TANGO-W

Transformative capacity in energy-food-water

ULL 2.0 Design Guide

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Disclaimer

About TANGO-W

The TANGO-W project is an applied research project that develops urban transformative capacities (UTC) as a novel governance ability at the interface of food, energy, and water. TANGO-W follows Wolfram's (2016) capacity building approach, adopting a needs and requirements-based focus on the capacity building priorities of urban stakeholders. At the heart of TANGO-W is the two-level capacity building approach. At the urban level, TANGO-W designs and implements Urban Living Labs 2.0 (ULL). At the European level, TANGO-W establishes a transdisciplinary Community of Practice (CoP) as an integrative coordinating transformation system. Both provide the spaces for the development of UTC according to the needs of urban actors in several dimensions (i.e., transformative governance formats, shaping new transformation roles, self-organisation, and technical skills and tools). At the same time, the ULLs and CoPs act as novel governance formats at the local and EU levels to accelerate urban change in a desired, sustainable direction. The activities of TANGO-W result in policy recommendations for replication and upscaling measures as well as in training concepts and pilot courses that support capacity building in TANGO-W fellow cities.

Technical references

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Abbreviations

4ER	4ward Energy Research
AD Board	Advisory Board
AIT	Austrian Institute of Technology
City Dep	City Departments
CON	Consultants
CoP	Community of Practices
CR	Campus Roslagen
DEC-Board	Decision Board
EXP-Teams	Expert-teams
F2f	Face-to-face
FEW Nexus	Food-Water-Energy Nexus
GSI	Green Space Index
KTU	2nd Jan 2023
NPO	Non-profit organisation
NR	Nordregio
PM	Project management
PT	Project Team
RO	Research organisation
SIN	Smart Innovation Norway
SRS	Stockholm Royal Seaport
Stakeh	Stakeholder
TANGO-W	Transformative cApacity in eNerGy fOod and Water
TraFo	Transformation Room
ULL	Urban Living Lab
UTC	Urban transformative capacity
WP	Workpackage

Contents

1 Initial situation and goal of the report

In the Design Guide Living Lab 2.0 we want to apply the basic insights and cornerstones of context governance outlined in the Playbook of the TANGO-W project itself and the TANGO-W Urban Living Lab (ULL) cases and process phases. We will examine the extent to which they meet the requirements for the governance of complex and large ULLs, and where the specific design of the architectures may hide potential pitfalls for future development. Another focus will be on how the strengths identified in the ULL cases can be further increased in the sense of self-steering capacities for transformative change.

2 Cornerstones of context governance at a glance

"System change needs the building of a transformational space for learning processes that enable the building of transformational capacity in terms of transformative leadership and guidance of change processes beyond usual planning practice. This makes change possible beyond the strong command and control modes and the need to immediately achieve concrete results and get to concrete outcomes [...]" (Neuvonen, Ache, 2017, p. 76). The strength of the transformation room is to enable, with the help of concrete architectures, a multidimensional linking of central actors from niche and regime.

No transformation without transformation room

Every governed change needs a frame of reference within which it takes place, i.e., it needs a "change organisation" that clearly demarcates it from the routines of operational business and thus also clearly distinguishes it. In systemic consulting theory, this change organisation is called a "counselling-system".

The architectures of counselling systems connect expert consultants and systemic process facilitators with representatives of the urban system who want to redesign the city with the help of consultancy.

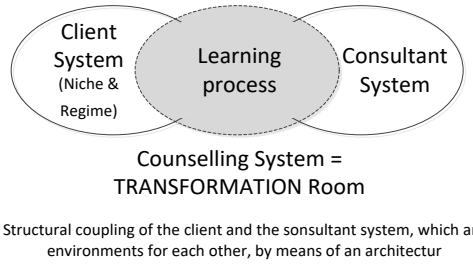

FIGURE 1: TRANSFORMATION ROOM / COUNSELLING SYSTEM (SOURCE: ROSWITHA KÖNIGSWIESER AND AXEL EXNER 1998)[1]

In the literature on systemic counselling, this system is called the "client system" - in contrast to the "counsellor system": here, the counsellor system and the client system together form the so-called counselling system in which learning processes take place. In the context of systemic neighbourhood and urban development, we call this counselling-system a "Transformation Room", because learning here aims at a sustainable transformation of socio-technical systems.

The function of the architectures is to combine and coordinate actors and actions in a novel way in a temporal and spatial framework with regards to specific change topics through specific setups and interventions. In doing so, cooperation and decision-making processes take place at eye-level, i.e., governance evolves into joint co-steering processes - in the sense of co-creation. We call this new form of soft governance "transformative governance". Thus, the transformation room requires the development and agreement of new structures and roles and is linked in different ways to the 'everyday organisation' of the urban regimes. The nature of the link determines the degree of independence.

[1] Königswieser, R., Exner, A. (1998). Systemic intervention. Architectures and Designs for Consultants and Change Managers. Stuttgart: Klett Cotta.

By architecture we mean a planning opening of possibilities and development spaces: transformation consultants of research organisations (ROs) and transformation managers of cities define social, temporal, spatial, content-related and symbolic design elements and fixed points that pre-structure transformation processes. In this sense, architectures are interventions. As with all our intervention decisions, architectural designs are based on hypotheses.

Transformative project architectures

Transformation counsellors of the ROs together with transformation managers of the cities construct the overall concept of the consultancy process at the local level, taking into account the factual-contentual, social, temporal, spatial and symbolic dimensions. Architectural elements have a paradoxical function: they create fixed frameworks for free spaces that are revised in the course of the process, depending on the situation. Their purpose is to introduce new information and allow for new perspectives or different points of view, as well as feedback loops from relevant contexts. They facilitate the breaking of ingrained patterns of thought and action and encourage learning to learn and thus self-direction.

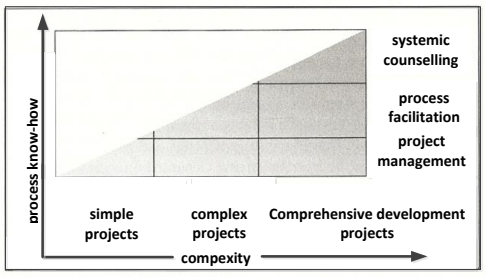

FIGURE 2: PROJECT ARCHITECTURES AND COMPLEXITY (SOURCE: KÖNIGSWIESER ET.AL. 2009)[2]

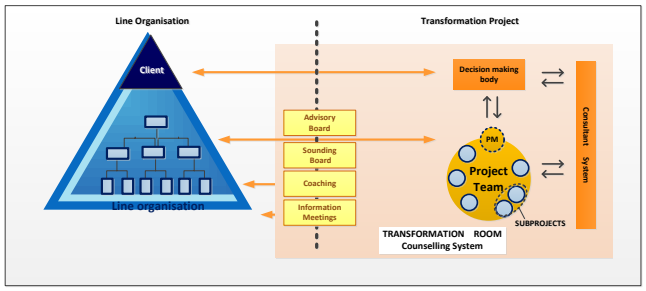

FIGURE 3: TRANSFORMATION SPACE AS A LINKING OPPORTUNITY BETWEEN PROJECT AND LINE (SOURCE: WILHELMER 2012)[3]

Simple projects can be handled well with classic project management tools. In more complex projects, the need for process knowledge increases. In comprehensive (organisational, urban and regional) development projects, know-how in project management and process counselling forms the basis for systemic transformation consulting.

The architectural elements enliven the system by enabling new interactions and facilitating pattern changes. Crucial to the success of the learning processes is the implementation of clear project roles. In urban development, the local client (function) decides on the possibility of the project, sets the strategic direction and goals, decides on the scope, importance as well as resources and has an important role model function throughout the process. The city's internal project management leads the project team and is responsible for implementing the project milestones and completing the tasks with the resources provided at the desired quality and time. The systemic transformation counsellors and their professional RO expert-colleagues counsel the entire project organisation and are thus external to the project organisation. This enables them to work on an equal footing with the project sponsor, as well as with the project management and project members and all relevant stakeholders in the city, outside the project hierarchy, acting as translators and mediators between different goals and perspectives: Learning needs a neutral third party to listen and understand, thus facilitating understanding and transformative change.

[2] Königswieser, R., Hillebrand, M. (2009): Introduction to systemic organisational consulting. Carl-Auer Verlag Heidelberg.
[3] Wilhelmer, D.(2012): Methods of organisational development 2: Design of project architecture. Script of the master course of the ARGE Bildungsmanagement 2012.

The representation of the architectures corresponds to a map: In Figure 4, the individual interventions (e.g. sub-projects, workshops/coaching/stakeholder events, etc.) are listed. The timeline visualises the frequency and simultaneity of the individual steps. In this way, both managers and consultants can regularly check where exactly they are in the process and whether the joint management of the planned steps is still working or should be revised due to changes in the context. Transformation processes aimed at expanding urban transformative capacity (UTC) therefore require the provision of communication rooms for new ways of bringing together actors from the city and its environment: temporal-spatial and physical spaces in which representatives of the client (the city and its stakeholders) and the consultancy system (transformative researcher/systemic counsellor, content-researcher meet in the transformation room at specific times to make agreed goals achievable through governance and development measures.

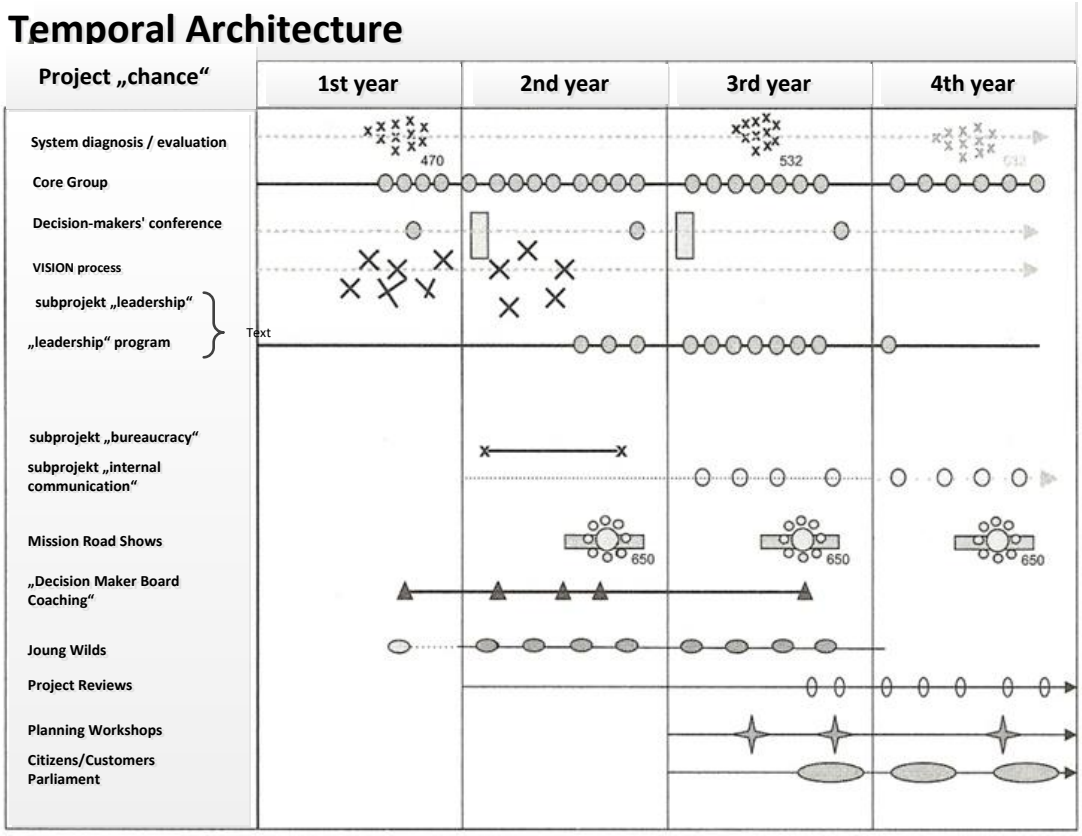

FIGURE 4: EXEMPLARY ARCHITECTURE OF A TRANSFORMATION SPACE (SOURCE: KÖNIGSWIESER 2009)

These communication spaces include typical project bodies (see table 1), contextually extended by specific consultancy settings such as coaching, community of practice (CoP), sounding boards, large group processes, dialogue forums, stakeholder conferences, review processes, etc.

TABLE 1: BODIES OF TRANSFORMATIVE ARCHITECTURES (SOURCE: KÖNIGSWIESER 2009)

Settings	Function of settings of transformative architectures
Decision-making body	Deciding on interim results and concepts recommended by the project team.

Core Group/Steering Group (Extended project management)	Engine of the change process. Reflective and catalytic role in relation to new ideas and initiatives and stakeholder engagement. Contact point for concerns related to the transformation process. Sounding out and reflecting on culturally relevant discussions, moods, actions, and decisions in the organisation. Management function: Initiate necessary decisions and ensure operational implementation. Controlling function: Incorporating feedback loops into the procedure and evaluating how the change process is progressing, where problems arise and how to readjust. It has a client function for initiating sub-projects, a decision-making function, and an internal marketing function.
Project teams	Develop solutions, map and integrate the interests of the affected subsystems in the solutions. (Project team, sub-project teams, core/extended project team, working groups, etc.).
Sounding Board	Implemented by the steering group: "microcosm" – feedback from relevant stakeholders on half-finished concept fragments; advise project team; communicate project successes to the organisation. Resonance and feedback on the project. Can be a small group or large event.
Group of key decision maker	Feedback and resonance on the project – advising the steering group on the process. Acts as Intervention platform.
Advisory boards	Expert groups and advisory board. Representatives of relevant environments or subsystems or experts for specific, strategically relevant topics.
Information body	Staff meeting etc. Invited to understand, follow up and contribute to the implementation of the plan and outcomes.
Workshops	Topic- and process-specific retreats, each with a specific composition (e.g., diagnostic, retrospective, transfer workshops)
Moderated Community of practices (CoP)	Facilitated CoPs build on current practice issues and enable peer learning between more experienced and less experienced process counsellors/ moderators during design development and facilitation.
Online Community of Practice (CoP)	The CoP enables the self-organisation of content-related learning processes by practitioners for practitioners based on resources made available (time, space, money to invite experts, technical infrastructure). In addition, online CoPs can also be used for (peer-)coaching in transformative European projects.
Dialogue forums	Dialogue-oriented events (it is about "understanding"); fireside evenings, company dialogue, World Café: coordination between top management, the core group/steering group, the client, and other relevant environments. Reality check for the steering group.
Sub-projects	Develop concepts, decision-making bases, and their implementation. Increase the number of people involved, the quality of the results and the acceptance of the transformation process.
Large group events	Possibility to reach many people at the same time. Building a sense of purpose and a sense of WE. Mobilising collective energy for sustainable change.
Stakeholder conferences	Obtain feedback from relevant environments (customer days, parliaments, key account events, etc.).
Coaching project management	Passing on the process know-how of the transformation consultant to the internal project management. Supporting the bridge function of the project management between the consultant system and the client system. Stabilisation of project and process;
Coaching of the clients and Top decision-makers	The mayor, minister, board, management should be personally and emotionally involved in transformation processes. In this way, they can act as role models, set standards, adopt regulations and lend credibility to the change process. Proverb: "You sweep the stairs from the top".

Architectures thus enable both: "staying in the plan" and "tailoring" the plan to the goals and benefits of the client. According to Fritz Simon, maps are never landscapes and "menus are never the food that is

actually served (Simon, 2004, p. 41)[4]. Accordingly, architectures make it possible to recognise these differences as quickly as possible and to take appropriate "countermeasures" to achieve a newly lived life at the end of a transformation process.

3 Force Field Analysis – theoretical background

3.1 Theoretical background

The Field theory is a conceptual model of human behavior developed by the German American psychologist Kurt Lewin (Britanncia, 2022). The Force field analysis framework falls within the Field theory and has been a significant contribution to multiple fields from social sciences to process and change management.

Lewin, who was a social psychologist, took the concept of field from physics and mathematics to transpose it within its theory. He created the concept of psychological field which he called "life space" as the together of someone's experiences and needs. Lewin considered that changes at the level of the individual were driven by the interaction with the natural and social environment (internalization of external stimuli). Lewin extended the reach of his innovative approach also to the analysis of group behavior (Lewin, 1945).The force field analysis framework bases its operation on the following assumption: "*To bring about any change, the balance between the forces which maintain the social self-regulation at a given level has to be upset* " (Lewin, 1948, p.47.).

From the business analysis perspective (Cadle; Paul, 2014). Force Field analysis is a tool to evaluate options when trying to implement a business and or organizational change. To do so, a Force Field analysis examines the internal and external forces related to an organization or project that will influence the outcome of the proposed change. There are two potential uses of the Force Field analysis:

- Evaluate the feasibility of change: If the force field analysis is performed and restraining forces are bigger than driving forces, the adoption of the proposed change will be extremely difficult.
- Evaluate the forces around the change: In this case the proposed change has to be implemented and therefore the force field analysis can be used to identify (and promote) driving forces, and to identify (and weaken) restraining forces.

The use of Force Field analysis also presents some challenges that TANGO-W ULLs should consider. The most relevant to consider is that the identification and assessment of forces is not a 100% scientific process, therefore there will be some forces that will not be included or properly assessed. To solve this challenge, it is relevant to encourage as many ideas as possible at the initial stage of the analysis. Later, they can be sorted, ranked, and discarded if necessary.

3.2 Methodology

This deliverable continues the exercise initiated in Deliverable 2.1 with the identification of the ULL's challenges and needs, and the creation of a SWOT matrix per each ULL. The logical next step is to narrow down the analysis towards the specific change or objective each of the ULLs are planning to implement to

[4] Simon, F.B. (2004): Together we are stupid!? The Intelligence of Companies, Managers and Markets, Carl-Auer-Systeme Verlag Heidelberg, 1st edition 2004.

understand the distribution of forces around the change and start implementing measures to increase the chances of success. To do so, it has been decided to perform a Force Field Analysis in collaboration with each of the ULLs. The following three step methodology has been used to perform the Force Field analysis:

- Define the change that will be implemented: It is important to work with "tangible" objectives in mind. Therefore, the definition, and understanding, of the challenge/s a ULL is planning to implement is crucial to properly assess the forces around them.
- Identify driving and restraining forces: This exercise is performed one group at a time. Forces can be internal, so part of the team/organization that is promoting the change, and external which are environmental factors, such as stakeholders.
- Evaluate the forces: Once all the forces have been identified, the last but very relevant step is to assign scores to each of the identified forces.

Once these tasks have been completed the final conclusions from the Force Field analysis can be extracted. On the one hand a visual representation of the forces can be created to help visualizing the change (see tab le 2). Then, the total scores for driving and restraining forces can be calculated, this can provide a good overview of the ease of implementation of the change. Finally, the mapping and evaluation of the forces allows for easier identification of these restraining forces that need to be weakened, and those driving forces that should be enhanced. Figure 5 shows the Force Field analysis schematic representation to be used in practice.

Forces that drive change					Forces against change			
				Current Situation/ Proposed Change				
4	3	2	1		1	2	3	4

TABLE 2 LEWIN'S (1951) FORCEFIELD ANALYSIS SCHEMATIC REPRESENTATION.

The Force Field analysis is a tool to have a better understanding of the environment where change(s) will be implemented. To proceed with the implementation of a change in a group, Lewin proposed a three-stage model commonly known as: Unfreeze-Change-Freeze. The unfreeze stage consists in understanding the forces around the change and applying mitigation strategies to weaken the resisting forces, as well as enhancing the driving forces. Once the initial equilibrium has been modified, then it is time to implement the change. Finally, with the new equilibrium of forces and the change implemented, the last step (Freeze) must be performed, to make the novelty become the norm.

4 TANGO-W transformative PROJECT

4.1 TANGO-W customised Transformation Room (TraFo) on project level

TANGO-W project management is not understood as top-down management, but as the task of jointly implementing a framework for project governance and system learning processes at eye-level. Business

organisations aim at increasing money. Transformative research projects aim at knowledge growth and transformation within a clearly defined framework. Transformative research projects such as TANGO-W require therefore

- the delivery of the required results, based on the available resources within a given timeframe and
- the co-creation of novel processes and results by all consortium members and central stakeholders at the local level. In complex transformative research projects, it is not possible to draw on existing research or city solutions and routines. The key to success is to know how to create an innovation milieu within the project that fosters the tolerance of uncertainty (ambiguity tolerance) and the innovative spirit of all project members.

In TANGO-W, we see the *project consortium* as a kind of *"transformation consultancy"* for three years: experts from 5 research organisations and representatives from 7 municipalities work together for a limited period to build and expand transformative capacity in the 7 municipalities. All project partners face the following challenges:

- there are four different "mother tongues" in the consortium,
- each research organisation requires its experts to adhere to certain standards and administrative procedures,
- each municipality has different decision-making structures and previous experience with different research projects,
- each consortium member and each city has different previous experience in dealing with change. For TANGO-W, the main task is to combine the above-mentioned differences in communication in such a way, that they can be used as potential for increasing the transformation capacity of the TANGO-W cities. This requires new structures and processes compared to traditional research projects:

In *TANGO-W* we understand *management* not as the leadership of individuals, but as the coordination of communication (relationship) between representatives of RO and cities to achieve a common goal. This requires a common direction accepted by all (TANGO-W vision) and the implementation of *context governance* to build and maintain a TANGO-W internal transformation environment. This challenge has been met in TANGO-W by designing a governance and system learning architecture with communication settings that enable shared governance and learning. This context-governance in TANGO-W aims to encourage consortium partners and city representatives to voluntarily share their knowledge and prior experience within the project collaboration and to use the results of this co-creation in the local, process-oriented project management of building transformative capacity in TANGO-W cities.

The transformation can be recognized by the differences from the preceding. However, differences are accepted only if they are compatible with the preceding. Feasibility and novelty enter a complicity here in the sense of a visible benefit for the system as a whole. But recognising the visible benefit requires insider knowledge: In the complex, multinational TANGO-W consortium, each member is an ambassador for its target groups, with its own needs, interests, routines, wishes for improvement and options for action. The feeling of the TANGO-W ambassadors for which concrete changes are feasible under which circumstances serve as a seismograph for the success of the implementation of the desired transformation processes in TANGO-W. This requires continuous cooperation and feedback processes within the consortium.

The TANGO-W project as a temporary "transformation consultancy" therefore needs collegial learning and decision-making structures. It needs common periods of time to build up knowledge and experience within

the consortium and to coordinate new products/services and sub-projects with local clients. Without transformational spaces within ULLs, where innovations (knowledge, processes, prototypes) can be tested with local decision-makers for local purposes and tailored to local needs, no positive difference to previous urban routines can emerge. Without a transformation space at the project level, where own knowledge is made available and expanded and new experiences are gained, no novel-experimental interventions by project members in their ULLs are possible. The success of TANGO-W as a transformative research project therefore requires the construction of "transformation rooms" both at the project level and at the level of the individual seven cities (sub-projects). All project participants need a clear definition of their roles, an attractive orientation and a clear idea of feasible, single steps and measures in order to be able to take the risk of new experiments.

Orientation and roles can only be developed and decided upon co-creatively in the project team. The hypothesis-based elaboration of concrete, transformative steps can only take place in a coaching or intervision setting based on great trust. Thus, decision-making structures as well as learning and coaching settings at the project level are needed to support experimental change at the ULL level.

Under these conditions, the *role of the project coordinator* becomes that of a "reality waiter" who brings different structural offers (decision architecture, learning architecture with supervision elements, vision workshop, etc.) into the joint dialogue and decision-making process. Only what works becomes reality: The project coordinator cannot predict which of the reality waiter's interventions will be perceived as useful and implemented. In its mutual conditionality, learning is always the result of co-creation and thus also of what is ultimately accepted and implemented at the local level. In addition, the project coordinator has to ensure that the formal framework of the external client is respected.

What does this mean for the success of the TANGO-W project as a *"transformation consultancy"?* From our point of view, the transformative research process therefore requires a) the implementation of architectures and settings to foster co-creative learning processes within the consortium, b) the implementation of architectures to foster co-creative processes within the Living Lab and c) the implementation of controlling and reporting structures to ensure the minimisation of possible deviations in money and time.

The TANGO-W project responds to these requirements by implementing a transformation space that couples the hierarchical "project system" with a "co-creation-consultant-system", thus creating a co-creative transformation room at eye-level for system learning processes. The challenge is that the project coordinator has to move permanently and the individual project members temporarily in both systems with different objectives and communication rules. This requires a high degree of role distance and the ability to meta-reflect on the respective goals and roles per situation.

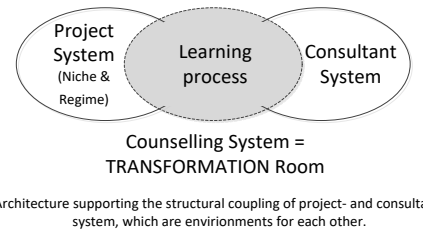

FIGURE 5: TRANSFORMATION ROOM (SOURCE: D. WILHELMER 2023 ADAPTED TO KÖNIGSWIESER ET-AL. 1998).

During the consortium and board meetings, all project members meet with each other and with the project coordinator in the *governance architecture* for joint decision-making processes. During the face to face CoPs (f2f CoPs) and the supervised online UTC CoPs, all project members meet with each other and with the project coordinator in the *system learning architecture* for joint learning processes.

This serves as a social and methodological home base for all members to recharge their batteries and get ideas for the local ULL experiments. Without prior personal and social learning in the consortium, co-creative, transformative work with local innovators and decision-makers seems impossible: only in this way can system learning be addressed at all levels. This in turn needs to be underpinned by clear roles and structures that require the governance space as a space for decision-making and creating the conditions for learning to succeed. As both spaces are mutually dependent on each other in order to make transformation processes possible, they represent the basic elements of the *TANGO-W Transformation Room*.

In the a) *project system*, the project members thus meet in their usual roles as coordinator and local project manager/team leader on the management board and as client (JPI/UE). The aim is to make fundamental decisions on the implementation of the project assignment together and to monitor and evaluate the success of the implementation together. The quality management and reporting system is a helpful tool for this. In the b*) consultant system*, the members meet in their different roles as expert consultants and neutral process counsellors with a view to the overall system. Their task here is to create locally adapted ULLs transformation rooms and design workshops both for the TANGO-W project itself and for the local transformation processes. The architectures and designs should enable innovation and transformation processes both in the project itself and in the local ULLs 2.0. The challenge for the TANGO-W *"transformation consultancy"* is to deal with the immanent self-referentiality:

- When members of ROs plan and implement interventions for the project consortium from their advisory role at the project level, they are always directly affected by their impact, as they are part of the project consortium they are advising. This requires transparent disclosure of their own goals and approaches, trust and respectful cooperation beyond a know-it-all attitude as a prerequisite for the success of the interventions.
- RO members as "external" transformation consultants plan interventions together with TANGO-W city representatives as "local clients" for the ULL experiments. Here, the city representatives themselves are part of the city they are managing in cooperation with the RO counsellor and are therefore directly affected by the effects of the interventions. At the same time, in this setting the RO transformation counsellors can act externally, i.e., beyond the hierarchy of the cities, as mentors and facilitators of local ULL transformation processes, and here have a greater scope of action than their vis-à-vis the local clients or representatives of the cities. Because of their external scope (they are not employees of the municipality, but of the national RO), they can also make more unusual interventions that can bring enough new information to the municipality. In contrast to their internal TANGO-W transformation managers (representatives of the cities), they can both build trust and irritate with novelty. External RO transformation counsellors do not have to fear the loss of internal relationships or an internal power base, as they are economically anchored in an RO outside the municipality. This allows the roles of "good guy" and "bad guy" to be divided between city representatives and RO transformation consultants in initiating and accompanying ULL transformation processes.

In TANGO-W itself, as a temporary *"transformation consultancy"*, the RO members and the ULL city representatives then meet again on an equal footing in order to evaluate the effects of the interventions from the internal city perspective and the more external TANGO-W perspective together with all project partners and to plan further interventions from the respective (internal/external) roles. From this perspective, the *transformation partnership between "ROs and city representatives*" requires a high degree of role flexibility and trust and in this form, if successful, represents a great resource for the success of

transformation processes at ULL level: The city representatives are not alone in their difficult task of managing a transformative project, and the RO counsellors have a vis-à-vis who can pursue a transformation concern with them and provide information about important routines and conflicts on the ground. This in turn is important information for developing appropriate and helpful interventions.

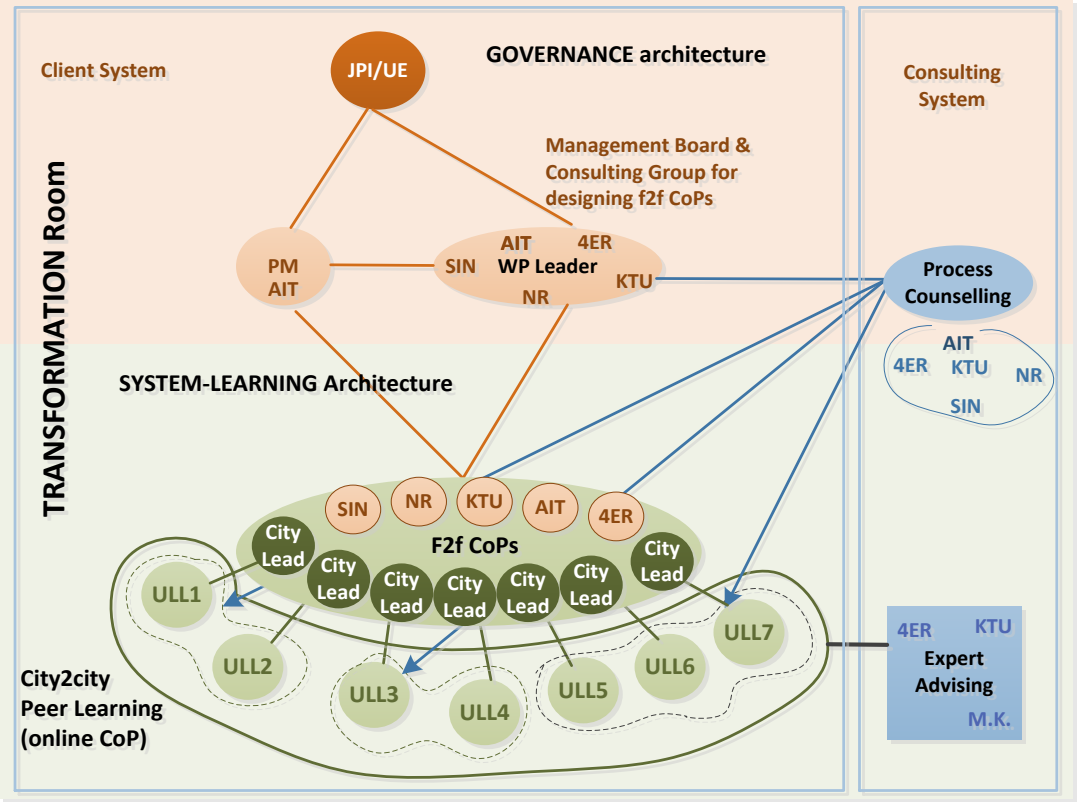

FIGURE 6: TANGO-W TRANSFORMATION ROOM (SOURCE: OWN GRAPHICS BY DORIS WILHLEMER2023)

This diagram shows how the 'governance' and 'learning system' architectures are superimposed on the 'project system' and the 'consultant system' to form the transformation room. The question of whether I am currently in the "governance", or the "learning" architecture depends on whether I am currently acting from a project manager or a transformative consultant role. In one case I am in the project system and in the other case I am outside the project organisation in the TANGO-W counsellor system. From this perspective, as mentioned above, the f2f CoP, the UTC online CoP and the ULL transformation partnerships of the individual ULLs are part of the system learning architecture.

What does this mean for the TANGO-W project members?

The TANGO-W Transformation Room, which encompasses the "project management" and "system learning" of the consortium as well as the "urban transformation processes" in the individual cities, structures, moderates and evaluates the participatory management process of TANGO-W throughout the entire project duration. Like organisational and personnel developers in companies, the TANGO-W expert advisors and process facilitators work with clearly defined goals and resources that cannot be questioned or changed during the course of the project: They work within the framework of the given TANGO-W project proposal, which cannot be unilaterally changed or questioned by the project itself without JPI-UE or the national innovation and funding agencies. The TANGO-W transformation counsellors can develop and optimise not the WHAT, but the HOW of achieving common and local goals.

The more the consortium members succeed in learning themselves, the more likely they will be able to implement helpful communication settings at the local level based on their own experience, and to stimulate and accompany transformation processes. In their role as external advisers to the ULLs, RO transformation counsellor can even challenge community-specific goals with new information and introduce unexpected themes for transformation processes into the process or into city strategies.

Challenges for RO transformation consultants at a glance

A particular challenge for the TANGO-W transformation counsellors of the ROs seems to be the timely and situationally appropriate change between the roles of internal and external process consultant. RO staff are socialised in their ROs and, as "internal members", have learned to deal with top-down management and hierarchy. In the TANGO-W project itself, about 50% of the RO members' resources are tied up internally with research, writing deliverables and reports, and designing and attending workshops and meetings. If they want to support city representatives in implementing local transformation processes, they need to take on the role of an external transformation counsellor in a timely and situational manner. Only then will they be able to go beyond guidelines and cultural taboos and support their city representatives in analysing changing situations in a systemic cycle and in planning and evaluating interventions.

TANGO-W is thus about a creative dance between internal project and external consultancy roles in the service of initiating and enabling urban transformation processes. This step change between project and consultancy dance requires a clear choreography for the dancers. Success criteria and guidelines are needed on when and for what purpose to switch between the "internal project and RO world" and the "external" transformation consultancy world.

The three-year transformative research project offers the opportunity to derive appropriate success criteria and guidelines from "learning by doing" processes at the end of the project and to serve as a guideline for future RO transformation consultants and ULL transformation managers for future projects.

Current roles of RO members as project managers and transformative consultants at a glance:

TABLE 3: PROJECT MANAGEMENT AND COUNSELLING ROLES OF RO-PARTNERS

	Project Coordinator Austrian Institute of Technology (AIT) Role Diversity	ROs: Nordregio (NR), Smart Innovation Norway (SIN), Kaunas University of Technology (KTU), 4ER 4ward Energy Research Role Diversity
Project-System	The AIT performs the role of project coordinator, of a WP Leader and project member in the project system.	The ROs act in the project system as work package leaders and management board members in the monitoring and reporting process.
Consultant System	From the role of systemic process counsellor: The AIT • conceives the TANGO-W transformation space a context governance. • conceives the ULL architectures together with the city representatives. • accompanies the supervised city2city learning processes with the respective RO consultant in charge.	From their role as process facilitators and advisors: The ROs • plan designs for the f2f CoPs as internal counsellors in the consultant system with the systemic acting AIT, in which settings and methods that can be used in the ULLs are simulated and piloted. • practice interventions from a counsellor role as internal consultants in the implementation of the f2f CoP designs

	• imparts OE interventions and methods in the context of workshop planning and supervisions • Plans the f2f CoP designs together with one internal RO consultant colleague each, in which settings and methods for the ULLs are simulated and tested. AIT accompanies as external process consultant • The Foresight process in Weiz • The implementation of the Energy Community	• accompany the supervised city2city learning processes with the AIT as internal counsellors. • support as external counsellors their city representatives in situational analysis, intervention planning and evaluation on site. The ROs accompany as external expert advisors • the local monitoring processes • the implementation of foresight processes • the implementation of energy communities

Advantages / disadvantages of combining the roles of project coordinator & systemic consultant

The personal union of AIT as a) project coordinator and workpackage(WP) 3 leader and b) systemic transformation counsellor enables a good cooperation between "project management" and "counselling of the transformation project" for the Austrian ULLs (Weiz, Klagenfurt) beyond competition and friction losses. Like all RO consultants, AIT is also subject to self-referentiality in "counselling the transformation project", i.e., it is affected by its own interventions, in contrast to the external process consultancy accompanying the ULLs in Weiz and Klagenfurt.

A disadvantage of this dual role of "management" and "consulting" could be the emergence of role confusion: During the course of the project, it should always be clear whether AIT is approaching all project partners a) from the role of project coordinator (reporting/quality management/controlling) or b) from the role of systemic consultant (co-creation partner, coach, trainer). Ambiguity in changing roles can lead to confusion and loss of trust in the relationship between the AI and the consortium partners.

