

Drones, Digital Twins, and Digital Construction

OCTOBER 2021

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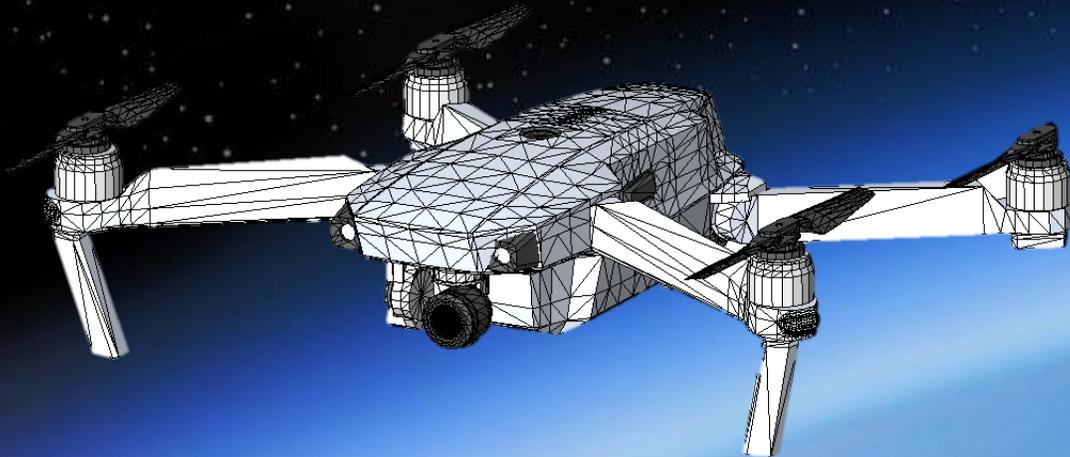


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**How will **aerial
drones** benefit the
construction
industry?**



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**Construction Progress
Monitoring / Quality Control**

