



AI in Construction

Turning Data into Smarter Decisions

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Suffolk – an Introduction



17 OFFICES

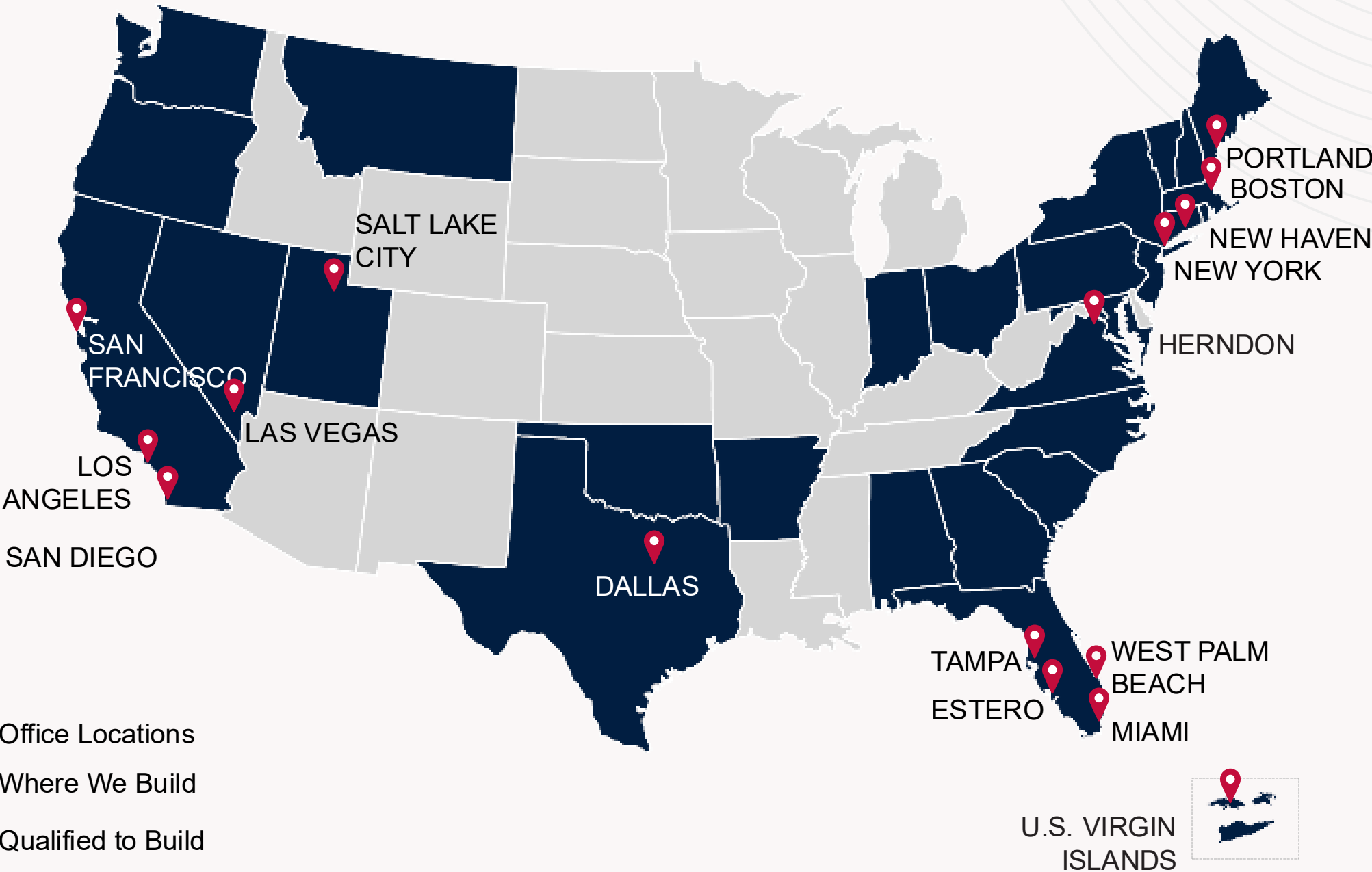
35 STATES

18 SECTORS

43 YEARS
FOUNDER LED

3,300 EMPLOYEES
NATIONWIDE

\$7.2B 2025 ANNUAL
REVENUE



Sectors

AFFORDABLE HOUSING	ENTERTAINMENT	HOSPITALITY	OFFICE
ASSISTED LIVING	HEALTHCARE	K-12	RESIDENTIAL
DISTRIBUTION	HIGHER EDUCATION	LIFE SCIENCES	RETAIL

Agenda

- 01.** Different waves of AI, associated use cases
- 02.** Implementation - How we have captured value
- 03.** Agentic AI – the potential in front of us
- 04.** Organizing for impact – a perspective

