

AI Diagnostics in Asset Management

American Manufacturing Summit 2026

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My Background



Mark Fosdike, CEO and Co-founder, Datch

- Founded Datch in 2019
 - Former Systems Engineer
 - Background in submarine reliability and aerospace manufacturing
 - Focus on real-time maintenance with agentic AI
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The Manufacturing Labor Crisis

1.9M

Unfulfilled vacancies
by 2033

>\$1T

Production shortfall
by 2030

39M

Net years of experience
lost this decade

Two Types of Tribal Knowledge

People Knowledge

Earned over years of hands-on experience.

Locked inside people's heads.

Disappears when they leave.

Organizational Knowledge

Captured in manuals, work orders, and systems.

Hidden away, unstructured, messy.

Siloed across departments.

Can we turn 39 million years of experience loss into a net gain?

Two Challenges: Orchestration and Knowledge



A Real-World Example

Tier 1 Automotive Manufacturer: Injection Molding

\$840K

in revenue lost from a single
press failure. 7+ days of downtime

The true cause? A calibration reset, documented in a
physical notebook sitting on another machine, just 20 feet away.

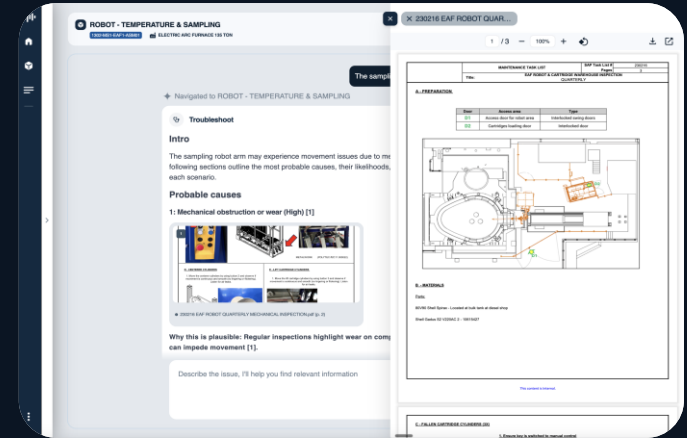
**Nearly \$900K in total losses — from
information that already existed.**



Enter AI Diagnostics

Understand your assets and diagnose expensive downtime events.

- Conversational diagnosis in natural language
- Step-by-step guidance from manuals & past work orders
- Complex electrical and hydraulic diagram tracing
- Continuous learning from every interaction



Agentic Tracing

The screenshot displays the Datch AI troubleshooting interface. On the left, a text box contains the problem description: "The barrel heater on the press has lost power. The ADF breaker has tripped, but none of the downstream fuses have blown. Help me diagnose this problem." Below this, it states "Found 3 potential fault hypotheses." and "Starting trace for: Interrupted Undervoltage (UV) Release Circuit".