3D Mapping Data

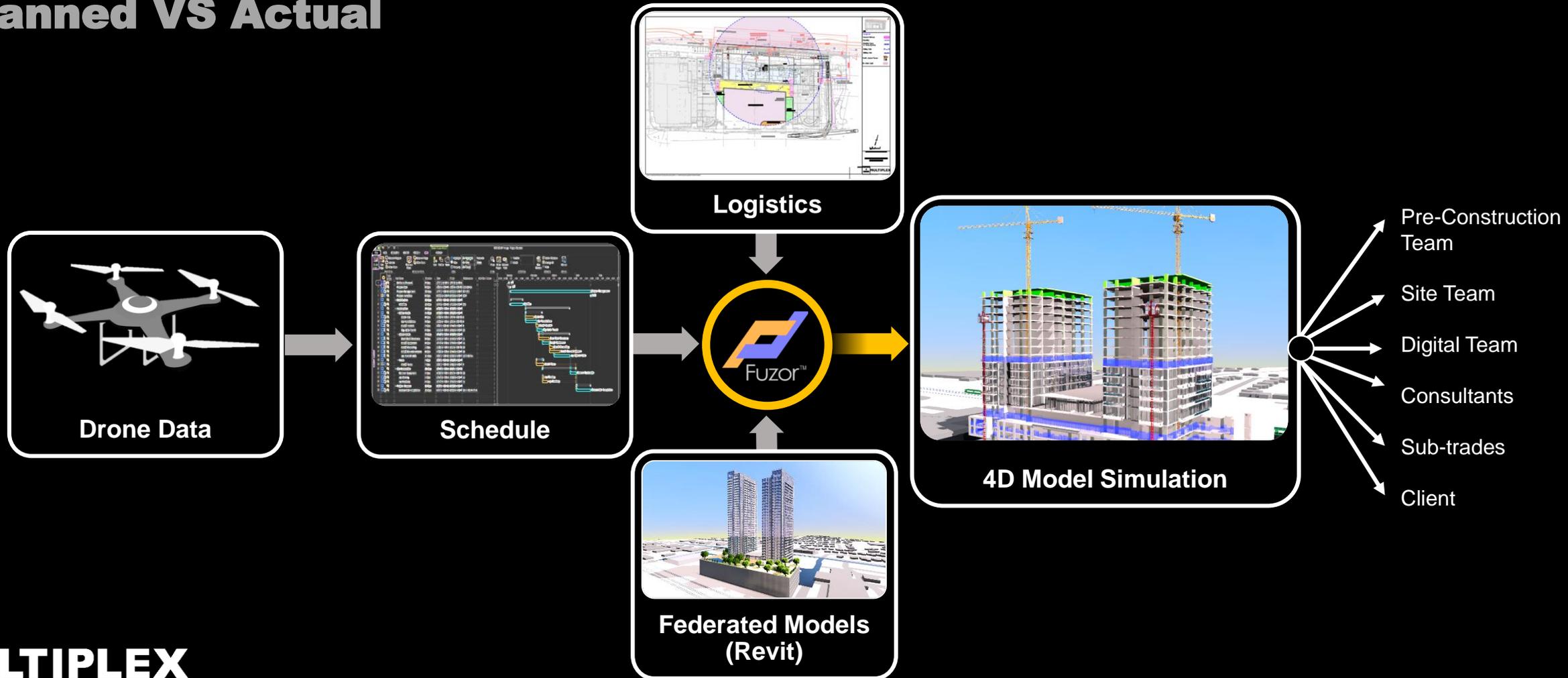
Site Security & Surveillance

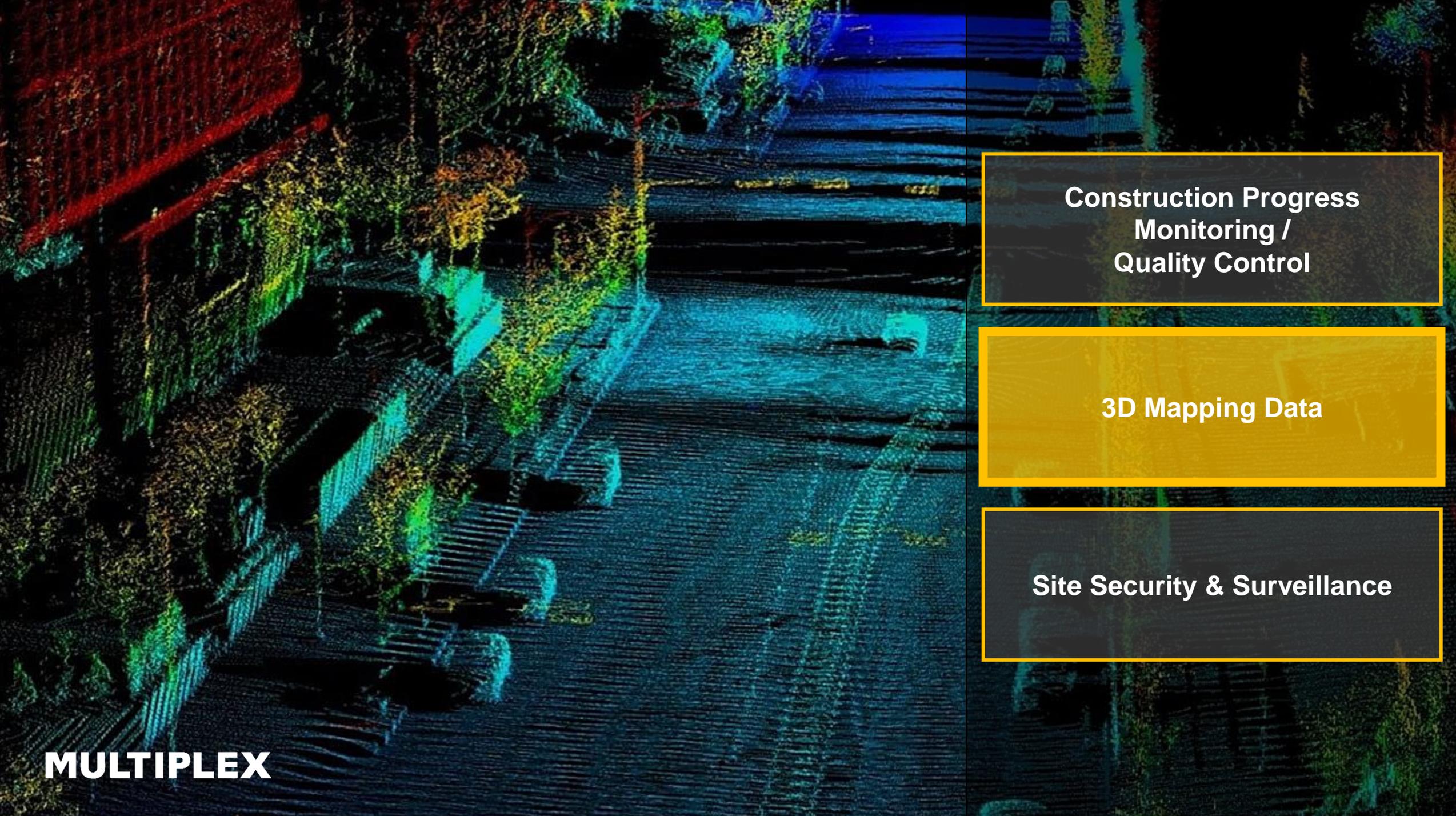


One Delisle Drone System
Progress Monitoring Simulation

4D Modelling

Planned VS Actual