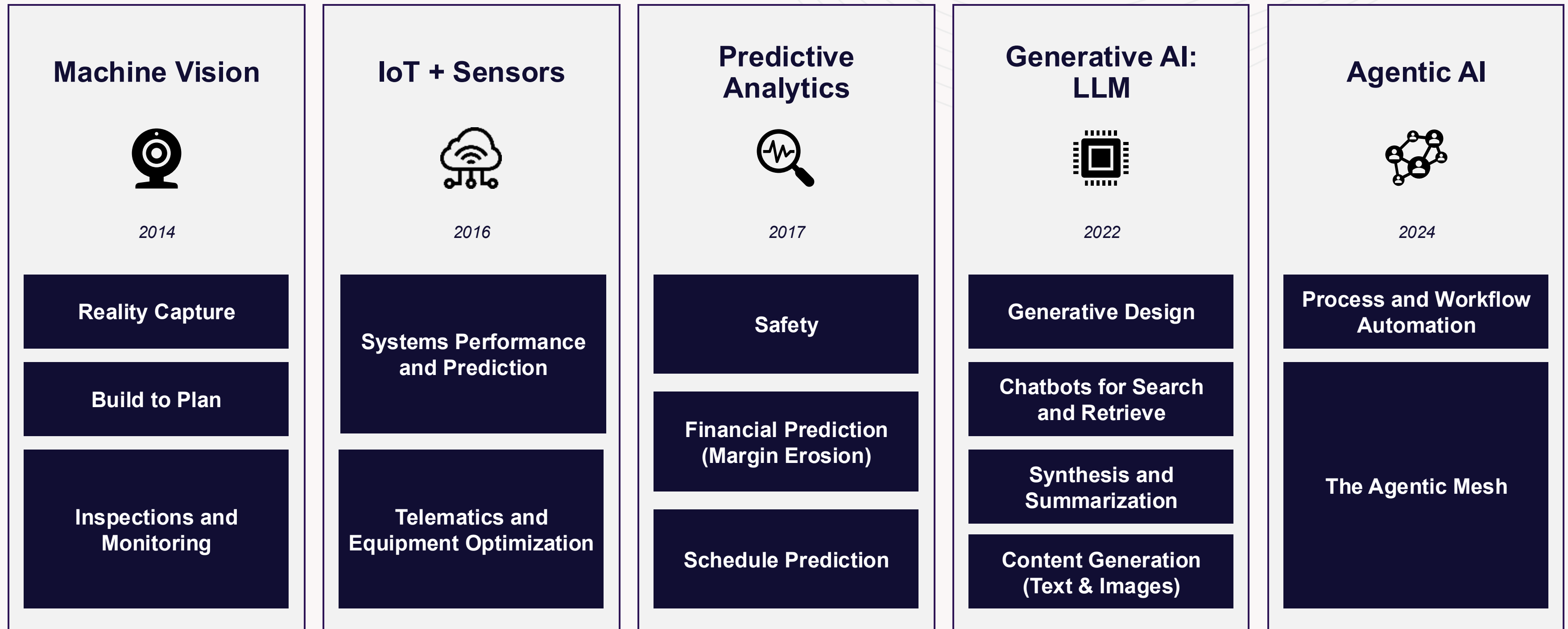
Different Waves of AI

How it has evolved



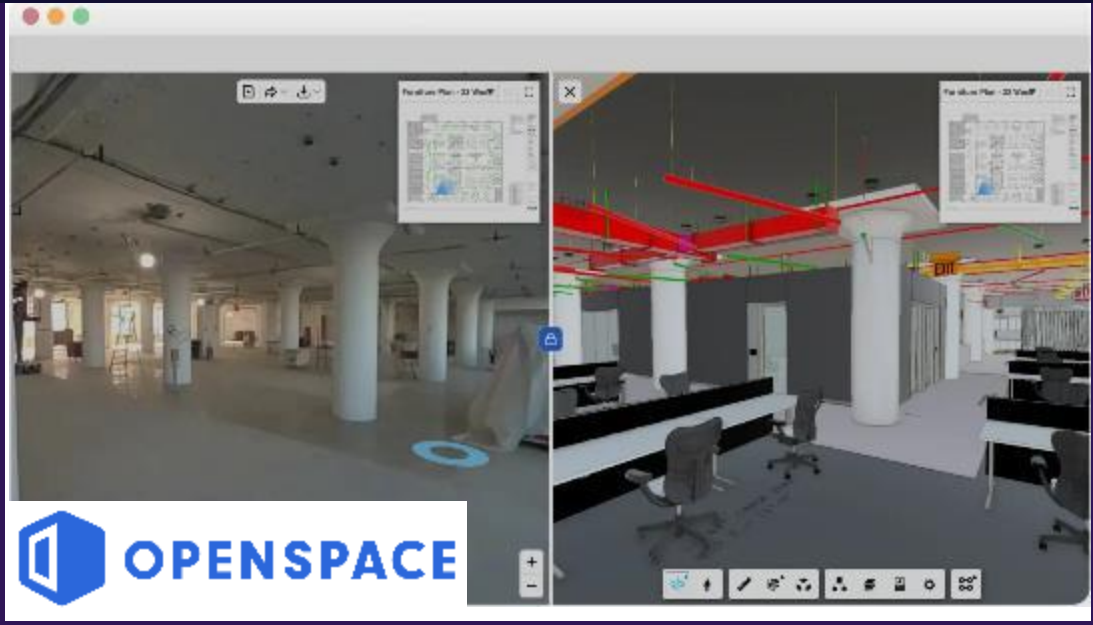
WALDORF ASTORIA, NY

Different Waves of AI



Machine Vision and IoT

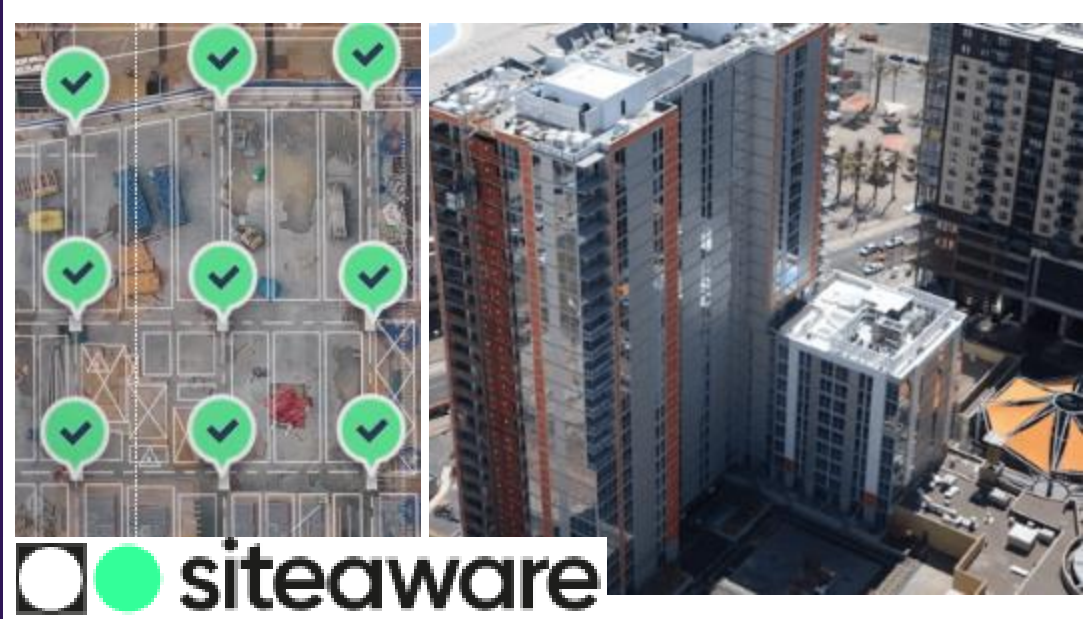
360° Reality Capture



