AWAKEN SLEEPING ASSETS PROJECT
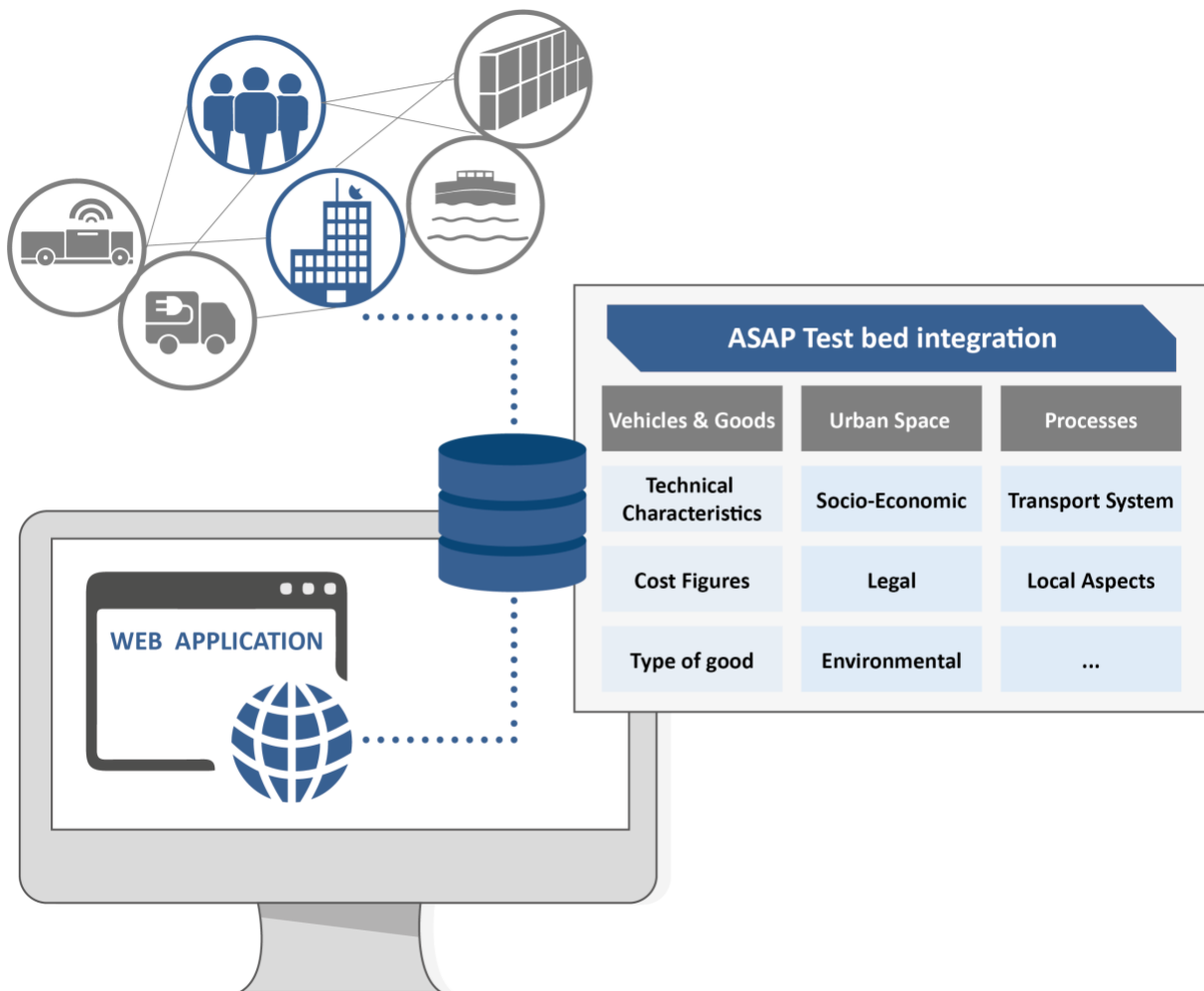
Stakeholder preferences and requirements report

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D4.1: Stakeholder preferences and requirements report

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Project partners

Organisation	Country
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h2 projekt.beratung KG	h2pro	AUSTRIA
Fraunhofer Institut für Materialfluss und Logistik	FHG	GERMANY
Freie und Hansestadt Hamburg Behörde für Wirtschaft und Innovation |Hamburg	GERMANY
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Table of contents

Tables

Figures

Abbreviations

ASAP *Awaken Sleeping Assets Project*

CIP *Continual Improvement Process*

D *Deliverable*

DMP *Data Management Plan*

IML *Fraunhofer Institute for Material Flow and Logistics*

KPI *Key Performance Indicator*

PDCA *Plan, Do, Check and Act*

SDG *Sustainability Development Goal*

SULP *Sustainable Urban Logistics Plan*

UI *User Interface*

WP *Work Package*

1. Introduction

The focus of Work Package (WP) 4 of the Awaken Sleeping Assets Project (ASAP) is the development of a web-application containing information and guidance of how to implement sustainable urban logistics measures in cities by activating and using sleeping hence underused assets. The aim of this web-application is to provide information about sustainable urban logistics testbeds with focus on underused assets and providing assistance in designing own projects for municipalities, companies and researchers in this field. This deliverable D 4.1 describes the stakeholder preferences and user requirement analysis conducted during the development process of the initial ASAP web-application prototype.

This deliverable is divided into three chapters. In the second chapter of this document, the relationship between this WP and the others of the project is presented. Furthermore, the methodological foundation chosen to conduct the user requirement analysis regarding the web-application in ASAP is outlined. Following, the realization of the methodological approach to incorporate the actual user requirements of the project members is illustrated in Chapter 3. The last chapter recaps the work conducted up to this point (06/2023). Also, an outlook of the upcoming work and procedures related to the ASAP sustainable urban logistics platform is given.

2. Project Background and Framework

This chapter places the deliverable into the project structure and presents background information regarding its relationship to other WPs as well as the intention of the user requirement analysis itself by underlining the role of user expectation management in the development process of (digital) services and products.

2.1. Relationship to other WPs

As the final web-application's aim is to contain and condense the content generated in ASAP, there is a strong relationship to the other WPs within the project. This relationship is explained in the following sub-chapters.

2.1.1. WP 2 - Analysis and Conceptual Work

WP 2 ("Analysis and Conceptual Work") is among others about local challenges and needs related to the establishment of urban logistics testbeds, categorization of sleeping assets in urban areas and to identify the reasons for non-usage of the infrastructure. Furthermore, in this WP other Sustainable Urban Logistics Plans (SULP) are reviewed and analysed regarding weaknesses and gaps referring to the Sustainability Development Goals (SDG). Therefore, the results of this WP are a main source of contents for the web-application.

