Automatisiertes Zahlungs- und Vertragsmanagement im Bauwesen mittels Blockchain-Technologie und BIM 5D

Bundesministerium Verkehr, Innovation und Technologie

FFG Forschung wirkt.

Bundesministerium für Wirtschaft und Energie

Smarte Datenwirtschaft

IKT der Zukunft

BIMd.sign

FMCHAIN

BIM contracts

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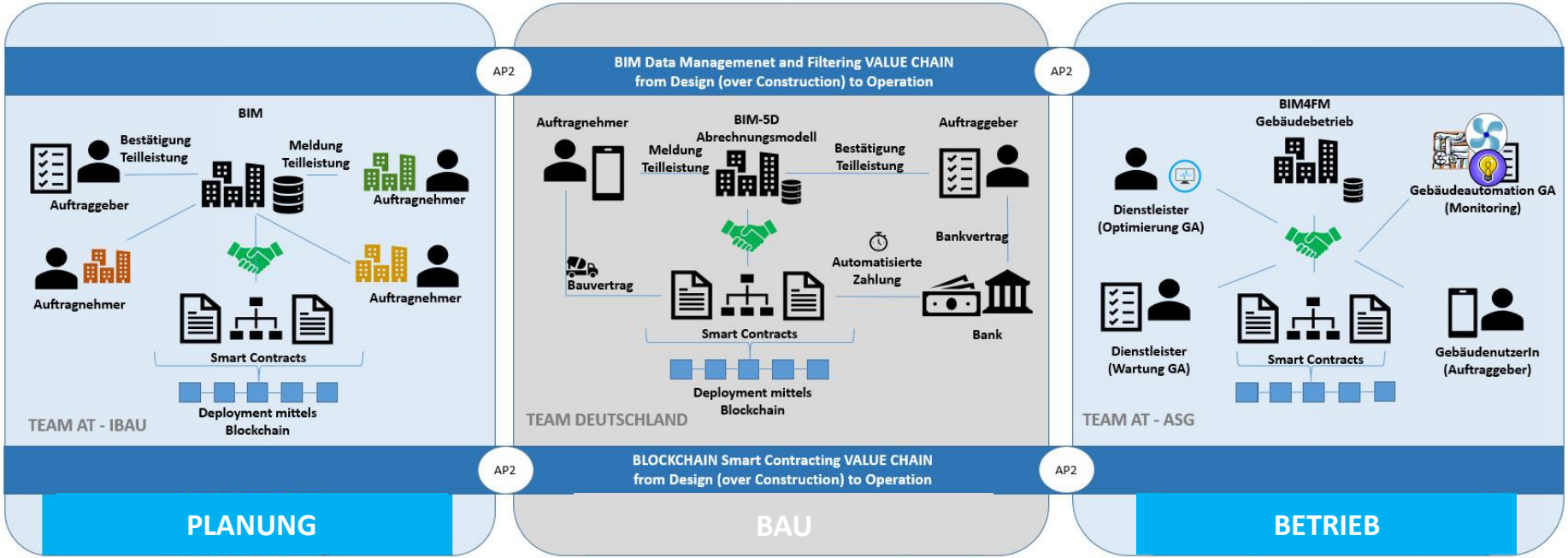

