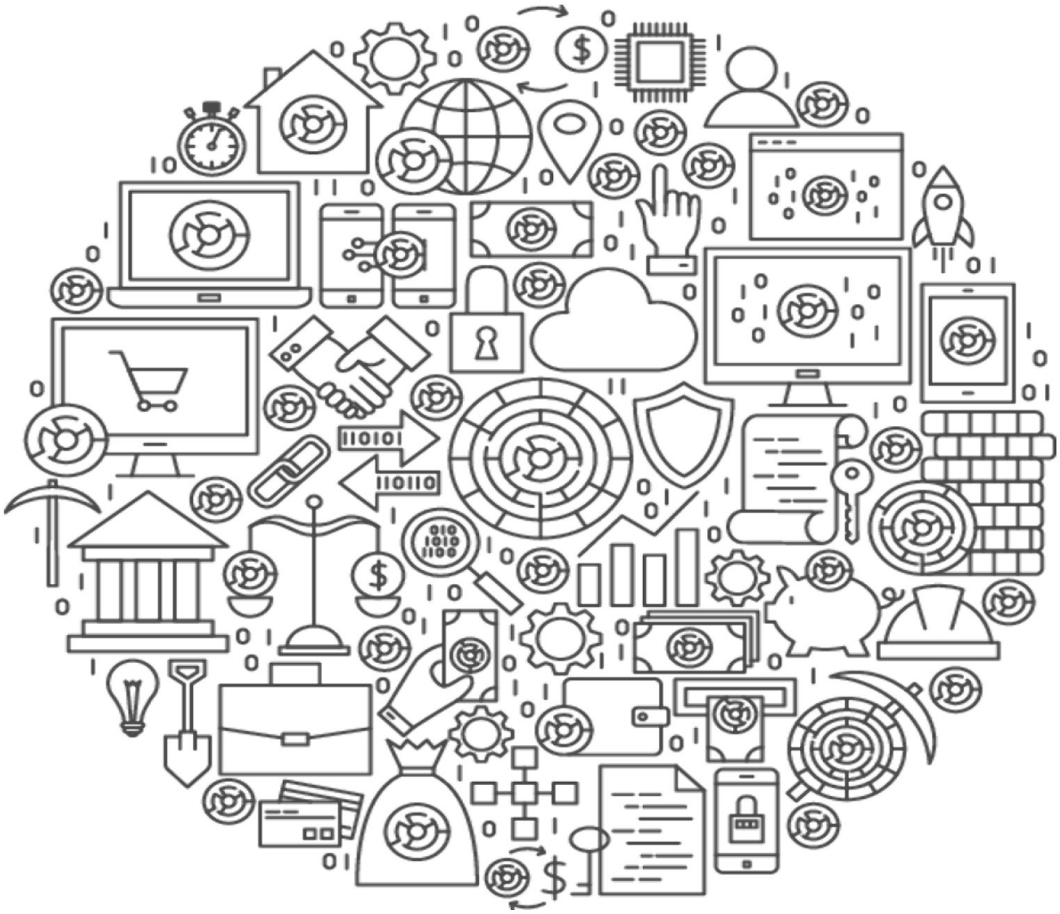
Determination of the potential for digitization and harmonisation of administrative processes

Final presentation

Technical Support Instrument

Supporting reforms in 27 Member States



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Agenda

Topic	Content
Technical overview of the project	• Overview • Project background and scope • Methodology
Approach and Deliverables	• Project schedule • Approach and Activities • Deliverables
Key findings	• Key finding and functionalities of the five to-be models
Lessons learned	• Lessons learned and post-project recommendations

Technical overview of the project

Project Automation Potentials - Overview

The project was structured according to five activities

01

Project Inception
Served to kick off the project through a kick-off meeting with the client and Deloitte team to further elaborate the methodology.

02

Analysis of current situation and business process model
Used to identify, classify, and record existing organizational units, processes, information systems, and related data flows, and to create the requirements catalog.

