# AI for Efficient Project Controls

**Joao Dias (CEO) and Shirin Dora (CTO)**

Constructer

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Project Controls EXPO London, UK

# Overview

# The Problem

98% projects overcost by more than 30%...

77% projects are at least 40% late...



McKinsey&Company

The construction productivity imperative

McKinsey Productivity Sciences Center June 2015

# The Cause

## Too much documentation:

130 million emails, 55 million documents, and 12 million workflows



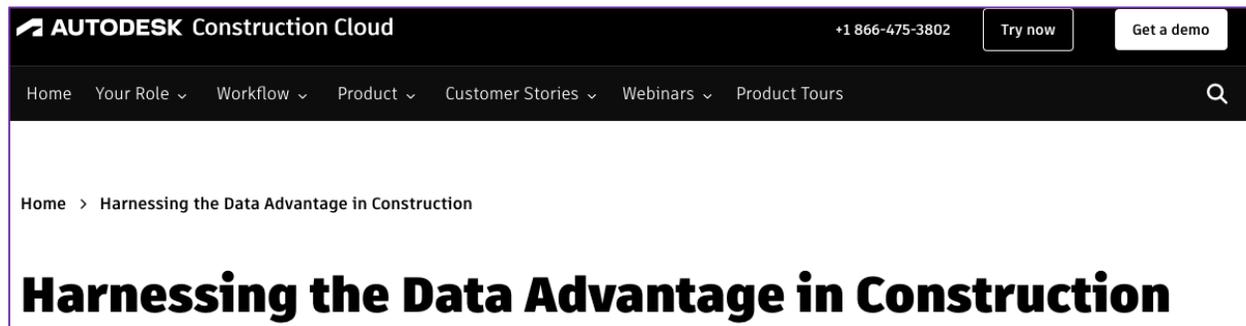**ASITE**     Products     Industries     Insights     Company     Marketplace

### What is the Most Important Data to Track on Construction Projects?

# The Cause

Fragmented construction data leads to suboptimal decisions:
Data-issues cost the global construction industry US$1.8 trillion annually



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Home › Harnessing the Data Advantage in Construction

## Harnessing the Data Advantage in Construction

# The Cause

## Less time on project…

Project professionals loose 2 working days solving avoidable issues and looking for information



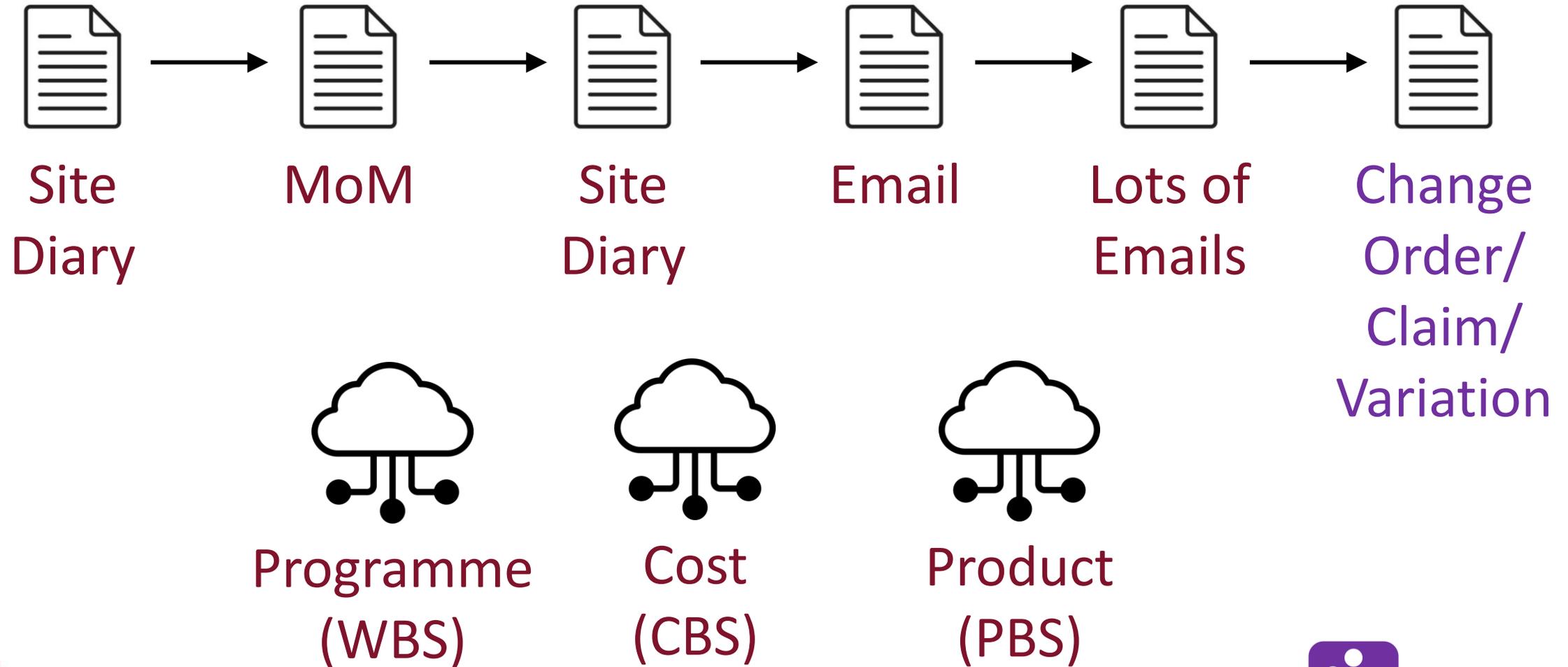Poor Communication, Rework, Bad Data Management Cost Construction Industry $177B Annually

