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AI IN PHARMA CAPEX PROJECTS — HYPE OR REAL EFFICIENCY DRIVER?

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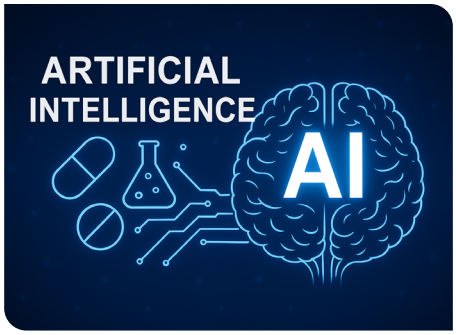
ABSTRACT

EPCM(V) projects frequently face delays due to fragmented communication and numerous interfaces that cause critical information to arrive late and without context. This article contrasts traditional interface consolidation with an AI-driven approach using the PPE.bot, which gathers and contextualizes project information from documents, emails, collaboration platforms, and meeting transcripts. By delivering the right information to the right participant at the right time, AI reduces friction losses and accelerates decision-making.

The findings show that AI, when supported by a unified project structure and governance, acts as a real efficiency driver — improving predictability, coordination, and overall project performance.



Where can AI truly reduce workload in EPCM(V) project execution?
Which use case offers the greatest leverage to complete projects on schedule and within the planned budget?

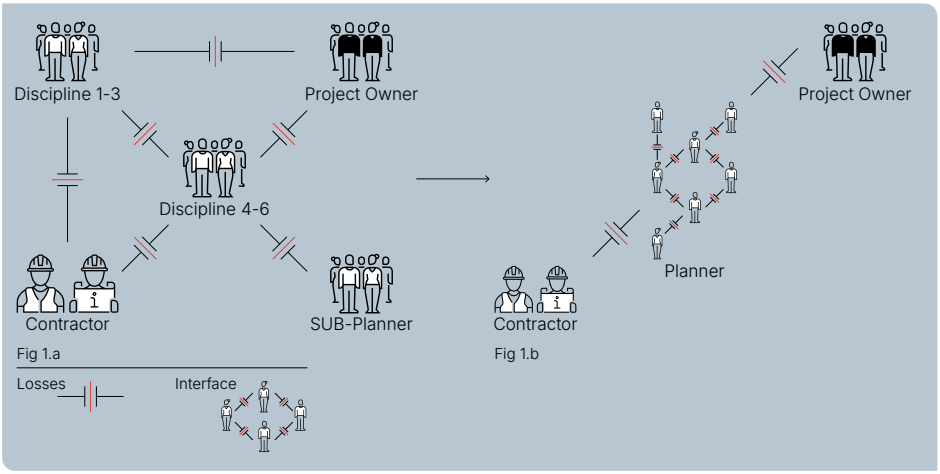
The root cause of deviations in complex EPCM(V) projects is often straightforward:
a very high number of interfaces between numerous stakeholders results in required information reaching the end-user (the project participant) uncontextualized and too late.
From a physical perspective, interfaces generate friction — and friction causes time and energy losses that delay decision-making. Decisions, however, are as essential to project progress as propulsion is to an automobile (Fig. 1.a).

Thus, the primary goal must be to eliminate these friction losses so projects remain predictable in cost and schedule.

CLASSICAL APPROACH

One solution is the organizational redistribution and consolidation of interfaces to a single planning partner. Responsibility for communication and clarification is transferred to teams capable of managing the information flow across interfaces. However, the system-driven number of interfaces remains essentially unchanged (Fig. 1.b).

In real projects, each new project brings new teams (people), new goals, new questions, new delivery models, new requirements, new suppliers/sub-suppliers, new technologies, etc. All of these generate new interfaces and challenge previously established processes and agreements for information provisioning.



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Which information must be available when and where depends on the individual needs of each project participant and can only be planned to a limited extent.

A key guarantor of project efficiency is the targeted provision of information and the control of that information across interfaces — ideally independent of the project setup.
The right information, at the right time, to the right project participant.

THE PPE.BOT

The second approach is the AI-supported delivery of project-relevant, contextualized information. With our **PPE**.bot, we are establishing a project environment that supplies contextualized information in a targeted manner and controls the information flow.
This enables the **PPE**.bot to provide each project participant individually with the information relevant to them — ad-hoc, on-demand, and at the right moment. Searching for information becomes targeted finding (Fig. 2).

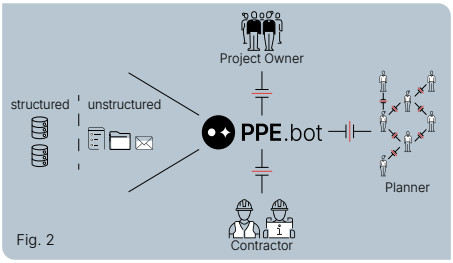

Fig. 2

How the PPE.bot works

It accesses project-relevant information where it is created, meaning wherever project participants exchange or store information:

- Planning documents in folder structures
- Email inboxes and calendars
- Collaboration platforms
- Meetings (***#New!*** meeting transcripts)

The ability to transcribe meetings should not be underestimated. It does not replace classical documentation tools such as action logs or to-do lists, but fundamentally expands the documentation horizon.
Without generative AI, these recordings (as transcripts are essentially conversation recordings) would disappear in the vast amount of documents and minutes produced — and no one would ever evaluate them.

With AI, it becomes possible to ask questions even 1.5 years after a meeting, such as:

- In which meetings was the topic of wall penetrations discussed?
- Which people were involved in defining the facade?

Of course, this requires that all project participants are willing to support this level of documentation.

Context as Added Value

For the **PPE**.bot to function effectively, it is essential to establish a cross-project structure that all project participants follow. This enables the AI to "put project information into context," making it available without hallucinations and allowing it to answer questions that require combining information across multiple sources (Fig. 3 & 4).

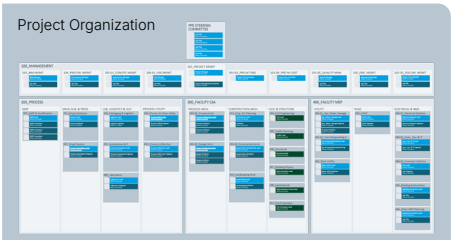

Fig. 3

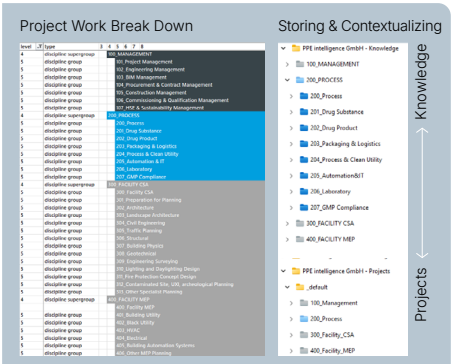

Fig. 4

Up to 20% of project time is lost to searching for information — AI turns searching into finding.

WHAT'S IN IT FOR YOU

The **PPE**.bot eliminates interface friction by delivering the right information, in the right context, at the right time to every project participant — making pharma CAPEX projects faster, safer, and more predictable so they stay on schedule and within budget.

PREVIEW

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In our next Tech Post, we will explain how we are revolutionizing the review process, preserving project knowledge for cross-project reuse, eliminating repetitive tasks, and dramatically accelerating AI-supported document creation with proprietary data.

NICE TO KNOW

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We focus on biotech & pharma, research & laboratory, as well as logistics & advanced factory planning.
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