Towards an Evolving Software Ecosystem in the Mining Industry

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Presenter

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Research Interest:

- Software Engineering with a focus on **Software Architecture** especially **Architectural Concept Extraction**, Comprehension and Evolution
- Engineering of **Software** and **Data intensive** Ecosystems
- ...

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In analogy to biological ecosystems, IT Ecosystems are based on the balance between individuals (**AUTONOMY**) and rules (**CONTROL**) that define **EQUILIBRIA** within an IT ecosystem.

The maintenance and continuous development of IT ecosystems requires a deep **understanding of this balance**.

The **aim of the project** is to establish an IT ecosystem and to ensure the **balance between autonomous sub-processes** and systems and the controllability of the overall system through a better **understanding of the influencing components and actors**.
Motivation
New Challenges…

- Overcoming the **technical barriers** is not enough.

- It is not possible to **transform an entire mine** into a single data warehouse.

- Current structures do not allow the use of methods of **agile development**, especially for **small projects**.

- It is necessary to have an **innovative and flexible platform** for this purpose.
Role Model

Data Storage

Operator

Service Deployment

Sensor Specialist

Configuration & Collection

Integrator

DATA

PROCESSES

SERVICES

User

Operation & Evaluation

Data Analyst

Analysis

Service Developer

Development

www.mamma-project.eu
Interaction...
Project Evolution and Scalability
Conclusion

- We believe that it is necessary to establish agile project structures in classical structures to enable short innovative and experimental projects.

- With regard to the “project” lifecycle of the initiation and also the transfer to regular operation is of major concern.

- Furthermore, the framework presented here addresses the topics:
  - Technology and Tool kit
  - Methodology and Procedure-Model kit
  - Integration of Standards and User Experience