**Construction Progress
Monitoring /
Quality Control**

3D Mapping Data

Site Security & Surveillance

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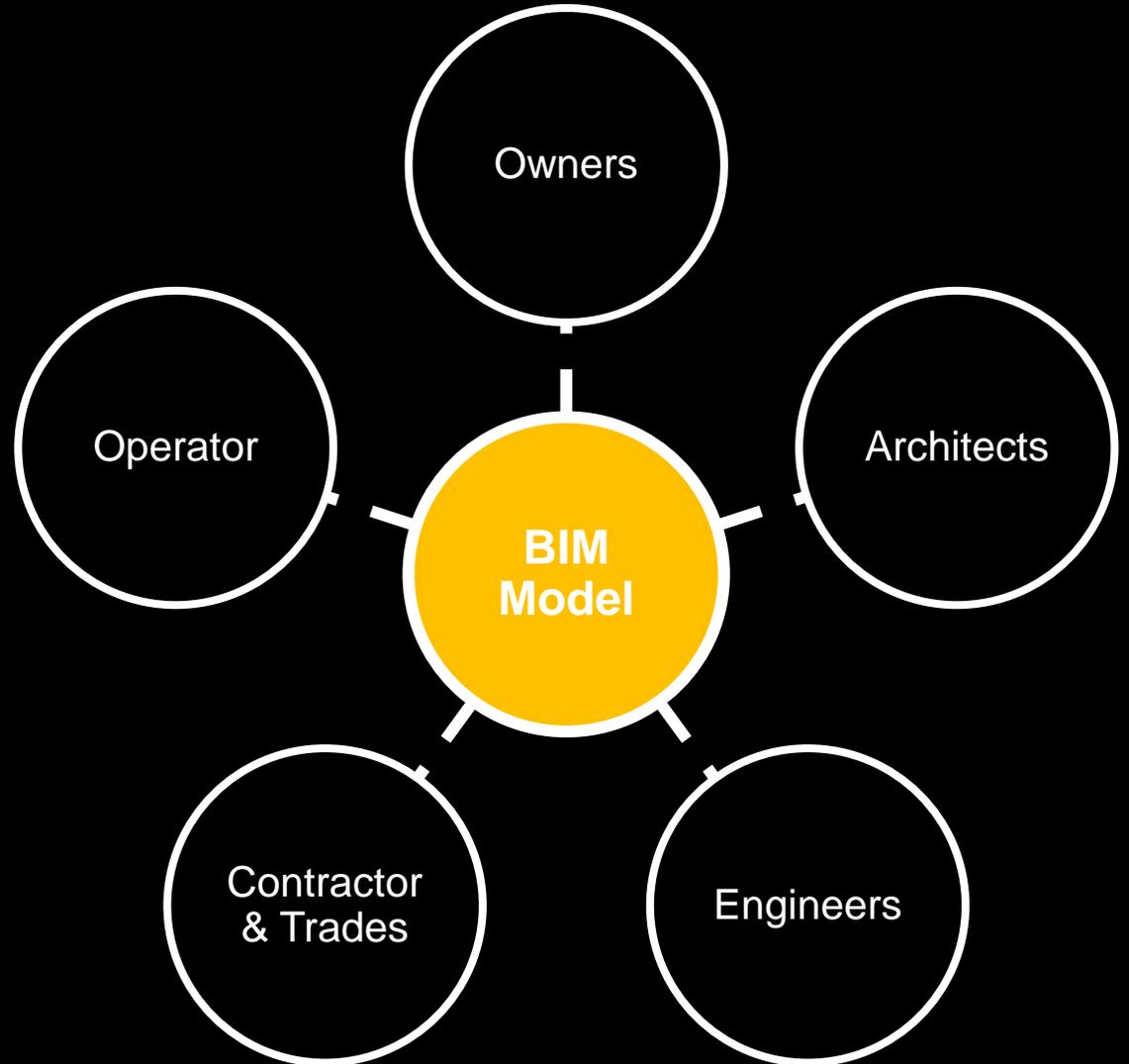
**Construction Progress
Monitoring /
Quality Control**

