



Methods of Process Modeling in the Context of Civil Services

by the Example of German Notaries

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Agenda

■ Introduction

- Deggendorf University
- Projekt STERN
- Notaries in Germany
- Goals of Project STERN

■ Modeling

- Methodology
- Requirements
- Modeling Techniques
- Examples with Pros and Cons

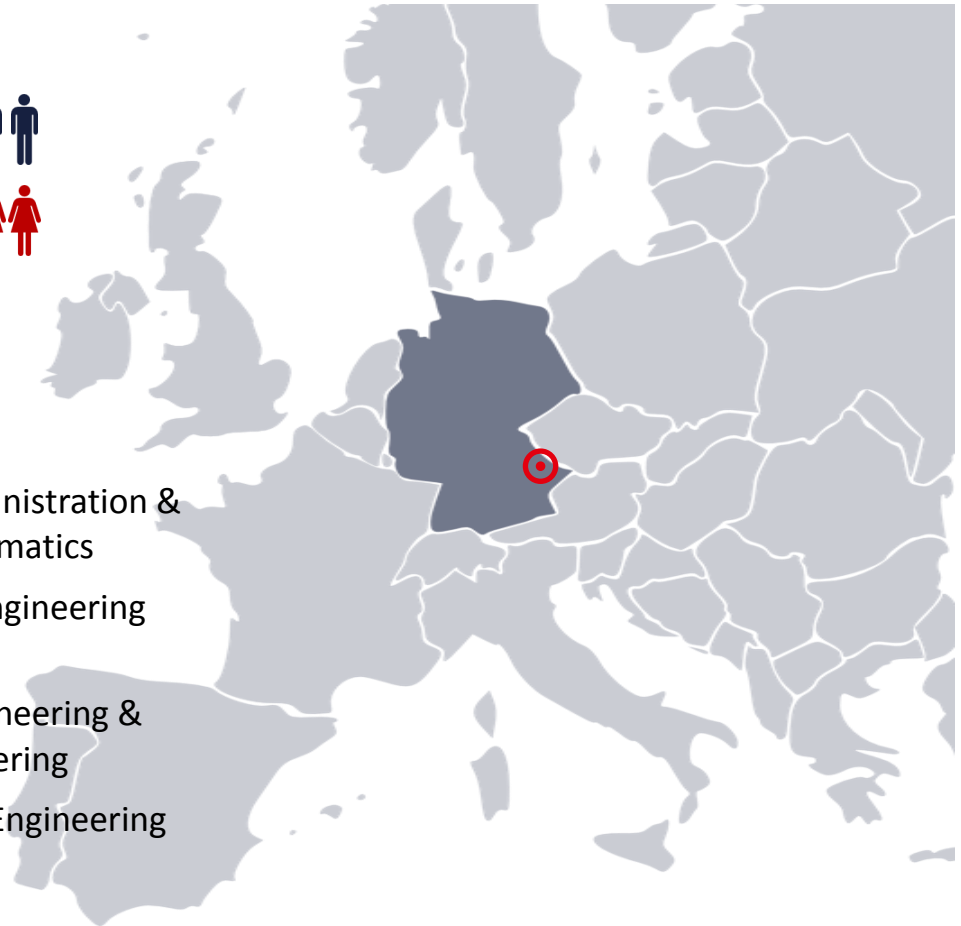
■ Conclusion

- Comparison
- Room of Improvement
- Prospects
- Contact

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- A pie chart illustrating the frequency of internet usage. The chart is divided into four segments: a large dark blue segment representing 42%, a red segment representing 28%, a grey segment representing 24%, and a small purple segment representing 6%.
- | Frequency | Percentage |
|------------|------------|
| Very often | 42% |
| Often | 28% |
| Sometimes | 24% |
| Never | 6% |

