RT 6: Model-based Knowledge Engineering for Decision Support

Lead: BOC / OMiLAB

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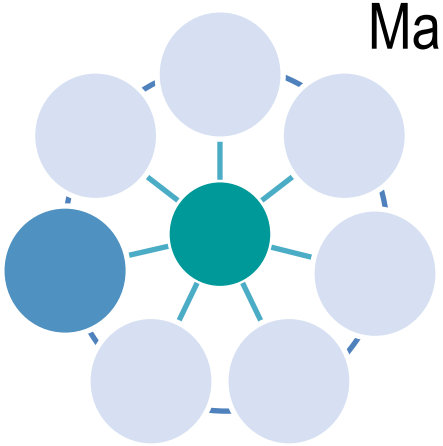

BOC Group Design Your Enterprise

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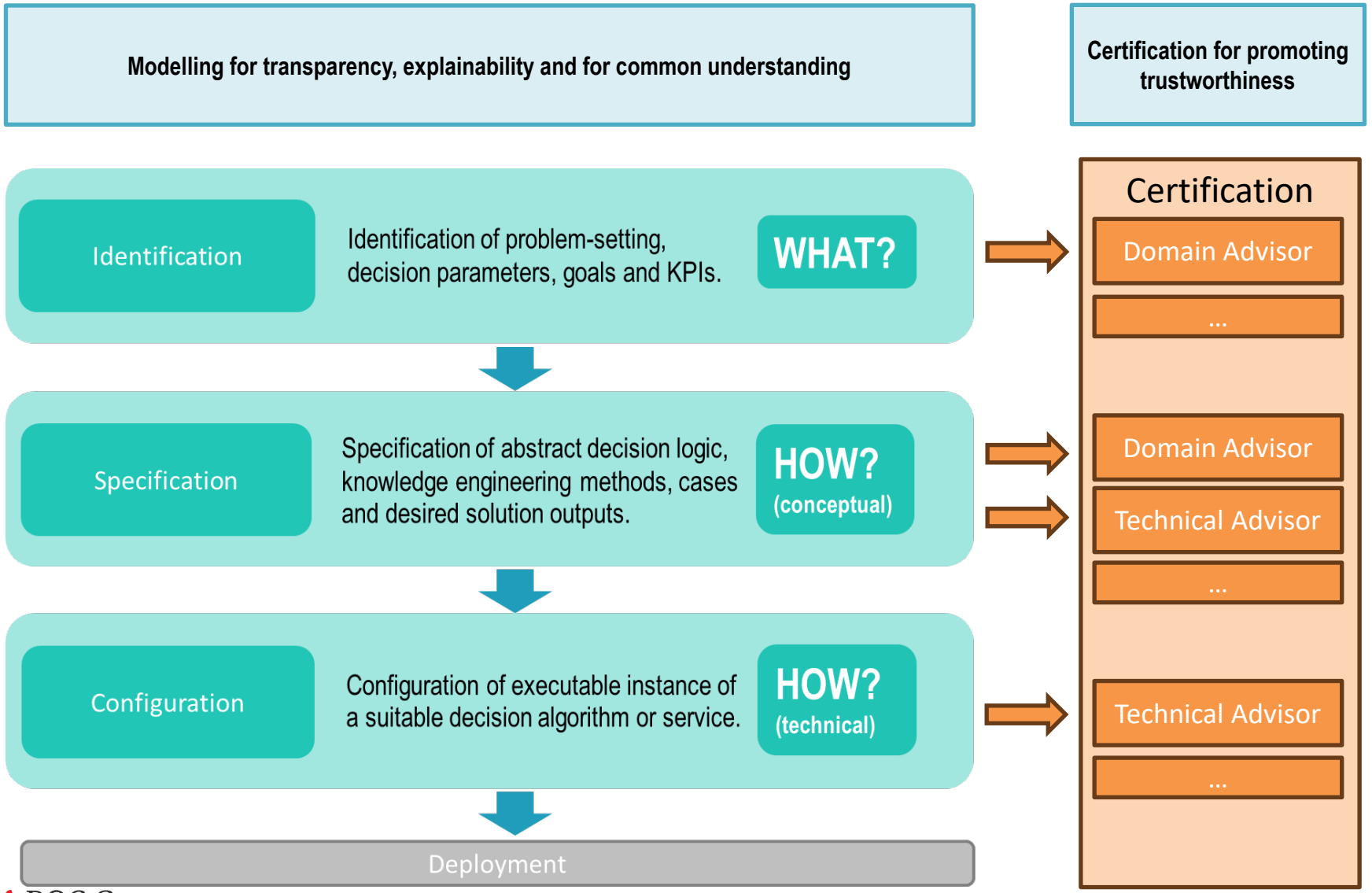
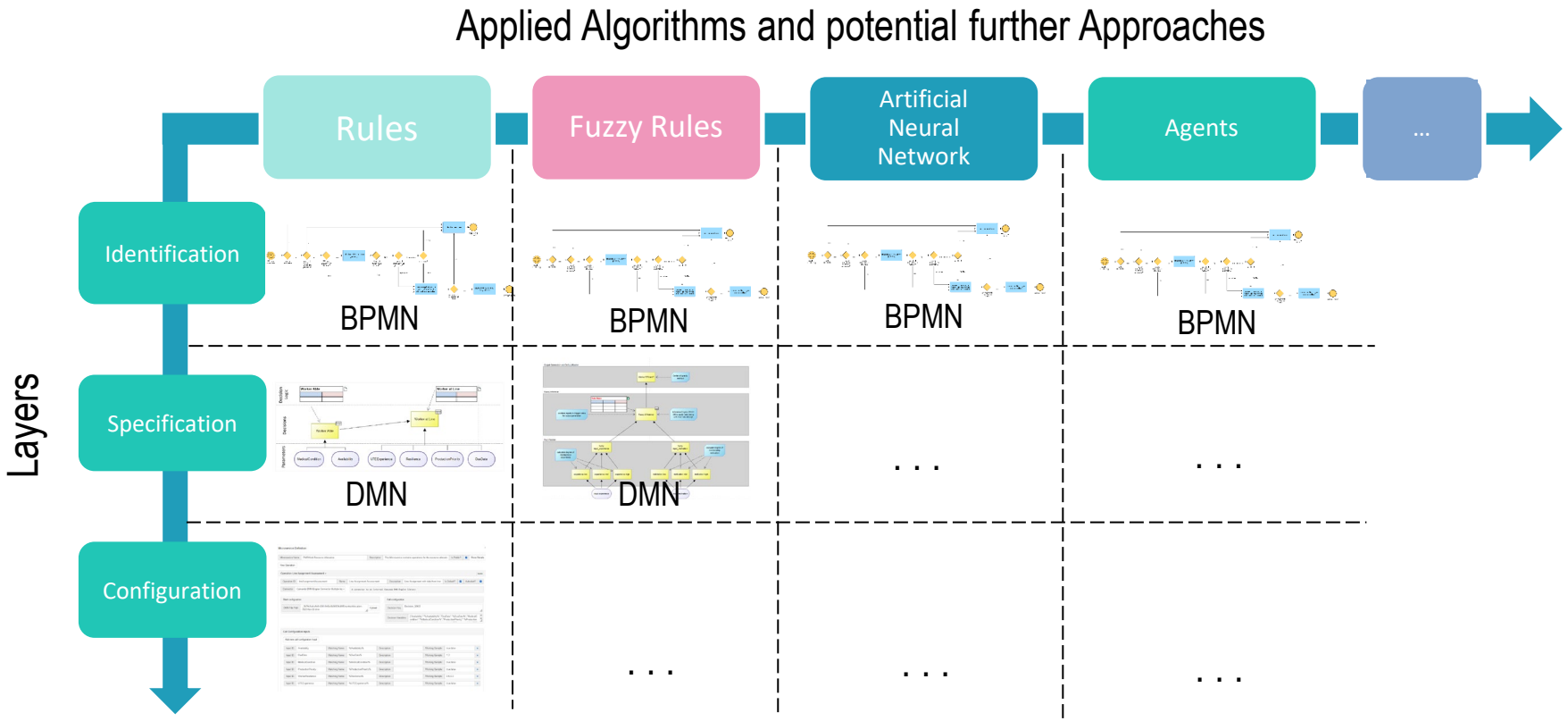
Methodology: Modelling for AI in FAIRWork