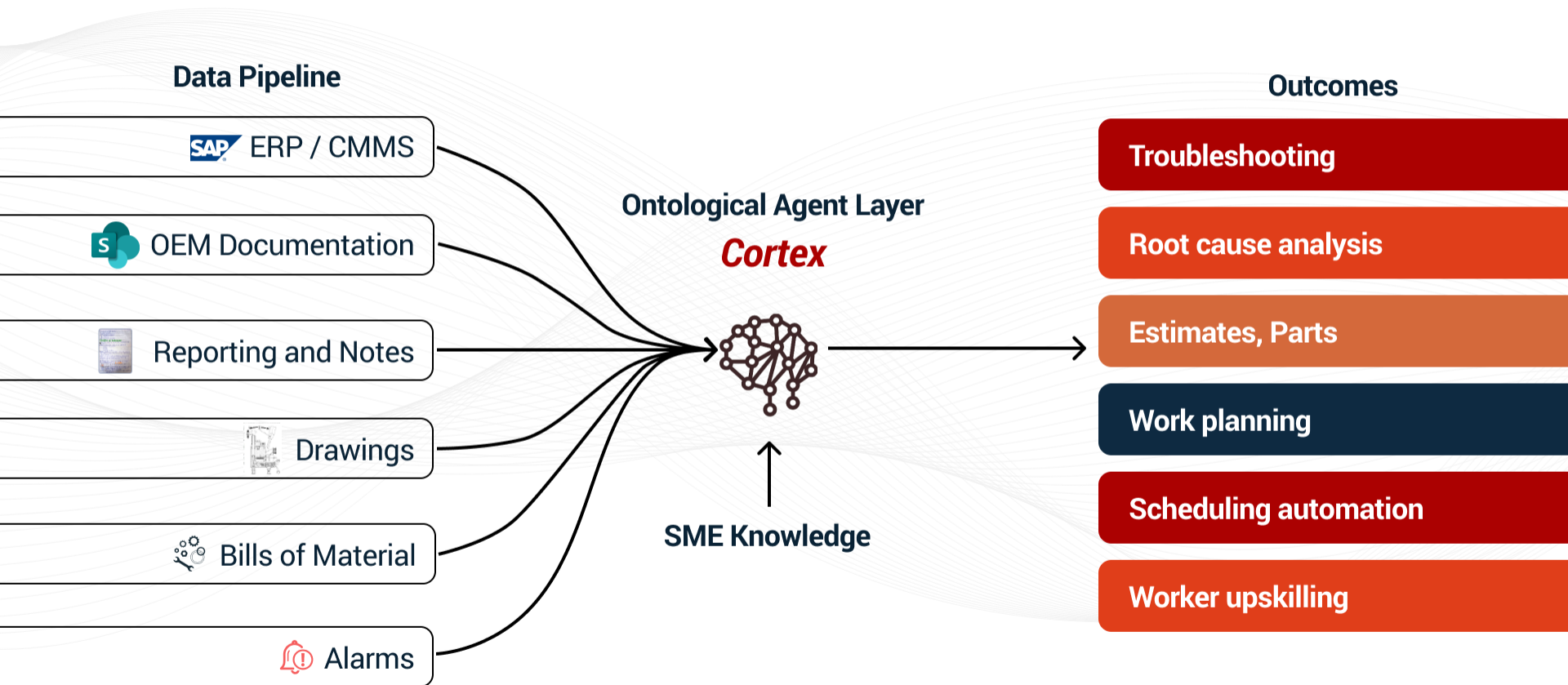
The central part of the interface shows a complex electrical diagram with various components and wiring. Two components are highlighted with orange boxes and labels: "Ref 35-A: Main Transformer -T32" and "Ref 35-B: Transformer -T37". A red dashed box encloses a section of the diagram, and a vertical note on the right side reads "Ref 35-C: Note regarding insulation monitoring device".

On the right side, a panel titled "Page 35" shows the current investigation: "Investigating Interrupted Undervoltage (UV) Release Circuit" with a progress indicator at 60%. Below this, there are "Confirm" and "Dismiss" buttons. A text block explains: "The presence of an insulation monitoring device (Ref 35-C) suggests the system may monitor for ground faults. A significant ground fault in a barrel heater could potentially trip the main breaker if the protection settings are sufficiently sensitive, even if the overcurrent is insufficient to blow the local branch fuse." Below this, a section titled "COMPONENTS ALONG THE TRACING PATH" lists: "A Main Transformer -T32", "B Transformer -T37", and "C Note regarding insulation monitoring device".

At the bottom of the right panel, there are sections for "LINKS BACK TO PREVIOUS PAGE" (P64 115 V N2 / = 15) and "CROSS-LINKS TO OTHER PAGES" with a list of page numbers and titles: P33 L11/1, P34 `XLE1/2, P177 L11/= 30/, P46 `XLE1/= 08/, P58 L13/= 06/, P73 N1/=17/1, and P89 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100.

AI traces electrical and hydraulic diagrams across hundreds of pages, identifying fault paths that even experts take hours to find.

Under the Hood



How to leverage AI in maintenance?

1. Understand your failures

Know where your failures are costing you the most. Focus AI on the problems that matter.

2. Leverage Your Documentation

You have more data than you think!

3. Level Up Your People

Give every technician instant access to the right insights, regardless of skill level.

4. Feedback Into Learnings

Ensure that every interaction builds institutional intelligence that compounds over time.

Thank You

We're losing 40 million years of experience this decade.

But we now have the means to solve this problem.

Questions?

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