03

Elaboration of a Business Cases
Serves to develop three possible alternatives (inclusive the "maintain status quo" option).

04

Definition of the TO-BE Situation & roadmap
Used to create the "target" model corresponding to the selected alternative in the previous activity, the corresponding roadmap

05

Project Closing & Communication material
Serves to close out the project by ensuring that all deliverables are accepted and lessons learned are recorded, as well as the creation of communication materials

Project background and scope

The goal of the project was to provide a concept to automate administrative processes of the City of Hamburg.

Following the project on the automation of **“citizens’ letters”,** other administrative processes of the City of Hamburg should now be identified for automation

Efficiency gains can be obtained by relieving the staff from administrative tasks and thereby freeing up human resources. This is particularly relevant in the context of staff shortages that are caused by the demographic change.

Technical basis for automation will be the system to support the processing of civil letters (e.g. central database, workflow and routing system) which is currently being implemented

Project scope

material

The output of the project is a **conceptual model** that can serve as a basis for the development of further tools. Hence, the project is **focused on the relevant structures, processes and affected ICT systems**, the identification of processes that can be automated and on how to improve its efficiency.

temporal

The project concentrates on current representative processes with regard to the digitalization of administrative processes. We will only consider administrative processes currently used.

geographical

The geographical focus is set on BUKEA of the city of Hamburg

Methodology – Deep dive 1

Based on research, interviews and screening criteria, we identified processes with automation potential and created a long list of processes

01 Create initial list of processes

Initial desk research

- Aris
- Viflow
- Potentialanalyse

+

Stakeholder interviews

- 13 Interviews with stakeholders of BUKEA and BSW

Initial list of processes

02 Screening

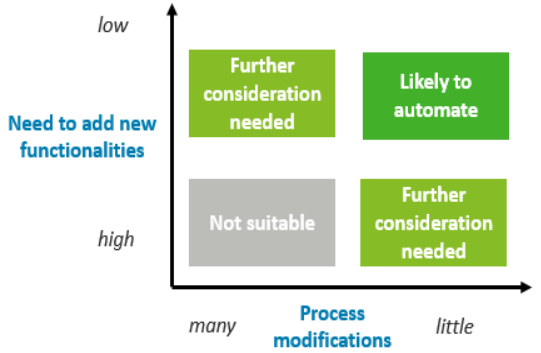
Criteria:

- Scalability of the process
- Volume of the process
- Rule based process
- Time saving potential
- Transferability of the process
- Relevance
- Potential for future use
- Complexity
- Time criticality
- Definition

Analyze the "show stoppers" for automation

03 Long List

The interviews from the initial list were evaluated and combined into a **long list of 12 processes**:



1. BohrIS Completion
2. BohrIS Tracking
3. District Requests
4. Citizen submissions
5. Senate printed matter coordination
6. Brief written inquiries
7. Physical inbox
8. Market surveillance process
9. Heat cadastre
10. Knowledge Management
11. Info boxes
12. Reporting

Methodology – Deep dive 2

The goal of the Short List was to identify 4-5 processes that were analyzed in depth in subsequent activities.

03 Long List

1. BohrIS Completion
2. BohrIS Tracking
3. District Requests
4. Citizen submissions
5. Senate printed matter coordination
6. Brief written inquiries
7. Physical inbox
8. Market surveillance process
9. Heat cadastre
10. Knowledge Management
11. Info boxes
12. Reporting

04 Criteria for identifying the short list

- Expected reduction in workload
- Scalability of the AI technology
- Expected quality improvement
- Procedural feasibility
- Technical feasibility
- Automation potential of the process:
  - IDM compatibility
  - Other low-threshold AI solution
  - AI use case

Focus on analysis of expected effects

05 Short List

1. Brief written inquiries
2. Knowledge Management
3. Info boxes
4. Imputing methods
5. Senate printed matter coordination

Solutions

IDM Workflow	1, 4, 5
Intelligent search	1, 2
Classification	1, 3
Named Entity Recognition	3, 5
Dashboard	2
Imputing	4

