

# Orchestrating sustainable urban development

Final report of the SASUI project

Raine Mäntysalo, Helena Leino, Johan Wallin,  
Jussi Hulkkonen, Markus Laine, Minna  
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# 1 Introduction

## 1.1 Background

Developing transition pathways towards a low-carbon society is a global challenge of high priority. Governing the transition requires both global action and local solutions, including efficient policy tools that support sustainable production and consumption. Local public authorities play a role here, both in implementing decisions made at higher tiers and in fostering low carbon solutions through their own action, together with other key stakeholders. On the one hand, this is a matter of public-private cooperation, where cities may seek strategic allies among the major companies or networks of SMEs (small and medium sized firms). On the other hand, without a mandate from the citizens and a demand by the customers the efforts may turn very short-lived.

One of the central themes of this report is the creation of partnership arrangements that both strive for more sustainability and are in themselves socially sustainable. We thus approach partnerships as social innovations that may enable the development of further innovations, such as solutions of low-carbon everyday mobility or new techniques of collaborative urban densification. Cities may take several roles in partnership arrangements. The roles can be anything from being project partners in experiments that are closely related to the jurisdiction of the local authorities to orchestrating whole innovation ecosystems.

The research and development efforts reported here wish to serve both as useful theoretical insights and as practical solutions to the described overall challenge and to the problems of the particular cases. This report summarizes the findings of the two-year project called “Systemic Architectures for Sustainable Urban Development” (SASUI). The SASUI project was carried out by the Department of Real Estate, Planning and Geoinformatics at Aalto University together with the University of Tampere School of Management

and Synocus Ltd. The funding came from the TEKES's innovation research programme and from the case study cities of Espoo and Tampere. The project has also been closely connected with the work of the World Alliance for Low Carbon Cities (WALCC), which is a non-profit association that brings together cities, private companies and research organisations internationally to foster information exchange, collaboration and innovation.

## 1.2 Objectives

In our research plan we used the term 'architecture' in connection to successful innovation processes, and asked what social, operational and informational architectural prerequisites are needed for successful sustainable urban development. We focused on cities and wanted to know, how a city organization can nurture the formation of successful networks or innovation 'ecosystems'. We also asked, what is required from the cities in the different phases of the process: how to mobilize the right stakeholders, how to structure the collaboration and how to act in the phase when the innovation matures and becomes either commercialized and/or "domesticated" in the city's own ways of acting.

We have developed the conceptual framework further during the project to better acknowledge that there is a clear difference between cities and private sector actors as facilitators of innovation. Whereas the companies operate on the markets and may be interested in long-lasting growth coalitions with the cities, the cities are always accountable also to the people. The partnership arrangements are not of the type public-private but public-private-people. Further motivation for the continuous adaptation of the theoretical apparatus comes through the will to do justice to the case studies. We have tried to find a frame which is broad enough for all three cases to fit in, but sharp enough both in respect of the societal change and of the particularities of the studied localities.

Besides deepening understanding we wish to offer solutions/models that can travel across contexts at least from one part of the city to another. In Espoo this means that the lessons learned through the Otaniemi case are refined to a 'modus operandi', a method of sustainable partnership formation that can be utilized in other areas. Beneficiaries are both Espoo's cross-sectoral policy programme on sustainable development and the urban planning department. The Tampere case in turn can inform urban densification processes similar to the studied area with a manual of "dos and don'ts" when introducing densification to the owner-occupiers of housing companies.

### 1.3 Research approach

Besides the theoretical development, we have been observers and participants of urban development in our case study areas. Many undertakings of the projects can actually be labelled action research, meaning that we have also been active (co-)producers of interventions with the purpose to make a difference, and have reflected on how the action has taken effect in the case study areas. The case specific, situated knowledge has then been analysed within the broader frames of, for instance, the institutional ambiguity of the current governance culture.

The regular meetings of the research teams have been workshop-like gatherings where we have both reported to each other on the progress of the empirical case studies and searched for a common terminology that would bind the cases together and pave the way for advancing the theoretical framework. Besides the case studies reported here, a number of other cases have informed the work. In our international research workshop we brought together Swedish, Chinese, Belgian and Italian scholars to discuss experiences with living labs and partnership arrangements aimed at fostering sustainability. Through the WALCC cooperation we have learnt how similar challenges are dealt with in China, for instance.

We have used the opportunity to incorporate students to the project work. In Otaniemi a special course on strategic land use planning and planning cooperation (in the autumn of 2014) tested scenario work methodology in strategic assessment of existing visions for Otaniemi. In Tampere, the students of the University of Tampere have since 2013 contributed to the studies of Tammela urban densification on altogether three courses. The first two courses in 2013 and 2014 were organized together with the architecture department of Tampere University of Technology. What should also be noted that as researchers and citizens interested in urban development we were familiar with the Finnish case study areas already prior to the project. And finally, the campus areas that lie within the case study areas have been part of our study and/or work life for long.

### 1.4 Case studies in short

We have three main case studies: two from Finland, one from Sweden. The intention has not been to study them in a strict comparative framework, although the cases do offer themselves for some comparisons. It is rather that insights in one case have made us look at the other cases in new ways.



The Otaniemi case seeks to understand the current planning situation of the Otaniemi area, which is a district of the City of Espoo, in Finland. The focus is on the different sources of institutional ambiguity and how different stakeholders learn to deal with the ambiguous constellations of the planning process as they participate in the meetings of the so-called Otaniemi OK discussion forum.

The Tammela case examines the conditions for carrying out district-wide urban infill in the city centre of Tampere, Finland. The Tammela district was chosen as a pilot area for urban infill by the City of Tampere. As most of the land is owned by housing companies consisting of owner-occupiers of the apartments, they have the last word on whether infill shall progress or not. The offset forces the City to reconfigure the roles of the actors in the planning process. Tampere has approached the task by close collaboration with the housing companies. As researchers we have been able to increase understanding of the key issues that need to be solved in order to proceed with the infill process.

The Malmö case focuses on the development of local governance in Malmö, Sweden. The approach is longitudinal, extending from the Western Harbour project in the 2000s to the work of the Malmö Commission in the 2010s. The concerted efforts, resulting in the current so-called knowledge alliances, represent an interesting case of reframing the sustainability question. City of Malmö has started to use policy processes as sources of continuous learning and capacity building.

## 1.5 Structure of the report

In this report, we will first outline a general model of the urban governance system as a learning system. While doing so, we will also introduce a number of key theoretical concepts of our study. Then, in the chapters that follow, we will use this theoretical basis in our three case studies: the Otaniemi OK process, the Tammela urban infill case and the Malmö case. Finally, based on our theoretical work and case observations, we will offer some policy recommendations for the development of systemic architectures for sustainable urban innovation in the context of Finnish urban governance.

## 1.6 Further results and reading

A number of contributions of the SASUI project have already been published, or are in the process of it. We have also produced a 'power report' that summarizes the findings in the form of a presentation that comes with the notes to it. You can find it in the appendix 2.

## 2 Theoretical framework

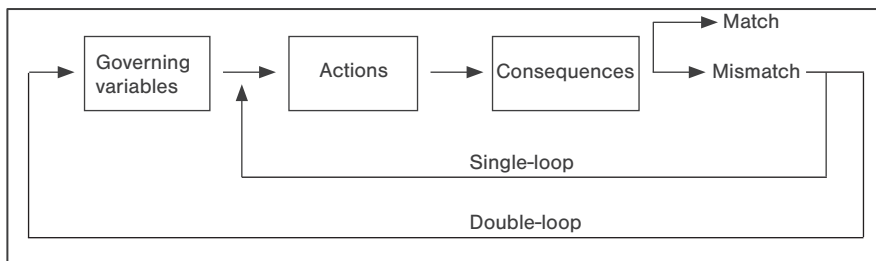
Our approach to ‘systemic architectures for sustainable urban innovation’ is based on the conception of systemic architectures as *learning system* constellations that embrace and intentionally manage their own learning capabilities. These learning capabilities are needed in order to enable continuous innovativeness to meet the challenges posed by the imperative of sustainability in the increasingly complex urban context, in terms of both the ‘urban system’ and the ‘system of its governance’. We approach the urban governance system as a learning system. In the following, we will first outline a general model of the urban governance system as a learning system. While doing so, we will also introduce a number of key theoretical concepts of our study.

### 2.1 Single-loop and double-loop learning

A widely applied model of learning system is provided by Chris Argyris and Donald Schön (1978). It is based on the idea of the learning system as a self-corrective cybernetic system that is able to redirect its actions on the reception of feedback of its former actions, thus reacting to unexpected consequences. In the simplest case, such self-corrective learning proceeds through *single-loop learning* that corresponds with ‘trial and error’ type of learning: if *this* action is found not to produce the intended consequences, then *that* action is tried, and repeated until the intended consequences are hopefully achieved. Single-loop learning is problem-solving within the context of a given habit or a technical practice. In Argyris’s and Schön’s terms, there is a given set of *governing variables* that determines the identification of the problem and the available choices for its resolution. In the Malmö case, an example of such a given context for learning was the general approach to initiatives to resolve the

city's health inequalities as *costs*. The cost perspective determined a certain approach to the health inequality problem. In the Tammela case, in turn, an example of governing variables were the habitual roles that the housing company representatives gave to themselves and to the city planners in their initial approach to the Tammela urban infill initiative. In the Otaniemi case, the existing habits of the City of Espoo in conducting participatory planning, as well as its long-standing policy to rely on developer-oriented planning, can be seen as its governing variables of problem-solving in planning.

However, not all problems can be resolved by relying on existing habitual approaches, but require “thinking out of the box”. Argyris’s and Schön’s *double-loop learning* represents this type of “higher” learning. Double-loop learning occurs when mismatches are corrected by first examining and altering the ‘governing variables’, or prevailing contextual assumptions determining the approach to the problem, and then the actions. (Figure 2.1). Double-loop learning is *learning to learn* in the sense of learning a new approach to solving problems, when the former approach is found to be unsatisfactory.



**Figure 2.1.** Argyris’ and Schön’s (1978) cybernetic model of single-loop and double-loop learning.

In the Malmö case, a crucial contextual shift indicating double-loop learning was made, when the newly appointed (2010) independent Commission for a socially sustainable Malmö started to approach health inequalities from the broader context of sustainable development of the city. From that broader viewpoint it was revealed that measures in economic sustainability and social sustainability were treated unevenly, as measures in economic sustainability tended to be treated as *investments* (even when returns of those investments were expected to materialize in an extensively long term, as with the transportation infrastructure investments on the Öresund Link between Malmö and Copenhagen), whereas measures in social sustainability were treated as *costs*. As health inequalities had become an increasingly pressing issue in Malmö, threatening the livelihood and attractiveness of the city, it was

appropriate to suggest reframing the corrective measures on health inequality in terms of investments, too, instead of costs.

In the Tammela case, an act of double-loop learning for the housing company representatives was their revelation that they were not treated by the city planners as resident-subjects of “top-down” planning by the city, but as partners in urban infill planning negotiations and as potential developers themselves, regarding the infill of the housing companies’ own land properties. For the city planners, too, this unprecedented role of the housing companies as potential developers was a matter of double-loop learning.

In the Otaniemi case, double-loop learning was achieved by the use of a specific decision studio space called Aalto Built Environment Lab (ABE Lab) for the facilitation of planning negotiations between the different stakeholders that were exceptionally astute and resourceful in devising their own alternative planning proposals to back up their arguments. Another incident of double-loop learning was the realization of the City of Espoo that in the Otaniemi case it had gone too far in its reliance on developer-oriented planning, to the extent that it had become difficult to discern the city’s own planning documentation and related aims, from the two major landowner-developers’ (Senate Properties Ltd and Aalto University Properties Ltd). In part, the Otaniemi OK process was launched in December 2014 to clarify this issue.

## 2.2 The generation of trading zones as double-loop learning

The ABE Lab is a specifically equipped meeting room utilizing ICT and visualization technology, to enable richer and more easily perceptible visualization of plans and analyses regarding urban development in Espoo, especially Otaniemi, where the ABE Lab is located. In the Otaniemi OK process it has enabled more even and contributory planning discussions across different stakeholder groups, as the stakeholders have even been equipped, with the help of the ABE Lab personnel, to present and visualize their own alternative plans. In the other two cases, too, arrangements were made to facilitate communication between groups.

In the Tammela case, the researchers from University of Tampere brought an office container temporarily to the district’s marketplace, at the time when the urban infill issue had become a hot topic. The container provided a physical space for the residents of Tammela to discuss the infill issues with researchers and to review aerial photos of the area and ideas sketches for urban infill and to comment them. The container experiment turned out to be highly successful. The researchers had a crucial role in translating complicated urban planning

and design issues to the residents as well as the residents' concerns to the planners.

In the Malmö case, in turn, the establishment of a highly inclusive Malmö Commission, with involvement by the City of Malmö politicians and administrators, Region Skåne, the voluntary sector, trade and industry, researchers, the culture sector, sports associations etc., provided a platform for productive communications across epistemic and cultural boundaries regarding health equity and social sustainability promotion in Malmö.

In the field of Science and Technology Studies (STS), certain concepts have been developed to describe and analyze such platforms for boundary-crossing communication. This line of research stems largely from Susan L. Star's and James R. Griesemer's groundbreaking case study of the establishment of the Berkeley Museum of Vertebrate Zoology in the early twentieth century, in which they introduced the concept of *boundary object* (Star and Griesemer 1989). Star and Griesemer describe how the director of the newly founded zoological museum within University of California, Joseph Grinnell, managed to develop and utilize a repertoire of instruments and objects in coordinating activities of various actors with different motives and understandings, such as researchers, sponsors, university management, amateur collectors and hunters. These instruments and objects included repositories, ideal types, standardised forms and coincident (geographical) boundaries. According to Star and Griesemer (1989), they had the character of boundary object, since they could be used in a coordinated way as shared objects and tools of activity across different 'social worlds'. In their definition:

*"Boundary objects are objects which are both plastic enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites. [...] They have different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable, a means of translation." (Star and Griesemer 1989, 393.)*

Star and Griesemer argue, further, that the "creation and management of boundary objects is a key process in developing and maintaining coherence across intersecting social worlds" (Star and Griesemer 1989, 393). Boundary objects constitute a sort of shared platform or infrastructure for coordinated interaction across different social worlds. For example, Harvey and Chrisman (1998) and Kahila-Tani (2013) have studied GIS technology as such a negotiated infrastructure between different social groups.

A related concept, introduced by Peter Galison (1997), is the *trading zone*. Galison has studied interaction between theorists, experimentalists and

instrumentalists in particle physics, conceiving each as a subculture of its own. In accordance with Star and Griesemer, Galison has identified infrastructures of shared concepts and instruments that have enabled the exchange of information and services between the different ‘social worlds’ of particle physics. Similarly to Star and Griesemer, in their reference to boundary objects, Galison stresses the *locality* of the trading zone: it is a specific site – partly symbolic, partly spatial – in which local coordination between theory and action takes place (Galison 1997). The concepts differ in their relation to development. Whereas boundary objects denote fixed infrastructures for mutual translation between different social worlds, trading zones refer to infrastructures that *evolve* and may go through different developmental stages, such as evolving from scientific jargon to pidgin and further to creole, a living hybrid interlanguage of science, such as nanotechnology and biochemistry (see Galison 2010).

In their article, Mäntysalo, Balducci and Kangasoja (2011) have outlined the so-called *trading zone approach* as a potential method for dealing with complex urban planning problems with multiple stakeholders. Leino (2008; 2012) has further studied the organizational aspects of participatory planning as *boundary work*. In STS, different kinds of cooperative constellations have been identified to emerge as facilitators of knowledge transfer between research, politics and business. Some may be quite fixed ‘boundary organizations’ (Guston 1999), while others may be ‘hybrids’ that may change their form rapidly (Miller 2001). In urban planning we have witnessed the recent emergence of different ‘*urban living labs*’ (see Wallin and Staffans 2015) that may be perceived as some kind of hybrids in managing boundary work. The ABE Lab in Otaniemi provides an example. Similarly, *innovation platforms* can be considered as such. They provide an extension to the living lab concept, as they are environments for experimentation where technology is given shape in real life contexts and in which the (end-) users are considered as co-producers. The innovation platforms are aimed to facilitate the sharing and creation of knowledge and the identification of knowledge gaps that are relevant when innovation strategies are co-productively developed.

In his ground-breaking study regarding co-coordination in microphysics, Galison noticed that certain practico-linguistic settings had been generated to enable the mutual exchange of knowledge and services between the scientists representing different “sub-cultures”. Galison identified local infrastructures of shared concepts, laboratory equipment and spatial settings that had facilitated such exchange. These infrastructures had functioned as platforms for the generation of localized “exchange languages”. Such exchange languages

had enabled the mutual “out-talk” between members of different sub-cultures, transforming highly elaborate and complicated issues into “thin descriptions”. Accordingly, if a local urban living lab were developed with the aim of reaching trading zone quality, the focus would be on the whole practico-linguistic setting of the platform erected. It would focus on how the spatial arrangements of furnishing and equipping the meeting and studio room(s), the technologies of visualizing plans and maps and monitoring development, and the verbal means of discussing planning issues, would jointly contribute in creating the conditions for mutual “out-talk” on planning with “thin descriptions”.

The generation of a boundary-crossing platform with trading zone characteristics indicates double-loop learning, when it provides a resolution to communication problems between culturally and linguistically differentiated groups. When the stakeholders are not able to convey their ideas and views on the planning issue to each other, they are faced with the need to rework the ‘governing variables’ of their communication. The generation of the trading zone is such reworking as it changes the situation from the “muted coexistence” of differentiated and exclusive languages to having a joint platform for mutual out-talk. In this sense, the use of the ABE Lab in the Otaniemi OK process, the container experiment in Tammela and the work of the Malmö Commission all represent cases of double-loop learning, as they changed the governing variables of planning and policy communication and introduced new means for “inter-cultural” communication.