2.1.2. WP 3 - Evaluation of Existing Testbeds

WP 3 ("Evaluation of Existing Test Beds") is mainly about the collection of qualitative and quantitative data from the testbeds and their evaluation. Regular contact with testbed operators (existing and upcoming in WP 5) and local project partners ensures a smooth and continuous flow of data. The evaluation as well as the description of the specific testbeds is fed into the web-application as they serve as examples for sustainable urban logistics concepts.

2.1.3. WP 5 - New Testbed Initiation & Simulation

Task 5.5 establishes the linkage between the initiation of new testbeds (WP 5) and methodologies and procedures defined and prepared in WP 3. After necessary refinements of the respective methods, WP 3 can use the input from task 5.5 to conduct and finish the data collection and eventually testbed evaluation. Like in WP 3, the integration of these testbeds is foreseen for the web-application. As some of these testbeds are simulated, their final integration and their design on the web-application has to be further examined with the specific partners involved.

2.1.4. WP 6 - Dissemination, Knowledge Transfer and Recommendation

As WP 6 focusses on building a community of stakeholders being aware of the ASAP approach and web-application which are willing to adopt it for further uptake and replication, its interaction with this task is crucial. While the aforementioned WPs mainly focus on internal stakeholders of the ASAP consortium, WP 6 aims to adress external stakeholders. Therefore, the external communication of the project members regarding the web-application has to be consistent with the output generated in ASAP. Furthermore, an appealing presentation has to be elaborated to underline the importance and usefulness of the solution for third parties like municipalities, companies and researchers.

2.2. Methodological Frameworks for User Requirements Analysis

As shown above, the web-application builds upon content related output generated in different WPs in ASAP. Due to this fact, the final presentation of the content and the design of the web-application must be aligned with the expectations within and outside of the consortium. The task leader Fraunhofer Institute for Material Flow and Logistics (IML) addresses this fact by conducting the work

in WP 4 using aspects of user expectation management as well as agile project management and product/service development approaches.

User expectation management refers to the process of setting, aligning, and managing the expectations of users or customers regarding a product, service, or user experience. It involves effectively communicating what can be realistically delivered and ensuring that users have a clear understanding of what to expect.[1]

Aspects of user expectation management that are emphasized within ASAP are the following.[2] Their implementation outlined in this section are presented more detailed in Chapter 3:

- **Critical and continuous communication:** Communication is used to inform (future) users, in this case inter alia the consortium, transparently and accurately about the technical capabilities and features, but also the limitations e. g. due to legal aspects. In ASAP, regular updates during the partner and management committee meetings as well as in deliverables help the project members to stay informed about the development process.

- **Realistic Promises:** Second, setting realistic promises and commitments is essential to manage user expectations. It is important to avoid overpromising or making exaggerated claims that cannot be fulfilled. Instead, providing accurate and conservative estimates or commitments helps establish trust and ensures that users have reasonable expectations. By following an iterative approach in ASAP, the development team can on the one side adapt to new expectations while on the other side communicate the technical feasibility.

- **Setting Priorities:** Clearly defining the priorities and scope of a product or service helps manage user expectations. By understanding the key features or functionalities that will be delivered, users can have a better idea of what to expect and when. Prioritization helps focus efforts and resources on delivering the most valuable aspects first while managing expectations around lower-priority items. Priorities are mainly driven by the interests of the different stakeholders of ASAP. Their integration is presented in Chapter 3.

- **Managing Feedback:** Actively seeking and managing user feedback is crucial in expectation management. By gathering feedback, addressing concerns, and incorporating user suggestions where feasible, user satisfaction and aligning expectations with actual experiences can be enhanced. As "Setting Priorities", this point is presented in the next chapter.

In conclusion, the aim of managing user expectations is to establish trust, reduce potential disappointment or frustration, and ultimately enhance user satisfaction in the long run. By aligning expectations with realistic promises, ASAP fosters positive user experiences.

To achieve these goals, the strategy draws upon elements from agile frameworks like Scrum and incorporates the iterative approach of the Continual Improvement Process (CIP). While Scrum is often used in software development, its principals can be applied to other domains as well, emphasizing collaborative work, adaptability and iterative development in response to evolving requirements.[3] The Continual Improvement Process is a systematic approach to improve processes, products, or services over time, constantly seeking opportunities for improvement, making incremental changes, and evaluating their impact to drive ongoing improvement.[4]

By combining these methods, distinct roles are defined for project members:

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[1] Petter (2008)
[2] Ibid ; Willems (2022)
[3] Schwaber & Sutherland (2020)
[4] ISO (n.d.)

- **Stakeholders** represent different interests related to a specific topic and can contribute in shaping the product vision.
- **The facilitator(-s)** ensure that the proposed method is followed and moderate collaborative sessions to improve the product or service based on feedback given over time.
- Lastly, the **development team** is responsible for delivering the discussed product increments discussed between the stakeholders and the facilitator(-s). They also communicate possible hurdles to effectively manage user expectations.

The PDCA cycle, as part of CIP, is a widely used continuous improvement framework applicable to quality management, project management, and process improvement. "PDCA" stands for Plan, Do, Check and Act, representing the four key stages of the cycle. In the Plan stage, the current state is analysed, objectives are defined, and an improvement plan is developed. The Do stage involves implementing the planned actions from the previous stage. The Check stage evaluates the outcomes of the implemented. In the Act stage, finally, appropriate actions are taken based on the findings and analysis in the Check stage, to improve the process or address any identified problems. This may involve adjustments, plan refinements or corrective measures. The PDCA cycle is iterative, thus after completion of the Act stage, the cycle begins again with a new Plan stage (see Figure 1). Each cycle builds upon the knowledge and experience gained from the previous one, leading to incremental improvement over time.[5]
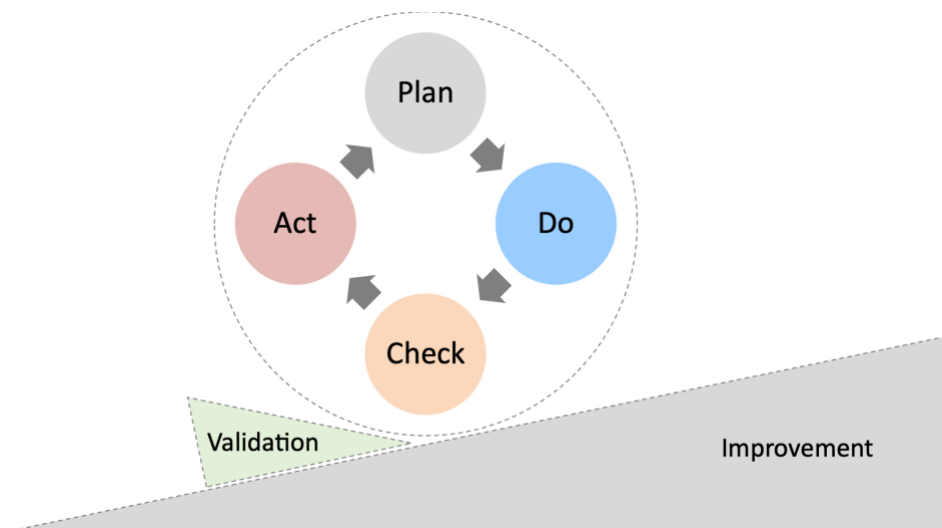

Figure 1: Steps of the PDCA cycle

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[5] Syska (2006)

3. Methodological Implementation

In the following chapter, the implementation of the methodological approach within the project is illustrated. First, the preparatory work conducted in advance to the actual user requirement analysis is outlined. Second, the actual user requirement analysis and its implementation within ASAP is presented.

