

PRACTICAL APPLICATIONS OF NEW CONSTRUCTION TECHNOLOGIES: AI-POWERED CONSTRUCTION

NIA's 68th Annual Convention
Naples Grande Beach Resort
Naples, Florida

Erin Khan
Founder | Erin Khan Consulting

NIA | National Insulation
Association[®]

THE VOICE OF THE INSULATION INDUSTRY™

Speaker Introduction: Erin Khan



Renovated historical buildings in Los Angeles and held a new cross functional role in construction technology and process innovation



Operations Director for Women in Construction Technology Group



Certificate in Business Analytics – Data to Insights to bring the power of data to construction processes



Advisor to GS Futures venture fund, specializing in construction technology, and building innovations



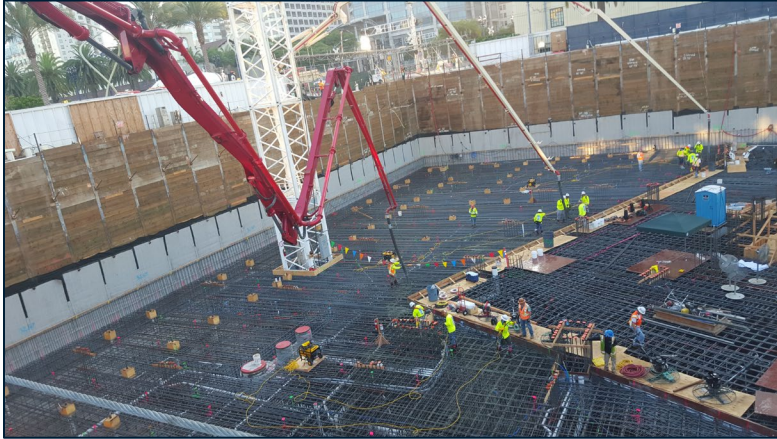
Founder & Senior Consultant at Erin Khan Consulting, LLC



Let's Connect!



National Director of Construction Solutions, managing a tech and innovation portfolio



Audience Engagement: Poll Time!



Join the Live Poll
at:
menti.com

Use code:
47 32 27 3

Join at menti.com | use code 4732 273



Is your organization strategically using A.I. solutions like ChatGPT or anything else today?



Yes No We're figuring it out



How AI Is Reshaping the Industry

Artificial Intelligence: Historic or on the Horizon?

