

- Dalux

- Operational inefficiencies (wide ranging – duplication of visits, demurrage and delay costs, inertia in production rates, less than transparent relationships ultimately unhelpful)

- Stock management in supply chain

- Latent remedial works (supplier management of inventory)

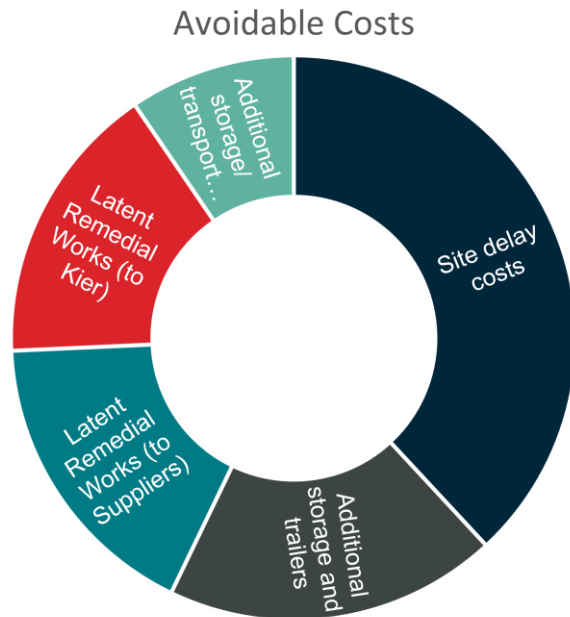KIER

The Options for Full Sutton

Business as usual
Replicate performance of HMP Five Wells

Man-Marking
Employ an alliance team full time to carry out 100% checks on each unit

Component Tracking
Use of technology to better understand supply chain

Avoidable Costs

4500 Inspection Hours

£650k

+208t CO2e

YNOMIA

KIER

The Vision

- Track components over 19no. Defined stages from design to installation

- Make use of existing data

- No changes to processes

- Minimise manipulation

Understand:

- What has been made and what can be paid for
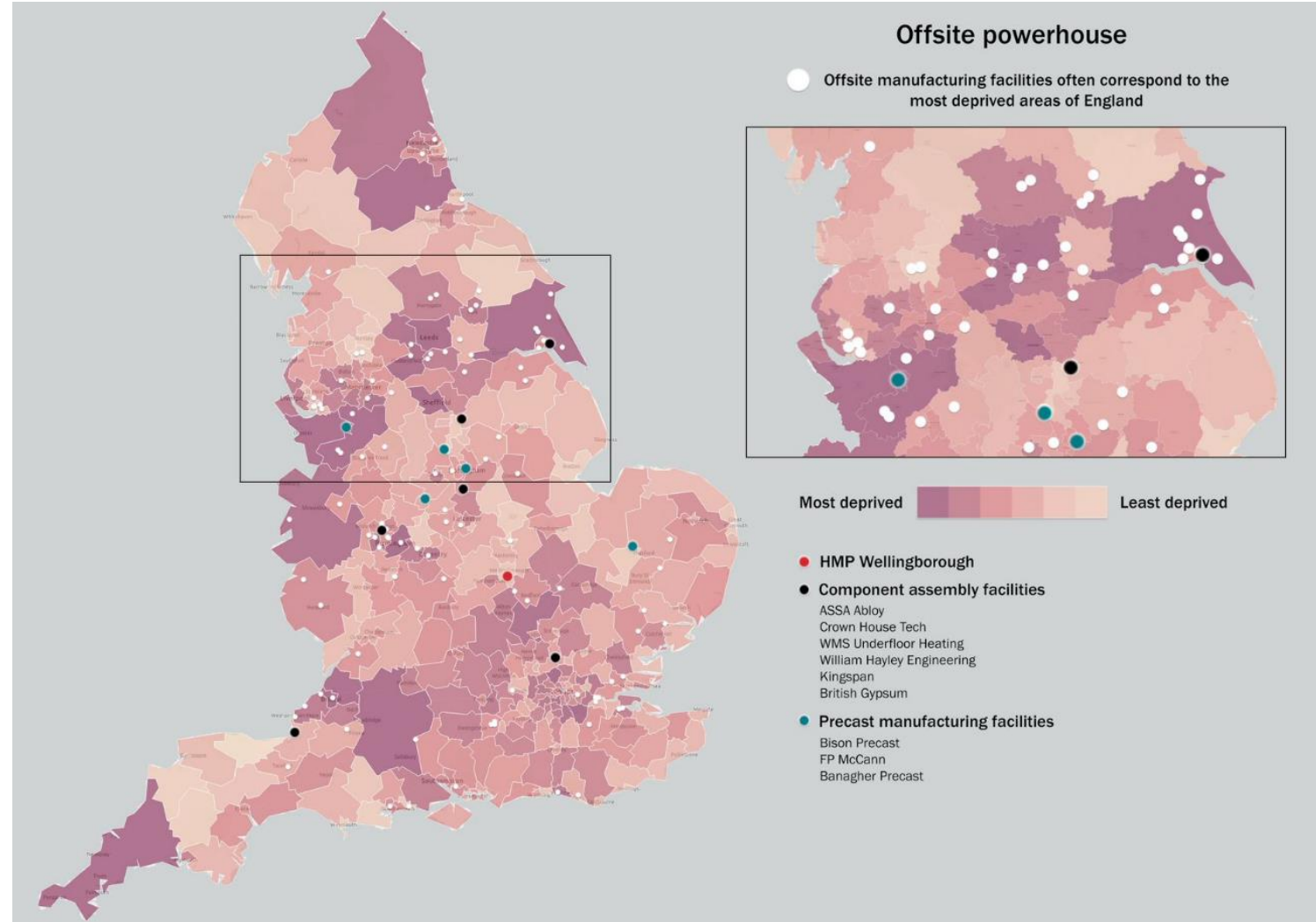
- Where there are opportunities and risks