3.1. Preparatory Work

Preparatory work of the user requirement analysis is conducted based on the PDCA cycle. The different phases and their implementation within the analysis are the following. After the first iteration refinements are foreseen. Its execution is presented in the following chapters:

- **Plan**: Defining steps in the web-application development process and need of collaboration within the ASAP consortium. Based on this, defining roles of the project members to clarify responsibilities.

- **Do**: Creating a starting point in form of a mock-up which can be used by the project partners of ASAP to exercise initial constructive criticism.

- **Check**: Execution of sessions with the different stakeholders of ASAP. Additionally, establish user sessions for giving feedback to the status of the web-applications, its functionalities and desired adaptations.

- **Act**: Use the feedback given in the Do phase to derive actions needed to improve the web-application. Furthermore, communication of limitations e. g. due to technical or legal issues.

3.1.1. Web-application Mock-up as Starting Point

Before the actual analysis of the user requirement was carried out, IML created a basis to kickstart the discussion within the consortium. Therefore, a web-application mock-up was first created by visually combining the (expected) content created in the different WPs (see Chapter 2.1).

A mock-up is a visual representation or prototype of a product or system, typically created during the early stages of the design process. It is a simplified version of the final product that is intended to convey the overall structure, layout, and functionality without implementing all the underlying features or functionalities.[6]

As there are different types and complexities of mock-ups such as wireframes (more simplified) or interactive prototypes (rather advanced)[7], IML decided to use a visual mock-up based on wireframes to present the platform to the consortium. Wireframes only outline the basic structure and layout of a user interface (UI).[8] The project partner IML extended the wireframes approach by displaying the UI elements in a higher resolution. Among other things colours, images and branding elements were already sketched to provide an appealing first representation of the platform. The aim was to design a first mock-up that is not too technical and can appeal to stakeholders with different technical backgrounds (see Figure 2).

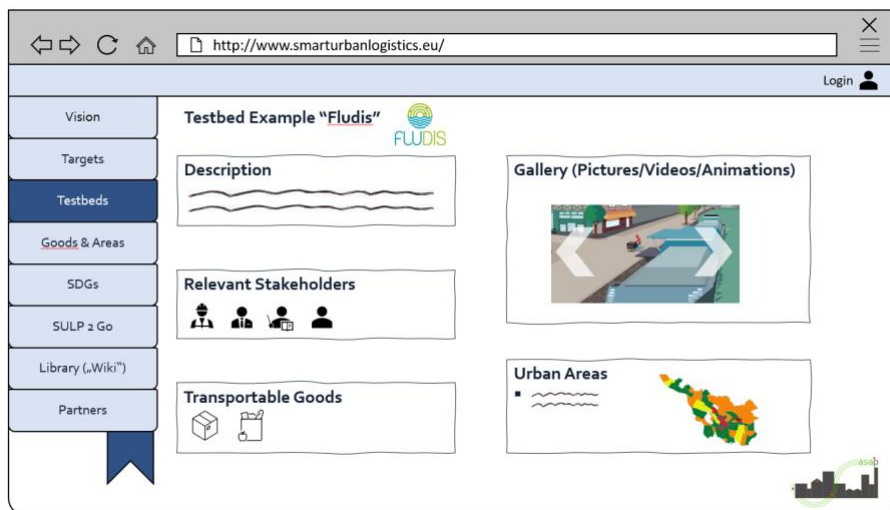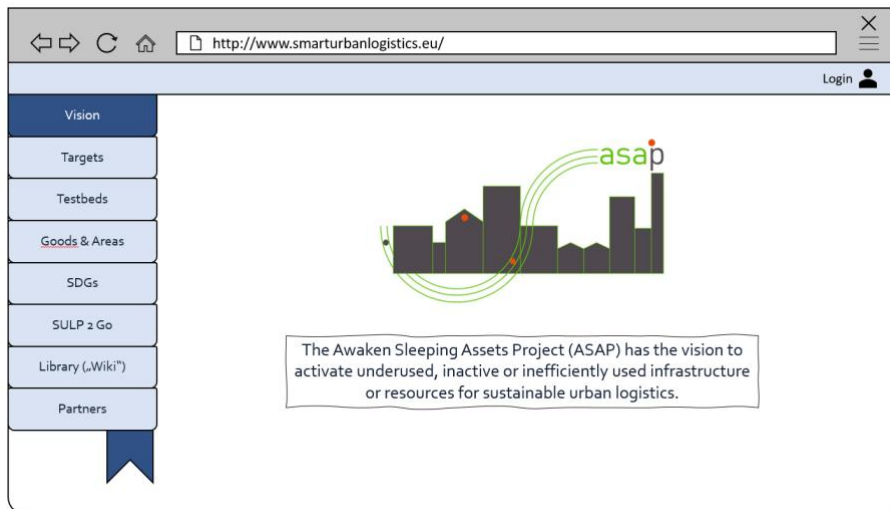[6] Hannah (2023)

[7] Ibid

[8] Ibid

Figure 2: Impressions of the mock-up landing page and testbed subpage

Mock-ups serve several purposes that are align with the methodological approaches presented in Chapter 2.2. They facilitate effective communication and feedback among partners, enabling the development team to address desired visual and functional aspects. Furthermore, this approach is cost and time efficient which allows faster adaptations instead of developing a fully functional product which might not address the needs of the stakeholders in the long run. Moreover, it's a tangible visualization of the ideas and interpretation of the output generated within the development team's project ensuring a transparent approach that meets the expectations of the project partners regarding the final product, thereby avoiding potential misunderstandings.[9]

3.1.2. Roles of the Stakeholders within ASAP

As presented in Chapter 2.2, IML uses methods and frameworks of agile software development. Therefore, the roles within the project consortium were defined in advance to the user requirement analysis by the partner IML:

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[9] Lucid Content Team (n.d.)

- **Stakeholders**: In ASAP different stakeholders of urban logistics come together. They are therefore representatives of different interests from municipalities, practitioners and researchers which are used to define the product vision but also serve as source of content for the platform.

- **Facilitator(-s)**: Moderation and facilitation of the development process is assigned to the project partner IML. By moderating and facilitating the team wants to ensure the management of user expectations and to grasp whether the whole potential of content created within the ASAP testbeds is exploited.