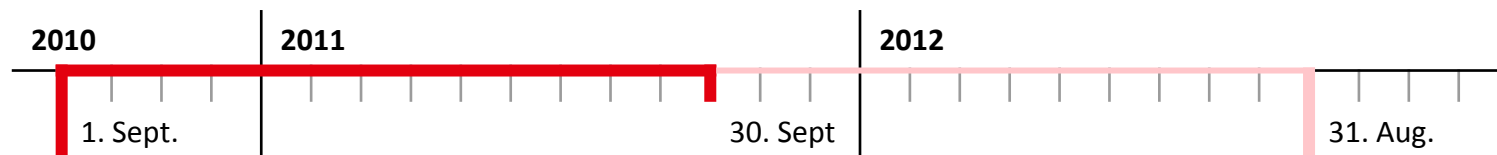
- Construction Engineering



Projekt STERN



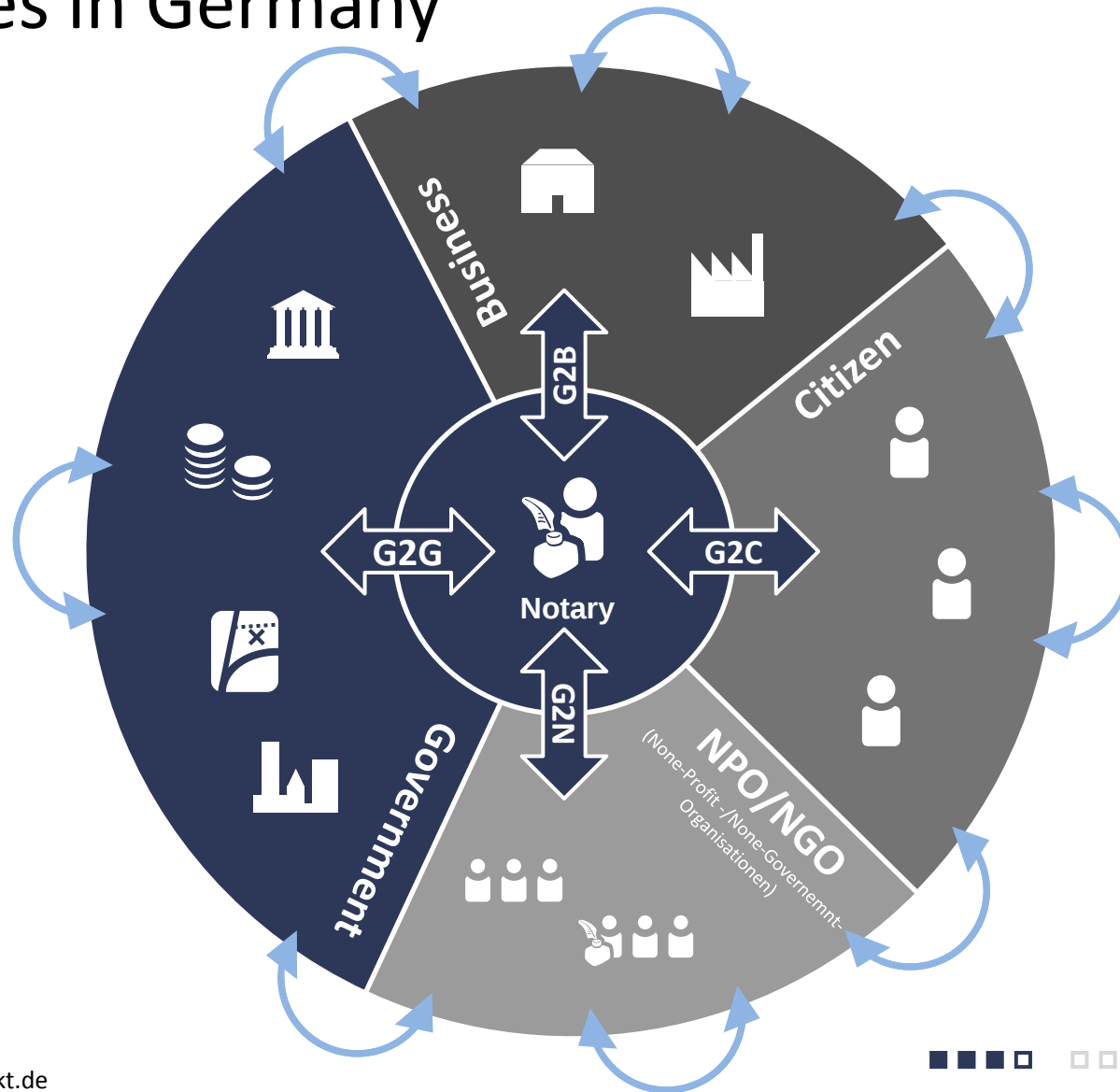
- “Sichere Teilnahme am elektronischen Rechtsverkehr für Notare“
i.e. “Secure Partizipation in electronic legal Transactions for Notaries”
- Scope:



- Partners:



Notaries in Germany



Goals of Project STERN

Main Goal is to facilitate and improve electronic communication for notaries

- Support to integrate central middleware
- Reference model for communication in the context of notaries
- Analysis of communication intensive processes
- Guarantee high software quality (software test)
 - Black and white box tests
 - Usability tests



Modelling Techniques

Methodology

Definition of Requirements

Visualization of processes

Questionnaire based
evaluation with notaries

Consolidation of results

1.5. How understandable was the S-BPM model?

- ☐ very easy to understand
- ☐ good to understand
- ☐ understandable
- ☐ difficult to understand
- ☐ not understandable

1.6 Did you recognize any mistakes in the S-BPM model?

☐ yes ☐ no

If so, what?

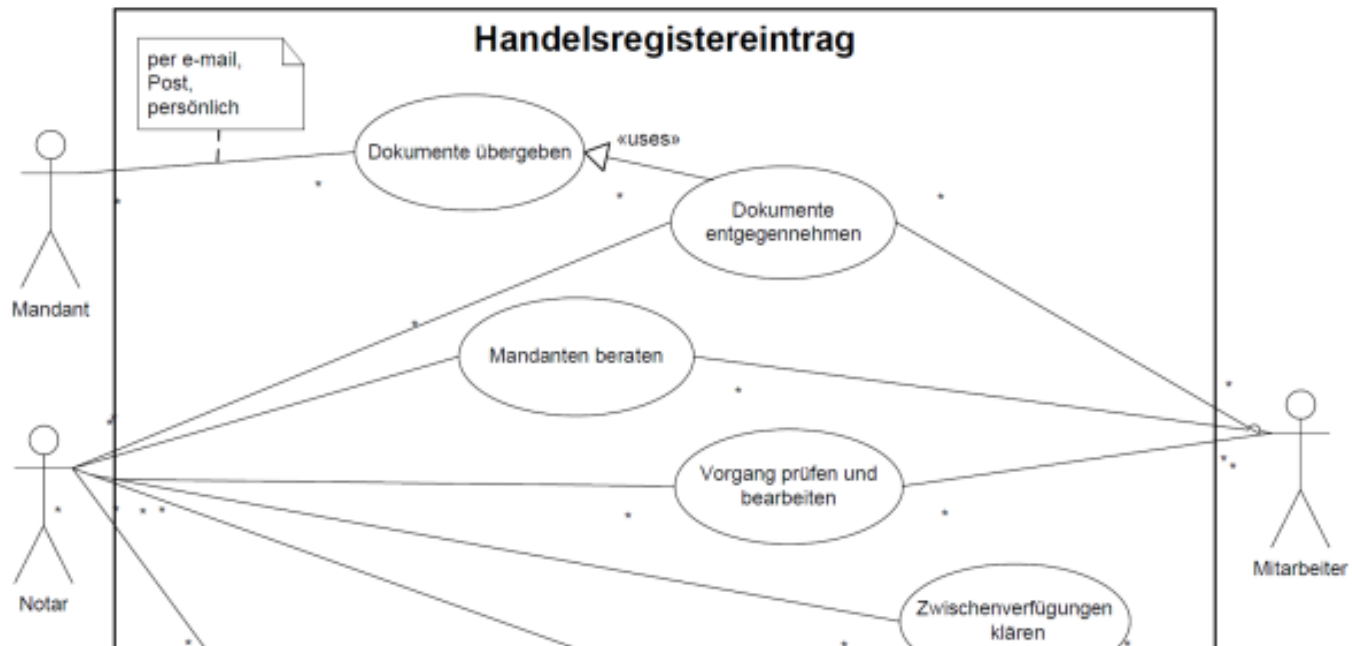
Requirements

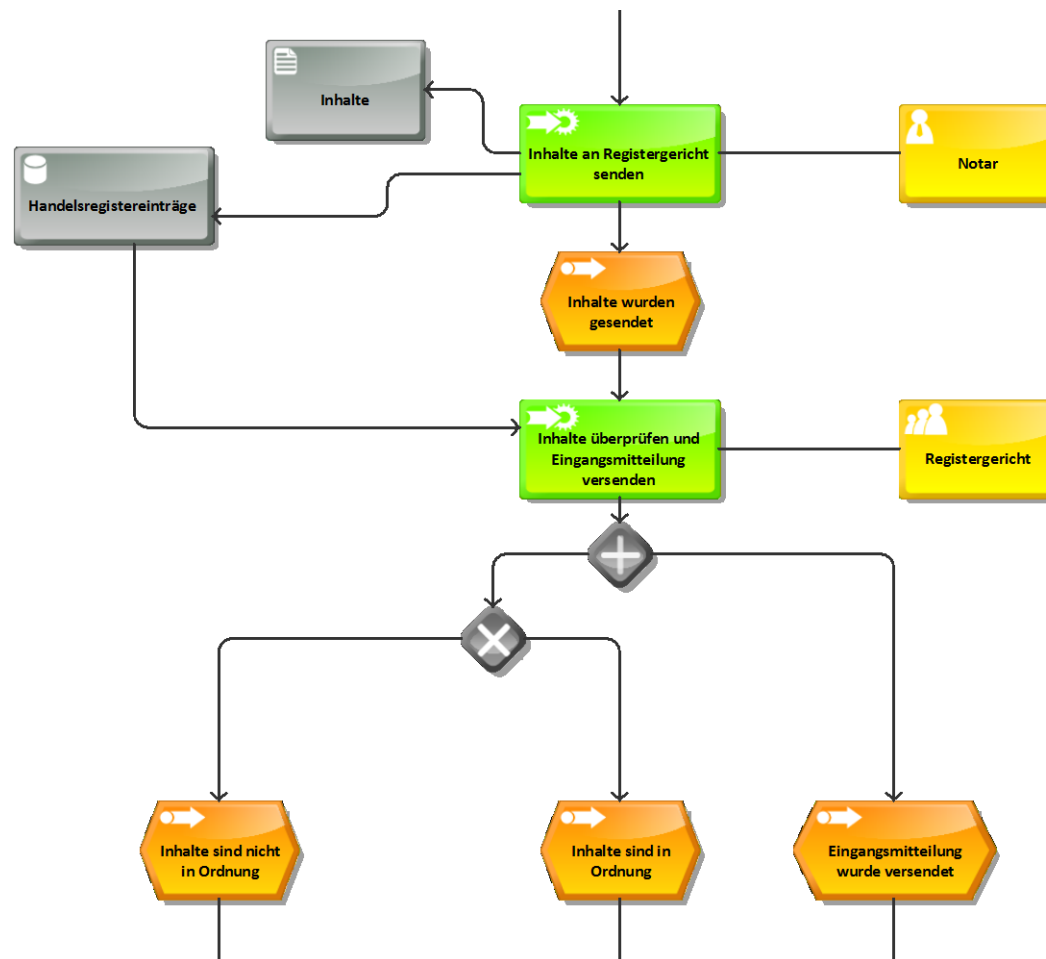
Requirement	Description
Message exchange	The communication exchange of notaries with different partners
Role of the communication partners	The role of the communication partners in a process should be recognizable
Process flow and timing	Both the procedural sequence of the process and the timing should be instantly recognizable.
Understandability	The model should be understood at the first glance without having deeper instructions.
Clear structure of models	Despite the complexity of the processes, the structure of the model should be displayed clearly.

