

AEC Hackathon 2025 Challenge



PENZEL_VALIER_



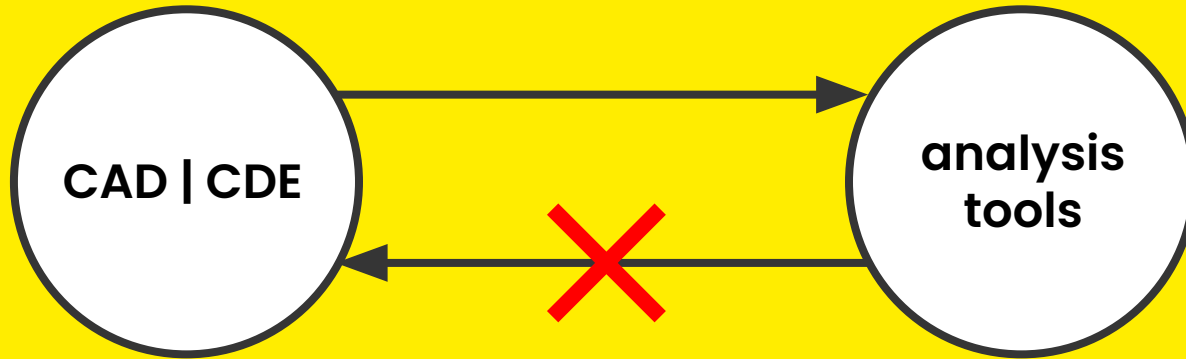
our challenge:

ifc data bus

Situation

Architects and planners rely on various software tools. But, **poor data integration across tools creates bottlenecks** in the design process, hindering holistic project optimization.

OpenBIM currently lacks technologies for bi-directional data exchange, **particularly re-integrating data into CAD | CDE** is a challenge.



Since initiatives, such as Speckle, do not prioritize **OpenBIM compliance**, there is an opportunity to explore alternative approaches.