Method applied to Workload Balance Scenario and outlook



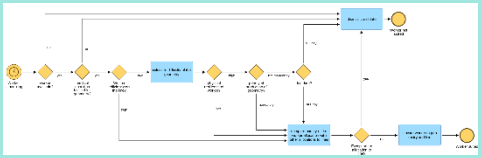
Goal is to decrease the semantic gap between the problem setting and the executable AI solution and to identify a meta-model for the methodology

→ Bottom-up approach

EXAMPLE: Fuzzy Logic

Identification

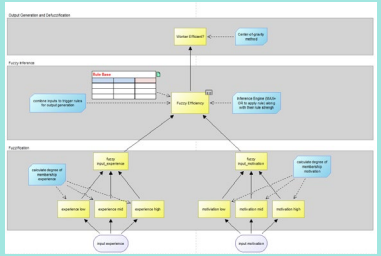
Using Scene2Model and BPMN to define the worker allocation scenario and the corresponding decision processes.



BPMN model describing the identified parameters

Specification

Selection of fuzzy rule-based approach, definition of a DMN model and abstract decision logic.



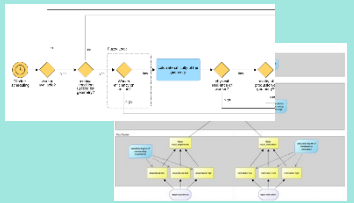
DMN model describing parameters and decision logic

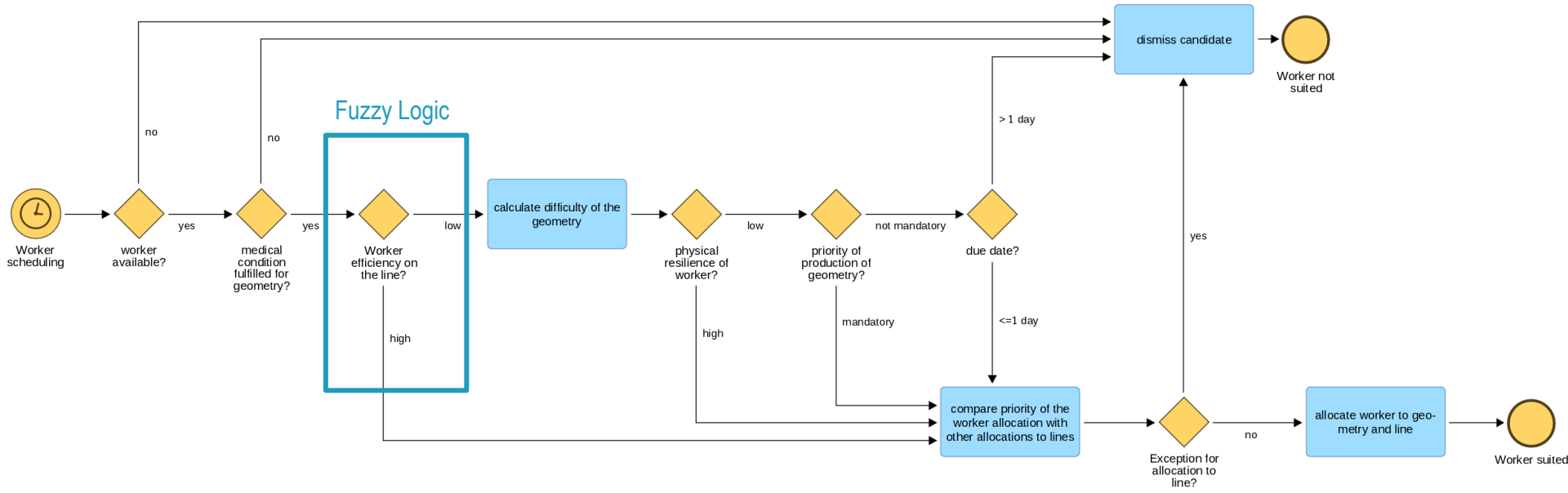
Configuration

Deployment

Specification

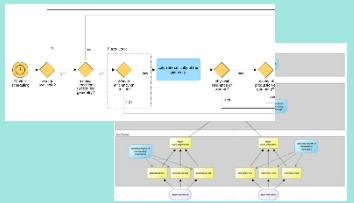
1. **Selection of fuzzy rule-based approach**
2. Definition of abstract decision logic