3D Mapping Data

Site Security & Surveillance

MODEL FIRST APPROACH

A model at the center of every project, bringing all project partners onto the same page.



OUR VISION

UNPARALLELED CLIENT SUCCESS

BUILDING WITH PRECISION

REDUCING REWORK COSTS

DRAMATICALLY IMPROVING PLANNING

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Wembley Stadium

London, England



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Queens Wharf

Brisbane, Australia

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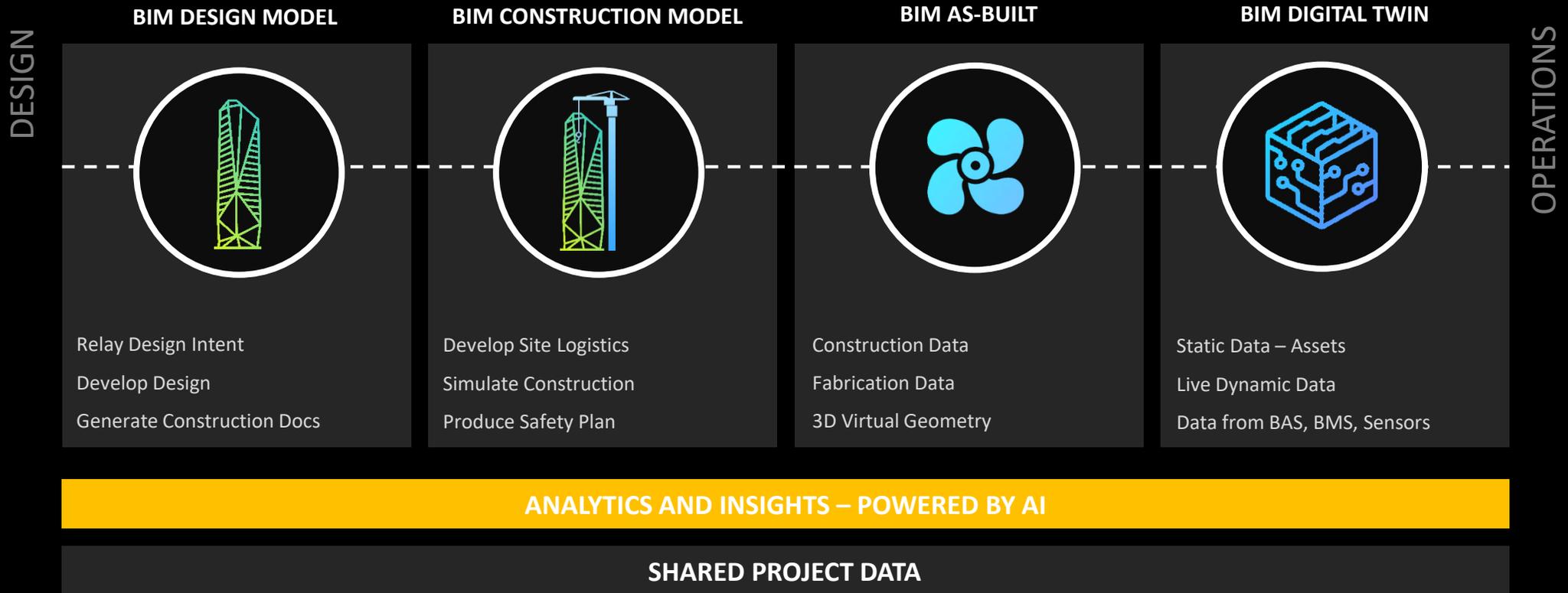
Opus

