

Reds10

**Smarter by Design: AI's Role in Transforming
Education Construction**

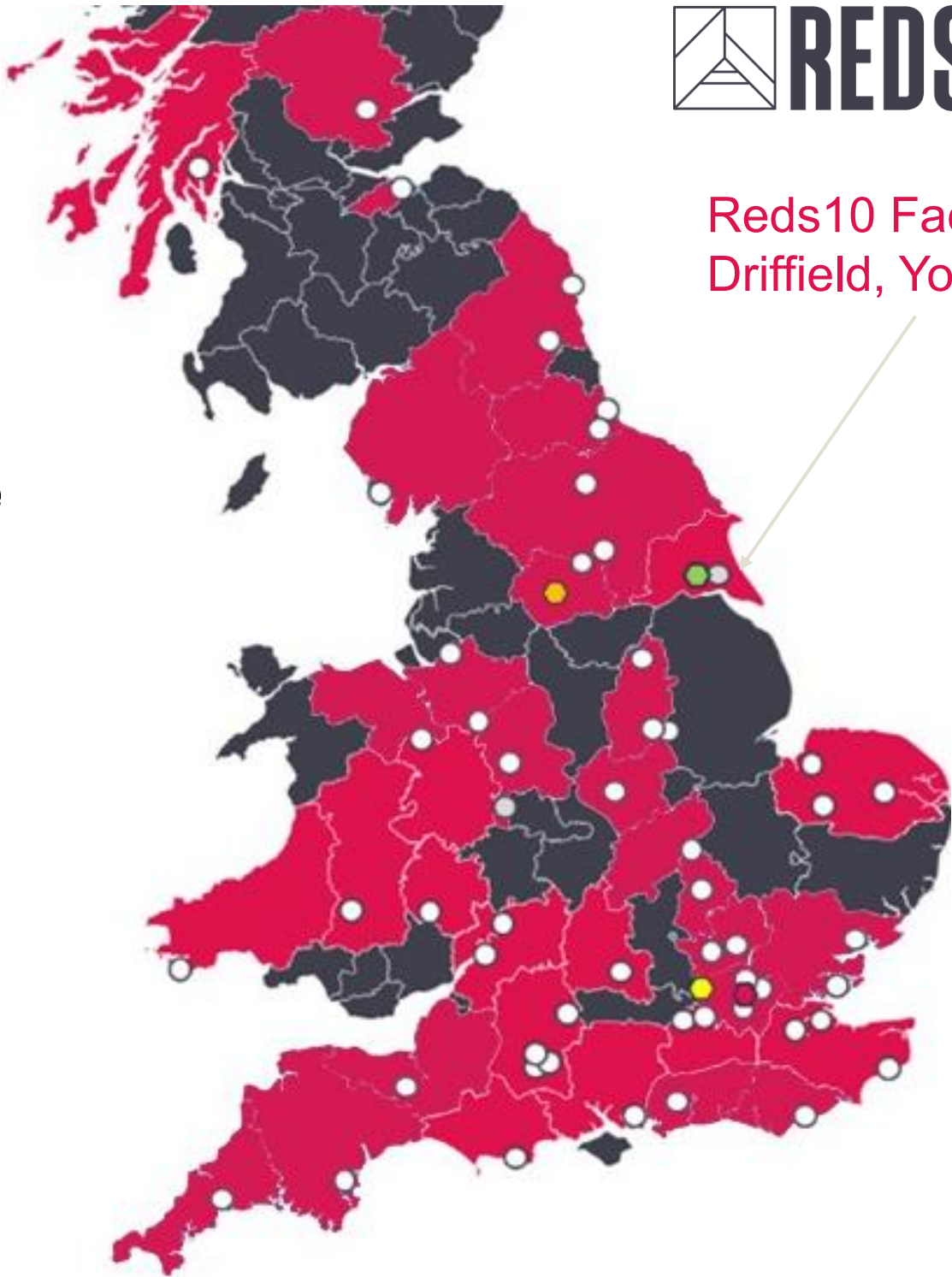
Reds10 – Manufacturing Capability (East Yorkshire)