In-depth analysis in the following deliverables

- Business Cases
- To-Be Model

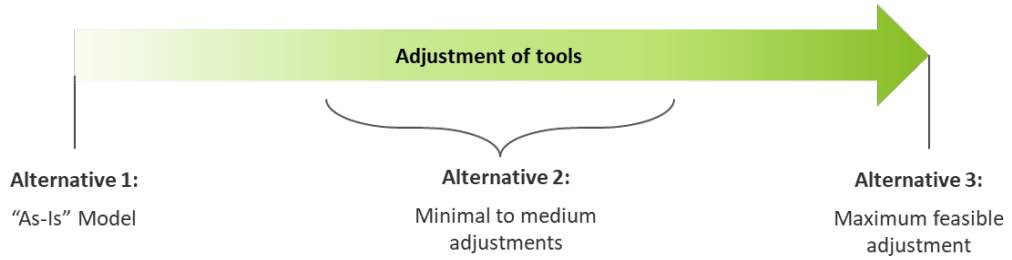
Methodology – Deep dive 3

We defined for each short listed process 3 alternatives and analysed them according to several assessment criteria to determine the preferred alternative, the business case.

05 Short List

1. Brief written inquiries
2. Knowledge Management
3. Info boxes
4. Imputing methods
5. Senate printed matter coordination

06 Alternatives



Analysis and assessment of the alternatives

For each short listed process for alternative 2 vs. alternative 3

- Impact valuation (organizational and procedural factors)
- Analysis of stakeholder demands
- Technological maturity of the alternatives

Overarching assessment of alternative 2 vs. alternative 3

- Force-field analysis (driving and restraining forces)
- Technical and non-technical feasibility of the alternatives

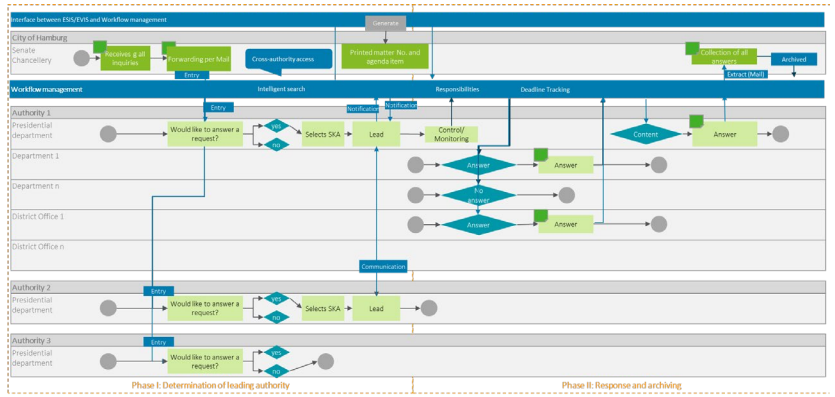
Preferred alternative (business case)

Methodology – Deep dive 4

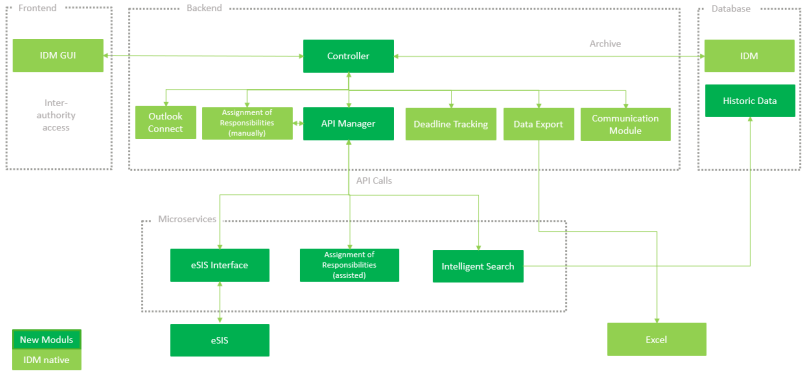
We developed the to-be model, the to-be infrastructure and roadmap for the preferred alternative for each of the five short list processes.