Dubai, UAE

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THE JOURNEY



DIGITAL CASE STUDY

Bay Adelaide – Centre North Tower

TORONTO, ON

Asset Data Collected:

Total Number of Collections:	33
Total number of Square Feet Collected:	162,558,000
Total Number of Images Collected:	538,923
Total Number of Floors Collected:	30

New Features Introduced

AI Object Search

Using AI to detect various objects/milestones

Time-lapse Reporting:

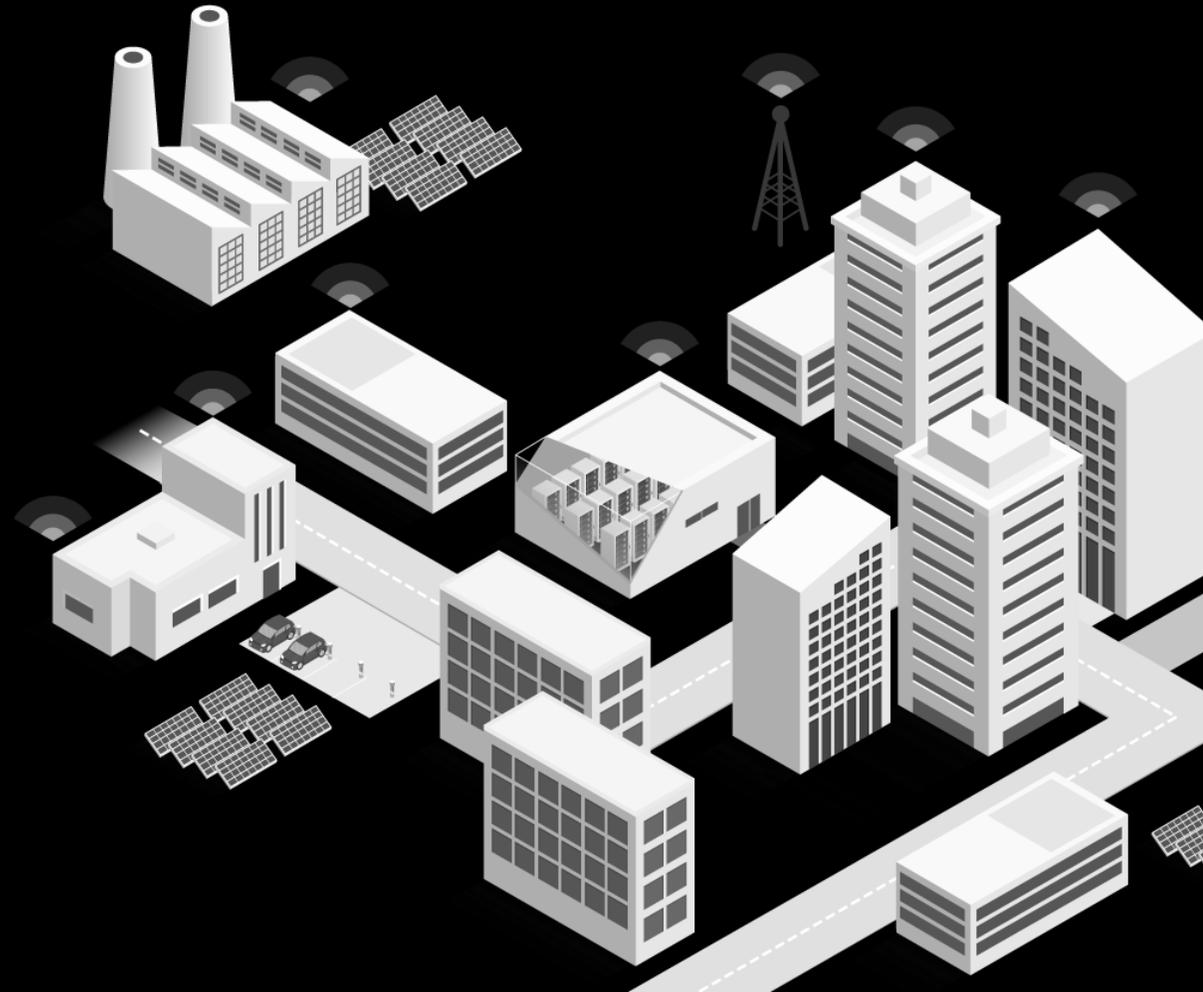
Milestone detection, % complete and more

