# Cloud-based Modeling Solutions Empowering Tool Integration

Large-scale cyber-physical systems are co-engineered, especially in safety-critical industries, by various specialists within an organization and, increasingly, across organizations. The collaborative aspect of the process is facilitated by hosting engineering models in repositories such as Teamwork Cloud.

However, in order to support more complex engineering processes involving multiple design and analysis tools, a cloud-based modeling platform needs to do more than just store data: it also needs to support queries and transformations. These are key building blocks of client modeling tools such as MagicDraw, empowering validation, report generation, and model synchronization features.

In this presentation, we introduce the IncQuery Server, a novel cloud-based solution that integrates the core features of modeling tools with the scalability of repositories. The IncQuery Server can efficiently execute queries and transformations directly on repository contents, which drives powerful features including automated model validation, repository-wide change impact analysis (correlating projects across branches and revisions), as well as full-text search, with integrated access control to respect intellectual property and export control requirements. As part of the presentation, we will show how this technology has been evaluated to address tool integration challenges, in collaboration with A^3 by Airbus and Airbus Defence and Space.