From today's perspective, there are two ways to avoid role confusion:

- AIT to be consistent in which role it makes which statements and
- splitting project management and process consulting tasks between two different people at AIT.

We will monitor the impact of the dual role on the development of UTC in the TANGO-W project itself and evaluate what can be done by whom in the consortium to fully develop the benefits of the dual role in terms of a WIN-WIN for all project members and local stakeholders.

5 TANGO-W transformative ULL's 2.0

Chapter 5 applies three central systemic intervention methods of organisational development 1) systemic loop, 2) social architecture, 3) temporal architecture) as an analytical scheme to the individual ULLs. In each 'social architecture', key actors and relationships are identified within the so-called 'counselling - system', which provides the framework within which learning and change processes can take place through intervention planning, implementation, and evaluation. As this is the only place where the expansion of the UTC can take place with the help of process counselling, this counselling-system is called transformation-room of the single ULL's. Both architectures and a force field analysis then form the framework for

- the development of hypotheses about strengths and risk fields, and
- the identification of UTC impact dimensions that can be influenced by interventions in cooperative relationships.

The chapter concludes with a ULL-specific questionnaire that can be used to plan, implement and evaluate interventions to expand UTC. This questionnaire is intended to be used by the ULLs over the next two years as a kind of "checklist" for self-management. At the same time, it will serve the ROs as a common basis for intervention planning and evaluation between the ROs and the respective ULL project managers within the framework of the regular online CoPs. In principle, the focus will be on interventions that aim to increase UTC in the respective TANGO-W city in addition to achieving the ULL targets.

How do we implement the "red thread" mentioned above? The analysis of the 7 TANGO-W ULLs and the development of the guiding questions for self-monitoring are based on the following thematic clusters and questions

ULL project framework

- What is the project goal and the UTC goal of the ULL?
- What sub-goals does the ULL want to achieve?
- What milestones does the ULL plan to reach to achieve intermediate results and reach the overall goal?

ULL transformation-room for context governance

- What does the social architecture of the ULL look like, i.e., in which roles and bodies do which ULL actors meet here to do what together?
- What does the "temporal architecture" look like, i.e., which actors carry out which individual steps per milestone with each other to be able to achieve the intermediate goals?

ULL intervention planning in the transformation space

- Based on the social and temporal architecture: What are our hypotheses about the strengths and risks of the single ULLs?
- Based on the force field analysis: What are the drivers and barriers per ULL?
- What are the resulting dimensions of impact for targeted interventions in the actor-relations for UTC expansion?
- Which questions help the individual ULL to keep risks in mind and to experiment with UTC extension in the implementation of the ULL project?

5.1 ULL 2.0 - HALDEN

5.1.1 Customised ULL2.0 Transformation Room Halden

Halden has set ambitious goals to combat climate change. One of their priorities is to reduce food waste and costs by saving meat, in order to minimize their environmental impact and promote sustainability. To achieve this, the city will identify ways to reduce meat consumption, which will not only reduce greenhouse gas emissions but also save money. Halden will bring together relevant stakeholders to collaborate on ways to reduce food waste and promote sustainable practices in the city. By reducing food waste and

promoting sustainable practices, Halden will set an example for other cities to follow in the fight against climate change.

Strategic framework of ULL Halden:

TABLE 4: STRATEGIC FRAMEWORK OF THE ULL HALDEN

Overall objective	Halden: Ways to reduce food waste and costs by saving meat are identified. TANGO-W: Widening urban transformative capacity
Sub-objectives of the ULL	Thanks to surrounding stakeholders and non-profit organisations (NPOs) (participation, knowledge, resources, political system): • There is food production without poisoning in stockpiles • People save food despite good economic situation • The departments of the municipality work beyond silo thinking to jointly implement measures to reduce food waste and costs through reduced meat consumption. • The initiative has sufficient money and time resources to implement measures even after the end of the project.

Functions/bodies of Halden TRANSFORMATION Room

The transformation space of Halden consists of a social and a temporal architecture. Both architectures make it possible to govern

- the necessary content steps and
- the necessary clarification and decision-making processes between all relevant ULL actors,
- actively asking for support from the local expert advisor and the TANGO-W process counsellor.

The table below describes the individual bodies/functions within the social ULL architecture:

TABLE 5: BODIES AND FUNCTIONS OF THE ULL ARCHITECTURE OF THE ULL HALDEN

client	Cross functional manager and his boss
Decision board	Municipal directorate
Internal project management/city	Hilde Marie Wold's food waste department is a cross-cutting function that works with all departments.
Expert Group	environmental experts of the municipality and of universities in and near Halden supporting the department in terms of content
Expert advice	SIN supports Halden in project management;
Systemic counselling	AIT supports the implementation and execution of the ULL process through regular online UTC supervisions.
Stakeholders:	Kindergarten, surrounding stakeholders and NPO's can provide support.
	Food waste reduction, kindergarten, land planner, Inhabitants, farmer; enterprises;
Stakeholder risks	• question of whether food waste reduction will continue to be an issue after the next election, • lack of money from the city • pollution of the city, • nuclear power plants nearby may jeopardise food growing from the city.

The figure below shows the interaction of the different bodies/functions in the necessary cooperation and decision-making processes within Halden Transformation Room (social architecture).

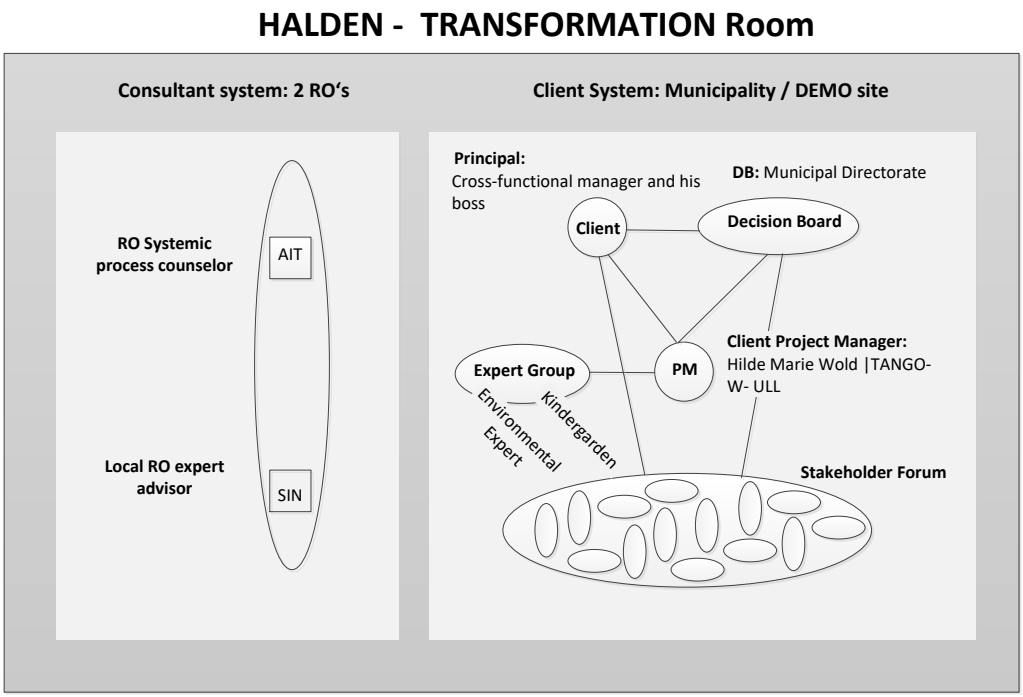

FIGURE 7: TRANSFORMATION ROOM / HALDEN (SOURCE: D. WILHELMER 2023)

The planned milestones in the timeline

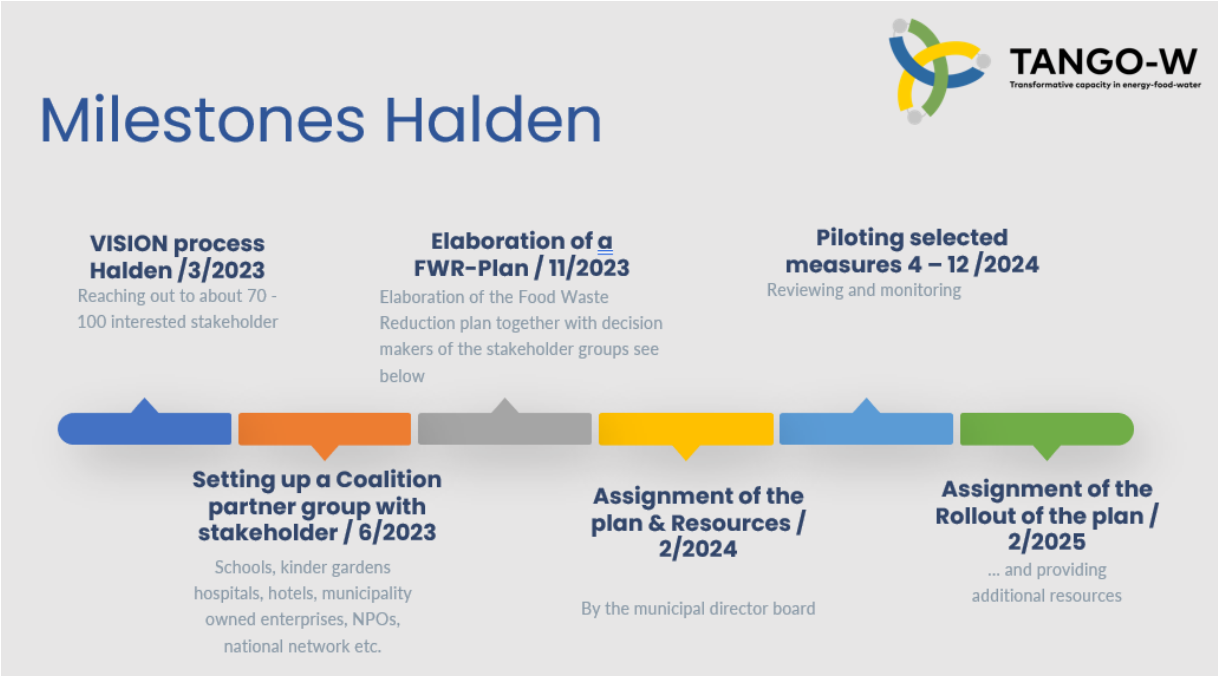

FIGURE 8: MILESTONES OF HALDEN (SOURCE: TANGO-W 2022)

Temporal Architecture

This temporal architecture of Halden links the actors of the social architecture to the milestone plan of the ULL. It breaks down the milestones into individual activities and considers who among the relevant actors in the ULL needs to participate in which step in order for it to be successful.

In the case of ULL2.0, we see three main tasks in the course of the TANGO-W implementation project:

- decisions by the client and the decision board, supported by inputs from the project management,
- preparatory work in terms of content and organisation by the project manager and the expert group, and
- full-day or half-day workshops or clarification meetings with the stakeholders.

Although the TANGO-W consultants are involved in the preparation of the content or the workshops, they live a coaching role in the detailed design and evaluation process of the workshops and not in the organisation or presentation of the content on site. Both support the ULL implementation project a) on the content level, b) on the organisational level (project management) and c) on the level of social communication processes between the groups of actors.

An exemplary "temporal actor architecture" of Halden is attached. This is hypothetical and results from the interview with the project manager of the Halden ULL. In the upcoming f2f UTC this temporal actor architecture has to be further concretised and optimised.

Figure 9 shows that the consultancy system, consisting of the expert advisor of SIN and the systemic counsellor of AIT, accompanies the whole process without being directly involved in the workshops and meetings. In concrete terms, this means that AIT coaches the implementation in the context of the online CoPs, while SIN can also take on facilitation tasks in individual Halden workshops if the Halden project management so wishes. In principle, the decision lies between the RO "SIN" and the ULL Halden project management. The social and temporal architecture of Halden's transformation-room reveals the benefits and risks of ULL governance.

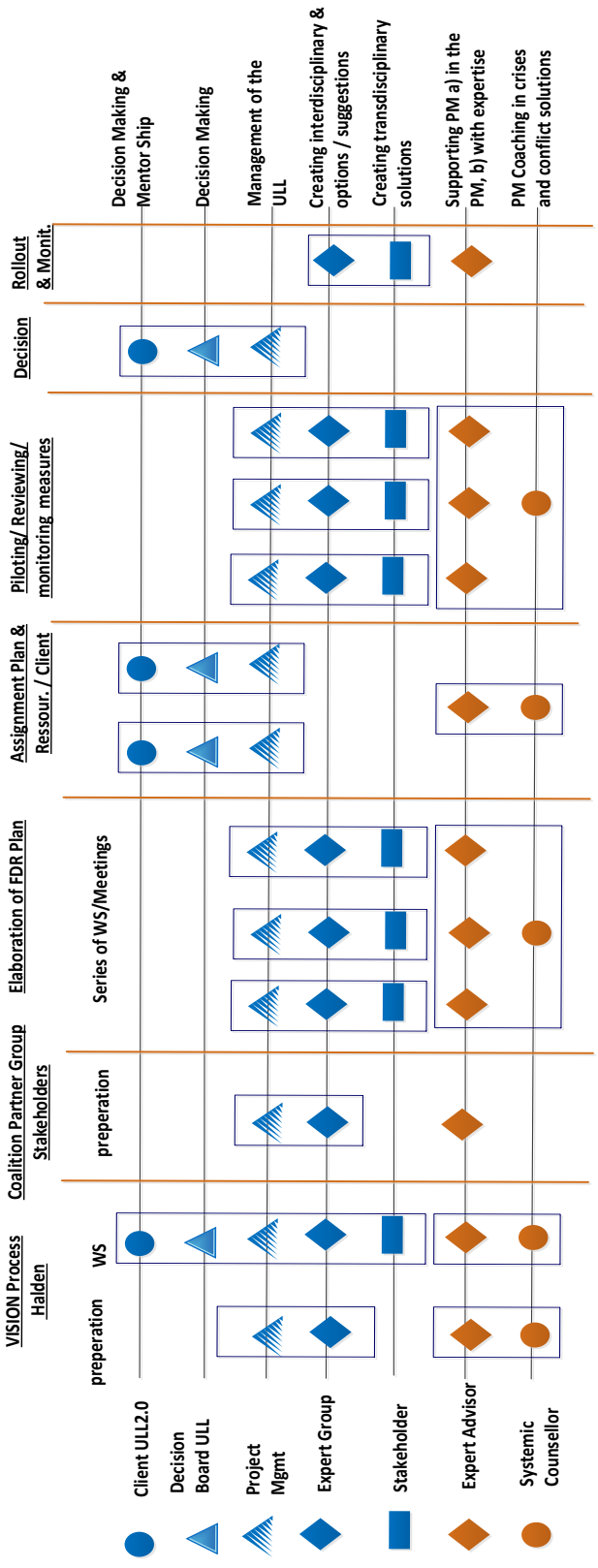

FIGURE 9: DRAFT HALDEN TEMPORAL ARCHITECTURE (SOURCE: D. WILHELMER 2023)

Hypothesis: Strengths of Halden's Transformation Room (social architecture)

The city of Halden has appointed one of its own employees to manage the project, making the TANGO-W ULL-experiment an independent city project. Through the internal project management, the city can directly intervene in the steering, which is likely to increase trust in Halden-ULL. In turn, a trusting relationship with the internal project management is a prerequisite for the latter to have direct access to the internal client and the decision-making board for the procurement of additional resources or for important decisions. This in turn increases the probability of success of the ULL mine.

The project management (PM) is located in a cross-cutting department of the city. This helps the city's project management to identify and involve key experts and decision-makers in important ULL issues in a timely manner. At the same time, the various contacts that the municipality has with local universities can be used by the project management to obtain substantive expertise to achieve the goals.

SIN is a local research organisation based in Halden. This facilitates quick and uncomplicated meetings between the Halden project management and the RO, whose task is to support the project management in managing the ULL experiment. Regular meetings in SIN can help Halden's project management to focus on the objectives, address the right stakeholders and complete the local project in the required time.

Both the city's project management and SIN as the local research organisation are consortium partners in the TANGO-W project. This means that both are involved in the learning process of the f2f CoPs and the online UTC CoPs. This makes it easier for both to develop a common perspective on the conditions for success and the requirements for initiating and accompanying transformative change. This in turn can increase their effectiveness and enable them to live a peer partnership in experimental implementation as a peer system.

The local distance helps AIT, as a process counsellor, not to "slip" too much into the operational process and thus to remain impartial and open. AIT in their role as the project coordinator has the goal to pilot and evaluate new governance architectures and transformative roles in the ULLs. The challenge for AIT is to distance itself from its own solutions and to see them only as hypothetical possibilities that may look very different in practice, depending on the context. Neutrality towards one's own theories and solutions is an important prerequisite for playing a helpful role for AIT. The opportunity for greater distance for the city's project management and its ULL peer SIN lies in the external perspective of AIT, which can bring new perspectives and possibilities into the local, transformative process by asking unexpected questions.

Hypothesis: Ambiguities and risks of Halden's Transformation Room (social architecture:

The city's project management is not itself in a decision-making position. The extent to which important decisions or resources can be successfully requested from the head of department depends on the relationship between the project manager and her boss. A trusting relationship is a prerequisite for the project manager to be able to make the case for e.g., resources or decisions to her boss. If the relationship is difficult, it can be expected that contacts for clarification will either be delayed or that the overall results will be unsatisfactory. Conversely, in the positive case of a trusting and close relationship, the head of department can shield the project leader from difficult power struggles in the community and thus make her more capable of acting in the project. In this case, this division of roles would actually be helpful for the ULL. It follows that the impact of the nature of the cooperative relationship between the project management and the direct supervisor must be the subject of local monitoring.

The relationship between the mayor as well as the municipal directorate on one side and the head of department or client of the project management on the other side is also unclear. This means that the mayor cannot take on a supporting role as a client or a role as a sense-giver for the ULL experiment. This is done by the cross-functional head of department. The same applies as above: If the head of department has a high level of acceptance in the decision-making group, decisions and resources will be procured in a reasonable time. If the opposite is the case, the ULL project will be stuck in a dead-end - regardless of the effort and commitment of the project management in carrying out the ULL. It follows that the impact of the nature of the cooperation between the municipal directorate and the head of department must be the subject of local monitoring.

From today's point of view, the actual membership of the expert group is also unclear. In principle, there are two cooperation models to choose from: In the traditional understanding of hierarchies, the project management turns to the relevant experts when it needs concrete answers. In the case of simple routine knowledge and processing steps, this is the fastest and most effective way. More complex projects that aim at transformative processes need the possibility to develop interdisciplinary solutions beyond the usual routines. This in turn requires the establishment of a stable group of experts who seek answers to questions of content or process in a fixed number of planned meetings. It follows that the way in which the project management and the experts (individually or as a team) work together must be an issue for local monitoring.

Another risk is that the local RO (SIN) may not have enough time to follow the city's ULL project continuously and reliably due to a multitude of research projects. In this case, the TANGO-W peer partnership would be weakened, i.e., the city's project management would be left more or less alone, which can make the implementation of a transformative ULL very difficult. It follows that the impact of the way in which the project management works with the local RO must be an issue for local monitoring.

The mayor and the administration are not involved in the visioning process. This can result in the developed vision not being in line with the mayor's or the directorate's vision and being delegated back to project management for several revision loops.

It follows that the following dimensions should be *important issues for the upcoming UTC monitoring*:

TABLE 6: IMPORTANT ISSUES FOR THE UPCOMING UTC MONITORING IN THE ULL HALDEN

The impact of the nature of the working relationship between
• The project manager and his/her immediate supervisor • The municipal directorate and the head of department should be subject to local monitoring. • The municipal project management and the experts (individually or as a team) • The project management and the local RO
The impact of the nature of role performance, trust relationship and decision-making influences
• Where, by whom and how ULL decisions are made • How the mayor in question is involved in decision-making and stakeholder processes. • How the mayor and city leaders are involved in developing the vision • Kind of openness and trust between PM and the client AND between the client and the mayor. • The nature of decision-making in the decision board • The nature of teamwork on specific issues • The nature of the advice and coaching provided by the RO SIN • The nature of coaching provided by AIT

5.1.2 Force Field-Analysis: Driving and resisting forces and scope of change in Halden

Halden Kommune has already faced some challenges when presenting their ideas to relevant stakeholders within the municipality. One of the initial objectives outlined in D2.1, *study how digital monitoring of foods or other services can help to understand consumption and food-waste,* has encountered opposition among stakeholders. In response Halden has adapted the project objectives to reach an agreement with all stakeholders.

At the date of writing this deliverable, Halden's ULL aims to create guidelines on food waste reduction and educate both the municipality and external stakeholders on ways to reduce food waste. Even if the scope of the ULL is on food waste, Halden plans to include water and energy as an intrinsic part of food production, therefore showing the multiple advantages of food waste reduction.

In D2.1 Halden mentioned the potential of change within local kindergartens in the municipality. At the moment, one of the explored options would be to **Reduce the food waste in kindergartens** through a **competence building program for employees.** Halden's force field analysis assumes this as the main scope of change for the ULL.

In Table 7, the results of the force field analysis are presented, including drivers and stoppers, and a hypothetic ranking of their impact potential for the success of the project. This exercise does not only provide a visualization of the forces that are present in the ULL change, but can also provide relevant inputs for stakeholder mapping.

TABLE 7. FORCE FIELD ANALYSIS - HALDEN

Forces that drive change					Forces against change			
High food prices are raising awareness and concern regarding food waste.					Unawareness about food waste among adults and kids.			
Climate Crisis and sustainability are becoming a topic of day-to-day interest.				Reduce the food waste in kindergartens - competence building program for employees	Food is not at the core of kindergartens' value proposition.			
Waste reduction reduces waste management costs for the municipality.					Kindergartens are reluctant towards the project because they were onboarded late.			
					Financial risk due to how budgeting works for kindergartens.			
					Kindergartens are reluctant to implement anything that could disrupt their main task: education.			
4	3	2	1		1	2	3	4

Halden represents a good example of what Urban Living Labs are and how UTC is something that is implemented at governance level, modifying relations/communication channels/communication strategies/etc between all the actors involved. As mentioned above, Halden faced strong opposition from the core stakeholder, namely the kindergartens. They have been onboarded late to the project, and they were not keen on adopting the initial plan proposed regarding food waste monitoring. Table 8, shows the evolution during the last months of two of the main stoppers identified and analysed ex-post. Halden has actively engage in discussions with kindergartens to better adapt the projects to their needs, interests, and

capabilities. The results can be seen, nowadays kindergartens are more open to collaborate with the project, and the project is aware of their interests and limitations.

TABLE 8. EVOLUTION OF RELEVANT STOPPERS - HALDEN

Forces that drive change					Forces against change			
Kindergartens are reluctant towards the project because they were onboarded late.					Kindergartens are reluctant towards the project because they were onboarded late.			
Kindergartens are reluctant to implement anything that could disrupt their main task: education.					Food is not at the core of kindergartens' value proposition.			
4	3	2	1		1	2	3	4

5.1.3 Conclusion: Guiding questions for an innovative UTC Governance

TABLE 9: RELATIONSHIPS, ACTORS AND IMPACTS OF THE ULL HALDEN

Relationship	Actor	Impact
PM & Client	PM	• Broad capacity to act • Trusting relationship • Goal orientation • ULL result is implemented
PM & City Dep.	PM	• Fruitful cooperation between departments. • Innovative *result* in the interest of the citizens and the community
Con. & PM	SIN	• Effective project management • Broad Stakeholder Integration in Workshops
Con. & PM	TANGO-W peer-system (ULL manager & RO)	• Unexpected questions and impulses from the outside perspective • Innovation
Mayor & Client & City-Dep. and PM	Mayor	• Assuming a sense-making role • Communicating the project to the outside world • Contributing to the development of the vision • Enabling innovation by supporting ULLs in the face of skepticism from stakeholders
PM & PT	PM	• Using the knowledge of individuals • Enabling innovation through cooperation
PM & Stakeh.	Children and grown-ups and kindergartens	• Impact of the climate crisis in daily life (awareness raising) • Timely involvement of kindergartens • Dialogue at eye level with kindergartens • Develop feasible and innovative solutions with kindergartens
Client und Stakeholder	Kindergarten	• Waste management cost reductions
PM & CON	PM	• Good division of labour • Relief for the PM • Stakeholder acceptance • High results orientation • Common goals and language • Increased replicability of results • Peer system as an innovation partnership
PM & all bodies	PM	• Shared problem awareness (technical/legal) • Shared solutions through direct exchange • New, unplanned ideas • Increased speed of implementation

In the following chapter, the strengths and risks of the hypothesis development and force field analysis are translated into achievable ULL capacities, which can become more or less effective in the cooperation between certain actors. In doing so, the different impacts that can be mitigated or strengthened by interventions are elaborated, with a special focus on the achievable innovations.

The table above shows the effects that can be achieved by changing a certain relationship from the perspective of an actor. The following abbreviations are used: PM = Project Management; Client = Client; City Dep. = City Departments; Mayor = Mayor; CON = Consultants / national RO & AIT; PT = Project Team; Stakeh. = Stakeholder

The ULL project manager is invited to experiment with transforming relationships where more or less innovation can be expected as a result, with a view to the TANGO-W objective of increasing UTC. In order to support the project managers, guiding questions are then formulated in relation to the relationships that, from today's perspective, seem to have the most transformative potential:

TABLE 10: GUIDING QUESTIONS FOR TRANSFORMING THE RELATIONSHIPS IN THE ULL HALDEN

Relationship	Guiding questions for an innovative UTC governance	Interventions for:
PM & City Dep.	• How often do representatives of city departments meet with the project manager to define and evaluate the overall goals and intended impacts of the planned food waste reduction in Halden? • Which impacts are prioritised from an overarching city perspective? • How are these overarching goals communicated to stakeholders/nurseries?	Expansion of the transdisciplinary, innovative outcome
Mayor & **Client** & PM & City Dep.	• Who defines and represents the importance of the project internally and externally? • Who is involved in the development and decision-making process of the vision for food waste reduction in Halden? • What is the role of the mayor in this decision-making process? • What is the role of the client in this decision-making process? • Who communicates the goals and intended impacts to stakeholders and kindergartens? What is the mayor's role in this process? • What measures are taken to turn scepticism into curiosity and cooperation? What is the role of the mayor? What is the role of the client?	Expanding stakeholder engagement for more innovation
PM & PT	• What knowledge is required for the successful implementation of ULL? • How is the knowledge available in Halden used for the ULL process? • How is the knowledge available outside Halden used? • How often do the internal experts meet with the project manager to concretise the starting position and the desired goals? • How often do the internal experts meet with the project manager to develop common measures or solutions? • How often do internal experts meet with the project manager and stakeholders to contribute their knowledge to the stakeholder dialogue?	Expert co-creation to drive innovation

PM & Stakeh.	• Who from the kindergarten is involved in developing the vision for food waste reduction in Halden? • How often does the project management meet with decision-makers from the kindergartens to discuss the overall objectives and intended impacts, and to adapt and expand them from the nurseries' point of view? • How often does the project management meet with decision-makers from the kindergartens and the project team to develop feasible, innovative solutions from the nursery schools' point of view? • Who is involved in the decision-making process of a pilot project in a nursery school? • Who is involved in the evaluation of the achieved results besides the stakeholders and the project management?	Innovation extension through feasibility enhancement
PM & CON	• What are the objectives of the "peer system" ULL-PM & consultants? • What is the division of labour between the ULL-PM and the consultants? • What are the specific tasks of the consultants? • How was the division of labour agreed? • Which impulses are experienced as helpful? Which are positively irritating? Which are negatively irritating? • How does the project management deal with the external impulses? • What are the implications for project management? • What are the implications for stakeholder satisfaction and acceptance of results? • What are the consequences for the focus and quality of the results? • What are the implications for the learning capacity of both? What supports the learning capacity? • Who is responsible for ULL decisions? • What is the added value of TANGO-W for the PM?	The 'peer system' of learning and governance
PM & all bodies (social architecture)	• What is the PM's role in coordinating all functions/bodies? • Where does the PM get support? Where are the challenges? What seems to be particularly challenging? • What are the differences between project architecture and project management? • How do they affect the search for solutions? • How do they affect collaboration and outcomes? • How do they affect innovation? • How do they affect the speed of implementation of the result?	Increase shared learning, adoption and speed of implementation

These guiding questions (see above) should help to question and change the nature of the cooperation between the actors within each step, in order to increase the likelihood of success for the change and thus also for the Halden ULL project. Reflection and intervention planning within the online CoPs and f2f CoPs should thus contribute to increasing the transformative capacity both in the TANGO-W team and in the TANGO-W transformation-room with the kindergartens, the client and the mayor. We expect the questions to be expanded or even changed to some extent in the course of the next two years. These questions will be used in the future online CoPs and f2f CoPs of TANGO-W.

5.2 ULL 2.0 - MARKER

5.2.1 Customised ULL2.0 Transformation Room Marker

Marker is taking significant steps towards fighting climate change by focusing on sustainable food, water, and energy management. Marker will develop strategic and operative measures, including an implementation plan for long-term measures from 2030 to 2050, identifying lessons learned for future projects, testing water filtration methods, and providing sustainable food for schools and elderly homes. Marker's efforts towards sustainable development will not only benefit the environment but also contribute to a healthier and more resilient community.

Strategic framework of ULL Marker:

TABLE 11: STRATEGIC FRAMEWORK OF ULL MARKER

Overall objective	Marker: Change mindsets and find new solutions for food, water and energy management. TANGO-W: Widening urban transformative capacity
Sub-objectives of the ULL	Strategic Sub-Objectives • Implementation Plan for long-term measures 2030 - 2050 beyond the TANGO-W project. • Lessons Learned and indicators for Governing follow up projects beyond TANGO-W Operative Sub-Objectives • Pilot Measures with filtered and unfiltered water for water savings and sustainable food production • Sustainable food for kindergarten, school, and elderly homes

Functions/bodies of Marker TRANSFORMATION Room

The transformation space of Marker consists of a social and a temporal architecture. Both architectures make it possible to govern

- the necessary content steps and
- the necessary clarification and decision-making processes between all relevant ULL actors,
- actively asking for support from the local expert advisor and the TANGO-W process counsellor.

The table below describes the individual bodies/functions within the social ULL architecture:

TABLE 12: BODIES AND FUNCTIONS OF THE ULL ARCHITECTURE OF THE ULL MARKER

Client	Anne Marie Nylund (Head of water & energy department)
Decision Board	Municipal Directorate
Internal PM of the City	Helene Rødseth
Expert Group	Water & Energy Department, Marker Bondelag (Expert on food production), experts of Elderly home green-housing, external experts (e.g., from nearby universities)
Stakeholders	Kindergarten, school, elderly home, local businesses, farmers, inhabitants, environmental experts of urban departments.
Expert advisor	SIN supports Marker in project management;
Systemic rounsellor	AIT supports the implementation and execution of the ULL process through regular online UTC supervisions.
Stakeholder risks	Resistance regarding Changing • the way of thinking, short time thinking and thinking out of the box • the demand for sustainable food and usage of unfiltered water

- routines of food production and consumption
- implementing new solutions for businesses in the field of energy & water consumption

Taking ownership for activity plans and test beds
Experimenting with new solutions in the test beds

Figure 12 shows the interaction of the different bodies/functions in the necessary cooperation and decision-making processes within Marker transformation room (social architecture).

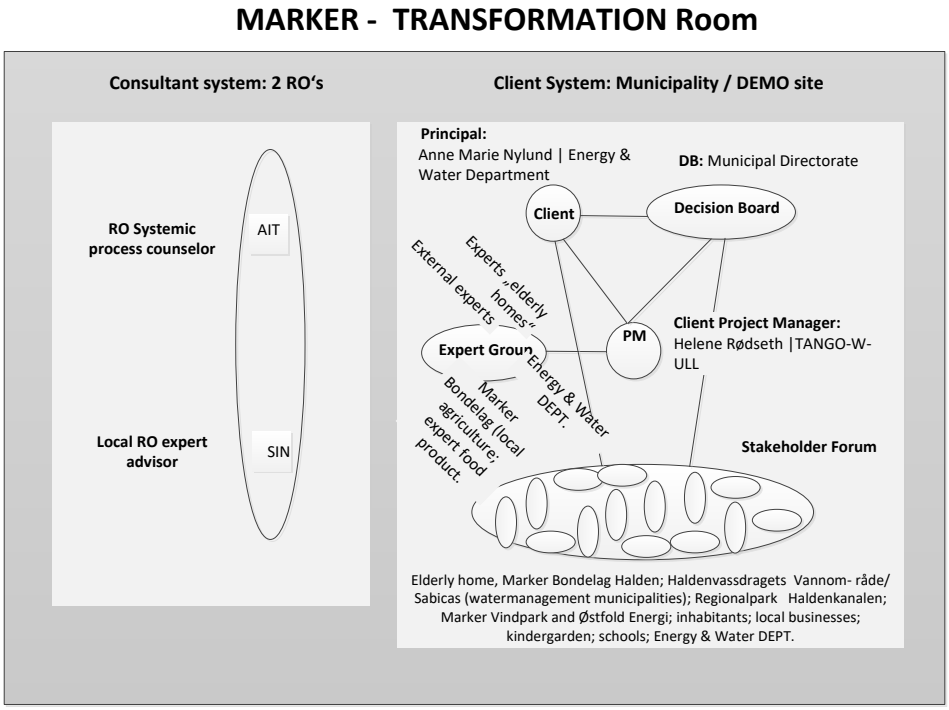

FIGURE 10: MARKER TRANSFORMATION ROOM (SOURCE: D. WILHELMER 2023)

The planned milestones in the timeline

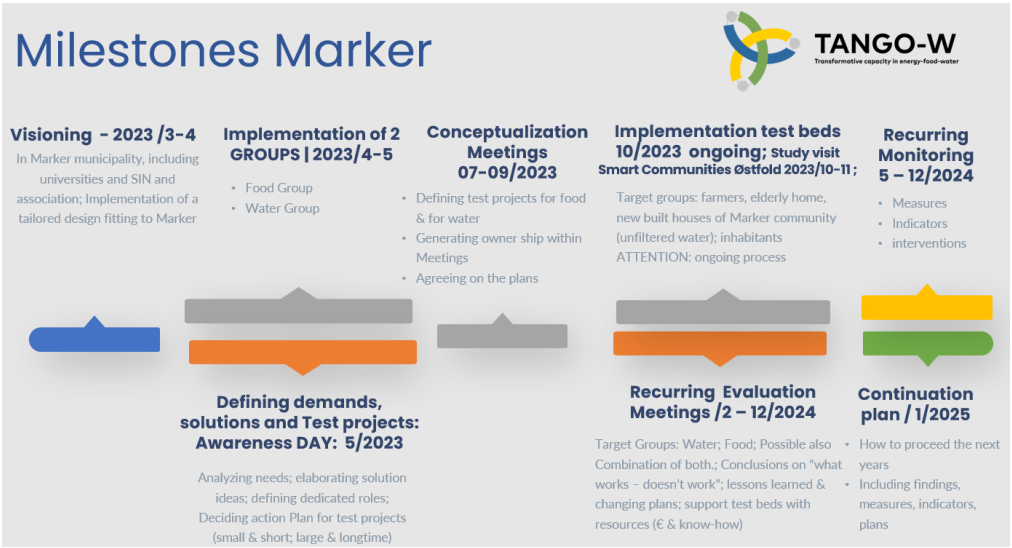

FIGURE 11: MILESTONES OF MARKER (SOURCE: TANGO-W 2022)

The social and temporal architecture of Marker's transformation-room reveals the benefits and risks of ULL governance.

Temporal Architecture

This temporal architecture of Marker links the actors of the social architecture to the milestone plan of the ULL. It breaks down the milestones into individual activities and considers who among the relevant actors in the ULL needs to participate in which step in order for it to be successful.

In the case of ULL2.0, we see three main tasks in the course of the TANGO-W implementation project:

- decisions by the client and the decision board, supported by inputs from the project management,
- preparatory work in terms of content and organisation by the project manager and the expert group, and
- half-day workshops (in the evening) or clarification meetings with the stakeholders.

Although the TANGO-W consultants are involved in the preparation of the content or the workshops, they live a Coaching role in the detailed design and evaluation process of the workshops and not in the organisation or presentation of the content on site. Both support the ULL implementation project a) on the content level, b) on the organisational level (project management) and c) on the level of social communication processes between the groups of actors.