### 2.3 Technical uncertainty, political ambiguity and institutional ambiguity

Communication problems can become crucial obstacles when there would otherwise be potential for political agreement on planning and governance goals between the stakeholders. However, when there is deep political disagreement, it can hardly be resolved by enabling better mutual communication on the disagreement (see Kanninen et al. 2013). Using John Forester’s (1993) categorization, communication problems can be seen to belong to the *technical dimension* of planning problems. In broader terms, the technical dimension refers to lack of information of the planned object in its present and some future state, and lack of time, resources, and cognitive and organisational capacities for the rational programming of planning work. These are problems of uncertainty. Communication problems, too, are problems of uncertainty, and they call for a sort of technical reworking of “syntax and semantics”, so that the stakeholders can be more certain on what each means by different proposals and documents and how they are understood.

But, according to Forester (1993), there is also the *political dimension* that concerns the *legitimacy* of the ends and means of planning. Legitimacy is the moral justification of an entity in wielding political power (Buchanan 2002, 689–690). In a democracy, the authority of public planning rests on legitimacy (Sager 2013, 3). Rather than focusing on individual planning processes and decisions, legitimacy, as a concept, addresses the level of political-administrative system itself. As noted by Sager (2013, 8), legitimacy is mainly addressed to sources of political authority: the governments, institutions and regimes making political decisions. Problems of legitimacy in planning have to do with *ambiguity*, according to Forester (1993). Facing uncertainty, the planner is in need for more information; facing ambiguity, s/he is in need of practical judgment. Whereas uncertainty rather concerns questions about the *object* of planning, ambiguity has to do with questions about *who* gets to define the planning object and decide upon it, with what jurisdiction and on what terms, and who else should be involved.

A distinction has also been made between *input legitimacy* and *output legitimacy* (Scharpf 1999; see also Mäntysalo and Saglie 2010). While input legitimacy focuses on the general acceptability of political processes, output legitimacy focuses on the acceptability of the outcomes of political decisions and policies. Whereas the former is concerned with the democratic quality of decision-making processes, the latter is concerned with the efficient achievement of common good in implementing the decisions made. Output legitimacy has become more emphasized in the ongoing transformation of governance cultures of the public sector, often called as shifts from bureaucratic to managerial governance (e.g. Healey 2007) or from government to (network) governance (e.g. Metzger et al., 2015). Bang and Esmark even argue (2009) that the new conditions of globalized and networked society require a reorientation from politics-centred (input) to policy-centred (output) public governance. Following Castells, they emphasize the forward mapping of policy risks and challenges, rather than backward mapping of how conflicting interests and identities acquire free and equal access to, and recognition in, democratic politics (Bang and Esmark 2009, 16–17).

With the coexistence of different governance perspectives (bureaucratic/managerial, government/governance, politics/policy), the issue of political ambiguity enters the level of governance cultures and institutions, beyond individual planning problems. This level of political ambiguity is grasped by Maarten Hajer's concept of *institutional ambiguity* (Hajer 2003; 2006). Hajer has coined the concept to describe the emergence of 'new political spaces' that challenge the existing classical-modernist and nation-state -based political



institutions. The globalization of markets and the associated dependence of localities on (global) investments, as well as digitalization, providing new opportunities for active citizenship and entrepreneurship, put pressure on local governments to develop more proactive and networked forms of governance. Instead of approaching the private and third sector actors merely as actors to be regulated, they are increasingly perceived as partners in (co-productive) governance – as economic growth, the basis of welfarist redistribution, is no longer self-evident, but needs to be actively fostered by the public sector, to enable its own redistributive performance. In Europe, the EU encourages this development.

## 2.4 Hybridization of governance and 4P

Hajer's concept of institutional ambiguity suggests that we are not actually dealing with a historical shift from one mode of governance to another, but rather with *hybridization of governance*. The classical-modernist political institutions, embodying the idea of the nation-state, continue to provide the necessary legal-administrative mechanisms for the legitimacy of political decisions and the related use of public power, although the realm of politics (and public administration as well) has had to stretch beyond these institutional boundaries to reach the 'new political spaces' and utilize them. Hajer's own examples of such new political spaces mostly deal with civil society development that leads to political movements and pressure groups that transcend institutional and national boundaries, such as Greenpeace. Such political activism challenges the existing political institutions both at the local and the national level, often simultaneously.

So, the political institutions are challenged both by their economic dependence on private (global) investments and the emergence of (glocal) civil society movements. While the two forces pull the political institutions to different directions (success in global economic competition, open and inclusive political processes), they cannot rid themselves from the legitimacy securing mechanisms of these institutions. Especially, when the interests of economic competitiveness and opening of political processes are in conflict, the procedures of the existing political institutions are needed to settle the conflict in a legitimate way.

How should such a hybridization of governance be managed? One initiative in this direction is the model of *Public-Private-People Partnership* (4P), proposed by Wisa Majamaa and his colleagues (2008). Reflecting on the criticisms of the Public-Private Partnership model, regarding loss of

democratic openness and responsiveness to citizens' needs, Majamaa et al. (2008) have proposed the model of Public-Private-People Partnership for public service provision in the context of real estate development. When public services are arranged following the so-called purchaser-provider model, the 4P model aims to shift the focus to the end-users (People) of the service that the private actor provides to the public purchaser. In a 4P setting, the end-users would have, besides the formal channels of local democracy towards the public body, also informal channels to influence the private provider, which, in turn, would be encouraged to develop its service provision further – and even to create additional third-party services, in response to the end-users' further needs on real estate and facility development, exceeding the actual legal requirements on the public service in question. Thereby the 4P model would support active end-user participation in the production of public services, approaching the idea of *co-production* (Leadbeater 2004; see also Wallin, S. 2010). In his doctoral thesis, Majamaa (2008) extends this argument to urban planning and design, too, as forms of public service.

However, the 4P concept by Majamaa et al. (2008) is too narrow to meet the challenge of hybridization of governance. Majamaa et al. (2008) included local democracy as a formal channel for the citizens' customer feedback. This is a strikingly narrow understanding of the nature of democracy. The introduction of People to the partnership model makes the picture much more complicated than merely adding new service relations. A central aspect of institutional ambiguity of present day public governance is that there are different types of personal and institutional relations coexisting when handling governance issues: service-based, professional jurisdiction -based, law-based, democracy-based (Mäntysalo forthcoming).

In our view, the hybridization of governance cannot be settled once and for all with a certain model, but it requires orchestration supporting continuous reflectivity. This calls for the ability to reach even beyond the level of double-loop learning.

## 2.5 Learning III

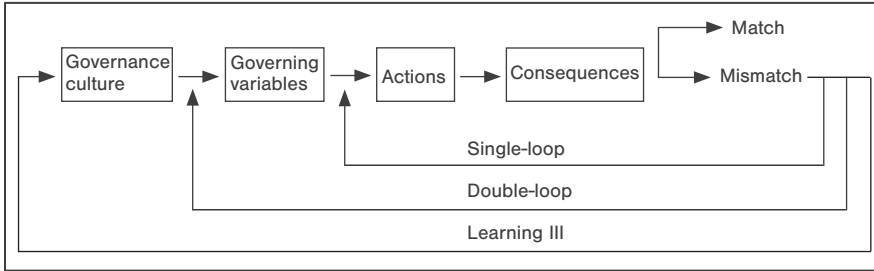
Argyris's and Schön's theory of single- and double-loop learning was largely based on Gregory Bateson's learning theory, in which he identified two levels of learning: *proto-learning* and *deutero-learning* (Bateson 1972/1987, 166–67; 292–93). It was also related to John Dewey's (1910/1960) distinction between *empirical learning* and *experimental learning* (see also Engeström 1995, 82–84). However, Bateson systematized his learning theory later (Bateson 1972/1987) and added

a *third* level of learning – *Learning III* – which Argyris’s and Schön’s theory does not address, not at least in its full extent (Engeström 1995, 86). A key concept in understanding Bateson’s Learning III is his concept of *double bind*. It can be described as discordance between single-loop and double-loop learning. In a double bind situation, no changes in actions and their governing variables seem to help in the face of recurring mismatches (Bateson 1972/1987, 302). One is faced with problems, each of which appears to be so specific that no general lessons on how to deal with them can be drawn. Each new problem is as difficult to solve as were the former ones. (Rittel and Webber argue [1973] that this indeed characterizes the ‘wickedness’ of planning problems.) In a double bind situation, learning acts follow one another, but no improvement in terms of capability building takes place. In such conditions, the learning system has developed pathological routines for addressing problems that no longer enhance its learning but seem to lead to unexpected situations and deviating phenomena over and over again. In his later work, Argyris described such pathological behavior in organizations by using the terms “skilled incompetence” and “defensive routines” (Argyris 1993; see also Mäntysalo, Saglie and Cars 2011; Hytönen et al. 2013).

The most difficult problems for the learning system – the double-bind situations – are not posed by the unexpectedly behaving ‘outer’ environment in problem situations, but by the *pathological way* the learning system has *learnt* to approach its environment, through double-loop learning (Mäntysalo 2000; see also Schmidt-Thomé & Mäntysalo 2014). Being focused on individual problem situations, Argyris’s and Schön’s theory of single- and double-loop learning does not describe adequately how organizations should deal with their cultural pathologies (Engeström 1995, 86). While growing initially from immediate problem situations, they are a consequence of a long historical process of contradictory handlings and aspirations. In order to deal with its pathologies, the political system as such an organization needs the capability to reflect on its *own governance culture*. Such capability is provided by the kind of learning that reaches Level III<sup>1</sup>. It involves grasping reflectively the forces and causalities that more or less together constitute the pathologies of practice behind the regular management of affairs within the organization (Figure 2.2). These insights are refined in Yrjö Engeström’s theory of organizational learning that is based on Bateson’s theory of three learning levels (Engeström 1987).

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<sup>1</sup> Kolb’s theory of experimental learning includes “integrative learning” that is based on “third-order feedback” (Kolb 1984, 156–60, 224–28), but the theory does not involve a description of whether and how such learning would contribute to the resolution of the type of dilemmas that have a double bind character.



**Figure 2.2.** Bateson’s Learning III, added to Argyris’s and Schön’s model as a “third loop”.

## 2.6 Interpersonal and institutional trust

In our view, coping with institutional ambiguity and hybridization of governance requires from the political system the capability of reaching Learning III. Failing in this could lead to loss of *trust* in governance. For a political system, loss of trust implies a double bind situation when it reaches the level of the system itself. Then the legitimacy of the political system is in question. This is an existential question for the political system, since, as noted by Bang and Esmark, “[t]he fact of political community is that political authorities could not make and implement authoritative decisions unless laypeople would accept and recognize themselves as bound by them” (Bang & Esmark 2009, 20). Such system-level trust can be called *institutional trust*. Lucie Laurian (2009) has called attention to institutional trust as a separate category from the more familiar *interpersonal trust*<sup>2</sup>. The approach to interpersonal trust stems largely from psychology, whereas institutional trust derives, as a concept, from the socio-cultural perspective (Laurian 2009). According to Laurian (2009, 372), institutional trust “protects social order and institutions and is essential to the stability of social systems. It is a condition for stable rules of exchange and claims to rights and justice. It is also necessary for the legitimacy of systems that allocate power, prestige and wealth, define the public good and regulate the distribution of public goods”. According Laurian (2009), when institutional trust fails, social crises erupt. Institutional trust is also essential for political freedom, as without it we would be doomed to prisoner’s dilemma-type calculations in our interactions (ibid.). In international comparison, the institutional trust dimension is especially strong in Finnish public governance (see Hytönen 2014). However, interpersonal trust is essential, too. According to Laurian, interpersonal trust addresses “the extent to which we rely on the signs of trustworthiness in others” (Laurian 2009, 371). Thus the focus is “on factors involved in creating trust: how past interactions and reputation shape

<sup>2</sup> Tait (2011) has defined three categories of trust: individual, institutional and ideological.

perceptions of the trustee's benevolent motivations, credibility, competence, objectivity, consistency and procedural fairness" (ibid.).

Hence, the issue is not about which category of trust to choose, but how to nurture both of them in order to improve performance capability of local urban governance. Both dimensions of trust are needed, and resembling Giddens' (1984) idea of 'structuration', they are also systemically connected and influence each other. The gradual building of interpersonal trust reproduces institutional trust, which, in turn, equips the local planners and politicians as 'trustees'. Laurian stresses the importance of "facework": "Since public trust in a system is strongly affected by citizens' experiences at access points, planners are in a position to build public trust in local land management and development processes through their facework" (Laurian 2009, 373). Managing both dimensions of trust, the institutional and the interpersonal, is required, if the planner is to gain sustained jurisdiction in managing planning processes coherently. The hybridization of governance should utilize both dimensions of trust.

In the Otaniemi OK process, the resident association's lack of institutional trust became evident in the second discussion event in the ABE Lab, in April 2015. Despite apparent consensus on many sub-areas to be developed, developer-oriented planning piece by piece, starting from these sub-areas, was not supported by the representative of the resident association. She argued that an overall plan is needed that would clearly state the sub-areas and land uses that are to be preserved from development. Her worry was such piecemeal planning and development of Otaniemi that would gradually lead to development also of those sub-areas that for the resident association are critical to preserve in their present use. Hence, what she was after was an overall official land use plan of Otaniemi that would frame where to allow development and where to preserve the environment. As told by the chief city planning official in the second event, also the regional state organ supervising the local governments in their planning (the Uusimaa Centre for Economic Development, Transport and Environment) has suggested the making of a legally binding partial master plan for the Otaniemi area, before engaging in piecemeal planning of the area in terms of detailed land use plans.

Naturally, the discussions in the Otaniemi OK process reflect also experiences and attitudes gained in earlier planning and development of Otaniemi, and Espoo more broadly. While as a 'new political space', the Otaniemi OK process opens new possibilities for making initiatives and reaching agreement by using richer means of visualization than traditional planning, the lack of trust, evident in the resident association representative's

comment, hinders the utilization of these possibilities. When trust is lacking, the use of legally binding land use planning instruments is called for.

Regarding the development of urban planning, the hybridization of governance means the strategic use of both institutional planning arenas and the informal planning platforms, such as the Otaniemi OK platform. The second discussion event approached such a strategic setting, when, in the closing part of the event, the coordinator (university researcher) opened the discussion on whether the use of more flexible planning instruments should be tested in the Otaniemi case. Thereby the question was discussed, whether an official overall (partial master) plan was needed for the area, to guide detailed land use planning, and if so, whether it could be made in a less comprehensive and burdensome format and with a more selective focus.

Mäntysalo, Kangasoja and Kanninen (2015) have outlined an approach to Finnish strategic urban planning that offers for unofficial strategic planning the crucial role of determining the relationship between official master and detailed planning. In this vein, local detailed planning would be given the task of fixing and determining certain land use developments, and related development rights and impacts in the relatively certain short term future (5–10 years). The more schematic, “higher” level of local master planning would be given the task of accommodating alternative longer term development scenarios (20–30 years) with necessary flexibility. At the detailed planning level we would ask, what we can “fix” in the “*positive*” instruction of land use development and distribution of related development rights, in the immediate horizon of existing development trends, perceived needs, goals and initiatives. At the longer term master planning we would rather take the “*negative*” approach of identifying the limits of longer term flexibility required in our preparing for alternative scenarios. What quality aspects, meanings, functional, structural, ecological and historical characteristics of our built environment should we treasure in our existing built environment to limit the range of possibilities in land use development in the longer run? An ongoing strategy process, utilizing scenario work, would determine the strategically appropriate use of these statutory land use planning tools.

Referring to the Otaniemi case, the overall (partial) master plan of Otaniemi could be similarly selective in the sense of rather focusing on the limits of freedom for development, from the perspectives of both longer term uncertainty and preservation of existing environmental qualities. Within this frame, the detailed planning of the area could proceed in a more project-oriented manner. Planning at each level would proceed through the institutional procedures of the local government, but the strategic management of their

relationship would be broadened to accommodate such ‘new political spaces’ as the Otaniemi OK platform.

The political weight of such an unofficial platform would depend on how it is utilized in building trust and common language. The political and administrative leadership of the local government needs to address these platforms as extensions of local political forums that are essential for the institutional reproduction of local government, while acknowledging that they cannot replace it. They provide crucial occasions for interpersonal ‘facework’ in reproducing institutional trust, and they may provide richer communicative means for generating trading zones for the mutual ‘out-talk’ between the different ‘sub-cultures’ of stakeholder groups (see Galison 1997; Balducci and Mäntysalo 2013). Such hybridization of governance relies on trust.

In the Tammela case, trust became an issue when the block-level plans that the city had prepared in cooperation with the housing company representatives, became ready. At this stage, the city planners saw it necessary to show the plans to the residents of the Tammela area. In the final meeting of the partnership group, the housing company representatives surprisingly did not want the designs to be publicly shown. They understood the issues of people opposing infill in the area and thought of infill as such a complex matter, that they did not trust the goodwill of the residents. They thought that people would unnecessarily panic as they themselves had panicked when first seeing the general vision in the local newspaper, and that they would not understand the nature of the plans and the process leading to them. As the city had chosen the strategy of close collaboration with the housing companies, the public at large was left in the dark and people were wondering what is going to happen in their neighborhood. Coming from the university and thus not having a direct stake of their own in the case, the researchers were provided with the fruitful opportunity to function as *brokers* in the case. In the Tammela case, a kind of 4P setting between the City of Tampere, the housing companies and associated building companies was taking form, but with a sensitivity to trust and acceptance among the residents not directly involved in the partnership. The researchers’ brokering was a means of gaining such sensitivity.