Preferred alternative for each of the five identified processes (business case)

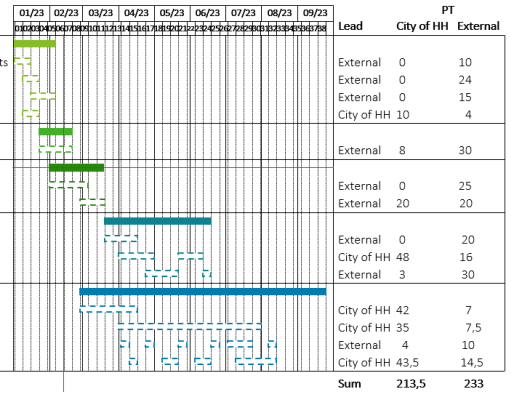
07 To-be model



08 To-be infrastructure



09 Roadmap



Activity	Lead	PT City of HH	PT External
1. Warm-up			
1.1 Harmonisation of the project with the business requirements	External	0	10
1.2 Check integration into existing IDM tool	External	0	24
1.3 Short analysis of the IT architecture	External	0	15
1.4 Set-up of agile project management	City of HH	10	4
2. Planning			
2.1 Acquisition and analysis of data	External	8	30
3. Set-up of Labelling Environment			
3.1 Set-up of Labelling Environment infrastructure	External	0	25
3.2 Build I Test I Release I Deploy of Labelling Environment	External	20	20
4. Development of microservices			
4.1 Conception of models	External	0	20
4.2 Iteration of labelling	City of HH	48	16
4.3 training and evaluation of models	External	3	30
5. Implementation of toolset extensions			
5.1 Setup IDM basis infrastructure	City of HH	42	7
5.2 Adjustment of dashboard	City of HH	35	7,5
5.3 Adaption of documentation (e.g. operating manuals)	External	4	10
5.4 Build I Test I Release I Deploy	City of HH	43,5	14,5
	Sum	**213,5**	**233**

Approach and Deliverables

Project schedule

The project was carried out within a twelve month project schedule.

Dec 21	Jan 22	Feb 22	Mar 22	Apr 22	May 22	Jun 22	Jul 22	Aug 22	Sep 22	Okt 22	Nov 22
Deliverable 1											**Activity 1: Project Inception**

	Tasks 1.1 Kick-off Meeting 1.2 Strategic Interviews 1.3 Preliminary desk research 1.4 Inception Report	**Methodology** Preliminary desk research Strategic Interviews	**Deliverable 1** Inception report Initial process candidate list

Dec 21	Jan 22	Feb 22	Mar 22	Apr 22	May 22	Jun 22	Jul 22	Aug 22	Sep 22	Okt 22	Nov 22
			Deliverable 2, 3 & 4						**Activity 2: Analysis of current situation and business process model**		

	2.1 Information gathering 2.2 Definition of set of processes to be supported by the Software 2.3 Review of existing situation 2.4 Information exchange between beneficiary and EU authorities 2.5 Identify business requirements and produce deliverables 2.6 Workshop to discuss deliverables 2, 3 and 4 and plan next steps	Existing Artefact Analysis (Desk research) Stakeholder interviews Technical and procedural feasibility assessment Business value assessment Scoring &Workshop	**Deliverable 2:** Current situation analysis **Deliverable 3:** As-is Business process model, preferably in BPMN **Deliverable 4:** Business requirements catalogue

Dec 21	Jan 22	Feb 22	Mar 22	Apr 22	May 22	Jun 22	Jul 22	Aug 22	Sep 22	Okt 22	Nov 22
							Deliverable 5		**Activity 3: Elaboration of a Business Cases**		

	3.1 Identify the extra information needed to produce the business cases 3.2 Produce alternative solutions 3.3 Workshop and elaboration of the business cases 3.4 Business Cases	Desk research and interviews Force-field analysis, Control impact matrix, Cost – benefit analysis Workshop	**Deliverable 5:** Business cases, including the decision report to reflect the result of the workshop in point.