An exemplary "temporal actor architecture" (see figure 14) of Marker is attached. This is hypothetical and results from the interview with the project manager of the Marker ULL. In the upcoming f2f UTC this temporal actor architecture has to be further concretised and optimised.

We cannot say today how many workshops the water and food group will need to analyse stakeholder needs, develop innovative solutions, develop an action plan including ownership definition and prepare a decision document for the mayor. The workshops shown in the timeline are only placeholders for the upcoming meetings and workshops.

Figure 12 shows that the consultancy system, consisting of the expert advisor from SIN and the systemic counsellor from AIT, accompanies the whole process without being directly involved in the workshops and meetings. In concrete terms, this means that AIT coaches the implementation within the framework of the online CoPs, while SIN can also take on facilitation tasks in individual Marker workshops, if the project management of Marker so wishes. The decision on this can be reflected in the supervision, but in principle lies between the RO "SIN" and the project management of the ULL Marker.

The city of Marker has appointed a project manager from its own staff, making the TANGO-W ULL experiment an independent city project. This gives the project manager easy and direct access to the city's decision-makers and resources.

Marker is a small town without many hierarchical levels and committees. This facilitates coordination processes and quick decisions, as well as direct access to key stakeholders.

Marker has a mayor who is committed to sustainability issues and can reach out to local people and people from outside the city. This allows the mayor to act as a sensitiser and customer to the outside world, giving the ULL initiative and its sub-projects the necessary local relevance.

The small size of the city means that everyone knows everyone else in the community and in the city. The project manager's direct contact with the mayor and other decision-makers enables rapid "door-to-door" coordination. The small size of the city is a good prerequisite for a) the existence of trusting relationships with the project manager, but also possibly b) for "entrenched prejudices" as communication barriers for the joint development of innovations.

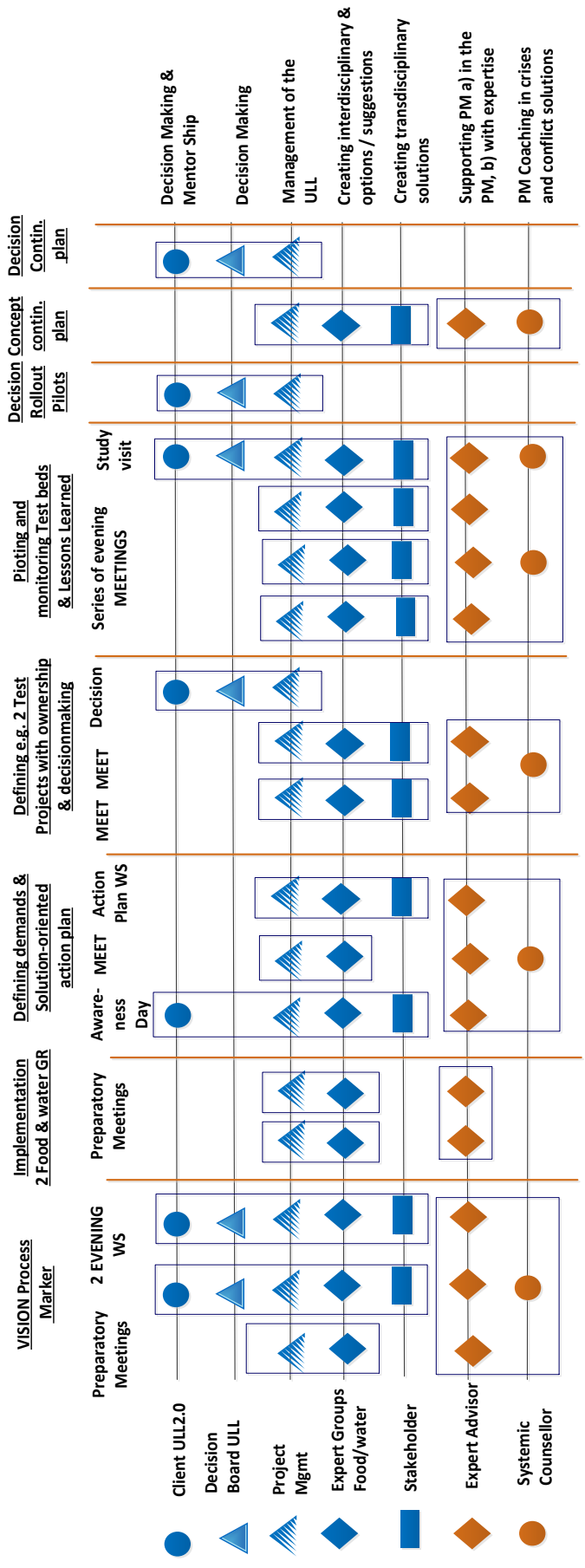

FIGURE 12: DRAFT MARKER TEMPORAL ARCHITECTURE (SOURCE: D. WILHELMER 2023)

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Hypothesis: Strengths of Markers Transformation Room (social architecture:

SIN is located in Halden as a research organisation. This facilitates quick and uncomplicated meetings between Marker's project management and the RO, whose task is to support the project management in steering the ULL experiment. Regular meetings at SIN can help Marker's project management to focus on the objectives, to contact the right stakeholders and experts, and to complete the planned test beds in the required time.

Both Helene Rødseth as project manager from the city and Stian Melhus as researcher from SIN are consortium partners in the TANGO-W project. This means that both are involved in the learning process of the f2f CoPs and the online UTC CoPs. This makes it easier for both to develop a common perspective and language on the conditions for success and the necessities for initiating and accompanying transformative change. This in turn can increase the effectiveness of their collaboration and, if desired, enable them to live a peer partnership in experimental implementation as a peer system.

The municipality has direct access to public enterprises in the social (elderly), educational (kindergarten, schools) and economic (agriculture, energy and water management) sectors. This facilitates the invitation of stakeholders to the stakeholder coalition.

Hypothesis: Ambiguities and risks of Markers Transformation Room (social architecture)

The small size of the city may mean that local councillors and the mayor do not have a clear decision-making role. This can tempt the PM to pre-empt decisions and put pressure on the mayor and political leaders. The project management needs to be careful not to jump into gaps of responsibility and take on tasks that are not its responsibility and for which it will have to fight in due course. It follows that impact monitoring regularly monitors and evaluates where, by whom and how ULL decisions are made.

The project manager has a defined relationship and close cooperation with the mayor, the municipal directorate and the city council. There is a new election in sept. 23, and a new mayor and city council will be elected. However, several of today members of the city council will continue the next 4 years. The project manager's ability to involve the mayor in the decision-making process will be crucial to its success. If this does not happen, or happens too late, it can lead to blockages and delays. It follows that impact monitoring should observe and evaluate how the mayor in question is involved in decision-making and stakeholder processes.

The contracting role is not played by the mayor, but by the head of the energy and water department. This reduces the mayor's ability to raise the profile of the project through his visible support. In addition, a good relationship between the project leader and the head of the energy and water department is a prerequisite for the success of the ULL experiment. Possible misunderstandings or conflicts can lead to late contacts or unexpected negative decisions and thus unintentional delays. In a positive case, the head of department can shield the project leader from difficult trench warfare in the community and thus keep her capable of acting. It follows that impact monitoring should observe and evaluate the nature of the relationship between project management and the head of energy and water department and its impact on the progress of the project.

It appears that key experts have not yet been appointed and personally invited to the expert team. This makes it difficult to plan for ongoing participation in working groups. At the same time, small cities have little human resources capacity for the tasks at hand. An economical use of time resources is expected

from everyone. During the project, this can lead to experts being called in on a case-by-case basis. In this case, the project management becomes the bottleneck in terms of what understanding of the problem and the solution the project management itself has, based on its own previous experience with a particular issue, and what time resources are available. Contacting experts on a case-by-case basis leads to a "demand" for existing knowledge and prevents the interdisciplinary development of surprising and innovative social and technological solutions in direct contact between experts. It follows that the way in which the project management and the experts (individually or as a team) work together must be an issue for local monitoring.

There is also a risk that the local RO (SIN), due to a large number of own research projects, will not have enough time to accompany the city's ULL project continuously and reliably. In this case, the TANGO-W peer partnership would be weakened, i.e., the city's project management would be more or less left to its own devices, which can greatly complicate the implementation of a transformative ULL. It follows that the impact of the way in which the project management works with the local RO must be an issue for local monitoring.

It follows that the following dimensions should be *important issues for the upcoming UTC monitoring*:

TABLE 13: IMPORTANT ISSUES FOR THE UPCOMING ULL MONITORING IN THE ULL MARKER

The impact of the nature of the working relationship between
• The project manager and his/her immediate client • The mayor and the head of department. • The municipal project management and the experts (individually or as a team) • The project management and the local RO
The impact of the nature of role performance, trust relationship and decision-making influences
• Where, by whom and how ULL decisions are made • How the mayor in question is involved in decision-making and stakeholder processes. • How the mayor and city leaders are involved in developing the vision • Kind of openness and trust between PM and the client • The nature of teamwork on specific issues • The nature of the advice and coaching provided by the RO SIN • The nature of coaching provided by AIT.

5.2.2 Force Field Analysis: Driving and resisting forces and scope of change of Marker

As initially described in D2.1 Marker ULL aims to implement new habits on its citizens as well as the testing and consolidation of new practices for the municipality. The ULL has been categorized as strategic ULL and seeks to improve Marker's UTC. Furthermore, the municipality sees clear synergies between TANGO-W and other projects that are being developed at the moment. One additional objective of Marker would be to benefit from TANGO-W's frameworks and processes to increase the potential impact of the rest of the projects that are going on within the municipality.

In order to reach its objectives of change and increased UTC, Marker is planning to implement an **awareness program to enhance sustainable thinking and spread knowledge about the FWE nexus.**

In Table 14, the results of the force field analysis are presented, including drivers and stoppers, and a hypothetic ranking of their impact potential for the success of the project. This exercise does not only provide a visualization of the forces that are present in the ULL change, but can also provide relevant inputs for stakeholder mapping.

TABLE 14. FORCE FIELD ANALYSIS - MARKER

Forces that drive change					Forces against change			
The project is developed under the already existing road map of the city: Climate Energy Plan 2021-2030, Smart Municipality Marker community.				Change mindsets and find new solutions for food, water and energy management. - Awareness program, to enhance sustainable thinking and spread knowledge about FWE nexus.	Complexity of the FWE nexus could result in disengagement of stakeholders due to increased complexity of decision.			
Already existing background on energy, water, and farming: Wind power park (15 windmills) Hydro power plant Marker is a farming village (the mayor is a Farmer himself)					Stakeholders are hesitant of the real value of the project. Residents might not be able to see at first sight the value of the project (particularly with food & water). Politicians also might be less interested due to the more theoretical approach.			
One third of the population is already working in agriculture.					Financial risk. Lack of investment in the framework that the project can create (activities, companies, etc).			
Long tradition of urban farming.					Abundant availability of water can make it hard to show the value of the project to some stakeholders.			
The high energy and food prices increased the interest towards energy and food efficient use and management.					Low replicability due to the small size of the town, that can hinder motivations to develop the project.			
The current geopolitical situation has increased interest towards self-sufficiency and resiliency among population (Norway has border with Russia)								
4	3	2	1		1	2	3	4

Overall, Marker presents a strong background on TANGO-W's topics which should provide solid foundations to implement the awareness program. Particularly, from the food perspective, the fact that one third of the population works in agriculture can be a strong driver. If TANGO-W succeeds at raising awareness on the topic, the local economy could benefit from stronger synergies. Water and energy-wise there is also plenty of opportunities through local projects. These will be discussed during the coming months to identify the ones where TANGO-W's framework and processes can help the most to reach the desired outcome.

The process has revealed some relevant stoppers. At the moment the most concerning ones are the financial resources, and the possibility of stakeholders not finding value in the project. However, these stoppers can be addressed through an adequate strategy for the awareness program, using for instance TANGO-W's tools and expertise.

5.2.3 Conclusion: Guiding questions for an innovative UTC Governance

In the following chapter, the strengths and risks of the hypothesis development and force field analysis are translated into achievable ULL capacities, which can become more or less effective in the cooperation between certain actors. In doing so, the different impacts that can be mitigated or strengthened by interventions are elaborated, with a special focus on the achievable innovations.

The table below shows the effects that can be achieved by changing a certain relationship from the perspective of an actor. The following abbreviations are used: PM = Project Management; Client = Client; City Dep. = City Departments; Mayor = Mayor; CON = Consultants / national RO & AIT; PT = Project Team; Stakeh. = Stakeholder; AD Board = Advisory Board; DEC-Board = Decision Board; EXP-Teams = expert-teams;

TABLE 15: RELATIONSHIPS, ACTORS AND IMPACTS OF THE ULL MARKER

Relationship	Actor	Impact
PM & Client (Energy & Water Board)	PM	• ULL is part of the Climate & Energy Plan 2021 - 2030 • Tradition of urban agriculture (1/3 farmers) • Hydropower plant: water in abundance • Cheaper food • Practical access • Direct access and personal contact with decision makers • Direct access and personal contact with stakeholder • Fast coordination and decision making
Mayor (attention new election in spring)	PM	• Project marketing and awareness raising with stakeholders and farmers. • Mayor is visible in decision-making and makes final decisions • Good relationship speeds up reliable decisions • Increased stakeholder trust drives innovation
PM & EXP-Team	PM	• Resources are conserved • One-to-one meetings • Expert dialogue in scheduled workshops and meetings • Unexpected innovation
PM & Stakeholder	Client	• Personal contacts • Direct access to agriculture, water management, energy industry, kindergartens, schools • Practical and understandable access • New business models for stakeholders • User innovation
PM & CON	PM	• Good division of labour • Relief for the PM • Stakeholder acceptance • High results orientation • Common goals and language • Increased replicability of results • Peer system as an innovation partnership
PM & all bodies	PM	• Shared problem awareness (technical/legal) • Shared solutions through direct exchange • New, unplanned ideas • Increased speed of implementation

The ULL project manager is invited to experiment with transforming relationships where more or less innovation can be expected as a result, with a view to the TANGO-W objective of increasing UTC. In order

to support the project managers, guiding questions are then formulated in depending on the relationships that, from today's perspective, seem to have the most transformative potential:

TABLE 16: GUIDING QUESTIONS FOR AN INNOVATIVE UTC GOVERNANCE IN THE ULL MARKER

Relationship	Guiding questions for an innovative UTC governance	Focus
Mayor (attention new election in spring)	• What is the mayor's role in the process? • How binding are the ULL objectives and implementation decisions? • What is the coordination between the mayor and the project manager? • How is coordination between the mayor and stakeholders carried out? • How and by whom is "sense-making" with stakeholders carried out? • What is the mayor's role in decision-making? • Who takes the final decision? And how?	Increased readiness to change
PM & EXP-Team	• What is the PM's role in expert group meetings? • What are the objectives of the expert group? • Who are the members of the expert group? How and by whom were they appointed? • What is clarified within individual talks? • How often does the expert group meet? For what purpose? • What is the role of the expert group in finding solutions? • What is the role of the group in terms of policy decisions?	Resource-saving expert dialogues
PM & Stakeholder	• What roles/tasks do stakeholders have in the process? • What are the stakeholders' own objectives in the process? What benefits do they expect? • What is the role of the mayor in the stakeholder processes? • What expertise do stakeholders bring to the table? In which committees? How is this incorporated into the solutions? • What needs do they bring to the table? In which committees? How are these incorporated into the solutions? • What role do stakeholders play in the development of new solutions? • What role do stakeholders play in key decisions? • What would be missing if they were not part of the process?	Economic and environmental benefits
PM & CON	• What are the objectives of the "peer system" ULL-PM & consultants? • What is the division of labour between the ULL-PM and the consultants? • What are the specific tasks of the consultants? • How was the division of labour agreed? • Which impulses are experienced as helpful? Which are positively irritating? Which are negatively irritating? • How does the project management deal with the external impulses? • What are the implications for project management? • What are the implications for stakeholder satisfaction and acceptance of results? • What are the consequences for the focus and quality of the results? • What are the implications for the learning capacity of both? What supports the learning capacity? • Who is responsible for ULL decisions? • What is the added value of TANGO-W for the PM?	The 'peer system' of learning and governance
PM & all bodies (social architecture)	• What is the PM's role in coordinating all functions/bodies? • Where does the PM get support? Where are the challenges? What seems to be particularly challenging? • What are the differences between project architecture and project management?	Increase shared learning, adoption and speed of implementation

- How do they affect the search for solutions?
- How do they affect collaboration and outcomes?
- How do they affect innovation?
- How do they affect the speed of implementation of the result?

These guiding questions (see above) should help to question and change the nature of the cooperation between the actors within each step, in order to increase the likelihood of success for the change and thus also for the Marker ULL project. Reflection and intervention planning within the online CoPs and f2f CoPs should thus contribute to increasing the transformative capacity both in the TANGO-W team and in the TANGO-W transformation-room with all stakeholders, experts and decision bodies concerned. We expect the questions to be expanded or even changed to some extent in the course of the next two years. These questions will be used in the future online CoPs and f2f CoPs of TANGO-W.

5.3 ULL 2.0 - STOCKHOLM

5.3.1 Customised ULL2.0 Transformation Room Stockholm

The Stockholm ULL is part of the urban development project Stockholm Royal Seaport (SRS)[5]. The central question is whether urban food production is possible. Urban agriculture, industrial food production and food production in private leisure time are addressed. This focus was set by the coordinator of the sustainability strategy Christina Salmhofer (administration), Maria Lennartsson (PM) and Luciane Aguiar Borges (NR).

It is interesting for the city to explore if and how the amount of edible food can be increased, e.g., by using the tool Green Space Index (GSI) for green properties or by increasing the use of public spaces for food production. A potential study will look at these issues. The results will be incorporated in a revised version of the GSI and strategy for urban farming in SRS.

Strategic framework of ULL Stockholm:

TABLE 17: STRATEGIC FRAMEWORK OF THE ULL STOCKHOLM

Overall objective	Stockholm: Elaboration of new regulations for planners. TANGO-W: Widening urban transformative capacity
Sub-objectives of the ULL	Strategic Sub-Objectives • Implementation Plan for long-term measures 2030 - 2050 beyond the TANGO-W project. • Lessons learned and indicators for governing follow up projects beyond TANGO-W Operative Sub-Objectives • Conducting a potential study with internal and external experts/academics, and public housing companies. • Elaboration of a Roadmap 2024 including a revised GSI for developers and an urban farming strategy for public opens space and publicly owned amenities. • Recommending & implementing a consultation for the approval of the GSI and the urban farming strategy. • Decision making on an implementation plan by the SRS project steering group.

[5] Hållbar stadsutveckling | Norra Djurgårdsstaden 2030 (norradjurgardsstaden2030.se)

Functions/bodies of Stockholm TRANSFORMATION Room

The Stockholm Transformation Room consists of a social and a temporal architecture. Both architectures make it possible to

- coordinate the necessary content steps and
- govern the necessary clarification and decision-making processes between all relevant ULL actors,
- actively request the support of the local technical advisor and the TANGO-W process counsellor.

The following table describes the different bodies/functions within the social ULL architecture:

TABLE 18: BODIES AND FUNCTIONS WITHIN THE ARCHITECTURE OF THE ULL STOCKHOLM

Client	Christina Salmhofer (Sustainability Strategist) She coordinates the political mandate of sustainability profiling of SRS given to the City's Development Administration
Decision Board	Members of the Stockholm PM Decision Board
Internal PM of the City	Maria Lennartsson (Technical advisor and client project manager) She replaces a civil servant and reports to the PM decision-making board, which is responsible for the overall development and reports to the board. Reports to the local board only take place when financial issues are involved.
2 Expert Groups	Internal working group with representatives from city administrations (development, environmental & health, district council, traffic, municipal housing company) • Extended working group with representatives from Swedish University of agricultural science; Experts of Stockholm Business Region, and Swedish Environmental Institute (not clarified yet)
Subcontracted consultants	Swedish University of agricultural science
Stakeholders	Decision makers of • Housing companies • Public owned buildings and amenities such as kindergartens, sport facilities, caverns, etc • Administrations responsible for • Public space and open parks. • Public buildings for public agriculture • Caverns and infrastructure • SMEs involved in Industrial food production • Potential users of local products (restaurants, brewery, school, etc) • Local hobby growers association
Expert advisor	NR supports Stockholm on demand
Systemic Counsellor	AIT supports the implementation and execution of the ULL process through regular online UTC supervisions
Risks	Resistance regarding • Support of city owned housing companies • Decision-makers with sufficient time resources • Support of PM Decision Board • Enough freedom to experiment with interventions to support change

The figure below shows the interaction of the different bodies/functions in the necessary cooperation and decision-making processes within Stockholm Transformation Room (social architecture).

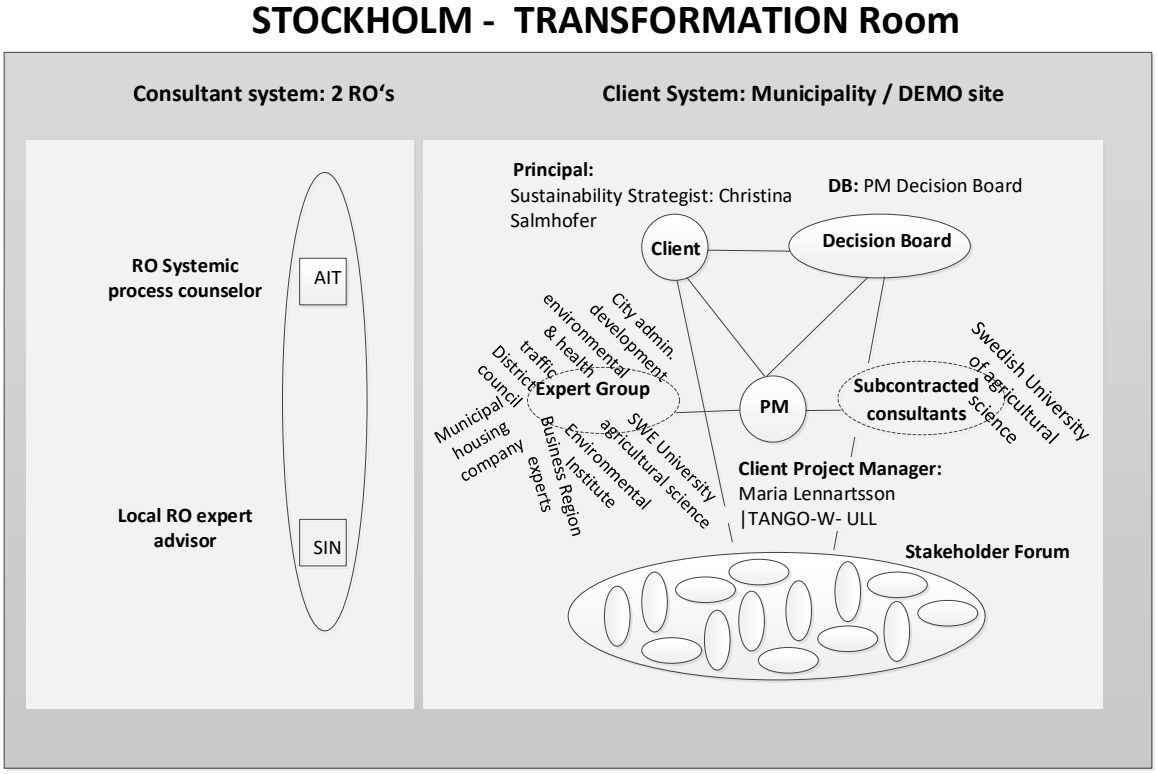

FIGURE 13: STOCKHOLM TRANSFORMATION ROOM (SOURCE: D. WILHELMER 2023)

The planned milestones in the timeline

The consultation process will take place in 2024 and the regulatory process at the end of 2024. The planning process with social housing organisations will run in parallel with the consultation process.

The social and temporal architecture of Stockholm's transformation-room reveals the benefits and risks of ULL governance.

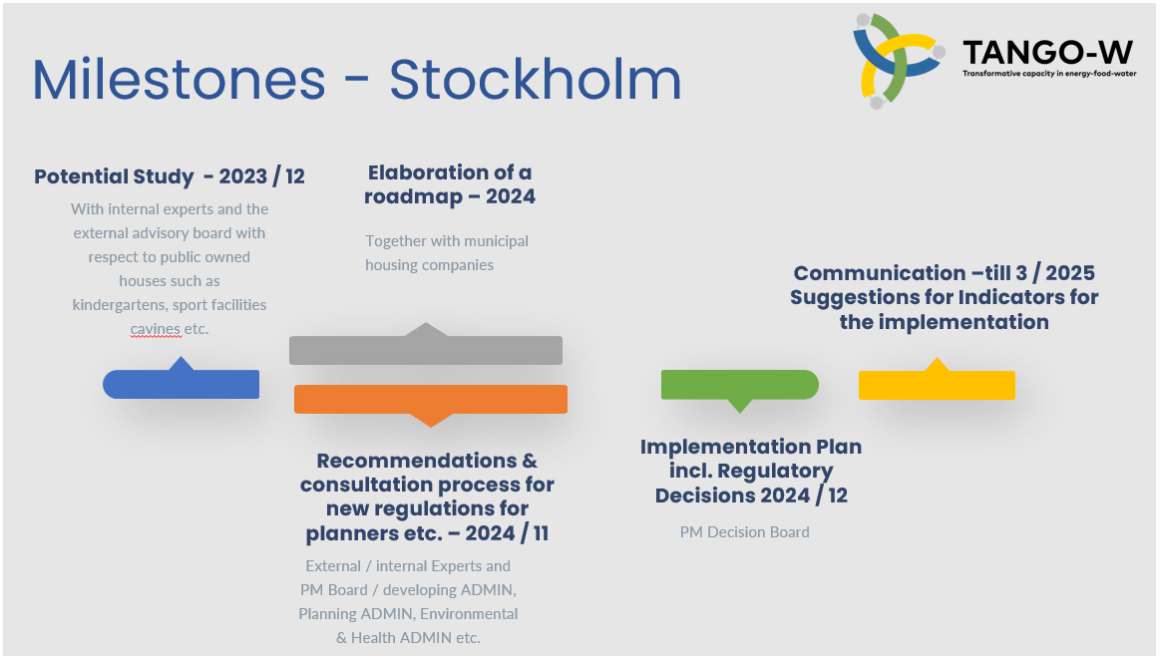

FIGURE 14: MILESTONES OF STOCKHOLM (SOURCE: TANGO-W 2022)

Temporal Architecture

This temporal architecture of Stockholm links the actors of the social architecture to the milestone plan of the ULL. It breaks down the milestones into individual activities and considers who amongst the relevant actors in the ULL needs to participate in which step in order for it to be successful.

In the case of ULL2.0, we see three main tasks in the course of the TANGO-W implementation project:

- decisions by the client and the decision board, supported by inputs from the project management,
- preparatory work in terms of content and organisation by the project manager and the expert group, and
- full-day or half-day workshops or clarification meetings with the stakeholders.

Although the TANGO-W consultants are involved in the preparation of the content or the workshops, they live a Coaching role in the detailed design and evaluation process of the workshops and not in the organisation or presentation of the content on site. Both support the ULL implementation project a) on the content level, b) on the organisational level (project management) and c) on the level of social communication processes between the groups of actors.

An exemplary "temporal actor architecture" of Stockholm is attached, see **Fehler! Verweisquelle konnte nicht gefunden werden.**. This is hypothetical and results from the interview with the project manager of the Stockholm ULL. In the upcoming f2f UTC this temporal actor architecture has to be further concretised and optimised.

We cannot yet say how many meetings or workshops the two expert groups and the Advisory Board will need for the steps

- potential study,
- roadmapping,
- implementation plan,
- communication

in order to develop useful solutions and recommendations based on their experience and expertise. The same applies to the meetings in the consultation process and the decision-making meetings for the new regulations.

The expert advisor (NR) and the systemic advisor (AIT) are limited to a coaching role in a) the online UTC CoP and b) the biannual reviews of all ULLs. In addition, the NR has the task of supporting the project management on site with content issues or facilitating individual meetings as required.

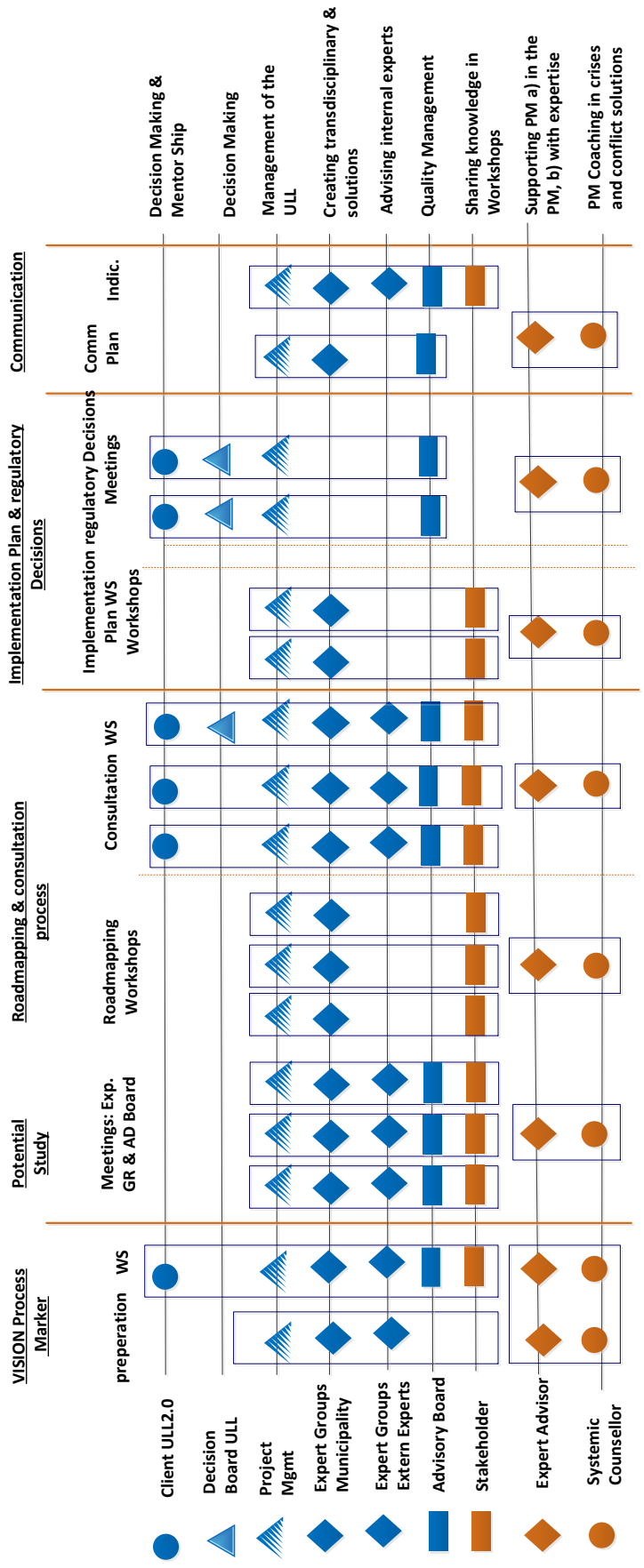

FIGURE 15: DRAFT STOCKHOLM TEMPORAL ARCHITECTURE (SOURCE: D. WILHELMER 2023)

Hypothesis: Strengths of Stockholm's Transformation Room (social architecture)

There is a good and trustful cooperation between the project management and the client and an established inter-departmental project organization within the city, (all involved administrations, municipal housing companies and municipal utilities) that is the foundation for the ULL. In addition, the use of external expertise is secured. There is also an established process for anchoring decisions, where the client communicates important results and proposals for implementation through the SRS steering group through to the municipality's board. This relationship of trust enables both a) the development of a good substantive result and b) timely implementation decisions in the city of Stockholm itself. We believe that this relationship quality is the "fuel" and "engine" for transformative, sustainable change in Stockholm.

Stockholm appears to be structurally very differentiated and well organised, as are all large cities. Experience has shown that such structures often lead to silo thinking and action and are therefore usually a major obstacle to innovative processes. The introduction of an inter-departmental working group of experts as a cross-departmental function for all sustainability projects attempts to counteract such blockades. The PM board is thus an important platform for supporting and embedding the Stockholm ULL in existing sustainability initiatives.

The subcontracted consultants consist of internal greening experts from Stockholm. This makes it possible to advise the project management on existing results as well as on current and future plans. Which furthermore allows to a) build on existing knowledge and b) use the leverage of existing decisions to assess the allowable degree of innovation of own proposals and the argumentation for upcoming ULL decisions.

UL2.0 Stockholm is part of a long-term urban development plan. The ULL project has been defined by the city itself. TANGO-W contributes to the success of the implementation by providing human resources (PM capacities), by facilitating workshops (if requested) and by introducing new intervention options and methods during the course of the project. The embedding in the long-term urban development plan, however, serves as a basic source of motivation and a binding requirement for the successful implementation of the ULL plan and can thus be seen as a guarantee for achieving the desired impact of the ULL in the context of the urban development area.

The PM of Stockholm can draw on the knowledge or facilitation activities of NR when needed. This allows the PM to focus on the substantive achievement of the objectives, if desired, while NR, in its role as facilitator, can ensure appropriate stakeholder involvement and thus satisfaction of all stakeholders. This peer system between project management and the city can thus contribute to the acceptance of the results achieved by the most important stakeholders.

Hypothesis: Ambiguities and risks of Stockholm Transformation Room (social architecture):

In the interview between AIT and the project management of ULL Stockholm it was felt that the 'social architecture' (to govern the implementation of ULL) consists of one expert group, with internal and external experts. Such an arrangement could limit the direct use of available knowledge for expert dialogue and the emergence of unexpected solutions. In this case, the project management would have the sole overview of the available knowledge and would act as the "eye of the needle" in terms of time and content for the emergence of solutions: The decision on how to integrate the two sets of knowledge would then be in the hands of the project management, instead of being based on a broad consensual expert dialogue. While this would ensure top-down control of project outcomes in the sense of the client and the PM's decision board, it would also greatly reduce the chance of achieving a better than expected outcome. It follows that impact monitoring could observe and question the cooperation between project

management and expert groups with regard to the impact on the results. One solution could be, for example, to work primarily with the internal group and to integrate the external experts into the discussions of the internal group as the need arises.

The interview gave the impression that in the start-up period 2022, the cooperation relations and roles between NR and PM/Stockholm could not yet be clarified in detail, despite clear role expectations. Such a clarification requires the formulation of a clear need on the part of the ULL management and a corresponding offer from an RO that is willing and able to cover some of these needs in concrete terms. Due to the current implementation situation, which is not yet so concrete, the formulation of the concrete need and thus the clarification of the concrete support services will probably be in the pipeline for the near future. It seems important to us that the Stockholm ULL can see a concrete benefit in TANGO-W beyond the fact that it can obtain project resources. It follows that the impact monitoring should observe the process of clarification of roles and cooperation between NR and Stockholm and its implementation in the daily project life of the ULL. In particular, the impact in terms of a) relieving the burden on Stockholm's PM and b) increasing the acceptance and quality of the results seem to be interesting perspectives for monitoring.

Stockholm as a city seems to be well organised and structured, and also used to working with stakeholders in a cost- and time-saving way in a high-level "top-down" mode of government. Prescribed procedures and well-rehearsed routines may mean that the scope for experimenting with innovative approaches or solutions is rather limited. Experience has shown that this often leads to lower levels of acceptance of the results and to a loss of trust with stakeholders, who may feel that their needs are not being taken into account and that they are being used to achieve the city's objectives. It follows that it could be useful for impact monitoring to observe how relationships with stakeholders are established and to regularly question their impact on acceptance and trust, in order to help achieve a good balance between top-down and bottom-up processes during the implementation process.

Stockholm seems to perceive itself as a competent and well-organised city. Pride in what has been achieved can lead to a failure to see one's own blind spots and a delay in asking for external support. It follows that impact monitoring will observe the self-relationship between the successful city of Stockholm and the entrepreneur Stockholm ULL and examine whether this raises new questions that can trigger new kinds of search processes.