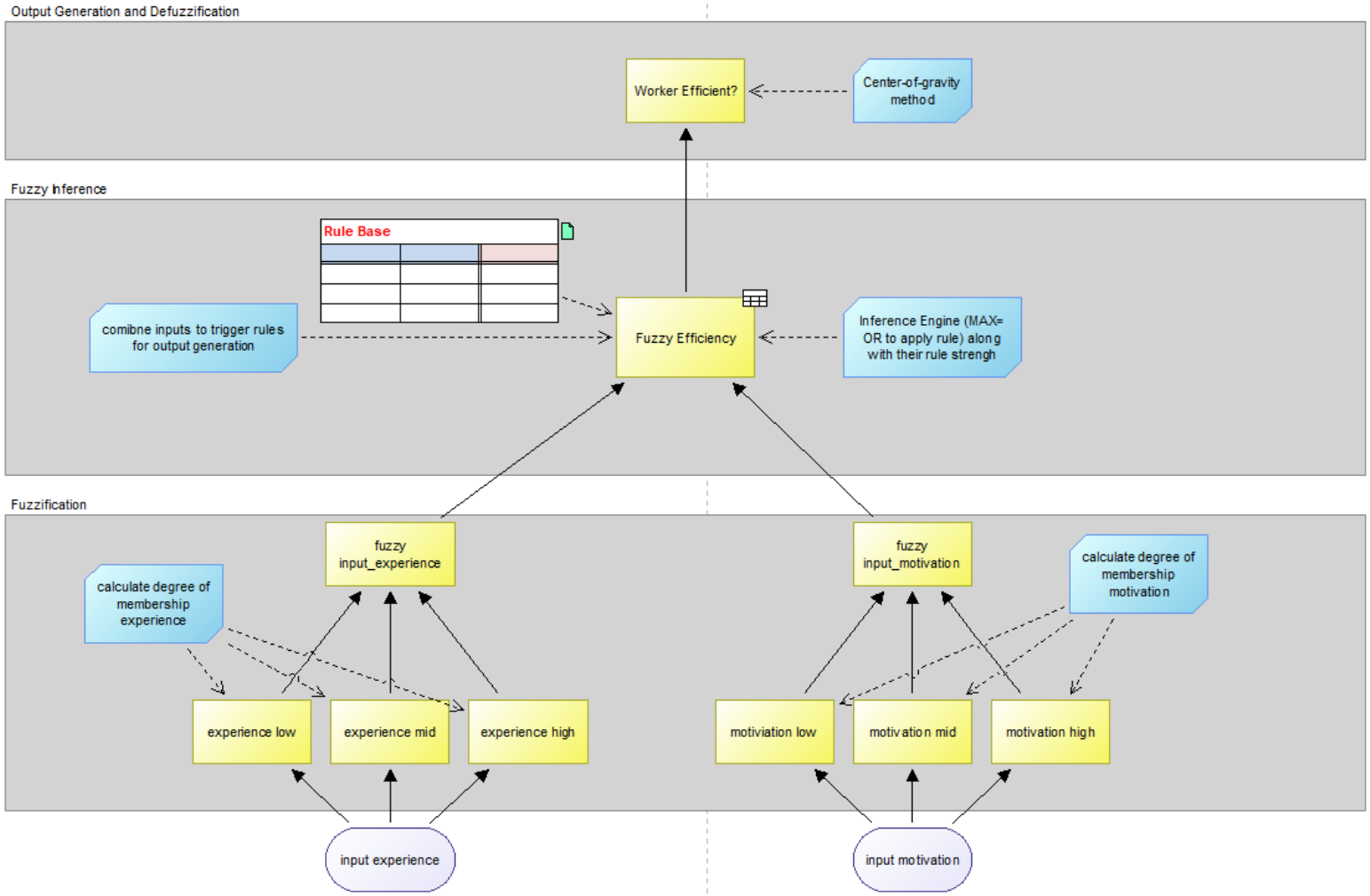




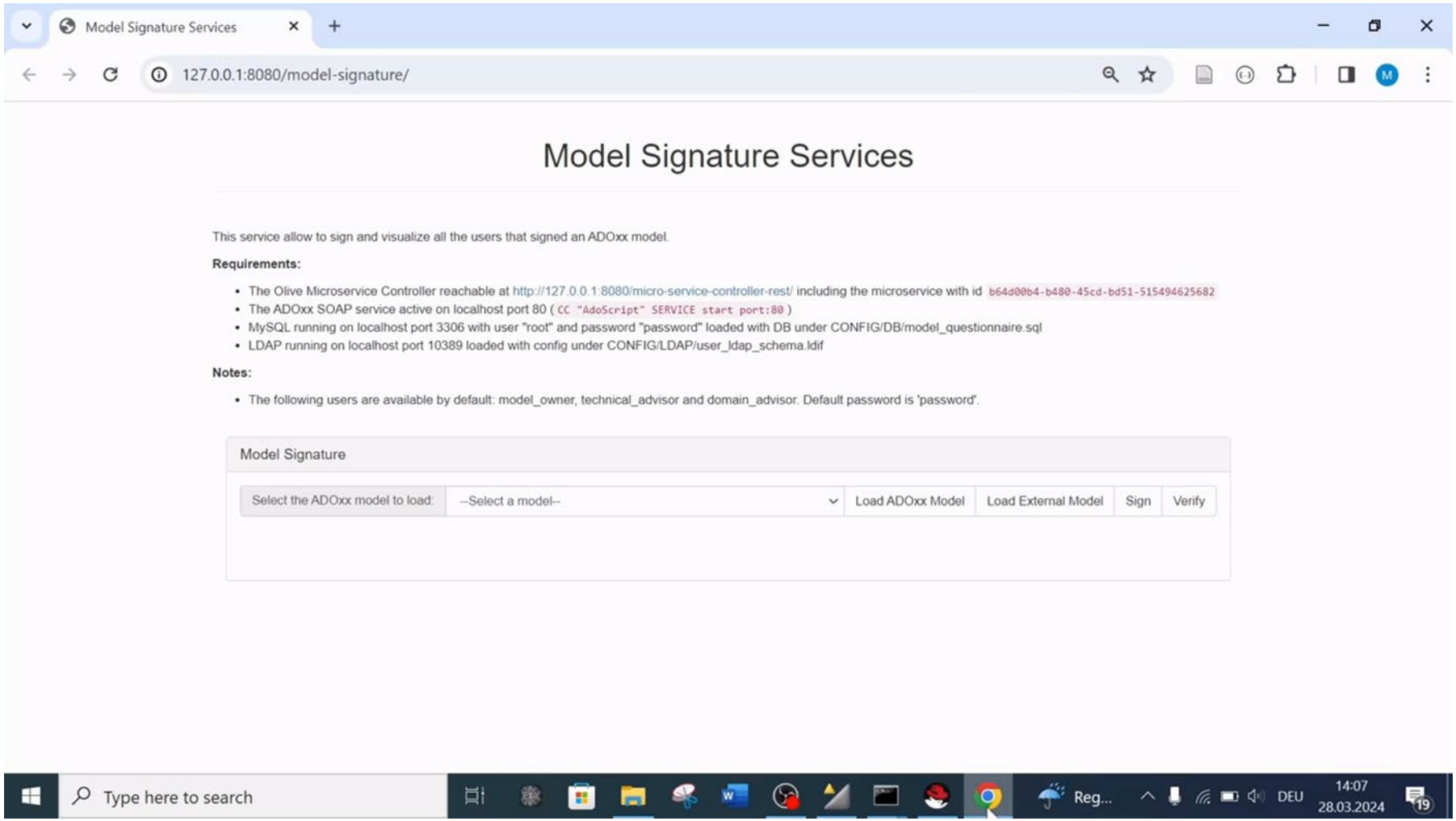
Specification

1. Selection of fuzzy rule-based approach
2. **Definition of abstract decision logic**





DEMO – Model Certification



Conceptual Modelling for Knowledge-based Decision Support

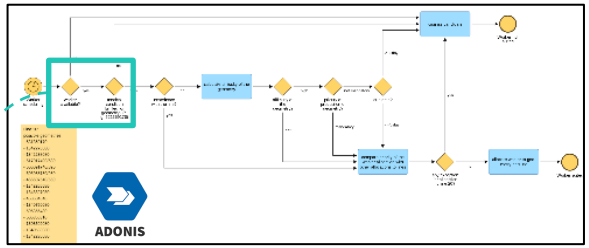
Identification

Specification

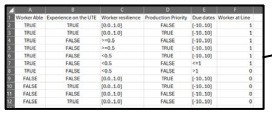