In the Malmö case, the Malmö Commission suggested in its final report the creation of new forms of collaboration between the private and public sectors as well as the voluntary sector (Stigendal and Östergren 2013, 134), also more specifically in urban regeneration, in terms of Rebuild Dialogue. The latter focuses on governance processes of implementation with the involvement of relevant private property companies and the residents whose homes are to be rebuilt, besides the city planning office (*ibid.*, 73). Parallels can be drawn to

the Tammela case. These policy initiatives are included in the Commission's broader proposal of governance reform in Malmö in terms of creating transdisciplinary (see Gibbons et al. 1994) *knowledge alliances* and thereby democratizing city management. The Commission itself is an example of such an alliance (Stigendal and Östergren 2013, 23.) A central aspect of the knowledge alliance initiative is its focus on continuous learning. Governance processes are to be designed and managed in such a way as to enable continuous learning. It also means that enabling continuous generation of knowledge during the policy processes is seen as part of their solution – instead of expecting knowledge to be pre-existing before policy problems can be solved. Such processes are viewed as vehicles in the creation of social innovations that are needed in Malmö in aiming towards social sustainability (ibid., 52). Nurturing trust, both in terms of social and system integration and participation, is seen to be a critical part of this work (ibid., 47).

In its focus on processes enabling continuous learning, the knowledge alliance initiative is motivated by building capabilities in the City of Malmö that, in our view, may reach reflectivity on governance culture and thus reach Learning III. In its pervasiveness, the knowledge alliance initiative suggests a rather profound governance culture reform in Malmö – but not in the sense of shifting from one static governance model to another, but to hybrid governance that would maintain continuous capability of renewing itself. Thus it resembles Engeström's idea of 'learning activity', in his description of learning organization developing and maintaining the capability of reaching Learning III (Engeström 1987). This requires astute *leadership*, which is acknowledged in the Commission's proposal (Stigendal and Östergren 2013, 132).

In the following chapters, we will present the three case studies, by utilizing the theoretical framework presented above as a tool of analysis. While doing so, some of the theoretical concepts, only briefly introduced in this chapter, will be elaborated further, and also other related concepts will be introduced.





## 3 Towards a collaborative approach in developing Otaniemi, Espoo

### 3.1 Key concepts in brief

We approach the urban governance system as a learning system. Within such a system there are a number of problem-solving situations and practices which are shaped by a set of *governing variables*. These variables of problem-solving shape both the identification of the problem and the available choices for its resolution. The variables vary between contexts: some that seem to be crucial in one locality may be close to irrelevant in another locality. The variables are embedded in a broader *governance culture*. As explained in Chapter 2, an increasingly common tendency in terms of governance is its hybridization. While the long-established political institutions still provide the mechanisms for the legitimacy of the use of public power, new realms of politics and administration stretch beyond these traditional institutional boundaries. The governance culture is increasingly characterized by institutional ambiguity, and new mechanisms in securing legitimacy. Such a situation makes many stakeholders irresolute: there are ‘new political spaces’ opening up, but not all are willing or in the position to use them. In the following we will analyse the current situation of planning in Otaniemi as a point in time in the ‘life’ of a learning system. We identify sources of institutional ambiguity and the ways that the stakeholders are learning to deal with it. We will identify three different kinds of learning that have taken place – or could have taken place – as the different stakeholders have been trying to communicate with each other in an institutionally ambiguous context.

The first type of learning, single-loop learning (‘trial and error’), is associated with two governing variables: the existing habits of the City of

Espoo in conducting participatory planning, as well as its long-standing policy to rely on developer-oriented planning. Although the stakeholder groups are conditioned by the variables, they may learn to improve their action possibilities – through persistent engagement and/or clever individual moves.

The incidents of double-loop learning (‘learning to learn’) have been identified within the facilitation of planning negotiations and with the City of Espoo starting to reclaim its own planning against the traditional reliance on developers. Interestingly, this has happened indirectly, by allowing a third party to facilitate the negotiations. The governing variables have been reworked or at least adjusted through “inter-cultural” communication that has emerged through the planning facilitation.

Thirdly, we point to examples of how the political system learns to question the regularities that are usually taken for granted although they limit the availability of action opportunities. We call overcoming of the so-called double-bind situations ‘Learning III’. In the case of Otaniemi this kind of learning is only emerging – it is not easy to change or adjust the prevailing governance culture.

All kinds of learning – single-loop, double-loop and Learning III – constitute steps of capability building. Some are just small steps, which may still be important for the stakeholder group in question. Others represent (actual/potential) major leaps, systemic advancements in terms of capabilities.

### 3.2 Otaniemi<sup>1</sup> planning in short

In the recent years, the planning of Otaniemi area by the *City of Espoo* has been done as a part of wider Southern Espoo master plan and with small detailed plans inside the campus area. However, with the university relocating activities from its two Helsinki campuses to Otaniemi, the West Metro line being under construction and general pressure for urban intensification, the need for a clearer land use vision for the whole Otaniemi area has been increasingly acknowledged by the City of Espoo.

The most recent planning debate in Otaniemi has its origins in the plan of the new building for the School of Arts, Design and Architecture, which also

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<sup>1</sup> Otaniemi is a peninsular district in the city of Espoo, Finland, roughly 7 km west of Helsinki city centre. The history and built environment of Otaniemi is closely related to Aalto University (until 2010 Helsinki University of Technology), whose campus and student community has been developed gradually since the 1940’s in the previously rural peninsula. Today the Otaniemi district has around 4000 residents, most of them students. However, the daily population of Otaniemi is far greater with 14000 students and 11000 employees. The low-density campus structure, with lots of open space and listed buildings, is based on the plan by Alvar Aalto. Most of the land is owned by the real estate companies of the university and the Government of Finland.

houses the new metro station and forms the nucleus of the intensified campus. The architectural competition (launched in April 2012) was followed by a process of detailed planning, which gave the main landowners an opportunity to envisage developments in Otaniemi also more broadly. The landowners prepared a strategic land use vision of the Otaniemi district, thus taking the role of the initiator in the planning process. The vision was labelled *Kokokuva* (“The whole picture”) as it provided an overview and touched upon a number of themes from land use restrictions to innovation promotion and opportunities to introduce mixed-use developments. However, it also visualised a collection of potential new developments in the economic interest of the landowners: a series of intended or already proposed projects that the landowners had by then become aware of. The landowners’ scheme was prepared by a major architectural bureau which has been involved in the planning of Otaniemi on behalf of the landowners for more than 20 years.



**Figure 3.1.** Overview of the Kokokuva vision by the landowners

The publication of the *Kokokuva* vision in spring 2014 caused protest among the local students and other residents. The opposing groups did not settle for a conventional reactive role in the process but started to prepare alternative plans for the area. The City of Espoo, now met with competing visions outside the legitimate planning system, asked the researchers of Aalto University to help in facilitating the planning discussions between the stakeholders. The chosen facilitators of the *Otaniemi OK* process, as it was named, represent

the Aalto University Built Environment Lab (ABE)<sup>2</sup>, which is a project and a room equipped with an immersive virtual reality technology (CAVE), located in the premises of Urban Mill<sup>3</sup>. ABE has been established to bring different stakeholders of urban development together to a space, which could also be characterized as a ‘decision-making theatre’. Facilitating “*Otaniemi OK*” is one of ABE’s pilot studies, lead by Aija Staffans. It is closely connected with Staffans teams’ work in developing the “principle plan” concept (‘periaatekaava’)<sup>4</sup>.

By the end of 2015 there have been three meetings that count as *Otaniemi OK* gatherings. They have all taken place in the premises of ABE, which represents a rather neutral ground from most stakeholders’ perspective. It is also located within the area currently under scrutiny, making it easily accessible for all stakeholder groups. The ABE personnel has documented the discussions in the meetings and made the memos and other background material available to the participants of the meetings. Our research team has also had access to the detailed transcripts of the sessions.

The first meeting in December 2014 was planned as a joint fact-finding session. The facilitators had collected a great amount of information on the different aspects that would have to be taken into account in planning the area. These pieces of information on actual conditions and on future trends followed the list of planning principles agreed on by the city planning board of Espoo in earlier planning documents<sup>5</sup>. The information was meant to support the situation awareness of the participants – and to find out whether the stakeholders can identify a common ‘operating environment’, to have a shared understanding of what Otaniemi is currently like to start with, while orienting towards the future. The different stakeholders were also asked to present their visions and ideas about Otaniemi’s desired future. There was also some time for a general discussion and agreeing on the next steps.

The second meeting in April 2015 started with a summary of the first meeting discussions followed by a general discussion about the state-of-the-art as well as the role of Kokokuva. Next, there was a substance related discussion on whether there should be new housing developments that are targeted to “outsiders” – to people who would neither study nor work in Otaniemi. Then the facilitators gave their presentations. They had worked out a joint visualization of stakeholders’ visions in order to identify focus areas and delineated such focus areas where no stakeholder appears to oppose development. Then one of the

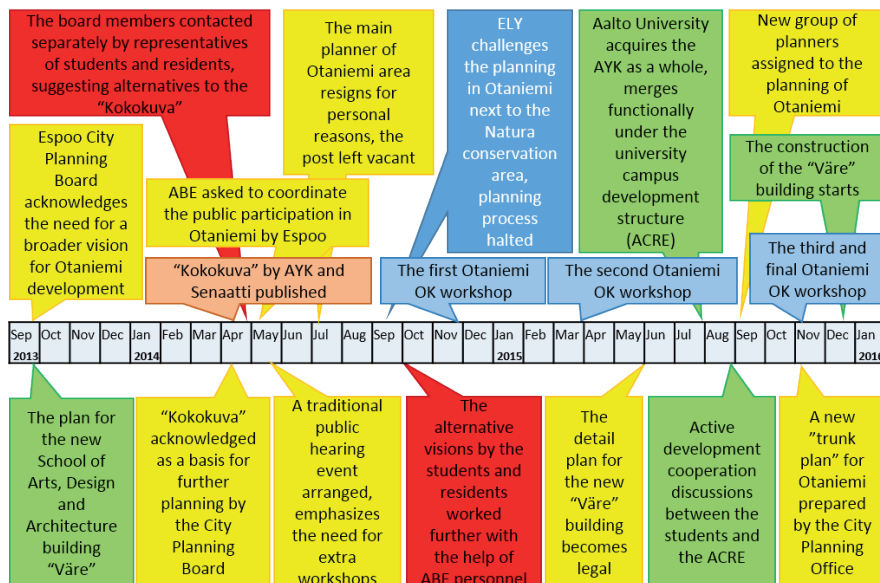
<sup>2</sup> <http://abe.aalto.fi/en/>

<sup>3</sup> <http://urbanmill.org/>

<sup>4</sup> The related projects include EUE (Energizing Urban Ecosystems, RYM-SHOK funding) and PEKA (Rule-based urban planning and agent-based modelling, TEKES funding).

<sup>5</sup> “Kaupunkisuunnittelulautakunnan teesit” <http://espoo04.hosting.documenta.fi/kokous/2014297235.PDF> and <http://espoo04.hosting.documenta.fi/kokous/2013283381-10.PDF>

”unproblematic” focus areas was taken under further scrutiny as the students’ representative gave a presentation on the Otakaari area. One of the most surprising moments of the meeting was the statement of an AYK representative. He brought up that there is much empty office/laboratory space within the campus area, and that demolishing some of these (impractical/outdated) spaces and thus allowing more flexibility for new developments is a worthy option. The third meeting was held in late November 2015. By the end of the second meeting it was anticipated that the third would include reporting back about the progress done in each of the focus areas, and a continuation of the discussion on the planning approach. The degree of formality was central here – whether the instrument of statutory planning would be used or would the process follow a more informal approach. In the third meeting Espoo seemed to be willing to provide its own answer to the question of an overall strategic planning document and suggested the preparation of a “trunk plan” or “plan frame” (‘kaavarunko’). Some of the session was then used to related group discussions that gathered material for this flexible and informal strategic document<sup>6</sup>. Instead of returning to the focus areas identified by the facilitators in the second session, this session included short updates from the perspective of each stakeholder. The facilitators also presented their considerations about the different zones and routes, as well as green corridors, within the area.



**Figure 3.2.** Meetings on a timeline

6 Whether the “trunk plan” now being sketched in Espoo appears to correspond with the “principle plan” concept developed by Staffans’ team, is an interesting questions, but cannot discuss in detail here.

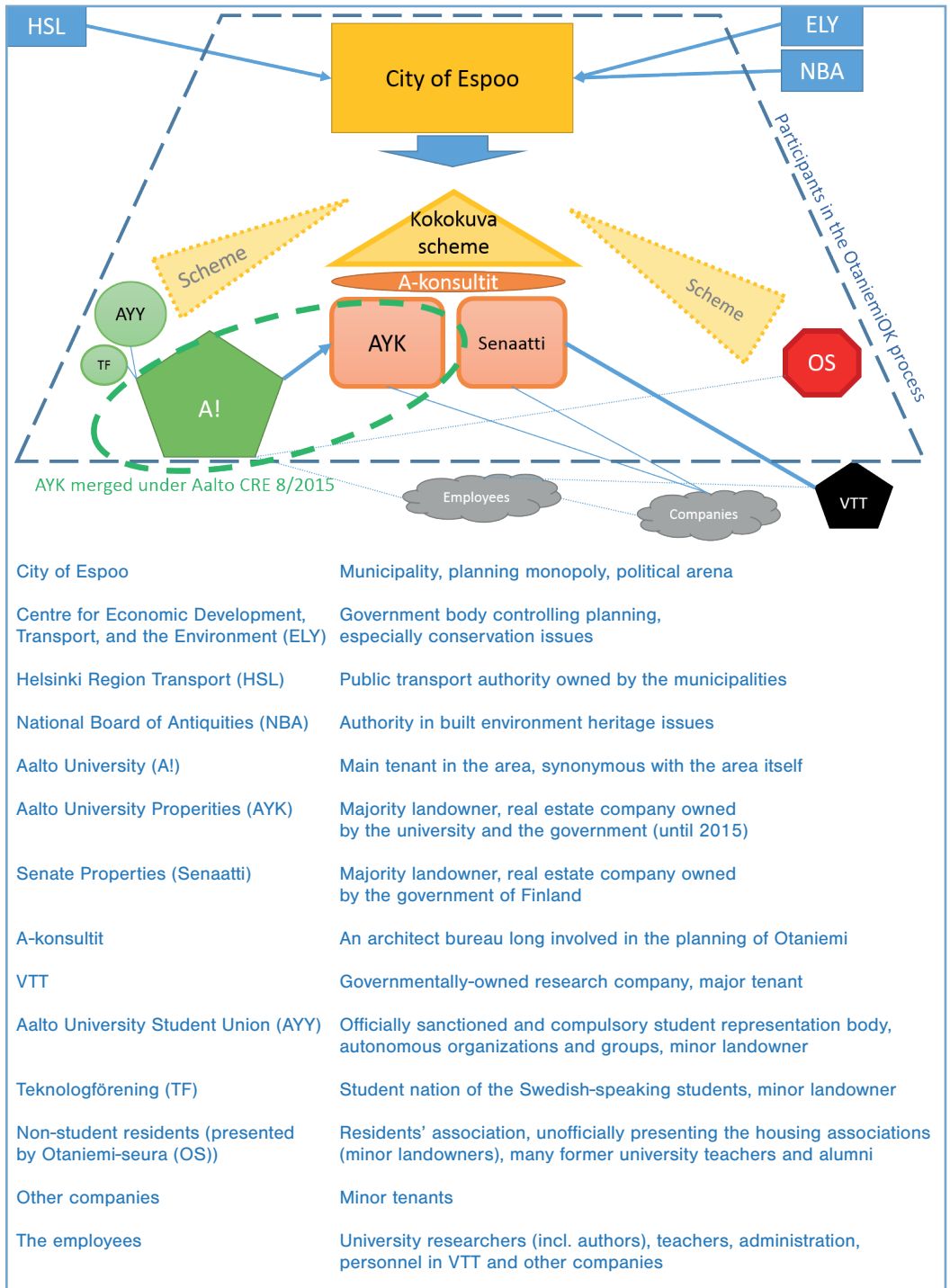


**Figure 3.3.** Photo from the second Otaniemi OK meeting (Photo: ABE)

### 3.3 Stakeholders and their land use visions

The stakeholders of Otaniemi planning vary considerably by their size, composition, power, internal structure and mutual dependence (Figure 3.3). They also partially overlap as single individuals can belong to and identify themselves with multiple actor groups. The authors of this case study are also stakeholders in the case, as well as the facilitators of the Aalto Built Environment Lab (ABE) personnel, belonging to the large and heterogeneous employee group. The actors who have developed their own land use vision are marked.

Considering the municipal planning monopoly and the strong position of local self-government in Finland, it may appear peculiar to list the City of Espoo as if it was only one stakeholder in the process and not its proactive leader. An important factor here is the small land ownership by the city. Only one third of the land within Espoo is owned by the city – in Otaniemi even less than that. On the other hand it must be stated that the City has multiple voices in Otaniemi planning, instead of a single one. The municipal planning board represents the politically elected Espoo and the Planning Office the public officials, but as Otaniemi is also very important in terms of research and development, the Trade and Competitiveness Division keeps an eye on the planning process as well. In addition, there are the Cross-administrative Development Programmes and a number of other initiatives (such as “Ota-viisas”) that may contribute to the planning process by the City.



**Figure 3.4.** Stakeholders of Otaniemi planning



Three stakeholder groups had elaborated their visions of future Otaniemi by the time of the first meeting. In addition to the *Kokokuva* of the landowners, both residents and students had prepared their statements. In order to narrow down the technical headstart of planning professionals, the students and residents had been assisted by ABE personnel in visualizing their planning schemes in the first meeting.