The PM appears as the central communication node between all groups and decision-making bodies. There is a danger that the PM may inadvertently become a limiting factor and a bottleneck in the overall process: If everything has to go through the project manager, but he or she does not have the time or does not understand some technical or legal detail, then the ULL process itself will be delayed or come to a standstill. A star-shaped communication structure between project management and the groups and individuals involved reduces direct exchange and limits the emergence of unplanned new ideas.

It follows that the following dimensions should be *important issues for the upcoming UTC monitoring*:

TABLE 19: IMPORTANT ISSUES FOR THE UPCOMING ULL MONITORING IN THE ULL STOCKHOLM

The impact of the nature of the working relationship between
• The project manager and the expert groups. • NR and the project management respectively all groups and actors of Stockholm ULL. • The project-manager, the client and the stakeholders involved.

- The advisory-board and pm-board – representing the successful Stockholm city – and the entrepreneurial ULL Stockholm.

The impact of the nature of role performance, trust relationship and decision-making influences

- The chance of achieving unexpected, novel solutions via expert dialogues.
- The effects in terms of a) relieving the PM of Stockholm and b) increasing the acceptance and quality of the result for both, a) the stakeholders and b) the city administration concerned.
- The degree of stakeholder acceptance of the results and a top-down/bottom-up governance mode that meets the different needs of ULL Stockholm.
- The transformative capacity to raise new questions that trigger new kinds of search processes.

5.3.2 Force Field-Analysis: Driving and resisting forces and scope of change of Stockholm

As introduced in the previous pages, Stockholm's ULL has a long tradition of innovation projects. The area of Stockholm Royal Seaport[6] is a vibrant example of urban transformation and implementation of sustainability projects and strategies that reinforce the FWE nexus. From previous projects the city of Stockholm has developed the Green Space Index (GSI), a tool that assess how projects (public and private) can contribute to improve the ecosystems and local climate, as well as social values.

In D2.1 the intention to explore the potential for urban farming of caloric foods in Stockholm's Royal Seaport district was stated. The scope since then has transitioned from only looking at caverns, to exploring all type of possibilities in the urban fabric.

Furthermore, and as an additional outcome Stockholm also wants to include indicators about productive ecosystems on its GSI, to enhance investments that can contribute to enhance productive environments within Stockholm urban area.

The proposed feasibility study would encompass not only the techno-economic analysis, but also consider the implications of urban farming on water use, energy use, and the interconnections with the social layer of the district.

In Table 20, the results of the force field analysis are presented, including drivers and stoppers, and a hypothetic ranking of their impact potential for the success of the project. This exercise does not only provide a visualization of the forces that are present in the ULL change but can also provide relevant inputs for stakeholder mapping.

TABLE 20. FORCE FIELD ANALYSIS - STOCKHOLM.

Forces that drive change		Forces against change
Food is mentioned in Stockholm's municipality budget, and therefore it is on its road map.	Urban farming of caloric foods - Feasibility analysis and policy advice	Availability of space. The cost of land in Stockholm, might move the farming installations towards vertical space (facades),
The war initiated by Russia has caused an increased interest towards self-sufficiency and resiliency at city level.		Reluctancy from building owners to cede the use of their facades for farming.
Stockholm has already a stablished way of working with Research and Innovation projects.		Unclear business model for landowners and business developers.

[6] Stockholm Royal Seaport: Sustainable Urban Development | Norra Djurgårdsstaden 2030 (norradjurgardsstaden2030.se)

The city has a strong network of entities and individuals interested in the topic and willing to promote its adoption.					At citizen and business level, individuals' ability to change is low.			
Long tradition of urban allotments								
The high energy and food prices increased the interest towards energy and food efficient use and management.								
The project is developed within Stockholm Royal Seaport's, a district with extended experience in sustainability and urban transformation, that has created a positive environment for the realization of such projects.								
4	3	2	1		1	2	3	4

Stockholm initial force field analysis shows a significant amount of drivers that could be promoted in order to increase the success potential of the project. Furthermore, the drivers also show how Stockholm has already work processes to manage innovation in place. This is cannot only be a driver, but also provide a very solid UTC environment for TANGO-W. On the other hand, one of the interesting aspects of the FFA is that the two main relevant stoppers, *Availability of space* and *Low capacity for change from individuals* which are not easily reversible. Relevant mitigation actions would be necessary in the case of implementation of urban farming within the ULL.

5.3.3 Conclusion: Guiding questions for an innovative UTC Governance

In the following chapter, the strengths and risks from the hypothesis development and force field analysis are translated into achievable ULL capacities, which can become more or less effective in the cooperation between certain actors. In doing so, the different impacts that can be mitigated or strengthened by interventions are elaborated, with a special focus on the achievable innovations.

The table below shows the effects that can be achieved by changing a certain relationship from the perspective of an actor. The following abbreviations are used: PM = Project Management; Client = Client; City Dep. = City Departments; Mayor = Mayor; CON = Consultants / national RO & AIT; PT = Project Team; Stakeh. = Stakeholder; SC = Subcontracted Consultants; DEC-Board = Decision Board; EXP-Teams = expert-teams;

TABLE 21: RELATIONSHIPS, ACTORS AND IMPACTS OF THE ULL STOCKHOLM

Relationship	Actor	Impact
PM & Client	PM	• Food is part of Stockholm's strategy and budget • Stockholm has a long tradition of urban agriculture • The ULL is part of the Stockholm Royal Seaport urban development area. • Mutually trusting relationship and certainty of - Mutual trust and certainty of expectations • Clear internal and external division of labour (city)

		• Goal orientation (good result) • Clear scope for experimentation • Rapid, timely implementation • Acceptance of results • Trust of stakeholders • Awareness of own limitations • Increased ability to learn
PM & PM DEC-Board.	PM	• Embedding ULL in long term strategy/programmes • Collaboration between all departments • Use of the know-how of the departments • High level of problem awareness in all departments • Shared solutions across all departments • Interdepartmental thinking for innovative solutions
PM & SC	PM	• Build on existing knowledge and decisions • Increase the level of innovation
PM & EXP-Teams	PM	• Knowledge transfer from outside to inside • Broadly available, new expertise • Strengthening urban planning expertise • Shared view of solutions • Conscious use of resources • Innovative and applicable results
PM & Con. (& Client)	PM	• High goal orientation • Relief for the PM (facilitation) • Additional human resources (TANGO-W) • Increased focus on results & quality • Increased acceptance and stakeholder satisfaction • Increased commitment to implementation Awareness of own limits • Increased ability to learn & innovate
PM & all bodies	PM	• Shared problem awareness (technical/legal) • Shared solutions through direct exchange • New, unplanned ideas • Increased speed of implementation

The ULL project manager is invited to experiment with transforming relationships where more or less innovation can be expected as a result, with a view to the TANGO-W objective of increasing UTC. In order to support the project managers, guiding questions are then formulated in relation to the relationships that, from today's perspective, seem to have the most transformative potential:

TABLE 22: GUIDING QUESTIONS FOR AN INNOVATIVE UTC GOVERNANCE IN THE ULL STOCKHOLM

Relationship	Guiding questions for an innovative UTC governance	Focus:
PM & PM DEC- Board	• What are the objectives and tasks of the PM Decision Board? • How often does the PM Decision Board meet with the Project Manager? • Why do representatives of the PM Decision Board meet with the Project Manager (e.g., to coordinate with the City Strategy, to gather existing know-how, to review solution ideas, to make decisions)? • Who makes the key decisions? • Which impacts are prioritised from an overarching perspective? • How and by whom are these overarching objectives communicated to stakeholders and the mayor?	Sustainable implementation of the City Strategy

PM & SC	• What are the objectives of the subcontracted consultants? • Who decides which internal experts to invite? • How often does the board meet? • What is the added value of the subcontracted consultants for the project management? • What is the added value of the subcontracted consultants for the ULL? • How do the results of the subcontracted consultants feed into the expert dialogues? • What is the role of the subcontracted consultants in political decisions?	Feasible new things based on existing ones
PM & EXP-Teams	• What is the purpose for having two teams of experts? • What are the objectives of the two teams of experts? • What knowledge is required for the successful implementation of the ULL? • Who decides which internal experts and urban planners will be invited? • Who decides which external expert organisations and individuals are invited? • How often does the internal expert group meet with the PM and stakeholders? • How often does the external expert group meet with the PM and stakeholders? • How often does the external and internal expert group meet with the PM and stakeholders? • How is knowledge transferred from the outside to the inside? • How are the needs and interests of the stakeholders identified and considered? • How are solutions developed? • What is the role of expert groups in relation to policy decisions? • What is different at the end of expert group meetings?	Applicable, innovative results based on broad competence development
PM & CON	• What are the objectives of the "peer system" ULL-PM & consultants? • What is the division of labour between the ULL-PM and the consultants? • What are the specific tasks of the consultants? • How was the division of labour agreed? • Which impulses are experienced as helpful? Which are positively irritating? Which are negatively irritating? • How does the project management deal with the external impulses? • What are the implications for project management? • What are the implications for stakeholder satisfaction and acceptance of results? • What are the consequences for the focus and quality of the results? • What are the implications for the learning capacity of both? What supports the learning capacity? • Who is responsible for ULL decisions? • What is the added value of TANGO-W for the PM?	The 'peer system' of learning and governance
PM & all bodies (social architecture)	• What is the PM's role in co-ordinating all functions/bodies? • Where does the PM get support? Where are the challenges? What seems to be particularly challenging? • What are the differences between project architecture and project management?	Increase shared learning, adoption and speed of implementation

- How do they affect the search for solutions?
- How do they affect collaboration and outcomes?
- How do they affect innovation?
- How do they affect the speed of implementation of the result?

These guiding questions (see above) should help to question and change the nature of the cooperation between the actors within each step, in order to increase the likelihood of success for the change and thus also for the Stockholm ULL project. Reflection and intervention planning within the online CoPs and f2f CoPs should thus contribute to increasing the transformative capacity both in the TANGO-W team and in the TANGO-W transformation-room with all stakeholders, experts and decision bodies concerned. We expect the questions to be expanded or even changed to some extent in the course of the next two years. These questions will be used in the future online CoPs and f2f CoPs of TANGO-W.

5.4 ULL 2.0 - NORRTÄLJE

5.4.1 Customised ULL2.0 Transformation Room Norrtälje

Norrtälje's original plan to implement an aquaponic system in a Boverian elderly home and to use it to raise awareness of the circular economy among wealthy pensioners failed, when the elderly home withdrew its consent. The pensioners were afraid of being financially overburdened by additional costs on top of the extremely high inflation in 2022.

At the time, Campus Roslagen had already considered implementing the aquaponic system in a school. The students' task of caring for the fish and plants in the system was intended as on-the-job training in circular economy. These preliminary considerations by Campus Roslagen to cooperate with a school led to a reorientation of the concept: Instead of implementing and maintaining the technical system in a school, it was decided to carry out a feasibility study for aquaponic banana cultivation based on an aquaponic banana cultivation facility built on an abandoned military site. At the same time, an interdepartmental decision-making group was to be set up in the city. This group was to make effective decisions for the ULL using the sociocratic CONSENT method. At the same time, the aim was to test whether the introduction of the new decision-making structure and method would increase the transformative capacity of Norrtälje city and region.

Strategic framework of ULL Norrtälje:

TABLE 23: STRATEGIC FRAMEWORK OF THE ULL NORRTÄLJE

Overall objective	Norrtälje: Feasibility study for a "Norrtälje prototype for aquaponic banana cultivation". TANGO-W: Widening urban transformative capacity
Sub-objectives of the ULL	Explore the interest of: • entrepreneurs and start-ups in aquaponics in the region. • Professional schools in aquaponic technology for educational purposes • Municipality schools that can use the prototype for environmental education purposes. • identify potential contributors from the city's energy, food, and innovation sectors to support the implementation of the aquaponic system • development of a "Guide for the Introduction of Banana Aquaponics" in Norrtälje • implementation of an interdepartmental decision-making group of the city • testing the sociocratic CONSENT facilitation for decision-making in the city

Functions/bodies of Norrtälje TRANSFORMATION Room

The transformation space of Norrtälje consists of a social and a temporal architecture. Both architectures make it possible to govern

- the necessary content steps and
- the necessary clarification and decision-making processes between all relevant ULL actors,
- actively asking for support from the local expert advisor and the TANGO-W process counsellor.

The table below describes the individual bodies/functions within the social ULL architecture:

TABLE 24: BODIES AND FUNCTIONS WITHIN THE ARCHITECTURE OF THE ULL NORRTÄLJE

Client	Mayor (or key councillor) interested in the aquaponic system and new decision-making structures and methods to effectively coordinate innovative urban projects.
Internal Client Campus Roslagen	CEO of Campus Roslagen
Decision Board	Interdepartmental decision-making group of the city Ideally, the decision-makers come from the fields of "urban development", "regulation", "education", "energy" and "water". Importantly, they are interested in and want to practically test a) aquaponic systems and b) new structures and methods to effectively coordinate innovative urban projects. Direction Board of Campus Roslagen
City Project Manager	Recognised civil servant with decision-making powers
PM Core Team	Amelia Morey Strömberg, a consultant and Campus Roslagen experts
Expert Group	Internal city experts responsible for urban development, regulations, different types of schools, energy, and water infrastructure and a technical expert for aquaponics.
Stakeholders	• Municipal water, energy, food, and innovation companies, as well as land-owners and developers • Municipality incubator "företagsparken" • Business department of the municipality in the role of the facilitator of business opportunities in Norrtälje • Headteachers, subject teachers and student representatives from different school types in the region. • Entrepreneurs and company founders in the role of owner or developer. • Owner for the location where the site will be built (the feasibility study is going to provide the optimal location
Expert advisor	NR supports Norrtälje on demand (role not clear).
Systemic Counsellor	AIT supports the implementation and execution of the ULL process through regular online UTC supervisions.
Risks	• The mayor has no interest in exploring applications for aquaponics, nor in testing effective decision-making structures and processes. (→In this case, the CEO of Campus Roslagen must take on the role of client and ensure that competent city representatives are involved in the development and decision-making processes during the preparation of the feasibility study). • The mayor or a key councilor is unwilling to act as principal. • The cooperation between the city project management and the PM core members of Campus Roslagen does not work. • The city representatives in the decision-making group have no decision-making power and cannot make binding decisions. • The schools and public and private companies are not interested in aquaponics.

- The feasibility study cannot identify areas of application for the prototype.

The figure below shows the interaction of the different bodies/functions in the necessary cooperation and decision-making processes within Norrtälje Transformation Room (social architecture).

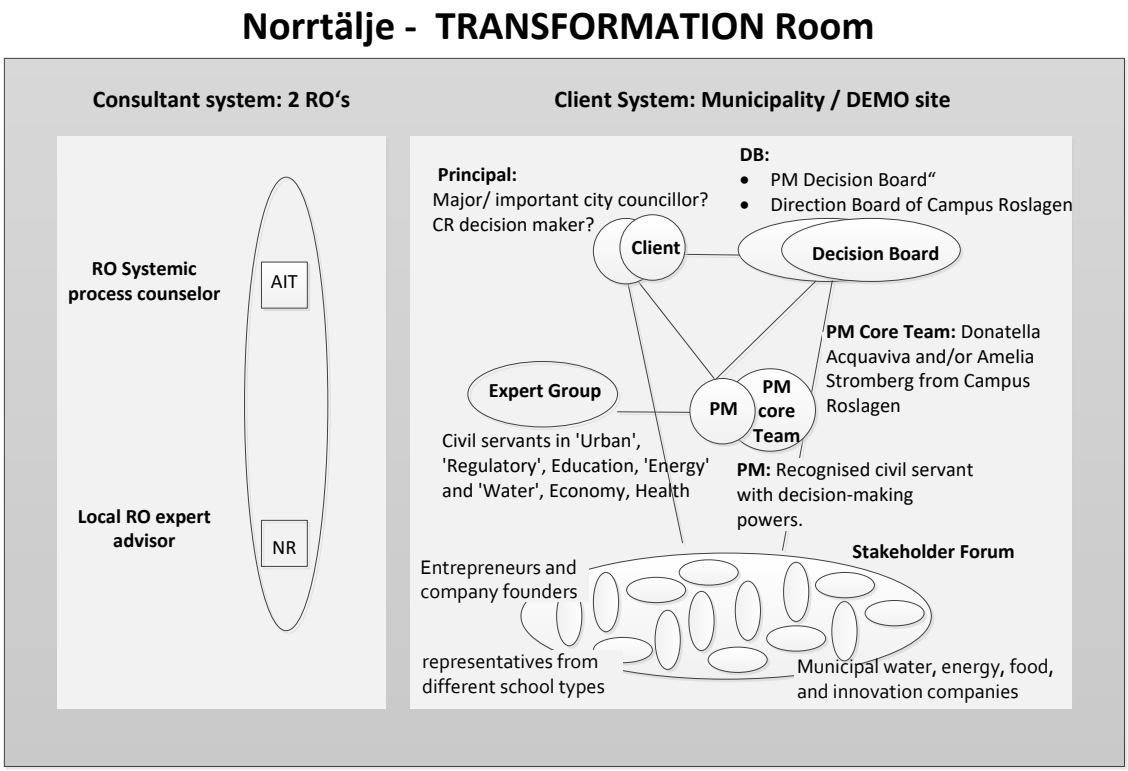

FIGURE 16: NORRTÄLJE TRANSFORMATION ROOM (SOURCE: D. WILHELMER 2023)

As mentioned at the beginning of the chapter 4, the social and temporal architecture are not methods of analysis, but complementary to the guiding questions per ULL and represent central intervention and self-direction methods of the TANGO-W ULLs. Therefore, all diagrams were agreed with the TANGO-W leaders of the ULLs.

As the Norrtälje ULL case had to be restarted shortly before, the graphs presented above represented an intervention to clarify open questions between the ULL leaders and the project coordinator. In an online conversation, the objectives and actors were discussed in detail and open questions on both sides were clarified.

The figure below shows the result of this coordination process. The main difference is that in the new version it is clear who the client is. In the clarification meeting it was established that the sole client was the management of Campus Roslagen and that the leader was Frida Karlsson. The advantage of this is that the scope for decision-making between the project management and the client has become greater in this case, as all the central actors are located directly in CR. On the other hand, this increases the risk that the municipality of Norrtälje will withdraw from the experiment and not participate in the learning process. Despite a successful project outcome, this could delay the expansion of urban food production in the medium term, as a lack of understanding of the problem means that the necessary regulations are not developed and implemented with any vigour. The clarification meeting also clarified the experimental field for the urban transformation process: The aim is to recruit a group of motivated and

committed people from the various departments of the city administration, who will represent the goals of the project themselves and actively work on interdepartmental solutions. These people should act as multipliers to stimulate relevant programmes or regulations, and as role models to make the success of interdepartmental cooperation in sustainability projects visible for Norrtälje. In the medium term, the aim is to make visible the benefits and significance of an interdepartmental cross-cutting group in Norrtälje as a steering instrument for future complex sustainability projects. The replication of the good practices will benefit Campus Roslagen and the City of Norrtälje in the joint development and management of sustainability projects.

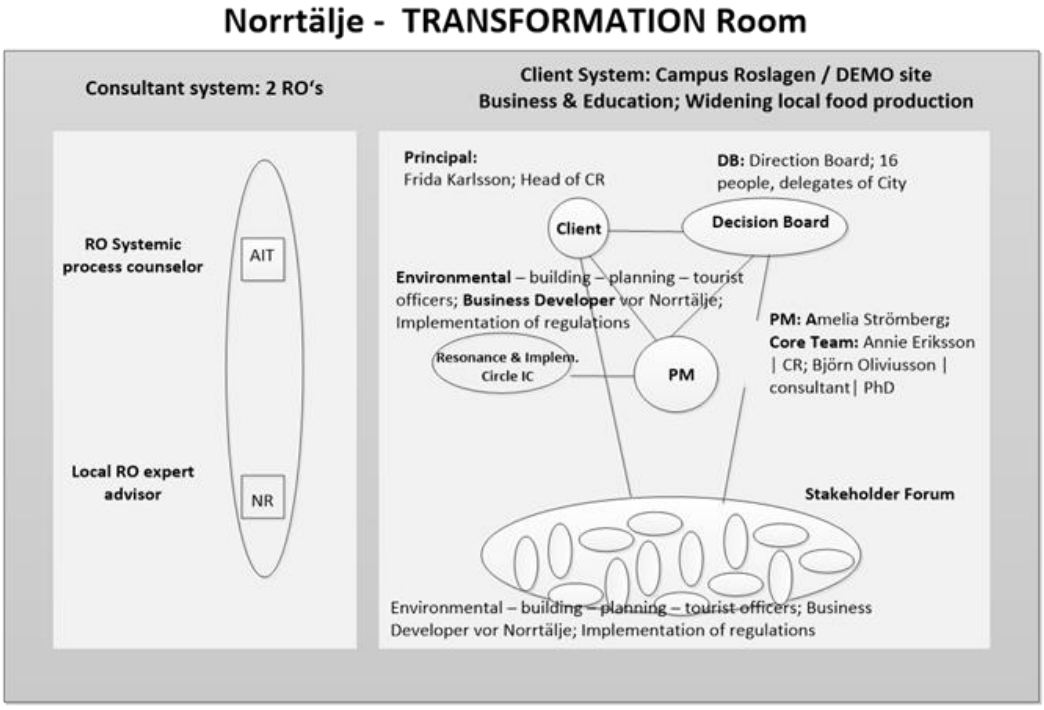

FIGURE 17: NORRTÄLJE TRANSFORMATION ROOM (SOURCE: D. WILHELMER 2023)

The planned milestones in the timeline

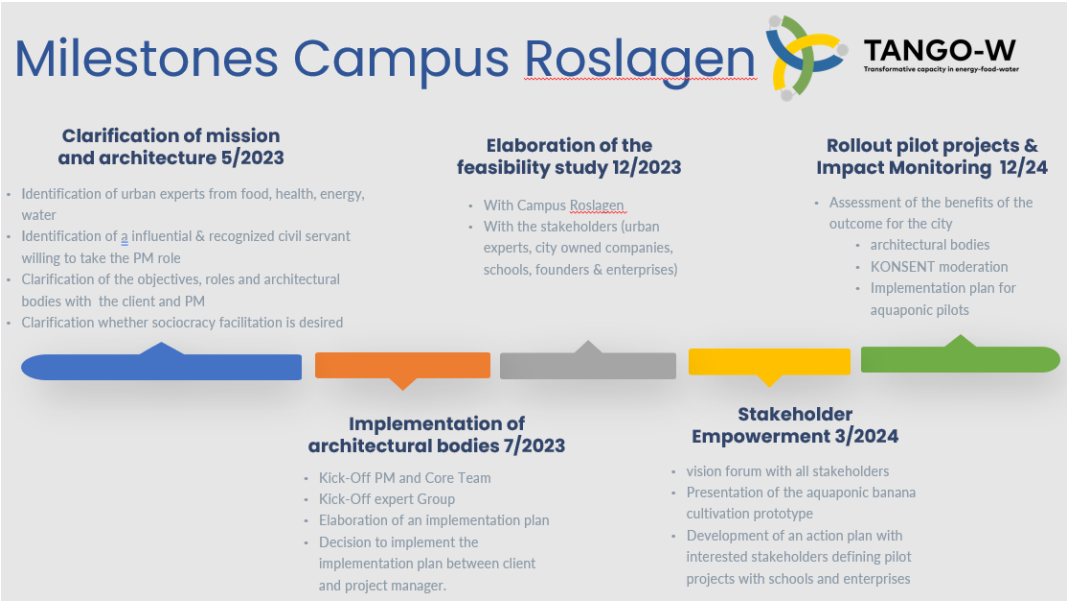

FIGURE 18: MILESTONES OF NORRTÄLJE (SOURCE: TANGO-W 2022)

The social and temporal architecture of Campus Roslagens's transformation-room reveals the benefits and risks of ULL governance:

Temporal Architecture

This temporal architecture of Norrtälje links the actors of the social architecture to the milestone plan of the ULL. It breaks down the milestones into individual activities and considers who among the relevant actors in the ULL needs to participate in which step in order for it to be successful.

In the case of ULL2.0, we see three main tasks in the course of the TANGO-W implementation project:

- decisions by the client and the decision board, supported by inputs from the project management and PM-core-team,
- preparatory work in terms of content and organisation by the project manager and the expert group, and
- full-day or half-day workshops or clarification meetings with the stakeholders to elaborate the feasibility study.

Although the TANGO-W consultants are involved in the preparation of the content or the workshops, they live a coaching role in the detailed design and evaluation process of the workshops and not in the organisation or presentation of the content on site. Both support the ULL implementation project

- on the content level,
- on the organisational level (project management) and
- on the level of social communication processes between the groups of actors.

In the case of Norrtälje, it seems important to us, that NR takes an active role in the preparatory clarification phase of the project in the form of facilitating workshops and clarification meetings. This will ensure that the goals and roles of the ULL are defined in a way that is clear to both Campus Roslagen and Norrtälje, and thus feasible for the CR project leaders.

An exemplary "temporal actor architecture" (see Figure 19) of Norrtälje is attached. This is hypothetical and results from the interview with Campus Roslagen experts in TANGO-W (PM-core team of Norrtälje ULL). In the upcoming f2f UTC this temporal actor architecture has to be further concretised and optimised.

We cannot say today how many workshops the expert group and the 3 stakeholder groups will need to analyse stakeholder needs, develop innovative solutions and options for implementing Campus Roslagen aquaponic prototype in the region and to prepare a decision document for the mayor and the local council. The workshops shown in the timeline are only placeholders for the upcoming meetings and workshops.

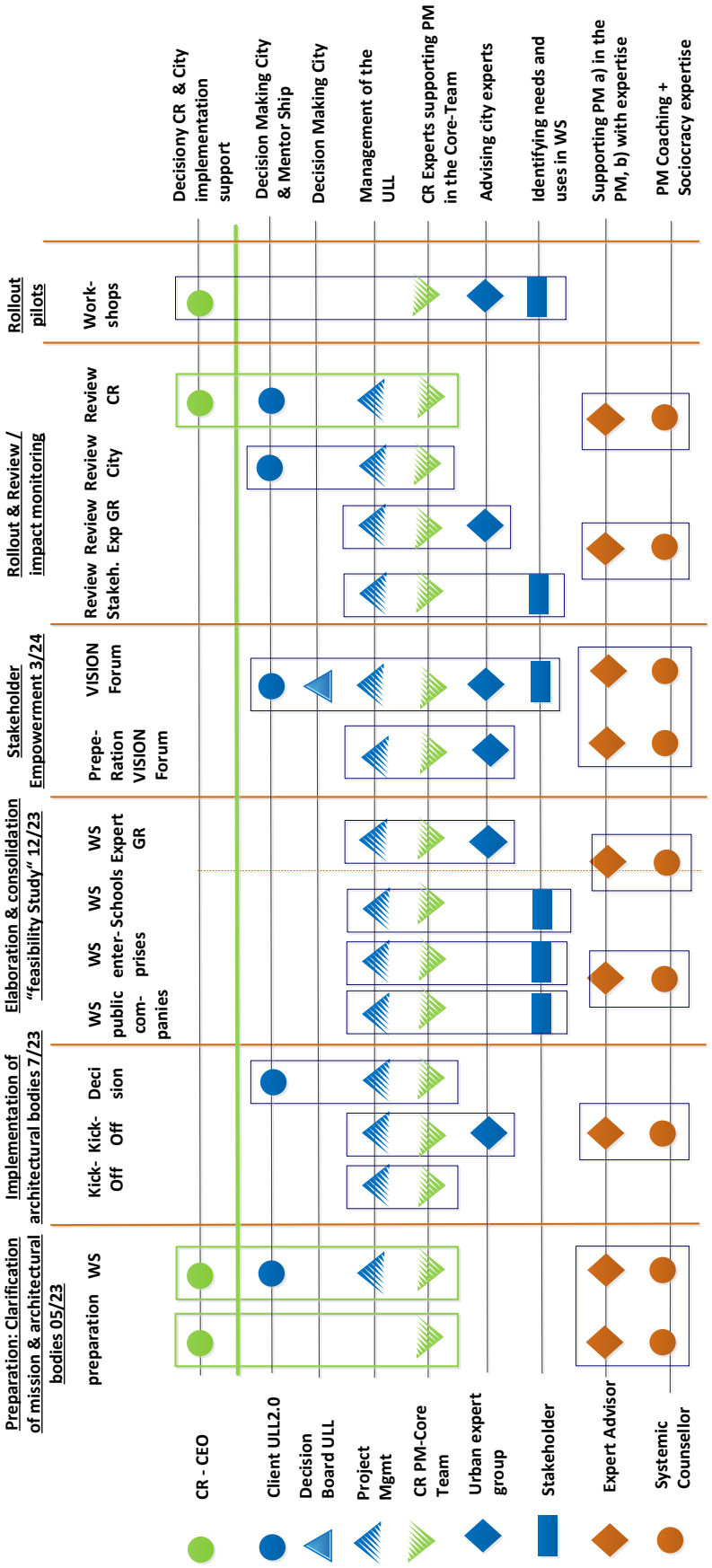

FIGURE 19: DRAFT NORRTÄLJE TEMPORAL ARCHITECTURE (SOURCE: D. WILHELMER 2023)

Hypothesis: Strengths of Norrtälje Transformation Room (social architecture)

Campus Roslagen (CR) has technical expertise in aquaponic cultivation of banana plants and an aquaponic prototype. This enables CR to set up an aquaponic prototype on the reclassified military site and serves as a source of motivation to promote the 'product' to interested parties in the surrounding area. The focus is on building a new business by and for Campus Roslagen.

CR is owned by Norrtälje Municipality: CR managers and employees also work for Norrtälje municipality and the municipality administration. This makes it easier to find a committed person who can and will take on the role of city client as well as that of a city project manager, and additionally of competent and motivated experts from the municipality in the fields of urban/regional development, health and education. Setting up a city project from Campus Roslagen remains difficult, but it seems possible.

The close connection between CR and the municipality of Norrtälje facilitates CR's access to important stakeholders such as public companies, entrepreneurs and different types of schools. CR initiatives can thus rely on the support of the municipality, which significantly increases the importance and attractiveness of CR initiatives among stakeholders. This, in turn, can be seen as a prerequisite for the success of the stakeholder processes, including the feasibility study workshops and the vision forum.

The motivation for both, the feasibility study, and the establishment of a new business, lies primarily with CR. From today's perspective, the motivation of the mayor and the municipality with regard to the topic of "aquaponic cultivation of banana plants" seems unclear. The prospect of gaining a new source of income through CR that can rent the site to an innovative company, attracting new enterprises to the area, and creating a point of interest to the tourists visiting Norrtälje (as it is a big tourism area in the County) and providing an educational site for the municipality, if the project is successful, speaks in favor of support from the municipality. In addition to this benefit, the city could use CR's aquaponic prototype on the former military site as a symbol of the city's commitment to sustainability and circular economy.

The motivation of the city to establish a cross-departmental PM board to enhance the governance capacity of sustainable innovation projects could not be clarified in the interview with the CR project leaders. If there is such a motivation, the CR Aquaponics project can be seen and used by the city as a suitable opportunity to test a new governance structure.

The motivation of the city to get to know and use the method of sociocratic CONSENT[7] moderation to increase the effectiveness of internal and overarching decision-making processes could not be clarified in the interview. If representatives of the city have a personal interest and are personally involved, then this can be seen as a valuable additional benefit for the city in the implementation of the feasibility study for the aquaponic system.

The two CR project managers have known each other for a long time and have a trusting relationship. It needs to be clarified whether this is a subordinate relationship or whether both project managers can work together as equals. If they can work together as equals, the chances of success are much higher. A hierarchical subordinate relationship and a command-and-control style of collaboration would overwhelm the central project manager and make success in this complex context unrealistic.

[7] Strauch, B., Reijmer, A. (2018): Sociocracy. Circle Structures as an Organisational Principle for Strengthening Individual Co-responsibility. Verlag Franz Vahlen GmbH, Munich 2018, page 36.

Hypothesis: Ambiguities and risks of Norrtälje Transformation Room (social architecture

The existence of a municipal motivation to establish an overarching PM board to enhance the steering capacity of sustainable innovation projects could not be clearly clarified in the interview. If the establishment of an overarching PM board in the city is perceived as an unjustified intrusion into municipal routines, then the assumption of a client role by the city seems rather unlikely. It follows that impact monitoring should closely monitor the clarification of the mandate between CR and the municipal client, whether an overarching internal PM steering group should be set up and tested, and evaluate and report on the results at an early stage. This is the only way to ensure that the ULL has a clear starting point.

The motivation of the city to get to know and use the method of sociocratic CONSENT facilitation to increase the effectiveness of decision-making processes could not be clarified in the interview. If there are no people in the city who want to get to know this method personally and test it in practice, then experimenting with the agile decision-making method is unrealistic. If there is no clear understanding of the relevant motivations and attitudes in the city, anger at the 'imposition' of the required changes in action is inevitable, and thus the success of the project is jeopardised. It follows that impact monitoring should repeatedly question the project objectives negotiated between CR and the municipal client with regard to testing the decision-making method, in order to avoid a possible self-commissioning by CR as a substitute for city commissioning and the problems that can be expected from this.

The motivation for both, the aquaponic feasibility study and the establishment of a new business area, appears to be primarily for the Roslagen campus. If the additional benefits (budget relief, testing of an overarching PM Board, testing of a decision-making method that increases effectiveness) cease to exist, it is to be expected that the ULL will be of little importance to the municipality itself. This would greatly reduce the attractiveness of the city's internal project management or the city's commissioning role and would entail a high risk of failure for the ULL. With the diminishing involvement of the city's project management and experts, and the growing disinterest of the city's client, the CR project managers would come under pressure to do most of the work alone, which would severely affect both the quality of the content and the acceptance of the results. It follows that impact monitoring should check the motivation and attractiveness for the internal city client and the project manager and provide timely feedback to enable role and possibly competence clarification between CR and the city.

If the city refuses to take on the role of client and/or project manager, the role of client would have to be anchored in Campus Roslagen itself. In this case, the CEO of Campus Roslagen would be hierarchically superior to the two CR project managers. In this case, it would be questionable whether the CR CEO would be interested in testing a decision-making method, that increases effectiveness, or in continuous work with a municipal expert group. If neither is the case, then the ULL would be given an entrepreneurial marketing focus to launch an aquaponic product beyond urban development. This would clearly compromise the TANGO-W mandate for the ULL to expand its urban transformation capacity. It follows that impact monitoring should repeatedly question the nature of the ULL's scope for experimental action, and continuously monitor and evaluate representative collaboration with community and regional stakeholders in the development and decision-making phases.

Another effect of the CR-CEO taking on the role of client could be that the necessary experimental space for each ULL is unintentionally restricted by the overlay of the CR top-down line hierarchy, and that economic costs/benefits are prioritised over experimental goals. It follows that impact monitoring should regularly challenge the way in which decisions are made between the CR CEO and the CR project

management, and monitor the ULL's collaboration with a wide range of stakeholders in the city and region for the purpose of scaling up UTC.

NR, together with AIT, seems to play a crucial role for the success of CR, especially in the preparation phase of goals, roles and milestones: As an external consultant, NR has more freedom than members of the local CR organisation to question the goals and motives of the decision-makers in CR and the city, and thus, in cooperation with the AIT, to contribute to a promising framework for the ULL. If focus was only on the CR project leaders can prolong the "fogging" of this phase of ambiguity and thus contribute to delays or failure of the ULL. It follows that impact monitoring should observe and evaluate the relationship between CR project management and NR, especially in the preparatory implementation phase, in order to make NR's resources available to Norrtälje and CR.

It follows that the following dimensions should be *important issues for the upcoming UTC monitoring*:

TABLE 25: IMPORTANT ISSUES FOR THE UPCOMING UTC MONITORING IN THE ULL NORRTÄLJE

The impact of the nature of the working relationship between
• the CR-CEO and CR project managers and the city client • the CR Core team project management and the city project management and the city client • the CR-CEO and CR project managers (Core team) and the three stakeholder groups • the CR project management (Core team) and the local RO.
The impact of the nature of role performance, trust relationship and decision-making influences
• Clarity for CR project management (Core team) as to whether the introduction of an overarching PM board and the testing of an effective new decision-making methodology is desired and mandated by the City. • Clarity for the CR core team project management as to whether the city is fully committed to achieving the objectives or wishes to hand over responsibility to CR. • Awareness of the need to maintain room for manoeuvre in the ULL and can thereby support continuous cooperation with the various stakeholder groups • the possibility of using the temporal and methodological capacities of NR to clarify and make decisions. • The nature of coaching provided by AIT.

