

HUMAN-AI WORKFLOWS FOR MBSE TRANSLATION

Insight Session

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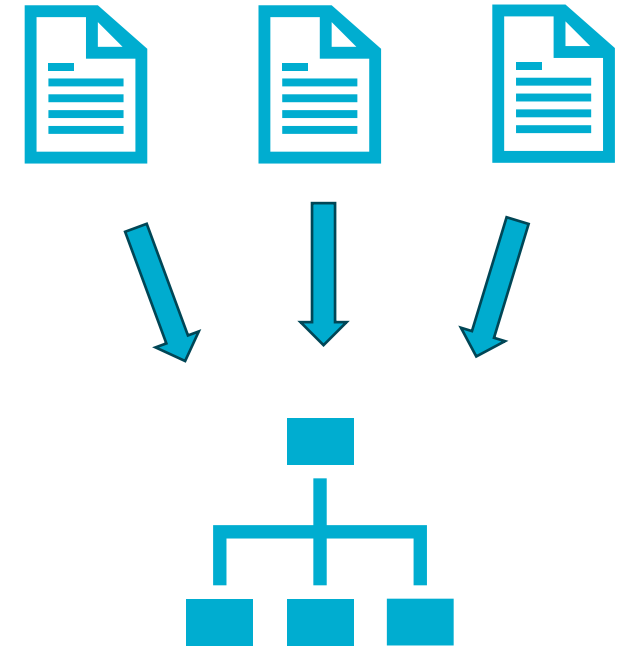
THE DIGITAL ENGINEERING PROBLEM

Digital Engineering requires moving from document artifacts to digital artifacts.

- In MBSE, this means translating systems engineering documents to MBSE models.

Engineers must locate, interpret, and manually translate information into MBSE artifacts.

This limits speed and scalability of digital engineering adoption.



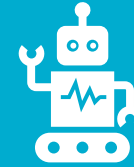
OUR SOLUTION



With recent advances in AI, we can use these tools to assist engineers in system engineering workflows.



By integrating AI into systems engineering workflows, we can query large document sets, extract candidate system information, and generate draft model content for engineer review.



We developed an AI assistant (AMP) within Cameo that uses RAG and the Cameo API to generate SysML model content directly in the modeling environment.

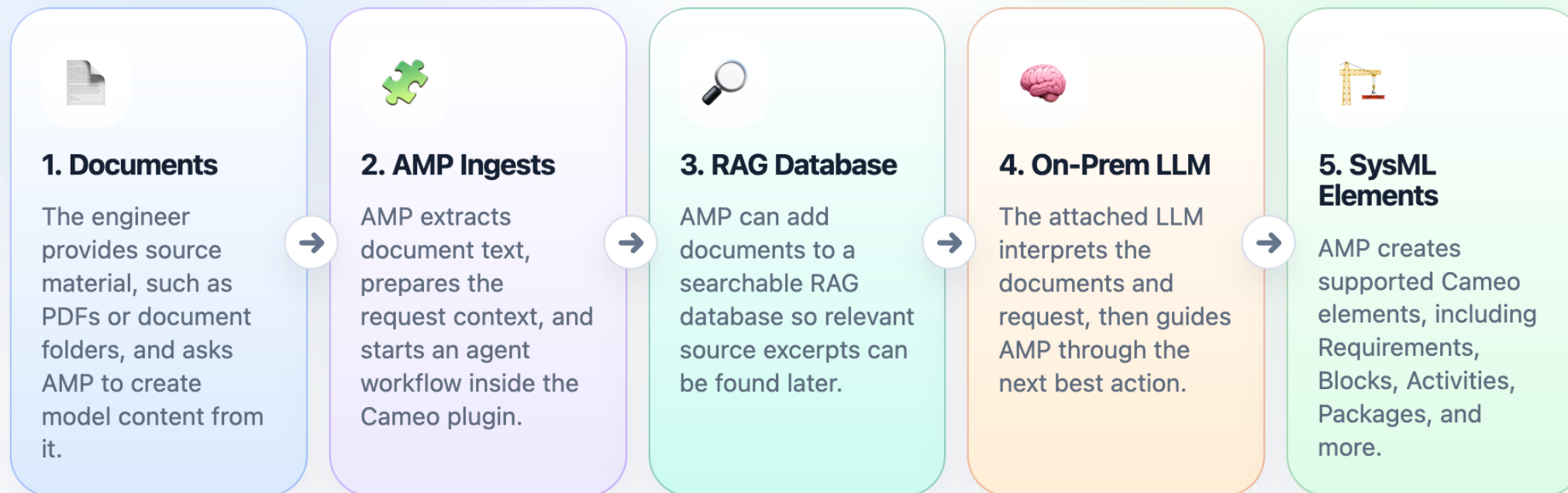




From Documents to SysML

● AMP in Cameo

AMP helps engineers turn source documents into useful Cameo model elements with RAG, an on-prem LLM, and controlled model-creation tools.