Dec 21	Jan 22	Feb 22	Mar 22	Apr 22	May 22	Jun 22	Jul 22	Aug 22	Sep 22	Okt 22	Nov 22
Activity 4: Definition of the TO-BE Situation								**Deliverable 6,7 & 8**			

	4.1 Assist to assess its legal, operational, organizational and technical implications 4.2 Co-design the To-be situation and business model 4.3 Draft the To-be situation analysis and action plan	Desk research Workshop Designing of the to-be situation analysis and an action plan	**Deliverable 6:** To-be situation analysis **Deliverable 7:** To-be Business process model in BPMN **Deliverable 8:** Roadmap

Dec 21	Jan 22	Feb 22	Mar 22	Apr 22	May 22	Jun 22	Jul 22	Aug 22	Sep 22	Okt 22	Nov 22
Activity 5: Project Closing										**Deliverable 9 & 10**	

	5.1 Closing Meeting 5.2 Project end report 5.3 Communication material	Closing Meeting Preparation project end report and communication material	**Deliverable 9:** Project end report **Deliverable 10:** Communication material

Activity 1 | Project Inception

The purpose is to prepare a project inception, to launch the project work

2 months

Activity 1
Project Inception

Activity 2
Analysis of current situation and business process model

Activity 3
Elaboration of a Business Cases

Activity 4
Definition of the TO-BE Situation

Activity 5
Project Closing

Objective

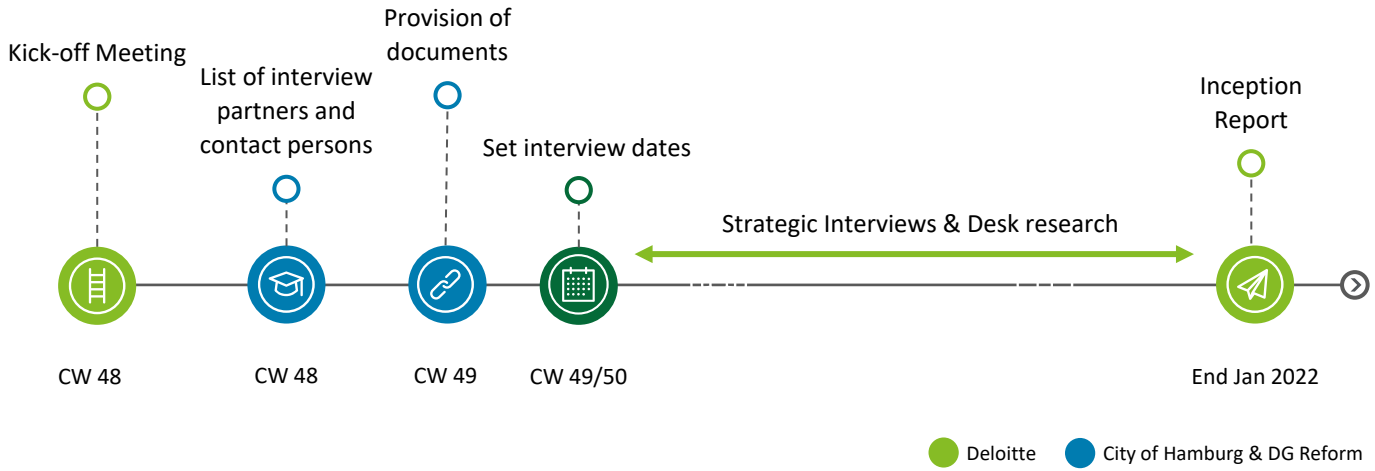
The first deliverable is the project inception, to launch the project work by means of a kick-off meeting and to validate our project approach for each deliverable by means of an inception report.