5.4.2 Force Field Analysis: Driving and resisting forces and scope of change of Norrtälje

Section 5.4.1 has introduced the evolution of Norrtälje's ULL, in these circumstances, and considering how recent the events have been, the force field analysis exercise has been severely affected by it. However, as already mentioned in the force field analysis introduction, this is a dynamic process and D2.3 is just setting the foundations to develop this exercise. In the case of Norrtälje's ULL, this is more relevant than for any of the other ULLs force field analysis.

Norrtälje's ULL has shifted from prototype to strategic ULL, the implementation of the aquaponic system has been substituted by the objective of performing a **feasibility study of aquaponics greenhouse in Norrtälje to cultivate tropical fruits (bananas more precisely)**. Through this study, the municipality aims to test new governance models for internal applications but also to interact with external stakeholders. The feasibility study will assess the techno-economic feasibility, as well as the social implications of the change. For instance, Norrtälje will explore the impact of the aquaponics system as a tool to foster business and social innovation in the area, promote urban farming, and also its potential uses as an educational tool.

Before moving to the initial force field analysis results, it is relevant to highlight that the change of objective from the ULL is a valuable insight and lesson to learn about innovation projects and UTC. As already presented in TANGO-W's D2.1 and D2.2, trans sectorial innovation projects entail multiple

challenges and uncertainties, and the ability to react and rapidly change direction (even if sometimes it means starting from scratch) is a good example of UTC.

In Table 26 the preliminary results of the force field analysis are presented, including drivers and stoppers, and a hypothetic ranking of their impact potential for the success of the project.

TABLE 26: FORCE FIELD ANALYSIS - NORRTÄLJE

Forces that drive change					Forces against change			
Existing country-level visioning documents for local food production. This is expected to create a spillover effect towards municipalities.					At municipality level, there is risk of not proper collaboration between departments.			
The campus has vision to become a place for social entrepreneurship and education, has been recently reinforced by politicians.				Urban farming of caloric foods - Feasibility analysis and policy advice	**Communication challenges between stakeholders**. Similarly, to the challenges faced by the municipality internally, it could be the case that miscommunication between stakeholders could lead to project issues.			
The shift from prototype case towards strategic case has brought politicians onboard.								
The high energy and food prices increased the interest towards energy and food efficient use and management.								
The current geopolitical situation has increased interest towards self-sufficiency and resiliency among population								
4	3	2	1		1	2	3	4

5.4.3 Conclusion: Guiding questions for an innovative UTC Governance

In the following chapter, the strengths and risks from the hypothesis development and force field analysis are translated into achievable ULL capacities, which can become more or less effective in the cooperation between certain actors. In doing so, the different impacts that can be mitigated or strengthened by interventions are elaborated, with a special focus on the achievable innovations.

The table below shows the effects that can be achieved by changing a certain relationship from the perspective of an actor. The following abbreviations are used: PM = Project Management; Client = Client; City Dep. = City Departments; Mayor = Mayor; CON = Consultants / national RO & AIT; PT = Project Team; Stakeh. = Stakeholder; AD Board = Advisory Board; DEC-Board = Decision Board; EXP-Teams = expert-teams;

TABLE 27: RELATIONSHIPS, ACTORS AND IMPACTS OF THE ULL NORRTÄLJE

Relationship	Actor	Impact
PM & Client 1/CR	PM	• High motivation to successfully implement the prototype • Business plan and new source of income available

		• Customer in personal union "Decision maker in CR" and "Decision maker in Norrtälje • Aquaponics: technical knowledge and prototype available
PM & Client 2/Norrtälje	PM	• Municipal budget is relieved • Customer in personal union "Decision-maker in CR" and "Decision-maker in Norrtälje". • High commitment to the implementation of the ULL objectives (UTC) • Access to competent experts in urban (regional) development, health, education • Good access to key stakeholders, businesses, and schools • -Curiosity and willingness to learn among decision-makers
PM Board & PM	PM	• The benefits of the new PM Board are clear for the city • There is a group of entrepreneurs in the city who want to experiment with new structures and decision-making methods. • The new governance structure is tested and optimised • Increase the effectiveness of overarching project- management • Pooling existing knowledge for problem solving • Increased effectiveness of decision making (CONSENT) • Personal learning for civil servants and policy makers • Project marketing: Stakeholder networks of individual city departments are used • A cross-project PM Board is permanently implemented • Changes in action and increase in UTC • Final decision remains with the mayor
PM1 & PM2 (CR)	PM	• Continuity ensured • Setting an example by visible collaboration at eye level • Sparring partner increases PM's ability to self-correct and learn
PM CR & PM Norrtälje	PM	• Leadership lies with Norrtälje's PM • Clear roles and division of tasks (CR extended PM and project office) • Quick access to decision makers in the city and to CR experts
PM & EXP-Team	PM	• Involvement of urban experts from the fields of urban planning, economics, health, education, water, energy, food, • Interdisciplinary expert dialogues • Knowledge is used to develop overarching solutions
Stakeholder	PM	• Mayor shows full support for the project • The aquaponic system is seen as a symbol of a sustainable region. • Stakeholders have increased knowledge about aquaponics and the circular economy • Solutions developed together • Jointly developed business plans • Innovative companies adopt the aquaponic product for implementation and dissemination in the region and in Sweden
PM & CON	PM	• Good division of labour • Relief for the PM • Stakeholder acceptance • High results orientation • Common goals and language • Increased replicability of results • Peer system as an innovation partnership
PM & all bodies	PM	• Shared problem awareness (technical/legal) • Shared solutions through direct exchange • New, unplanned ideas • Increased speed of implementation

The ULL project manager is invited to experiment with transforming relationships where more or less innovation can be expected as a result, with a view to the TANGO-W objective of increasing UTC. In order to support the project managers, guiding questions are then formulated in relation to the relationships that, from today's perspective, seem to have the most transformative potential:

TABLE 28: GUIDING QUESTIONS FOR AN INNOVATIVE UTC GOVERNANCE IN THE ULL NORRTÄLJE

Relationship	Guiding questions for an innovative UTC governance	Focus:
PM & Client 1/CR	• How does client1/CR play its role? • What is CR's role in the process? • How does CR benefit from the implementation of the ULL? • How does CR contribute to the clarification of the client's role? • How does CR contribute to clarifying the PM's role? • What is CR's interest in extending the UTC?	New revenue stream and high motivation to adopt ULL
PM & Client 2/Norrtälje	• Who is the main contact person of Norrtälje? • What is the mayor's role in the process? • What are Norrtälje's goals in the ULL? • What is Norrtälje's interest • in increasing the UTC? • in establishing an overarching PM Board? • in increasing the effectiveness of its decision-making processes? • What benefits does Norrtälje see in implementing the ULL? • What is Norrtälje city's role in the overall process? • How has this role been clarified and agreed by whom? • What are Norrtälje's expectations to the PM? How have these expectations and roles been clarified? • How many officials and how many politicians are behind the project?	Clarity about role and benefits
PM Board & PM	• What are the existing strengths of cooperation between the city's departments? • Who is in charge of the PM Board? • Who are the members of the PM Board? • How were they appointed? • What is the role of the mayor in relation to the PM Board? • What is the purpose of the PM Board? • What are the tasks of the PM Board? • How can existing strengths be used in the PM Board? • What additional possibilities does the PM Board offer compared to the previous cooperation? • How will decisions be made? • How are the meetings prepared, chaired and followed up? • What is the role of the PM Board in the ULL decision-making process? What is the role of the mayor?	Effective manage-ment of sustainabilit y projects
PM1 & PM2 (CR)	• Who are the members of the CR PM? • How long have they been members of the CR PM? • How and by whom were they chosen? • What are the CR PM's objectives in the process? • What are the CR PM's tasks in the process? • What are the PM members' own objectives?	Example of working as equals
PM CR & PM Norrtä-lje	• Who is the main contact person for the client and consultants? • Who is the main contact person for the expert group and stakeholders? • How are the tasks divided between PM Norrtälje and PM CR? • How often do all members of the PM group meet? • How are decisions made?	Effective use of city and CR resources

	• Who is involved in the TANGO-W online CoPs?	
PM & EXP-Team	• What are the purpose and objectives of the expert group? • Who are the members of the expert group? • Who decided on their membership? • What is discussed in the individual meetings? What is clarified and decided in the expert group? • How often does the expert group meet? On what occasions? • What is its role in the decision-making process?	Access to all key stakeholders
Stakeholder	• What are the purpose and objectives of stakeholder events? • What events are there? How many are there? Who will be invited? • What is the role of stakeholders? • What will they be informed about? • What knowledge do they need? • What solutions are they involved in? • What is their role in the decision-making process? Are there differences? Which ones?	Implementation support and economic stimulus
PM & CON	• What are the objectives of the "peer system" ULL-PM & consultants? • What is the division of labour between the ULL-PM and the consultants? • What are the specific tasks of the consultants? • How was the division of labour agreed? • Which impulses are experienced as helpful? Which are positively irritating? Which are negatively irritating? • How does the project management deal with the external impulses? • What are the implications for project management? • What are the implications for stakeholder satisfaction and acceptance of results? • What are the consequences for the focus and quality of the results? • What are the implications for the learning capacity of both? What supports the learning capacity? • Who is responsible for ULL decisions? • What is the added value of TANGO-W for the PM?	The 'peer system' of learning and governance
PM & all bodies (social architecture)	• What is the PM's role in coordinating all functions/bodies? • Where does the PM get support? Where are the challenges? What seems to be particularly challenging? • What are the differences between project architecture and project management? • How do they affect the search for solutions? • How do they affect collaboration and outcomes? • How do they affect innovation? • How do they affect the speed of implementation of the result?	Increase shared learning, adoption and speed of implementation

These guiding questions (see above) should help to question and change the nature of the cooperation between the actors within each step, in order to increase the likelihood of success for the change and thus also for the Marker ULL project. Reflection and intervention planning within the online CoPs and f2f CoPs should thus contribute to increasing the transformative capacity both in the TANGO-W team and in the TANGO-W transformation-room with all stakeholders, experts and decision bodies concerned. We expect the questions to be expanded or even changed to some extent in the course of the next two years. These questions will be used in the future online CoPs and f2f CoPs of TANGO-W.

5.5 ULL 2.0 - WEIZ

5.5.1 Customised ULL2.0 Transformation Room Weiz

Overall, the municipality of Weiz considers the impacts of climate change and take steps to increase its resilience and prepare for a changing future. By providing orientation for all people concerned for the future, Weiz is taking a proactive approach. The city recognizes the importance of addressing these issues now in order to create a sustainable future for generations to come.

Strategic framework of ULL Weiz

TABLE 29: STRATEGIC FRAMEWORK OF THE ULL WEIZ

Overall objective	WEIZ: Building resilience and competences to create a more sustainable and liveable environment for Weiz residents and become a model for other cities to follow in terms of sustainable development and quality of life. TANGO-W: Widening urban transformative capacity
Sub-objectives of the ULL	• Foresight process with the mayor and all stakeholders • Working on thematic clusters for "life quality" and "sustainability • Identifying important measures for next few years and decades (2050) • Providing orientation for all people concerned for the future 2050 • Getting prepared for handling the fast dynamic of change: Building resilience and competences for handling these dynamic developments

Functions/bodies of Weiz TRANSFORMATION Room

The transformation space of Weiz consists of a social and a temporal architecture. Both architectures make it possible to govern

- the necessary content steps and
- the necessary clarification and decision-making processes between all relevant ULL actors,
- actively asking for support from the local expert advisor and the TANGO-W process counsellor.

The table below shows the interaction of the different bodies/functions in the necessary cooperation and decision-making processes within Halden Transformation Room (social architecture).

TABLE 30: BODIES AND FUNCTIONS WITHIN THE ARCHITECTURE OF THE ULL WEIZ

Client	Erwin Eggenreich mayor of Weiz municipality
Decision Board	Municipal council
PM of the City	Bernadette Karner (Head of Innovation Centre Weiz)
PM Core Team	Petra Fleck | Comm, Gottfried Köberl | Inno Centre, Julian Macher
Concept Group	Julian Macher (civil servant Weiz), Petra Fleck (communication department Weiz), Gerd Holzer (civil servant Weiz), Oswin Donnerer & Monika Langs (2 Vice Mayors Weiz)
Expert Advisory Board	12 Heads of administrative departments (Michaela Bauer, Stephan Engelhart; Bernd Heinrich; Engelbert Hirzer; Arion Karagjozi; Patrick König-Krisper; Roman Neubauer; Christof Prassl; Ingo Reisinger; Julian Macher; Oswin Donnerer (Vice mayor); Gerd Holzer)
Stakeholders	Companies, citizens: pupils / students and elderlies, NGOs, Cluster Members, Fractions / political groups
Expert Advisor	AIT (Expert for Foresight Methodology)
Systemic Counsellor	AIT (neutral systemic counsellor)
Fields of action	• social affairs – health and sport

(Foresight)	• education – arts – (youth) culture • urban development and networks • environment and sustainability • economy and tourism • housing and transport
Risks	• Lack of clear goals and priorities • Fields of action are not clearly defined • Insufficient involvement of politicians and civil servants from all political groups. • The city of Weiz tries to push through its own goals and interests in the development of the strategy against the needs and interests of other stakeholder groups. • The project is used to resolve conflicts between fractions. • Insufficient funding or resources to implement the measures. • Disappointment in one's own expectations of being able to predict the future of Weiz. • Conflicts and contradictions are not used as valuable information but are methodically "sorted out".

The figure below shows the interaction of the different bodies/functions in the necessary cooperation and decision-making processes within Weiz Transformation Room (social architecture).

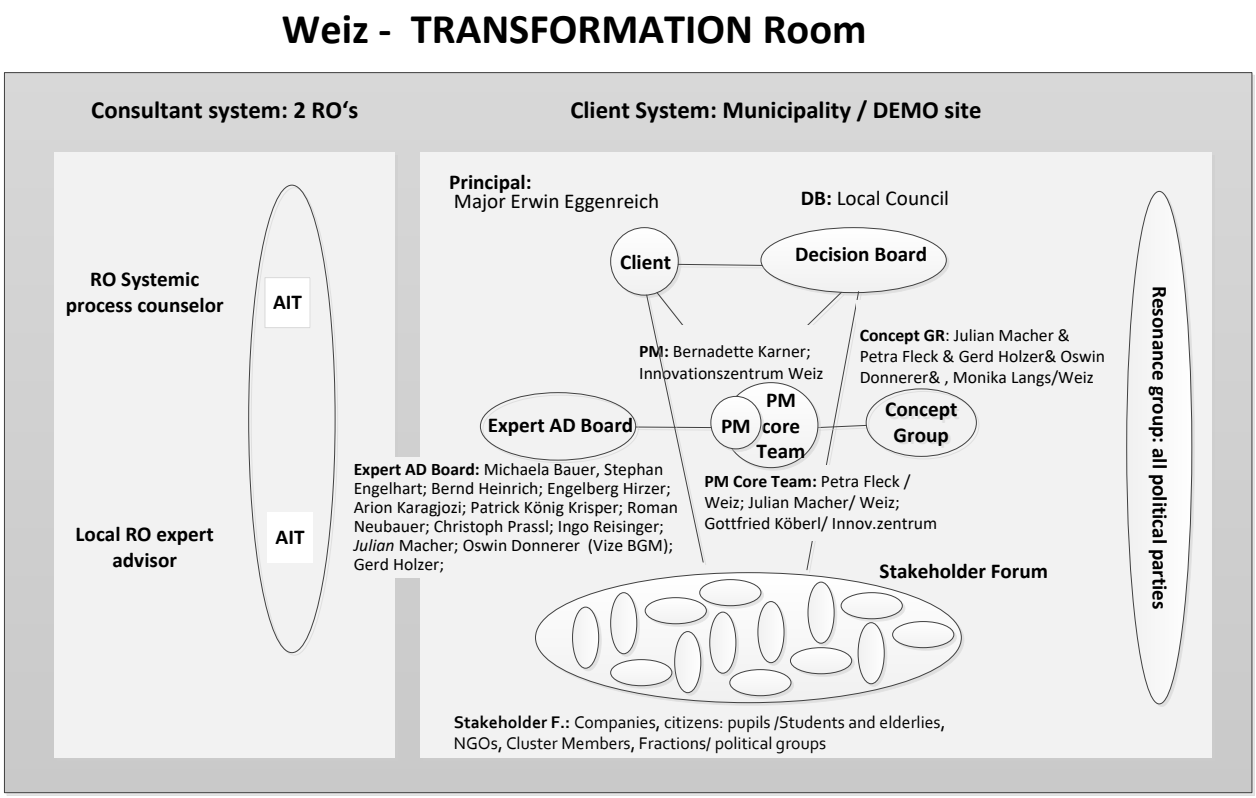

FIGURE 20: WEIZ TRANSFORMATION ROOM (SOURCE: D. WILHELMER 2023)

The planned milestones in the timeline

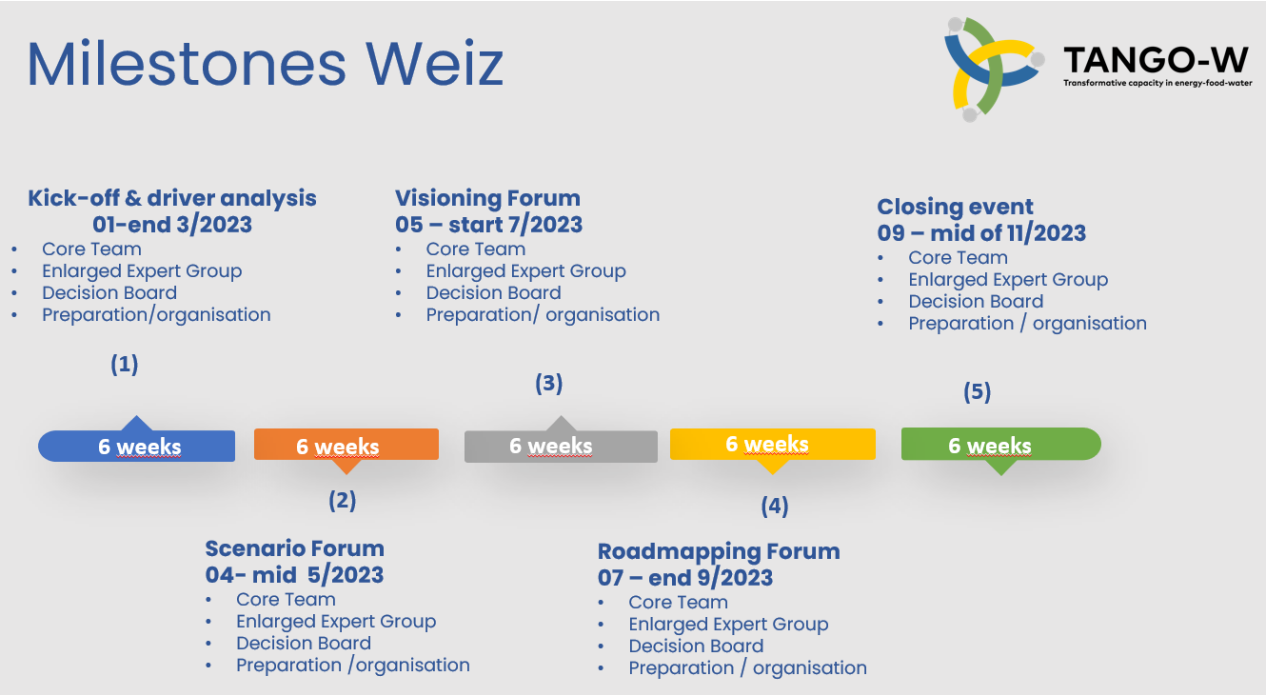

FIGURE 21: MILESTONES OF WEIZ (SOURCE: TANGO-W 2022)

The social and temporal architecture of Weiz's transformation-room reveals the benefits and risks of ULL governance.

Temporal Architecture

This temporal architecture of Weiz links the actors of the social architecture to the milestone plan of the ULL. It breaks down the milestones into individual activities and considers who among the relevant actors in the ULL needs to participate in which step in order for it to be successful.

In the case of Weiz-ULL2.0, we see three main tasks in the course of the TANGO-W implementation project:

- decisions by the client and the decision board, supported by inputs from the project management and pm-core-team,
- preparatory work in terms of content and organisation by the project manager, the pm-core-team and the expert-advisory-board, and
- full-day or half-day forums or clarification meetings with the stakeholders or decision makers to elaborate the mission-statement 2050 and the roadmap 2030 of Weiz.

In the case of Weiz, AIT plays three different roles:

- expert in foresight methods,
- systemic counsellor,
- TANGO-W project manager, whereby the third role is not relevant.

As expert consultant and systemic counsellor, the AIT is actively involved in the implementation of the foresight process from an external role in all steps of concept development, organisational preparation, workshop moderation and decision preparation. Review and monitoring processes are in this case the task

of the online UTCs at EU level: here the external perspective of the monitoring experts is important to enable a meta-reflection with a view to the whole system and the whole process, of which AIT is an active part in this case.

In the case of Weiz, it is important that AIT, in the role of a neutral systemic counsellor, plays an active part in all steps, from conception and preparation to moderation and evaluation of the individual stakeholder forums and decision-making meetings. This ensures that the goals of all important stakeholders are given equal consideration in the process and that transparent coordination and decision-making processes create satisfaction and identification with the overall result. Through continuous evaluation and adaptation of the interim results and the next goals, all individual steps should be clear for both the Innovation Centre Weiz and the municipality of Weiz and thus feasible for all.

An exemplary "temporal actor architecture" (Figure 22) of Weiz is attached. This is hypothetical and results from the interview with Weiz' experts in TANGO-W online UTCs. In the forthcoming f2f UTC, this temporal actor architecture will need to be reflected and further concretised in concrete preparatory steps with the project management, the pm-core team and the concept group, and a final decision will need to be made.

We cannot yet say exactly how many meetings the PM-core team, the concept group and the expert advisory board will actually need for the preparation and briefing tasks in order to choose the right words and appropriate times for the use of methods, to brief moderators and documenters and to prepare decisions as optimally as possible. The forums and workshops listed in the timeline are therefore initial placeholders for the upcoming meetings and workshops.

Hypothesis: Strengths of Weiz Transformation Room (social architecture)

The City of Weiz has appointed an external Project Manager of the Innovation Centre Weiz who works closely with the City of Weiz in the project management of several local sustainability projects. The external project manager has easy and direct access to the city's decision-makers and resources, which facilitates the work and coordination processes. The project manager's proven ability to deliver has led to the mayor's full confidence in her. This leaves room for the external project management to act in a similar way to the mayor's internal assistant manager. This means that the mayor can easily intervene in decision-making processes via the project management in the case of unpleasant developments and has a competent manager who reliably relieves him of the tasks of introducing structures, distributing work among team members and controlling processes and costs.

Another strength of this ULL is that Weiz, like Marker and Halden, is a small town, which facilitates coordination and direct access to key stakeholders. This is also reflected in the fact that the communication department has address lists of stakeholders who have been involved in participatory processes many times before. Furthermore, the municipality faces great importance to contact with citizens: This can be seen, among other things, in the fact that the heads of department in the administration have committed themselves to holding workshops with "living citizens" (not statistical key figures) at least three times a year. The TANGO-W foresight process thus rests on a solid foundation of participatory stakeholder dialogue.

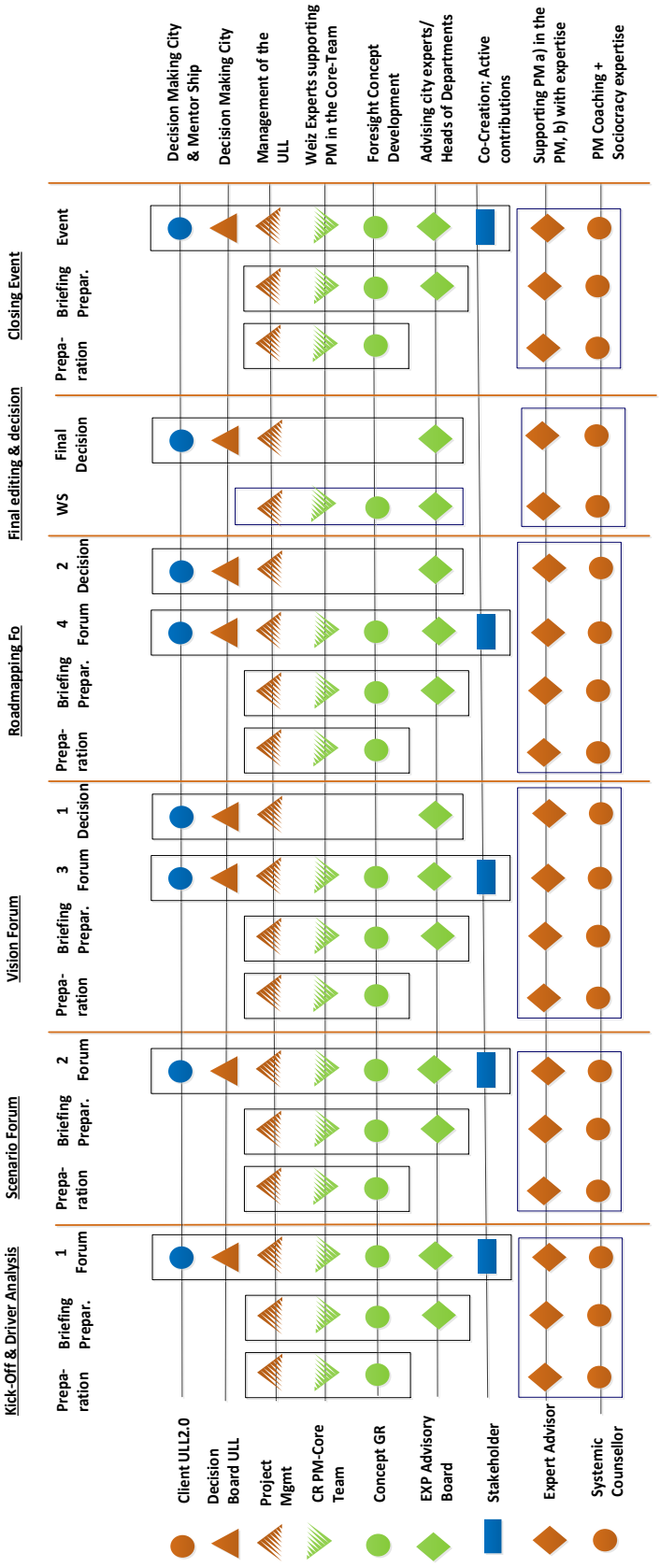

FIGURE 22: DRAFT WEIZ TEMPORAL ARCHITECTURE (SOURCE: D. WILHELMER 2023)

In addition, the Mayor of Weiz is a committed and visionary leader who has made sustainability and improving the quality of life a top priority for the city. He is willing to take various initiatives to make Weiz a greener and more liveable place for its residents. In the case of the ULL-Weiz, he has personally commissioned the implementation of the foresight process and announced that he will be present at every stakeholder forum, comparable to other important stakeholder processes in Weiz. The strength for the ULL-Weiz is that this clearly underlines the importance of the stakeholder process for all citizens and stakeholder groups.

All 12 decision-makers (heads) of the administrative departments of Weiz are actively involved in their roles as "experts-advisors for ..." and "moderators of the stakeholder forums". Their knowledge of existing solutions and current initiatives, as well as their experience in tackling obstacles to the implementation of certain goals and initiatives, provide a solid basis for making good use of what already exists and building on it. At the same time, their participation as facilitators in the process offers them the opportunity to review their own objectives in the light of existing needs and to agree to strategic development objectives that they would not have agreed to without knowledge of the real, current needs of stakeholders. In this way, stakeholders' wishes, needs and goals can broaden and legitimise existing unilateral goals in the process of scenario building and road mapping.

A further strength is the establishment of a small core group for project management: employees from the communications department and the Innovation Centre Weiz with a strong focus on implementation support the planning and implementation of the individual steps together with the youth officer of Weiz. In this way, they keep the project manager free of operational details and at the same time enable all implementation decisions to be checked for their connection to internal processes and core interests of city's decision-makers.

Hypothesis: Ambiguities and risks of Weiz Transformation Room (social architecture)

The success of the ULL is highly dependent on the continued commitment and support of the mayor. Any change in leadership or priorities would have a direct impact on the goals and direction of the ULL Foresight process and thus on the likelihood of success of TANGO-W ULL-Weiz. This risk exists partly because the representatives of the other groups were not involved in the clarification of the mission and the decision-making process for or against the foresight process. As conclusion the impact monitoring should observe how the mayor and the project management build relationships with all political groups during the implementation phase of the foresight architecture and provide feedback on whether all relevant objectives of the groups are reflected in the basic mandate.

The equal involvement of all political groups in the ULL foresight process is seen as an essential success factor for the quality and acceptance of the outcome (mission statement and roadmap). It seems important to us that this prerequisite for success is taken into account in every invitation process to the stakeholder forums and that, in case of doubt, political decision-makers from other groups are actively invited. As such the impact monitoring will regularly review the relationship between the project management and those responsible for all political groups in the local council.

Some heads of administrative departments have also been elected as municipal councillors for political parties. In this dual role, there is a risk that they will bring their political interests to bear on the day-to-day running of the administration, steering it in a particular direction against the consensus. In the case of the ULL, this mixing can mean that the needs and perspectives of all stakeholders are not sufficiently heard in the process and subsequently taken into account in the implementation. This can lead to disappointed

expectations in the community. That monitoring should continuously observe the relationship between the people who play the dual role of "administration & policy" and the stakeholders and allow reflection on the extent to which substantive input from this target group is disproportionately reflected in the final statements of the mission statement. The establishment of a balanced editorial group without representatives of political parties can prevent a one-sided partisanship for individual interests in the interest of the common good.

There is also a risk that experts and/or political decision-makers do not participate in project meetings or stakeholder forums but bring their unilateral interests into the project through the mayor or the project manager. Informal side meetings, because they are not transparent, cannot be monitored and developed in terms of underlying interests or impacts on others, and therefore act as unilateral steering interventions in the process. It follows that the way in which project management and experts, or internal decision-makers work together should be an issue for local monitoring in order to avoid manipulation strategies and to ensure transparent decision-making processes.

The city's project management agency is externally staffed by a manager from the Innovation Centre Weiz, who knows all the city's employees and decision-makers as well as those from the Innovation Centre. The informal scope for action and decision-making of the external project management, based on many years of cooperation experience, corresponds to the scope for action and decision-making of a central decision-maker in the city. To external observers, the external project manager appears to be an influential internal member of the city administration. We assume that, in the event of an unwanted change in project management, the new external project manager would in no way be able to rely on similar relationships of trust and scope for action as the current external project manager has. This makes the current person an indispensable factor in the process, over and above their function. In the event of an unwanted change of involved persons, major problems can be expected in the implementation of the last planned steps. It follows that monitoring should question the role descriptions of the project management in relation to the client (the mayor), the project management core team and the expert-advisory board and ensure that appropriate safeguards are put in place in the event of a change of personnel.

Both a concept development group and an expert-advisory-board have been established to ensure the concept development and implementation process. From today's perspective, the main tasks are carried out by the core team and the concept development groups. The members of the Expert Advisory Board, as heads of the city's sectoral departments, have central overview knowledge, but are used to organising work rather than doing it themselves. In this way, the Advisory Board becomes a resonance group within the city, effectively taking on the role of steering the overall process by ensuring that all the necessary information is available and that the results can be integrated into the daily administrative routine. It can be assumed that the feedback from the preparatory phases, due to its steering and decision-making power, will lead to additional tasks for the concept group, which will have to be planned in such a way as to avoid time bottlenecks or chaotic situations in the city. It follows that monitoring should regularly question the way in which the relationship between project management, the concept group and the expert advisory board is organised, in order to make clear whether the expert advisory board is influencing and driving the process too much or whether it is possible to establish a value-creating, consultative cooperation between the above-mentioned actors.

In the case of the TANGO-W project, the research organisation AIT assumes three different roles:

- the expert advisor for foresight methods,

- the systemic counsellor for reflection and governance of the social processes surrounding the implementation, and
- the overall coordinator of the TANGO-W project. In the overall coordination role, AIT has to ensure that transformative change is enabled in the course of the foresight process.

The systemic counsellor, on the other hand, takes a neutral position between the need to maintain the status quo and the need for change, and ensures that the relevant decisions are taken by the city itself. The expert consultant provides the systemic consultant and the project coordinator with methods for foresight implementation. It is important for the success of the implementation process that the change neutrality of the systemic counsellor takes priority over the change objectives of the project coordinator. It follows that impact monitoring should observe the relationship between the AIT and the project manager, the project management core team, the expert board and the client to see whether the city's own decisions are supported by the AIT or whether the AIT's interests in change are blocking the process.

It follows that the following dimensions should be *important issues for the upcoming UTC monitoring*:

TABLE 31: IMPORTANT ISSUES FOR THE UPCOMING UTC MONITORING IN THE ULL WEIZ

The impact of the nature of the working relationship between
• the mayor and the project management and all political groups during the implementation phase. • project management and those responsible for all political groups in the local council. • people who play the dual role of "administration & policy" and all stakeholder groups involved • project management and experts or internal decision-makers • the project management in relation to the client (the mayor) and the project management core team • the project management, the concept group and the expert advisory board is organised. • AIT and the project manager, the project management core team, the expert board and the client
The impact of the nature of role performance, trust relationship and decision-making influences
• that all relevant objectives of the groups are reflected in the basic mandate • Quality and acceptance of the outcomes • Multilateral balanced input of all politicians, experts and stakeholders involved • The criteria for an editorial mission statement team beyond political decision makers • Transparent decision-making processes • The assurance that appropriate safeguards are put in place in the event of a change of personnel • The option for establishing a value-creating, consultative cooperation between the expert-advisory-board and all central actors involved. • The assurance that relevant decisions are taken by the city itself

5.5.2 Force Field Analysis: Driving and resisting forces and scope of change of Weiz

At the beginning of the project, as stated in D2.1, the municipality of Weiz did not have an integrated long-term vision for sustainable development. Therefore, the city aims to develop a mission statement assisted by TANGO-W's tools and framework to improve UTC. This road map in addition to a sustainable development also seeks to promote the social integration and align the action map towards sustainability of the new members of Weiz's municipality.

The outcomes of TANGO-W are expected to be three (or more) documents: Weiz Vision 2050, Scenarios 2050, and a Roadmap 2035, that set the pillars for the sustainability strategy of the municipality. In order to do so, Weiz will rely on a **multi-stage participative visioning process involving multiple layers of ULL architecture's actors, and considering multiple time horizons**.

According to D2.1 the core of the experiment will be done in the transformation and operationalisation phases. On the first one, external and internal stakeholders will be gathered to co-create the starting point for the documents: Weiz Vision 2050, Scenarios 2050, and a Roadmap 2035. Then, on the latest stage decision-makers and administration personnel will be also engaged together with the previous stakeholders to settle a final version of the documents, and identify those (feasible) measures that have to be prioritized to define an action plan for the following 3 to 5 years.

In Table 32, the results of the force field analysis are presented, including drivers and stoppers, and a hypothetic ranking of their impact potential for the success of the project. This exercise does not only provide a visualization of the forces that are present in the ULL change, but can also provide relevant inputs for stakeholder mapping.