The *residents' vision* for the area was very plain, underlining the key priorities which are few. In their view, the open shoreline should be developed as a recreation zone and as an important section of the Rantaraitti (Shore route<sup>7</sup>), which the City of Espoo has been upgrading during the past two decades. Corresponding with the small and spatially concentrated landownership of the six housing associations, the residents did not make many statements on development in other areas. They saw that the future of Otaniemi should be steered by the needs of the university. Other major developments were not welcomed as they would allegedly endanger the natural and cultural heritage of the area. However, the residents' hope of Otaniemi not becoming too attractive for development stood in slight contrast with their wish to retain some services at the old shopping mall instead of losing them to the more distant metro station area.

The *student activists' scheme*, representing the official student union point of view, was geographically more substantive than the residents' version. The main agenda of the students is to increase the amount of student housing in the Otaniemi area. In addition to the student housing, the students welcomed also other residents. Whereas the student housing would be built in a manner that fosters the student community, other housing projects could target residents seeking for peaceful but well-connected areas. The students proposed four areas for new developments: two in Servinniemi, one along Otakaari and one next to the boat harbour of Otaniemi. These would rather amend the existing areas of student housing and activities than extend to new parts of the peninsula. None of the proposed developments stands in strong contrast with the residents' scheme.

The vision prepared by *Aalto University* was still under preparation at the time of the meetings. This fourth vision started to emerge as Aalto University assigned one vice president post to campus development questions. In the second meeting the vice president shared some facts about the projects within the campus area, but referred to the third meeting as a possible occasion to

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<sup>7</sup> A public route for pedestrians and cyclists along the shores of Espoo. The city has a goal to connect the whole shoreline for public use. The existing route includes both urban and natural environments, the section around Otaniemi being almost completely in natural state.

tell more about Aalto's intentions. By the time of the third meeting things had changed considerably as Aalto's real estate services had been reorganized. A new company, Aalto University Campus & Real Estate (Aalto CRE, or ACRE), had been established in August 2015, i.e. through the merger of the AYK and the campus development efforts of the university. ACRE's raising profile in Otaniemi planning debate, combined with the passive stance of the state-owned Senaatti, has rendered the Kokokuva scheme somewhat obsolete. By the time of the third meeting ACRE was already in the position to talk about concrete projects instead of presenting a vision only. As a proactive stakeholder operating in the core areas of Otaniemi, it seemed to have an edge over the less central and less agile stakeholders. However, this also made ACRE's position somewhat more unpredictable in comparison with the times of Kokokuva alliance.

Prior to the meetings, the City of Espoo had complied with its tradition to give landowners much room for manoeuvre in initiating and proposing new developments. In the case of Kokokuva, there was even some confusion about the "ownership" of the vision. The landowners proposed the Kokokuva-scheme, the City of Espoo (or at least the planning board) welcomed it and started to call the planning process with the same name. The Kokokuva materials were kept in the same material bank with the materials of the city, and the intention was to add further sources there along the way. One could say that the City backed the landowners making a strong first move. As the representative of Espoo said in the second meeting, "Espoo is only a passenger in the [Otaniemi OK] process", they could have equally said the same about the Kokokuva process, at least at the point of mounting that train in 2014. Being this reactive is not a standard in land use planning in Finland, where the local authorities often utilize their considerably strong power granted by the statutes. As we will discuss later in this section, the City of Espoo changed its tack along the process: it took a step backwards, leaving the landowners alone in their windy pole position and searched for a new round of discussions albeit indirectly, with the help of facilitators.

### 3.4 Reconciling the different visions

There are a number of commonalities in the visions represented by the different stakeholders. Every party has endorsed built heritage and the value of natural environment. Every scheme has acknowledged the need for intensification, new housing and new services. Even the residents, being the most critical of intensification and new housing, did not rule that option out

but rather expressed doubts of the attractiveness of the area for people other than students and university employees.

In terms of discrepancies, one can say that the closer to the shoreline the discussion moves, the more the visions start to diverge from each other. The residents have strongly tried to defend the existing coastal area arrangements and opposed housing in the vicinity of their blocks, which currently have an open access to the shoreline. Where the students' scheme hoped to see more student life at the boat harbour area and beyond, that did not yet appear as a threat to the residents' perspective. The landowners' proposal, in turn, with comprehensive amount of new buildings, including landfills in the bay area, was clearly the strongest source of discontent for the residents, making that shore the most important zone in terms of conflict potential.

Certain themes have remained nearly absent from the debates so far. The principles of the so-called mobility reform, for instance, aroused also surprisingly little argument. Kokokuva addressed the implications of the metro station, but in general the schemes did not include comprehensive mobility considerations. For instance, few concrete proposals were made about how to channel the commuter flows from the metro station to the more distant parts of Otaniemi. Most stakeholders seem to have been in a waiting mode in this respect – maybe apart from the Aalto University and the student association of the Swedish speaking technology students, which saw the importance of being proactive in the planning of metro station area developments. However, now that the building site of the new School of Arts, Design and Architecture is being erected, ACRE seems to take a role in mobility issues: it acts as the developer as the main crossroads of the campus is being reconstructed.

Overall, there are surprisingly few major disputes between the stakeholder groups. In addition to the shoreline discrepancy between the residents and landowners, another aspect that could be mentioned is the residents' reluctance towards new non-student housing. This attitude could cause some friction, albeit minor, if the landowners are willing to underline the need for stronger local services and thus a broader clientele in the area itself. Nevertheless, as the facilitators brought up in the third meeting, no one seems to oppose general development in the western fringe towards Tapiola. However, this is minor comfort as the more pivotal central and coastal areas are more problematic. For instance, in the zone around the former university main building the conservation and landscape protection legislation sets strict limits, and in the forest-dominated student village the habitat questions (e.g. flying squirrel and old forest sections) bring in a number of restrictions..

### 3.5 Critical moments coinciding with the three types of learning

We have identified a number of turning points – or critical thresholds – in the governance of Otaniemi as a learning system. We may not be in the position to say on which side of the threshold the process currently remains, but we can ponder on which implications each position would have. We have thought of the learning process from the perspective of each stakeholder group but also at the system level.

The focus of the residents' association has for long been to concentrate on opposing the coastal housing and office building developments, which had been sketched in a rather wild manner over the past years<sup>8</sup>. The extensive shoreline developments – even building blocks on water and/or landfills – which the landowners had proposed through Kokokuva made also the strongest pain point for the residents in the first meeting. However, in their presentation the residents took another strategy as they concentrated on arguing *for* keeping the Rantaraitti (Shore route) uninterrupted by new developments. In our view, this was a clear incident of learning: instead of finding a great array of arguments on how detrimental the new developments would be for the local ecosystem and daily mobility (and the direct sea view of some residents), they rather appealed to the shore route as a public good.

For the students, for instance, it was not that crucial to search for new argumentation strategies, as their main interest is to get new student housing projects underway. Their claims of student housing shortage are also rather easily acknowledged by the residents who seem to welcome Aalto students and staff rather than other groups to Otaniemi. The landowners in turn might be willing to attract those "others" and reserve the most lucrative plots for the higher-end residential developments instead of student housing projects. In terms of double-loop learning we point to the use of ABE in the Otaniemi OK process providing for such learning. In ABE it was possible for the stakeholders to prepare themselves for the meetings together with the staff and to engage in the discussions as equally recognized partners. The juxtaposition between "the Plan" and its opponents – which is very common in events of alleged participatory planning – could be alleviated as "inter-cultural" communication emerged through the process. The governing variables were at least adjusted

<sup>8</sup> The current development plans are in several places based on earlier sketches. The Otaniemi area has been designated for a long time as an innovation hub and a major employment area of future Espoo. There was an architectural competition for the southern shoreline area in 2007 and one of the winning offices continued planning in 2010. Those ideas are still clearly visible in the current Kokokuva vision. <https://www.safa.fi/fin/kilpailut/kilpailukalenteri/?act=show&CID=234&arc=1&Type=2007>

if not yet fully reworked. In our view, this showed, for instance, in residents' courage to make a major move in the second meeting. They said that they would refrain from opposing the plans with the condition that the piece of Rantaraitti (Shore route) adjacent to their housing area would not be touched. Also the students chose a proactive stance through their engagement with the Otakaari area.

Actually it seemed that the residents and students used the available 'political space' (associated with the second type of learning) in a more efficient manner than the landowners did, pointing to double-loop learning by the student organisations. The landowners lost their headstart as they visualized "too much" details in their Kokokuva, but in an ambivalent way. They did not spell out their own interests as clearly as the others but went 'hiding' behind the overview that was supposedly providing all necessary tools for the development of the area. The residents also received some unexpected outside support via other informal channels, as a Nordic student competition on the shoreline planning interacted with the residents, adding to their self-confidence as a stakeholder group.

The immediacy of the planning discussions played an interesting role in the process. Bringing people in a joint space means that the stakeholders confront each other also as individuals. Some may not feel uncomfortable during controversial situations but others may rather like to loosen the pressure by retreating from their original position or by opening up completely new discussions. We do not know whether the residents' decision to present their 'ultimatum' had been decided on earlier or emerged spontaneously in the meeting, but the latter seemed to hold true for the AYK representative coming up with the demolition card. Considering that this statement was made by a partner of the Kokokuva process, such a sudden statement might have been unwelcome news for the state-owned Senaatti, as questioning the need for new office spaces pretty much equaled pulling the rug from under their feet.

In Otaniemi as a learning system, we identified (the potential of) 'Learning III' at least on three or four occasions. The first occasion was associated with the decision to launch the Otaniemi OK process in the first place. The developer-oriented planning that Espoo has traditionally relied on seemed to have gone too far as it had become difficult to discern the city's own planning documentation and related aims from the schemes of the two major landowners. Had the City of Espoo not realized this in time<sup>9</sup> and had the developers taken

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<sup>9</sup> As was noted earlier, the stances taken by the municipal planning board and by the city planning office were not fully in line with each other in this matter. The planning office, drawing also from their negotiations with the ABE staff, used their power proactively when opening up the Otaniemi OK process.

**Table 3.1.** Examples of learning by each stakeholder at different levels of learning

	<b>Single-loop:</b> Successful results of individual stakeholders through trial-and-error within the limits of Espoo's routines	<b>Double-loop:</b> Reworking gov. variables through new means of "inter-cultural" communication	<b>Learning III:</b> Securing trust through reflective governance culture resulting from 'brokerage'
<b>Kokokuva</b>	Attempt to establish Kokokuva as the basis of planning	Agreeing to participate in Otaniemi OK to start with	
<b>Aalto =&gt; ACRE</b>	Proceeding independently and expanding beyond the 'stamps'	Bringing up the demolition card to add to the options of densification; departing from Kokokuva to move on quicker	Using the ambiguity quite boldly while knowing that Aalto/ACRE is close to being synonymous with Otaniemi
<b>Residents</b>	Defending the unbuilt shoreline by appealing to ecological arguments and to mobility bottlenecks	Rantaraitti-ultimatum in the context of the joint visualization	Doubting the institutional trust and requesting a broader planning agreement
<b>Students</b>	Requiring more student housing to add to the viability of an attractive campus	Proactive stance along Otakaari & the Träffpunkt concept by the TF	Seeing the momentum for a counter-plan and navigating in the Otaniemi "planning game"?
<b>City of Espoo</b>		Tolerating or cherishing the informal discussions and facilitators' visualisations	Kokokuva confusion leading to recognizing the importance of trust

major steps towards binding plans, we might have seen both major confusion and conflicts. Now the stakeholders still trusted that a joint forum would provide added value. The residents and students expected true opportunities for participation instead of hearing about plans that will simply be imposed on them. Now that all major stakeholders were willing to be present and become engaged, the 'facework' could take an effect in building interpersonal trust. With the ambiguous and complex nature of both the city and the landowners, sufficient level of interpersonal engagement, including direct representation of actors and a time frame long enough, might be essential for institutional trust to ever take place in a context of hybrid governance.

The second occasion where Learning III was emerging, related to the question of how to proceed from the second meeting onwards. The proposal put forward by the ABE staff was to gather small groups to discuss the chosen focus areas and to come together again with related findings in the third meeting. The residents did not accept this but called for a clear definition of the sub-areas and land uses that are to be preserved from development. They requested an overall plan in order to avoid that piecemeal developments would gradually extend also to the areas they want to protect. This statement reflected their lack of institutional trust towards the City and the landowners. The comfort zone provided by the Otaniemi OK process was too informal from the perspective of the residents.

The third occasion showing potential of Learning III is associated with the City of Espoo giving in that it cannot understand the ambiguous situation on its own. As it decided to test a new approach in Otaniemi and resorted to facilitators, its abilities to act increased, albeit indirectly. The researchers acted as brokers in the process which helped to broaden the basic setting of the planning process. The question is no longer whether to utilize Kokokuva as the starting point of both the city and the landowners but rather that there are multiple perspectives that do not need to be mutually exclusive. Now that the discussion around Otaniemi planning is more participatory, it can also better cope with the fact that the City of Espoo is no single actor but an organization with many interfaces with Otaniemi.

### 3.6 Towards policy implications

Having looked at Otaniemi urban governance as a learning system, we can draw some conclusions and discuss the policy implications of our study.

We have shown how the planning process of Otaniemi OK gained from the decision to open up the process with the help of 'brokers', who facilitated the discussion in a neutral space. Each stakeholder gained new abilities to act during the process, which was not to the detriment of the City of Espoo. Rather, opening up the discussion contributed to trust formation. As multiple stakeholders were given a mandate, they were in the position to hope for smooth continuation of the open process, a kind of a planning game, instead of being forced to object some closed pact from outside of it. However, as long as the binding decisions about building rights are pending, the situation remains unpredictable and the small players vulnerable. Although Espoo felt that it cannot continue speaking in unison with the landowners but recognized the voices of the student associations and the residents, the wind might turn as soon as the building right questions will be formally solved along the process.

The lack of trust can clearly be an impediment in utilizing the full potential of the 'new political spaces' opened by processes like Otaniemi OK. How could we improve the situation? On which conditions will the governance culture change? In our view cities need to exercise continuous reflectivity necessary to deal with institutional ambiguity and hybridization of governance. They should very consciously avoid eroding the trust. We will return to concrete suggestions in the final chapter of this report.





## 4 Collaborative planning for urban infill in Tammela, Tampere

### 4.1 Introduction

Urban densification has been discussed as a remedy for many societal and structural ills in the urban landscape (Päivänen 2000). Recently it has been considered as means for economically (Kuronen et al. 2011) and environmentally (Norman et al. 2006) more sustainable urban development. Building within existing infrastructure is more economical for the city than constructing a greenfield virgin suburb (e.g. City of Tampere 2012). Introducing more mixed land use is expected to help cut down carbon emissions by reducing mobility needs and to contribute to revitalizing city centres. Urban infill and selling equivalent construction rights may allow for energy efficient refurbishment and construction. Densification and revitalization of urban areas set new challenges for participatory planning, as public attitudes towards compact development are best described as complex (Lewis and Baldassare 2010).

In Finland, urban densification has thus far dealt mainly with single planning sites in the suburbs. In this chapter we discuss a pioneering case from Finland, where a comprehensive densification plan was made for Tammela – a central neighbourhood in the city of Tampere. The Tammela case reported here has been studied by the researchers Minna Santaoja, Markus Laine and Helena Leino. Besides being part of the SASUI project, our study has been closely connected to the courses we teach in environmental policy and regional studies at the University of Tampere, School of Management. In collaboration with the city of Tampere and the architecture department of the Tampere University of Technology, we have carried out a special course focusing on Tammela urban infill. The course was organised three times during 2013–2015, each time with a bit different focus. In 2013, the students

chose different development sites in the area and interviewed residents and entrepreneurs on their views of the plans. In 2014, the focus was on the views of the housing companies as a central stakeholder group. The environmental policy students interviewed altogether 22 housing company representatives. Based on the gathered information the architecture students then developed infill sketches for interested housing companies. During the 2015 course we took the perspective of political decision making towards urban development and infill. The students interviewed 15 city council members.

The interviews made in 2013–2014 revealed that the residents and housing companies wanted to participate in the discussion on Tammela urban infill. What also became obvious in the interviews was the diversity of information needs concerning the practicalities of infill. In order to provide information and to enable the discussion to continue in Tammela, the researchers of SASUI project organized a new kind of participatory event. In September 2014 we took a blue office container to the heart of the district, the Tammelantori marketplace, and made ourselves available to discuss issues related to infill. The material collected during this 10-day event consists of the feedback and field diary as well as photos from the event. In addition to the interview and Tammela event material, we have used planning documents (most important being the Tammela densification plan from 2012) and observation notes from planning meetings during 2014–2015 as our research material. The material has been analysed using the conceptual framework developed in collaboration with the other SASUI project partners (introduced in Chapter 2 of this report).

**Table 4.1.** Data collection for Case Tammela

<p><b>Material and events produced by SASUI research project:</b>          2013–2015: altogether 44 interviews with residents, entrepreneurs, decision makers and housing companies          2014: the container event, a ten-day living lab experiment with app. 500 participants</p> <p><b>Material and events produced by the city of Tampere, used in creating the overview:</b>          2013–2015: public discussion events related to Tammela area          2014–2015: project meetings of pilot planning sites, three projects          2011–2015: planning documents related to Tammela urban infill and city centre development</p>
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## 4.2 The impetus for infill in Tampere

A recent comparative study of the capital cities Helsinki and Stockholm shows, how different policies have produced different urban structures (Söderström et al. 2014). In Finland, the cities have sprawled to the surrounding countryside,

whereas in Stockholm, Sweden, the urban development has taken place closer to the city centre. The discussion on urban infill has been going on since the 1990's and now also in Finland the eyes are starting to turn towards the city centres, in particular in the largest cities which are experiencing fast population growth. There is also more demand for urban living as city centres have become a sought-after living environment also for e.g. families with children (Lilius 2014).