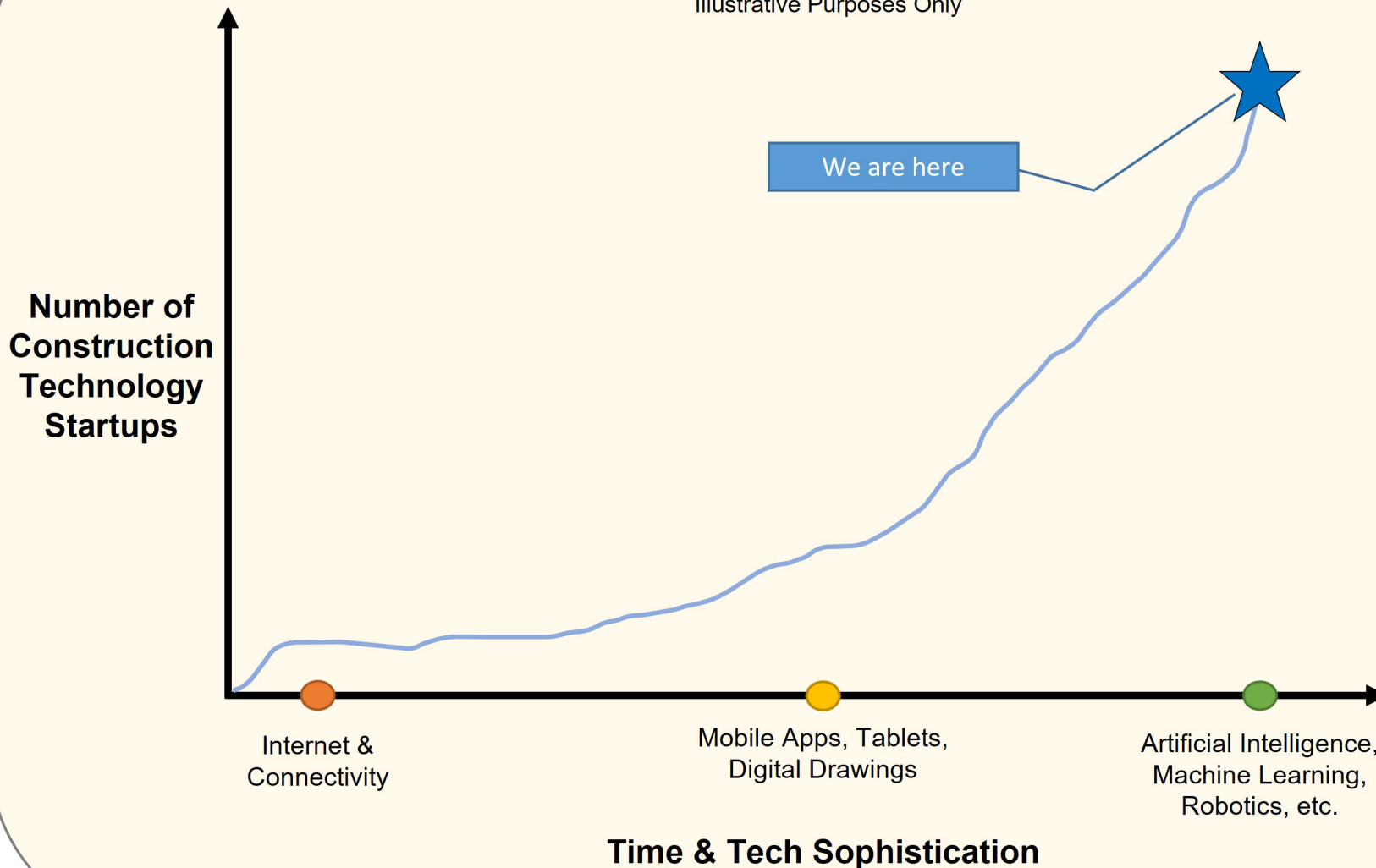


A Bit of Both



ConTech Superbloom

Illustrative Purposes Only



Source: Erin Khan Consulting, LLC

Funding Raised by ConTech Startups

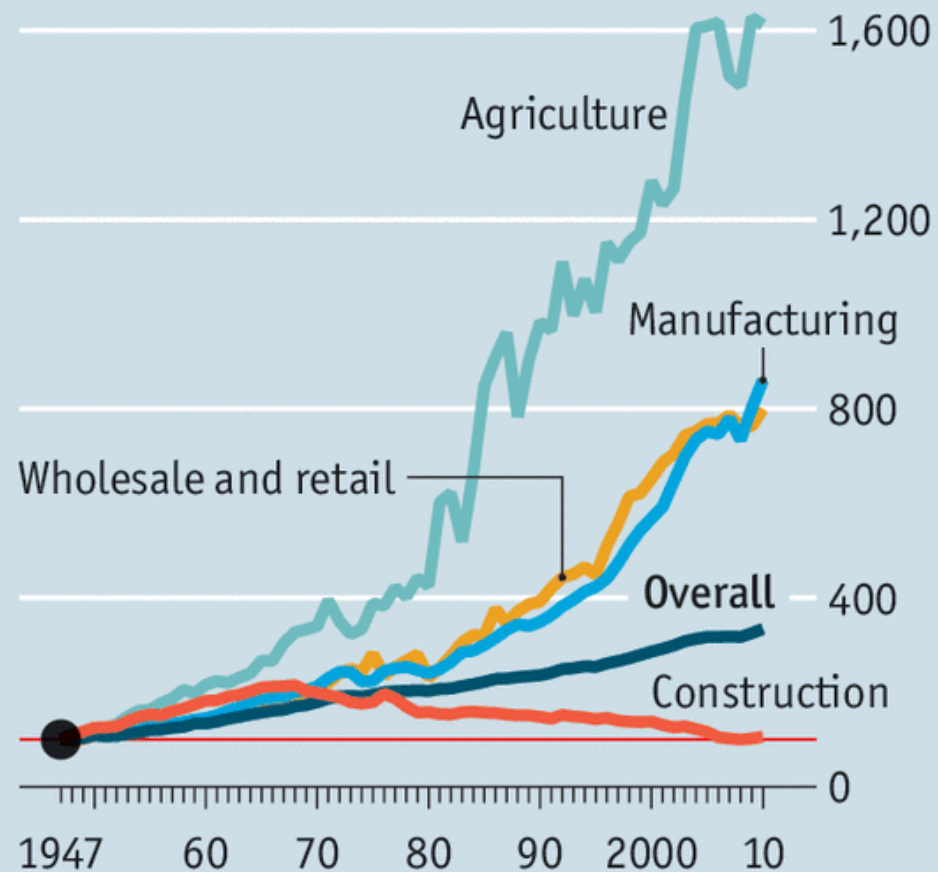
2010:
\$1 Million

2022:
\$5.463 Billion!