TABLE 32. FORCE FIELD ANALYSIS - WEIZ

Forces that drive change		Forces against change
High energy and food prices have increased the interest of the population towards increased efficiency and savings.	Building resilience and competences to create a more sustainable and livable environment. - Multi-stage participative visioning process involving multiple layers of ULL architecture's actors and considering multiple time horizons.	The "recent" events, from COVID-19 to the actual inflation rate might de-engage relevant stakeholders. Visioning might not be their priority in the current situation.
The war initiated by Russia has caused an increased interest towards self-sufficiency and resiliency at city level.		"We have always done it this way" challenges. There is the risk of facing internal opposition from the administration as well as older inhabitants, because Weiz municipality has based their missioning statements on the expert-driven approach.
Highly motivated municipality staff.		Lack of expertise on broad participative processes.
Upcoming election in the municipality can increase politicians' engagement towards the process.		Long term vision is uncertain and sometimes confusing. Stakeholders not familiar to this kind of exercises (e.g., citizens) can be confused, and lose their interest.
Ongoing project on actual renovation work in the city. This can be used as a tool to show the potential benefits of roadmaps/mission statements.		Lack of time and/or resources from the municipality's team
Strong network of Cities aligned with sustainable goals, and with experience in participative visioning processes.		Lack of agreement between multiple stakeholders. This could result in the creation of mission statement documents with direct opposition from some partners.
Social Corporate Responsibility is becoming increasingly relevant nowadays. Therefore, participation and alignment of business objectives		

with city's vision is becoming more and more relevant							
European, and National regulatory frameworks push towards sustainability, social entrepreneurship, etc.							
4	3	2	1		1	2	3	4

The initial results from the force field analysis show relevant restraining forces opposing to the change. Mitigation strategies for such stoppers should be implemented during TANGO-W, in some cases there is even potential to develop the governance experiment/innovation to overcome such stopper. This is the case for instance of:

- "We have always done it this way" challenges. There is the risk of facing internal opposition from the administration as well as older inhabitants, because Weiz municipality has based their missioning statements on the expert-driven approach.
- Lack of expertise on broad participative processes.

Two relevant stoppers that could be a good starting point to increase the city's UTC.

It is positive though that there is a significant number of drivers that can ease and event push to reach the ULL goals.

5.5.3 Conclusion: Guiding questions for an innovative UTC Governance

In the following chapter, the strengths and risks from the hypothesis development and force field analysis are translated into achievable ULL capacities, which can become more or less effective in the cooperation between certain actors. In doing so, the different impacts that can be mitigated or strengthened by interventions are elaborated, with a special focus on the achievable innovations.

The table below shows the effects that can be achieved by changing a certain relationship from the perspective of an actor. The following abbreviations are used: PM = Project Management; Client = Client; City Dep. = City Departments; Mayor = Mayor; Con. = Consultants / national RO & AIT; PT = Project Team; Stakeh. = Stakeholder

TABLE 33: RELATIONSHIPS, ACTORS AND IMPACTS OF THE ULL WEIZ

Relationship	Actor	Impact
mayor & PM	Mayor	• Visionary and committed leadership • Mayor is client ULL Foresight Process • Regular participation in forums and decision meetings • Clarification of foresight objectives with all political groups • Involving all political groups actively • Final decision results
PM & mayor	PM	• External project manager • Relationship of trust with the mayor • Mayor's ability to control the project • Direct access to decision makers and resources • Direct access to stakeholder • Dialogue between stakeholders and city administration • Acceleration of clarification and decision making

		• Informed, efficient and effective decision-making • Trust and confidence in the project
Decision Board & PM	PM	• Results Editorial group without political decision-makers • Local council as official decision-making body
Expert AD Board	Client	• 16 Heads of Administration • Regular participation in forums and AD Board meetings • Knowledge of existing solutions and current plans • Understand the needs of stakeholders • Question the objectives of the administrative departments • Access to centralised knowledge • Feedback on feasibility of solutions • Steering the content of the process • Guarantor for implementation of results • Ensuring that all necessary information is available, and that the results can be integrated into the daily administrative routine • Value-creating, consultative cooperation between the actors
Concept Dev. Group	Client	• Build and implement foresight know-how • Select appropriate methods • Incorporate suggestions for change from AD board and mayor • Support the planning and implementation of individual step • Ensuring implementation decisions are connected to internal processes and core interests of city decision-makers
PM & PM Core Team	PM	• External project manager from the Innovation Centre • Freedom of action in the city and in the Innovation Centre • Access to all decision makers and experts in the city • Internal city staff as part of the core team • Organisational details removed from project management • Streamlined project management • Ensured connection of implementation decisions to internal processes and core interests of the municipal decision-makers
PM & Stakeh.	Stakeholder	• Administrative decision-makers are political decision-makers • Mayor as sense maker in all forums • Include the perspectives of all stakeholders in the development of the vision • All stakeholders involved in the development of medium-term goals and measures • Increased stakeholder involvement in Weiz • Develop capacity for participatory stakeholder dialogue • Align Weiz's long-term sustainability goals with stakeholder needs and priorities • Comprehensive and effective strategy to meet the needs of Weiz
Con. & PM	AIT	• Using role diversity positively • Access to Foresight methods expertise • ULL goals and TANGO-W goals coincide • Freedom for possible change beyond coercion • Effective project management • Enabling transformative change is possible
PM & CON	PM	• Good division of labour • Relief for the PM • Stakeholder acceptance • High results orientation • Common goals and language • Increased replicability of results • Peer system as an innovation partnership

PM & all bodies	PM	• Shared problem awareness (technical/legal) • Shared solutions through direct exchange • New, unplanned ideas • Increased speed of implementation

The ULL project manager is invited to experiment with transforming relationships where more or less innovation can be expected as a result, with a view to the TANGO-W objective of increasing UTC. In order to support the project managers, guiding questions are then formulated in relation to the relationships that, from today's perspective, seem to have the most transformative potential:

TABLE 34: GUIDING QUESTIONS FOR AN INNOVATIVE UTC GOVERNANCE IN THE ULL WEIZ

Relationship	Guiding questions for an innovative UTC governance	Focus
Mayor & PM	• What are the mayor's objectives? • How are the different political groups involved in clarifying the objectives? • How does the mayor contribute to the overall success? • Who is the contact person • for the municipal council? • for the advisory board? • for the concept group • for the core team • for the stakeholders? • What is the role of the mayor • In the overall process • In information processes? • In the decision-making process? • In correcting undesirable developments? • What are the objectives of external project management? • What is the role of the external project manager • In the overall process • In information processes? • In the decision-making process? • In correcting undesirable developments? • What does the external PM need from the mayor as a client to be successful? • What are the effects of external project management?	The PM's room for manoeuvre and the mayor's powers of control
Decision Board & Mayor	• What is the role of the local council • In the overall process? • In the stakeholder process? • In information processes? • In the decision-making process? • In correcting undesirable developments? • How often does the local council meet with the mayor and the project manager to make ULL decisions? • How are decisions influenced by • the local council? • the political groups? • the heads of the administration? • councillors who are not involved in the stakeholder process?	Balance of interests
Expert AD Board	• What is the purpose of the Expert AD Board? • What is the role of the Expert AD Board? • In the overall ULL process • In the stakeholder process • In information processes?	ADMIN learning from citizens

	• In the decision-making process? • In correcting undesirable developments? • How often does the AD Board meet during the ULL foresight process? • What is the impact of the advisory and steering role of the AD Board • On the stakeholder process • On the understanding of stakeholder needs and interests • On the use of expert knowledge and existing regulations • On the development of management objectives • On The innovation of the outcome • On the feasibility of the outcome • On the comprehensive information in the community • On the success of the ULL project (FS process) • What safeguards are implemented to ensure that the expert advisory board does not exert too much influence over the ULL process? • What are the implications for the process in the case of a staff union of administrative and political decision-making tasks?	
PM Core Team & Concept Group	• What is the goal of the PM Core Team? • What is the role of the PM Core Team? • For the overall ULL process • In the stakeholder process • In information processes? • In the decision-making process? • Correcting undesirable developments? • What is the distribution of tasks between • The ULL project manager • The core team members • How often does the PM Core Team meet? • What is the aim of the concept group? • What is the role of the concept group • In the overall ULL process • In the stakeholder process • In information processes? • In the decision-making process? • In correcting undesirable developments? • What is the distribution of tasks between • The PM core team • The concept team • What is the impact of the core group or concept group on integrating the interests of • the mayor and • the AD expert committee (administration) • the stakeholders • Which methods and approaches best help activate and engage all stakeholders? • How often does the Concept Team meet during the ULL FS process?	Foresight Tailoring and communicating
Stakeholder & PM	• What is the aim of the stakeholder process? • On a scale of 1 to 10, how important is it for Weiz to involve different stakeholder groups? • What is the role of the stakeholder forums for • The overall ULL process • The information processes? • The decision-making processes? • Correcting undesirable developments?	Expanding stakeholder engagement for urban innovation

	• What is the distribution of tasks between
	• The stakeholder group?
	• The concept group?
	• The expert advisory board?
	• The local council?
	• How often do the stakeholders meet?
	• How are stakeholders involved in the decision-making process?
	• Who decides on the composition and size of the different stakeholder groups?
	• How transparent is the decision-making process?
	• How many participants are there from
	• City administration
	• Political groups
	• local businesses
	• Non-profit organisations
	• Schools and research organisations
	• Cultural institutions
	• Agricultural institutions
	• What are the demographic differences in terms of
	  ○ Generations
	  ○ Gender
	  ○ Nationalities
	  ○ Etc.	

PM & CON	• What are the objectives of the "peer system" ULL-PM & consultants? • What is the division of labour between the ULL-PM and the consultants? • What are the specific tasks of the consultants? • How was the division of labour agreed? • Which impulses are experienced as helpful? Which are positively irritating? Which are negatively irritating? • How does the project management deal with the external impulses? • What are the implications for project management? • What are the implications for stakeholder satisfaction and acceptance of results? • What are the consequences for the focus and quality of the results? • What are the implications for the learning capacity of both? What supports the learning capacity? • Who is responsible for ULL decisions? • What is the added value of TANGO-W for the PM?	The 'peer system' of learning and governance
PM & all bodies (social architecture)	• What is the PM's role in co-ordinating all functions/bodies? • Where does the PM get support? Where are the challenges? What seems to be particularly challenging? • What are the differences between project architecture and project management? • How do they affect the search for solutions? • How do they affect collaboration and outcomes? • How do they affect innovation? • How do they affect the speed of implementation of the result?	Increase shared learning, adoption and speed of implementation

These guiding questions (see above) should help to question and change the nature of the cooperation between the actors within each step, in order to increase the likelihood of success for the change and thus also for the Marker ULL project. Reflection and intervention planning within the online CoPs and f2f CoPs should thus contribute to increasing the transformative capacity both in the TANGO-W team and in the TANGO-W transformation-room with the stakeholders, the client and the mayor. We expect the questions

to be expanded or even changed to some extent in the course of the next two years. These questions will be used in the future online CoPs and f2f CoPs of TANGO-W.

5.6 ULL 2.0 - KLAGENFURT

5.6.1 Customised ULL2.0 Transformation Room Klagenfurt

Klagenfurt, like many other municipalities, is faced with the challenge of addressing climate change and promoting sustainability. There are several issues that need to be considered, including energy efficiency and renewable energy, increased access to affordable energy, and raising awareness. Energy efficiency and renewable energy are key areas where the municipality can make a significant impact in reducing greenhouse gas emissions. In addition, there is a need to address energy poverty and ensure that everyone has access to affordable energy. Finally, raising awareness and educating residents about the importance of addressing climate change and promoting sustainability is crucial. By setting indicators and raising awareness in central Carinthia, the municipality can help to educate residents about the importance of reducing greenhouse gas emissions and promoting sustainable practices.

TABLE 35: STRATEGIC FRAMEWORK OF THE ULL KLAGENFURT

Overall objective	Klagenfurt: Sustainable neighbourhood development: Implementation of the Smart City Strategy and Establishment of an energy community TANGO-W: Widening urban transformative capacity
Sub-objectives of the ULL	• Implementation of the Smart City Strategy • Sustainable neighbourhood development • HiHarbach as good practice for future neighbourhood developments • Cheaper energy tariffs for socially disadvantaged groups (Municipal Housing) • Awareness Raising in Central Carinthia (Keutschach) → Indicators! • Awareness raising for the developers → Indicators!

Functions/bodies of Klagenfurt TRANSFORMATION Room

The transformation space of Klagenfurt consists of a social and a temporal architecture. Both architectures make it possible to govern

- a) the necessary content steps and
- the necessary clarification and decision-making processes between all relevant ULL actors,
- actively asking for support from the local expert advisor and the TANGO-W process counsellor.

The table below describes the individual bodies/functions within the social ULL architecture:

TABLE 36: BODIES AND FUNCTIONS WITHIN THE ARCHITECTURE OF THE ULL KLAGENFURT

Client	Wolfgang Hafner (climate & environmental protection department)
Decision Board	Public utility (A. Lubas), Carinthian Peace-Work; urban small-housing-estate; State-Housing Carinthia
Internal PM of the City	Stefan Guggenberger (IPAK/ Abteilung Klima & Umweltschutz)
Expert Group	W. Liebetegger (Energy Planner, Smart City Strategy), 3 – 4 employees of the climate & environmental protection department, data from property developers, KDSG & Diakonia
Stakeholders	Viktring / Klagenfurt, Keutschach, Future residents (access via property developers & Diakonia), Producer/consumer: Haus Harbach (Diakonie), elderly home (Diakonie), Castle Harbach (Diakonie), community apartments Klagenfurt,

	Local suppliers in the new quarter (about property developers), KDSG: owner of PV, Municipality Apartments of the City of Klagenfurt
Expert advisor	Thomas Nacht, Robert Pratter (4ER)
Systemic counsellor	AIT supports the implementation and execution of the ULL process through regular online UTC supervisions. Possible support in setting up an energy community organisation
Stakeholder risks	• The municipality fails in motivating the homeowners who are important for the establishment of an energy community. • Homeowners and end-users receive too little information about the advantages, disadvantages, and opportunities for participation. • The Austrian energy market and its Austrian regulations are developing in such a way that the energy community does not benefit homeowners or end users, thus undermining the purpose of introducing the energy community.

The figure below shows the interaction of the different bodies/functions in the necessary cooperation and decision-making processes within Klagenfurt's Transformation Room (social architecture).

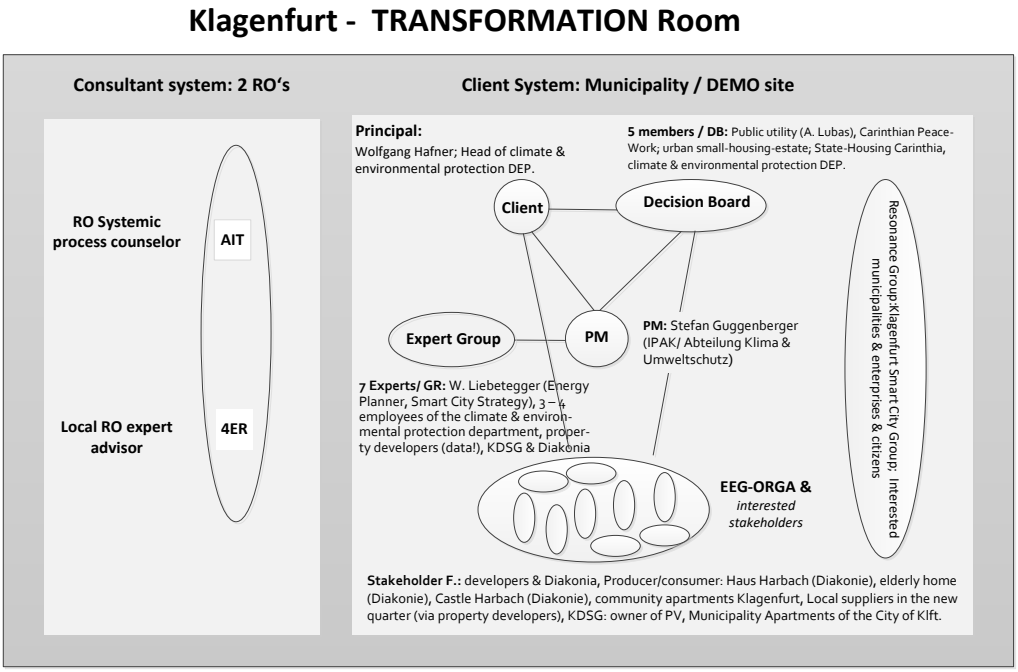

FIGURE 23: KLAGENFURT TRANSFORMATION ROOM (SOURCE: D. WILHELMER 2023)

Figure 24 below contrasts the above social architecture with an alternative. The differences between the two are that

- the decision board of version 1 at the client level becomes an advisory board in version 2, working directly with the project manager and making important operational decisions together with him. In this diagram, the role of the Decision Board is taken over by the Smart City Group, which ensures that the ULL is more involved in the city and keeps the mayor informed.
- In addition, the stakeholder group will be divided into two sub-groups, namely the future energy community members and interested municipalities, schools and interested parties from the Klagenfurt area for the purpose of replication and up-scaling.

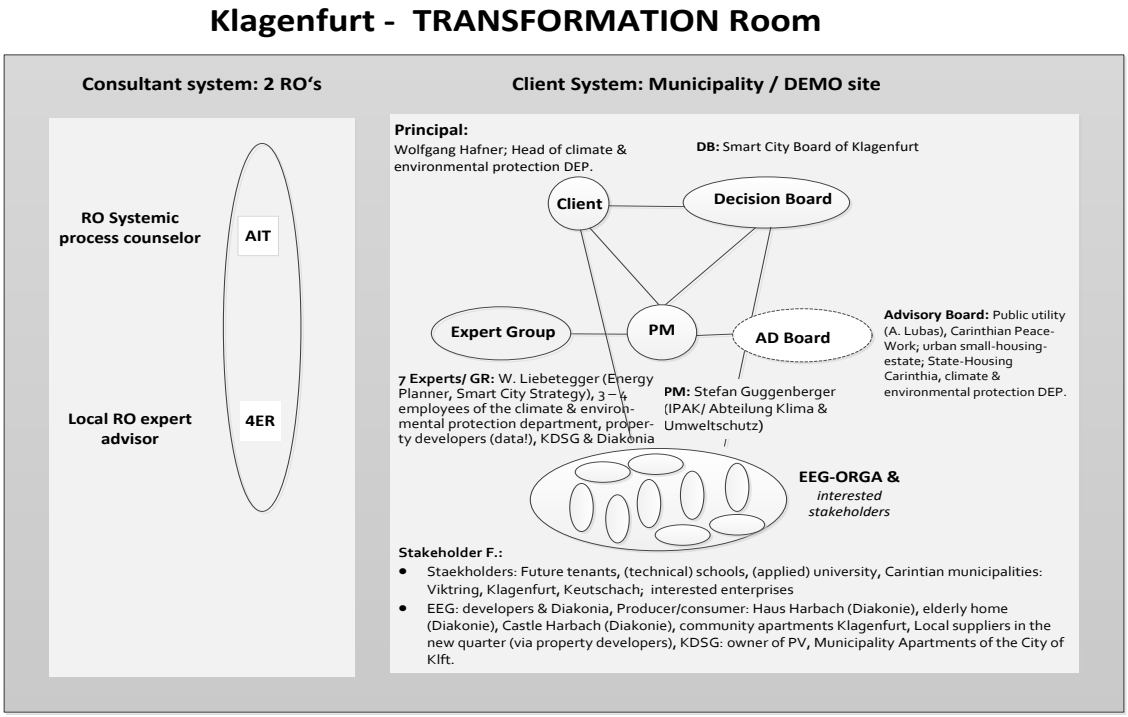

FIGURE 24: 2 OPTIONS OF KLAGENFURT THE TRANSFORMATION ROOM (SOURCE: D. WILHELMER 2023)

The planned milestones in the timeline

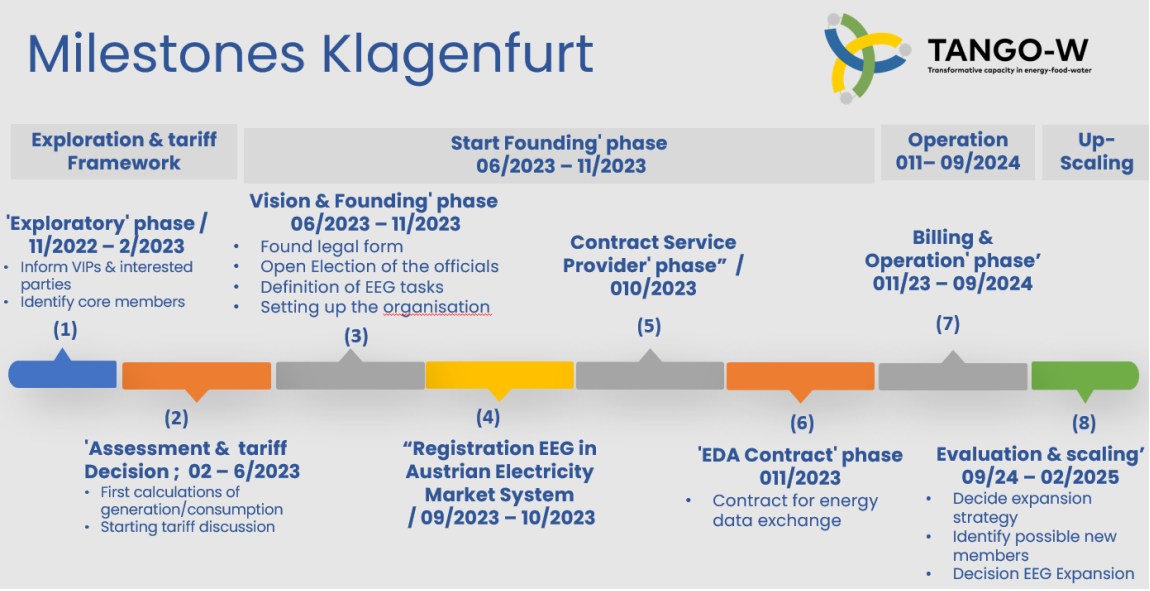

FIGURE 25: MILESTONES OF KLAGENFURT (SOURCE: TANGO-W 2022)

The social and temporal architecture of Klagenfurt's transformation-room reveals the benefits and risks of ULL governance:

Temporal Architecture

This temporal architecture of Klagenfurt links the actors of the social architecture with the milestone plan of the ULL-Klagenfurt and is basically only hypothetical in character. It breaks down the milestones into individual activities and takes into account which of the relevant actors in the ULL must be involved in which step in order for it to be successful.

In the case of Klagenfurt-ULL2.0 we see three main tasks in the course of the TANGO-W implementation project:

- Decision making
- Preparatory work on content and organisation by the external expert consultant 4ward Energy Research (4ER) in coordination with the project management and occasionally also with the expert group,
- 3-hour energy community meetings to establish the energy community as a functioning organisation,
- half-day stakeholder workshops to inform and disseminate the interim results (replication and up-scaling).

In the case of Klagenfurt, 4ER plays a different role than any other consultant: 4ER's experts prepare all energy and economic calculations and take care of the registration of the energy community in the Austrian energy market as well as the contract design with the distribution grid operator and the billing service provider. In this case, 4ER acts as the top expert of the city's internal team of experts and as a driving force in the technical development of the energy community. The role of the expert team itself seems to be to ensure the provision of the necessary data from the city and the municipal utilities. The central role of the external consultant 4ER continues until the operation and billing phase. Then the energy community organisation starts to work independently, supported by AIT as a systemic consultant if needed. 4ER's role is to monitor the billing process and question whether tariffs need to be readjusted for the benefit of all energy community members.

The AIT continues to support the ULL Klagenfurt as a systemic coach and consultant: the implementation process is questioned and methodically accompanied in the online UTC meetings. At the request of the project management, AIT also moderates the stakeholder/upscaling workshops (in cooperation with 4ER) and the founder workshops, including the visioning process with the energy community members. AIT can also provide limited input or take over the KONSENT moderation for the establishment of an agile organisational structure.

The review and monitoring processes are integrated into the regular quarterly meetings of the energy community and are jointly evaluated and discussed in the online UTC meetings. The external perspective of the monitoring experts is of central importance.

The exemplary "Temporal Actor Architecture" (figure 27) has a hypothetical character as a draft and results

- from the online UTC interview with the project management and 4ER and
- from the experiences of already successful energy community implementations in Austria.

It is not yet possible to estimate how many meetings the expert group and 4ER will have to coordinate and how many information workshops will be held in Klagenfurt for the purpose of upscaling. It is also not yet clear whether the energy community will set up an agile organisational structure and whether the energy community officers will meet regularly (e.g., quarter yearly) or whether they will simply elect responsible officers to oversee the services of the external service providers. The interim architecture provides for an energy community meeting structure that can be used to discuss strategic issues and operational decisions. It does not show the establishment of an alternative organisational structure for self-governance. All workshops and meetings shown in the timeline are placeholders for the concrete planning of the ULL Klagenfurt, which can be finalised in the next f2f meeting.

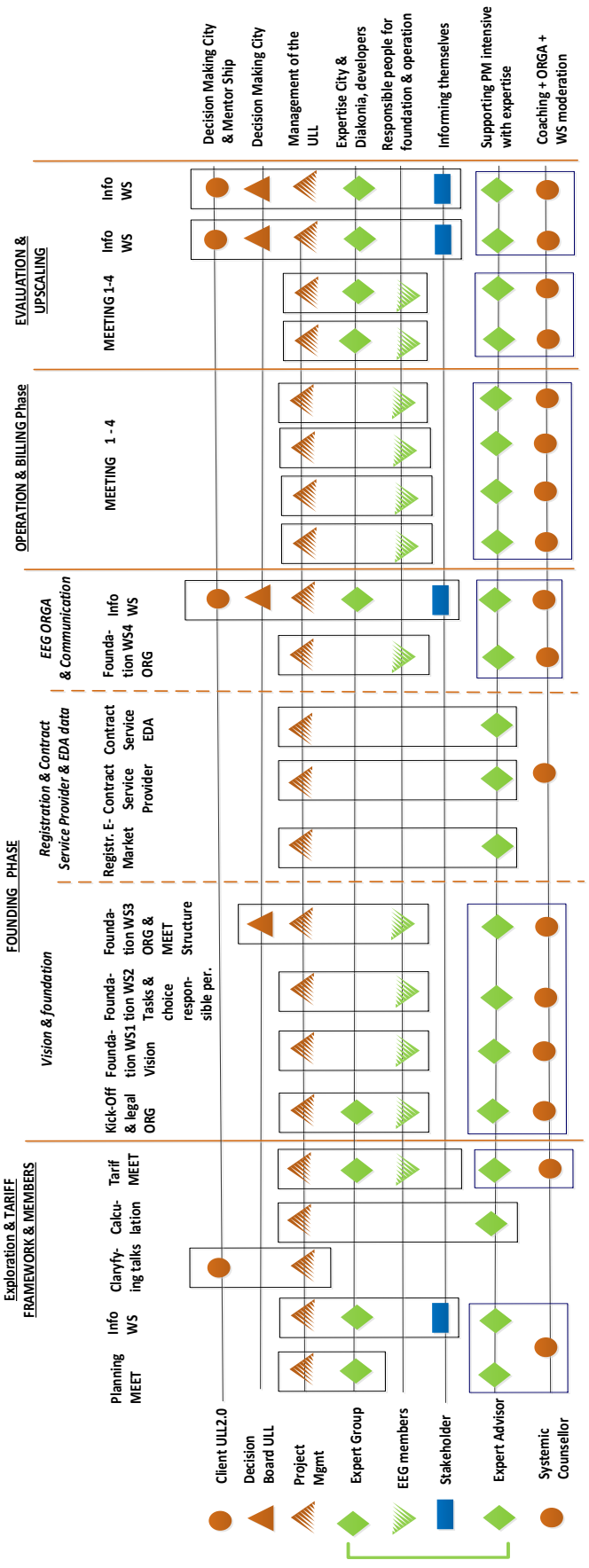

FIGURE 26: DRAFT KLAGENFURT-TEMPORAL ARCHITECTURE (SOURCE: D. WILHELMER 2023)

Hypothesis: Strengths of Klagenfurt's Transformation Room (social architecture)

IPAK is a non-profit company, largely owned by the city of Klagenfurt, with the aim of contributing to the sustainable development of the city through national and international projects, which is conducive to the implementation of the planned activities in the ULL. For the city of Klagenfurt, IPAK offers the opportunity to build up additional staff capacity for sustainability projects and to make faster implementation decisions outside the municipality.

The project manager of this ULL works at IPAK in the department for climate and environmental protection. This simplifies the relationship with the client, who is the project manager's boss and at the same time the head of the department and a member of the Smart City Klagenfurt group, and thus has direct access to the city's internal decision-makers and the mayor. This means that positive interim and final results can be communicated directly within the city and used by the city for project development and marketing purposes.

Klagenfurt has a smart city strategy that is regularly updated. Among other things, it defines clear targets for CO_2 reduction by 2030. Responsibility for implementation lies with

- the overarching Smart City Board,
- the Department for Climate and Environmental Protection, and
- IPAK, which is owned by the city.

This bundling of decision-makers and resources, which has been built up over the last few years, is a strong motivation source and thus prerequisite for the successful implementation of the ULL Klagenfurt and similar sustainability projects.

The HiHarbach urban development area has its own project coordinator, who is anchored at a high level in the city administration of Klagenfurt. At the same time, a member of the Smart City Board is also a member of the ULL expert group and can provide the project with important information from this coordinating Smart City unit. Both coordination functions leave the project manager free to coordinate and decide on important basic work with the ULL members, such as property developers, Diakonia and homeowners. Conversely, the good links with the municipality and the Smart City Board mean that relevant decisions can be implemented with the municipal utilities and successes communicated to the city's stakeholders. At the same time, IPAK's good links with the city can also be used by the municipal director and the city's client to address key stakeholders of potential EEG members at the decision-making level and win them over to cooperation.

4ER was one of the first consultants for the establishment of energy communities in Austria and is therefore regarded as a top expert in Austria and by the Climate and Energy Fund. The ULL Klagenfurt has access to the latest know-how, which is a key factor for success.

The expert group is mainly made up of internal experts from the department of climate and environmental protection and therefore has direct access to the city's existing data. At the same time, the representative of the Smart City Board, the head of the energy department and the direct contact person for Klagenfurt's public utility company are also members of the expert group. This facilitates the processing and decision-making of important issues and ensures the success of the project.

Hypothesis: Ambiguities and risks of Klagenfurt's Transformation Room (social architecture:

The close link between the IPAK project management and the city of Klagenfurt limits the IPAK project management's scope for action and decision-making. This limitation is reinforced by the direct subordination of the project manager to the client. This enables the city to intervene directly in the project management and in all relevant or unusual decisions of the ULL. This security of control on the project side can have the effect of severely limiting the scope for UTC experimentation. It follows that UTC monitoring should continually question the nature of the hierarchical collaborative relationship between the client and the project manager and its impact on UTC experiments.

The involvement and communication with the mayor of the city of Klagenfurt in important decisions or dissemination issues of the ULL remains unclear. It is unclear to what extent the mayor personally supports the implementation of the energy community and how he represents the energy community in his numerous contacts with potential energy community members. It follows that the UTC monitoring should question and encourage the necessary involvement of the mayor in individual project phases together with the project manager.

Due to its hierarchical embedding in the department for climate and environmental protection, there is a risk that the project management will not have enough time to set up and implement the ULL Klagenfurt due to the large number of local and international projects to be developed and managed. This can lead to

- unnecessary delays in decision-making,
- a one-sided dependence of the energy community members on the top expert 4ER and
- a weakening of the future operational energy community organisation.

It follows that the UTC monitoring should continuously monitor and question the cooperation between the client and its project manager, as well as the internal expert group and the external 4ER consultant, to what extent decisions are primarily made by 4ER or by the city expert group in cooperation with the project manager and 4ER.

The ULL project involves various stakeholders, including the City of Klagenfurt, the HiHarbach neighbourhood, developers and future residents. The different interests of these stakeholders can lead to major conflicts in the ULL Advisory Group. From today's perspective, it seems questionable how and to what extent the interests of the future tenants will be represented by the large developers, the public utilities and the city, the house owners, especially since the Diakonie, as the official representative of the future tenants, is not integrated into the decision board. It follows that the nature of the communication between the project manager and the decision board, and the impact of the decision board's substantive decisions on homeowners and tenants, should be regularly monitored and questioned throughout the process.

The success of the ULL project depends on the cooperation and commitment of future energy community members, such as Diakonie, Social Housing as well as municipal companies such as KDSG and Stadtwerke. As members of the expert and decision-making group, they are required to ensure the timely submission of data in order to minimise unnecessary delays in the progress of the project. It can be assumed that delays could easily occur due to the infrequent meetings of the decision group. It follows that the UTC Monitoring should regularly question the impact of the collaboration between the project management and the Expert Group and especially the Decision Group on data availability.

Due to its high level of expertise, 4ER plays a central role in the development of the energy community. This role will gradually diminish as the energy community becomes operational, including the pilot billing processes. The internal experts, on the other hand, contribute mainly with networking and data to the content of the project development. This leads to a high one-sided dependence of the ULL on 4ER in the start-up phase. There is a risk that many decisions are handed over to the top expert and that the expert group and the city withdraw from the decision-making processes. A possibly reduced, participatory involvement of experts, decision-makers and end-users can lead to

- expert-driven instead of transdisciplinary decisions in the sense of future tenants,
- a reduction in the involvement of energy community members in important tariff and legal decision-making issues, and
- the marginalisation of the development of a self-responsible energy community organisation.

This indicates that UTC monitoring should observe and question the nature of the cooperative relationship between the top expert 4ER and the project manager and the internal expert group as well as the group of energy community members in relation to joint decision-making processes.

Forming an energy community is, especially in the initial phase, a very cumbersome process. Especially if the process, as in case of HiHarbach, is externally initiated by the city of Klagenfurt and IPAK and not inhabitants/users of HiHarbach. This leads to a strong dependency on the city Klagenfurt and IPAK as the experts 4ER cannot address potential members of the energy community directly. Also, since the motivation for founding an energy community is not intrinsic to the potential members, they will need to be contacted and motivated by the city of Klagenfurt and IPAK further increasing the dependency. This dependency will be reduced over the course of time but never fully diminished.

It seems helpful that AIT, as a possible on-site facilitator and expert in building organisations capable of taking action, takes an active part in participation and energy community/stakeholder integration. These tasks were not sufficiently budgeted for in the project planning. Lack of resources can unintentionally become an obstacle to desirable stakeholder participation. It follows that UTC monitoring should observe and question the collaboration between the AIT and the project management in the planning and implementation of stakeholder processes.

As a result, the following dimensions should be *important issues for the upcoming UTC monitoring*:

TABLE 37: IMPORTANT ISSUES FOR THE UPCOMING UTC MONITORING IN THE ULL KLAGENFURT

The impact of the nature of the working relationship between
• hierarchical relationship between the client and the project manager and its impact on UTC experiments • involvement of and cooperation between the mayor and the project manager. • the client and its project manager, as well as the internal expert group and the external 4ER expert advisor. • the project manager and the decision board • the project management and the expert group and especially the decision group • the top expert 4ER and the project manager and the internal expert group as well as the group of energy community members • AIT and the project management
The impact of the nature of role performance, trust relationship and decision-making influences

- The room for manoeuvre for UTC experiments
- Project marketing and good ULL image
- The extent of joint decision making between 4ER, the city expert group and the project manager.
- The impact of the decision board's substantive decisions on homeowners and tenants
- The availability of data
- The extent of participatory stakeholder processes.

5.6.2 Force Field-Analysis: Driving and resisting forces and scope of change of Klagenfurt

As introduced in D2.1, Klagenfurt's ULL will be located in the HiHarbach[8] neighbourhood in Klagenfurt where space for up to 1,700 residents is being developed. HiHarbach aims to implement new models of living with smart mobility, liveable social spaces, and a coexistence of generations. Therefore, TANGO-W's ULL will be developed within an innovation and sustainability-oriented environment. In this sense, the main objective of TANGO-W's project Klagenfurt is the **Creation of an energy community within the neighbourhood to provide cheap, local, and renewable energy**. In order to do so, the project team has already defined a work plan consisting of the following steps:

- definition of potential community members,
- engagement of the selected group of "early adopters",
- simulation of the energy community operation and benefits, and
- creation of the energy community.

The development of a renewable energy community seeks to provide cheap, local, reliable, and sustainable energy to the neighbourhood while having a profitable business model that would allow to expand the energy community towards more inhabitants (high replication potential). Also, in the context of the project, Klagenfurt is analysing how to include the rest of the FWE nexus elements to the project. So far, urban gardening is a potential option for food, whereas for water the project team is still working on a strategy.

In Table 38 the results of the force field analysis are presented, including drivers and stoppers, and a hypothetic ranking of their impact potential for the success of the project. This exercise, does not only provide a visualization of the forces that are present in the ULL change, but can also provide relevant inputs for stakeholder mapping.

