



## **Overview - Scope**

- Most large programs in the financial industry and related domains focus on IT solution delivery
  - resources for clean data models that scale both for growth and compliance are not available
- This project evolutionarily migrates a novel data modeling and cataloging approach, called veri.catalog, from an existing tabular implementation to the brand-new new Obeo/CEA offering for building graphical editors in the system engineering/automotive industry





## **Overview - Challenge**

- The aim of this project is to set up an iterative process as a GitLab.com project, where each contribution is managed by one of the students
  - Contributions, both conceptually and implementation-oriented, are iterative POCs for the veri.catalog migration.
- Two teams of Master students from Mannheim have already worked on previous versions of the approach, based on experience gained to apply the approach in a 60 million project of one of the world leading banks.
  - the results have now been consolidated into a new meta-model called veri.catalog, for which a first tabular editor has been derived
- The students will learn to work in an agile team, be it in a technical or a conceptual role
  - this will involve a high level of self-organization, and some roles typically performed by senior people





# Key Topics

- The whole team project is based on the exisiting veri.catalog metamodel based on the Eclipse Modeling Framework (EMF) and OCL, and an existing tabular editor, derived from the metamodel
- The focus of this team project is the migration of the existing editor to the brand-new Obeo/CEA offering for building graphical editors in the system engineering/automotive industry
  - this industry grade tooling allows domain specific graphical editors to be created from an existing EMF model
- Since veri.catalog is a very elaborate metamodel, based on decades of research and industrial applications in the banking/insurance industry, the key challenge will be the creation of POCs showing how specific aspects of veri.catalog can be implemented in the new platform



## Chosen Methodology: POC out of box



strategy | consulting | technology | operations | digital





# **Achievements of last Student Projects**

- The last student teams have achieved the following:
  - Refined conceptual model of veri.catalog methodology and generated prototype in Java (based on EMF, OCL, MCore)
  - Improvement of veri.catalog implementation as Excel, improve of VBA based generic Excel to CVS exporter/importer
  - Introduction of VBA code for better editing, exporting, and migrating the models.

All of this achievements have been directly used in the industry project with the bank, and achievements by the next team will be useful in the industrial context as well.





# **Technical Components of the Project**

The following POCs for applying the new frameworks may be created in the project:

- Metamodel to initial graphical editor POC. Showing how to leverage the new platform to get started.
- POC to show related models for Glossary, Target Data Model, and Data Dictionaries of existing systems in a "canvas style"
- POC to show how existing "do…" actions control model of veri.catalog can be mapped to new frameworks
- POCs to show how handling of static and dynamic semantics in veri.catalog metamodel can be migrated to new frameworks.
- Creation of UML+OCL from the Excel models
- Improvement and completion of existing health-care domain model and example data
- Import of full ISO20022 repository, and XML Schemata in existing tool.

Not all topics will be covered in this project, but 2-4 students will focus on one component each. The other students will address overall organization and strategy.

Each student can work relatively independent but is integrated in an agile team!





### GitLab project

- The GitLab open source project veri.data open source documents the achievements of the last team
- This team will be the next generation of "committers" and profit thus not only from their outcomes, but as well from the feedback to the current project

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## **Programming Languages/Tools**

OBEO/CEA Platform

Message/Data formats

Eclipse Modeling Framework/UML





## **Conditions**

### **Participants** (5 to 7)

- 1 responsible for strategy definition and presentation. Product owner role (together with supervisors)
- 1 responsible for transition: setup of overall agile devops setup, task management, scrum master role
- 2-4 responsible for improvement of **technical** components or **digitalization** example (see slides on technical components)
- 1 responsible for hosting, operation, automation of development and run of components, using GitLab CI/CD

### Length

6 months 

### Language

English 



#### Environment

Goals and timetable defined by agreement with the supervisors 



### **Supervisors**

- Dr. Colin Atkinson Chair of Software Engineering
- Dr. Philipp W. Kutter CEO of veri.catalog