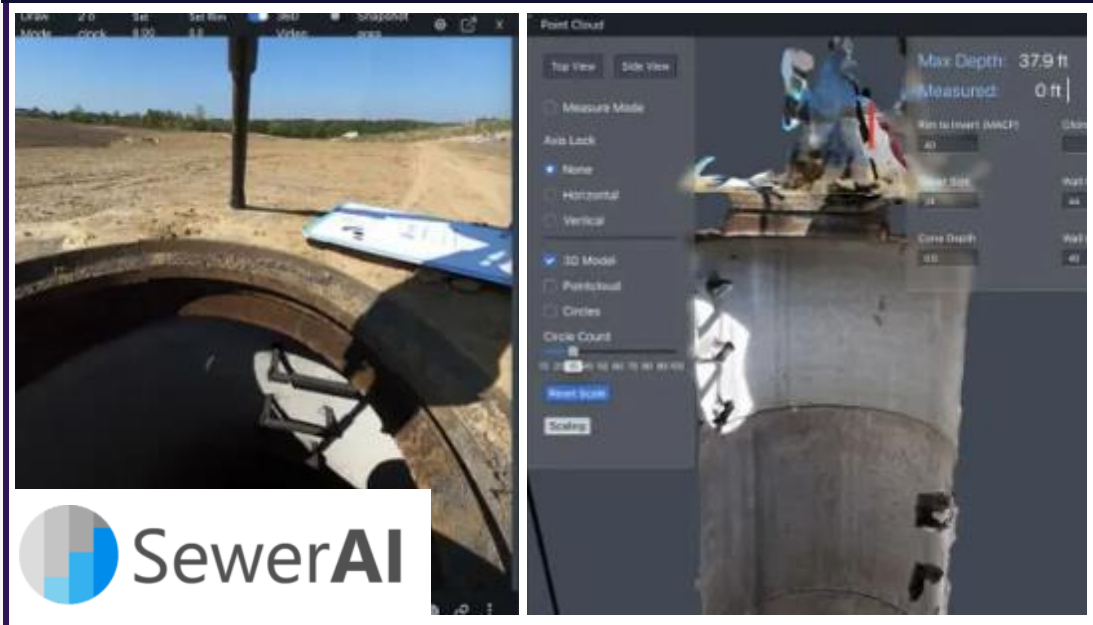
Reality Capture: Automated Surveying



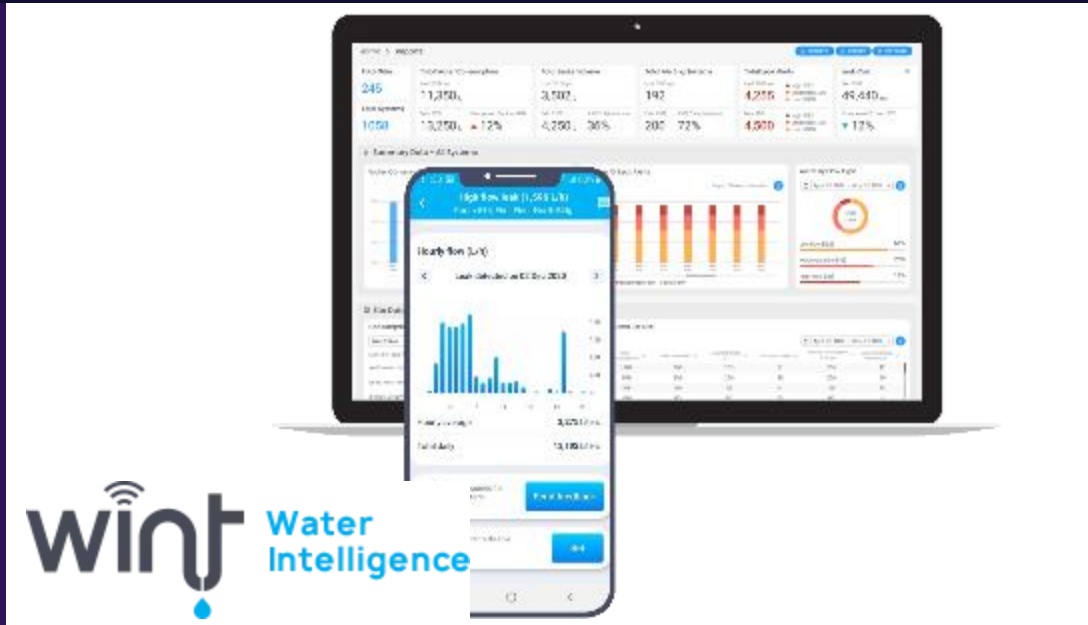
Build to Plan



Inspections and Monitoring



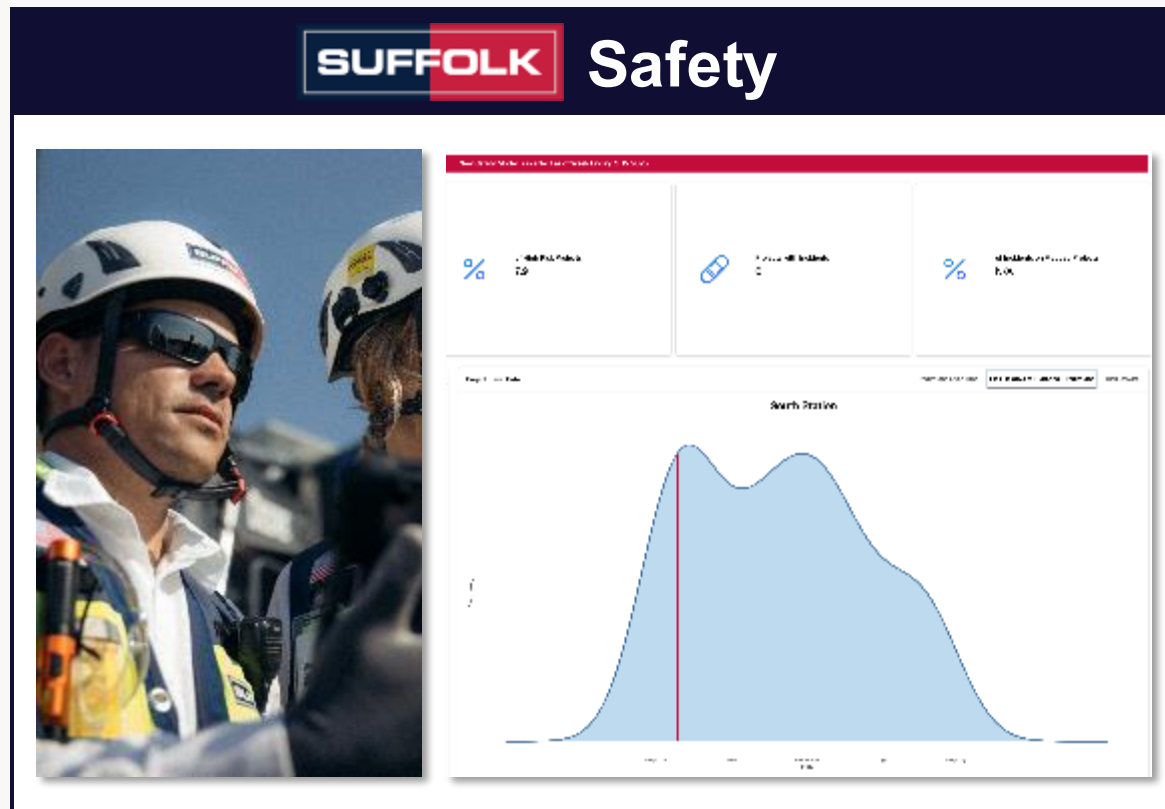
Systems Performance: Water Leak Mitigation