Modelling Techniques

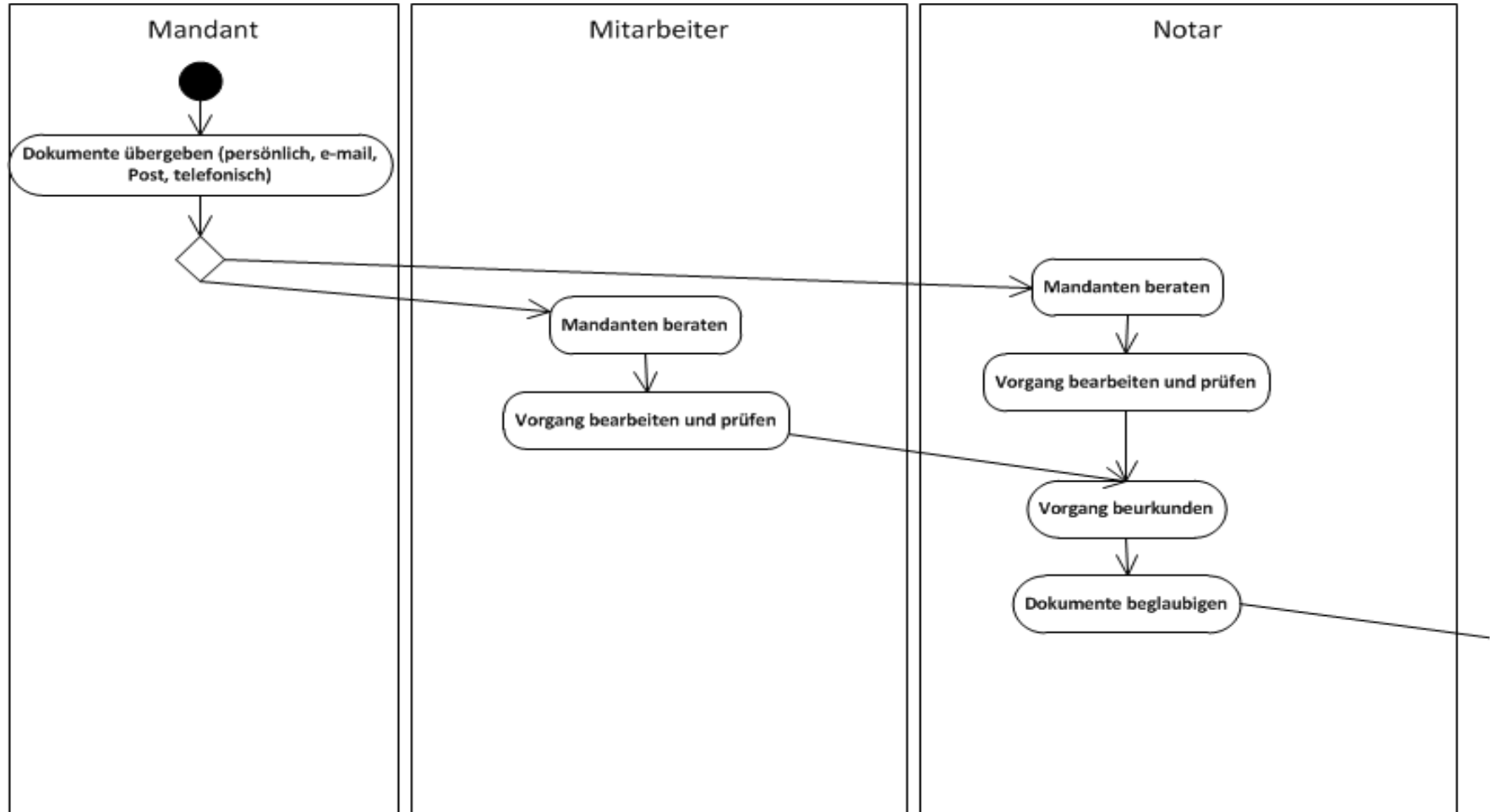
- Use Case Diagram (UML – Unified Modeling Language)
- EPC – Event-driven Process Chain
- Activity Diagram (UML – Unified Modeling Language)
- BPMN – Business Process Model & Notation
- S-BPM – Subject-oriented Business Process Modeling