Source: AXA XL Historical Data,
Perrin N. American Construction
Technology Summit

Unlearning by doing

United States, gross value-added*
Per hour worked, 1947=100

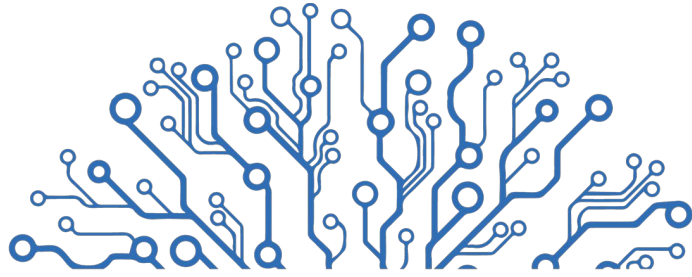


Source: McKinsey Global Institute *At constant prices

What Reshaping the Industry Really Means

- Mitigating the Labor Shortage
- Supporting Field Productivity
- Improving Safety
- Reducing Waste
- ...and more

Tech You Should Know



DOCUMENT CRUNCH



www.documentcrunch.com



Quickly identify contract risk

Stop spending hours or days reviewing contracts. With the click of a button our CrunchAI™ can help identify the critical provisions that you should know about.



Standardize contract review

Construction is already risky enough but contracts don't have to be. Establish a system for reviewing contracts that is repeatable, measurable and consistent.



Give your team a playbook

Empower your team with knowledge by providing everyone with a condensed playbook to reference. Say goodbye to legal jargon and hello to plain English.



Being Human

beinghuman.com

Optimize your documents processing with streamlined automation.

- ✓ Intuitive Analytics
- ✓ Develop a Customized Document Approval Policy
- ✓ Utilize AI to Split Documents
- ✓ Template-Agnostic AI Data Extraction

Book a Demo

Document Type
INVOICE

Vendor
TOMO

Verified

Being Human

INVOICE #INV434334

Invoice To:
Aurora Renovation
1156 Tyler Avenue
Miami, Florida
33128
United States

Vendor:
Tomo

Invoice Date:
05/24/2023

Date
5/24/2023

Product	Unit	Quantity	Price	Total
BHINV1234	Each	32	600.00	\$19200
BHINV1235	Each	12	20.00	\$240
BHINV1236	Each	06	150.00	\$900
BHINV1237	Each	16	45.00	\$720
BHINV1238	Each	26	09.00	\$234
BHINV1239	Each	82	34.00	\$2788
BHINV1240	Each	44	55.00	\$2420
BHINV1241	Each	12	125.00	\$1500
BHINV1242	Each	76	40.00	\$3040
BHINV1243	Each	14	25.00	\$350
Total Amount				31392
Total				\$31392

Spend Less Time on Finance Paperwork

- Works with your ERP system (add to any enterprise resource planning platform)
- Accounts payable document storage and retrieval and fraud detection
- Dashboards and human-in-the-loop



www.fieldmaterials.com

“Reduce PO processing time by 90%”

Quotes

- Extracts details into a PO
- Tracks what gets received
- Lets you request specific items from quote
- Validates pricing when you get invoices

Packing Slips

- Scans packing slip to track what was received
- Verifies packing slip against PO & Invoice

Invoices

- Scans invoices to automate 3-way match
- Eliminates invoice data entry into ERP
- Automates payments based on rules*

Receipts

- Scans receipts to control rogue spending
- Eliminates manual data entry into ERP

Field AI

fieldai.com



360 Photo Reality Capture

Autonomously capture 360° photos and videos without the need for supervision, pre-route or training the robot in your environment.



Lidar Scan Point

Create real-time LIDAR point cloud maps with our autonomous solution in a matter of minutes instead of days or weeks.



Bim Comparison

Compare BIM models to real-time digital twins enabling immediate identification of issues and faster resolution.



Semantic Object Identification

Identify and locate any object autonomously on your site without the need for human intervention resulting in real-time site coordination.



Issue Mapping

Reduce hazards and risks on the job site with an autonomous job walk to identify safety issues in real-time detection.



Topography Mapping

Create topography maps autonomously and immediately without the need for manual scanning and data collection.

“Brain for Robotics”



Any Vehicle

Legged, wheeled, flying, and tracked vehicles are compatible with our system.



Any Sensor

Compatible with all major sensors, handles sensor failures and degeneracies.