- **Development Team**: Development of the platform is also assigned to the project partner IML. Feedback and input generated and collected by the teams above is handed over to the development team to transfer it into the technical implementation but also to communicate limitations back to the consortium.

To design this platform as user oriented as possible it is essential to integrate the perspectives of all stakeholders. During the on-site consortium meetings two workshops were conducted to define the stakeholder groups, their preferences, and requirements to match the biggest needs in terms of sustainable urban logistics. In the following chapter the procedure and the outcomes of the workshops with the stakeholders are presented.

3.2. User Requirements Analysis

3.2.1. Setting the Scene for the Platform Designing

During the first in-person meeting of ASAP in Vienna, which was delayed from the project kick-off due to COVID-19, the initial mock-up was presented to the other project partners via PowerPoint slides. This mock-up served as initial introduction to the envisaged platform for the project partners and laid the foundation for a workshop aimed at incorporating the perspectives of the consortium members.

Following the presentation, a workshop was conducted to gather feedback from the audience regarding the mock-up. The group was separated into the different stakeholder groups of municipalities, companies and researchers to discuss separately the following aspects:

- **User Intention**: This point of discussion aims to understand the initial intentions of a specific user group in using a platform about sustainable urban logistics. By identifying these intentions, valuable insights can be gained on how to address the user from the beginning, even before entering content-related sub-pages.

- **Use Cases**: The "Use Cases" aspect represents the aims of each stakeholder group regarding their unique backgrounds, circumstances and challenges they are facing in their everyday work concerning urban logistics.

- **Topics**: Building upon the user intention and use cases, this aspect takes a more detailed look into specific topics that should be addressed by the ASAP platform. These specific topics often revolve around future-oriented objectives to a more sustainable urban logistics.

- **Other wishes**: Lastly, this discussion left some space for additional feedback from partners that may not have been addressed by the three previous points.

During the workshop, participants were divided into stakeholder groups consisting of researchers, municipalities, and companies. Using sticky notes provided to each participant, they first individually noted down important points for themselves (see Figure 3). Afterwards, they discussed the points they had written down with their stakeholder group to find similarities as well as individual differences that might also be valuable to the others.
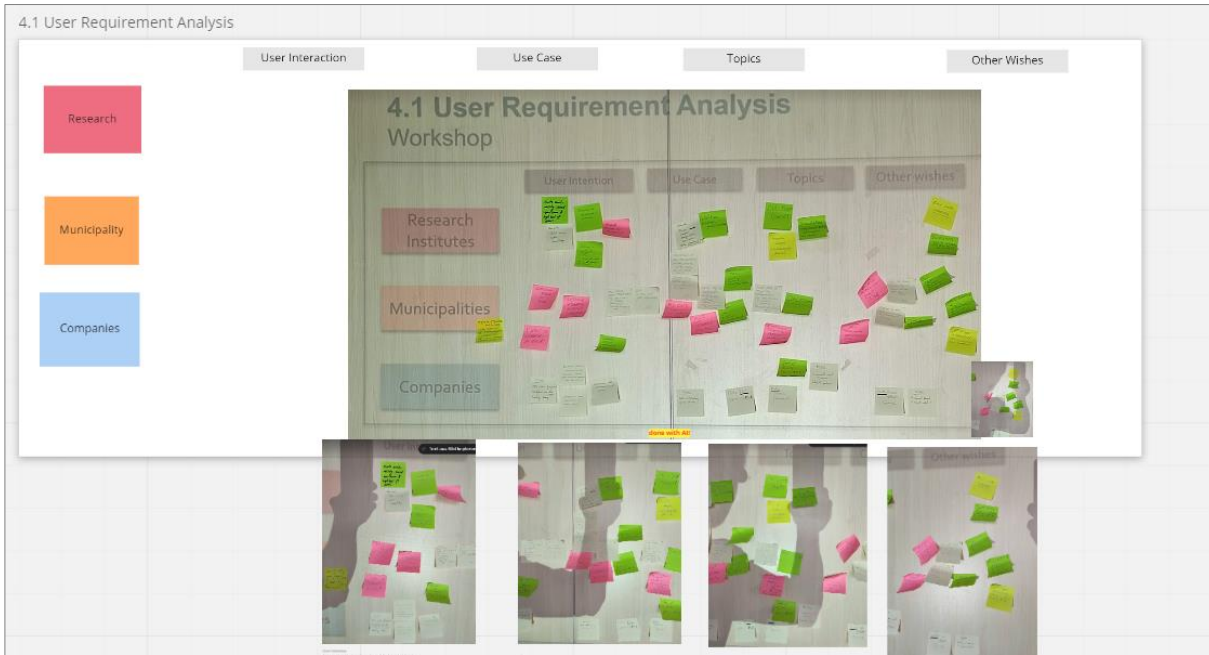
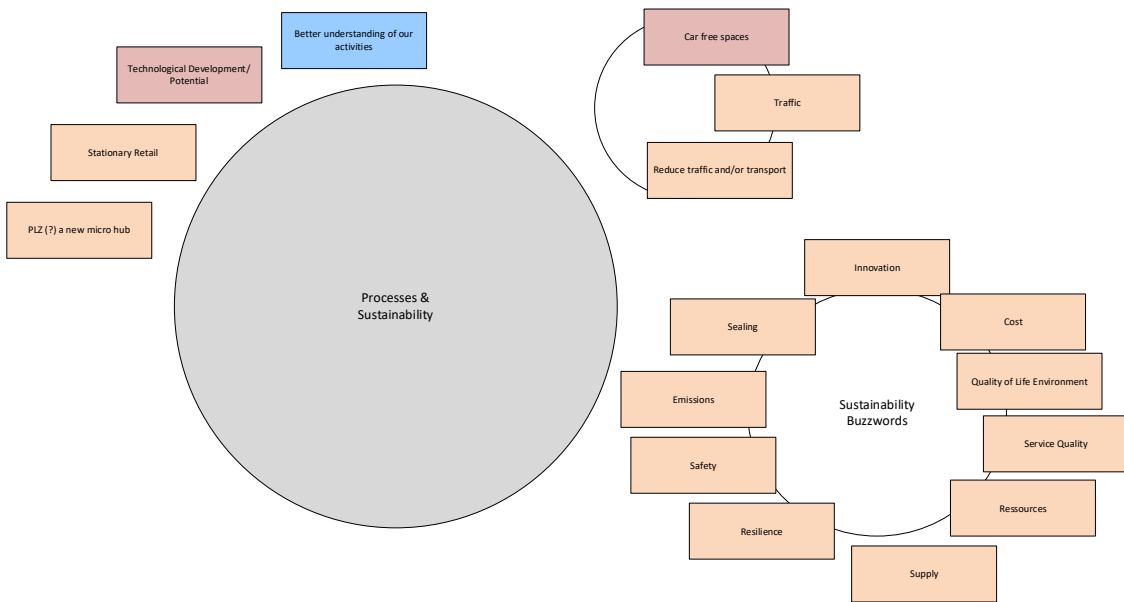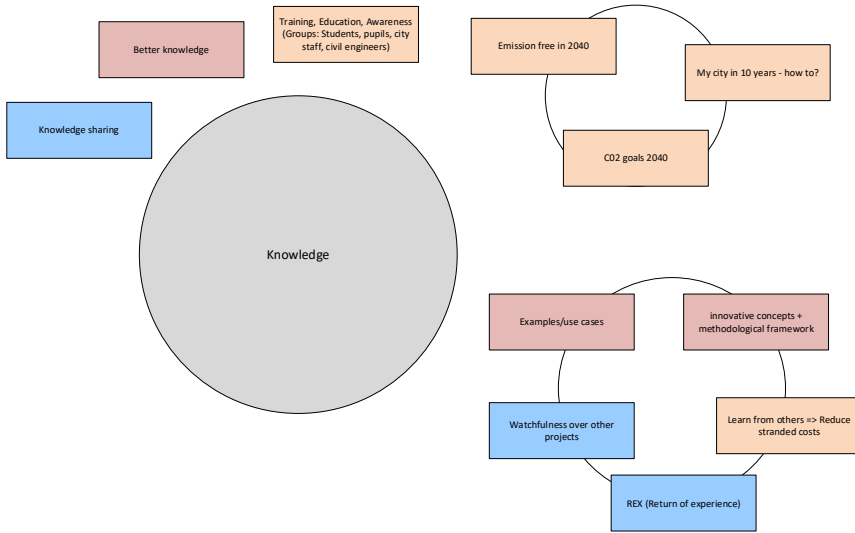*Figure 3: Impressions of sticky notes used for the interactive workshop with the different stakeholders*