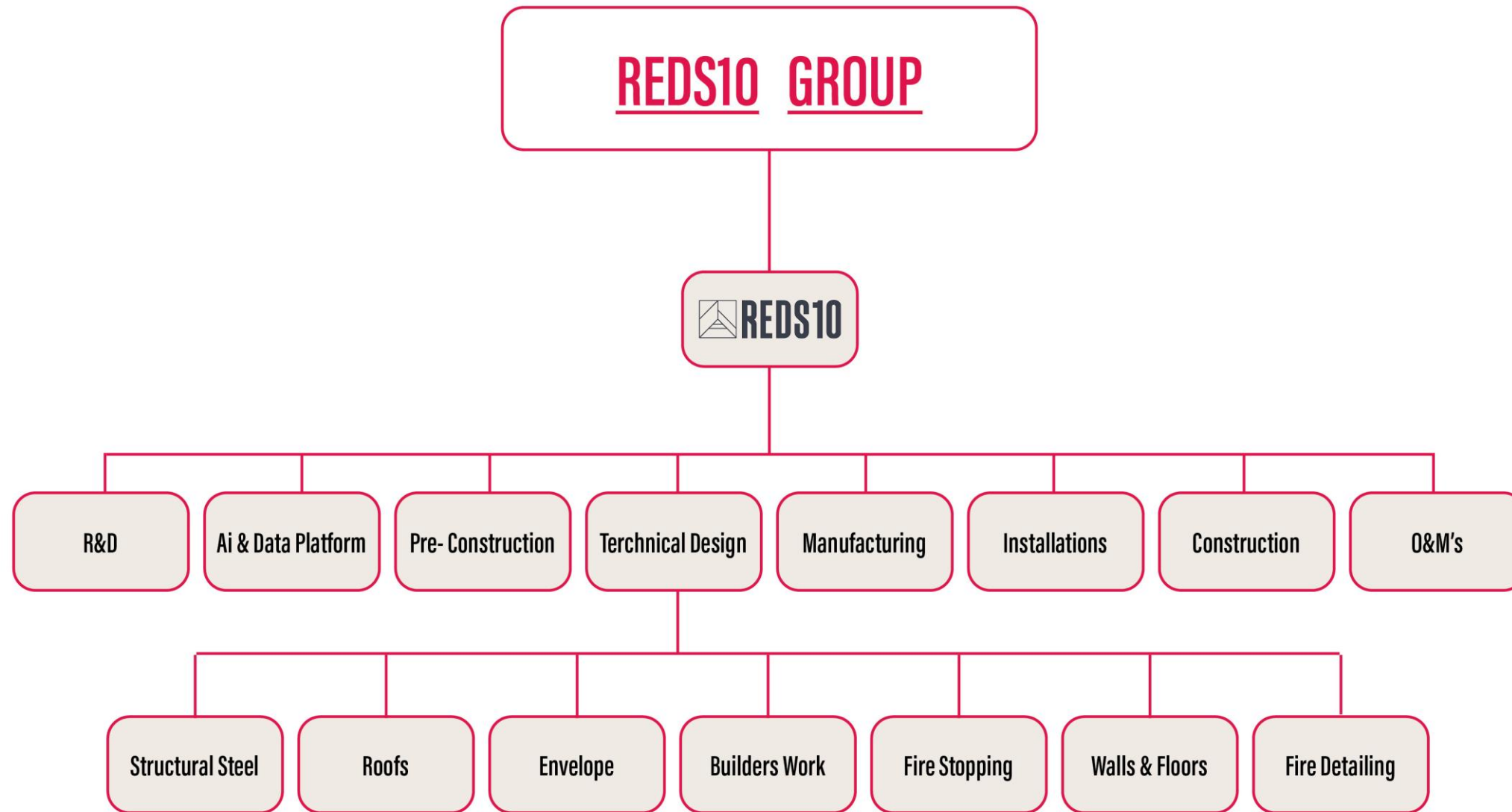
- Privately owned British business
- £142.5m turnover in 2024
- Turnover increased to >£180m in 2025
- +£300m secured order book
- Vertically integrated team
- AI & Automation Lead Business
- 6th Factory – FFE & Door Manufacture