UML Use Case Diagram

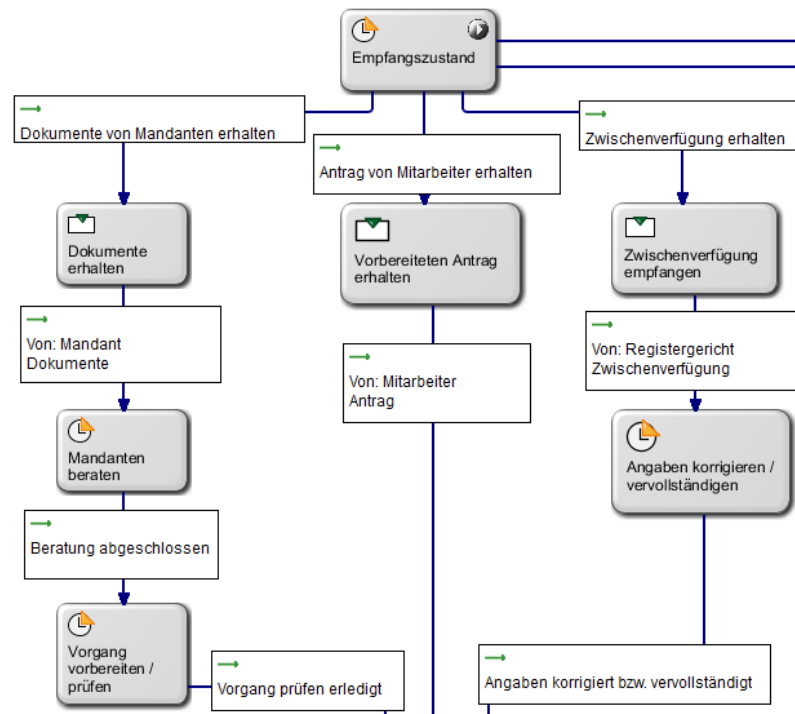
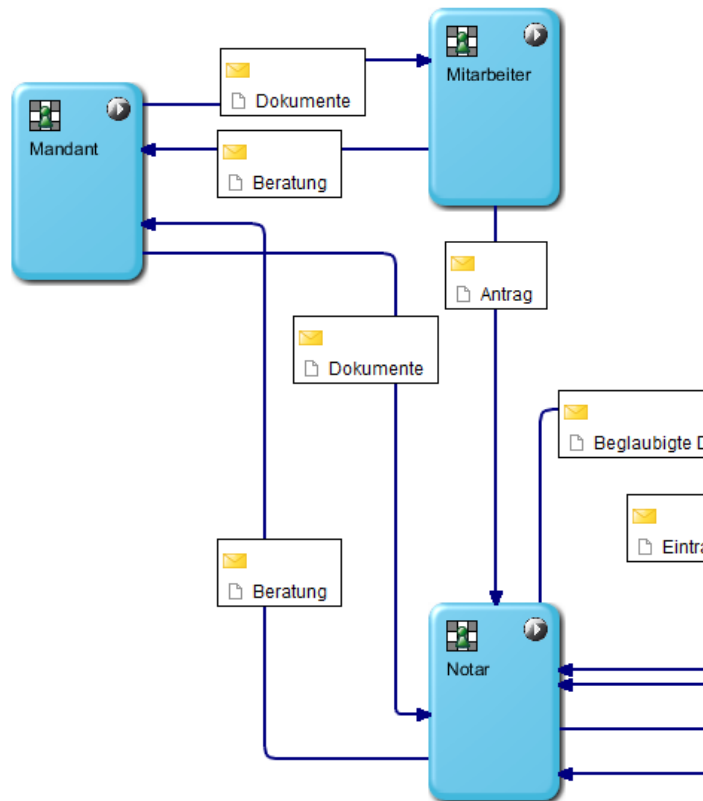




UML Activity Diagram









Results and Conclusion

Comparison

Modeling Method / Requirement	Use Case Diagram	EPC	Activity Diagram	BPMN	S-BPM
Message exchange	--	O	-	++	++
Role of the communication partners	O	O	++	++	+
Process flow and timing	-	++	++	++	O
Understandability	+	++	++	+	O
Clear structure of models	-	++	+	+	+

Legend: ++ = very good, + = good, o = satisfactory, - = adequate, -- = inadequate

Room of Improvement for S-BPM

- Overview and internal processes on one diagram
- Adding the modeling possibility of parallel processes
- Visualization of time sequence in subject interaction diagram
- Only supported by one modeling tool (Metasonic)

Project Prospects

- Transformation/mapping S-BPM to BPMN and vice versa
- computer-based workflow execution
- model based testing
- detailed documentation of notary processes