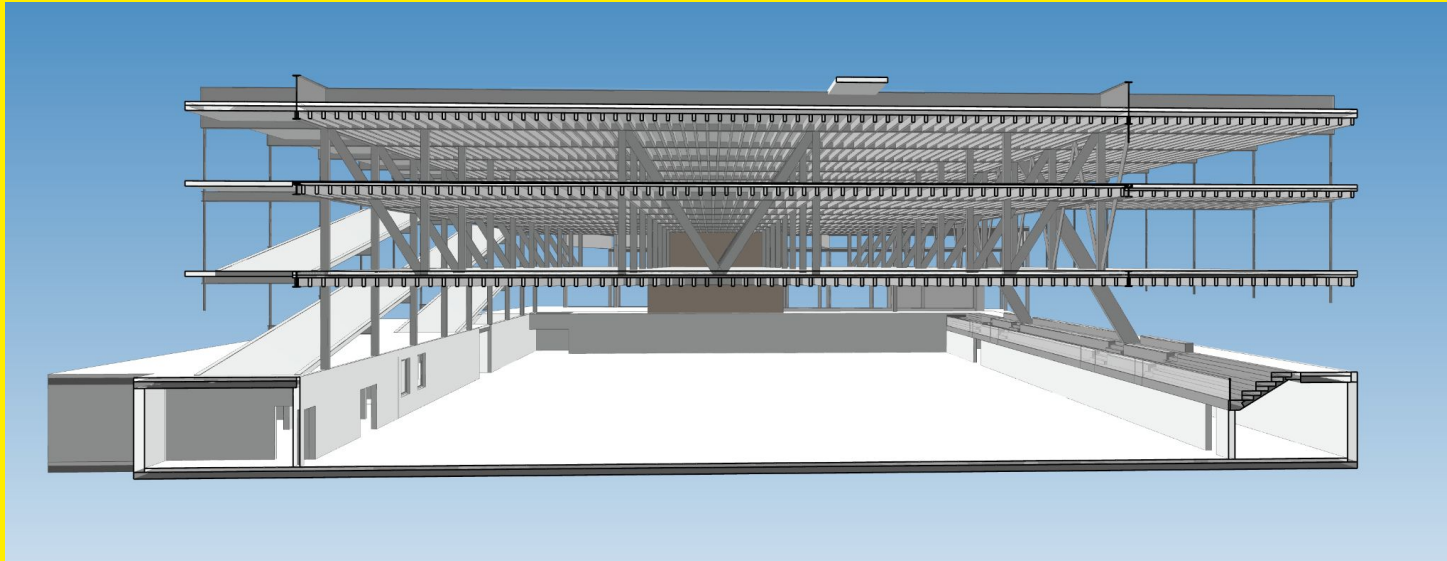
Occurring problems

Tracking of individual **data fields** is not possible.

Authors for data fields cannot be **assigned**.

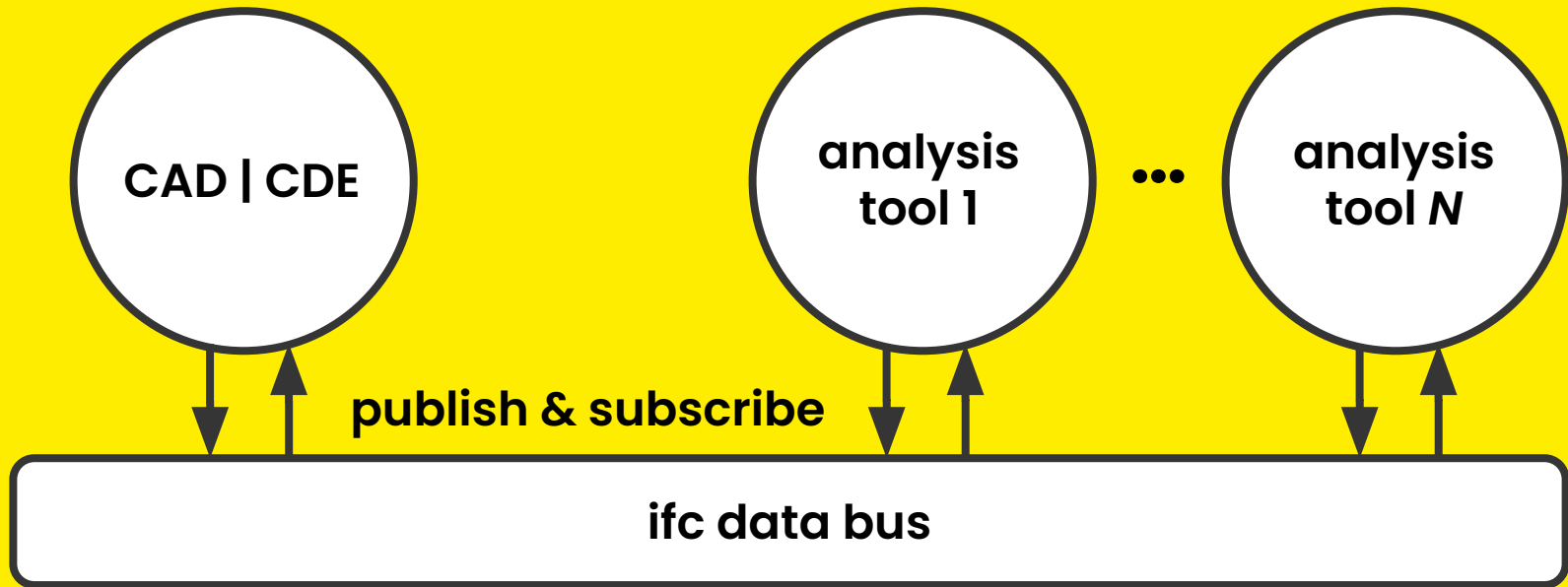
Errors in the process due to **manual transfer** of information.

No "real-time" data transfer or linking of data.