Survey of construction leaders underscores the need for better communications and data management practices to make teams more productive and reduce costly rework
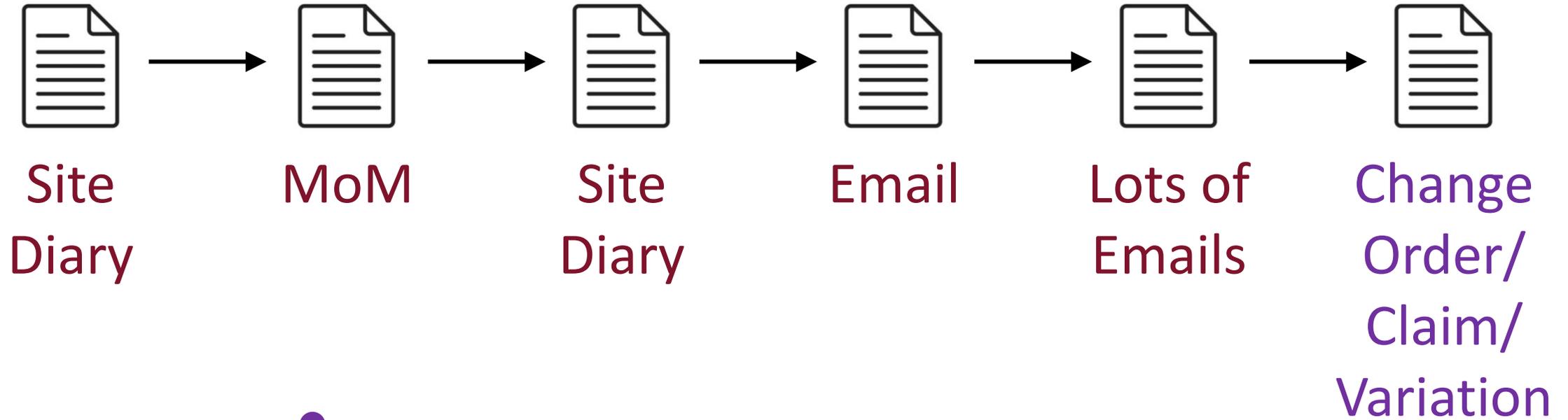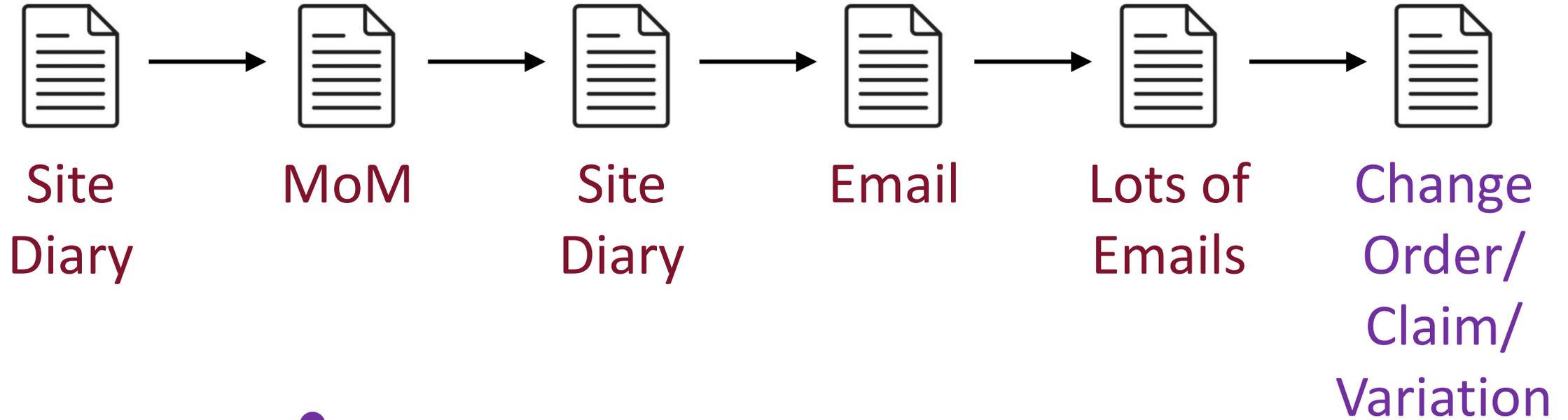
Aug 1, 2018
**From** PlanGrid