- The journey

Stage Ref	Stage Description	Alliance	Manufacturer	Erector	Viewpoint	Ynomia Tag	Production Schedule	Dalux
		Stage Owner			Data Source			
1	Unit Design Issued	-			-			
2	Unit Design Approved	-			-			
3	Planned for production		-	-			-	
3a.	Manufacturer Action		-	-			-	
4	Specified Components Available	-						-
4a.	Component risk	-						-
5	In production		-					-
6	Casting and finishing complete		-			-		
7	Ready for Alliance inspection		-					-
7a.	Quality hold	-	-					-
7b.	Remedial in progress	-	-					-
7c.	Unit scrapped	-	-					
8	Accepted by Alliance	-						-
9	Loaded for Delivery		-			-		
10	In Transit		-			-		
11	Received on site	-				-		
11a.	Damage reported			-				-
12	Installed			-				-
13	Accepted by Alliance	-						

In NPP context

- 4+ Prisons

- >£1bn

- 60000+ precast components

- 400000+ encast components

- 20+ locations

- Competing resources

- Global shortages

- Labour Scarcity

- The only way to deliver

Offsite powerhouse

Offsite manufacturing facilities often correspond to the most deprived areas of England

Most deprived — Least deprived

- HMP Wellingborough

- Component assembly facilities
  ASSA Abloy
  Crown House Tech
  WMS Underfloor Heating
  William Hayley Engineering
  Kingspan
  British Gypsum

- Precast manufacturing facilities
  Bison Precast
  FP McCann
  Banagher Precast

In Full Sutton context

- HMP Full Sutton

- £400m

- 15000+ precast components

- 100000+ encast components

- 9 locations

- Competing resources

- Global shortages

- Labour Scarcity

- The only way to deliver

Key Benefits

☑ Reduced costs through efficiencies, direct and indirect time savings.

◉ Reduced risk, primarily through programme certainty in delivery and quality.

🌐 Carbon footprint reduction opportunities.

🔍 Improved visibility, sense-making & identification of issues for better management & delivery.

🔐 Improved Security and Chain of Custody.

⚒ Support Supply Chain and SMEs, including improved cashflow and fairer payment.

🤝 Improve trust, communication and collaboration between all stakeholders.

◎ Digital transformation strategy alignment.

🏭 MMC strategy alignment.