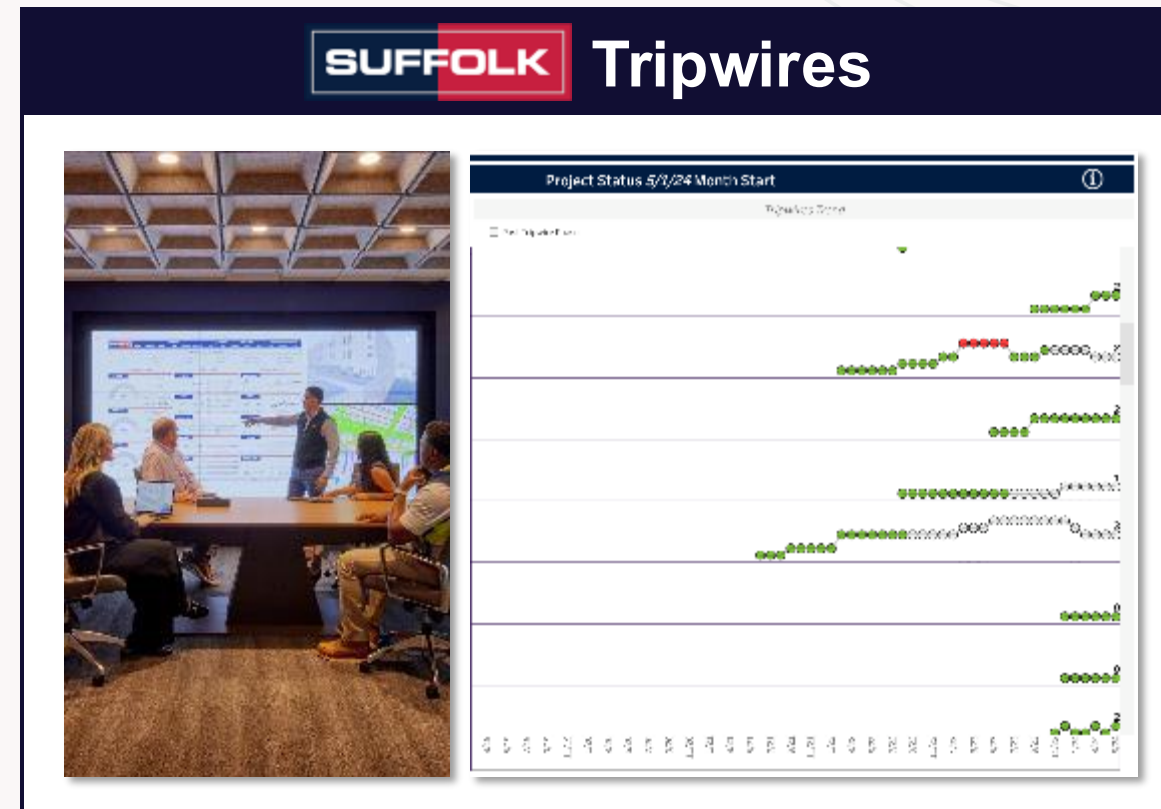
Systems Performance: HVAC



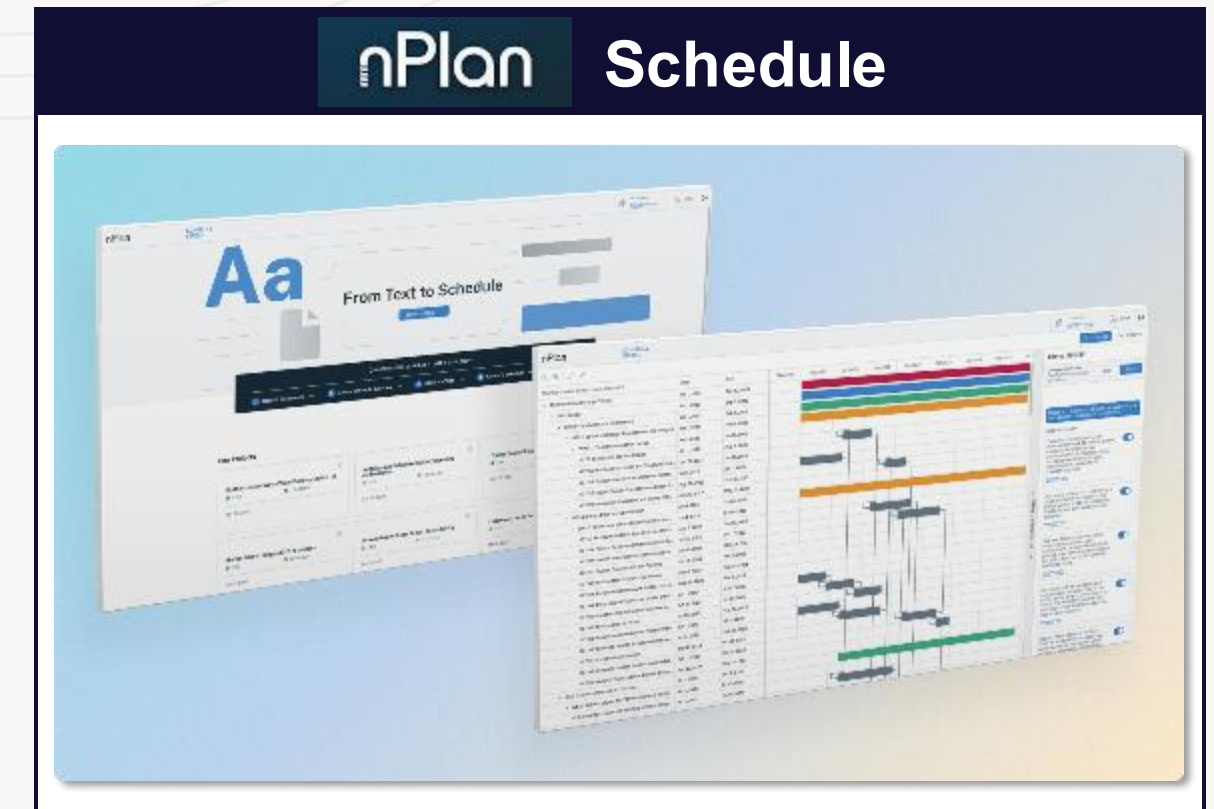
Predictive Analytics



Predicting safety risk on a project based on both static and dynamic factors



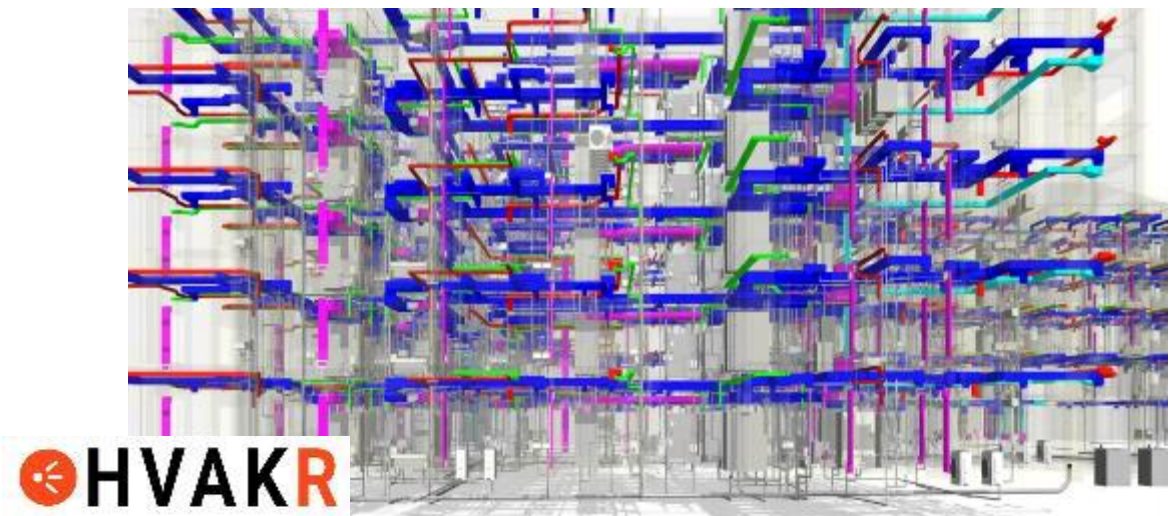
Predicting margin erosion risk on a project based on staffing, early project progress, project type, etc.



Predicting likelihood of completing project on time based on large database of actualized schedules

LLMs and Agents

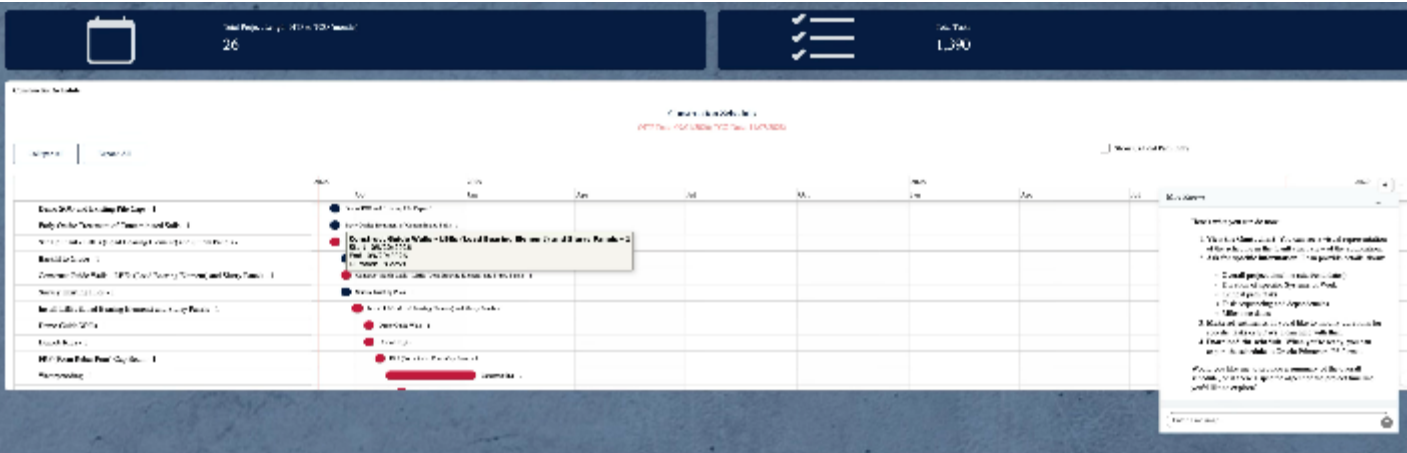
Gen Design for MEP



Gen Design for Structural



Schedule AI



Pursuits

You11:08 AM

Find me proposals that talk about geothermal wells

SuffolkAI11:08 AM

[Somerville Public Safety Building_RFP 22-03_SUFFOLK_TECHNICAL.pdf](#) - 2022

The proposal discusses the addition of geothermal wells on Parcel B before it is turned into a public park. It mentions the installation of 31 geothermal wells at the Boston University Center for Computing & Data Sciences project, detailing the