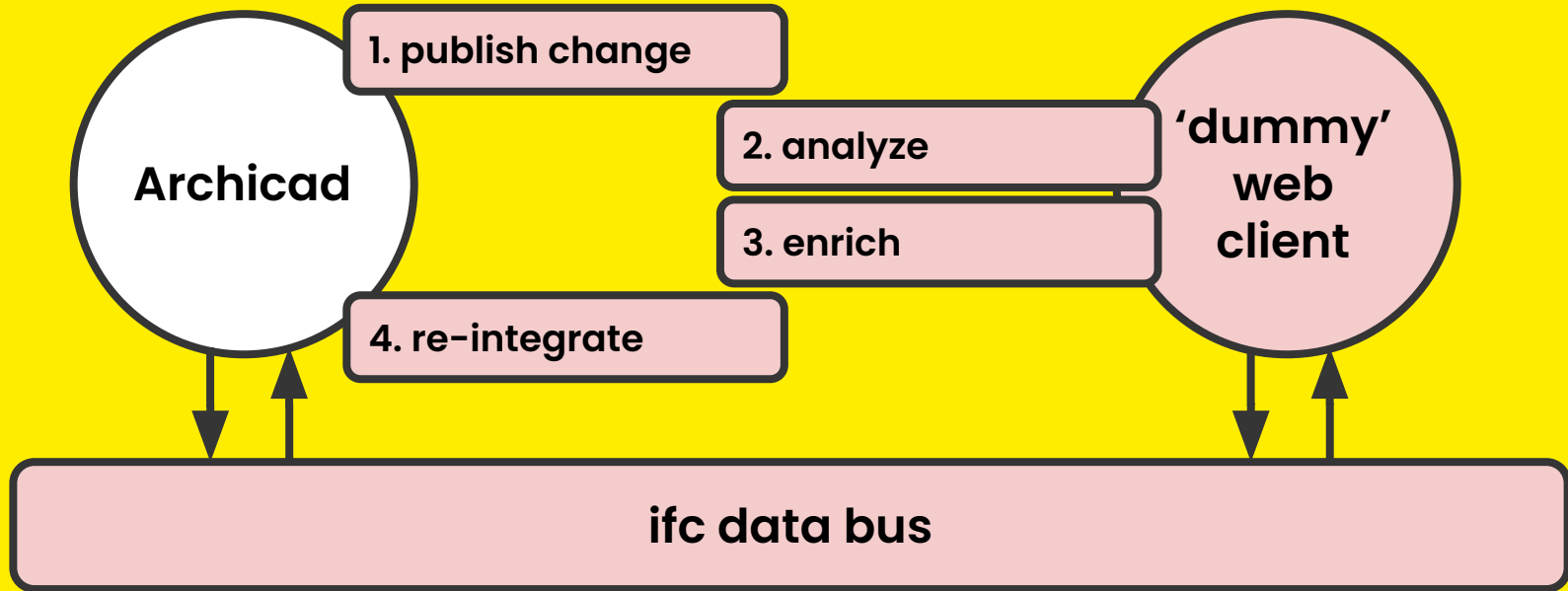
Envisioned workflow

We envision a workflow with **publish-and-subscribe semantics**, built upon the **openBIM** standards IFC, IDS, bSDD to propagate model changes such as **buildups & materials** across an ecosystem of tools.



Let's together create

Let's develop an openBIM-based **protocol** and a **proof of concept (PoC)** to exchange model updates in a distributed, bi-directional manner. The PoC will cover buildups, materials, classifications and/or building physics.



We'll bring

1. **Test Data** from a real-world case study that focuses on optimizing the planning process by integrating various analyses and simulations into a seamless workflow. The results of this challenge will have a direct impact on the case study!
2. **Sequence Diagrams** drafts covering the message flow we want to explore.
3. **Expertise** in data-driven software architecture, BIM and software engineering.
4. **Access** to Archicad API.



Case Study: "Eishalle St. Moritz"

We look forward to working with you...



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