Methodology

1.1 Strategic Interviews

- **5-10 virtual strategic interviews** with relevant stakeholders of DG REFORM and Stadt Hamburg

1.2 **Preliminary desk research** to identify and map existing structures, processes, information flows and affected IT systems



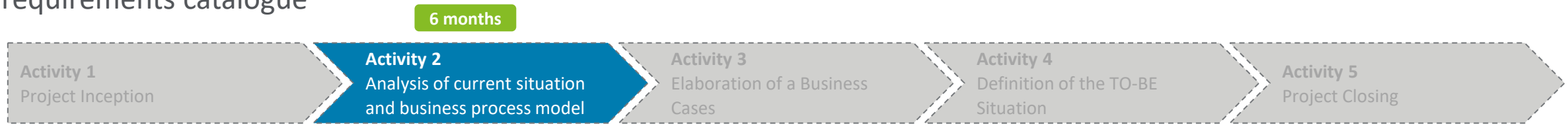
Result

Deliverable 1: Inception report with an overview of the planned project delivery for validation by DG REFORM. This includes the work plan, detailed methodology, scope, timeline, information needs (e.g. documents for desk research, contacts for interviews), communication arrangements, feedback-processes, project KPIs and risks to monitor, re-view meeting frequencies, as well as team and committee composition.

An **initial process candidate list**, gathered from the strategic interviews and preliminary desk research.

Activity 2 | Analysis of current situation and business process model

The purpose is to prepare the current situation analysis which results in an as-is business process model and a business requirements catalogue



Objective

The purpose of this activity is to prepare the current situation analysis which results in an as-is business process model and a business requirements catalogue. We propose a two-step approach to limit the number of processes that will be analyzed in depth.

Methodology

Two-side information gathering:

- Desk research
- Stakeholder interviews

1. Identification and examination of a long list:

- Definition of a set of processes (max. 10) classified during information gathering based on screening criteria
- Technical and procedural feasibility check of these max. 10 processes in order to identify the preliminary short list of processes (4-5)

2. In-depth analysis and scoring of the short list:

- In-depth examination of …
- Triangulation of all information …

3. Workshop to discuss the deliverables 2,3 and 4 with the City of Hamburg and the relevant stakeholders

Result

- **Deliverable 2:** Report on the current situation analysis.
- **Deliverable 3:** A report that presents the as-is Business process model with detailing of administrative processes of the City of Hamburg of the four to five processes selected in the business value assessment.
- **Deliverable 4:** A report that demonstrates the business requirements that have to be fulfilled by the implementation.

Activity 3 | Elaboration of a business case

The purpose is to establish a business case for the supervisory planning and monitoring process as well as the bank licensing process

Objective

The objective is to **develop three possible alternatives per shortlist process**(including the do-nothing scenario).

Methodology

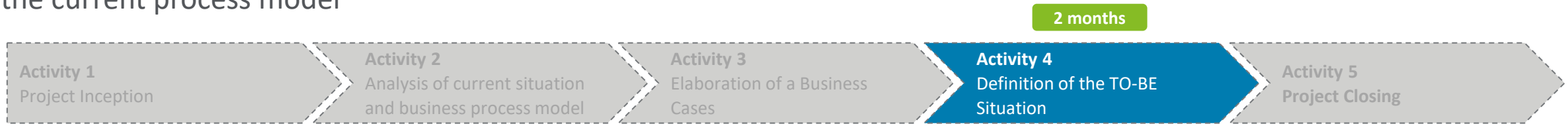
1. Complementary desk research and interviews with relevant stakeholders to select three alternatives per short list process:
    - Alternative with high degree of digitisation
    - Alternative focused on quick-wins (minimal to medium adjustments)
    - Do nothing alternative
2. Detailed analysis of all alternatives with:
    - **Force field analysis,** outlining the pros and cons of each alternative and identifying the driving forces behind each scenario
    - **Control impact matrix** to assess the impact of the driving forces identified in the force field analysis
    - Assess efficiency with **cost-benefit analysis**
3. Workshops to present the alternatives to Stadt Hamburg project owners and support decision-making
    - Virtual **meeting** with the City of Hamburg
    - Prepare **decision matrix**
    - Use **EU Better Regulation Guidelines** as evaluation criteria

Result

Deliverable 5: A report that comprises the business cases for all identified alternatives and the identification of the **preferred alternative** per short list process including the rationale behind the decision.