TABLE 38. FORCE FIELD ANALYSIS – KLAGENFURT

Forces that drive change					Forces against change			
The current geopolitical situation has increased interest towards self-sufficiency and resiliency among population.				Implementation of the Smart City Strategy and Establishment of an energy community - Creation of an energy community within the neighbourhood to	The Municipality of Klagenfurt has not taken a clear position to support the energy community, yet.			
The municipality has committed towards sustainability.					For residential loads, the government is subsidizing the electricity cost. This can pose a threat to the community since it lowers the interest for residential load owners to search for new ways to procure energy.			

[8] Hi-Harbach neighbourhood webpage: https://hi-harbach.at/

For industrial and commercial stakeholders, the current electricity prices are a big driver for the adoption of energy communities, as well as to justify the investment on energy assets.				provide cheap, local, and renewable energy.	Uncertainty about the generation assets investment. Currently, the area has no installed generation. Therefore, someone will have to make the investment. As of today, the municipality of Klagenfurt is the front runner, but the construction company has also shared interest on the idea.			
Existence of an overarching "Smart City Core Team", which is fed from the relevant departments of the city for innovative future topics, can be a relevant driver and enabler for change.					Complex situation in the energy markets. High price volatility poses a challenge (risk) to implement new tariff models within the energy community.			
Existence of regional and national networks for smart cities development and support. These can help to ease the implementation of the project, as well as serve as reference point.					The Energy Community concept might have bad reputation among some stakeholders. This could be hinderer of its deployment.			
4	3	2	1		1	2	3	4

The initial results of Klagenfurt's ULL shows strong forces on both sides, all of which concern financial issues in one or another way. From the drivers' side, the high price of energy as well as the recent volatility in the markets has created a significant interest any action that could mitigate that risk for industrial consumers and residential consumers. So, if properly implemented there should be demand for the services offered by the community. From the stoppers' side two are the main forces identified, at the moment it is unclear who will be the "owner" of the community, the municipality has been the front-runner but has not definitely taken the role. On the other hand, it is also unclear who will take the initial CAPEX cost to set up the renewable energy sources installation that will be part of the community's portfolio.

5.6.3 Conclusion: Guiding questions for an innovative UTC governance

In the following chapter, the strengths and risks from the hypothesis development and force field analysis are translated into achievable ULL capacities, which can become more or less effective in the cooperation between certain actors. In doing so, the different impacts that can be mitigated or strengthened by interventions are elaborated, with a special focus on the achievable innovations.

The table below shows the effects that can be achieved by changing a certain relationship from the perspective of an actor. The following abbreviations are used: PM = Project Management; Client = Client; City Dep. = City Departments; Mayor = Mayor; Con. = Consultants / national RO & AIT; PT = Project Team; Stakeh. = Stakeholder

TABLE 39: RELATIONSHIPS, ACTORS AND IMPACTS OF THE ULL KLAGENFURT

Relationship	Actor	Impact
PM & Client (& Smart - City Board)	PM	• Aligned project and city goals • Direct communication of positive interim and results within the city • Experimental space for UTC-LL • Scope for action and decision-making

		• Degree of activity and autonomy and dialogue in decision making • Additional human resources • Faster implementation • Direct access to decision makers • Good networking with HiHarbach project coordinator / city manager • Good networking with Smart City Board
PM & Decision Board	PM	• Increased ownership and investment in the success of the project through collaboration. • Active role of energy community decision makers in all energy community decisions. • Deaconry is not involved as a representative of residents' interests • Degree of activity and autonomy in decision-making
Mayor & PM	Mayor	• Raising awareness of the ULL project among the public and • Promoting ULL's adoption • Increased visibility and credibility of the ULL project • Aligning city goals (Smart City Strategy) and ULL vision
Energy community members	PM	• Level of activity of contributions from "social housing" homeowners, KSDG, public utilities and Diakonie. • Level of activity and continuity of participation in meetings • Willingness to learn and practice new methods
PM & Stakeh.	PM	• Knowledge of the advantages and disadvantages of the energy community • Willingness to invest in renewable energy production facilities • Interest in setting up their own energy community • Long-term support for the development of renewable energy in Carinthia
Expert Group & PM	PM	• Networking with • The Smart City Board via the head of the energy department • The Stadtwerke Klagenfurt • Property developers • Deaconry • Owners of PV systems • Contextualised, useful solutions for all • Balance of interests in decision making • Direct access to relevant data for evaluation and pricing decisions to develop effective strategies and solutions
Con. & PM	4ER	• Enabling credibility and confidence of the energy community among stakeholders • Access to Austria's latest energy community expertise • Access to best practices • Access to additional training and resources to the energy community members • Independence of the city's decisions (vs. dependence) • Degree of self-organisation of the future energy community • Facilitation of workshops and energy community decision-making processes
PM & CON	TANGO-W peer-system	• Good division of labour • Relief for the PM • Stakeholder acceptance • High results orientation • Common goals and language • Increased replicability of results • Peer system as an innovation partnership
PM & all bodies	PM	• Shared problem awareness (technical/legal) • Shared solutions through direct exchange • New, unplanned ideas

• Increased speed of implementation

The ULL project manager is invited to experiment with transforming relationships where more or less innovation can be expected as a result, with a view to the TANGO-W objective of increasing UTC. In order to support the project managers, guiding questions are then formulated in relation to the relationships that, from today's perspective, seem to have the most transformative potential:

TABLE 40: GUIDING QUESTIONS FOR AN INNOVATIVE UTC GOVERNANCE IN THE ULL KLAGENFURT

Relationship	Guiding questions for an innovative UTC governance	Focus:
PM & Client	• How does the Smart City Strategy of the city of Klagenfurt influence the ULL project and its implementation? • What does the PM/ IPAK need from the city (Department for Climate and Environmental Protection) to be able to work well? • Where do the human resources for the PM come from? • What has to happen for the PM to feel hindered? • Who is the contact person? • for the mayor? • for the Smart City Board? • For the project decision board? • For the HiHarbach project coordinator / city manager? • How and by whom are project results communicated? • What can the PM decide independently? • For which decisions does he need the client? How does this affect the implementation of the energy community? • How are decisions made between the client and the PM? • What is the role of the mayor in the decision-making process?	Room to manoeuvre and good networking with key decision makers
PM & Decision Board	• What are the objectives of the decision board? • Who are the participants in the decision board? • What is the role of the HiHarbach coordinator in relation to the decision board? • What interests do the members represent? • How are residents represented on the decision board? • How are conflicts of interest resolved? • Who decided to become a member? • What benefits do the members of the decision board see from the implementation of the energy community? • What role does the decision board play in information events inside and outside the city? • What is the role of the Decision Board in decisions on the implementation of the energy community of • ...the mayor of Klagenfurt? • ...the coordinator of HiHarbach /of the office director • ...the head of department for climate and environmental protection • ... the members of the decision board • ...the project manager? • ...the experts of 4ER? • ...the Smart City Board? • Who makes the final decisions?	Balance of interests and autonomy of decision making
Mayor & PM	• What are the goals of the mayor in relation to the ULL? • In relation to the ULL: How can he help? • Who informs him about the ULL? How often? • How is the mayor involved in the marketing project? • How is he involved in the decision-making process??	Sense Making & project marketing

EEG members	• How are future tenants, including vulnerable groups, considered? • Who are the stakeholders involved in developing the EEG-vision? • How will tenants be informed about interim results in the development of the energy community? • Who do the energy community decision-makers appoint to the association/cooperative? • What is the purpose of the energy community? • Who are the board members? • Who are the members? • On a scale of 1-10, what is the proportion of active contributions from members to the functioning of the organisation? What is the proportion of services provided by external service providers? • Who does what within the energy community? • Who makes voluntary contributions? Who is paid? • What is the organisational structure of the energy community? • What is the energy community's structure? Who meets with whom, for what purpose and how often? meeting • What is 4ER's role in the decision-making process? • How are the community, environmental and economic impacts of the ULL project assessed and addressed?	Degree of self-organisation versus external services
Stakeholder	• Which communities, developers, homeowners, companies in Carinthia are interested in energy community? • What is their interest in energy community? • What benefits do they see for themselves? • What are their goals regarding energy community? • What financial and time contributions are they willing to make? • What contacts do they have with the ULL? How did these come about? • What do they need from the ULL to achieve their goals? • What needs/requirements do they have of the city of Klagenfurt? • How are ULL interim results and lessons communicated to stakeholders?	Replication & Upscaling
Expert Group & PM	• What is the aim of the expert group? • What is the role of the expert group in the ULL architecture? • What are the resources of the expert group? • How often does the expert group meet? • Who are the members of the panel? • Which members are from the city? Which are from outside the city? • What is the role of city staff in the expert group? • What is the role of the project manager in the expert group? • What is the role of each member? • How often does the expert group meet? • Who can provide roofs for PV development? • Who can contribute to PV development and how? • Who can contribute knowledge about residents' interests and income situation? • Who can provide what data? What do they need? • Who can contribute legal knowledge? • Who can contribute economic, technical and tariff knowledge? • Are all the relevant experts represented in the team? • How are solutions developed? • What decisions are taken in the expert group? And how? For whom?	Balanced interests & innovative solutions
Con. & PM (4ER)	• What good practices can 4ER draw on? • How can it make these available to the client and the expert group? What is thereby the role of	TECH push versus customer autonomy

	• Information evenings
	• Training courses
	• Workshops
	• What are the benefits for the city?
	• What is the impact of the good practices on
	• the working methods of the expert group?
	• the decisions of the decision-making body?
	• The client's decisions?
	• The work of the project manager?
	• What is the role of 4ER in the decision-making processes of
	  ○ The expert group?
	  ○ The decision-making body?
	  ○ The client?
	  ○ The project manager?
	  ○ The energy community board
	  ○ The energy community members
	• What does 4ER do to increase the motivation and autonomy of
	  ○ The expert group?
	  ○ The decision-making body?
	  ○ The client?
	  ○ The project manager?
	  ○ The energy community board?
	  ○ The energy community members?
	• Which impulses from 4ER are perceived as helpful? Which are perceived as positively irritating? Which are perceived as negatively irritating?
	• What is the interaction between 4ER and AIT in ULL supervision??	

PM & CON	• What are the objectives of the "peer system" ULL-PM & consultants? • What is the division of labour between the ULL-PM and the consultants? • What are the specific tasks of the consultants? • How was the division of labour agreed? • Which impulses are experienced as helpful? Which are positively irritating? Which are negatively irritating? • How does the project management deal with the external impulses? • What are the implications for project management? • What are the implications for stakeholder satisfaction and acceptance of results? • What are the consequences for the focus and quality of the results? • What are the implications for the learning capacity of both? What supports the learning capacity? • Who is responsible for ULL decisions? • What is the added value of TANGO-W for the PM?	The 'peer system' of learning and governance
PM & all bodies (social architecture)	• What is the PM's role in co-ordinating all functions/bodies? • Where does the PM get support? Where are the challenges? What seems to be particularly challenging? • What are the differences between project architecture and project management? • How do they affect the search for solutions? • How do they affect collaboration and outcomes? • How do they affect innovation? • How do they affect the speed of implementation of the result?	Increase shared learning, adoption and speed of implementation

These guiding questions (see above) should help to question and change the nature of the cooperation between the actors within each step, in order to increase the likelihood of success for the change and thus

also for the Klagenfurt ULL project. Reflection and intervention planning within the online CoPs and f2f CoPs should thus contribute to increasing the transformative capacity both in the TANGO-W team and in the TANGO-W transformation-room with the EEG decision-makers, the ULL expert group, the ULL project manager, the EEG as an organisation and the consultants. We expect the questions to be expanded or even changed to some extent in the course of the next two years. These questions will be used in the future online CoPs and f2f CoPs of TANGO-W.

5.7 ULL 2.0 – ALYTUS

5.7.1 Customised ULL2.0 Transformation Room Alytus

The city of Alytus wants to develop strategic measures and actions to:

- become more energy efficient and independent and adopt renewable energy sources and energy-saving measures
- help reduce greenhouse gas emissions and improve air quality by more sustainable modes of transport
- leverage experience in recycling, reusing and repairing to promote circular economy principles and reduce waste generation
- integrate digital solutions to help improve energy efficiency, waste management, and overall sustainability in the city

TABLE 41: STRATEGIC FRAMEWORK OF THE ULL ALYTUS

Overall objective	Alytus: Development of Alytus towards a green, sustainable city TANGO-W: Widening urban transformative capacity
Sub-objectives of the ULL	• Create recommendations to a new strategic action plan for the development of Alytus from 2024 to 2026 and Alytus long-term vision 2030, aimed at achieving a green and sustainable future for the city. • Thematic focus on energy, mobility, circular economy (waste), smart (digital) city and the long-term issues such as "comfortable (healthy) city", "a city of opportunities" • Learn from other UTCs experience • Learn how to engage different stakeholders in the decision-making process and to incorporate their views into the result

Functions/bodies of Alytus TRANSFORMATION Room

The transformation space of Alytus consists of a social and a temporal architecture. Both architectures make it possible to govern

- the necessary content steps and
- the necessary clarification and decision-making processes between all relevant ULL actors, c
- actively asking for support from the local expert advisor and the TANGO-W process counsellor.

The table below describes the individual bodies/functions within the social ULL architecture:

TABLE 42: BODIES AND FUNCTIONS WITHIN THE ARCHITECTURE OF THE ULL ALYTUS

Client	Mayor & Vice Mayor of Alytus
Decision Board	Mayor & City council (27 members)
PM	Jolanta Dvarionienė (KTU), Neringa (Finance DEP Director)
PM Core-Team	Kristina Kamicaityte & Ramune Petuskaite

Concept Group	Dziugas Dvarionas, Ramune, Kristina Kamicaityte & Ramune Petuskaite
Expert Advisory Board	Experts from the environment, construction, architecture and urban development (mobility, energy) departments
Stakeholders	SME enterprises, citizens: pupils /students and elderlies, NGOs, education /schools, waste management companies, water supply companies, energy provider, environmental agency protection department (regional)
Expert advisor	Expert for Foresight & participatory processes
Systemic counsellor	Dziugas Dvariona facilitating the workshops; AIT supports the implementation and execution of the ULL process through regular online UTC supervisions.
Stakeholder risks	• The visioning process may not fully engage all stakeholders, which could result in a biased or incomplete picture of the city's future. • Role confusion: A project manager can never be a content expert for the project. • External project management by the university: The city's objectives may be neglected in favour of the university's objectives. • Alytus City's decision-makers are not involved in the strategy and roadmap development process. This can seriously affect the implementation of the results. • Delegating the primary project management to a university can strongly affect the city's identification with the outcome. This can lead to problems in implementing the developed action plan. • The individual questioning of city experts by the project management can prevent teamwork and the emergence of unexpected new solutions. • The KTU's expertise dominates the needs and wishes of different stakeholders. This can lead to demotivation of stakeholders.

The figure below shows the interaction of the different bodies/functions in the necessary cooperation and decision-making processes within Alytus Transformation Room (social architecture). As the project manager organises and manages all teams, she is present at all committee workshops and meetings. For this reason, project management is not shown separately for each committee but only as a specific, central function.

The two internal staff from the ministry of finance work more closely with the project management than the other experts from the city. For this reason, they are referred to as a supporting core team for the project management as a separate group.

The development of the individual workshops is carried out in cooperation between Dziugas Varionas, Jonalta Dvarioniene and the two core team members Kristina Kamicaityte and Ramune Petuskaite. The latter will assist in organising the rooms and clarifying the budget for the implementation of the stakeholder workshops. As the task of this concept/planning group is not to develop content outcomes but to manage the events, it is presented separately as a 'concept group'. Accordingly, only content experts from the different departments of the city are included in the expert group.

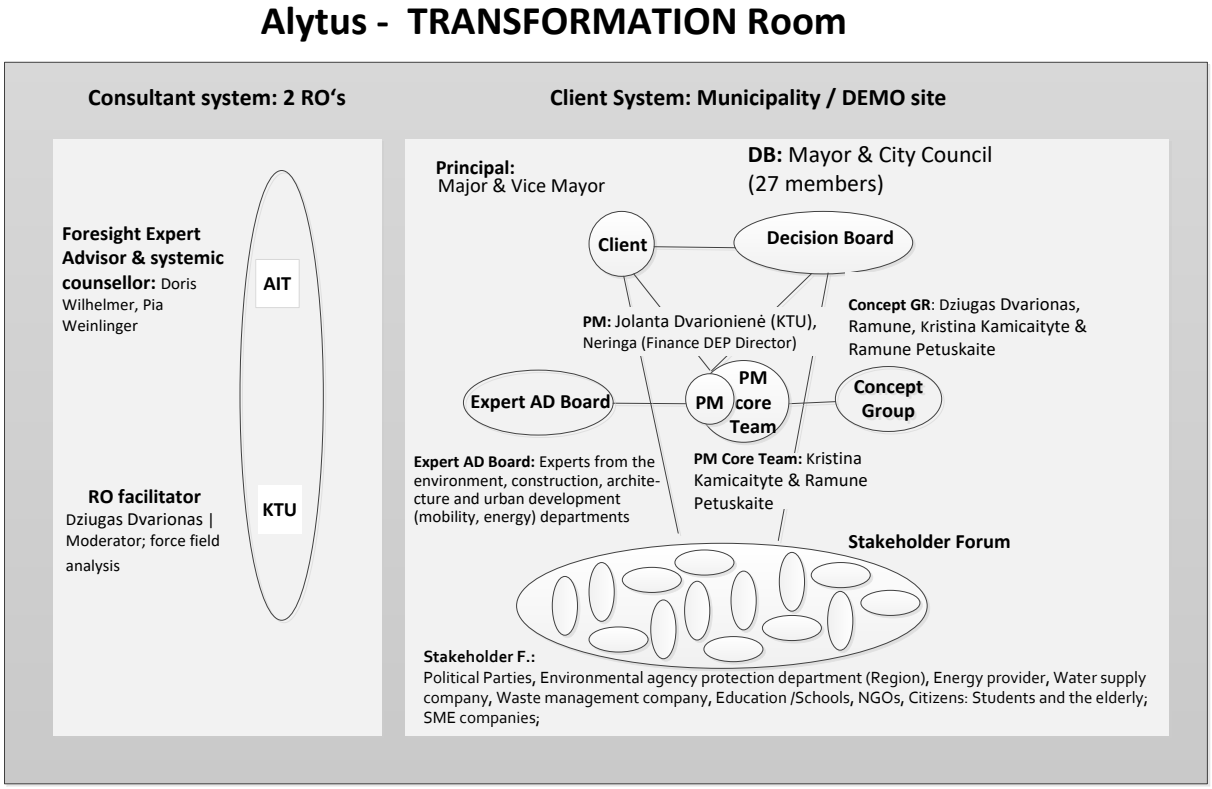

FIGURE 27: WEIZ TRANSFORMATION ROOM (SOURCE: D. WILHELMER 2023)

The planned milestones in the timeline

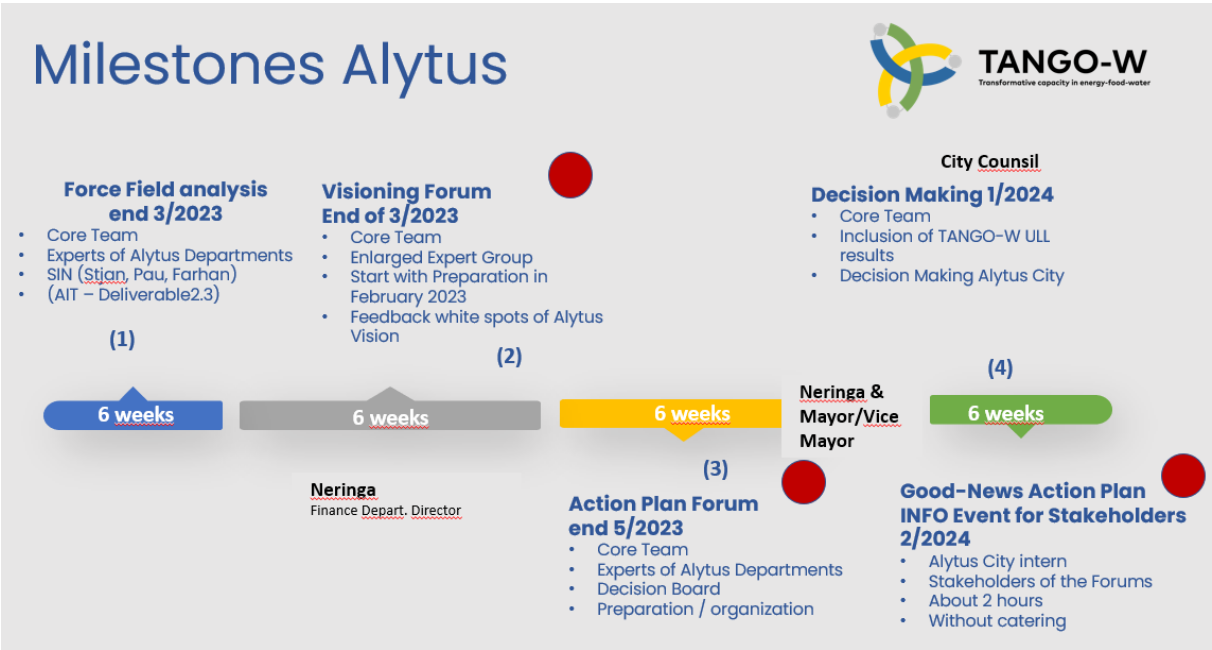

FIGURE 28: MILESTONES OF WEIZ (SOURCE: TANGO-W 2023)

The social and temporal architecture of Alytus' transformation-room reveals the benefits and risks of ULL governance.

Temporal Architecture

This temporal architecture of Alytus links the actors of the social architecture to the milestone plan of the ULL. It breaks down the milestones into individual activities and considers who among the relevant actors in the ULL needs to participate in which step in order for it to be successful.

In the case of Alytus-ULL2.0 we see four main tasks:

- decisions of the client and the decision-making body, supported by inputs from the project management,
- conceptual and organisational preparatory work by the project manager, the facilitator and the PM-core team,
- content-related preparatory work by the expert AD board and
- full- or half-day forums and clarification meetings with stakeholders and decision-makers to develop a Mission Statement 2050 and the Alytus Action Plan 2028.

In the case of Alytus, KTU plays four different roles:

- project manager for the city of Alytus,
- facilitator for the stakeholder forums
- methods expert for the force field analysis,
- content inputs as needed on sustainability issues.

As project manager and "external" facilitator, KTU is actively involved in all steps of the concept development, organisational preparation, workshop facilitation and decision preparation from an external role in the implementation of the Foresight process. Review and monitoring processes are in this case the task of the online UTCs at EU level in cooperation with the core team and the head of finance department: here the external perspective of the monitoring experts is important to enable a meta-reflection with a view to the whole system and the whole process, in which KTU is actively involved in this case.

In the case of Alytus, it is especially important that KTU plays an active role in a neutral facilitator role, with no substantive input, in all steps, from conceptualisation and preparation to facilitation and evaluation of the individual stakeholder forums and decision-making meetings. This ensures that the objectives of all key stakeholders can feed into the process on an equal footing and that the KTU or city perspective does not dominate. In this way, transparent coordination and decision-making processes should create satisfaction and identification with the overall result. Through continuous evaluation and adjustment of the interim results and the next goals, all individual steps should be clear for both KTU and the municipality of Alytus and thus feasible for all.

An exemplary "temporal actor architecture"(Figure 29) of the municipality of Alytus is attached. This is hypothetical and results from the interview with experts from Alytus Municipality and KTU University. In the upcoming f2f UTC, this temporal actor architecture needs to be further concretised and optimised.

It is not yet possible to say exactly how many meetings the PM core team, the concept group and the advisory board will actually need for the preparation and briefing tasks in order to choose the right words and appropriate times for the use of methods, to brief moderators and documenters and to optimally prepare decisions. The forums and workshops listed in the timeline are therefore initial placeholders for the meetings and workshops to come.

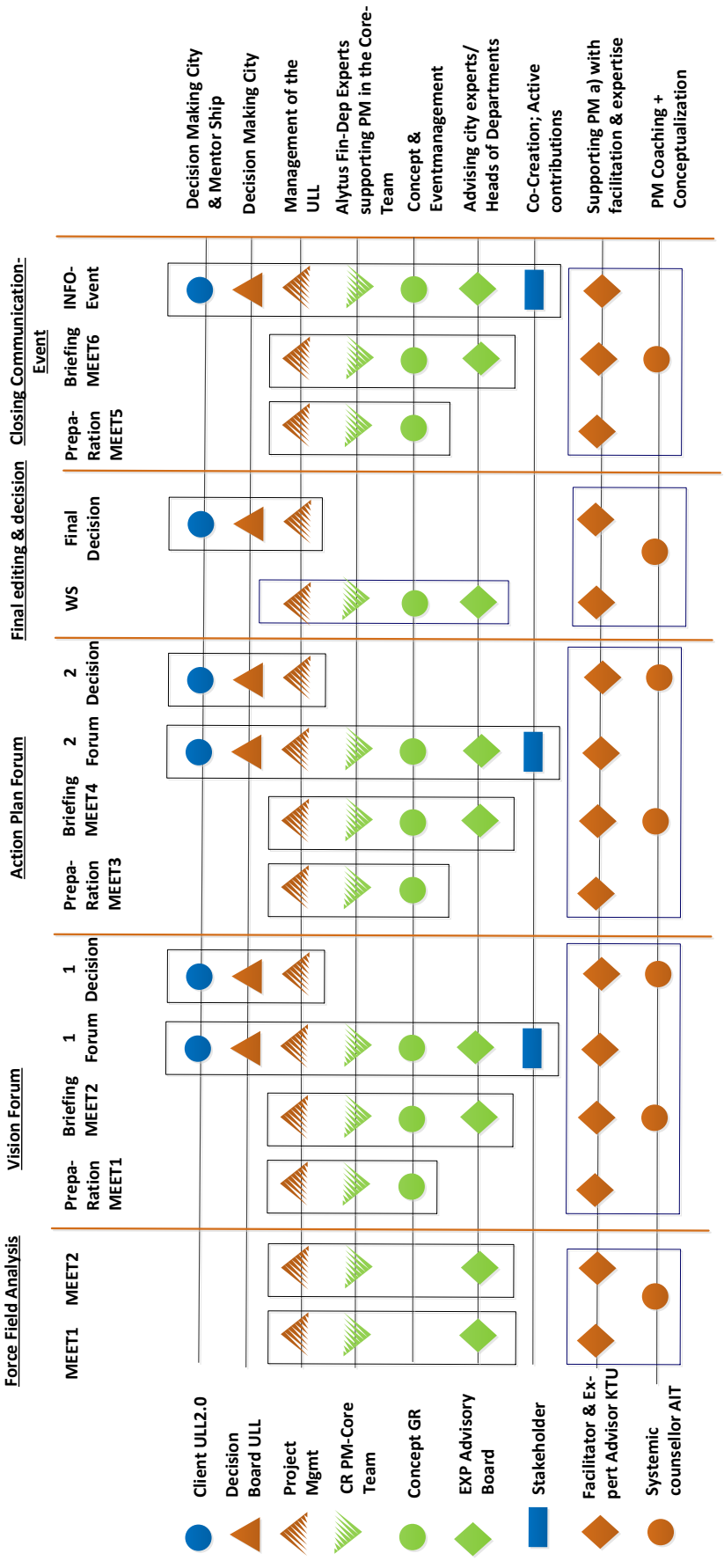

FIGURE 29: DRAFT ALYTUS-TEMPORAL ARCHITECTURE (SOURCE: D. WILHELMER 2023)

Hypothesis: Strengths of Alytus Transformation Room (social architecture)

Alytus is committed to regularly updating its action plan to achieve its sustainability goals and develop Alytus into a green city. The update, scheduled for 2023, will take place through a participatory ULL stakeholder process. The need to adapt the action plan and Alytus' strong desire to learn as much as possible from other TANGO-W Living Labs serves as a strong motivator and implementation guarantor for the Alytus ULL.

In Alytus municipality, the ULL is embedded in the powerful finance (and strategy) department. This underlines the importance of the strategic ULL project to the city, both internally and externally to stakeholders.

The municipality has appointed the KTU to take the lead role in managing the strategy project, with a focus on communication with internal and external experts and stakeholders. In addition, the head of finance manages the internal coordination and decision-making processes with the mayor, deputy mayor and the municipal council. The logic of this division of labour strengthens both the development and decision-making process and thus the success of the Alytus ULL.

By engaging KTU University as project manager, facilitator and - if necessary - content expert, Alytus temporarily extends its competencies as a city for this strategic ULL task. Such a comprehensive delegation of tasks requires a high level of trust between the city and the 'external' project manager, expert and facilitator. This trust in the initial situation can be seen as a success factor in the start-up and implementation phase of the project. The external project management is supported by an internal project management core team. This finance department staff anchor the external project management in the city, providing rapid access to both the powerful department head and key municipal experts when needed, and providing key data and

The availability of experts in the municipality helps the project management to involve the right people for the right issues and to informal communicate progress and decisions across departments. In addition, the existing stakeholder networks of the experts in the municipality can be used to contact and invite important stakeholder groups, such as waste management organisations, schools, cultural institutions etc. The experts also have links to other relevant stakeholders. The cooperation with the municipality serves as a guarantee for a successful stakeholder approach and thus for the success of a transparent participatory process at eye level.

Hypothesis: Ambiguities and risks of Alytus Transformation Room (social architecture:

The project management function is delegated to the external organisation KTU (Jolanta). At the same time, the head of the finance department is the face of the city to the external project manager: thus, the head of the finance department plays the dual role of

- client and
- internal project manager who communicates interim results to the mayor and deputy mayor or the city council.

A complicating factor is that there is no direct contact between the external project management and the internal project manager or client, but rather a hierarchical relationship between the two members of the core team. This can lead to misunderstandings in communication and significant delays in the project. This leads to the situation that the UTC monitoring should observe the communication relationship between

the external project manager, the internal project management/client and the members of the PM core team in terms of where and how quickly decisions important to the project are made.

We assume that, among other things, contact with key stakeholders must be approved by the head of finance, who is only available to the project on a case-by-case basis. In the case of operational time pressure, this can lead to an unintended restriction of the stakeholder group and thus undermine the planned alert and stakeholder process. It follows that UTC monitoring should question the impact of the relationship between the external KTU project manager and the head of finance in terms of the impact on the range and number of stakeholders.

From today's perspective, the commitment of the head of finance to TANGO-W ULL cannot be assessed. The less the CFO is involved in the process, the less he will identify with the developed action plan. This can lead to a direct weakening of the implementation power of the jointly developed and decided actions for Alytus. In the worst case, this can lead to the production of an action plan paper that ends up in a drawer for planning papers and never becomes an action guide for all departments in the city of Alytus. In this case, the strategic process would be like a Potemkin village performed for TANGO-W, without being able to achieve implementation relevance for the city and its targeted transformation towards the promotion of sustainability and UTC. It follows that the UTC should regularly question the active involvement of the Head of Finance in the process and provide impetus for his regular involvement.

At this stage, the involvement of the different political parties and political decision-makers in the participatory strategy process has not yet been an issue and is therefore not assessable - comparable to the involvement of the future mayor and deputy mayor. Keeping political decision-makers out of the participatory process would lead to a reduction in diversity and a democratically important confrontation between different interests. The less the outcome of the process can reflect the different positions and interests of the city and integrate them into the action plan, the less action-guiding relevance the outcome will have for all departments of the city of Alytus. It follows that UTC monitoring should scrutinise the composition of stakeholders to be invited to ensure that enough different party and city interests can be reflected.

In the context of stakeholder processes, many organisational issues with budgetary implications need to be addressed. The question of what city financial resources can be activated for premises and catering is likely to be clarified between internal staff and the head of the finance department. The success of the project to mobilise the necessary resources for the implementation of the stakeholder process thus depends directly on the quality of the relationship between the head of department and his or her staff. It follows that UTC monitoring should observe and review the relationship between the head of department and his or her staff, as well as the external project management and the two internal city functions, in terms of their impact on obtaining the necessary resources.

As a university, KTU has to achieve scientific goals and present research results at conferences or in publications in a timely manner. The deadlines of conferences and scientific journals follow the logic of the scientific system. The necessity to serve the scientific and university goals of KTU and TANGO-W on the one hand, and on the other hand the time-consuming participation process for the city of Alytus, which is primarily oriented towards its needs in terms of content and time, can lead to a collision of interests for KTU, which can be at the expense of the result for Alytus. It follows that the origin of so-called "constraints" should always be questioned by the UTC monitoring with regard to their affiliation to the scientific system

of the KTU or to limiting framework conditions of the city and sorted in such a way that the goals of Alytus are always given priority.

The city of Alytus will hold elections in the spring of 2023. This means that the current composition of the City Council will change in March 2023 and important decisions for Alytus can only be made two months after the election, i.e., around the end of May. This has been taken into account in the milestone planning in that the forum to develop the action plan will not take place until May and final decisions will be taken in January 2024. In addition to these organisational precautions, the decision could lead to a loss of importance of the action plan as a steering instrument for the city, which would strongly affect the motivation to implement the ULL project. A limitation of resources or a delay of the planned steps could be consequences of such developments. As a consequence, the UTC monitoring should continuously question the influence of the election on the strategic ULL project from March 2023 onwards and stimulate corresponding project marketing measures in order to be able to involve new decision-makers and politicians in previous results and open decision questions at an early stage.

KTU covers all the roles relevant to the Alytus-ULL: the university is the project manager, neutral facilitator of the stakeholder process and expert on specific sustainability issues. This concentrates a lot of influence and power in the project with KTU as a stakeholder. Experience shows that such a diversity of roles leads to role confusion among municipal staff and city stakeholders: Information can be misunderstood as instructions, and the demand for planned tasks can be rejected as an unjustified presumption on the part of an external service provider. In the participatory process, content proposals can be misunderstood as instructions that make reflection and cooperation by stakeholders superfluous. In sum, such a concentration of different roles and power in one actor usually leads to resistance and conflict in the process. At present, it appears that this concentration of roles and power, typical for city-roles, has been delegated to the external project manager in order to institutionalise the KTU as the "bad guy" in case of doubt and to maintain as much positive room for manoeuvre as possible for the city. We assume that this distribution of roles, which favours the formation of a "good guy" and a "bad guy" in the process, was not consciously decided and installed by Alytus and the KTU. For Alytus himself, this division of roles is highly functional and represents a great protection, especially in the upcoming transitional phase of the elections. To the extent that this division of roles between the two organisations is deliberate, it can be invaluable to the Alytus community. From today's perspective, it would be important for the KTU to leave the expert function entirely to the city and to keep the two roles of project management and facilitation in its own hands. However, it is also important that the roles of project management and facilitation are clearly assigned to different people in order to avoid role confusion among community members and stakeholders. It follows that UTC monitoring should continually question the impact of role diversity on relationship building, transparency and diversity of outcomes, and encourage ongoing role clarification during the process as a whole.

It follows that the following dimensions should be *important issues for the upcoming UTC monitoring*:

TABLE 43: IMPORTANT ISSUES FOR THE UPCOMING UTC MONITORING IN THE ULL ALYTUS

The impact of the nature of the working relationship between
• the external project manager, the internal client (PM) and the members of the pm-core-team. • the external KTU project manager and the head of finance. • the external KTU project manager and the head of finance and mayor and the decision board and the stakeholder forum. • The project management and the PM-core-team

- the head of financial department and his or her staff members
- the external project manager and the financial department team consisting of the head of the financial department and his or her staff members
- the external project manager
- the project manager and the mayor and the decision board
- the KTU project manager, the KTU facilitator and the KTU expert advisor

The impact of the nature of role performance, trust relationship and decision-making influences

- how quickly decisions important to the project are carried out.
- the range of diversity and number of stakeholders.
- the kind of involvement of the central Alytus decision makers in the stakeholder and decision process.
- the variety of the stakeholder range within the stakeholder forum
- the obtaining of necessary resources.
- sorting the interests of the science system and the city of Alytus with the aim of always giving priority to the goals of Alytus.
- The awareness of the impact of the Alytus elections 3/2023 on the ULL implementation process and the resulting need for project marketing measures.
- the kind of relationship building, process transparency, trust and diversity of outcomes

5.7.2 Force Field-Analysis: Driving and resisting forces and scope of change of Alytus

Alytus ULL main objective is to further develop Alytus' strategic planning towards sustainability, to make a greener and sustainable city. To do so, the municipality aims to involve all the relevant stakeholders to the process in order to create visioning documents based on the consensus of them all. The outcomes of this **participative visioning process involving multiple layers of ULL architecture's actors (internal and external)** will be contributions on the policy level of the ULL. More precisely on Alytus strategic plan 2024-2026.