Tampere is one of the largest cities in Finland with about 360,000 residents in the region. According to the urban development plan, there will be 435,000 inhabitants in the Tampere region in 2030, which amounts to 90,000 more inhabitants than today. Urbanisation is expected to accelerate, and half of the anticipated growth shall be located within the municipal borders of Tampere. In the face of the forecasted population growth and the demand for more spacious housing, more than 70,000 new dwellings shall be constructed. It has been estimated that this would require the construction of housing for 10,000 new inhabitants in the centre (City of Tampere 2013).



**Figure 4.1.** City centre development concept (referred to as the '5-star' concept). The areas planned for urban infill are marked with brown/orange colour (City of Tampere 2013, 11).

In opinion polls, Tampere has several times been elected as the most desirable place to live in Finland. The city is attempting to capitalise on this fame and is strongly trying to develop an attractive city centre. A strategic inner city

project was launched in 2011, with the aims of catering for a compact urban structure and a lively city centre (City of Tampere 2011). The strategy entails many large development projects, such as new residential areas, shopping centres, underground parking facilities, building a tram line, development of the railway area and a travel hub connecting different modes of public transport. Besides seeing itself as the centre for entrepreneurship and culture in the region, Tampere also acknowledges its two universities and other educational institutes that attract thousands of students every year. In order to develop an attractive city centre and to reduce carbon emissions, densification and the development of public transportation were chosen as strategic planning guidelines (City of Tampere 2013).

The city centre of Tampere has gradually been expanding eastwards, towards the Tammela district, which used to be an industrial centre with several shoe factories. The first detailed grid plan for Tammela district was drawn in 1877, and a large one-storey housing area with wooden houses, closed inner yards and narrow streets was erected for the workers and their families in the vicinity of the factories. In 1966 a new detailed plan with high-rise residential buildings was drawn. The aim of the new city plan was to improve the quality of life, focus being e.g. on efficiency and hygiene. With the construction of the 1970's and 1980's the character of the area changed. The wooden houses were demolished and replaced by 7-storey building blocks with street-level parking spaces. As a result of this form of renewal, Tammela district bears some resemblance to the suburbs with large-scale apartment blocks rather than to the more traditional city centre.



**Figure 4.2.** Urban renewal in Tammela in the 1970's (Photo: City of Tampere archives).



**Figure 4.3.** During summer days, Tammelantori market square is the lively heart of the district, but in the eyes of many, in the need of some improvement (Photo: Minna Santaoja).



**Figure 4.4.** Currently large part of the land in Tammela is used for ground-level parking (Photo: Minna Santaoja).

The City of Tampere chose the area as a pilot for urban infill in 2009 (City of Tampere 2012). The development of the district became one of the key objectives in the city strategy, and a comprehensive plan for densification was drawn in 2012. The objective is to add 4 000 new inhabitants to the district that currently houses 6 400 residents in approximately 4 800 apartments.

2009: Tammela district was chosen as a pilot area for urban infill by the city of Tampere
2011: Programme for defragmenting urban structure & 5-start city centre programme, city of Tampere
2012: Tammela densification plan published
2014: The strategic master plan for the city centre features Tammela infill in central role
2014-2015: Block-level collaborative planning with housing companies; SASUI research interventions

**Table 4.2.** Timeline of Tammela infill planning.

### 4.3 Visioning infill in Tammela

The densification vision for Tammela was completed in 2012. The City of Tampere had contracted a group of architects to come up with a densification plan. The aim was to create a strategic vision for the neighbourhood, in connection to which the possibilities for infill were to be studied. As the result of the work was not a legally binding master plan but was seen more as a background study, no public participation process was initiated in this phase. The planning was carried out as expert work, and the mayor of the city appointed an informal advisory group to support the planners' work. The group consisted of members of the city council, architects and other experts from the two universities as well as a representative of the residents' association in Tammela. The group met monthly for a year before the publication of the vision.

The aim of the vision was not only to fit 4 000 new people in the district but to develop ideas for its revitalization: to maintain services in the area and to develop it as a part of the city centre. The envisioning work included studying the green areas and parking spaces and proposing infill possibilities, on the scale of a building block. The vision was accepted by the city council in June 2012 as a guideline for the detailed planning of the area. The vision aims at providing for a smart urban district and at increasing energy efficiency of both transport and living. The densification of the city centre is also closely bound to the planned tramway line.

When the plan was finalized, the local newspaper Aamulehti published a story about the future infill of the Tammela district. The residents' opinions seemed to be bipartite. Many were afraid of the changes and felt shocked to read about the envisioned construction in the paper. Others felt that they now had good opportunities to build on their site and to earn money for the housing company. The foreseen increase in the availability of services and the expected improvement of the neighbourhood in general were named among the positive elements of urban infill (Tampereleinen newspaper 7.9.2012).



**Figure 4.5.** Tammela densification plan – proposed infill is drawn with yellow color. (Image: LSV Arkkitehdit / City of Tampere).

As Lewis and Baldassare (2010), who have studied public attitudes towards infill in the USA note, the word ‘density’ seems in itself to be able to turn off people. In the case of Tammela also the word ‘slum’ popped up in public discussions, to express the fears towards densification and the possible changes in the demography of the area – although talk of slummification seems somewhat exaggerated in the Finnish context. In the first public discussion event in 2012, the misunderstanding concerning the role of the Tammela vision became evident. The residents had mistakenly interpreted the strategic vision as a binding master plan and as a decision on which land and property owners shall be involved in the planning.



**Table 4.3.** Stakeholders in Tammela infill

<b>Stakeholder group</b>	<b>Role in the planning process</b>	<b>Method of participation</b>
City council members	Outlining densification as the desired urban development; Differing views across political spectrum. Some council members also residents of Tammela.	Official decision-making power; meetings with experts, officials and citizens in formulation of views.
City planning officials	Promoting of and planning for densification in collaboration with different stakeholder groups.	Implementing urban development policies and the planning programme of the city; gathering information, negotiating.
Housing companies	Owning the land in Tammela, representing the apartment owners, deciding whether to construct. Limited decision-making capabilities, multiple information needs.	Targeted information and events organized by the city. Pilot housing companies in close collaboration with planners. Mandate from residents unclear.
Tammela residents	Apartment owners and tenants in different positions; residents are heard in the planning process.	Following the news and public discussion in the media. Participating to public hearings of ongoing detailed planning process (Ratapihankatu) and planning competitions (Tammelan pallokenttä).
Citizens in general	Tammela as a strategically important area which is also of interest for citizens not living there.	No official participation role, but active citizens interested in urban development participate in policy making by writing in newspapers and discussing in the social media.
Private architect companies	Contracted by the city for detailed planning of the pilot housing blocks.	Participation in their professional role, delivering ordered plans. Some architects have actively discussed urban development in public.
Construction companies	Lobbying the city and housing companies, looking forward to profiting from Tammela infill if the scale is large enough.	Following actively the development of Tammela, contacting housing companies and political decision makers directly.
Researchers from UTA & TUT	Clarifying actor positions and views, facilitating interaction, analyzing social sustainability of infill.	Providing platforms for interaction, facilitating issue and public formation.

Currently the majority of the Tammela residents are either elderly people or students. The families with children are missing, as there are few big apartments in Tammela. Because the students are mainly tenants and not apartment owners, most of the people in the public hearings were retired Tammela inhabitants. Some of these residents saw the possibility of financial benefit from selling the construction rights on their property. In one case they even envisioned a 23-storey building, which was not quite in line with the proposed overall vision either. Others worried about the equality of building rights in the planned urban development or asked whether they also had the right to refrain from doing anything on their site. In their US based study, Lewis and Baldassare (2010) found that socioeconomic and demographic variables correspond to some extent with the opinions on compact development, but in their data it was only political ideology that was consistently associated with opposition to compact development. That is, the conservatives were more against compact development than self-reported liberals. In our data, some of the conservative city council members of Tampere have been active in opposing urban densification, while many of the green-liberal politicians have been in favour of it. Our interviews also supported the view that demographics matter, and that the elderly people seem to be in general more cautious about future developments than other people.

According to our interpretation, the publication of the Tammela vision functioned as a 'triggering event' for the publics to take shape, to discover the issues essential for each of them and to formulate their positions in the case (cf. Marres 2007; Leino & Laine 2011). The issue of infill took different trajectories on different public and semi-public forums for participatory planning, as we will discuss in the following. With respect to public participation, producing strategic visions such as the Tammela densification plan seem to increase institutional ambiguity (Hajer 2006) of planning: the rules of the game, including the status of such a vision, are not clear to most of the publics.

#### 4.4 Institutional ambiguity of Tammela urban infill

In Finland, the ownership of the land in cities belongs for large part to housing companies formed by owner-occupiers of the apartments. While traditionally and legally the sole purpose of housing companies has been to own and manage buildings that are mainly used as residential apartments, in case of infill the housing companies are becoming constructors, or 'prosumers', both producing and consuming private residential services. The new situation requires reconfiguring the actor relationships in urban planning, as the decision-making power whether or not to construct lies ultimately with the housing companies.

Both the city planners and the residents seem puzzled in this situation. This irresolution supports our interpretation about the institutional ambiguity being prevalent in planning for urban densification.



**Figure 4.6.** In the 4P partnerships for urban infill, the land-owning housing companies consisting of owner-occupiers of the apartments move from People (consumers) towards Private (producers), which challenges the traditional actor roles of the city and the residents in urban planning (Image after Kuronen 2011, following Luhmann 1990, Mäntysalo 2000 as well as Rajaniemi 2006).

Following the idea of institutional ambiguity, in the Tammela case the established institutions lack the power to deliver the requested policy results on their own (Hajer 2006; 2009). They need to interact in a new situation with diverse actors and without clear “rules of the game”. These rules need to be worked out during the process. Thus far, we have identified three kinds of institutional ambiguity in the case of urban infill in the Finnish context:

1. ambiguity within the institutions (city organization, housing companies),
2. ambiguity between the institutions,
3. ambiguity related to relevant knowledge.

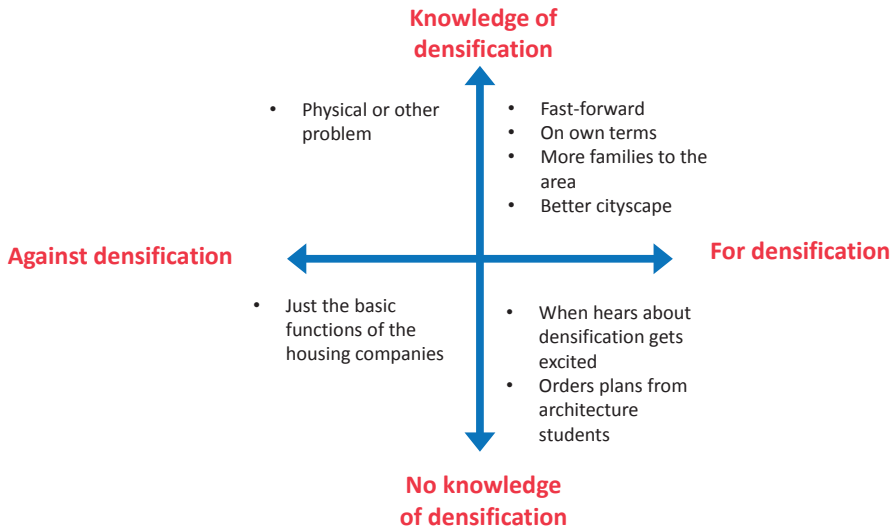
Ambiguity within the city organization appears as the roles still follow the practices common to the classical modernist governance – politicians make decisions, city planners implement them – but at the same time there is no clear signal from political decision making in relation to urban infill. Densification has been chosen as a key urban development strategy in Tampere, but at the same time the city is still spreading at the outskirts. Moreover, the necessary norms to proceed with infill are still being formulated. There is no consensus

within the city organization about zoning fees – urban planning has been a source of income for the city: how big part of this income is the city ready to give up to encourage infill? The city has decided for a reduced zoning fee in cases of urban infill, but the housing companies are not convinced of the sufficiency of the policy.

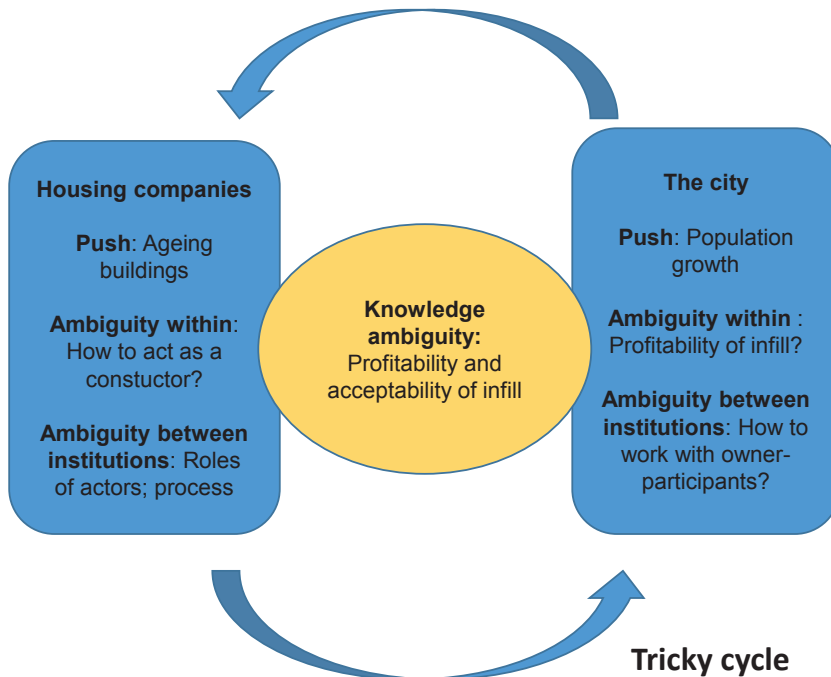
Among housing companies, the institutional ambiguity appears in issues of equity, decision-making capacity and representational ambiguity. As the housing company boards are formed mostly by non-expert voluntary residents, it is unclear whether they have the capacity to become small scale property developers. Housing companies are non-profit organizations with limited liability (Kuronen et al. 2011), so there are also legal restrictions for the housing companies in taking the risk associated with becoming a constructor/developer. Because of the very diverse and differing opinions on infill among residents it is also relevant to ask whether the housing association board has a mandate to negotiate e.g. with the city or construction companies. The decision-making capacity in housing companies varies, and for infill to proceed, the decision-making procedures would need to be clarified so that a single resident would not be able to impede a construction project.

Both the city and the housing companies are used to their traditional roles: the city is responsible for land use planning, the housing companies are responsible for maintaining buildings. In the case of urban infill, these roles change as illustrated in Figure 4.6. The housing companies expect clear guidelines from the city as to how to proceed, and at the same time the city planning department is unsure how to deal with owner-participants. The planners have adopted the role of facilitators: they support housing companies in infill, but the housing companies seem to need still more direct leadership from the city. The tensions between new networks and traditional institutions of representative democracy have created an unclear situation, which seems to paralyse the actors considerably. The ambitious goals for compact city development may thus remain unachieved.

Third kind of ambiguity in our case is associated with the knowledge considered relevant in matters of complementary construction. Many issues related to the economic feasibility of infill have been uncertain during the course of the city centre development project in 2012–2015 (zoning fee, parking norm). This is crucial, as economic feasibility has been the first precondition for the housing companies to get involved in infill. Furthermore, there have been strong concerns about what happens to urban green and other public spaces in economic optimizing. As we see it, knowledge-ambiguity both precedes, and is a result of, the other kinds of ambiguity.



**Figure 4.7.** The housing companies hold different positions towards infill in Tammela depending on e.g. how much they know about the possible benefits and what is the decision-making capability within the housing company.



**Figure 4.8.** The different ambiguities in urban infill form a tricky cycle which makes it currently difficult to proceed in the infill; knowledge ambiguities are at the centre of the cycle. (Laine et al. 2015)

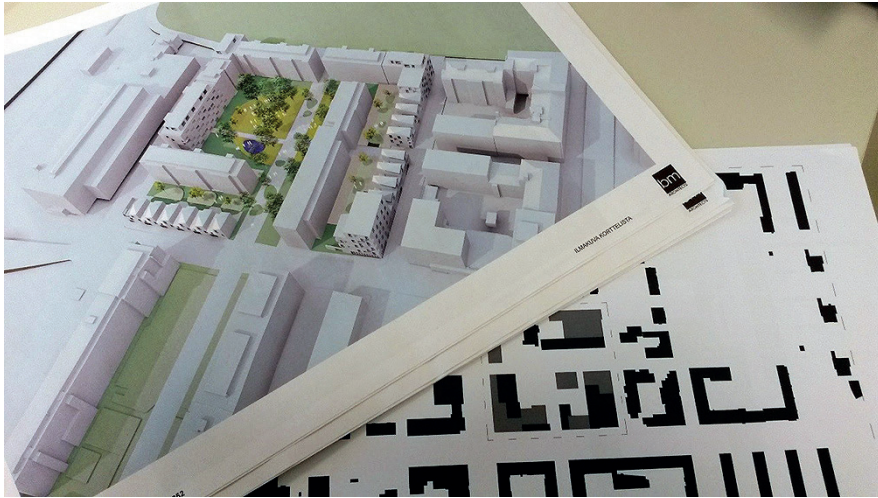
The roles of the actors are different in urban infill than in a usual planning case. This is the main source of institutional ambiguity from the housing company perspective. Both the housing companies and the city feel the pressure to build. The building stock in Tammela is mainly from 1960's and 1970's. The housing companies are facing massive renovation needs in the near future and with urban infill they would have a possibility to capitalize the construction space available, if the solution is economically feasible, aesthetically sufficient and practically possible. The City of Tampere is currently strongly promoting urban infill, which might bear fruit in few years' time. Timing is of capital importance in infill. Some housing companies have already done the necessary refurbishments paying out of their own pockets, so they might not be motivated by the economic incentives available. Infill project should be planned together with the renovations and changes in housing company legislation may be needed to allow more flexibility in the time period when the revenues from infill can be used.

