

TAI APEX · AI ENGINEERING COCKPIT FOR PROJECTS

Engineering errors carry million-euro risks – AI makes them visible earlier.

65 %

of megaprojects fail

IPA, 24,000 capital projects¹

80 %

average cost overrun

McKinsey, 300+ billion-dollar projects²

95 %

of all AI pilots fail

MIT study on AI in business⁴, no measurable economic effect

The pattern is unmistakable

Independent Project Analysis (IPA) has evaluated more than 24,000 capital projects: over 65 % of all megaprojects fail – on average with 30–50 % cost growth and 30–35 % schedule slip.¹ McKinsey confirmed this in 2025 on the basis of more than 300 billion-dollar projects: 80 % cost overrun, 50 % delay.² The Flyvbjerg database shows that only 8.5 % meet both their cost and their schedule targets.³

IPA founder Ed Merrow calls the causes "*largely self-inflicted*". The course is set early – in front-end loading, scoping and data quality. Where weeks are spent today gathering specifications, isometrics and change notices, the decisions are made that later cost millions.

"The costs arise late. Their causes often lie in early engineering decisions. That is exactly where the greatest leverage is."

Why most AI pilots miss the point

AI has the potential to close precisely this gap. In practice, however, according to MIT around 95 % of all AI pilots fail⁴ – mostly because they are pitched too broadly: "one AI for everything" that then does nothing really well. Tiger Solutions takes a different approach:

We break engineering down into **Atomic Processes** – narrowly defined steps that meet three criteria:



Resource-intensive

Ties up many hours of highly qualified engineers today.



Data-rich

Links structured and unstructured engineering data from different source systems.



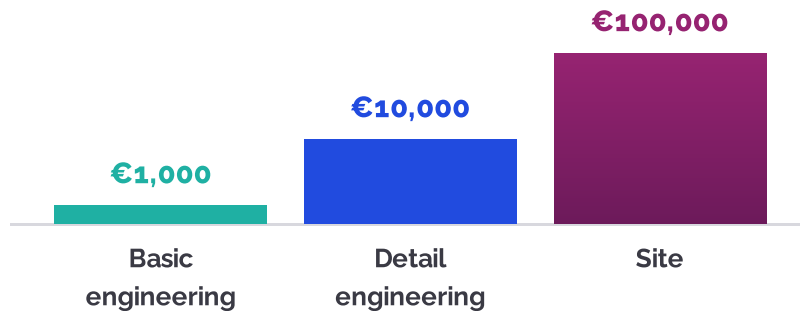
Atomic

Clearly bounded, repeatable, with defined inputs, check criteria and results.

¹ Independent Project Analysis (IPA): Top Reasons for Process Plant Project Failures; basis: >24,000 capital projects; Ed Merrow – Industrial Megaprojects. ² McKinsey & Company, Operations Practice: Don't cancel or coddle at-risk capital projects – challenge them, July 2025. ³ Flyvbjerg database of 16,000 projects. ⁴ MIT / Project NANDA: The GenAI Divide – State of AI in Business, 2025.

The 100x effect of early errors

Cost of the same undetected error – depending on project phase.



Illustrative example: specification change not detected → isometrics wrong → fabrication proceeds → site modification and standstill.

ATOMIC PROCESS WORKED EXAMPLE⁵

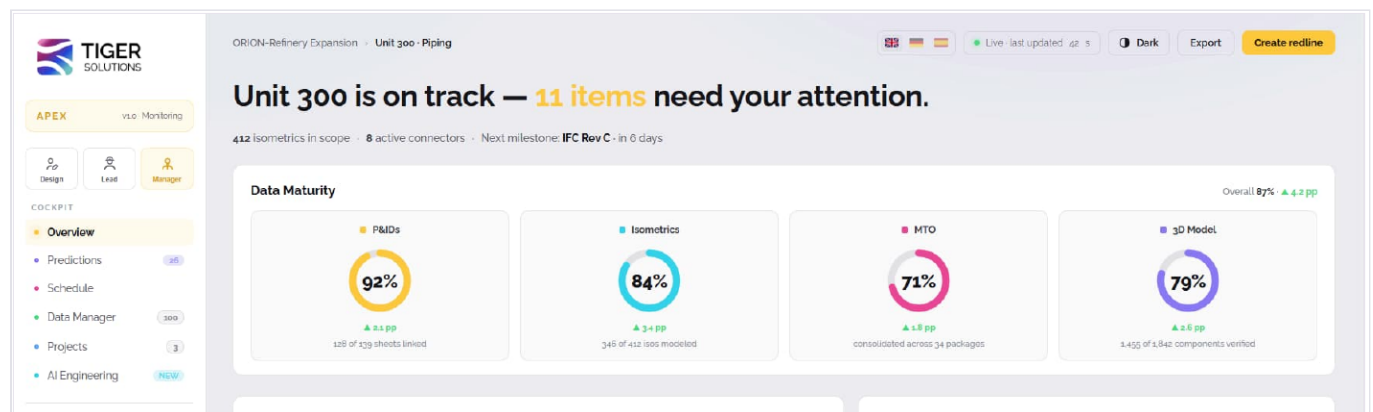
Checking 500 piping documents against a revised QA plan: assuming an average of 2 hours per document at an hourly rate of €120.

€120,000

manual checking effort per project – repeated with every change.

TAI APEX is the AI engineering cockpit for your projects.

From these Atomic Processes emerges TAI APEX – the cockpit for engineers. Every morning it answers the three questions that matter: What is important today? Where do we stand? Where are delays looming? For decision-makers this means: current engineering status instead of manually aggregated presentations. Every statement comes with a confidence score and traceability back to the source – P&ID, isometric, specification or 3D model. The engineer stays in control; TAI prioritises the concrete actions required.



TAI APEX – Piping Lead Cockpit: priorities, confidence and sources at a glance.⁵

20 minutes. Engineering Risk Scan.

Together we identify one resource-intensive checking process and assess its automation potential – concrete, without obligation and without a slide marathon.

Book an Engineering Risk Scan →



booking.tiger-solutions.ai

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⁵ Chemie Technik 03/2026, pp. 18–20 (Rangel · Kühnlein, Tiger Solutions).