TU WIEN bi.ibpm

RUB Informatik im Bauwesen

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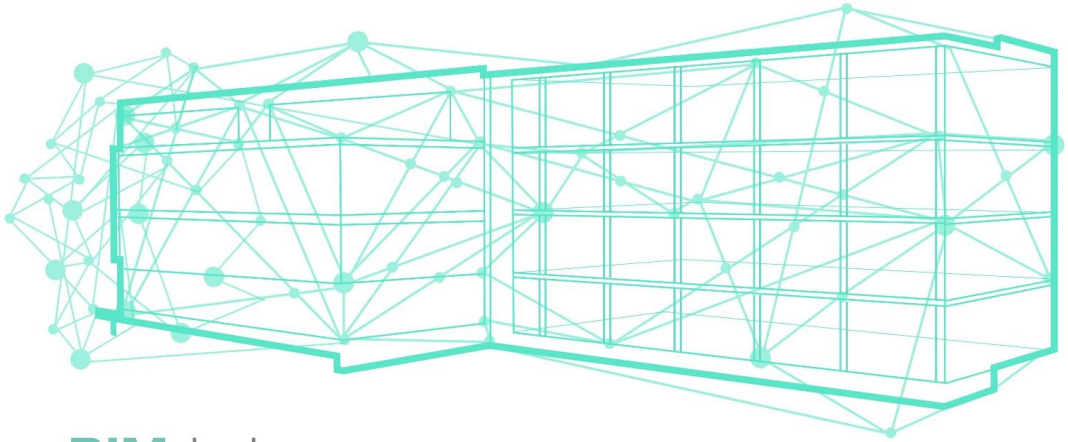

https://www.industriebau.tuwien.ac.at/forschung/forschungsprojekte/bimdsign/

BIMd.sign

BIM digitally signed with Blockchain in the design phase
2019-2022

Technische Universität Wien
Institut für Interdisziplinäres Bauprozessmanagement
FOB Integrale Bauplanung und Industriebau

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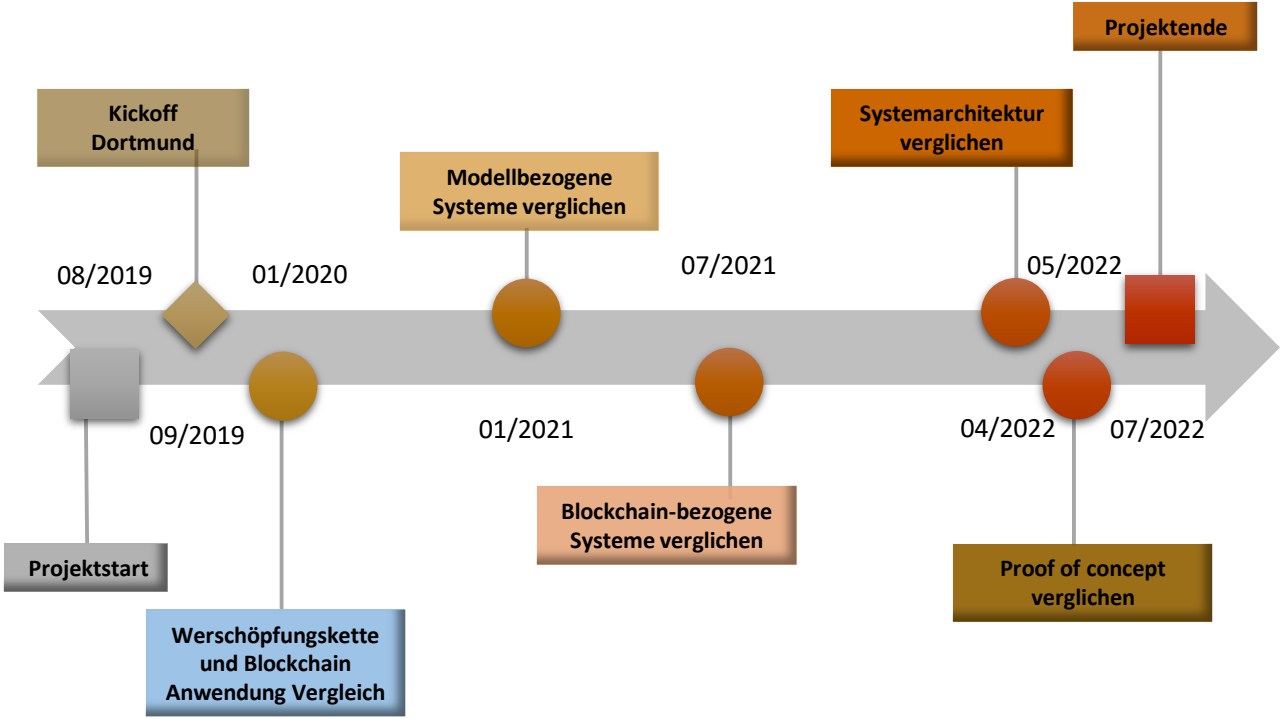
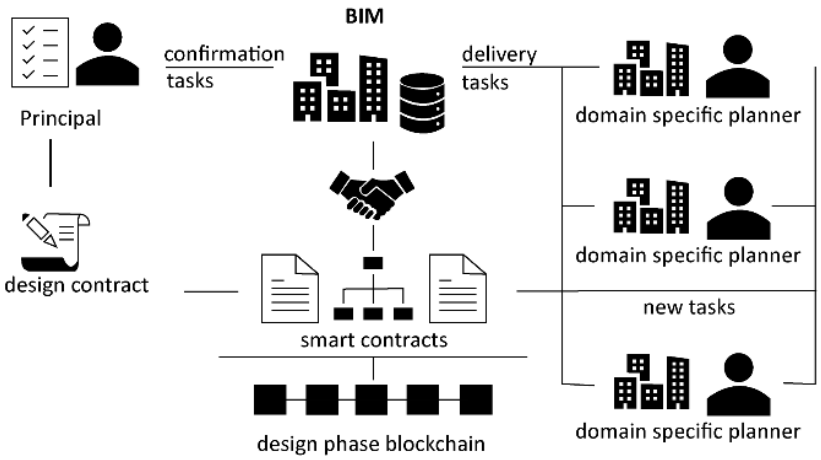