#### 4.5 Building partnerships: boundary interaction as a common basis for learning

In 2014, the city planning officials contacted housing companies of Tammela directly, asking whether they were interested in studying the infill possibilities further together. Over 30 housing companies expressed their interest, and three housing blocks, where several housing companies had shown interest, were chosen as pilot projects. The city contracted three private architect companies (Arkkitehdit Kontukoski, Arkkitehtitoimisto B & M and Arkkitehdit LSV) to develop building-block level infill plans in close collaboration with respective housing companies. The group consisting of city planners, private architects and housing company representatives held several meetings where the sketches for each block were discussed and further developed together.

This form of partnership and interaction can be understood as a space for boundary interaction (Leino 2013, Wenger 2003). Boundary interaction can create a basis for learning. However, opposing pressures and accountability of the actors coming from different social worlds challenge the efforts to stabilize the boundary interaction. Nevertheless, boundary interaction can be active, iterative and inclusive communication in its best (White et al., 2010). As Leino (2013) has noted, in complex planning situations the interdependency among the actors is often evident. In Tammela the interdependency has been of very concrete nature, impacting directly the proceeding of the urban infill vision. The housing companies have depended on the willingness of the city planning

department officials to try out something new in form of the pilot planning cases. Although such an intensive participatory planning had not been totally unheard of in the conventional planning, it was something of a new experience for all participants.



**Figure 4.9.** Three architect offices were contracted to develop the pilot block-level infill plans in Tammela (Photo: Minna Santaoja).

The block-level designs emphasized high quality living environments, green shared spaces and introduced new kind of urban living concepts such as townhouses. In the very beginning, the designs did not take into consideration the economic side of the implementation. Different housing companies have different possibilities for infill on their plots of land and thus the costs and benefits of infill were likely to be unevenly distributed. In the later phase, when the economic feasibility of the block-level plans was calculated, it seemed that some of the housing companies would not benefit at all from selling the construction rights, but they would have had to purchase new parking spaces for the ones lost because of infill. In this situation the housing company would naturally not have any interest to continue the project. In the last round of collaborative planning the block-level designs were developed keeping in mind the economic parameters. The small architect firms, which were hired by the city in order to help the housing companies, had to make compromises in their designs: the parking could not be planned underground to the extent it initially was envisaged, due to the costs, and the building volume had to be increased to get enough money to cover the parking costs. Some of the housing companies' representatives were disappointed, as it seemed that aiming for high quality

living environment would have to be jeopardised by economic feasibility. Such an outcome is of course very likely to reduce the housing companies' interest in infill, and highlights the need for economic incentives.

To overcome the uneven distribution of costs and benefits of infill, the housing companies would have to engage into new kind of collaboration with one another in organizing parking and distributing the construction rights. This is one of the touchstones in moving on with large scale urban infill in the Finnish context. As some of Tammela housing companies find it hard to reach decisions on matters of much lesser importance, they are not likely to have the capabilities to engage in this kind of new collaboration. Even though some of the housing company representatives seemed disappointed with the outcome of the block-level planning, they all enjoyed the co-operation with the city planners. The whole question of urban infill is very complex. The housing companies clearly need a momentum and a driver for starting to invest time and other resources for complementary construction. If the already existing building is in the need of refurbishment, the housing company has a clear driver and interest to consider the idea in more detail. However, if the housing company has already carried out the improvements needed in their building, the momentum is gone. It is usual that there are buildings in different states within each block, which makes it even more difficult to have a joint understanding about the usefulness of a new building.

When the block-level plans were finished, the city planners found it necessary to show the plans to the residents of the Tammela area. In the final meeting of the partnership group, however, the housing company representatives surprisingly did not want the designs to be publicly shown. They were aware of there being many people opposing infill in the area. They had also come to understand infill being such a complex matter, that they did not trust the goodwill of the residents. They thought people would unnecessarily panic as they had panicked when first seeing the general vision in the newspaper, and that they would not understand the nature of the plans and the process leading to them. There were still many uncertainties in the plans that needed to be solved prior proceeding towards the decision making process of the housing companies. This turn in the collaborative planning process, in our interpretation, highlights the different aspects of trust necessary for a successful planning process. The discussion also raises the question about the legitimacy of the chosen partnership model and the representativeness of the housing association board members. The housing association boards are self-selected collectives of the owner-occupiers of the houses. The question concerning wider public participation in infill is: who should have the chance to



participate in the collaborative planning process? Only the current residents or also other citizens, including the potential future residents of the area? Finally, in summer 2015, a public event for the residents of the respective housing companies was held in good spirit and the residents seemed rather content with the plans, though having their doubts on their economic feasibility.

Veikko Eranti (2014) has studied the public response to infill plans in the southern Haga area in Helsinki, using the idea of models of justification by Boltanski and Thévenot (e.g. 2006) as an analytical model. Eranti concludes that in the Finnish political system it seems to be widely acceptable to justify one's opposition to urban development plans by private benefit, instead of appealing to public good. As material for his analysis Eranti has used written statements that the residents have given on the infill plans, and he points out that it may be typical for this particular mode of participation to justify one's claims with shameless emphasizing of private interests. Our experience supports the view that the choice of public participation methods affects the generation of understanding on people's issues, concerns and positions.

#### 4.6 Hearing people out: participatory experiment at the Tammelantori market square



**Figure 4.10.** A blue office container was placed in the Tammelantori market square for 10 days and attracted a lot of visitors who are not often seen in other kind of participatory events (Photo: Helena Leino).

The interviews conducted in the early phase of the SASUI project with the housing company representatives revealed a continuous need to be heard

and pointed to certain information needs concerning the practicalities of infill. In order to provide information and to further understand the positions of the residents in Tammela, we organized a new kind of participatory event in the Tammelantori market square. We took a blue office container to the marketplace and made ourselves available to discuss issues related to infill. For ten days we invited experts from the City of Tampere to answer questions regarding e.g. the development of green areas or traffic arrangements in the Tammela area. We also got a bunch of planning material and visualizations from the city planners to use as a basis for discussion in the container. We experimented with different methods for collecting feedback and used different kinds of visual material to stimulate discussions. Approximately 450–500 people visited the container. Most of them were not the “usual suspects” of participatory events but rather people passing by the market square. Some people came more than once and others after having got the recommendation to come from a neighbour. Feedback on the event, both from the side of the residents and the city representatives, was very positive.

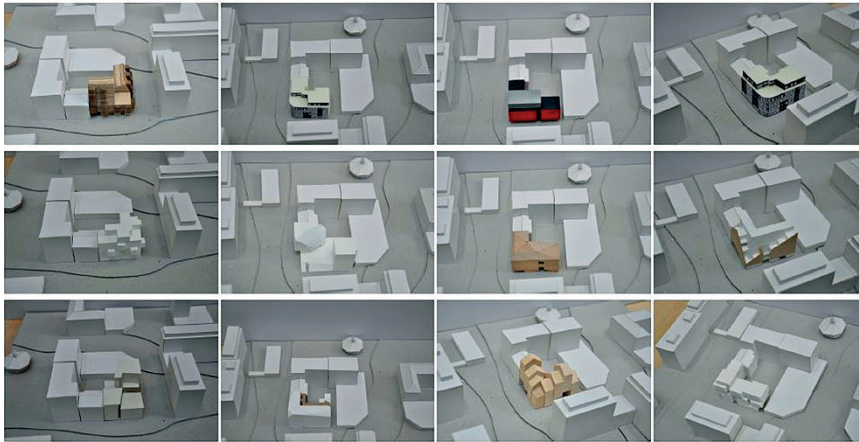
As a result of the container event we were able to identify some dynamics that should be taken into account in future participatory planning for infill. People are always interested in their neighbourhood and want to be informed and – more importantly – to discuss. Coming from the university and thus not having a direct stake of our own in the case, provided us with the fruitful opportunity to function as brokers (Leino 2013) in the case. Brokers work by introducing elements of one practice to another and this way enable the common understanding to evolve. Brokers communicate the existing knowledge or knowledge demands, explore the possible alternatives and their implications as well as engage in the policy process at hand (Huitema and Turnhout 2009). Several visitors in the container came back to visit us in different days, and they clearly had been digesting the idea of urban infill in the meantime.

We also learned in our container experiment, that rhetorics matter. The most common Finnish term used for the Tammela project (“täydennysrakentaminen”) translates best to infill construction or urban consolidation, densification or compact urban development. It might be better to frame the infill project as a means to achieving quality urban environment and other common benefits, instead of presenting it as an aim in itself. As explained previously, the Tammela project was not launched simply to maximize the density of the area. In connection to language, we also came to witness the significance of visualizing different development possibilities. In the publicly shown designs the proposed infill developments were drawn as rectangular



**Figure 4.11.** In the participation event feedback on Tammela infill was collected e.g. by sticky notes attached to a large aerial photograph. The researchers were able to function as brokers between the city and the residents, facilitating the exchange of views and the dissemination of information (Photo: Helena Leino).

colourless “lego bricks” without any details. The point of view of the architects is that if the designs were very detailed, people would interpret them being the final say and then oppose even more strongly. In reference to Lefebvre’s representational spaces, Vallance et al. (2005) note that we should be alert “to the imagined elements of the city and the ways that agonistic engagement around such elements become a central component of the politics of place”. They emphasize that infill housing must be carefully designed in such a way that it accommodates people’s geographic imagination and the symbolism that is an integral part of the built environment. As an example, a group of architecture students had studied different infill possibilities in a single building block in Tammela and visualized different possibilities using masses, building shapes and structures, colours and materials. This single example seemed to work as an eye-opener to some residents: infill would not have to mean that a concrete block similar to the buildings of the 1960s would be erected to block the view from the home window. Infill could actually be pleasing to the eye, still allow views and sunlight, improve the cityscape and even add to the urban green. These ideas were included already in the overall vision of the Tammela district from 2012, but people were then too shocked to learn about the infill and to be receptive to some of its benefits.



**Figure 4.12.** Different visualizations may feed the imagination of the residents on how the infill construction might look like. (Image: Tampere University of Technology, architecture students' ideas of infill in Ilmarinkatu 10, Tammela.)

The container event in September 2014 seemed to allow for a learning dynamics. We quickly realized that people's views on infill are not carved in stone. Given the chance to take time to think, provided with information from different

perspectives and a possibility to discuss the matter face-to-face, without the perceived need to defend one's home (Eranti 2014), people are capable of learning and deliberating different possibilities. Of course one needs to understand the difference between the student work sketches, which do not need to take into consideration all the economic and technical data, and the work of the city planners, but as a conversation starter in the container experiment the student works were very fruitful.

Our experience of the container event speaks for such arrangements of participatory and collaborative planning that allow people to build capabilities in thinking of infill and urban development in general. Lewis and Baldassare (2010) have emphasized that knowledge on urban development issues is central in making people understand the connections between the general goods of compact development and their desired neighbourhood characteristics. Researchers, in the role of brokers, may be able to help people in finding the matters of concern, the issues that matter and others that do not.

*I first got nervous when I heard about the infill, but now it looks better.*

**A visitor's comment in the container event after seeing different visualizations for infill.**



**Figure 4.13.** Children's vision of the future of Tammela painted in the container event included colourful high towers and community spaces for different activities. (Photo: Minna Santaoja)

#### 4.7 The issues of people concerning public participation

One of the things that seem to make infill plans hard to be accepted by the wider Tampere public, is that the City of Tampere is following a dual strategy in urban development. While the city is promoting a policy of urban intensification, it is at the same time releasing land for extensive residential subdivisions on the margins of the city (cf. Vallance et al. 2005). Because Tampere is growing so fast it needs several new housing districts to be developed simultaneously. For example, a land use plan which is currently being finalized for a new residential area (Nurmi-Sorila), breaks off from the urban structure in the north of the city. Both Nurmi-Sorila and Teisko came out in the container discussions as well as in the interviews with housing companies as possible places to “store the new inhabitants”.

Most of the interviewed residents understood the basic argumentation behind densification and accepted it. They were not only concerned about the future view from their own window (‘NIMBY’), but had also concerns about the design and planning of the city on a larger scale. However different the

planning context, it seems there are some concerns regarding urban infill that are rather universal. Vallance et al. (2005) write that New Zealanders want to protect their privacy and treasure access to sunshine. After infill, they thought the neighbours had stolen their landscape. Maximising sunlight was also one of the guiding principles in Tammela renewal in the 1960's and 1970's and the residents fear that infill would compromise their access to sunlight. Similarly, both groups brought up the importance of open space, trees and greenery. The residents of Tammela share with the New Zealanders also the concern that infill housing would be substandard in terms of materials and design and hoped that infill would not be realised "following the cheapest off-the-shelf model of the construction companies".



**Figure 4.14.** Urban green, public places and possibly unwanted social diversity are among the key issues of the residents as they consider urban landscape and liveable environment. (Photo: Minna Santaoja)

Increasing social diversity and bringing families with children to the area seems to be a shared goal among all groups, but with reservations. Gentrification is an issue that has been latently present in the discussions on the future of the Tammela district. Not all the residents in Tammela would welcome social housing, but unwanted gentrification could take place also in the other direction. Infill is generally "sold" to the residents with the argument that the property prices would go up (e.g. Nykänen et al. 2013). This is good news for shareholders who intend to rent or sell their apartment, but not necessarily for tenure residents. Our interviewees expressed discomfort with the idea that wealthier people would move in for example to the new more expensive apartments on top of theirs, constructed in the attic of the house, as they

themselves could not afford the newly constructed apartments in the area. What is seen as welcomed social diversification by some, may be perceived as social inequity by others. The issue of equity relates also to the question of representativeness of the participatory process.

The Tammela district has been an attractive housing option for students due to the proximity of the university. It is thus in the interest of the developers to build small apartments to be bought by private investors. For social diversification, the city would need to regulate the housing production in the area. There were some indications in our material, that students might be responsible for some restlessness in the area. Some people have lived in the area for decades and seen the evolution of the city. Yet, neither the tenure residents nor the students represent a uniform group. Following Lees (2008), Sage et al. (2012) question the assumed social benefits of tenure and social diversification. Social diversification seems to fit ill with tenure: when people have lived in an area for a long time, they wish to keep it as it is and are not welcoming people with different lifestyles.

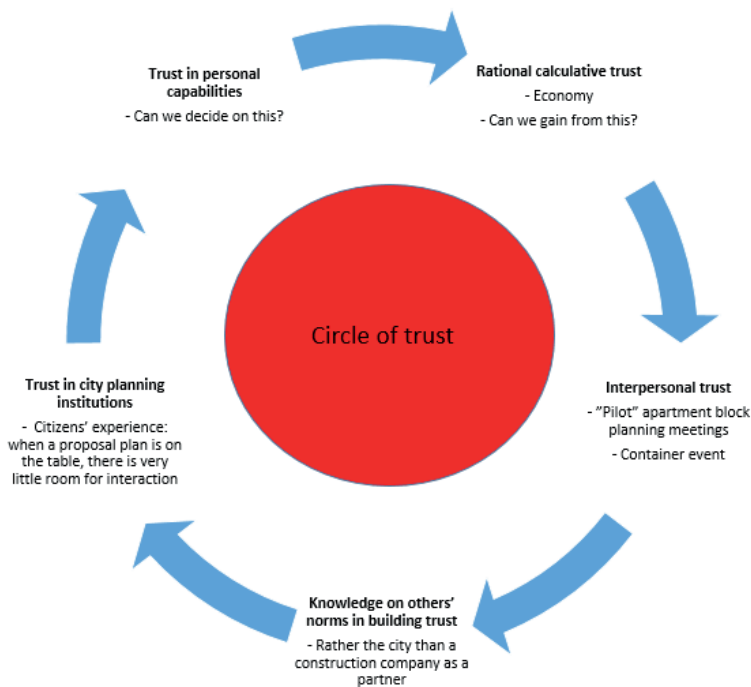
#### 4.8 Need for multi-professional collaboration for generating trust



**Figure 4.15.** SASUI-researchers together with the international collaborators visited Tammela in February 2015 (Photo: Helena Leino).

In our SASUI project, we have identified trust as a central element for successful collaborative planning. Swain and Tait (2007) have distinguished between four different types of trust: rational calculative trust, trust based on

personal bonds, knowledge on others' norms in building trust and finally trust in abstract expert systems. The different modes of trust are not exclusive but rather complementary. In the collaborative planning process of Tammela infill we have identified the following points where trust plays a central role. Whereas the housing companies operate mainly in the mode of rational calculative trust, they also express trust in the expert planning system (institutional trust) and in other housing companies and in their own skills (interpersonal trust) (Laine et al. 2016).



In order to proceed with the case of Tammela urban infill, we see that the key actors in this case should openly admit and understand their interdependencies. The vision will not be implemented before the housing companies, the diverse actors within the city organization and the construction companies recognize this. No one actor alone is capable of pushing the vision forward. As the Tammela case has revealed, the question is not about informing or consulting the housing companies. It is about engaging and collaborating with these people. Consequently, as the level of interaction deepens to this direction, the level of issue complexity, stakeholder acceptance and commitment is increasing (Singer 2015).