Ynomia - Supply Chain Automation & Digital Twin made Easy

| 1 | 2 | 3 |

Low-Touch Data Collection
Automated Sensors (IoT),
Integrations & Mobile App
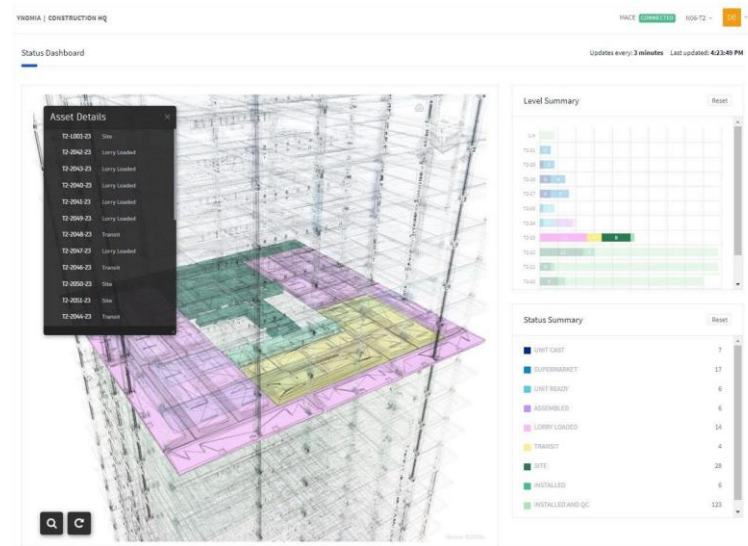
Automated Reporting
Real-time Construction Digital
Twin, Insights & Reports

Simple & Easy
Go Live in 7 Days
Minimal maintenance

KIER

Connected Supply Chain

- Highly Automated Supply-Chain Tag & Track and Real-Time Construction Digital Twin
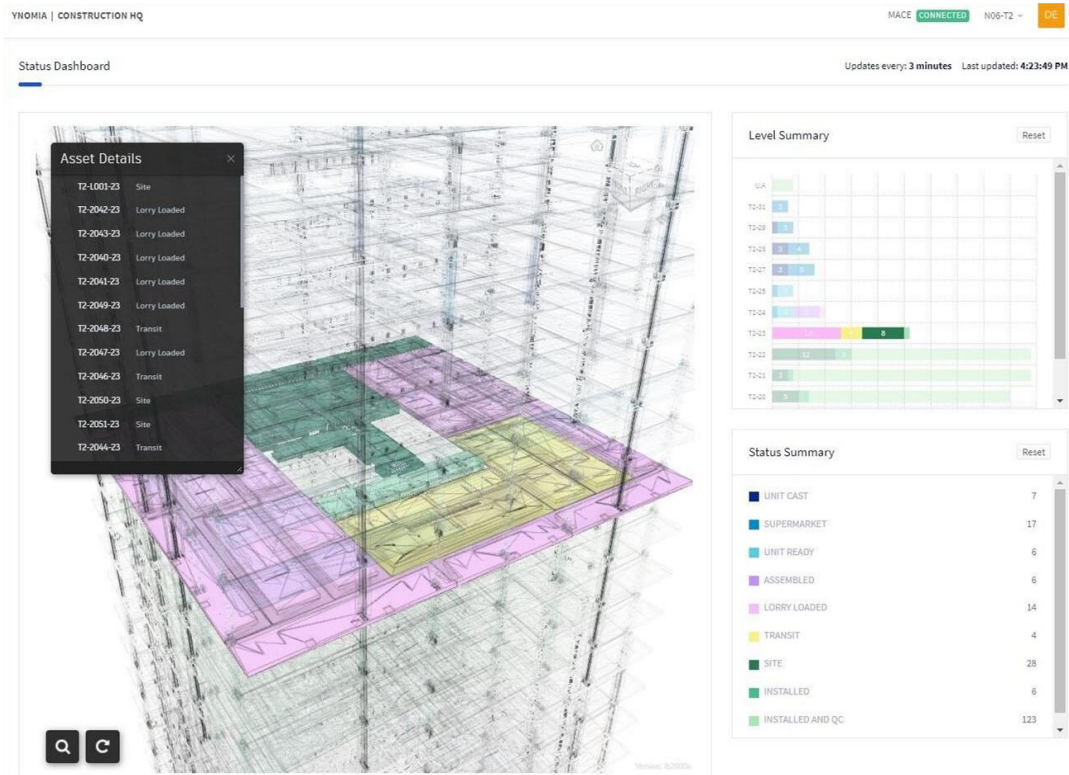
Construction Twin / Web Dashboard

