



Project duration: 01.06.23 - 31.05.26

Material categories

Polymers: Rubber compounds

Application areas

Process optimization: Improved characterization of mixing process

Material prediction: Prediction of the product properties which are connected to the raw materials and processing parameters

Improved information along life cycle: Development of an intelligent search engine

Product Lifecycle

Raw materials: Rubber, fillers (active, inactive), oils and additives

Refining/Processing: Mixing process, extrusion and injection molding

Product development: final product properties

General information

Aspects of digitalization

Procedures for ontology development

(with integration to top level ontologies): We are contributing to the PMDco semantic modelling patterns that will be used for Abox and TBox modelling across all PMD projects. We also refine and extend the DIGIT RUBBER ontology and merge it with the new PMDco 3.0.

Levels of structured data handled

Ontologically described data (RDF data): In a use case we attempt to demonstrate that data existing in a relational database can be described in RDF/OWL using the patterns we develop.

Semantic Interoperability

Data-federation

With project partners: Central platform connected to local systems and databases of the partners. Masking and filtering of the data that is synchronized via the cloud.

Software user interface

Desktop app: based on MAT-AI Software

IT Architecture



Ontodocker



PMDco



pyiron



PMD-S



Workflowstore



SimStack

Use of PMD-Tools

Follow-up project of DIGITRUBBER:
<https://material-digital.de/project/12>

Community

Full project information



https://material-digital.de/download/2024-09-10_InSuKa_Projektubersicht.pdf