DESIGN PHASE PROCESSES WITH BIM FOR BLOCKCHAIN



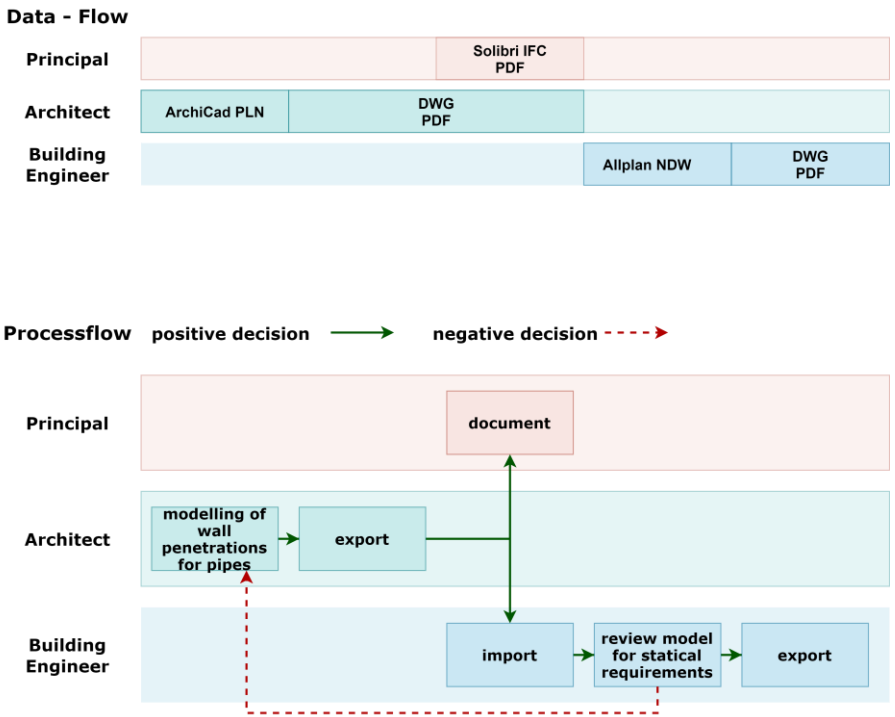
General setup of interaction - stakeholders, BIM; BC and smart contracts

- analyzing the design workflow from the initial information search to execution design (phases according to the HOAI) in the design phase
- the main premise of our research is to first analyze stakeholders, processes and data flow in the design workflow and next propose a conceptual framework for the analysis of process modeling for BC, smart contracts and DApps.