Mobile App

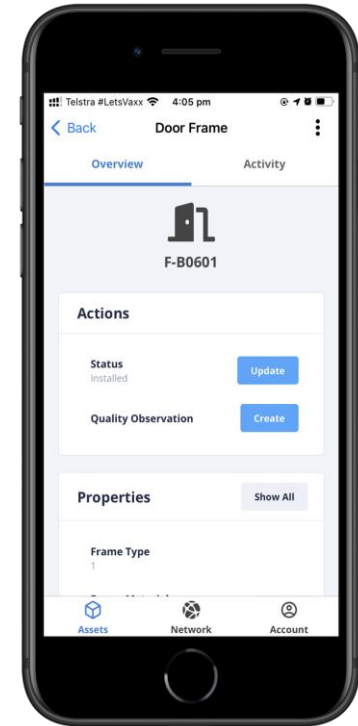Report Exports

Hardware & Software

- Automation is made possible with Hardware & Software built to Reliably and Cost-Efficiently capture Supply Chain information of thousands of units in existing workflows
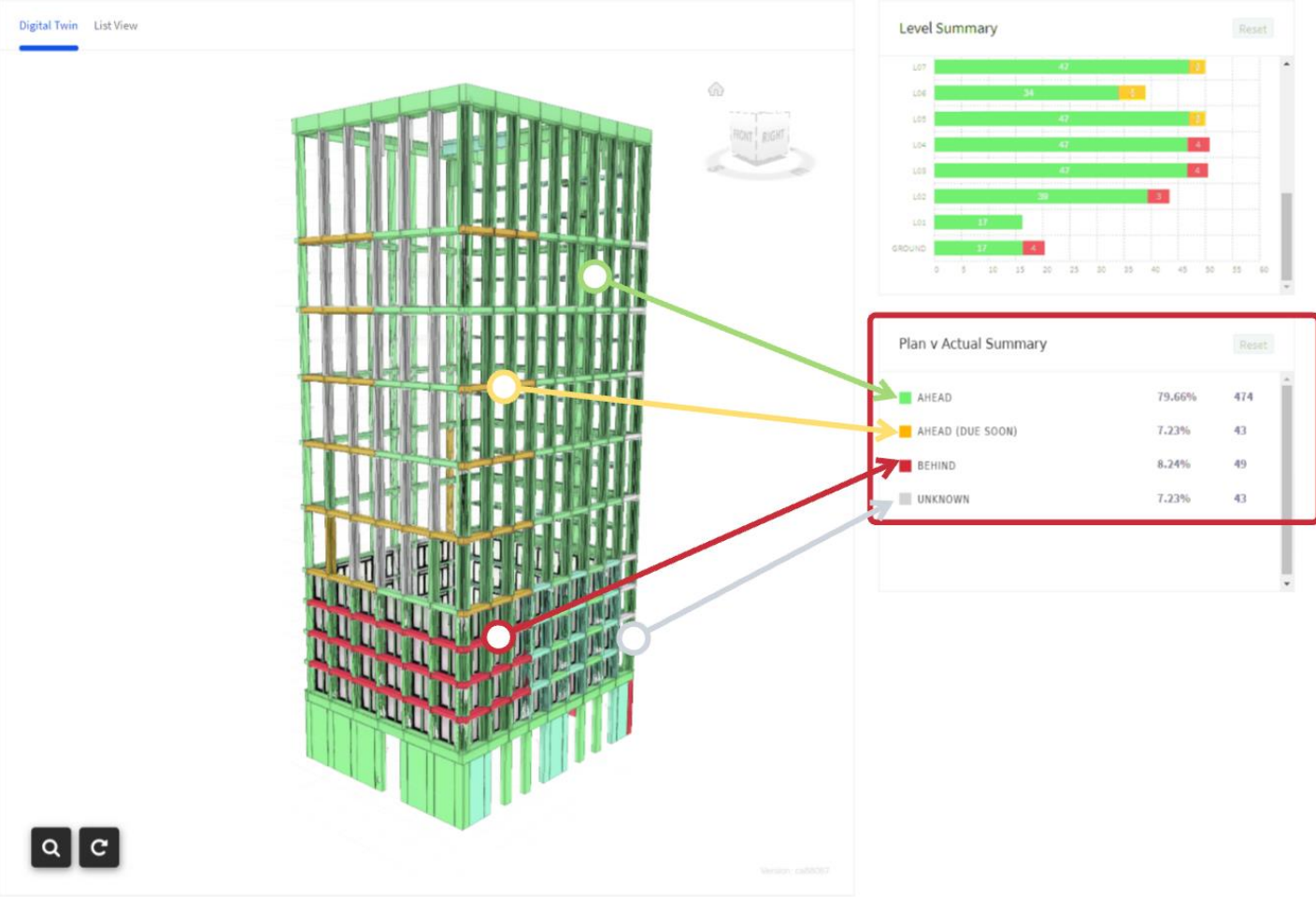