The area is going to change, as it has changed in the past, and the idea behind the general infill vision is to facilitate the change so it does not take place in an uncontrolled way. We may have difficulties in imagining different development trajectories, but this could be facilitated by a suitable participatory process. There are experiences in the city of Tampere and also in the previous chapter on Otaniemi, where workshops have been organised to collect focus groups' thoughts on given developments and to encourage visioning a desired development for their neighbourhood. This kind of scenario work could be carried out in a multi-professional way, bringing together the expertise of the urban designers and social scientists with the visions of the residents. There are many expectations towards the multi-disciplinary expertise of the planner, and we feel that the planning profession should not be loaded with an even heavier burden in the complex planning environment. The need for more informal and continuous public participation has been recognized also by the local politicians according to our interviews. As our container experiment illustrated, a neutral space helps the conversation to develop and bloom. Our position as brokers delivering the opinions and concerns from each side to other actors and simultaneously facilitating the discussion has been acknowledged and commented on during our project by various actor groups.

Consequently, besides recognizing the interdependencies and building common scenarios, we argue that in order to proceed in this collaborative process of urban densification, the collaboration needs to be orchestrated further. The housing companies need support in building capabilities for taking action in urban development. As we learn in this report in the next chapter from knowledge alliances created in Malmö, people need a process where they can create joint understanding of objectives. Knowledge alliances are based on equal partnerships between the actors, and this is also something that in the cases of urban infill should be aspired.

In Tammela urban infill, we approached the interaction in an action oriented and experimental manner. We believe that the city planning officials have been willing to adopt some of the good experiments to their toolbox. There has been a large diversity of interaction, such as working groups, "Tammela public cafes" and Tammela walks with different citizen groups. These we interpret as double-loop learning, as was explained in Chapter 2. One can also ask whether the momentum and pressure to do things differently is around the corner – can these changes in the governance culture be interpreted as first signs of Learning III? From our perspective, the City of Tampere has taken the first steps towards this direction. Even though the project ends, some of the findings are taken into practice in future collaborative planning for infill.

## 5 Case Malmö

The project Systemic Architectures for Sustainable Urban Innovation (SASUI) was initiated to address the question of *what social, operational and informational architectural prerequisites are needed for successful sustainable urban development*. In the two previous chapters we have reported on the development in two city districts: Otaniemi in Espoo and Tammela in Tampere. These city districts are in an early stage of their transformation towards increased sustainability. The analyses have therefore focused on how city decision makers mobilize various stakeholders in order to pursue sustainable urban development. This has helped us to understand the complex learning dynamics which form the processes through which sustainable urban development initiatives get started. As the processes in Otaniemi and Tammela have met with their own challenges, the SASUI-project has also made comparisons to other cities aiming at a higher degree of sustainability.

We have carried out longitudinal case studies of two successful European cities undertaking sustainable urban innovation: Barcelona and Malmö. This chapter presents the findings from the analysis of the transformation of the Western Harbour area in Malmö, and the implications this has had on the city planning process in Malmö. We will then, in the final chapter, use the findings from Malmö and our experiences from Otaniemi and Tammela to present some tentative models and frameworks regarding the architectural prerequisites for successful urban development from initiation to the build-up of a new more sustainable city district.

### 5.1 Promoting sustainability; getting started

In the 1970s, Malmö was the leading shipbuilding city in Sweden with the Kockums shipyard as the biggest private employer. When the shipyard closed

down in 1986 there was great uncertainty about the future of the city. Over 25 % of jobs in the Malmö region disappeared between 1990 and 1993 and unemployment was measured at over 16 % in 1993.

Malmö's new mayor Ilmar Reepalu, elected in 1994, had strong ambitions to transform Malmö. The new bridge between Malmö and Copenhagen, which was opened in 2000, and the establishment of Malmö University in 1998, were early accomplishments under the Reepalu era. This brought Malmö into a new direction of services and as a centre of culture and knowledge based industries. One key activity that triggered the new direction of Malmö was the city architecture exposition, the European Housing Expo (Bo01) in 2001, which was held in the south-western harbour area of Malmö. Reepalu describes the initial ambition with the Western Harbour development as follows:

*The transformation of the city of Malmö is especially obvious in the Western Harbour district, where polluted industrial areas have been replaced by office buildings and residential houses. The first development, Bo01, was designed to use and produce 100 % locally renewable energy over the course of a year. Buildings receive energy from solar, wind and a heat pump that extracts heat from an aquifer, facilitating seasonal storage of heat and cold water in the limestone strata underground. (Reepalu 2013)*

The aim for the Western Harbour Bo01 district was thus right from the beginning to become a leading example of environmental adaptation of a densely built urban environment. It also became a driving force in Malmö's development towards sustainability. The area was typical of urban redundant industrial land with contamination and affected environment, but had many positive aspects in its location by the sea and next to the beach and the city centre. An ecological approach to planning, building, and construction was key in the creation of the district (Malmö 2015).

Ilmar Reepalu, an architect by training, strongly influenced the way the Western Harbour project proceeded. Gary Austin, professor at University of Idaho, has evaluated the Bo01 project, and he suggests that the sustainability accomplishments of Bo01 are attributable in part to the control the city exerted through ownership, goal formulation, and planning. He also acknowledges Klas Tham, a well-known architect and planner, to have established the philosophical basis for Bo01 (Givan 2011). The development was characterized by a holistic approach involving the architect, city officials, departments, and developers through a "Creative Dialogue". Through a series of meetings and presentations, the participants developed the "Quality Program", which established performance requirements. According to Austin, the Quality Program, a simple document outlining the minimum standards for

architecture, landscape, energy, water, waste management, and biodiversity, resulted in beautifully diverse and effective landscapes. The holistic definition of sustainability resulted in aesthetics and social opportunities that matched the high levels of technical performance. However, the flipside of this was that the cost of the units was too high to serve moderate and low-income residents. The desirability of living in Bo01 exacerbated this problem since demand caused unit prices to double between 2001 and 2007 (Austin 2013).

## 5.2 Spill-over effects from spearhead projects

The impact of Bo01 has been significant for Malmö. Thousands of people interested in innovative housing and urban development have visited Bo01 during the years. The success of Bo01 encouraged the city government to continue its efforts to transform Malmö, and a second major initiative started by Reepalu is Hyllie, where Malmö is putting a lot of effort into making the area sustainable. Hyllie, with 9000 new homes and workplaces, will be the most climate progressive area in the region – according to the new Climate Contract, signed at the beginning of 2011 by the City of Malmö, the energy company E.ON and the municipal authority VA SYD. The energy supply in Hyllie will be entirely from renewable or recycled sources by 2020 (Reepalu 2013). Even those somewhat critical of the city planning practices in Malmö acknowledge that the Hyllie project, in combination with other high-profile interventions, plays a significant part in the city's transformation from an industrial town, after the shipyards closure in 1987, to a post-industrial city (Baeten 2012).

If the Western Harbour and Hyllie have been new developments, Malmö has also focused on transforming existing areas for more sustainability. One of the first districts was Augustenborg, where the city, together with the local housing, water and sewage company, refurbished the area in close cooperation with the citizens into a more sustainable form. The project was launched in 1998 and Augustenborg has become a more attractive, multicultural neighbourhood in which the turnover of tenancies has fallen by almost 20 % and the environmental impact has decreased to a similar degree. Involving the residents of Augustenborg has been one of the key success factors of the refurbishment (Reepalu 2013).

Based upon the good results in Augustenborg, the City of Malmö started the implementation of similar projects in additional city districts such as Rosengård and Lindängen. This development has to be seen against the overall targets of the city, defined in 2009, stating that by 2020, the city administration will be climate neutral, and by 2030 the whole city will run on 100 % renewable

energy. This implies that the City of Malmö has set itself one of the most ambitious climate targets in the world. The targets and progress on climate issues in Malmö have already been acknowledged by organizations such as UN Habitat, awarding Malmö the Scroll of Honor Award in 2010 (Reepalu 2013). Ilmar Reepalu himself was nominated as a finalist for the World Mayor Prize in 2010.

Reepalu summarizes in his own words his time as mayor in Malmö in the following way:

*The city of Malmö has taken a holistic attitude to sustainability. Political ambition and leadership is strong, with goals set at a high level. The city departments cooperate with each other and with enterprises, universities and organizations. The aim is to use ecological development as a driving force for economic growth and social innovation – a challenge that includes and demands commitment from all actors in society. Using different cooperation methods and processes is therefore one important key to the achievement of these high targets. To develop a sustainable city is a team task; all actors taking responsibility for this are winners. (Reepalu 2013)*

### 5.3 The social dimension of sustainable development

In spite of the visible success of individual projects bringing Malmö towards becoming a more sustainable city, gentrification is prevailing and little has changed for the inhabitants of the suburban districts; Malmö has remained a city of social divide and high unemployment, which increased from 7.5 % in 2008 to 12.8 % in 2014, compared to the national figures of 5.0 % (2008) and 7.0 % (2014). This has also been accentuated by the fact that the city population increased to 318,107 inhabitants in 2014 from 262,397 in 2001. One significant demographic change, which has occurred since the beginning of the century, has been the increase in the number of immigrants to Malmö. About 31 % of Malmö's population, or 100,000 people, are born abroad, and another 10 % is estimated to be second generation immigrants (Anderson 2014).

In addition to the growing challenges from the increasing amount of unemployment, there has also been criticism against the urban planning attitude in Malmö. Guy Baeten (2012), professor at Lund University, has claimed that closed architectural competitions, compliance in the local press, a focus on the very construction of the project as a main motivation, the absence of social matters, debate, dispute or disagreement altogether, have become regular traits of city planning in Malmö. Baeten also has argued that the city planning approach borrows heavily from the 1960s Million Program's architectural and design language, and shows an impatient drive to 'build away'

the past (impoverishment, deindustrialization), head for a similar modernist future that would erase social divides, and populate the city with cosmopolitan, open-minded, creative, educated liberals.

The politicians in Malmö seem to have been aware of the growing tensions, as they established a commission for a socially sustainable Malmö in November 2010. The commission's task was to produce a scientific basis for strategies for reducing the health inequalities in Malmö. The key parts of this work were, firstly, to demonstrate that there is scientific evidence in support of the idea that social factors play a significant role in the development of public health. Secondly, that there are inequalities with regard to health in Malmö, which are dependent on social factors. Thirdly, the commission should present strategies for what implementations should be possible to carry out in Malmö in the future, in order to reduce health inequalities (Malmö 2012).

The commission built upon the tradition of developing a comprehensive plan to guide the development of the city (Malmö 2001). A central tenet of the 2000 plan had been that growth should take place in the private sector and the municipality should assist such development — which would be mainly driven by private companies — by 'providing land for new businesses, a good business climate, expansion of infrastructure' (Holgensen 2014). Development of the new plan emphasized health issues, as it was seen that the increasing segregation, and indications that health disparities were increasing, required the City of Malmö to take action (Malmö 2012).

The Malmö Commission published its report in 2013 with the expectation that a clear road-map, using the report as one point of departure, could strengthen Malmö as an ecological and social role model and contribute to a sustainable city (Malmö 2013). The report presents a very detailed evaluation of the health situation in Malmö and puts this into a broader social context. The report recognizes that there are two ways of portraying Malmö. The bright image presents Malmö as a creative city which can be likened to Berlin or New York. The success story often relates to the investments in the Öresund bridge, Turning Torso, and the City Tunnel. The dark image includes tales of poverty, alienation and growing tensions between groups. In this context the report makes two sets of overarching recommendations. The first set of recommendations relates to the establishment of a social investment policy. The second concerns the changes required to make the city's internal processes support reducing inequality in health (Malmö 2013).

In the context of seeing the city as an innovation nurturer, the internal processes of the city are of utmost importance. The Malmö Commission suggests that the actions to be taken should not merely apply pre-existing

knowledge, but emphasize the creation and development of new knowledge alliances as a part of the solutions. The processes therefore have to be designed in such a way that they enable continuous learning. Knowledge and learning should be linked to the questions of management, involvement and influence, or governance. These new type of processes should be viewed as part of the creation of the social innovations that are needed for development towards sustainability (Malmö 2013).

The social investment issue was immediately addressed in the Lindängen area. This resulted in a new form of cooperation between the city, the citizens, and the property owner, Trianon. One form of increased local involvement is that Trianon was conducting energy investments in the apartments by using locally recruited workers. As of spring 2014, Trianon had been able to offer jobs to 17 unemployed tenants for the energy investments. The encouraging results of these activities led to Trianon's commitment to start a new construction project to build 140 apartments in Lindängen. This was the first new construction project in the area since 1975 (Percovich-Gutierrez 2014).

#### 5.4 The role of knowledge alliances and leadership

By applying the new principle of knowledge alliances and new forms of management, the Malmö Commission wanted to establish a direction, but avoid defining the objectives in detail out of respect for the process, to enable the emergence of new knowledge and support new solutions. This suggests that there was a need to establish a new type of social architecture to improve participation. This new architecture should enable different forms of cross-boundary co-operation between public and private stakeholders. Participation and influence were thus seen as key characteristics of the new processes. If people do not feel that they are participants in the process there is a great risk of losing trust in the surrounding environment. The Malmö Commission therefore advocated an approach that focuses on an integrated view of knowledge, integrating, discussing, and problematizing experience-based and scientifically produced knowledge. This forms the basis for knowledge alliances. In the context of Malmö, knowledge alliances refer to equal partnerships between researchers and stakeholders such as the public sector, the voluntary sector, trade and industry, which are focused on combining excellence and relevance. These knowledge alliances deal with sustainable development and welfare, with a particular focus on the connection between economic growth and health (Malmö 2013).

The Malmö Commission also addressed the issue of leadership needed for sustainable development:

*Modern and courageous leadership is required at all levels to create good prerequisites for all Malmö residents. Leadership that understands the meaning of promoting the work for a sustainable city for everyone who lives in the city. Leadership that contributes to visions and development goals, which perceives the city with all its opportunities and challenges as a whole, which regards itself and its activities as a tool to use in conjunction with others. Furthermore, leadership which is value-based and therefore goal-orientated, brave and diligent. In order to create this, long-term development work on leadership is required. (Malmö 2013)*

The requested leadership would need to develop an infrastructure for social innovation and urban integration. The suggestion by the Malmö Commission was therefore to establish an infrastructure of knowledge alliances to strengthen urban integration from the perspective of sustainability. This infrastructure should include the municipality, the voluntary sector, the business community, the university, authorities, and educational establishments. Existing co-operation platforms between the City of Malmö and external stakeholders should be integrated into this new infrastructure.

In the beginning of 2015, Malmö was engaging in collaboration with the cities of Lund, Tampere, Tallinn, and Hamburg to evaluate possibilities for cooperation in the development of new ways to organize innovation processes for smart sustainable cities through action learning and lean innovation. This illustrates the acknowledgment among the decision makers in Malmö and Region Skåne about the increased need to step up the innovation collaboration and capability building activities outside the Swedish borders.

To summarize, the development towards a more sustainable Malmö has evolved in three phases:

Initially the emphasis was on *environmental sustainability*. The primary objective of Bo01 was to use and produce 100 % locally renewable energy over the course of a year. In addition to the emphasis on the ecological aspect of sustainability, there were two more elements emphasized in the Malmö Comprehensive Plan from 2000: engagement of the private sector, and an adaptive approach.

During the financial crisis, the policy of the City of Malmö was that Malmö should keep up production despite the crisis, and *economical sustainability* was emphasized. In autumn 2010 the municipality of Malmö approved a letter of intent together with a large developer, Peab. According to the deal with Peab, the developer would build 3 000 new rental apartments over the following six years on land provided by the municipality. The intention was for serial



construction and industrialized building processes to enable pricing the new apartments to ensure that they are open to a broad target group.

After Sweden was recovering from the financial crisis, the focus shifted to *social sustainability*, as the city was constantly in the news relating to its social problems. Anti-immigrant sentiments were highly visible and shootings with racist ingredients had become commonplace in the city. There were problems related to segregation and unemployment. The segregation and indications that health disparities were increasing therefore led to the decision in May 2010 to create the politically independent Malmö Commission. This commission became the key unifying concept for the city government and its key stakeholders to bring sustainable development in Malmö to the next level.

## 6 Conclusions and policy recommendations

### 6.1 Development paths towards sustainable urban development

In the cases of Otaniemi and Tammela we have witnessed the initial phase of developing sustainable city districts without strong city guidance, driving the environmental sustainability of the city district. This has led to a situation with the economic issues at the fore. In Otaniemi the most active and most influential stakeholders have been the landowners, who right from the beginning have had rather clear plans that were introduced as the basis for discussion. In Tampere, the city itself publicly states that infill construction often is cheaper than greenfield projects. Once the Tammela project got into a deeper dialogue between the residents and the city planners, the issue of the financial incentives for the housing companies as landowners to start densification projects became a key topic. Housing companies expected clear guidelines from the city as to how to proceed, and it turned out that once the discussions got into more detail the city representatives did not have all the answers the housing companies were expecting. In the Otaniemi case, the City of Espoo took a very low-key role explicitly stating that “Espoo is only a passenger in the [Otaniemi OK] process”.

The case studies of Tammela and Otaniemi both share a concern about how the process will continue. It is therefore interesting to compare the initiation of these development processes with how the Western Harbour development in Malmö got started. As the earlier quote of Reepalu in the previous chapter illustrates, there is a significant difference in the approach. The Western Harbour development was right from the beginning driven by very clear and ambitious environmental objectives stated by the City of Malmö:

*The first development, Bo01, was designed to use and produce 100 per cent locally renewable energy over the course of a year.* It then turned out that this led to a development with housing prices affordable only for more affluent citizens. In spite of this, Bo01 and Western Harbour became a catalyst for change that spurred an array of other development initiatives, which later on more and more also addressed the social inequalities of the city.

We can therefore see two different development paths, based upon the findings from the SASUI-project. The first development path is an emergent one, visible in the on-going dialogues in Otaniemi and Tammela. The other alternative is a visionary path, illustrated by the development in Malmö. Based on the experiences from Malmö it seems that the comprehensive task of making a city district more sustainable would require that the city representatives in Espoo and Tampere at some stage would have to take a more active role and make the city vision of the district more explicit.