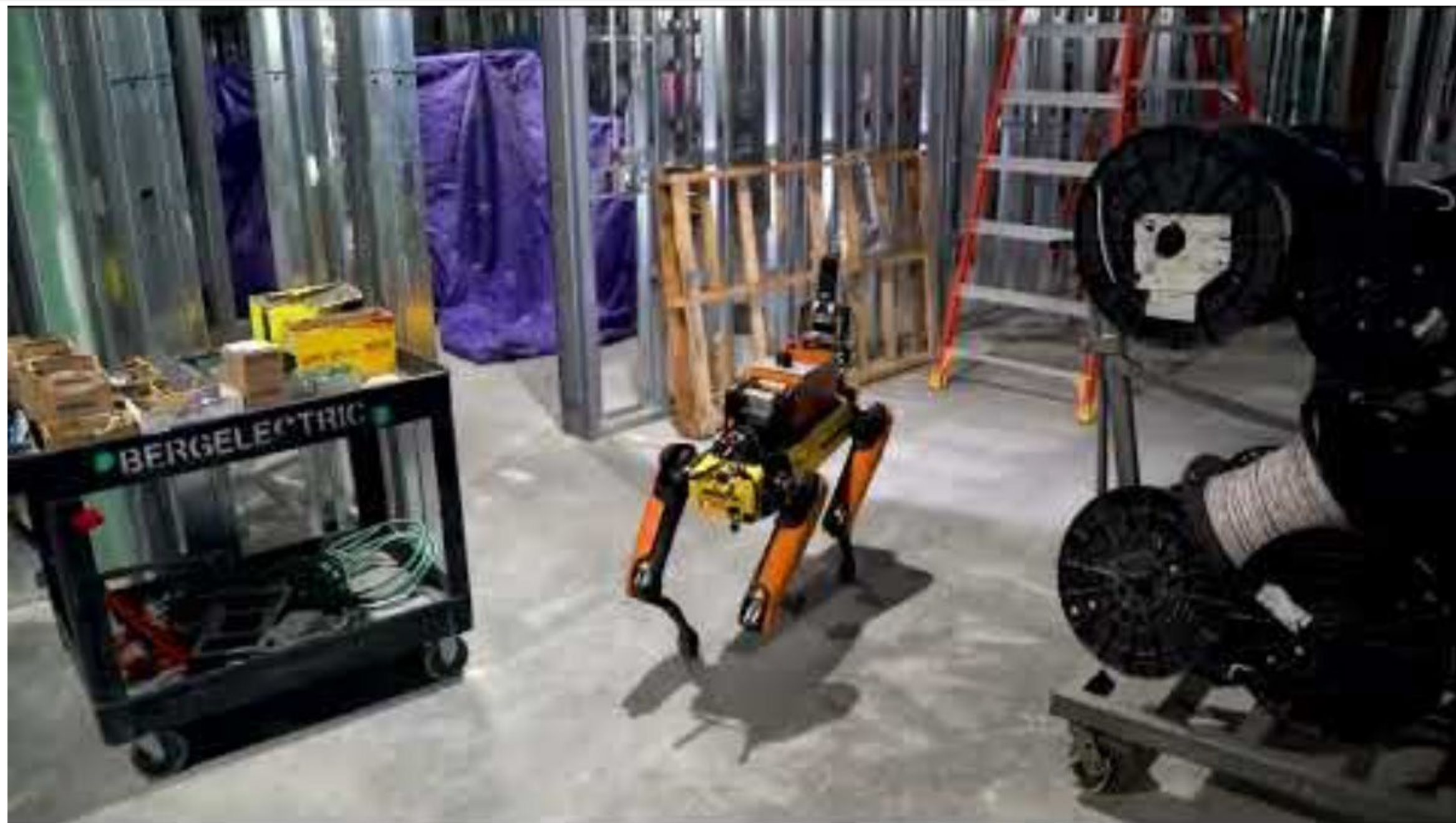
Any Environment

Handles unknown, dynamic, and unpredictable real-world conditions.



Connected Teams

Connects wirelessly and enables autonomous multi-robot operations





...and many other reality capture solutions:

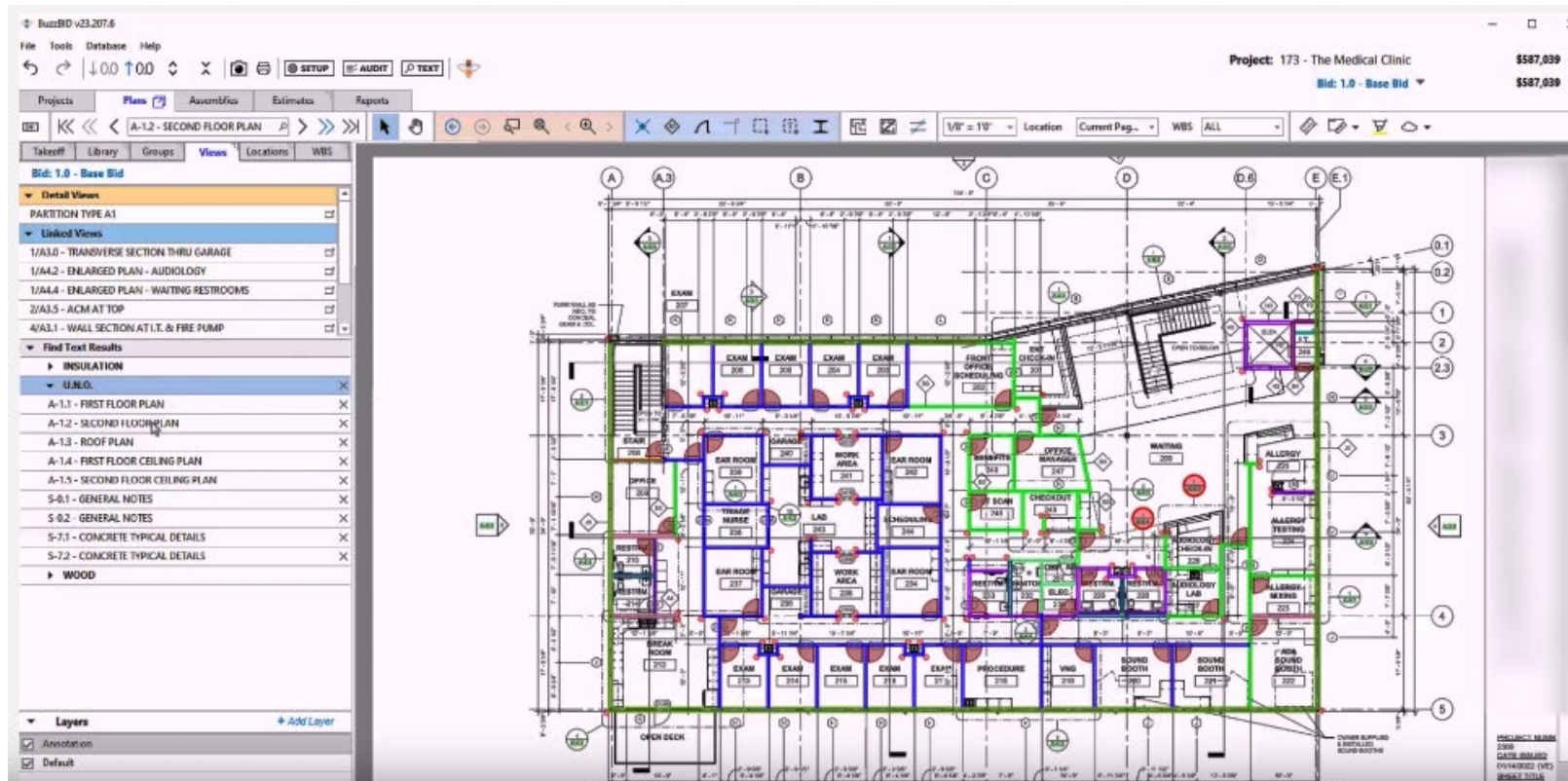


builddots.com/





“Instantly Takeoff Assemblies by Size and Type 500% Faster”



buzzbid.com/

- Integrated estimating with computer vision technology
- Takeoff Automation using ClickONCE™
- Specific to Division 07