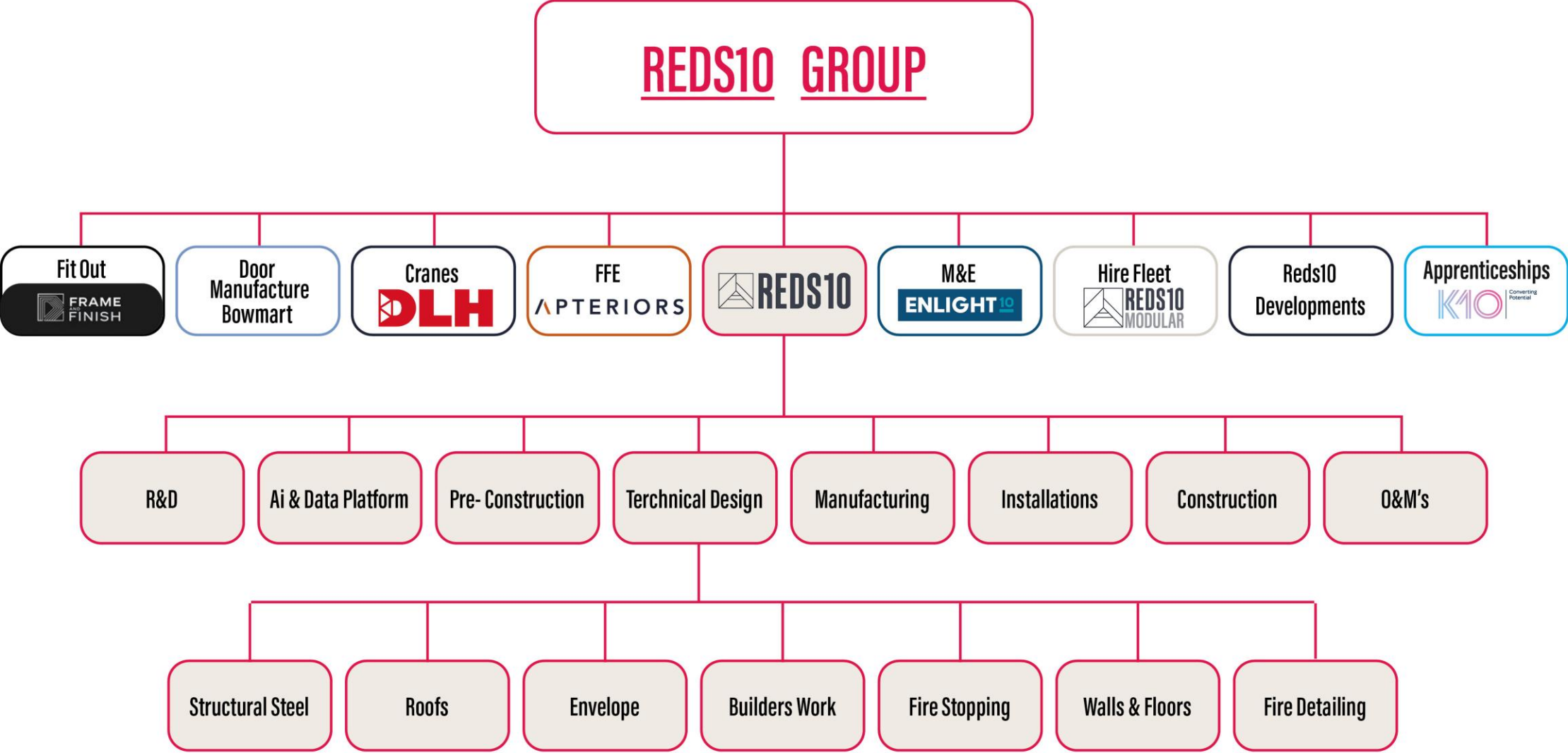


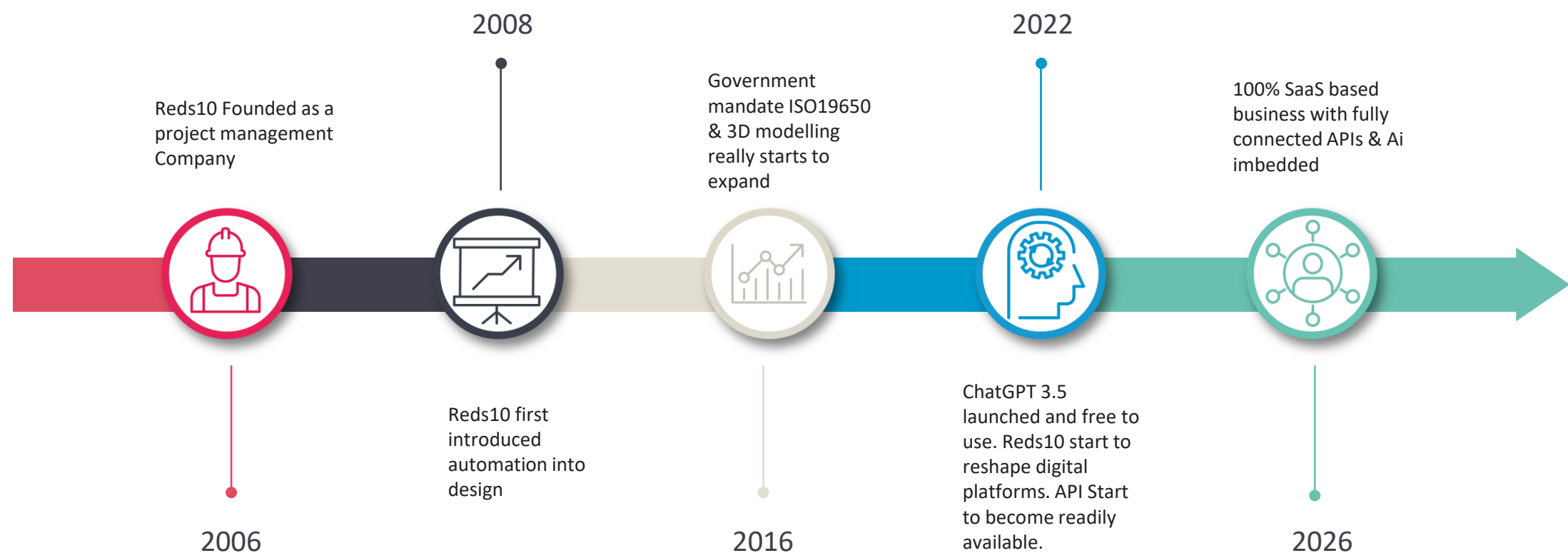
Reds10 – Recent UK Delivery



Reds10 Factory
Driffield, Yorkshire





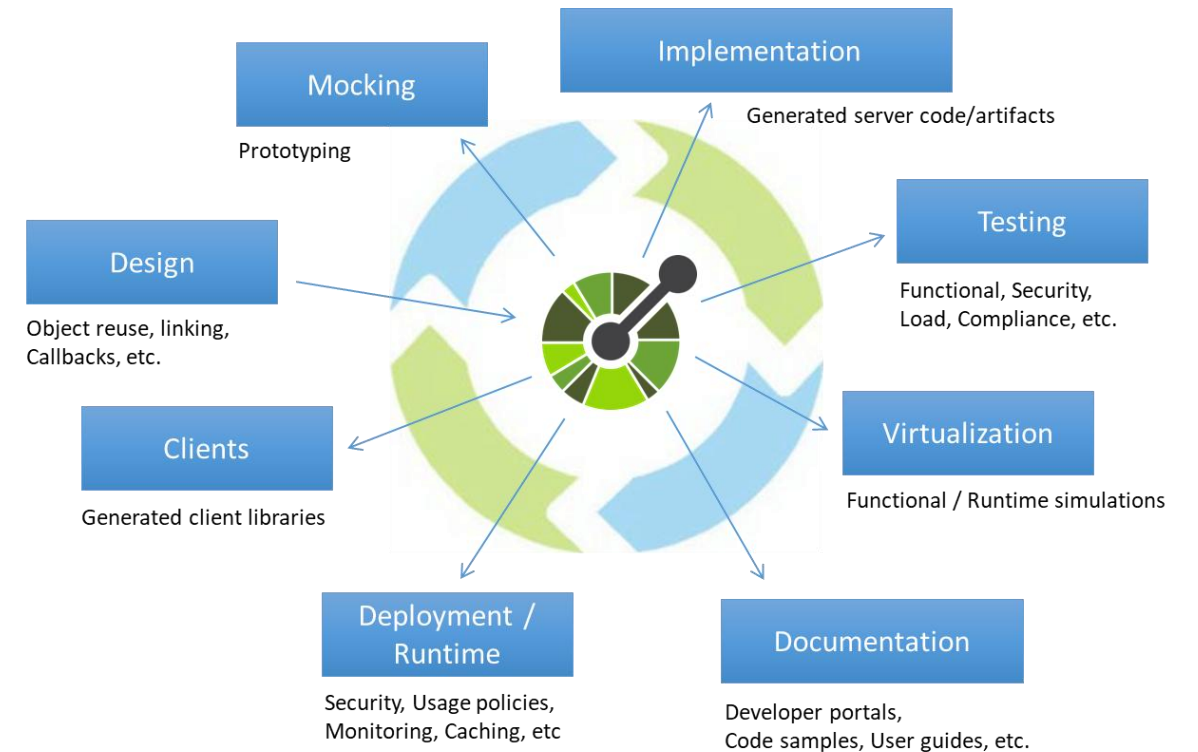


BIM Level 2 ISO 19650



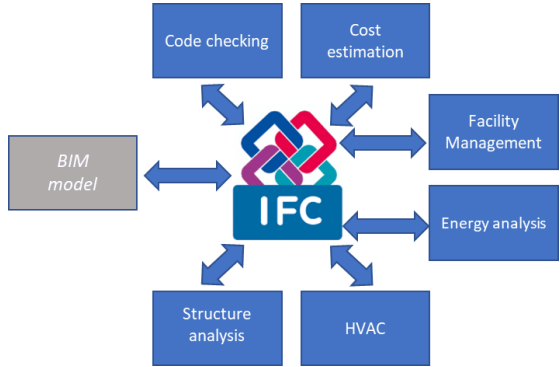
- Standardisation of Information Management
- Common Data Environment
- Golden Thread of Information
- Structured Data & Processes
- Security & Governance
- Interoperability & OpenBIM

OpenAPI (Application Programme Interface)

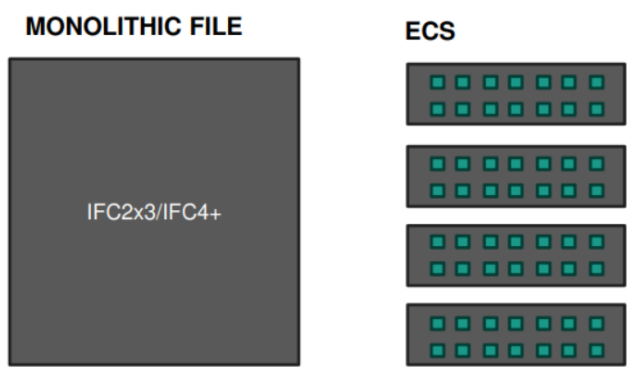


OpenAPI in 2018 primarily enabled better API standardization and automation, laying the groundwork for Ai.

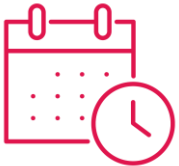
IFC2x3/IFC4+ Schema (Current)



IFC5 Schema (Future)



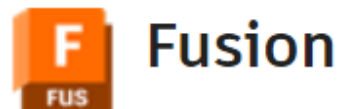
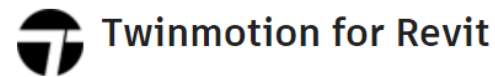
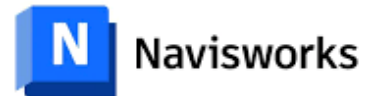
Feature	IFC4
Schema Design	Monolithic, STEP-based, inheritance-heavy
Data Format	EXPRESS schema; complex serialization
Geometric Handling	Procedural, complex B-rep, b-spline, curves
Supported Domains	BIM; buildings, infrastructure
Collaboration Model	File-based, single-author
Scalability	Limited; full schema loads required
Implementation Time	Months/years; full standard required
Version Management	Basic (OwnerHistory)
Interoperability	Challenged by legacy/proprietary formats



IFC5
Modular, JSON-based, Entity Component System (ECS)
JSON as primary format for easier exchange
Triangular mesh, simplified geometry processing & USD
BIM, GIS, analysis, point clouds, versioning
Multi-author, distributed, real-time data
Modular; lightweight core, optional extensions
Days/weeks; incremental adoption
Advanced role-based modeling, distributed workflows
Improved APIs, web/cloud-native, broader scope

- AI instantly analyses **JSON & ECS** (Entity Component System) for relationships and tasks.
- It simulates, edits, and optimizes by updating components.
- Detects patterns, suggests fixes, or improvements.
- Supports natural language queries and workflows.
- **USD** (Universal Scene Description) 3D computer graphics scenes and animations.