# The Cause

Site Diary → MoM → Site Diary → Email → Lots of Emails → Change Order/ Claim/ Variation

Programme (WBS)  Cost (CBS)  Product (PBS)

# The Solution

Site Diary → MoM → Site Diary → Email → Lots of Emails → Change Order/ Claim/ Variation

**1** Detect risks and predict impact in real-time

# The Solution

Site Diary → MoM → Site Diary → Email → Lots of Emails → Change Order/ Claim/ Variation

👍 **2** **Tracks risks across documents (connect-the-dots)**

# The Solution

Site Diary → MoM → Site Diary → Email → Lots of Emails → Change Order/ Claim/ Variation
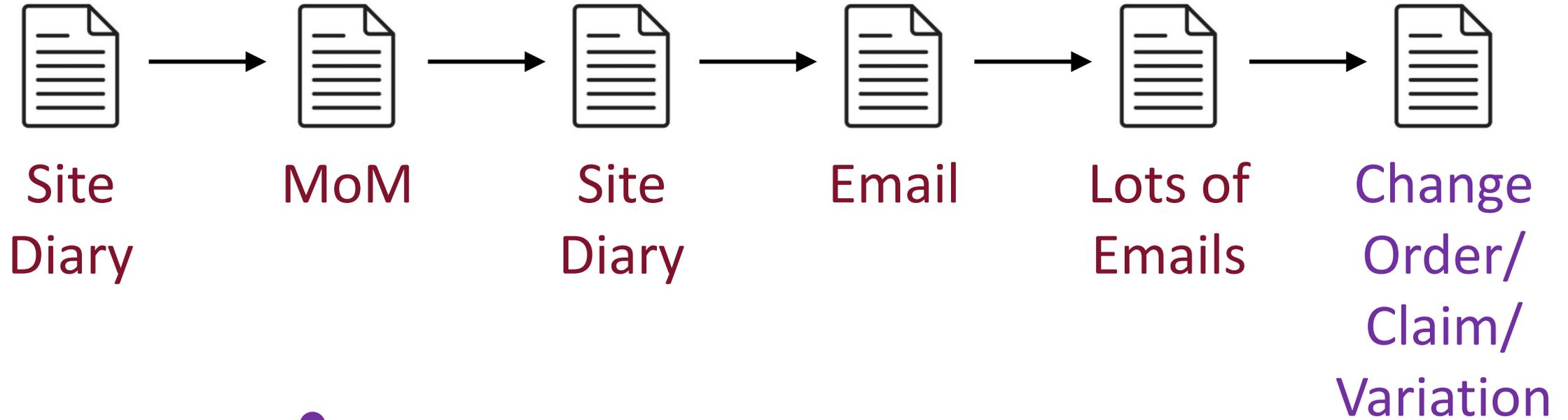
**3** Integrate seamlessly in existing workflows

# Case Study

# Case Study

## Sao Paulo Metro in Brazil

- Partnered with Cetenco Engenharia SA
- Large infrastructure project
- Line 2, Lot 6
- Three stations and tunnelling works
- Multi-Billion Euros

# Case Study - Overall

## 4 Weeks Pilot

Constructer was deployed on an ongoing project for four weeks with weekly update meetings.