After the workshop, the moderating team of the project partner IML presented the results to the audience. There was a final feedback round with the whole group. Following the project meeting, the information was collected and compiled in a table to get a clear overview of the answers given by the workshop participants (see Table 1). On the one hand, it becomes obvious that boundaries between the different guiding aspects are fluid. Often, the intention and the circumstances lead to a certain future-oriented objective. On the other hand, some aspects, such as data or impact assessment, were mentioned more often than others.

	User Intention	Use Case	Topics	Other wishes
Research Institutes	- Data availabilty, broad spectrum & high level of detail - Technological Development/Potential - "Sharing is caring" in respect to data that is shared (or not shared) - Hard facts & figures - Research data access - Better knowledge	- Collection newest publications - Reasearch places unique designation number (data maintained by user (owner)	- Car free spaces - Simulation - Examples/use cases - innovative concepts + methodological framework	- Easy data sharing - SULP ship: Find others to exchange experience
Municipalities	- Learn from others => Reduce stranded costs - Emission free in 2040 - Reduce traffic and/or transport - How to reach other staekholders? (e.g. decision-makers, politicians, waste managers etc.) - Both receive and give information - I want to create a SULP - Team-structure for cities: Who could be topic owner leader in the city: which admin unit?	- Treshold to use the platform => Time/Think of the source - how to reach out? - Target key users e.g. innovation managers - Search engine? - Easy access, easy to use pictures, films (not too much text) - My city in 10 years - how to? - C02 goals 2040 - PLZ a new micro hub	- Good idea to group the entries (e.g. stakeholder, vehicle, testbed) => For search function - Stationary Retail - Supply/Resilience/Service Quality - Cost - Sealing/Emissions/Traffic - Safety/Quality of Life Environment - Innovation/ Ressources - Training/Education/Awareness - Groups: Students, pupils, city staff, civil engineers	- Not too many clicks to find what you need - Data blueprint how to collect - For practitioners => Not accademic => Content etc. - Show quantities (CO2, Traffic, Cost, Reduction/Increase) - 1st Step Logistics / City Logistics for Dummies - Keep up-to-date who will manage the platform? Challenge!
Companies	- Enable service construction by providing tools (data insection, querying, KPI calculation) - Federate data publication & data access - REX (Return of experience) - Watchfulness over other projects - Knowledge sharing	- Better understanding of our activities	- Guarantee data confidentality/privacy - Environmental impact => Measure - Ecological footprint - Meta Data - Data Contests - Data (Shema/Standard) - Data (Access, collect)/Source	

Table 1: Results of the interactive workshop with the different stakeholders during project meeting

In a next step, this information was clustered based on the keywords defined by the project partner IML to find out which aspects are important for the consortium in general and which sub-aspects relate to specific stakeholder groups. Figure 4 illustrates the main fields of interest in relation to the planned sustainable urban logistics platform, which were summarised and identified by the project partner IML based on the workshop:

- **Knowledge**: The aspect of knowledge was mentioned most frequently. The platform should therefore present sustainable logistics solutions from other cities and enable users to learn from them for their own projects. Furthermore, this knowledge could be used to not just learn about good solutions, but also to overcome hurdles in the implementation of concepts.

- **Process & Sustainability**: Another key aspect is "Process & Sustainability". Keywords on sustainability mentioned included emissions, safety, resilience or cost and resources related to different urban logistics measures. Furthermore, it is about understanding the implementation process and how the process/supply chain itself (status quo) is affected by the changes due to a newly introduced concept.

- **Calculation**: The calculation covers the impact assessment of testbeds by addressing different Key Performance Indicators (KPI) that also relate to the aspect of "Process & Sustainability" but have not been defined in detail. Furthermore, simulations are also addressed in relation to the intended testbeds that will not by physically implemented. These can help to understand and evaluate new concepts before they are physically rolled out.

- **Data**: Collecting, receiving and sharing data is another crucial aspect that was mentioned. In relation to this point, it was mentioned that there is a bias between sharing data and data sovereignty of individual entities for whom these data might have a high value. Therefore, this topic is not only about sharing data but also about raising awareness about limitations. This aspect was particularly highlighted by the companies participating in ASAP.

- **Networking**: Networking, especially within municipal structures, was only mentioned in passing. Nevertheless, this is a crucial point when it comes to the responsibilities in different entities and their importance for a successful implementation of sustainable urban logistics concepts.

- **Research**: The collection of current publications and the methods used to conduct certain studies regarding sustainable urban logistics was mentioned exclusively by the researchers of the ASAP project.