Autodesk Design



Integrations



Supporting



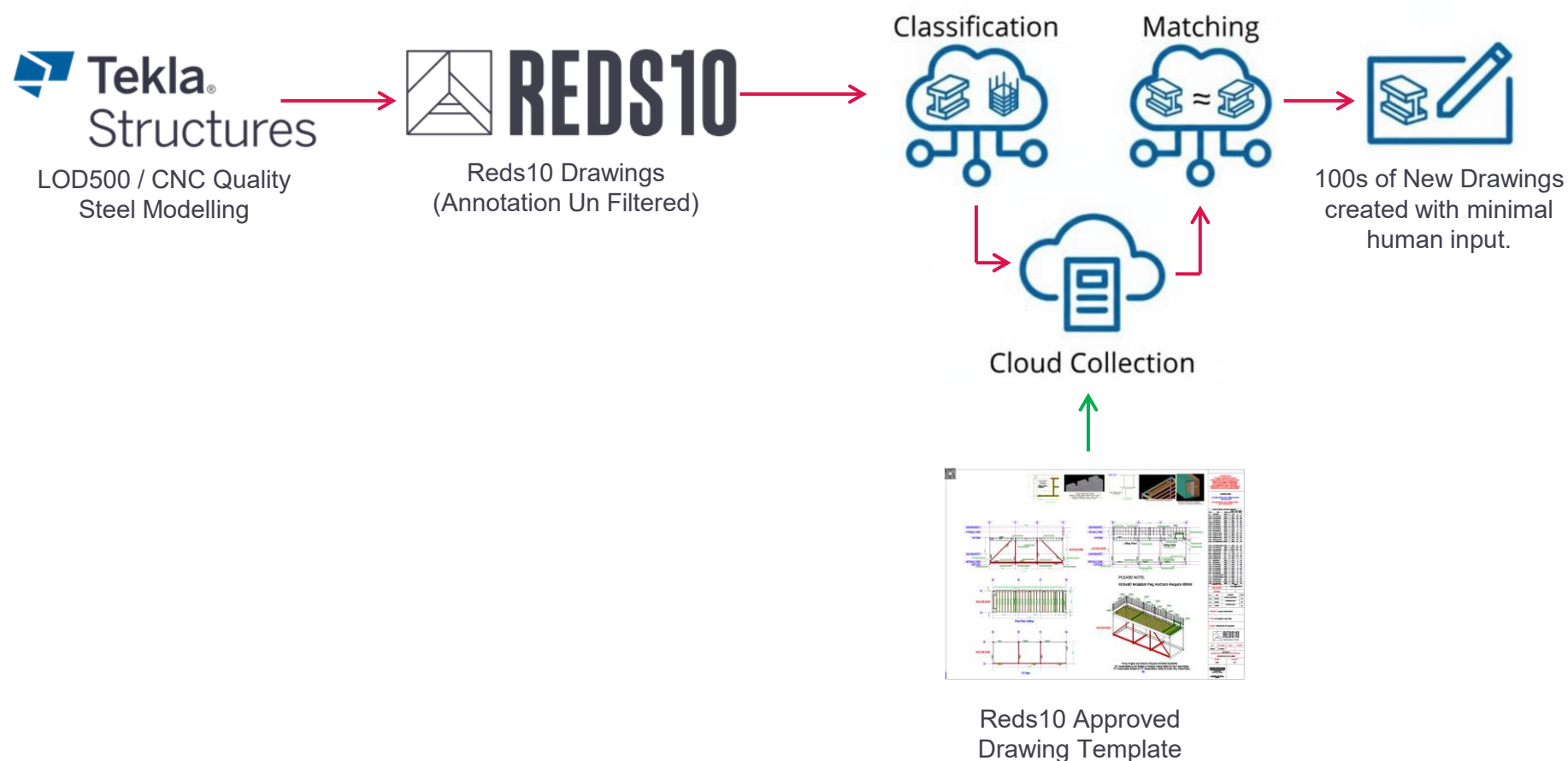
PowerPlus



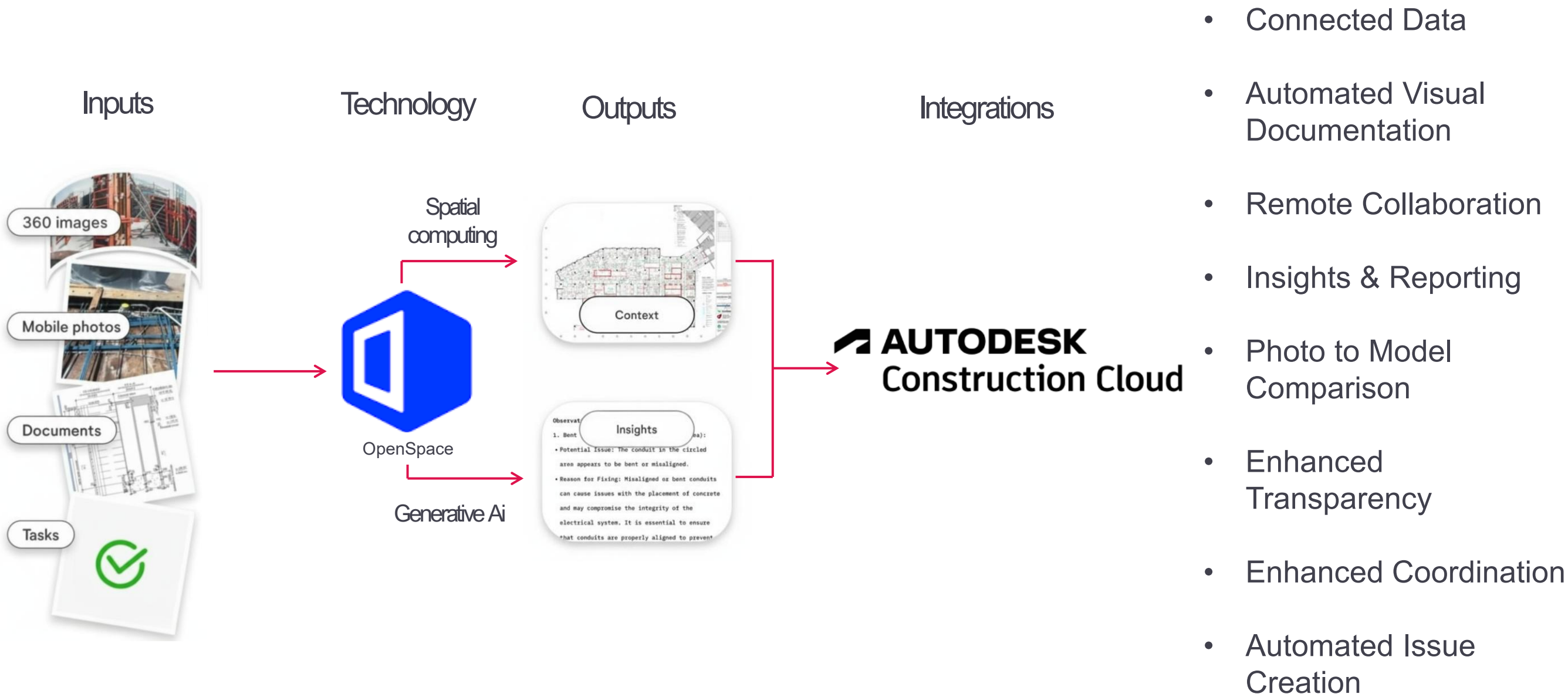
Sign In App®

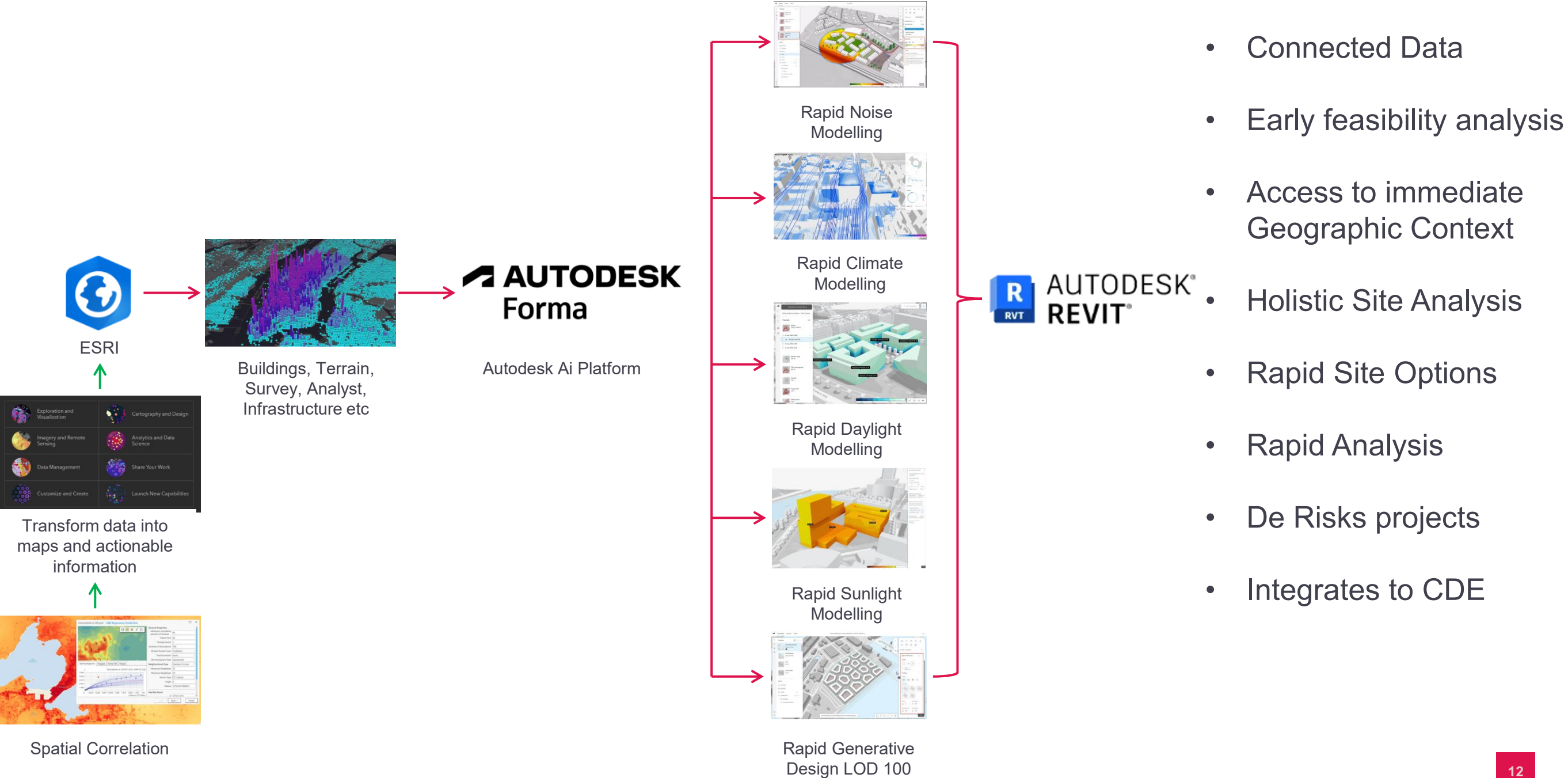
Pilots

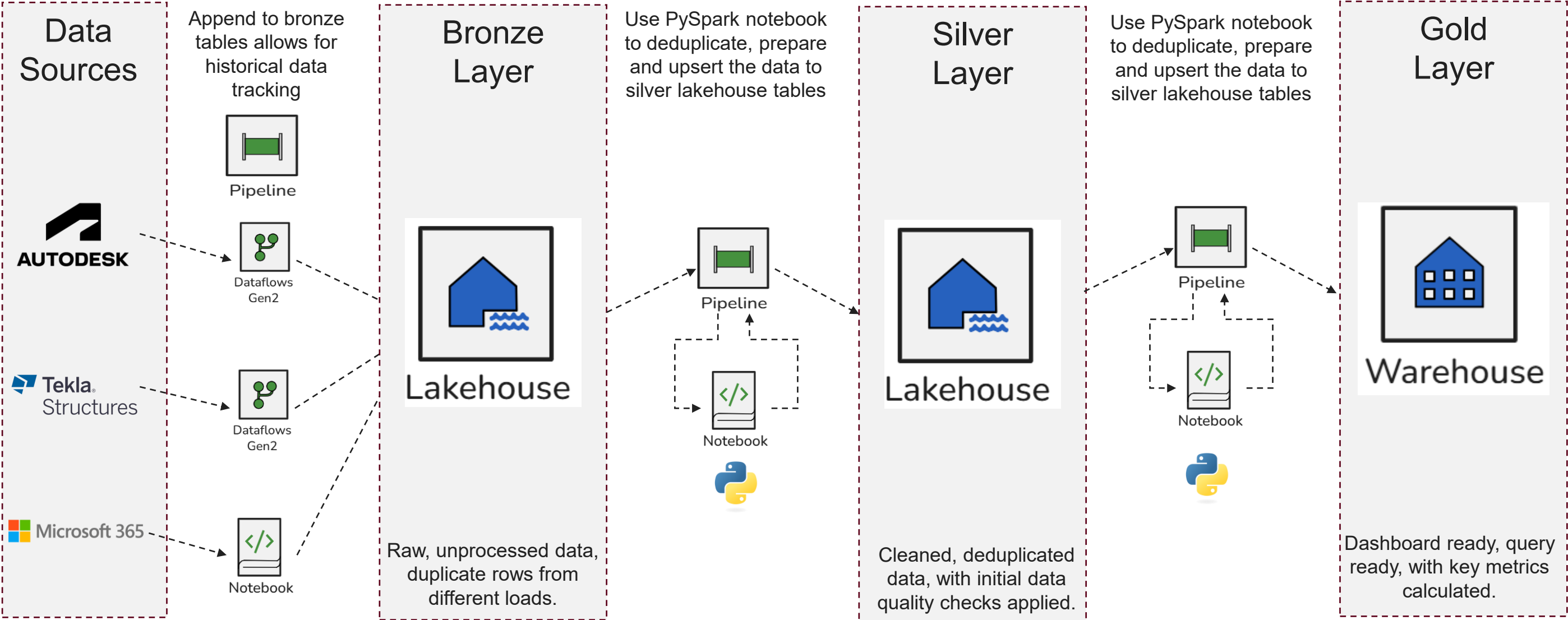


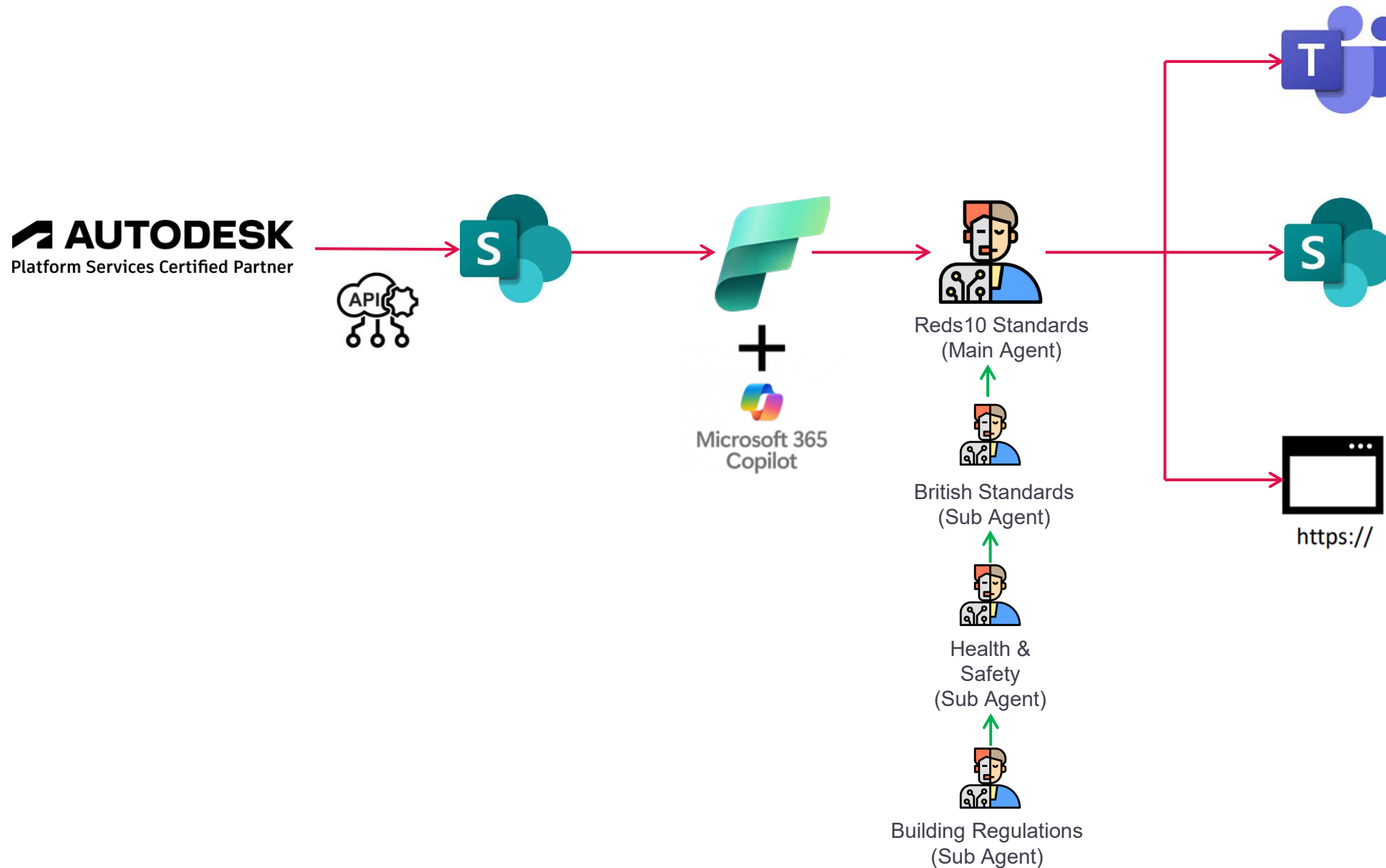