challenges faced due to space constraints and the need for deeper wells to achieve the required heating/cooling capacity. The document highlights the importance of the geothermal system for climate action goals and the strategies used to mitigate disruption during installation.

[Diman Regional Voc-Tech High School_Non Price Proposal_Suffolk.pdf](#) - 2022

The proposal discusses geothermal wells in the context of a project for a 19-story building, where 31 geothermal wells, each 1,500 feet deep, were drilled to achieve the expected heating/cooling capacity. The document highlights the importance of locating the wells outside the building footprint to minimize impact on deep foundation excavation activities. Additionally, it mentions a case study of NewBridge on the Charles, which utilizes a large geothermal heating and cooling system with 408 wells.

LLMs and Agents: Planning

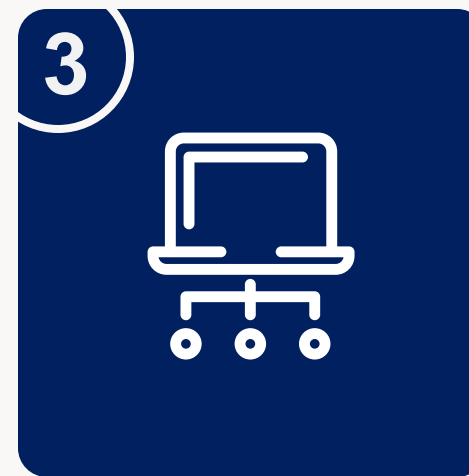
Schedule AI agent **automates the complex task** of schedule creation