- **SULP**: SULP as a method for rolling out sustainable urban logistics measure(-s) was only mentioned twice during the workshop. The importance of or the knowledge about this topic and how to use it for one's own purposes seems to be rather low.
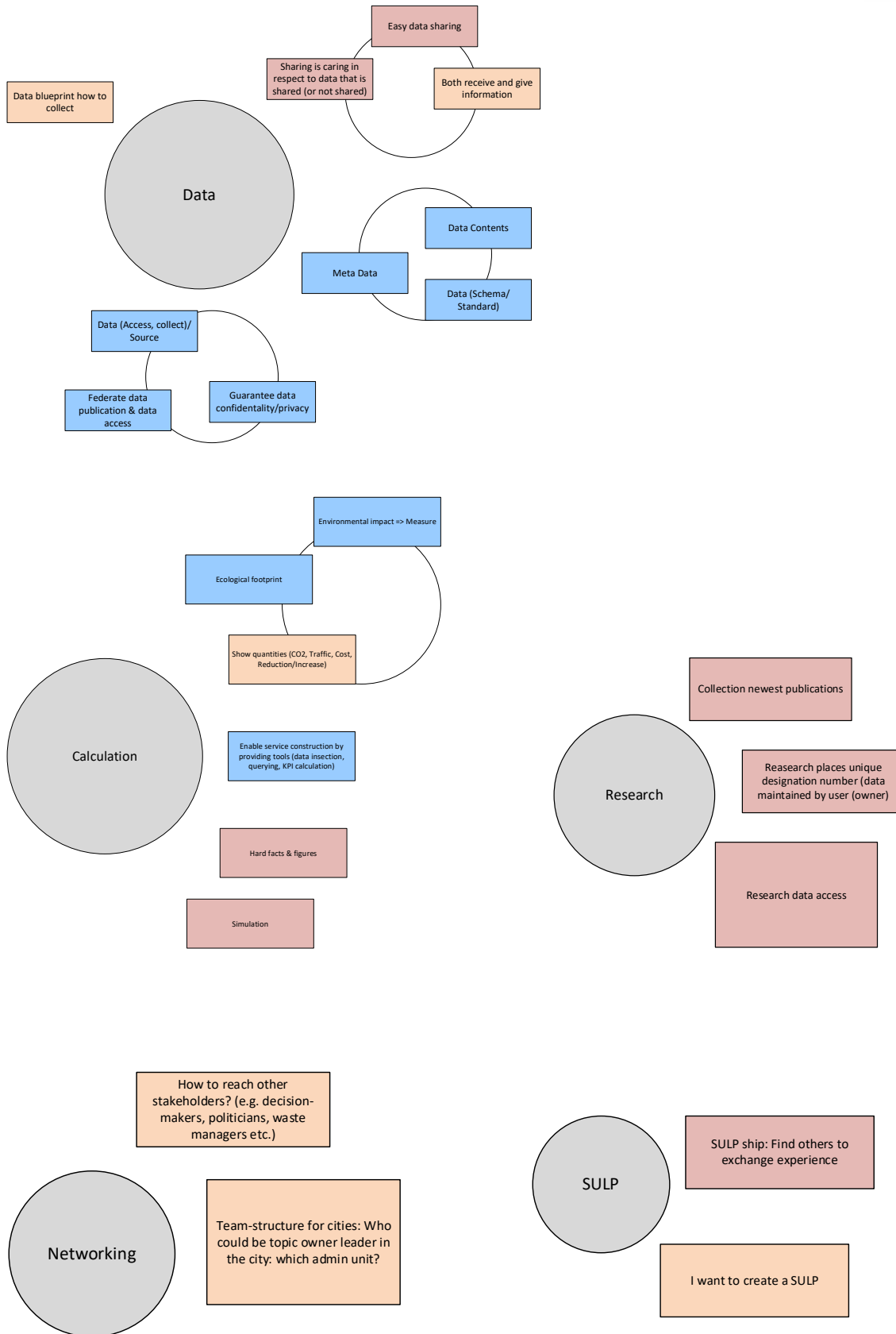
Better knowledge

Training, Education, Awareness (Groups: Students, pupils, city staff, civil engineers)

Emission free in 2040

My city in 10 years - how to?

Knowledge sharing

CO2 goals 2040

Knowledge

Examples/use cases

innovative concepts + methodological framework

Watchfulness over other projects

Learn from others => Reduce stranded costs

REX (Return of experience)

Better understanding of our activities

Car free spaces

Technological Development/ Potential

Traffic

Stationary Retail

Reduce traffic and/or transport

PLZ (?) a new micro hub

Innovation

Processes & Sustainability

Sealing

Cost

Quality of Life Environment

Emissions

Sustainability Buzzwords

Service Quality

Safety

Ressources

Resilience

Supply

Figure 4: Sustainable urban logistics interest clusters based on the fedback given from the project members (red: research Institutions, orange: municipalities, blue: companies)

3.2.2. Domain Storytelling for Refinement

During the second in-person project meeting in Paris, project partner IML used the technique of Domain Storytelling to figure out how to create user stories for the different stakeholders from entering the website to their first steps of navigating through the mock-up.

Domain Storytelling is a requirements elicitation method that focuses on software systems development. It involves asking stakeholders from their specific domains to tell stories that describe the system and its functionality. The stories are often told from the perspective of a user or role within the system and often contain implicit information that are difficult to capture through other methods.[10]

During this process, user journeys are often defined, describing the steps and interactions that users go through when using a tool, such as an application or a website. By capturing this information various touchpoints, decision points and usage scenarios can be mapped. This helps to understand the context and flow of the website design.[11] Figure 5 illustrates an example of a user journey map when using an online ticket booking system for a cinema and the processes beneath.
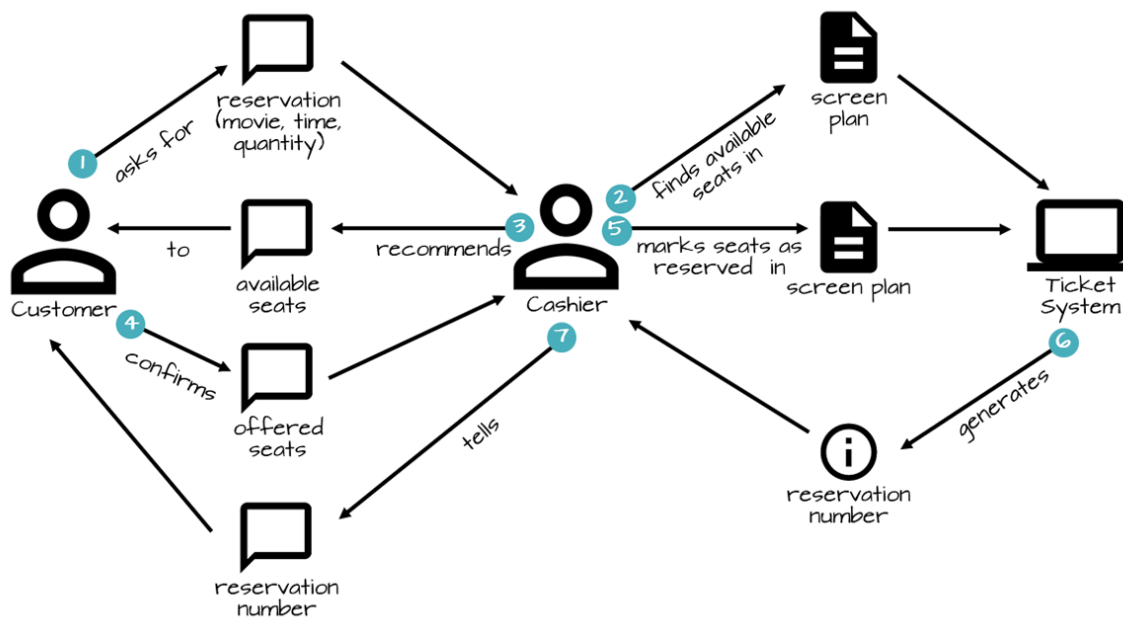

Figure 5: Customer's and Cashier's Domain Story and Interaction (interaction starts with number 1) (Source: https://domainstorytelling.org/quick-start-guide)

Domain storytelling provides insights into how information should be structured and organized on the website. It helps define the main content categories, navigation paths, and the relationships between different pieces of information. This ensures that the structure of the website allows easy access to relevant content from the users' perspective. In conclusion, domain storytelling helps to understand user needs regarding the UI and meet their expectations or engaging and relevant content.