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OnSiteIQ

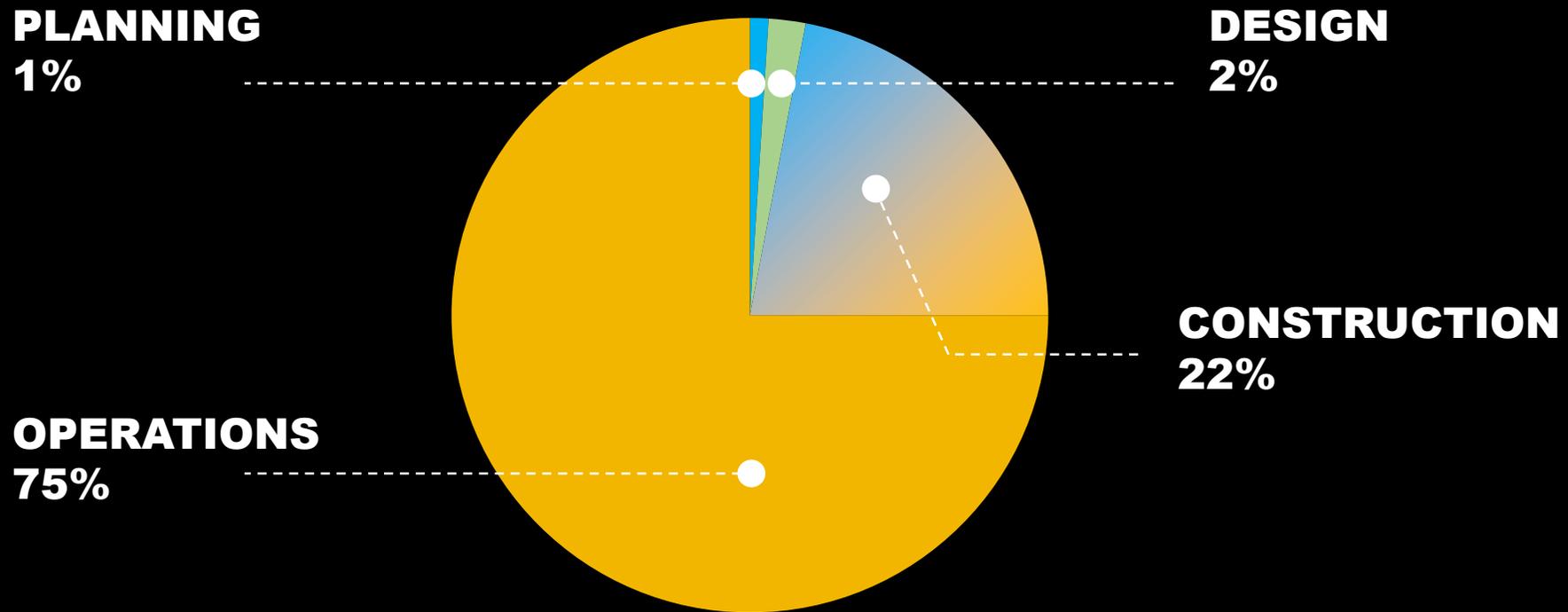


THE **DIGITAL** **TWIN** FOR THE BUILT ENVIRONMENT



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BUILDING LIFECYCLE COST



PROP TECH

ASSET REGISTRY

DIGITAL LIBRARY OF ALL ASSETS
WITHIN A BUILDING – ALL
ACCESSIBLE BY SEARCH BAR

ASSET INFORMATION

STATIC ASSET INFORMATION TIED
TO INDIVIDUAL MODEL ELEMENTS
IN DIGITAL LIBRARY



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SUSTAINABILITY SIMULATIONS – EC3 BETA

- Upload BIM Models to EC3 Platform
- Click different building components to find the conservative and achievable embodied carbon estimates
- Make informed decisions about selecting materials and reducing the buildings overall carbon footprint.