Activity 4 | Definition of the To-be situation

The purpose is to develop a process model that is highly automated and would constitute an improved representation of the current process model



Objective

The objective is to **develop a to-be process model** that is a aligned with the decisions made at the end of activity 3 and compatible with the ICT system currently in production.

Methodology

Desk research and document analysis to assist to assess the legal, operational and technical implications

Workshop with Stadt Hamburg and experts to co-design the **To-Be business model and the corresponding roadmap**

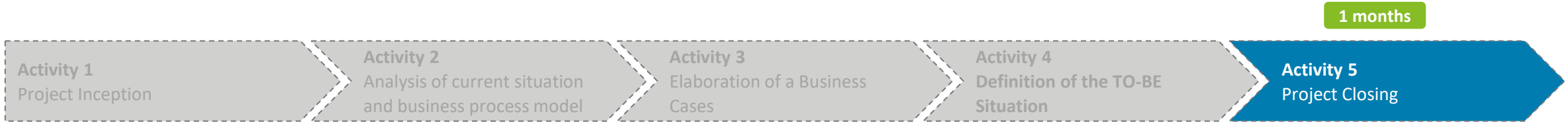
Draft the **To-Be situation analysis** and change management plan

Result

- **Deliverable 6:** A **report** on the **to-be model.**
- **Deliverable 7:** D**etailing** of the to-be business process model including the technical architecture supporting the process operation **in BPMN format.**
- **Deliverable 8**: A **roadmap** describing the necessary steps for implementation
    - Strategic plan
    - Definition of expected outcomes including major milestones

Activity 5 | Project closing

The purpose is to produce a final report and corresponding communication material



Objective

The objective of the project closing is to produce the **final report** and corresponding **communication material**.

Methodology

1. Draft the final report and communication material

Result

- **Deliverable 9**: **Project end report**
- **Deliverable 10: Communication material**

Project schedule

All Deliverables were provided on time.

#	Deliverable	# Activity	Agreed Delivery	Details
1	Kick-off and Inception Report	1	End of January 2022	Report provided to DG REFORM on January 31, 2022, approval on February 10, 2022.
2	Current situation analysis	2	End of June 2022	Current situation analysis provided to DG REFORM on June 24, 2022, approval on July, 5th, 2022.
3	As-is Business process model, preferably in BPMN format	2	End of June 2022	As-is Business process model provided to DG REFORM on June 24, 2022, approval on July, 5th, 2022
4	Business requirements catalogue	2	End of June 2022	Business requirements catalogue provided to DG REFORM on June 24, 2022, approval on July, 5th, 2022.
5	Business cases	3	End of August 2022	Business cases provided to DG REFORM on September 2, 2022, approval on September 26, 2022.
6	To-be situation analysis	4	End of October 2022	To.be situation provided to DG REFORM on November 9, 2022, , approval on September 28, 2022.
7	To-be Business process model	4	End of October 2022	To-be Business process model provided to DG REFORM November 9, 2022, approval on November, 22nd, 2022.
8	Roadmap	4	End of October 2022	Roadmap provided to DG REFORM on November 9, 2022, approval on November, 22nd, 2022.
9	Project end report	**5**	End of November 2022	Project end report provided to DG REFORM on December 9, 2022.
10	Communication material	**5**	End of November 2022	Communication material provided to DG REFORM on December 9, 2022.

Key findings

Key findings

The different features and functionalities of the five to-be models are summarized below.