To achieve this goal, the domain storytelling approach involves a facilitator preparing and conduction a domain storytelling session. In this session, stakeholders are asked to tell their stories. To do this,

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[10] Hofer & Schwentner (2021)
[11] Hofer & Schwentner (2021)

targeted questions are asked to deepen the stories and ensure that all relevant information is captured. It is important that the facilitator ensures that all stakeholders have their say and that no information is lost. After the stories are documented, they need to be analysed and translated into technical requirements.

The user domains in ASAP are represented by the partners of the different perspectives of municipalities, companies and researchers. As in Vienna, the stakeholder groups were asked for their input separately during the workshop session and brought back together to discuss the results in the audience.
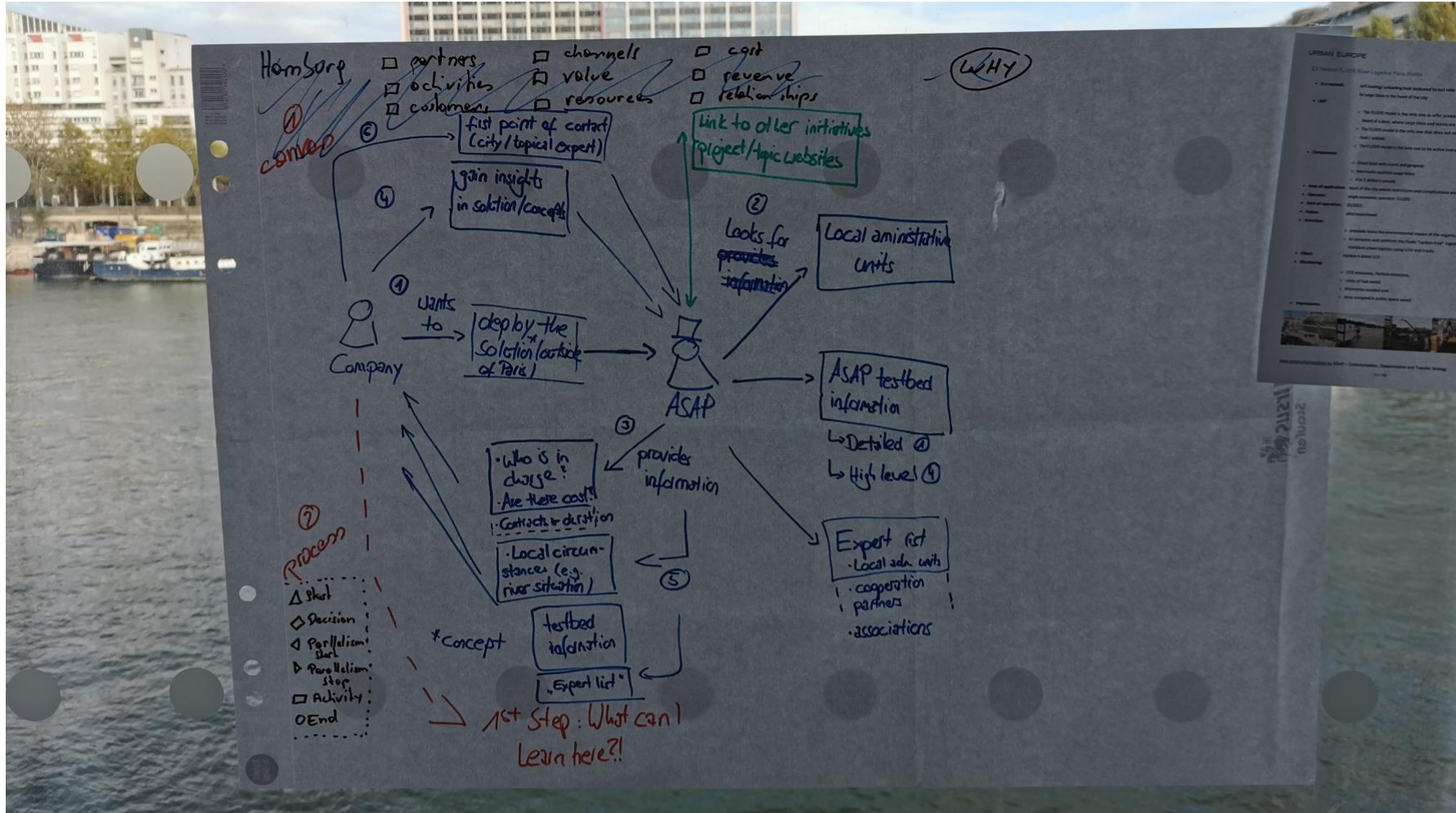
The introductory questions for the workshop were:

- How useful do you think is it to cluster the entry for the website by interest groups?
- What content do you see in first place for your interest group?

In addition, proposed discussion starting points were predefined, but these were not mandatory to guide the stakeholder groups into more content-related directions: These covered the following aspects:

- Information/Qualitative description about the testbeds (text, bullet points and illustrations)
- Impact assessment of the testbeds (what is important and what is feasible)
- Data collection and sharing (What is necessary/To what extent are you as partners willing to share data/Need to mitigate)
- Research collection (Standalone library or connecting to testbeds?)