- Connected Data
- Access to 1000's of company drawings in the cloud to match
- Reduces error and improves quality of output
- Central Standards
- Smoother Learning Curve
- Increased Productivity







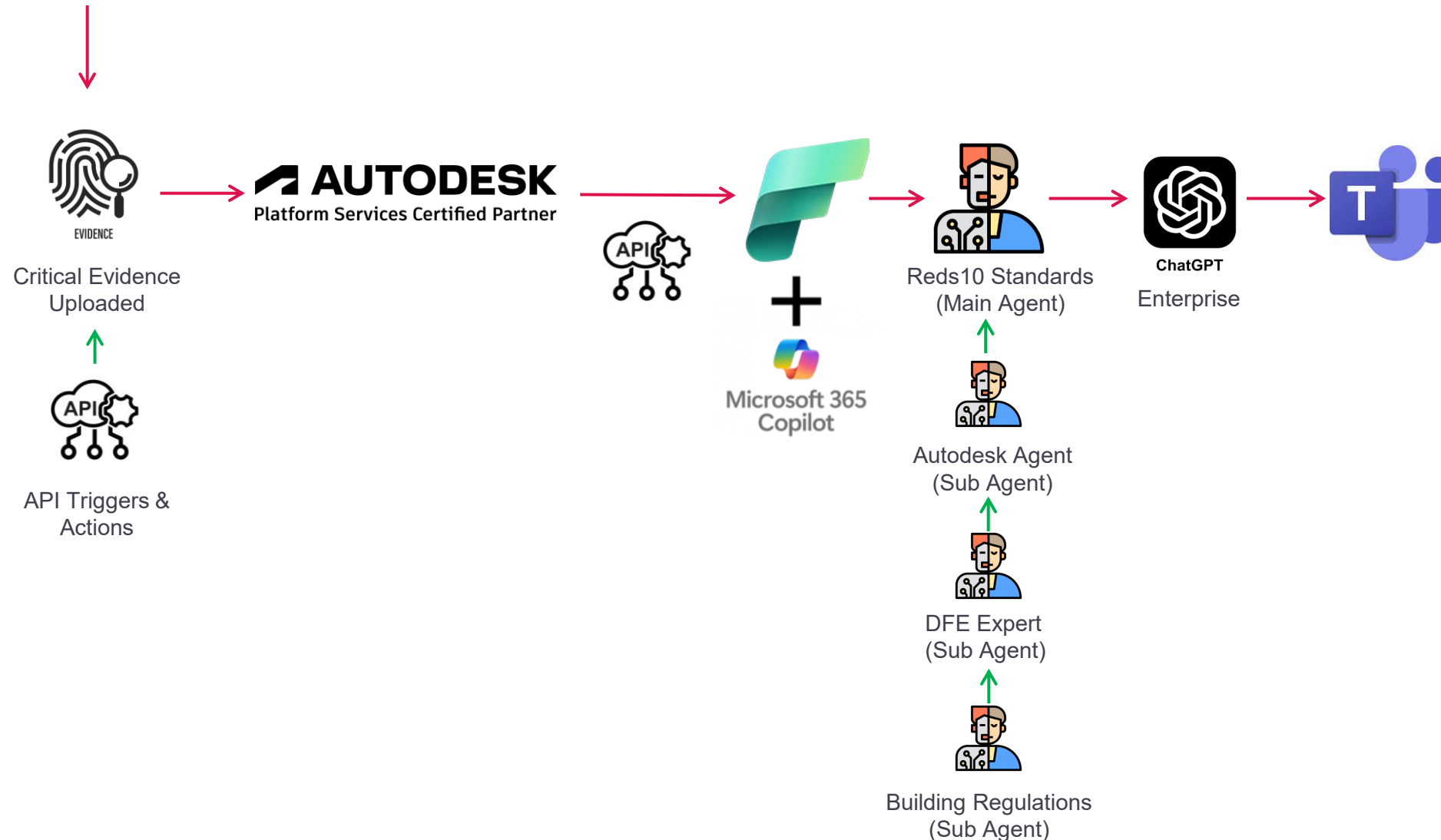


- Connected Data
- Points only at our data
- Report and Outputs as we define.
- Secure Connection
- Knowledge base controlled and own by us.
- Sub Agent Experts
- Quick & Accurate Access to Integrated Management System



Construction Cloud

(Assets)



- 3D Assets linked to evidence > Drawings > Models
- Experimental Chat GPT (Enterprise)
- Real time reporting & Issue Tracking
- 100% Compliance & Golden Thread
- Escalation Process based on rules.
- Issues management linked directly with subcontractor

Thank you

Q&A

Follow our journey

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