Gateways

Tags

App

Plan v Actual Reporting

- Multi-stage Real-time Plan v Actual Reporting across Design, Fabrication & Install

Todays Data

Asset Status Summary

Status Name	Current %	Current #	Cumulative %	Cumulative #
NOT YET TRACKED	7.78%	871	100%	11198
UNIT DESIGN ISSUED (FOR APPROVAL)	9.93%	1112	92.01%	10303
UNIT DESIGN APPROVED (ISSUED FOR MANUFACTURE)	64.51%	7224	82.04%	9187
UNIT CAST	11.76%	1317	17.69%	1981
UNIT READY FOR DELIVERY	3.9%	437	6.01%	673
LOADED FOR DELIVERY	0.11%	12	1.74%	195
IN TRANSIT	0.12%	13	1.26%	141
RECEIVED ON SITE	0%	0	1.29%	145
INSTALLED	1.89%	212	1.89%	212
ACCEPTED BY ALLIANCE	0%	0	0%	0

Reset
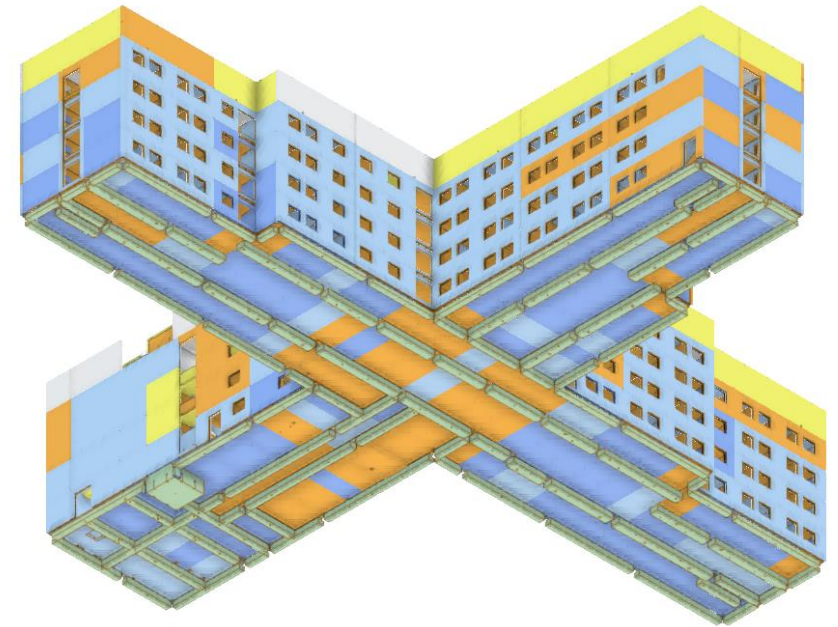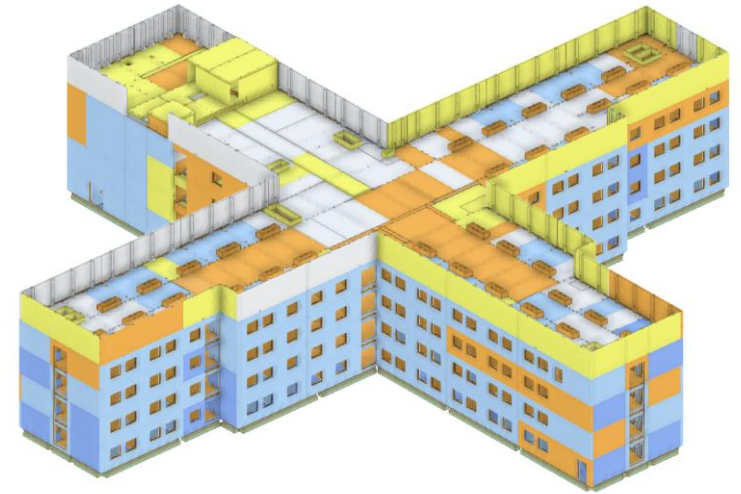
Supply Chain Experience

- Real time capture of status of assets

- Earlier visibility of assets not arriving as planned – opportunity to restructure work activity to prevent downtime

- Automated updates – free's up time to focus on building excellence

- Easy to use process for the whole supply chain – has been welcomed by manufacturers

- Robust solution – less prone to human error

- Accurate data

- PCE trailing Ynomia solution on two small projects in readiness for Full Sutton – testing robustness and identifying potential challenges

- Ynomia team extremely quick to develop the product, implementing solutions for unforeseen issues at a fast pace