Case Study Analysis - Detail

Extraction of relevant data from the case study

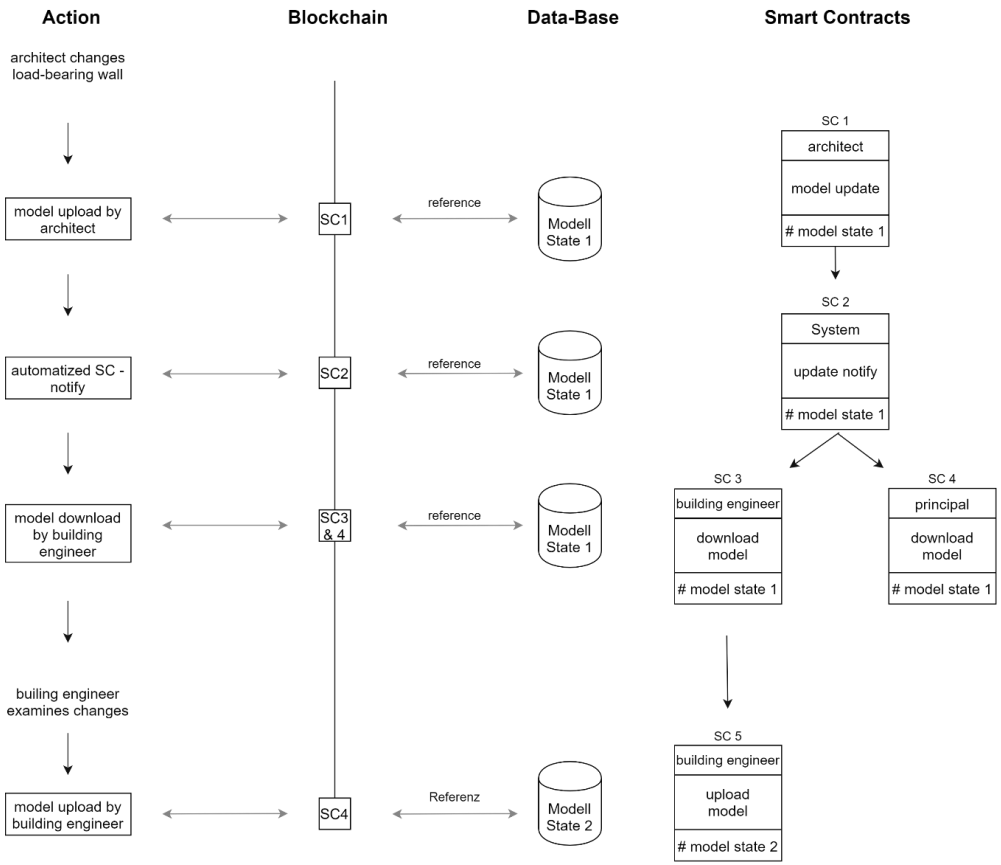
- Interaction of the stakeholders
- Data-flow and used software
- Tasks and activities



https://www.researchgate.net/publication/341338086_Analysis_of_Design_Phase_Processes_with_BIM_for_Blockchain_Implementation

BIMd.sign

Conceptual Model Structure



https://www.researchgate.net/publication/350156262_Digital_Traceability_for_Planning_Processes