The workshop participants were asked to use arrows and comment on them directly to document their observations related to interacting with and moving through the platform. Furthermore, sticky notes were used to comment on important aspects that are connected to platform interactions. One example is that the content should be rather short to not overwhelm (new) users. Figure 6 illustrates the different results of the users from companies, municipalities and researchers of the ASAP consortium in relation to domain storytelling.
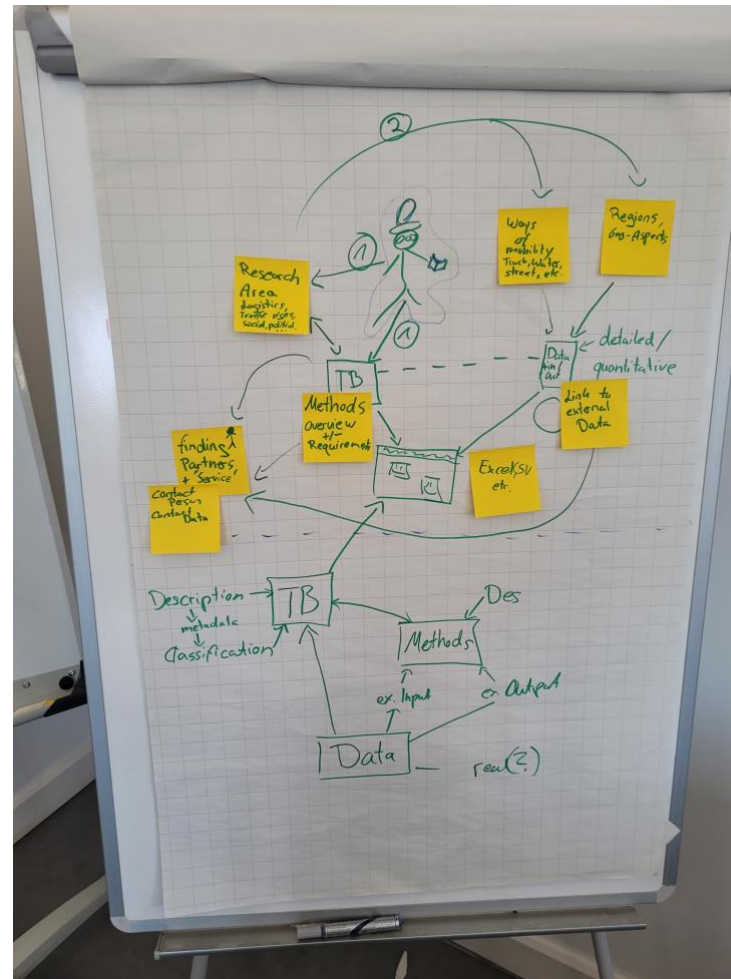
Figure 6: Workshop results from the different stakeholder groups of companies, municipalities and researchers of the ASAP consortium

After the workshop, the results were presented to the audience by the moderation team of project partner IML. Finally, there was a last feedback round with the whole group. After the project meeting, the information was collected and summarised in a table in order to clearly arrange the answers given by the workshop participants (see Table 2).

The participants with a city-related background emphasised that for them rather short content descriptions, KPIs as well as testbed outcomes are important as there is a lack of time to read through long reports. They also raised the point of integrating a search function, as not all testbeds and results are important for every city enviroment as their prerequisites (e.g. infrastructure) differ. Lastly, finding the platform is crucial as there are many existing national associations for logistics as well as other existing platform on the European level. Therefore, it was proposed to attach the ASAP solution to an existing platform.

The participating researchers mainly focussed on the content (structure) of the website and the testbeds. As also mentioned by other participants, a short overview of the platform and the testbeds is a useful approach for (new) users to get familiar with the content in a short time. In the next step, more detailed information about the testbeds, such as methods used, contact persons as well as data, should be given. Especially, the data beneath the publicy available data could offer an interesting starting point for researchers. Also, the choice between specific testbeds and research "overview-topics" could provide a more comprehensive picture of sustainable urban logistics concepts.

Companies, as third group of participants, raised the point that first of all the benefits of the ASAP platform should be highlighted, otherwise there is no motivation for someone who does not know the platform to use it. Secondly, they underlined that when introducing a solution in a different urban context, there is often a lack of information about the new/different urban environments. Therefore, there is a great need for knowledge about the local responsibilities. Finally, they also mentioned that insights should be first condensed and, if necessary, detailed information should be added.

Municipalities	Researchers	Companies

▪ Keep content on platform short
 	
  ▪ KPI without numbers, just check boxes
 	
  ▪ Very short outcome of testbeds (cost: low, medium, high; funding; purpose; short environmental outcome)
 	
▪ Search function to put in prerequisites (e.g., rail/ waterway logistics)
 	
▪ Where to find the platform?
 	
  ▪ national associations for logistics in the partner countries
 	
  ▪ Implement platform in existing platforms
	▪ Enter platform - Choice between testbeds and research "overview-topics"
	
	▪ Content of testbeds
	
	  ▪ overview
	
	  ▪ used methods
	
	  ▪ contact person
	
	  ▪ link to public data + export
	
	  ▪ wish – Possibility to find partners for special topics or methods
	
	▪ Content of research topics
	
	  ▪ related testbeds,
	
	  ▪ link to public data + export
	
	    ▪ Public data can be official public data and anonymized data (structure) examples from project
	
	    ▪ Backend must have detailed and smart data relations
	
	  ▪ overview of methods
		▪ First: What I can I learn on this ASAP-platform?!
		
		▪ Initial situation as company: Lack of information about new/different urban environments
		
		  ▪ To deploy solutions in other urban contexts it's important to
		
		    ▪ know the responsible local administrative units
		
		    ▪ know the urban circumstances from a logistics point of view
		
		    ▪ know whether there are possibilities of cooperation with local partners (like associations)
		
		▪ Separation of high level and detailed content/information necessary
		
		  ▪ First, gaining fast insights without being overwhelmed by too much input
		
		  ▪ Second, detailed information help to deep dive into a specific company related topic if necessary

Table 2: Results of the domain story telling session regarding the ASAP web-application

4. Conclusion and Outlook

This document marks a milestone in the development process of the ASAP platform. Up until this point, project internal stakeholder perspectives and user requirements were successfully integrated through different workshops. Furthermore, the aim was to avoid false user expectations of the application and its technical capabilities by ´ working together within the consortium, which is a key pillar of the methodological approach chosen for this task (see Chapter 2.2). The generated workshop output (see Chapter 3.2) was analysed by the project partner IML to identify initial user preferences e.g., regarding necessary content of the testbeds, the application's interface and additional features like networking.

Moving forward, the objective is to create an interactive prototype that goes beyond static representations and allow project members of ASAP to interact with the mock-up. This prototype should offer possibilities for user interactions and basic functions such as navigation. Its aim is to provide a more immersive experience that can be used for usability testing and collective feedback. By making incremental changes, and evaluating the impact of the changes, the prototype should be improved and validated. Furthermore, the platform should be continuously extended by the growing output of the other WPs (see Chapter 2.1). In short, this task technically realises the application based on the derived requirements and the iteratively developed. This process also clarifies whether comprehensive documentation or user guidance is necessary to improve the understanding of the platform and its use.

Finally, approaching external stakeholders about hosting, maintaining and launching the website will be a crucial point for work to come. By initiating a phase of co-creation and continuous quality assurance reviews with future (external) users of the web-application, awareness for the platform within the field of sustainable urban logistics should grow. The reviews should also address what a meaningful integration of these results should look like from an external stakeholder's perspective as a stand-alone solution or integrated into existing web-based sustainable urban logistics/mobility communities.

5. References

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