gsfutures 2024 CONSTRUCTION SAFETY TECHNOLOGY MAP

MANAGEMENT, TRAINING & COMPLIANCE



IoT, SENSORS & WEARABLES



WORKSITE MANAGEMENT & TRAINING



VIDEO MONITORING



AI BASED ANALYTICS



AI BASED AVOIDANCE

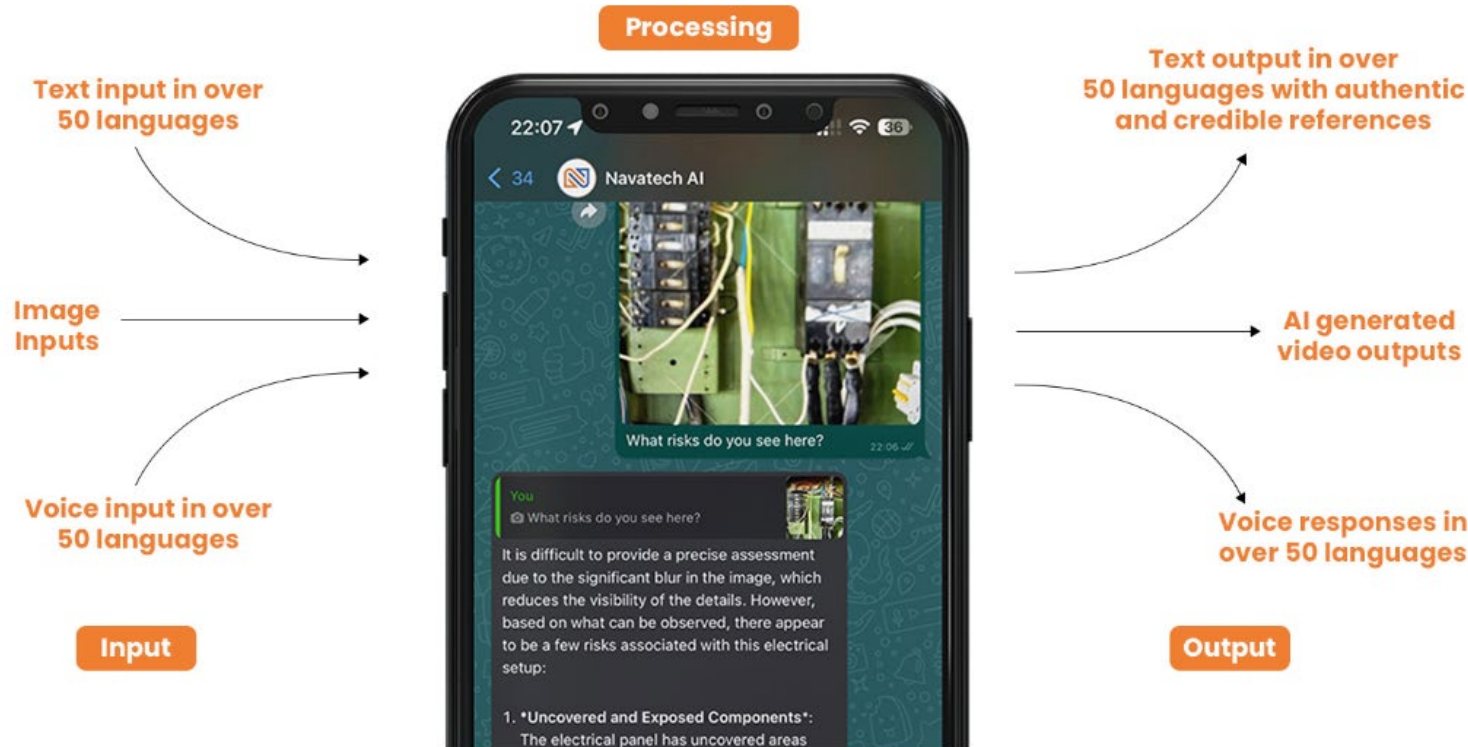


RISK MANAGEMENT & INSURANCE





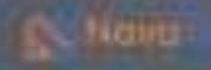
Navatech AI + Specialised Health and Safety Knowledgebase (Can also be customised to your organisational data)



www.safety.ai

Putting AI into Safety

- Observation reporting and incident management
- Monitoring and tracking
- Reporting and multilingual support





AQUIFER

Data Integrations and Automations for Construction Platforms

✔ Project Health Scorecard

Create a unified health scorecard that shows all stakeholders how the project is progressing in real-time.

✔ Sync Permit Status with Field Inspections in Procore

Pull from public data permit data sources, like the NYC Department of Buildings DOBNow dataset. Create a Procore inspection with sections for each permit, and the requirements as items to be marked as Pass/Fail or N/A.

✔ Safety

Merge your safety reporting with your project management system to form a holistic Project Scorecard. Communicate changes to your safety policy that impacts your insurance premiums.

✔ Cost and Change Management

Transform and sync cost and change data with your ERP & Accounting systems. Set up alerts and validations to prompt your users in the field to make changes that will keep their data compatible with your accounting process.

✔ Extract Data from Procore into the Snowflake Data Cloud

Together, the integration between Procore and Snowflake can help construction companies gain insights into their data, make informed decisions, and use the data to push updates to other software tools.

✔ Single Source of Truth

Centralize project data from multiple sources into one single source of truth. Gain control over how the data is organized and communicated based on your organizations processes.

JOIST-AI

Your personal proposal assistant



Advanced search

helps you quickly find the content you need without digging through folders, servers, or databases; or waiting on other team members.



Generate new and relevant content

based on your own previous winning proposals and institutional knowledge.



Create a first draft proposal

with a click of a button, with the ability to edit from there.