In Table 44 , the results of the force field analysis are presented, including drivers and stoppers, and a hypothetic ranking of their impact potential for the success of the project. This exercise, does not only provide a visualization of the forces that are present in the ULL change, but can also provide relevant inputs for stakeholder mapping.

TABLE 44. FORCE FIELD ANALYSIS - ALYTUS

Forces that drive change					Forces against change			
High energy and food prices have increased the interest of the population towards increased efficiency and savings.				Development of Alytus towards a green, sustainable city - Participative visioning process involving multiple layers of ULL architecture's actors (internal and external)	Strong hierarchic political culture. The municipality has in the past taken relevant decisions without any consultation process. This could result in diffidence and/or indifference of relevant stakeholders towards the visioning process.			
The war initiated by Russia has caused an increased interest towards self-sufficiency and resiliency at city level.					Disagreement between parts. In broad participative processes there is a risk of not reaching an agreement, due to different stakeholders having distant interests.			
Engaged municipality, which is already used to visioning processes and innovation projects.					Lack of financial resources for the project			

Strong NGO network that promotes the involvement of residents in public affair topics					Lack of time/human resources for the project		
Previous projects success stories. Citizens benefited by the retrofitting of their houses (proven cases of 60% reduction of heating costs).					Potential lack of motivation from the relevant stakeholders. Food has not been yet a topic in the municipality's agenda, this can cause some challenges for engagement.		
The country's regulatory framework promotes the adoption of sustainability measures. E.g., Law on Environment of the Republic of Lithuania					Alytus population is ageing. Older people might not feel the need to contribute to visioning processes.		
4	3	2	1		1	2	3	4

The initial results of the force field analysis for Alytus present a ULL with strong drivers, such as engaged stakeholders (NGOs) that promote the involvement of residents in public affairs topics. This is a driver that can develop tasks engaging the residents (sometimes one of the more complex tasks). Furthermore, the engagement of the municipality as well as its experience in such processes are seen as a good starting point for the process. On the other hand, the strong hierarchical culture of the city can be a stopper for the intended change. In fact, even if Alytus stated that they are used to this kind of processes, they also mentioned that in the past decisions have been taken without any consultation. This could be the cause for diffidence from some stakeholders. This stopper could be a good starting point to brainstorm about potential UTC experiments, in order to change the stablished dynamics either within the administration or between the administration and external stakeholders.

5.7.3 Conclusion: Guiding questions for an innovative UTC governance

In the following chapter, the strengths and risks from the hypothesis development and force field analysis are translated into achievable ULL capacities, which can become more or less effective in the cooperation between certain actors. In doing so, the different impacts that can be mitigated or strengthened by interventions are elaborated, with a special focus on the achievable innovations.

The table below shows the effects that can be achieved by changing a certain relationship from the perspective of an actor. The following abbreviations are used: PM = Project Management; Client = Client; City Dep. = City Departments; Mayor = Mayor; Con. = Consultants / national RO & AIT; PT = Project Team; Stakeh. = Stakeholder

TABLE 45: RELATIONSHIPS, ACTORS AND IMPACTS OF THE ULL ALYTUS

Relationship	Actor	Impact
PM & Client	Client	• Elections in spring 2023: Chief Financial Officer as client ensures ULL implementation after May elections • Degree of active involvement of the CFO in steering and in the process determines acceptance and relevance of the result for action • Degree of direct contact between CFO and external PM influences top-down/dialogical decision-making mode • KTU as external PM of the city creates access to KTU expertise

		• Degree of role diversity (PM, facilitation, expertise) determines extent of KTU's implementation responsibility • Type of task division between PM and finance manager determines quality of results and speed of decisions • The way in which city and university objectives are prioritised determines the degree of needs-orientation and tailoring to the city.
Mayor & Decision Board	Client	• Updated action plan as an urban planning instrument • The level of involvement in the stakeholder process influences • Understanding of stakeholder needs • Degree of ability to challenge policy objectives • Degree of political identification with the outcome • Relevance of the outcome for implementation • Frequency of ULL decision-making body meetings influences degree of learning and ability to make informed decisions
PM & PM Core Team	PM	• Organisational support of the KTU by finance department staff creates access to • The financial manager/client • Alytus internal decision makers • Alytus' internal experts • Relationship networks to stakeholders • The Alytus budget for venues and catering. • Financial members relieve the PM of ADMIN tasks • The core team facilitates a learning process for the finance members
Concept Group	PM	• Inclusion of members from other Alytus departments participating in the stakeholder process increases tailoring. • Inclusion of TANGO-W methods increases participation and acceptance • Integration of stakeholder feedback and feedback from Alytus extends the learning process for all.
PM & Stakeh.	Stakeholder	• The decision-making process between PM and finance manager influences • the range of political and administrative decision-makers involved • the number of groups involved • the diversity of stakeholders involved • the number of stakeholders per workshop • the breadth of understanding of different stakeholder needs • the diversity of democratic stakeholder dialogue • the possibility to activate citizens in participation processes • the possibility of a common learning process for all • the possibility of balancing interests within the action plan • The role of the external PM (KTU) influences • The role of the client and the city council in the participation process • The city's scope of action in the working process • The scope and role of stakeholders in the participation process • The degree of influence on the content of the outcome • The degree of co-creation between different Alytus experts • The degree of conflict • The degree of balance of interests in the outcome achieved
Expert AD Board & PM	PM	• The nature of the City's involvement of internal experts influences • Building on existing strategic goals and values of Alytus decision makers. • Building on existing, diverse positions and interests of the city. • Building on existing knowledge and routines. • The breadth, relevance and feasibility of the solutions developed. • Diversity of integrated knowledge • The possibility of co-creating surprising and innovative results • The possibility of conflict prevention and balancing of interests in the process

		• The possibility of gaining an overview of a variety of ULL practices • The possibility to prepare informed decisions based on the developed action plan • The social and environmental sustainability of the outcome • Mobilisation of financial resources for the stakeholder process
PM & CON	peer-system	• Good division of labour • Relief for the PM • Stakeholder acceptance • Learning and transformation process beyond pressure • High results orientation • Common goals and language • Increased replicability of results • Peer system as an innovation partnership
PM & all bodies	PM	• Shared problem awareness (technical/legal) • Shared solutions through direct exchange • New, unplanned ideas • Increased speed of implementation

The ULL project manager is invited to experiment with transforming relationships where more or less innovation can be expected as a result, with a view to the TANGO-W objective of increasing UTC. In order to support the project managers, guiding questions are then formulated in relation to the relationships that, from today's perspective, seem to have the most transformative potential:

TABLE 46: GUIDING QUESTIONS FOR AN INNOVATIVE UTC GOVERNANCE IN THE ULL ALYTUS

Relationship	Guiding questions for an innovative UTC governance	Focus

PM & Client	• What are the objectives of the CFO as principal & internal PM?
	• What benefits does he see for Alytus?
	• How important is the idea of a "Green City of Alytus" for her?
	• What goals does the external PM have for a) ULL and b) KTU University?
	• What benefits does the PM see for a) Alytus and b) KTU?
	• What are the PM's priorities in relation to Alytus and KTU?
	• What does the PM do to avoid confusion due to the variety of roles (project manager, facilitator, expert)?
	• How can the PM liaise with the finance manager?
	• What does the external PM need from the finance manager to be successful?
	• How often do the finance manager and the PM meet? Who invites whom?
	• What does the PM do to actively involve the FD?
	• In relation to the stakeholders of the ULL: For whom is the
	• Who is the finance manager responsible for? For what purpose?
	  ○ The PM's contact person? For what purpose?
	  ○ What is the role of the
	  ○ The Finance Manager?
	  ○ The PM?
	• What issues are clarified and how?
	• What are the "typical" misunderstandings? How are these clarified?
	• What are the decision points between the finance manager and the PM?
	• What is the role of
	  ○ The finance manager?
	  ○ The PM?
		Embedding the ULL and its outcomes in the city and extending skills

	• What is the role of
	  ○ The finance manager? What does he do to achieve this?
	  ○ The PM? What does he do?
	• What role do resource decisions play in the process?
	• What does the finance director do?
	  ○ Involve the new/old (deputy) mayor and the decision board?
	  ○ Involve the new city council?
	• From the finance director's point of view, what should not happen? How would he react in this case?
	• From the point of view of the mayor, what should not happen? How would he react in this case?	

(Deputy) Mayor & Decision Board	• How often does the Decision Board meet on ULL matters? Who invites them? Who presents the interim results and decision questions?
	• What information about the ULL
	  ○ the (deputy) mayor? From whom?
	  ○ The town council? From whom?
	• What are the aims of the ULL?
	  ○ The (deputy) mayor?
	  ○ The city council?
	• On a scale of 1 to 10, how important do you think it is to update the action plan for
	  ○ The (deputy) mayor?
	  ○ The city council?
	• What is the role of
	  ○ The (deputy) mayor?
	  ○ The city council?
	  ○ The Chief Financial Officer?
	  ○ The Prime Minister?
	• On a scale of 1 to 10, how interested would you be in challenging current policy and management objectives of
	  ○ The (Deputy) Mayor?
	  ○ The Councillor?
	• On a scale of 1 to 10, how would you rate the willingness to learn and change in relation to the successful development of the city of Alytus on the part of
	  ○ (Deputy) Mayor?
	  ○ The City Council?
	• On a scale of 1 to 10, how interested in the needs of the residents and stakeholders of Alytus would you rate the following
	  ○ (Deputy) Mayor?
	  ○ City Council?
	• What role in the stakeholder process do
	  ○ The (Deputy) Mayor?
	  ○ The Town Council?
	• What is the role of
	  ○ The (deputy) mayor?
	  ○ The city council?
	• On a scale of 1 to 10, how important is the implementation of the new objectives and actions for
	  ○ The (deputy) mayor?
	  ○ The city council?
		Willing to learn and embed ULL in the city

PM & PM Core Team	• What is the purpose of the Core Team? • Who are the core team members? • What is the division of tasks between the PM and the core team members?	PM relief & finance staff learning

	• How do the core team members contribute to
	  ○ Planning and organising meetings between the PM and the financial manager?
	  ○ Identifying internal experts?
	  ○ Inviting internal experts to the expert AD board?
	  ○ Identifying stakeholder groups?
	  ○ Inviting stakeholders to workshops?
	  ○ Budgeting the costs of the stakeholder process?
	  ○ To contract, allocate and control costs related to venues, catering, speakers, etc?
	  ○ Identifying key internal decision makers on specific issues?
	  ○ Organise meetings with these decision makers,
	  ○ To build and maintain trust with the KTU PM from key city officials?
	• What is the impact of success or failure on the core team members?
	• Who brings expertise to the core team?
	• How are core team decisions made between the PM and core team members?
	• What contributions of the core team members would the PM consider most valuable to his work?	

Concept Team & PM	• What is the goal of the concept group?
	• What is the role of the concept group in the overall process?
	• How often does the concept group meet and on what occasions?
	• Who are the members of the concept group?
	• How many people from KTU and how many people from different departments of Alytus?
	• Who determined the composition according to which criteria? Who invited the participants?
	• What is the division of tasks between the PM core group and the concept group?
	• What is the contribution of the concept group to
	  ○ Identify key internal decision makers on specific issues?
	  ○ Identify key stakeholder groups?
	  ○ Formulating objectives for each stakeholder workshop?
	  ○ Selecting methods to achieve the objectives?
	  ○ Integrate
	  ▪ AIT methodologies into the workshop planning?
	  ▪ lessons learned from TANGO W ULLs into workshop planning?
	  ▪ stakeholder feedback into workshop planning?
	  ▪ change requests from the Finance Manager and Decision Board into workshop planning?
	  ○ Determine the level of participation in the workshops?
	  ○ Identify possible speakers for the WS?
	  ○ Invite stakeholders to the workshops?
	  ○ Organise meetings with these decision makers?
	  ○ Build and maintain trust between key city representatives and the external KTU PM?
	  ○ To communicate interim results in the municipality of Alytus?
	• What decisions are made in the concept group? How?
	• What is the role of the concept group in the final decision-making process?
		Increase acceptance by tailoring and learning

Expert AD Board & PM	• What is the purpose of the expert AD board? • What is the role of the expert AD board in the overall process?	Leverage strengths in the balance

	• What is the role of the expert AD board in the stakeholder process?
	• What is the role in the final decision-making process?
	• How often does the expert AD board meet and on what occasions?
	• Who are the members of the expert AD board?
	• How many people from KTU and how many people from different departments of Alytus participate?
	• Who determined the composition according to what criteria? Who invited the participants?
	• What is the division of tasks between the Expert AD Board and the Concept Group?
	• What contributions does the Expert AD Board make
	  ○ To the common view of the problem and the reorientation of Alytus
	  ○ Tailoring the stakeholder process to important interests and issues?
	  ○ Integration of
	  ▪ Existing strategic objectives of Alytus?
	  ▪ Specific interests of Alytus?
	  ▪ Existing solutions and routines?
	  ▪ Ongoing projects?
	  ▪ Diverse know-how and key regulations?
	  ▪ Lessons learned from TANGO-W ULL?
	  ▪ Necessary coordination meetings with central know-how holders and decision makers of Alytus?
	  ○ Review of planned WS objectives?
	  ○ To review the planned stakeholder groups?
	  ○ To identify and invite specific expert speakers?
	  ○ To co-create surprising, innovative solutions?
	  ○ Build and maintain trust between key city representatives and the external KTU PM?
	  ○ To balance interests in the action plan?
	  ○ To focus on relevant and feasible sets of actions for the action plan?
	  ○ Achieve a socially balanced, content relevant and environmentally sustainable action plan?
	  ○ To prepare a comprehensible and acceptable basis for decision making for the Mayor and the Decision Board?
	  ○ To communicate interim results in the municipality of Alytus?
		between innovation and feasibility

PM & Stakeholder	• What is the role of the stakeholder process in the overall decision-making process for a new Action Plan?
	• How many stakeholder workshops will there be?
	• What are the roles of
	  ○ The (deputy) mayor? How often does he participate? What does he do?
	  ○ The finance manager? How often does she attend? What does she do?
	  ○ The town councillor? How often does he attend? What does he do?
	  ○ The AD expert? How often does it meet? What does it do?
	  ○ The project management? What does it do?
	  ○ The concept-group? What does it do?
	• Who of the above is actively involved in the process and how?
	• To what extent is there an attempt to influence the outcome by
	  ○ The (deputy) mayor? What does he do?
		Stakeholder diversity needed to balance interests and learn

	○ The head of finance? What does she do? ○ The Prime Minister (KTU)? • What is the ○ The city's interest in a balanced outcome? ○ The city's interest in a joint learning process between the city and its citizens? ○ The city's understanding of different stakeholder needs and interests. ○ The city's interest in a diversity of possible approaches and solutions? • How will a broad stakeholder mix be ensured in all workshops? • Who sets the criteria for selecting stakeholders and how? How consistently are these applied to the composition of the stakeholder group? • How is a gradual, sequential development of the action plan based on the learning of the workshop participants ensured? • What does WHO do to facilitate a participatory process at eye level? What are the implications for the role of the city? • What is the degree of co-creation of actions by the different experts and stakeholder groups? • How many stakeholders are involved in each workshop? • How many people are invited from ○ The political groups in Alytus? ○ Decision makers from politics and administration of the municipality of Alytus? ○ From the decision board? ○ From the AD expert group? ○ Experts from Alytus Municipality? ○ From the local business community? ○ From the local education and research institutions? ○ From the local culture? ○ From local non-profit organisations? • How important is the outcome of the stakeholder workshops for the decisions of the Mayor and the Board? • How is the process and each stakeholder workshop evaluated? • What is the level of acceptance of the outcome by the ○ (deputy) mayor? ○ chief financial officer? ○ city council? ○ ad committee? ○ project management? ○ concept group? • What does the PM do to avoid confusion caused by the variety of roles (project manager, facilitator, expert)?	
PM & CON	• What are the objectives of the "peer system" ULL-PM & consultants? • What is the division of labour between the ULL-PM and the consultants? • What are the specific tasks of the consultants? • How was the division of labour agreed? • Which impulses are experienced as helpful? Which are positively irritating? Which are negatively irritating? • How does the project management deal with the external impulses? • What are the implications for project management?	The 'peer system' of learning and governance

	• What are the implications for stakeholder satisfaction and acceptance of results? • What are the consequences for the focus and quality of the results? • What are the implications for the learning capacity of both? What supports the learning capacity? • Who is responsible for ULL decisions? • What is the added value of TANGO-W for the PM?	
PM & all bodies (social architecture)	• What is the PM's role in co-ordinating all functions/bodies? • Where does the PM get support? Where are the challenges? What seems to be particularly challenging? • What are the differences between project architecture and project management? • How do they affect the search for solutions? • How do they affect collaboration and outcomes? • How do they affect innovation? • How do they affect the speed of implementation of the result?	Increase shared learning, adoption and speed of implementation

These guiding questions (see above) should help to question and change the nature of the cooperation between the actors within each step, in order to increase the likelihood of success for the change and thus also for the Alytus ULL project. Reflection and intervention planning within the online CoPs and f2f CoPs should thus contribute to increasing the transformative capacity both in the TANGO-W team and in the TANGO-W transformation-room with the kindergartens, the client and the mayor. We expect the questions to be expanded or even changed to some extent in the course of the next two years. These questions will be used in the future online CoPs and f2f CoPs of TANGO-W.

6 Conclusions

We see governance as a circular process of observation, hypothesis generation, intervention planning and process monitoring (Deutero learning (Argyris, Schön, 1996). Process monitoring is followed by the new systemic loop that starts with observation.

In TANGO-W we distinguish between two different types of monitoring:

- the short-term oriented, reflexive evaluation of the effects of the individual interventions set by the project management in cooperation with the advisory system in the transformation space (= advisory system) on the expansion of the urban transformation capacity.
- the reflexive evaluation of the effects of the individual interventions set by the project management in cooperation with the advisory system in the transformation space (= advisory system) on the expansion of the urban transformation capacity.

The results of these evaluations, in the form of a description of the differences achieved, are to form the basis for subsequent interventions, which in turn are to reinforce desired effects and counteract undesired effects. UTC monitoring becomes part of the systemic process (the systemic loop). This is why we call this monitoring 'process monitoring'. Both intervention planning and UTC process monitoring form the basic cornerstones of the systemic loop and are thus central components of the transformative governance of the ULL. The actors of transformative governance are the project commissioner, the PM and the consultant system. Supported by the consultant system, all three roles are equally active in the governance process at eye level.

In contrast, we see the long-term oriented UTC monitoring at the level of the city-administration, the strategically oriented PM decision board or other strategic, municipal organisational units. The focus here is on the evaluation of the interim results achieved by the city's strategically responsible decision-makers. This process can be supported by a monitoring consultant. Long-term UTC monitoring reflection does not focus on the impact of short-term interventions, but on the intermediate and final results achieved according to project milestones. These results can be learning experiences as well as already implemented structures and processes. The aim is not to monitor the implementation process, but to identify lessons learned, i.e., results that can be transferred to other or future projects in the city and replicated or scaled up. It is therefore about results as impulses for learning from external third parties. The observer's gaze falls on structures created, processes, new prototypes in the F-W-E nexus, business plans for the prototypes, as well as webinars and trainings, etc. One of the things observed is how the different interests of the different types of actors, e.g., politics, administration, experts & research, stakeholders, and consultants, are reflected in the results achieved and how these results in turn change the roles of the groups of actors themselves in the city's subsequent sustainability projects. Learning is evaluated from the perspective of changes in attitudes rather than actions.

Both the short-term controlling UTC-TANGO-W process monitoring, and the long-term evaluating results monitoring are seen as important building blocks for current intervention and learning and for the long-term organisation of further learning processes.

In the implementation process, this means that the UTC process monitoring takes place in the UTC online supervisions between the respective ULL consultants and the ULL project manager: The supervised work with the peer system as a central part of the transformation space becomes the core for initiating and evaluating learning and change. Three UTC process monitoring sessions per year are planned.

The implementation of long-term UTC impact-monitoring will take place in one round in autumn 2023. The second round will take place project-specifically at the end of the implementation phase, i.e., before the dissemination and replication phase, probably in September 2024. The final round of UTC results monitoring is part of the official closure of the ULL project, during which the results will be handed over to the client and the strategic city functions. We expect the final round in January 2025.

6.1 Conclusion: UTC Impact Modell for TANGO-W-ULLs

6.1.1 General aspects

The long-term UTC Impact monitoring is regarded as integral part of the governance structures that shall be built or extended within the cities participating in the TANGO-W project.

The UTC Areas (see below) are determined in different ways by the social architecture of the ULL transformation space or by the organisational structures of the respective city. The overarching organisational structures determine the design of the individual UTC Areas in the city or in the Living Lab.

TABLE 47: UTC AREAS – IMPACT MONITORING SCIOPE

UTC AREA	short term ULL Scope | process monitoring	Long term scope | impact monitoring
Participation	Participative structures established within project	Participative structures established within cities
Decision-making	Decision processes within project	Decision processes within cities
Visioning	Project vision (limited scope)	Overall vision (full scope)

Resources	Resources provided for the project	Resources available for future projects
Reflexivity	Learning processes within project	Results from project reviews; learning processes established within cities
Stakeholder Capacities	Capabilities developed by project members and used within project, including a limited sustainability monitoring	Capabilities available for all relevant stakeholders in future projects, including a specific sustainability monitoring model and processes

Within the long-term UTC-impact monitoring we distinguish between two different types of impact monitoring. First of all, we focus on the generation of Urban Transformative Capacities (UTC), mainly in the areas of participation, decision making, shared vision, resources that are available for transformative action, learning capacities and capacities built up with the stakeholders involved.

Within the seven ULLs activities are started either to build up such capacities directly (as part of the ULL goals) or at least these are generated during the process as "by-product". In each case the results of those realised capacities are valuable resources for the cities for all future transformative activities. One of the goals of TANGO-W is to learn from the experiments in the ULLs about critical success factors for the generation of UTC. the project itself develops different forms of UTC, which can then be passed on as experiences and real capacities either to the city or to the different stakeholders.

To which extend those capacities can be built up is depending on several factors, most of them are related to the way specific roles and relations within the ULL projects are shaped. Long-term **UTC-impact-monitoring** will therefore not only focus on direct **results** but also on those **critical relations between central actor types** in order to support the learning process within TANGO-W.

In order to support the monitoring process within the ULLs, a set of questions is provided which should help to focus the monitoring upon critical issues for UTC generation.

UTC monitoring is rather done in a qualitative way because describing the process is more helpful for learning than providing lots of numbers. Nevertheless, some indicators should be reported in order to make results comparable.

Secondly, we want to monitor the impact of the ULL activities in the areas of food, water and energy, which is rather a technical issue. We call this „**sustainability monitoring** ". The major goal of this part of monitoring is that the city and all stakeholders learn to set up an impact monitoring for all of their (future) sustainability related activities and projects. This is also part of the governance structure and therefore an important capability in terms of UTC.

A generic model for this type of monitoring is provided separately, this can be used directly or taken as an addendum to other, already existing monitoring systems. ULLs will develop goals and indicator sets which are related to the vision, strategy and measures (primary goals of the ULL) and their potential impacts. The prototype cases will focus on a specific implementation with impacts that may be limited to certain systemic dimensions. For these potential impacts we provide suggestions concerning the most important dimensions and indicators. The ULL has to decide about which indicator set it wants to use.

Indicator sets should be integrated into the governance structure of the cities at the end of the project and after a final review of the learnings from the ULL. In order to integrate these results into a more generic context, we provide a long-term perspective for impact monitoring depending on the focus of the specific case.

6.1.2 The long-term UTC-Impact Monitoring - Overview

Legend: SUS = Sustainability; MON = Monitoring; POT= Potential; short-t= short-term; long-t= long term; I-AREA= impact areas; PERS = perspectives

TABLE 48: OVERVIEW UTC IMPACT MONITORING

ULL	Case	Goals (summary)	UTC Monitoring Learning areas	SUS MON, POT; short-t I-AREAs	SUS MON Long-t PERS
Halden	strategic	Food waste reduction, Plan and pilot Guidelines and training	Role model (PM, civil servants) Citizen and stakeholder involvement Decision process Knowledge transfer (awareness, resistance) Resources available (budget)	Economy Knowledge Individuals	Food waste impact model
Marker	Strategic +prototype (?)	New solutions for food, water and energy management; water savings and sustainable food production Plan and pilot	Role model (PM, civil servants) Citizen and stakeholder involvement Decision process Knowledge transfer (awareness) Resources available (budget, time) Water and Food Group interaction	Economy Ecology Knowledge Individuals	Nexus impact model
Stock-holm	strategic	Urban farming New regulations for planners Implementation plan, potential study Indicator scheme	Role model (PM, civil servants) Citizen and stakeholder involvement Decision process Knowledge transfer (awareness, resistance) Resources available (budget, time) Integration in long term urban development plan of the city	Economy Ecology Social system Politics Knowledge	Impact model for urban agriculture – green space index (?)
Norrtälje	strategic	Urban farming Feasibility study and guideline for aquaponics system; Sociocratic decision making - interdepartmental decision-making group of the city	Role model (PM board) Decision process (incl. process goals) Stakeholder involvement (and interactions)	Economy Politics Knowledge	circular economy impact model
Weiz	strategic	Vison and measures Resilience and competencies	Role model (foresight specific) Citizen and stakeholder involvement Vision (dimensions) Decision process (roadmap) Learning (about foresight and about roadmap areas)	Develop full set (foresight)	Full sustainability impact model
Klagenfurt	prototype	Energy community implementation	Role model (community, city, experts) Citizen and stakeholder involvement Decision making Knowledge transfer (awareness, resistance)	Economy Ecology Social Politics (Smart City Board) Knowledge	Impact of energy communities

				Individuals (energy usage)	
Alytus	strategic	Vision and measures (areas already predefined?)	Role model (foresight specific, PM and expert role) Citizen and stakeholder involvement Vision (dimensions) Decision process (roadmap) Learning (about foresight and about roadmap areas)	Develop full set (foresight)	Full sustainability impact model

6.2 Guiding questions for an innovative UTC governance for TANGO-W-ULL's

6.2.1 Guiding Questions for UTC-Impact-Monitoring addressing replication & strategies

This part of monitoring will look at capabilities which are developed within the scope of the ULLs according to the UTC areas mentioned above. Thereby it focuses on critical success factors within the project structures that support or hinder the development of such capabilities. These observations are most relevant for learning from the ULL projects.

Following the results of the analysis of ULL needs and challenges as well as the results from the hypothesis development and force field analysis for each ULL, we derived a model on critical roles and relations that can be used for planning of experiments and interventions as well as for monitoring aspects.

The following table shows such critical success factors and potential impacts on UTC, depending on the way a certain relationship is shaped. The respective relationship has a strong influence on the opportunities for UTC development because it influences the way a role acts within the project.

The following roles are considered as critical:

- PM = Project Management responsible for achieving the projects results
- Client = Client responsible for project assignment and resources
- Admin = City Administration (usually different departments)
- Politics = all entities in the political area that might influence the project by setting boundary conditions or direct interventions (in most cases represented by the mayor)
- Con. = Consultants responsible for providing process know-how and guidance for PM
- Experts = technical experts in the areas important for the project (i.e. water, energy, food)
- Stakeh. = all Stakeholders involved in or at least affected by the project

TABLE 49: RELATIONSHIPS, ACTORS AND UTC IMPACTS

Relationship	Actor	UTC Impact
PM & Client	PM	• Definition of participants (available **knowledge**) and **resources** • Shape **participation** and **decision** processes (delegation) • Provide room for reflection and **learning** • Protection from external influences and disturbances
	Client	Support for **learning** process within politics
PM & Admin	PM	Promotion of cooperation and **knowledge** exchange between departments

PM & Con.	Consultants	• Observation and interventions if needed • Support of learning process
PM & experts	PM	Decision of participation and way of interaction (available **knowledge**)
Politics & Client (PM)	Politics (e.g., Mayor or other actors)	• Influence on selection of participants and resources • Influence on decisions made • Influence on acceptance of results (vision)
Experts & Stakeh.	Experts	• Transfer of specific knowledge to stakeholders
PM & Stakeh.	Stakeh.	• Way of own participation • Providing own knowledge • Take part in decision making (practical and needs-oriented decisions)

The ULL shall also monitor the critical relationships to improve the understanding of citical success factors for UTC generation. In order to support the project managers, guiding questions are formulated for the most important relationships.

TABLE 50: GUIDING QUESTIONS FOR A LONG TERM UTC IMPACT

Relationship	Guiding questions for a long term UTC impact- monitoring
PM & Client	• How did the client influence the design of the project, especially the nature and depth of participation and decision-making? • Number of meetings between client and PM • How did the client influence the definition of the vision? • Which vision areas were mainly influenced by the client? • Was the vision fully agreed upon by all stakeholders and the client? • How much time was available for reflection and learning within the ULL? • Were political representatives involved in the learning process? • Have there been any external influences and disturbances which hindered the participation and decision or learning processes?
PM & Admin	• Describe how cooperation and knowledge exchange between departments took place.
PM & Con.	• Which critical observations were provided by the consultants during different project phases? • Which helpful (or irritating) interventions by the consultants happen during the project? • How did the project management deal with the external impulses? • How did the consultants support the learning process?
PM & experts	• How were the participating experts selected, which knowledge was regarded as critical? • How were the experts integrated into the project structure? • Number of meetings with PM to develop goals and measures
Politics & Client (PM)	• How did politics influence the selection of participants and available resources? By whom did influence occur? • Was there any influence on the decisions made by the project team? What kind of (helpful or hindering) influence? • Was politics helpful for motivation of the participants? • How much was the developed vision shaped by influences from politics? • Did politics accept ULL results (especially vision and measures)?
Experts & Stakeh.	• How was transfer of specific knowledge to stakeholders organized? • How often do internal experts meet with stakeholders to share their knowledge? • In which areas was knowledge transfer successful? • If it was not successful for a specific area, what was the reason for that?
PM & Stakeh.	• What methods were used to make decisions and who was involved? • Participating groups (number of persons, frequency of meetings) during planning and steering processes

	• Participating groups (number of persons, frequency of meetings) in meetings with mainly technical issues • Could all stakeholders provide their specific knowledge and take part in decision making (in order to make practical and needs-oriented decisions)? • Who is involved in the evaluation of the achieved results besides the stakeholders and the project management?

6.2.2 Guiding questions for the short-term oriented process monitoring on ULL learning- and transformation processes

In Chapter 5 of this ULL 2.0 Design Guide, two tables are presented for each TANGO-W ULL in the respective subchapter "Guiding questions for innovative UTC governance". The first table shows which effects can be achieved by changing a certain actor relationship of the respective social ULL architecture. The effects show possible transformation goals per ULL.

The second table formulates guiding questions for interventions in relationships between ULL actors, with which ULL project management can experiment to design transformation processes. In the spirit of Watzlawick's et al. pragmatic axiom (Watzlawik, Beavin, Jackson, 1969) "you cannot not communicate", the project manager's answer to the guiding questions is seen through the lens of "you cannot not intervene". All actions and decisions of the ULL project manager are perceived as interventions in the relational structure. In this respect, the way in which the guiding questions are answered represents a decision by the PM manager to make certain interventions towards his or her intended goals.

We recommend both the ULL project managers and the TANGO-W RO colleagues from SIN, NR and 4ER to use the social and temporal architecture valid for each ULL as an orientation map for the guiding questions and the respective tailor-made guiding questions as a kind of checklist for steering their own ULL.

At the same time, the results presented here will form the basis for process monitoring within the framework of the online CoPs of the next two years (3/2023-3/2025) and will contribute to the step-by-step development of a common observation perspective and language for transformative governance in our TANGO-W peer-systems consisting or RO representatives and AIT. We also expect the upcoming joint learning process to provide insights into how and to what extent the roles of both RO's and ULL project leaders as transformation consultants and transformation managers respectively can change step by step in joint action.

6.3 Implications for training & Webinars

The ULL 2.0 Design Guide takes up the counselling system developed in the theory and practice of sociology (Willke, Baecker, Förster)[9][10][11], organisational development (Exner, Königswieser, Wimmer)[12][13]

[9] Willke, H. (1994): Systems Theory II: Governance Theory: Basic Features of a Theory of the Governance of Complex Social Systems. Stuttgart, Jena, page 4. UTB 1994.

[10] Baecker, D. (1999): Organisation als System, Essays, Suhrkamp Verlag, Frankfurt am Main.

[11] Foerster, H. v. (1985): Discovering or inventing? In: A.Mohler, H.Gumin (eds.). Introduction to Constructivism. Munich.

[12] Königswieser, R.; Cichy, U.; Jochum, G. (2001): SIMsalabim. Change is not magic. Systemic Integration Management. Stuttgart, Klett-Cotta 2001.

[13] Königswieser, R.; Exner, A. D. (1998): Systemische Intervention. Architekturen und Designs für Berater und Veränderungsmanager, Stuttgart, Klett-Cotta 2002.

[14] and systemic therapy (G. Schmidt, F. Simon) [15][16] as an instrument for contextual control and a prerequisite for the success of change processes. In the tradition of the publication "Transformation Room" (Wilhelmer,Wagner, Haindlmaier, 2020), the counselling system is called "Transformation Room".

In this context, the ULL 2.0 Design Guide presented here uses the 7 TANGO-W ULL examples to show how the following three steering instruments can be used by transformation consultants and ULL project managers in the planning and implementation of transformation processes:

- The systemic loop of observation, hypothesis, intervention and evaluation as a re-description of observations.
- The social process architecture
- The Temporal Process Architecture

Looking at change processes, we can distinguish between the playing field and the individual moves of the actors. The steering instruments mentioned above, as context steering, make up the playing field with its basic roles and rules of the game. They are therefore decisive for the success of all individual interventions that can be set subsequently.

The ULL 2.0 Design Guide presented here shows how hypotheses about success-critical factors can be derived from the analysis of the social process architecture and how these can be translated into guiding questions that enable a reworking of the social and temporal process architectures and thus create a good learning and transformation space for all actors involved in ULLs.

These three governance tools represent how the governance tools of "social and temporal architectures" can be used as interventions to construct and process each of the TANGO W ULLs as transformational and learning spaces.

Both the basic creation of a transformative playing field (context) by building social architectures and translating them into guiding questions for the self-steering of transformative urban development projects and the expansion of UTC in European Living Labs can be used as content for a webinar as well as for the implementation of a training with city representatives and transformation managers.

7 OUTLOOK to TANGO-W Good Practice Guide

An outlook on which results from D.2.2 and D2.3 will be included in the TANGO-W Good Practice Guide and which project results to be expected in the next two years will, on the one hand, complete the specifics of the transformation space ULL 2.0 and, on the other hand, represent important core statements for the final report.

The following deliverables are planned for 2023 and 2024 to present the interim results expected in the next two years:

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[14] Wimmer, R. (2004): Organisation and Leadership. System Theoretical Perspectives for Practice. Carl Auer Verlag Heidelberg 2004.

[15] Simon, F.B. (2008): Introduction to Systems Theory and Constructivism. Carl-Auer Compact Verlag Heidelberg, 3rd edition 2008.

[16] Schmidt, G. (2004): Typical phases of a counselling process. In: Love affairs between problem and solution. Hypnosystemic work in difficult contexts. Carl Auer Verlag, first edition 2004.

- D 4.3 Strengthened capacities in UTC dimensions
- D3.3 Guide to transformative governance in cities (M34)

D 4.3 aims to identify and analyse the first lessons learned in the use of the three governance tools and the guiding questions for implementing transformative interventions. The task of D3.3 at the end of the project will then be to synthesise all the findings from reports D2.2, D2.3 and D4.3 into a common good practice guide for transformative European ULLs and to formulate recommendations on what attitudes, roles, governance tools, intervention methods and new skills and knowledge can be used by future ULL managers and process facilitators to progressively and sustainably increase UTC in European cities.

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Willke, H. (1994): Systems Theory II: Governance Theory: Basic Features of a Theory of the Governance of Complex Social Systems. Stuttgart, Jena, page 4. UTB 1994.

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