The screenshot displays the 'MODEL VIEWER' interface. On the left, a 3D wireframe model of a building is shown with a selected component highlighted in green. On the right, a panel titled 'Embodied Carbon Data From EC3' provides detailed information for the selected material.

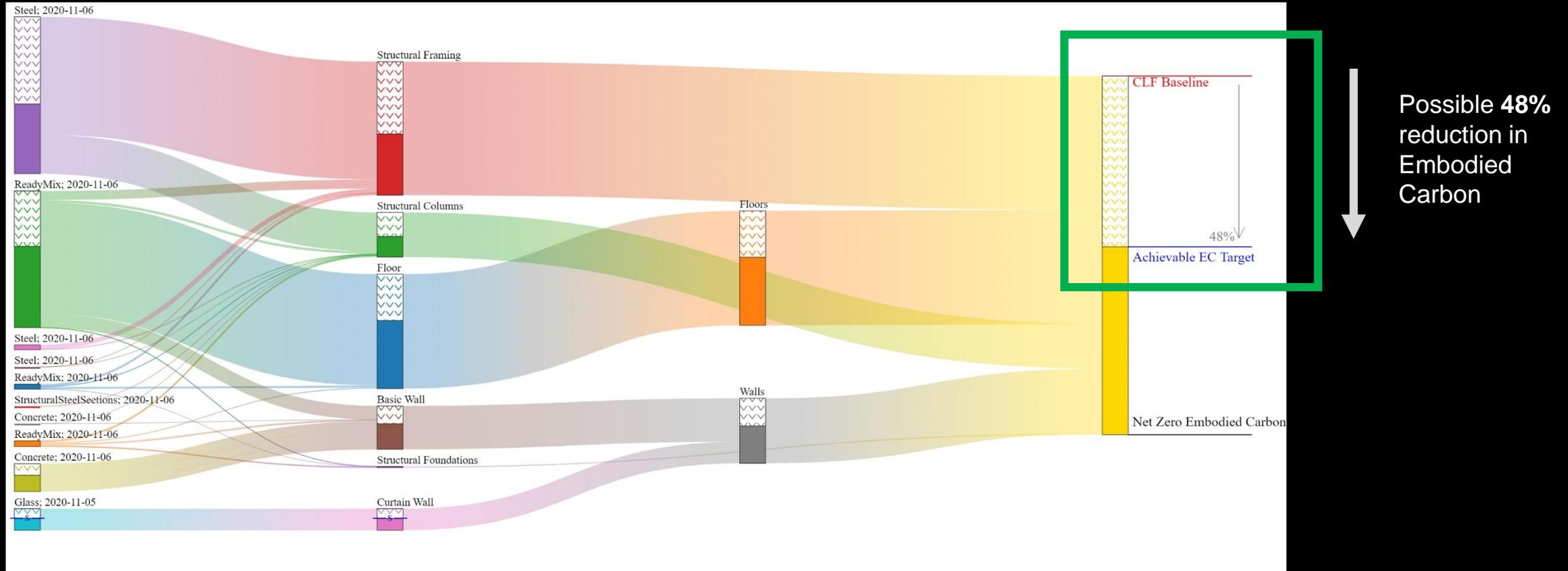
Embodied Carbon Data From EC3	
Instance Name	Floor [23555376]
Type Name	SD1-74 CONCRETE ON 76 STEEL DECK
Structural Material	CIP Concrete
Collection	ReadyMix; Valid after - 2021-04-22
Quantity	251 m3
Achievable	5.81 kgCO2e
Conservative	9.00 kgCO2e
GWP Savings	35%
Selected Material	Scioto Ready Mix, 300FN15
Selected Savings	37%

Legend for 3D model:

- Selected = Low EC (vs. Achievable Target)
- Selected is Average
- Selected = High EC (vs. Conservative Estimate)
- No data

SUSTAINABILITY

SIMULATIONS – EC3 BETA



Thank you

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