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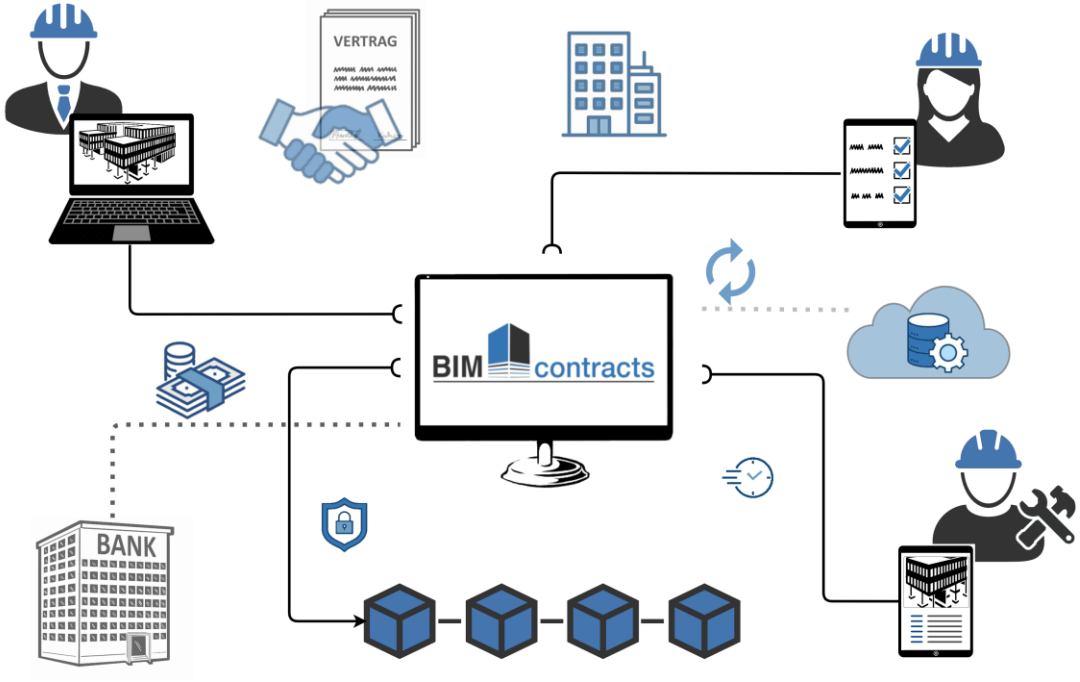
für Wirtschaft
und Energie

aufgrund eines Beschlusses
des Deutschen Bundestages

BIM contracts

adesso | FREUNDLIEB BAUEN AUF VERTRAUEN | RUHR UNIVERSITÄT BOCHUM RUB | Kapellmann Rechtsanwälte | UNIVERSITÄT DUISBURG ESSEN Offen im Denken | proXperts | Technische Universität Berlin | planen bauen 4.0