A built-in analytics tool

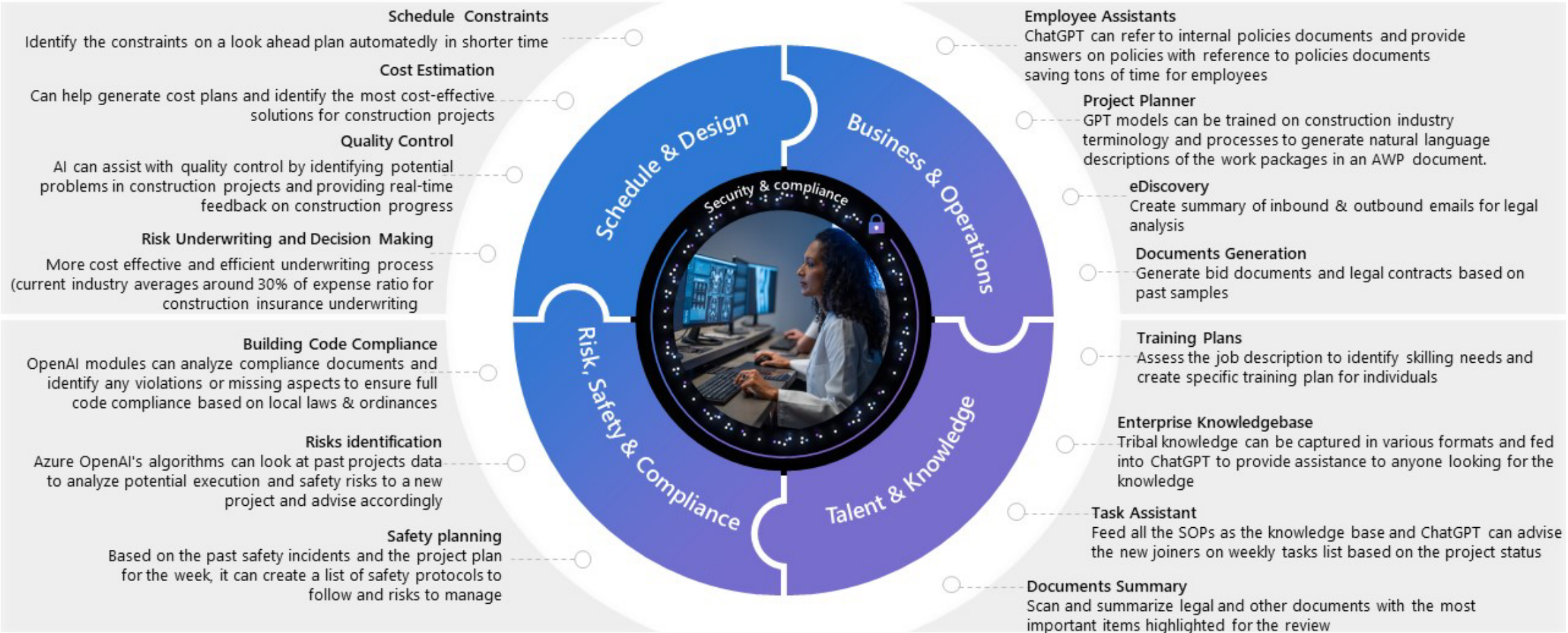
helps you and your team catch language issues, duplications, and brand and RFX inconsistencies.

www.joist.ai

Smart Marketing Assistant

- Reduces time searching for content
- Ability to create an RFP database and score RFPs
- Keeps data private and allows unique branding