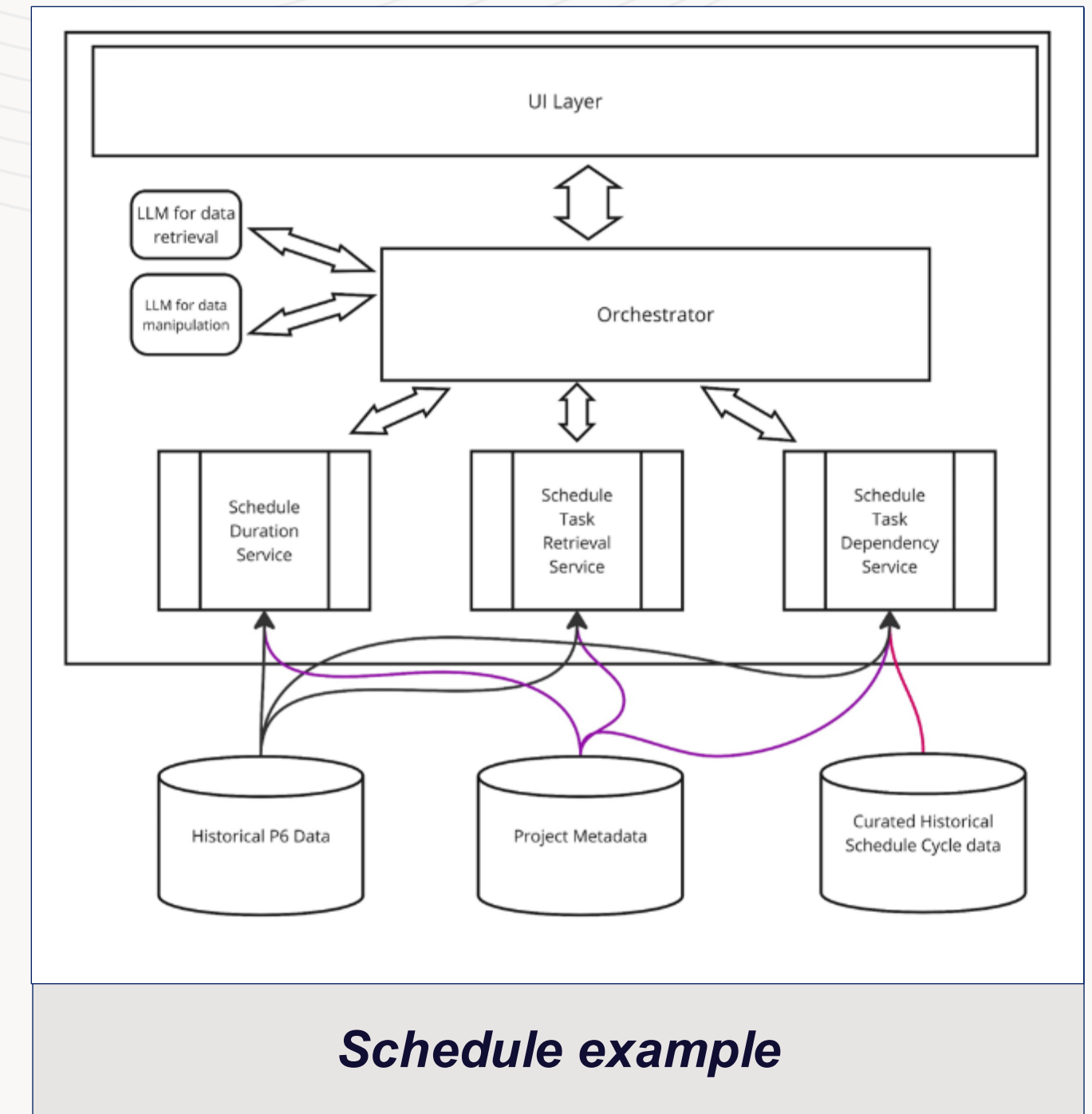
Directed by natural language or by available estimate to **do the work** and to **make changes**



Handles multiple scenario and different AI models under the hood: **both predictive and generative**



Connects to upstream (project estimate, carrying design) to **change according to design**