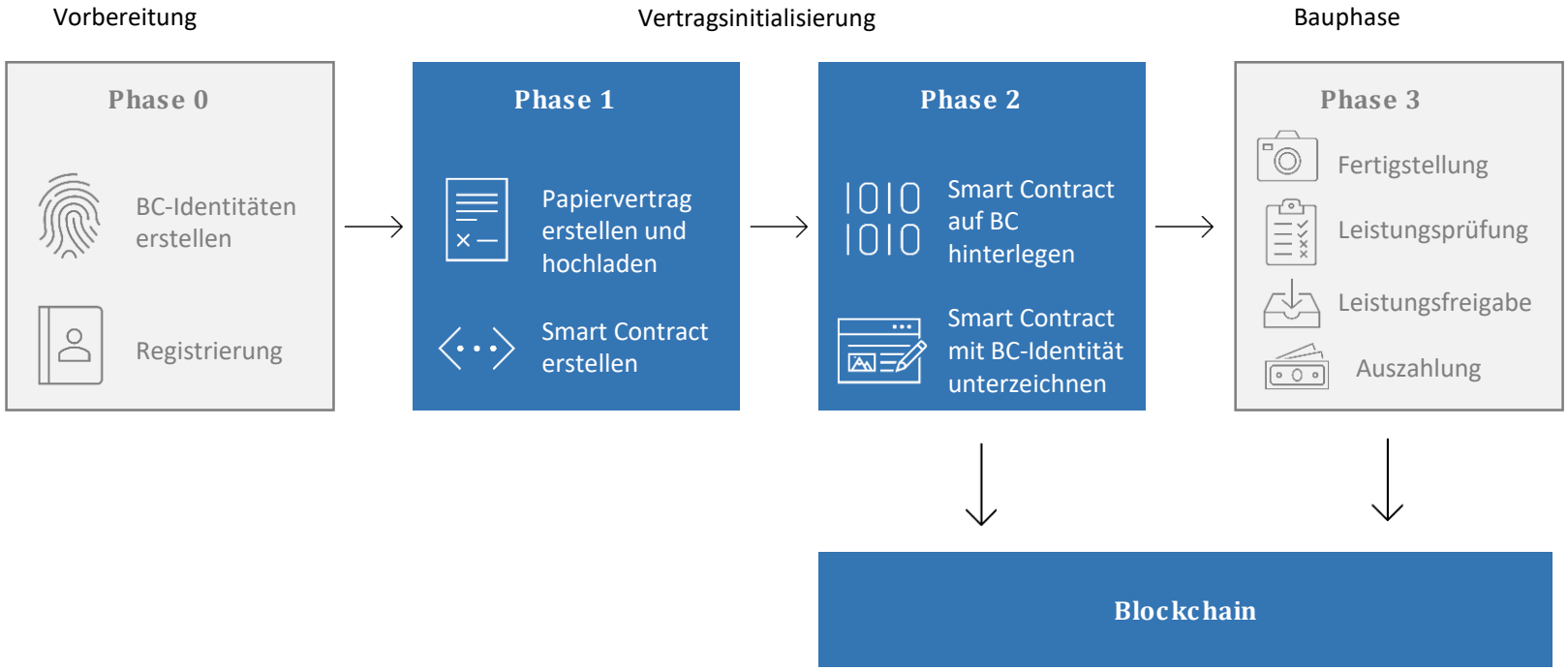
Ökosystem



- Referenzarchitektur für das automatische Rechnungs- und Vertragsmanagement
- Abrechnung wird mittels Smart Contracts umgesetzt
- Blockchain-Technologie verarbeitet alle Transaktionen revisionssicher
- Niederschwellige Interaktionen über Apps und Smartphone

BIM contracts

Überblick des Ablaufs



FMCHAIN

Cross-organizational BIM-enabled facility management secured via Blockchain
2019-2022

Technische Universität Wien
Institut für Computer Engineering
Forschungsbereich Automation Systems