Practical Applications



CONSTRUCTION INDUSTRY BENEFITS

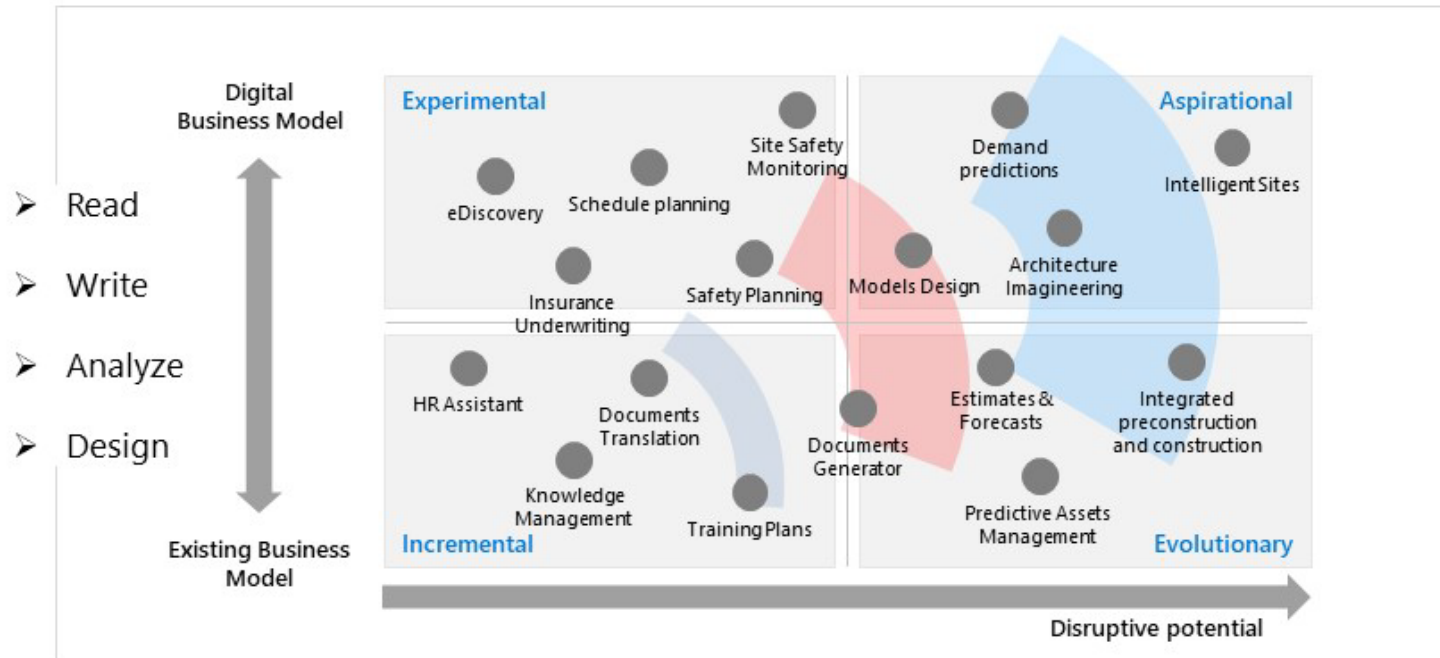


Source: LinkedIn Live Event by Placer Solutions, A.I. Excellence in Construction – Microsoft’s AEC Strategist



AI driven Construction Industry

As our partnership continues to evolve, the horizons provide focus to the Digital Enablement Office (DEO). This graphic's objective is to enrich each horizon with your organization's perspective.



Horizon 1

- Simplify experience with processes
- Preserve & harness enterprise knowledge
- Comprehensive safety planning
- Schedule & planning
- Forecast & estimates
- Training & skilling plans

Horizon 2

- Real time site safety monitoring
- Reduce the design life cycle from months to days
- Architecture Imagineering
- Create new marketing campaigns

Horizon 3

- Develop new services & solutions

Creative Imagineering:

1. Creative reimagining & ideation
2. 3D models rendering

Risks & Safety

1. Comprehensive risks identification
2. Improving code compliance
3. Insurance underwriting

Talent & Knowledge

1. Faster onboarding
2. Preserving knowledge
3. Training & skilling plans

Business & Operations

1. Predictive Maintenance
2. eDiscovery & alerts
3. Employee Assistants

Source: [LinkedIn Live Event by Placer Solutions, A.I. Excellence in Construction – Microsoft's AEC Strategist](#)



Read the full report:

www.placersolutions.io/research-and-reports



chat.openai.com

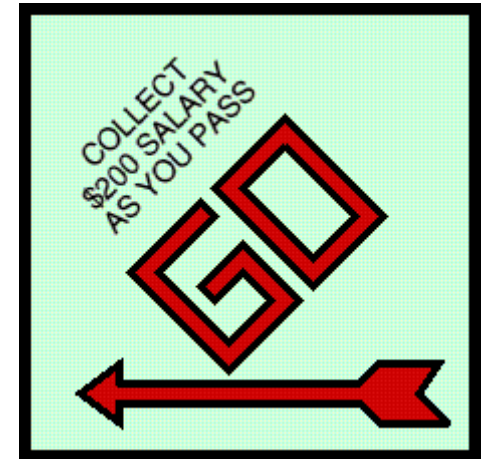


How can I help you today?

Message ChatGPT...



ChatGPT can make mistakes. Consider checking important information.



“I’m doing some market research in the commercial construction space. What does the outlook look like for the next year, and what trends have happened in the past?”



“I’m a construction safety professional and I’m putting together a library of talks to give about safety. Tell me ten topics I should have in my library.”



“I’m considering constructing a type five building for the first time. What are some risks I might not have thought of?”



“I took a bunch of notes from a team meeting. Please read and synthesize it into a summary with action items”



Q&A

- More Questions? Let's Connect:



Thank You!



THE VOICE OF THE INSULATION INDUSTRY™



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calendly.com/erinkhanconsulting



Let's Connect!