Implementation

How we have captured value

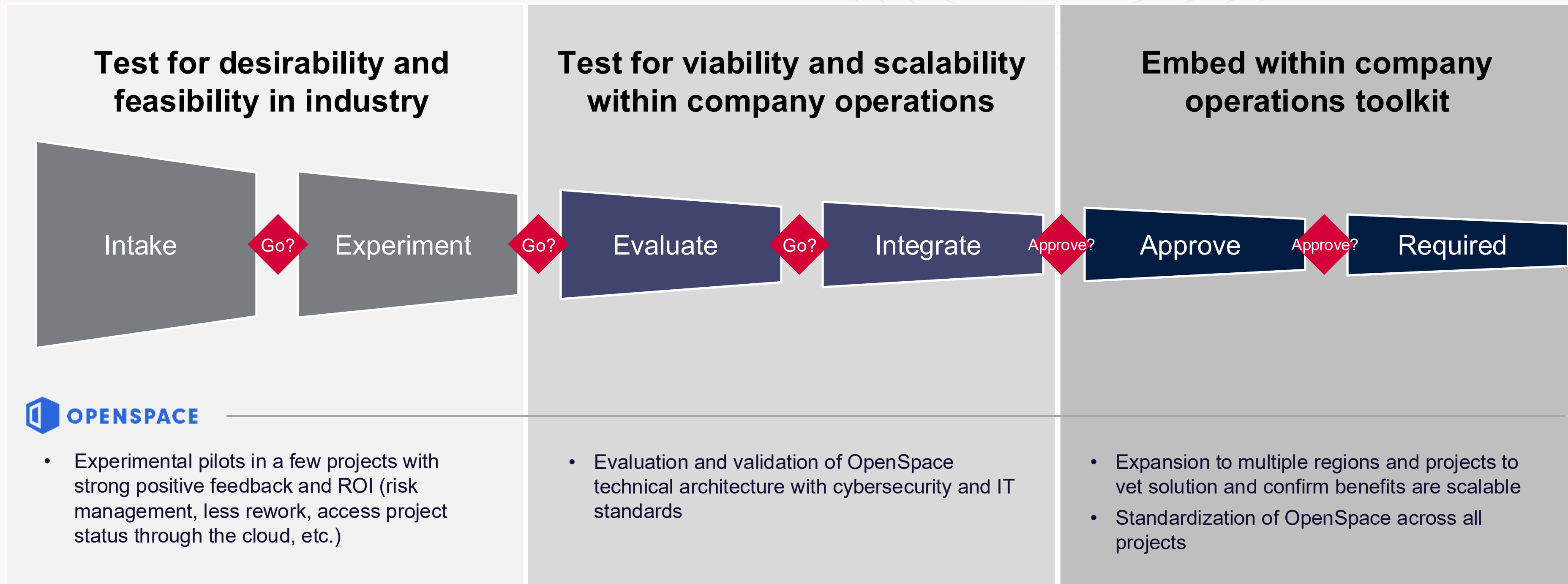


SUFFOLK

REGENERON EXPANSION, NY

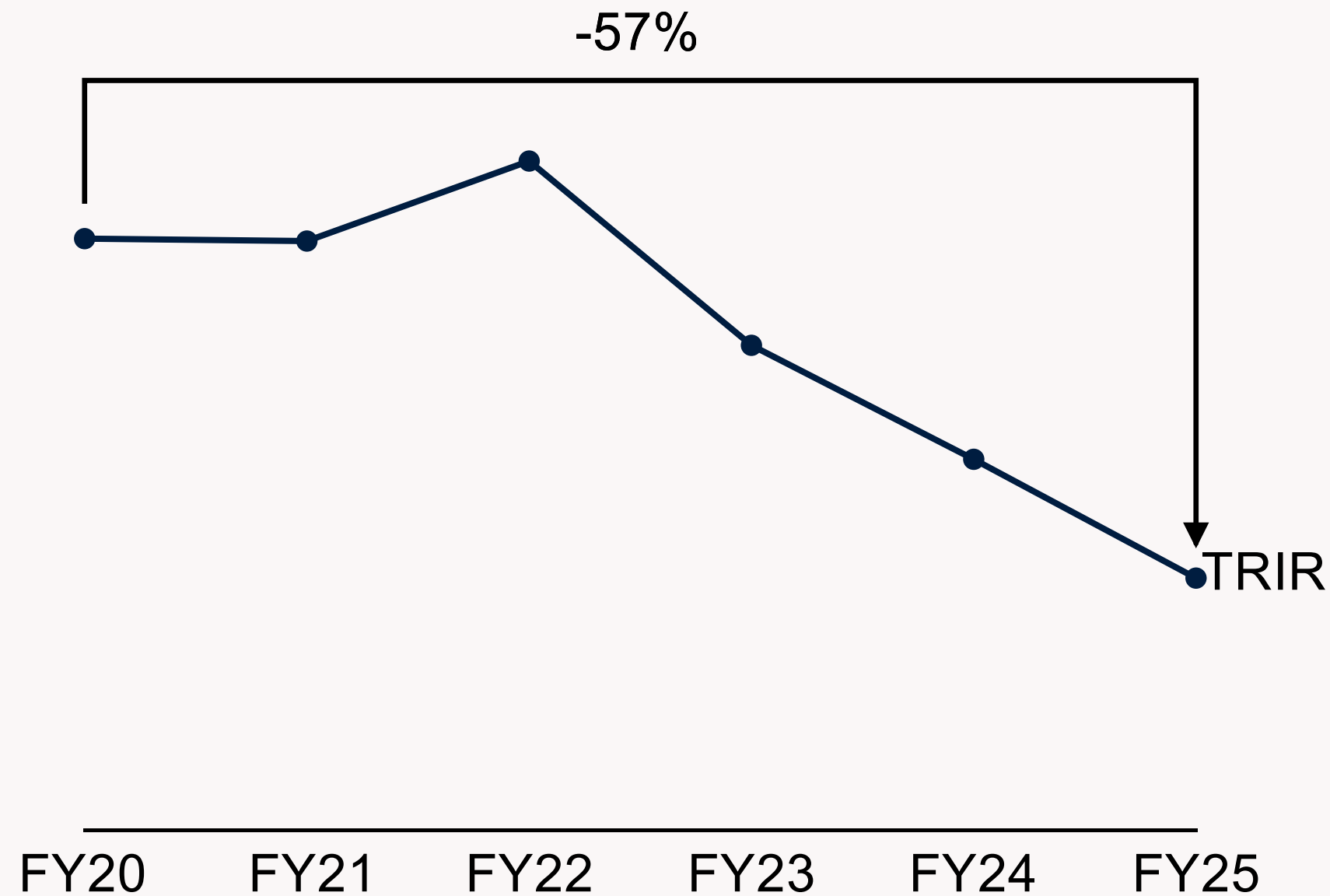
Piloting and scaling partners: The Innovation Funnel

A systematic process is necessary to drive from experiment to requirement



Predictive Analytics: Embedding insights for better decisions and action taking

A safety example



HOW TO EMBED PREDICTIVE INSIGHTS

- ✓ Fully embed analytics into the safety management system (e.g., project teams discuss proven drivers of safety in management meetings)
- ✓ Support safety staffing decision, following high risk
- ✓ Embed analytical insights into KPIs and SOPs (e.g., observations to trade hours ratio)
- ✓ Define a playbook based on outcomes of predictive model, e.g., what action to take if a project flags a high risk
- ✓ Close the loop: track action effectiveness, learn, and refresh features/models regularly

LLMs and Agents: RFP agent

Pursuits example

Process transformation

MANUAL RFP PROCESS

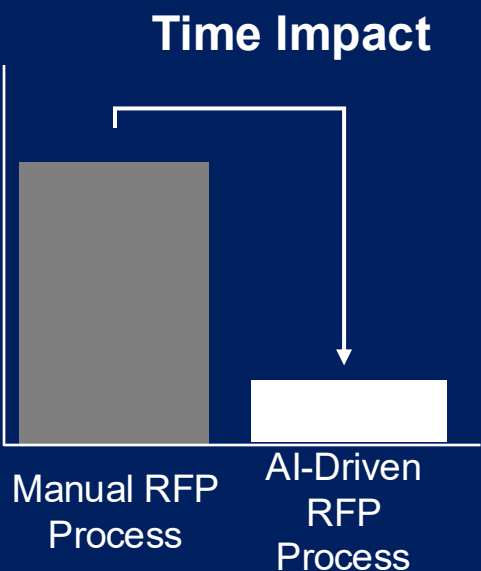
vs.

AI-DRIVEN RFP PROCESS

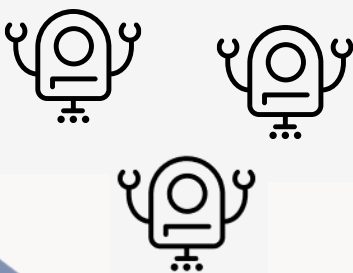
- BD team receives **hundreds of RFP's**
- Specialist **manually answers 15+ evaluation questions** about the RFP
- BD team **uploads RFP and selects distribution list**
- Custom GenAI model **automatically analyzes RFP, provides response to evaluation questions, and generates summary email**

AI-Driven RFP Process is 6x+ times faster than traditional one

*Time, minutes per RFP



HOW TO EMBED AGENTS



- 1 Co-develop with the process owner:** business stakeholder shall be integral to prototyping
- 2 Make it the default path:** embed in existing tools (Outlook / SharePoint / Teams); manual is the exception
- 3 Monitor usage and drift:** track penetration trends and quality
- 4 Close the loop and run like a product:** roll new versions/swap models, capture user feedback

Agentic AI

The potential in front of us



The Built Environment: A Unique Moment

Systemic pressures and secular growth drivers set the stage for technology adoption across the backbone of the global economy (real estate, construction, infrastructure)

Structural Challenges



Severe Labor Shortage



Cost is Greater than Value



Supply Chain Fragility



Aging Infrastructure



Decarbonization & Resiliency



Productivity Stagnation

Secular Drivers



Significant Housing Shortfall



Infrastructure Investment Wave



AI-Driven Data Center Buildout



Reshoring of Manufacturing



Healthcare & Bio Pharma



Grid Modernization & Electrification

The Future of AI is Agentic

Entire operating models are being reimagined

“

Agents have the potential to **automate complex business processes**, combining autonomy, planning, memory and integration

”

“

Unlocking the full potential of agentic AI requires more than plugging agents into existing workflows. It calls for **reimagining those workflows from the ground up** — with agents at the core

”

“

A new AI architecture paradigm — **the agentic mesh** — is needed

”



The prize is cost and time



Sources:

HBS article: “How Gen AI can disrupt SaaS – and Change the Companies that Use It”, by Deep Nisha and Nitin Nohria, May 2025

McKinsey article: Seizing the Agentic AI advantage, a CEO playbook to solve the genAI paradox and unlock scalable impact with AI agents