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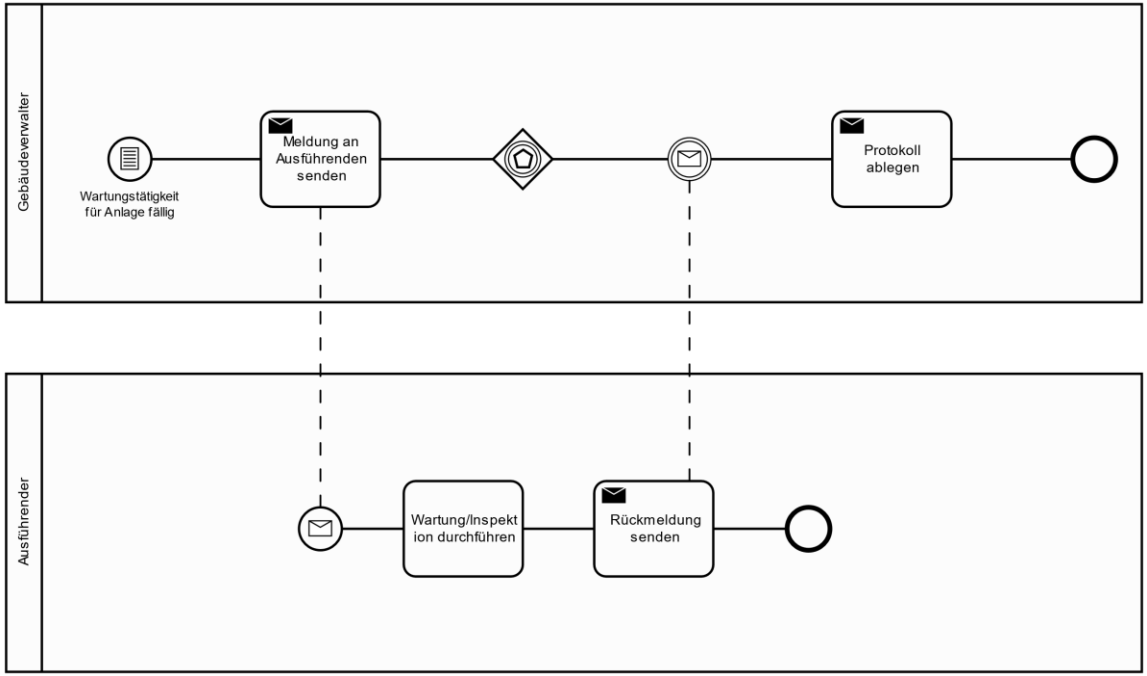
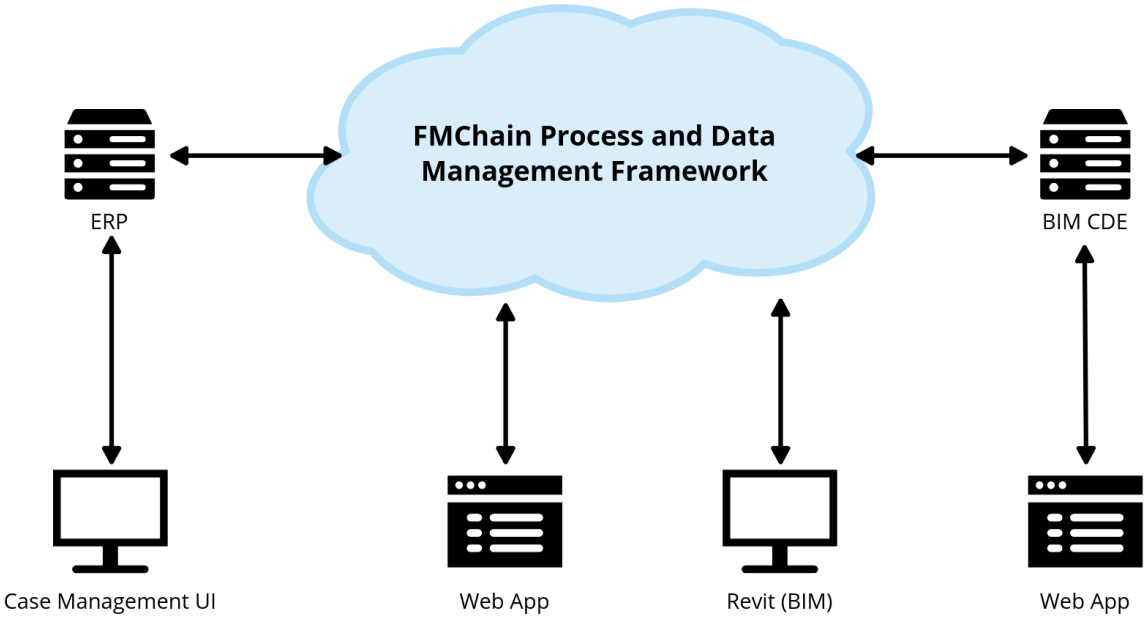
From survey to model



Implementation Overview



Vielen Dank!

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