## Real-time processing

Constructer connected to project Sharepoint directly and processed new documents in real-time.

## Stakeholders

Project Director, Contract Manager, Planning Manager and Project Engineers participated in the pilot.

# Case Study - Metrics

## 100% risk identification

Constructer detected all actual risks with a false positive rate of 14%.

## 86% accuracy in impact estimation

Constructer could predict activities impacted by an issue. Inaccurate activity descriptions impacted accuracy.

## 100% accuracy in tracking risks

Constructer tracks and build risk timelines in real-time across documents making up-to-date information easily accessible.
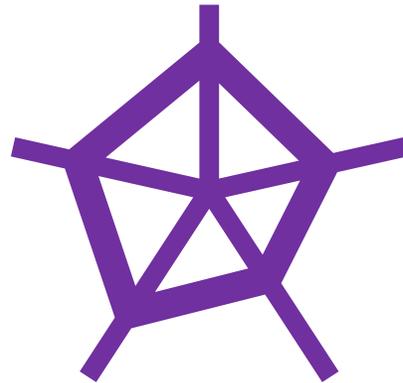
# Case Study - Highlights

**Productivity Dashboards**
Constructer makes project risks crystal clear, so you can focus where it counts.

**Coherent project state from documents**
Constructer turns fragmented documents into a coherent, up-to-date project view.

**Improves accountability**
Stay aligned with an online hub for risks, actions, and accountability.
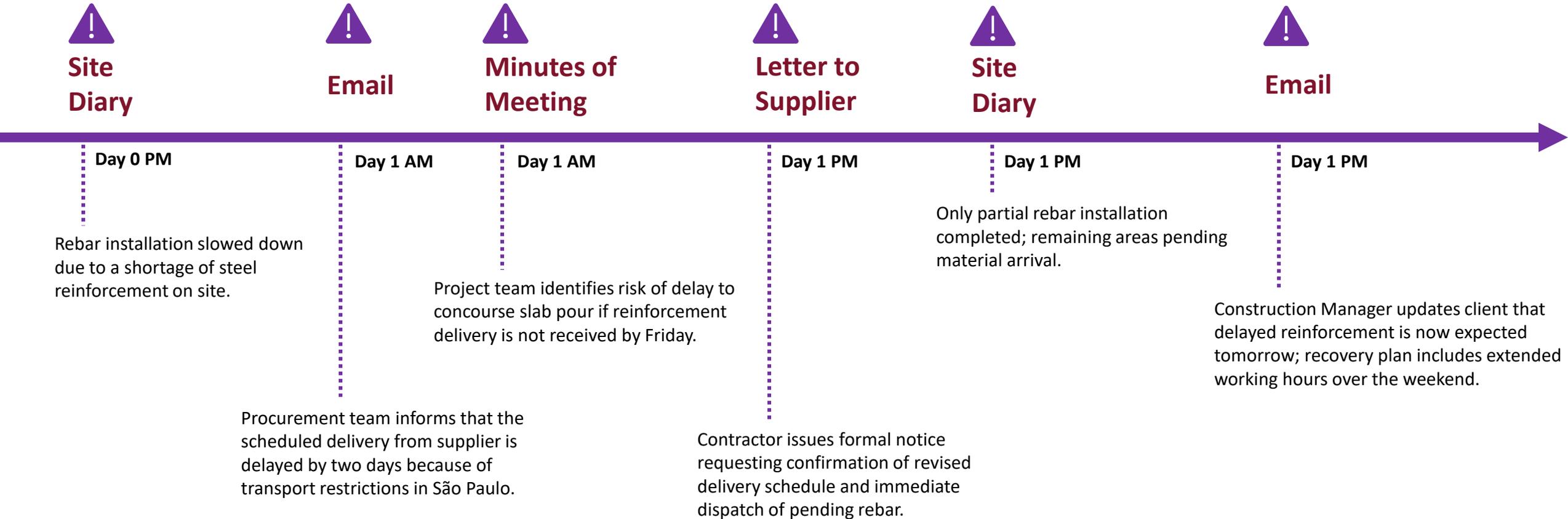
**Recommendations to deal with risks**
Constructer provides appropriate recommendations to deal with risks.