Organizing for Impact

A perspective



GILEAD CANCER RESEARCH FACILITY, CA

Building Blocks of Transformation

Strategy

Alignment on value, sequencing and roadmap

Vision

Domain reimagination

Roadmap and prioritization

Partnerships

Commercialization

Domains & use cases

Re-imagining business domains through implementing use cases



AI for
**Design and
Preconstruction**



AI for
Building



AI for
**Project Team
Experience**



AI for
**Employee
Experience**



AI for
**Client
Experience**

AI STUDIO

Operating Model

Enablers required to deliver use cases

Organization

Legal and
Governance

AI Ops

Technology

Data

Change Management

Driving scale and tracking value across Suffolk

Capability building

Process Redesign

Communications

AI Studio – Centralized Delivery

Unified use-case intake and “face” to the business

Unified operating model with faster speed to delivery

Continuous experimentation to stay sighted on cutting edge developments

Physical space for immersive AI

Business and technical training and engagement

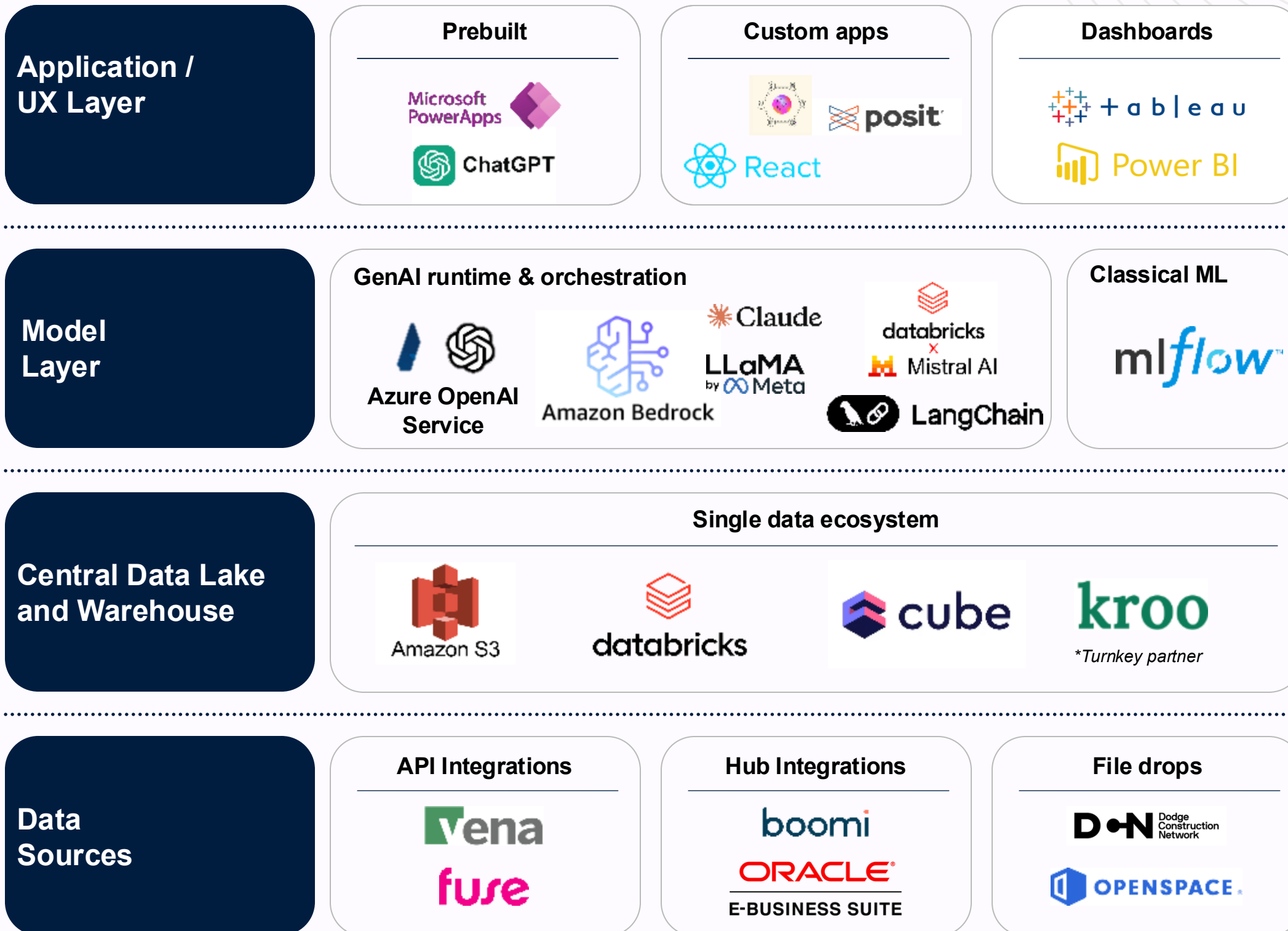
Commercial grade expertise to support AI incubation

Cross-functional Fusion Teams with capabilities that enable AI at scale



SUFFOLK

Data and Technology Stack



KEY PRINCIPLES BEHIND THE TECH STACK

- ✓ Delivery model (buy/build/blend)
- ✓ Single data spine
- ✓ Shared governance and standards
- ✓ Options in model selection and UX
- ✓ Low-/no-code enablement

Capability Building

Preparing the organization for AI



Know AI

Build **awareness of strategy** through broad communications, two-way forums (e.g., town halls), and impact stories

Educate on basic governance e.g., policies, do's and don'ts



Use AI

Encourage usage of **curated toolset** through defined onboarding pathways, by role if necessary

"Hands on keyboard" training through office hours, reverse mentorship, etc.



Build AI

Develop AI-proficient employees **embedded in the business** to automate and streamline processes

(optional) Create a central expert team or partner to deliver production-grade applications



Lead AI

Immerse leaders and managers in the "art of the possible with AI", to **encourage experimentation** and **use case generation**

Train managers on how to address concerns about AI

Legal considerations

Maturing risk posture in the age of AI

Technology Platforms

Use of data for development of AI agents and models

Data retention post contract end

Disclosure requirements on the software supply chain

Model reversion post contract end

Data segregation, storage and encryption

Areas for consideration for the GC

Owners / Clients

License to use data to deliver the service

License to use new technology

Do's and Don'ts

Do's

- ✓ Do centralize accountability and empower for faster decision-making
- ✓ Do develop a thoughtful risk framework for your approach to AI, and communicate this internally, as well as to your clients and partners
- ✓ Do invest equally in change management, training, and communications, as technology and data
- ✓ Do educate yourself frequently on the latest advancements – the field is changing fast
- ✓ Do keep a focus on value capture

Don'ts

- ✗ Don't simply delegate AI leadership to the IT / Data / Innovation department. AI will fundamentally change businesses, and it needs to be led from the top
- ✗ Don't allow general concerns prevent you from meaningfully engaging and charting a path – there are now accepted solutions to most concerns, e.g., cybersecurity, data ownership and usage, model accuracy, etc.
- ✗ Don't accept “it doesn't work” as an excuse – there's a learning curve for this technology
- ✗ Don't accept “diffuse value” from AI – it should drive a meaningful change in efficiencies and performance

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