Functionality	Brief written inquiries (Schriftliche Kleine Anfragen)	Senate printed matter coordination (Senatsdrucksachenab-stimmung)	Imputing procedure (Imputing-Verfahren)	Info boxes (Infoboxen)	Knowledge Management (Wissensmanagement)
Workflow / Dashboard	IDM-Workflowmanagementsystem (IDM-WF)		IDM-WF or Modul F	IDM-WF	IDM-Dashboard
Archive	Archive function				
Access	Central access channel				
Monitoring and Deadline	Monitoring- and Deadline-Tracking Dashboard				n/a
Commenting and communication	Commenting and communication				n/a
Access to the Workflowmanagement / Dashboard	Inter-agency, inter-departmental and inter-departmental access		Additional access from W1 (Wasseramt) to WF management	Inter-agency, inter-departmental and inter-departmental access	
Forwarding/assignment (manual and AI-based)	Forwarding assistant for identification of potential responsibilities	Manual assignment of responsibilities		Forwarding assistant for identification of potential responsibilities	n/a
Interface e-mail system	Interface e-mail system		n/a	Interface e-mail system	n/a
Other interfaces	Interface to the eSIS system	n/a	Interface between BohrIS database and module F, export function	n/a	n/a
Further AI functionalities	Intelligent search	n/a	• Automated completeness check • Imputing missing values • Automated plausibility check	n/a	Intelligent search

Lessons learned

Lessons learned

Various lessons have been identified during the project, which were clustered into three categories.

Lessons learned	Post-project recommendations
General lessons learned	
The treated subjects and issues within the project as well as the stakeholder setting itself involved a **high level of complexity**. Various process owners across various departments and even authorities needed to be considered, each of them having **proper expectations and needs**.	Given these circumstances, the **implementation of a change manager or a related role** could be suited to improve the alignment between the authorities themselves as well as between the process stakeholders.
	Owners for each authority and each stakeholder group should be assigned and **designated timelines** should be given to ensure a comprehensive and concise review process and to meet the planned timelines.
	To get a better understanding of potential boundaries and restrictions, a **continuous review related to "showstoppers"** (such as reluctance regarding AI projects in general) should be performed, together with according measures and approaches.
Lessons learned related to organisational and structural factors	
As consultations and workshops with the process owners of the process 'info boxes' have shown, process automations encounter the **fear by employees of being replaced or not needed anymore**.	Hence, a **proper communication** underlining the necessity of restructuring the processes and demonstrating that the concerns are unfounded is recommended.
	The **clarification of overall objectives, roles, tasks** of all stakeholders involved as well as strategic restrictions should be ensured at the beginning of the implementation phase. Any change or deviations from project objectives should be communicated transparently and in a timely manner.
Lessons learned related to the implementation of the follow-up projects	
The **implementation** of the five to-be processes **largely builds on the same infrastructure**, e.g., the labelling environment that needs to be set up as part of the implementation.	Hence, the **implementation of various to-be processes at the same time** can **unfold synergies** and lead to an **overall reduction in costs and person days** as the infrastructure and some microservices can be used for various to-be processes and therefore only have to set up once.
	The **central setting up of the labeling environmen**t increases synergies, since it can be used by all processes that have implemented artificial intelligence modules. Furthermore, it makes sense to **outsource the IDM tool in a basic version** as a central framework, which is installed in all processes and then expanded individually for the respective process in separate modules. **Setting up of the artificial intelligence modules via a microservice approach** raises synergies, since these microservices can be addressed by different processes if necessary.
The **complexity of the to-be processes** (in particular the **Brief Written Inquiries** (Schriftliche Kleine Anfragen) and the **imputing procedure** (Bohranzeigen bearbeiten)) is quite high and demands a thorough understanding of the process and its technical and procedural implications.	**The establishment of clear procedures** for the engineering of the requirements save time and increase the efficiency throughout the follow-up implementation project. Therefore, the **IT department and the external stakeholder foreseen in the implementation phase** should already be **involved at a very early stage** of the project, so that the required information and the level of detail can be substantiated in close collaboration with the process owners and the strategic levels of the City of Hamburg.
On the contrary, **for some to-be processes** (Senate printed matter coordination – Senatsdrucksachenabstimmung), **an AI solution is not suitable and desired**.	In order to enable quick wins, it could be pragmatic to **limit** the implementation to the **essential needs**. This means that only the elements that are essential to carry out the activity in an automated way would be implemented. **Agile methods** such as the Scrum principle could further support this process.

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