Configuration

Deployment

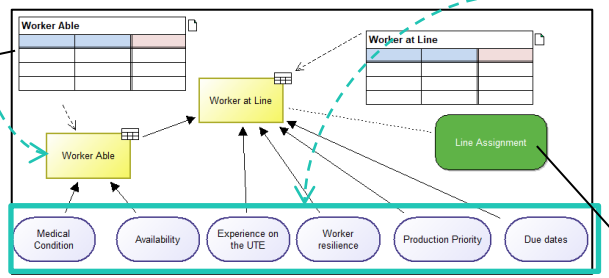
omission criteria



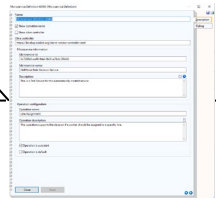
6 Decisions



Decision Knowledge



6 Decision Parameter



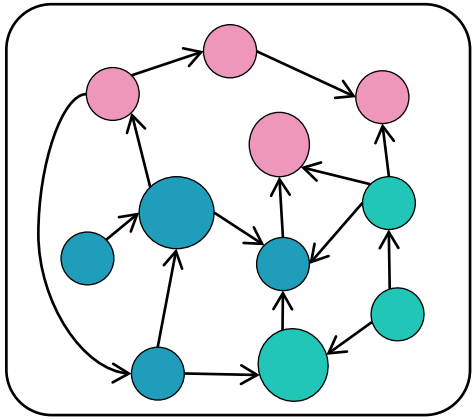
Technical Information

Olive Controller

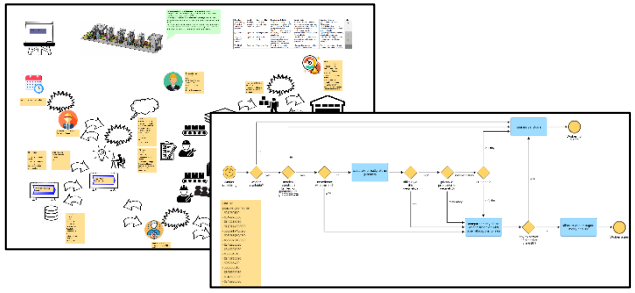
Rule-based Decision Service

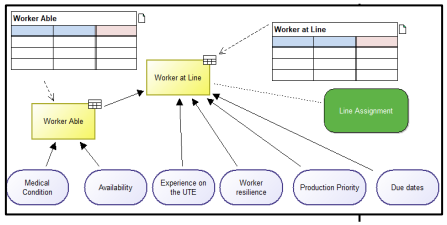
REST Endpoint

Support the Model-based Decision Support Design



Knowledge Graph





DAI-DSS

Identification

Specification

Configuration

Deployment

Next Steps:
Model-based Knowledge Engineering for Decision Support

- Use additional AI algorithms (focus data-driven)
- Identify relevant aspects for common metamodel
- Support the model-based decision support design