Engineer-in-the-loop

AMP accelerates the first pass from source documents to model structure. Systems engineers remain in control: they review the generated elements in Cameo, refine names and relationships, and decide what becomes authoritative model content.

DEMO EXAMPLE



CATIA | Cameo Systems Modeler 2024x - AMP.mdzip [C:\Users\jamater\Documents\]

File Edit View Layout Diagrams Options Tools Analyze Collaborate 3DEXPERIENCE Window Help

Preview: no preview - Full Model Create Diagram

Containment Diagrams Structure

Containment

Model

Zoom Documentation Properties AMP

AMP

Clear Chat

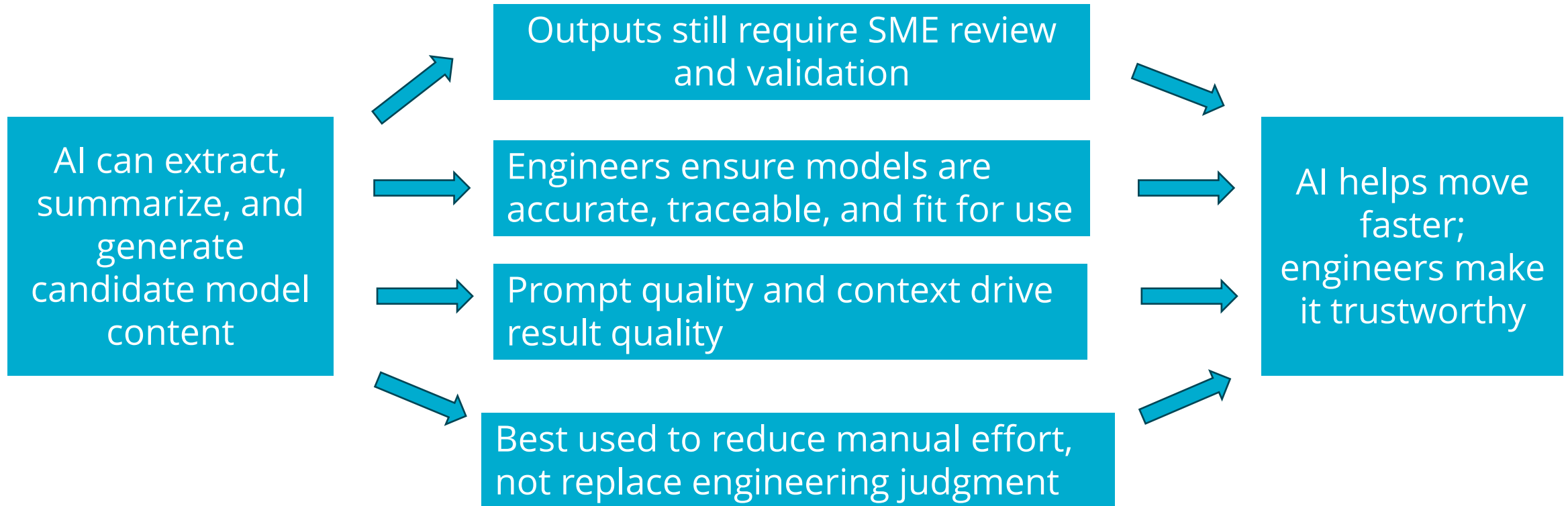
Assistant: Running in Chat mode. This mode only has the capability to talk to an LLM and attach PDFs. To switch to Agent mode type "/switch" or select the mode on the drop down on the right.

Assistant: Running in Agent mode. This mode will allow the AI to do special functions. Ask the AI for what tools it can do for more details. To switch to Chat mode type "/switch" or select the mode on the right.

Agent RAG On Send Chat

Ready

KEY INSIGHT: ASSISTANT, NOT A REPLACEMENT



KEY TAKEAWAYS



Digital Engineering requires translation of legacy artifacts to enable adoption



AI can accelerate document-to-MBSE translation

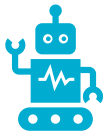


Strong use cases

- Interpretation
- Validation
- Generation



SMEs are still needed to validate the AI generated artifacts.



AI is a force multiplier for "more Systems Engineering with less"

THANK YOU
QUESTIONS?