**Agentic AI Automation**
Use AI agents to automate risk reporting and management.

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# Risk/Issue Timeline

**Site Diary**
Day 0 PM

Rebar installation slowed down due to a shortage of steel reinforcement on site.

**Email**
Day 1 AM

Procurement team informs that the scheduled delivery from supplier is delayed by two days because of transport restrictions in São Paulo.

**Minutes of Meeting**
Day 1 AM

Project team identifies risk of delay to concourse slab pour if reinforcement delivery is not received by Friday.

**Letter to Supplier**
Day 1 PM

Contractor issues formal notice requesting confirmation of revised delivery schedule and immediate dispatch of pending rebar.

**Site Diary**
Day 1 PM

Only partial rebar installation completed; remaining areas pending material arrival.

**Email**
Day 1 PM

Construction Manager updates client that delayed reinforcement is now expected tomorrow; recovery plan includes extended working hours over the weekend.

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# Testimonial

*"Constructer **empowered** us to channel our proactive approach with **real-time contract and risk management** at its core. The platform brought clarity to deliverables, **accelerated decision-making,** and its automation **cut through the noise**, allowing us to **focus on what matters**. Implementation was seamless, with no extra templates or complexity, resulting in minimal effort for maximum value."*

**Fernanda Campelo**
Legal Business Manager and Data Protection Officer
**Cetenco Engenharia S.A.**

# How we Tackle the Problem?

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LLMs fine-tuned using domain-specific data to **detect risks**

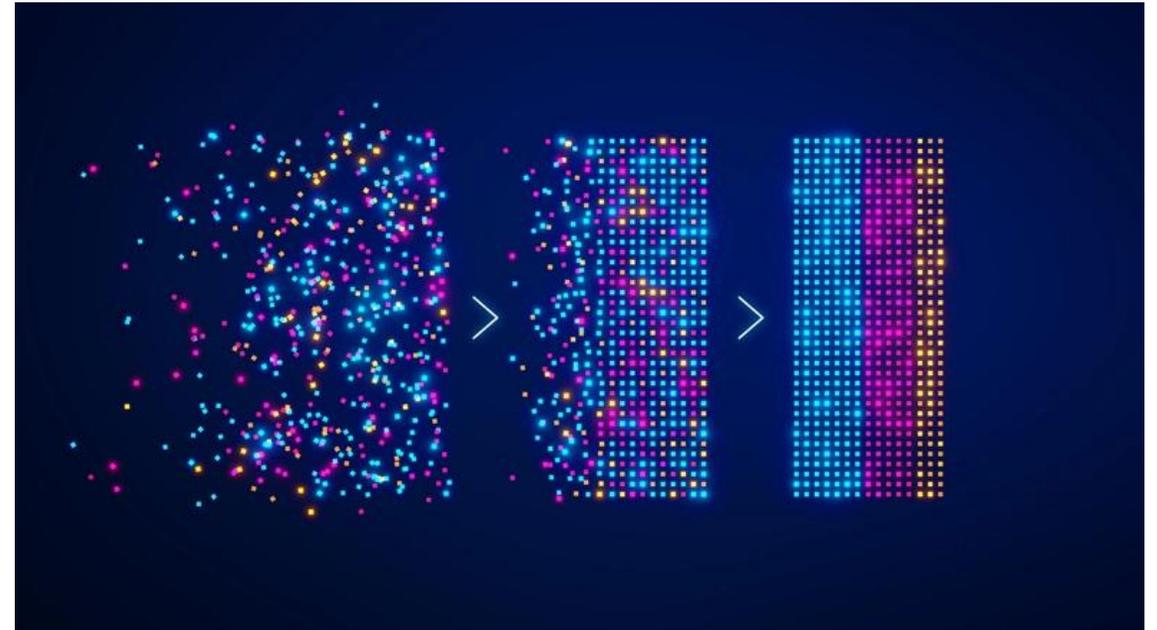Uses rules and AI strategically to **predict risks**

# How we Tackle the Problem?

Uses ML to predict **activity-specific** time and cost impact for better prioritization of effort

# How we Tackle the Problem?

In-house algorithms to **integrate/synchronize** fragmented data

# Conclusions

1. Constructer **enables proactive risk handling**, as opposed to industry standard approach of reactive risk management.

2. Constructer **enables real-time document processing** to make up-to-date project information accessible for professionals.

3. Constructer **integrates fragmented data** to present a coherent view of the project performance.

4. Constructer **enables efficient project execution** through easier information management.

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# Thank You

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