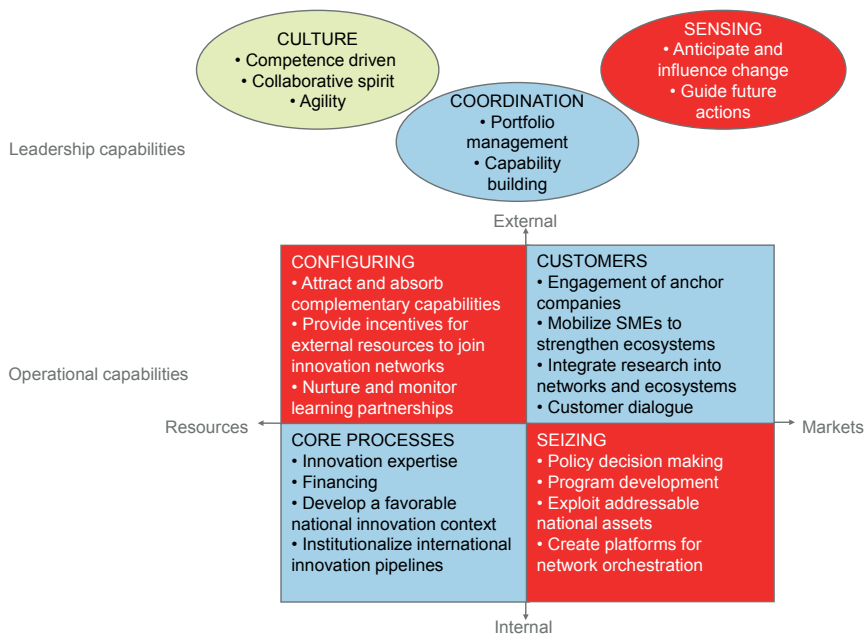
In light of the example of Malmö, and examples from other cases of sustainable development (Wallin, J. 2015), it is apparent that initially the city focuses on building the substantial knowledge needed for the collaborative process related to the development of the city district to take off. In this phase, the city has to provide both the direction and the resources to be able to engage additional parties to become involved in the co-development activities. Here the key challenge is how to balance the different elements of environmental, economic and social sustainability, and to avoid that the short-term commercial aspects start to totally dominate the process. This requires that the city has the necessary governmental capabilities.

## 6.2 Governmental capability

The quest to pursue sustainable innovations is relevant both for national and city governments. There are a multitude of issues that need to be taken into consideration to enable the sought for transition to take place. Lazzarini (2015) has integrated policy-making research with strategic management to address how governments can nurture innovation and conduct performance-enhancing interventions. His argument is that for the intervention to be successful it is important that the city organization possesses the needed governmental capabilities.

As the basis for his discussion, Lazzarini (ibid.) uses Honadle's (1981) definition of governmental capabilities, which is similar to dynamic capabilities, as defined by Teece (2007). Honadle's and Teece's capability definitions can be combined by seeing governmental capability as the ability to anticipate

and influence change, guide future actions (i.e. **sensing**), make informed, intelligent decisions about policy; develop programs to implement policy (i.e. **seizing**); attract and absorb resources; manage resources; and evaluate current activities (**configuring**). These dynamic capabilities are the critical capabilities needed by a public actor to support innovations in an increasingly global context. A key challenge for any public actor nurturing innovations is, therefore, how well it is able to develop these dynamic capabilities, which are indicated in red in Figure 6.1.



**Figure 6.1.** Capabilities for innovation nurturing (Honadle, 1981; Teece, 2007; Wallin, J. 2000)

There is a systemic interdependence between the dynamic and ordinary capabilities, indicated in blue in Figure 6.1. As Winter (2003) argues, ordinary ‘zero-level’ capabilities are those that permit an organization to survive in the short term, whereas dynamic capabilities are those that operate to extend, modify, or create ordinary capabilities.

The dynamic capabilities integrate, build, and reconfigure internal and external competences to address rapidly changing environments (Teece 2007). When considering how a public actor can strengthen its dynamic capabilities, it is important to notice that dynamic capabilities typically involve long-term commitments to specialized resources (Winter 2003). The ability to sustain

a particular patterned development approach depends, to some extent, on continuity in the personnel involved (Winter 2003). In this respect the public actor has to consider the ecosystem members, the network of participants, not just as customers to be financed, but as learning partners in respect of developing the dynamic capabilities within the ecosystem. These partners can also become allies in shaping new markets. But achieving this requires the existence of mechanisms to secure the continuity in collaboration between key individuals in the network, a governance system, enabling long-term learning partnerships to be developed between the public actor nurturing innovations and its key partners when deciding upon common actions according to a shared logic (Thomas and Autio 2013). The shared logic considers legitimacy, trust, and the mutual awareness between the participants that they are involved in a shared enterprise, underlining the social and cognitive aspects of participant interdependency.

Pitelis has looked into how entrepreneurial ecosystems and clusters are co-created. The firms, the cluster, and even the market and ecosystem are co-created through entrepreneurial action. In real life and time, ecosystems thus result from entrepreneurial efforts to capture value from perceived 'productive opportunities' (Pitelis 2012). The findings from Pitelis's analysis are relevant for city management, as these findings suggest that cities could develop supporting practices that may enhance a network's productive opportunity, increase the social capital, and offer help in the formation of ecosystems and markets.

### 6.3 Towards orchestrated ecosystems

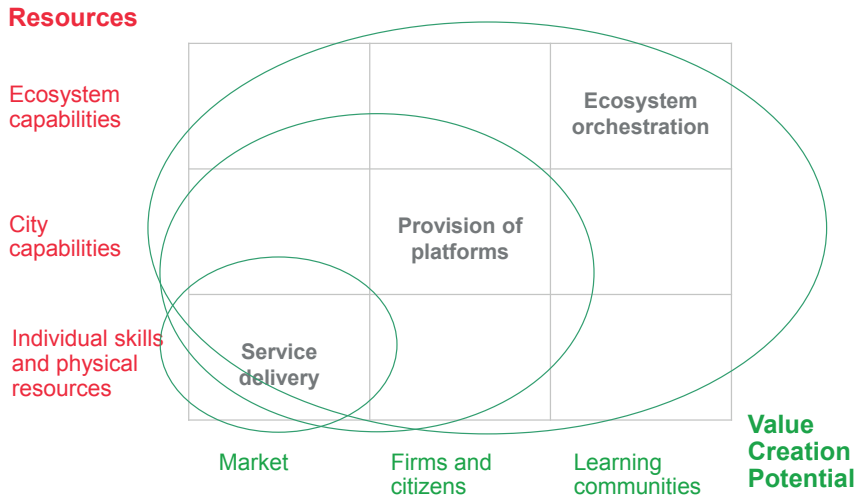
As the examples of Otaniemi, Tammela and Malmö indicate, a key question when making decisions on sustainable urban innovation is how to mobilize the concerted action of various actors in order to enter the path of sustainable development. This raises the question of how to transfer information between the outside world and the activities taking place in one particular organization. Tushman (1977) refers to individuals having this role as boundary spanners. Subsequently, boundary spanning can be seen as a complex process of taking into account various interests of the actors, and their intentions to have an impact on the development work, as well as learning from the process. In this context, the communication between individuals is a key factor affecting the efficiency of the boundary spanning process. For this purpose Galison (1999) introduced the notion of the trading zone. Expanding the discussion on the various forms of communication is highly relevant when an increasing amount

of development takes place in the context of networks, instead of within the R&D department of one single organization. In his original article, Tushman (1977) had already noticed that projects with more complex information-processing requirements consistently had more boundary roles than projects with less complex information processing requirements.

Normann (2001) used the notion of reframing to address a world where products and services are more about knowledge and linkages than about steel and mass, and where, in an information- and knowledge-based economy, individual and collective mind processes become crucial. Reframing emphasizes the need for conceptual thinking and action orientation when facing radical changes in the environment. In the process of reconfiguration and reframing, Normann notices that the territorial actors such as city managers have to ask themselves how their territory can become a good home for value-creating activities. Cities that are successful become meeting points, liaison centers and stages of action.

A territorial actor must strive to get into a 'virtuous circle' in which knowledge attracts knowledge and knowledge workers attract knowledge workers, and in which knowledge-based companies attract knowledge-based companies (Normann 2001, 301). To be able to initiate such virtuous circles there is a need to form coalitions of key actors that will co-align their forces based on a grounded vision of the city's strategic identity and mission. Such need for shaping strategic coalitions can also be found in the recommendations of the Malmö Commission (Malmö 2013), which suggested efforts to build knowledge alliances in Malmö. Such alliances engage different stakeholders around future-oriented processes to evolve a vision of a strategic identity and to utilize events and various assets and processes to bring people together in creating a new 'social reality' (Normann 2001, 311). The underlying ideas of reframing, virtuous circles, knowledge alliances, and an evolving co-created vision of a new strategic identity for a city or a city district form the underlying architectural building blocks for sustainable urban development.

For city planners the opportunity lies in the combination of city development to both contribute to the development of the city into a more sustainable one, and at the same time use this development to promote innovation and business growth. In order to achieve this objective the city has to be able to foster ecosystem development around the efforts to reframe their city districts. It is not enough to just organize land use planning, and expect this platform to automatically lead to a purposeful evolution, strengthening local business and engaging citizens in a constructive dialogue. The challenge is to move from platform-based thinking into ecosystem-building action.



**Figure 6.2.** Architectural prerequisites for sustainable urban development

Based on the framework in Figure 6.2, the Malmö case shows a development path which has created dynamic capabilities within the city, to continuously adapt the city development process to changes in the environment. The formation of the Malmö Commission has been the last phase in this dynamic development.

For the city management in Espoo and Tampere the challenge is to identify what could become the catalytic action driving the sustainable development in their respective cities, to be able to enter a path similar to the one visible in Malmö.

#### 6.4 Critical questions on hybrid governance

The orchestrated ecosystem model presented here builds on hybrid governance, where the local government nurtures strategic partnerships towards sustainable development, while still keeping with the hierarchical and representative decision-making procedures of the bureaucratic local government. As recognized in the Malmö Commission process, this requires from the local government attention to both trust building and leadership. The knowledge alliance concept of the Malmö Commission does not transfer decision powers of the local government to the alliance, but the latter takes a supportive role, broadening the knowledge base of the local government's decision procedures and fostering reflectivity on governance challenges in striving for sustainability. From the perspective of institutional trust and

legitimacy, the knowledge alliance needs, further, to remain open for public scrutiny and ready to justify its strategic goal and partnership constellation, which should also maintain a sufficient degree of inclusiveness. For the city leadership, such hybrid management is highly demanding. While managing ecosystem formation in strategic partnerships, virtuous circles and alliances towards sustainable development and related business opportunities, the mandate from the local government should be negotiated and kept in check, as partnership constellations change and goals get reframed. Openness to the wider public should also be maintained. Here hybrid governance means ecosystem orchestration towards a strategic vision that maintains critical awareness of its legitimacy basis, in configuring its relations to the local government organs and the public.

Healey has listed a set of questions that is helpful in fostering such awareness in strategic ecosystem building:

1. "WHERE is discussion to take place, in what forums and arenas; how are community members to get access to it?
2. In what STYLE will discussion take place? What styles will most likely be able to "open out" discussion to enable the diversity of "languages" among community members to find expression?
3. How can the jumble of issues, arguments, claims for attention and ideas about what to do which arise in discussion be SORTED OUT?
4. How can a strategy be created that becomes a NEW DISCOURSE about how spatial and environmental change in urban regions could be managed?
5. How can a political community get to AGREE on a strategy, and maintain that argument over time while continually subjecting it to CRITIQUE?" (Healey 1995, 53–54.)

Regarding Question 5, the knowledge alliance concept invites continuous critique with its focus on continuous learning and reflectivity. The agreement on a strategy naturally requires the consent of the municipal council, besides agreement within the alliance itself.

Regarding Question 4, the argument above, on ascending from service delivery and platforms to ecosystem orchestration, aims to offer a pathway on how strategies can be created for managing environmental change towards sustainability.

Regarding Question 1, all of our cases offer examples of enriching discussion forums and arenas. While the Malmö Commission used an array of



various authentic and digital participation and discussion forums in mobilizing attention to its varied sub-themes, the Otaniemi and Tammela cases are examples of developing particular forums for discussion. In the Otaniemi case, the Aalto Built Environment Lab proved successful in providing the settings for elaborating and discussing alternative schemes for the development of the area. In the Tammela case, the office container, brought to the area's market square, became a stage for mobilizing attention on the Tammela infill initiative and for making sense of its implications. Furthermore, as impartial "hosts" of the container, the researchers could perform as brokers facilitating trust building between the local government and the housing companies.

Both the ABE Lab of Otaniemi and the container of Tammela performed as 'platforms' for discussions and trust building between the city and the local stakeholders. As explained above, platforms are not to be regarded as sufficient in governing innovativeness for sustainable urban development; a shift from platform-based thinking into ecosystem-building action is required. However, platforms may provide crucial "stepping stones" for such action, when trust in the local government and means for mutual comprehension are lacking. In the Tammela case, a 4P setting of urban infill development is on its verge of emergence, but it would require firmer leadership from the City of Tampere, beyond the platforms of mutual sense-making – that, however, have been necessary, too.

Regarding Question 2, the forums in all our cases had potential in "opening out" the discussion to the diversity of "languages". We associated them with Galison's concept of trading zone, which refers to intentionally generated local "inter-linguistic" settings for exchanging information and services between the "parent languages" of different stakeholder groups. The trading zone concept (and those related to it) has potential that deserves further examination in developing forums for "inter-cultural" communication in local planning and governance.

Finally, regarding Question 3, the trading zones can also aid in sorting out between different issues, ideas and claims on what to do. In strategy making, this requires shaping attention to both longer term strategic visions and immediate planning and policy issues in view of those visions. Here scenario planning may be helpful, if approached as a trading zone tool in framing strategic attention "inter-culturally". As part of strategic urban planning, scenario planning may become an educational and transformative exercise that, according to Zegras and Rayle (2012, 303), may:

*“persuade participants to dislodge pre-existing views, improve understanding of the organizational context, provide a common instrument of communication among disparate actors, and encourage relationships among participants. In particular, the scenario planning process may be a means of building networks and initiating collaboration.”*

A specific feature that equips scenario planning with such integrative power is its inclination to shape information in the format of *stories*. In this, it shares with the broader storytelling tradition of planning (Albrechts 2005; Throgmorton 1996; Forester 1999). The rhetorical strength of storytelling is its everyday familiarity. It involves certain scenes, different characters, and a plot with twists and turns that unfold with the story. A good scenario story invites the listeners to share in imagining the conditions, events and episodes envisioned by it. Like a good history lesson, it concentrates on explaining the forces that influence the outcome of events, rather than plain numbers and names. In this way it is easier for people to react to the scenarios, choose a desirable future and start discussing and envisioning how to make it happen. (Mäntysalo and Grišakov, forthcoming) Hence, scenario stories have trading zone characteristics. Without being limited to verbal means of communication, they provide vehicles for the mutual “out-talk” with “thin descriptions.”

## 6.5 Concluding remarks

Sustainability is a challenge that addresses the whole governance culture. To enable the comprehensive transition to a new strategic identity for sustainability, the local political system needs the capability to reach Learning III. It means, on the one hand, learning to transcend platform-based approaches with *ecosystem-building action*, with a focus on visionary leadership and related governmental capability. On the other hand, it means transcending the dysfunctional and legitimacy-eroding effects of poorly managed institutional ambiguity with the idea of *hybrid governance* that, while nurturing innovativeness and partnerships towards sustainability, is sensitive to its own sources of legitimacy and trust.

Strategic envisioning requires co-alignment of different policy measures with a view on ecological, economic and social sustainability aspects. The districts of Otaniemi and Tammela both have broader strategic implications for city governance of Espoo and Tampere: Otaniemi as a major hub of science, technology and business, and Tammela as a potential pioneer for the city’s densification policy in similar suburban and downtown districts. Regarding such districts, it is crucial that in urban planning opportunities are seized for

innovativeness in ecology, economic growth and social wellbeing beyond the sphere of urban planning itself. In successful ecosystem orchestration, these opportunities are brought together with strategic envisioning and mobilization of respective stakeholders. It rests on the sufficiently broad agreement on the strategic vision and on the legitimacy afforded to the partnerships conducting policy measures towards this vision. Yet, the respective political decisions need to be subjected to the city council and other related political bodies of the local government. Their role is further heightened when agreement, and trust, is lacking.

Sustainability as a goal may be broadly acknowledged as agreeable and legitimate, but when it comes to operationalizing that goal through different policy and planning measures, the issue becomes more complicated. Here, the idea of hybrid governance reveals its strategic nature. It means utilizing network *governance* type of policy measures in ecosystem building in conditions of agreement and trust, and relying on *government* decisions in guaranteeing the formal legitimacy of such governance, and as a necessary channel in coping with political conflict and distrust.

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## *Eight pieces of advice for cities*

### *Acknowledge targets and act on them*

Once you launch a process, you need to stay tuned. Raised enthusiasm wanes and turns into frustration if stakeholders feel that they are kept on hold for nothing.

### *Use political authority*

Get the “yes we can” in advance if possible, so you know your political backing when talking with stakeholders.

### *Map the relevant actors and needs*

Do not assume things, map them. Get to know your terrain over a longer time period, not through one-time hearings.

### *From silo/departmental-good to common good*

If each organization/stakeholder concentrates only on its own issues and is not exposed to the views of the others, the results are likely to include less of the common good.

### *Power to negotiate to the people who need it*

Ensure that those people who are sent to negotiate are also in the position to speak for what they represent. Do the homework carefully between negotiations.

### *From participation to collaboration*

As urban infill development is a co-production process, it is not enough to consider who should be invited to participate in the process. Densification requires moving from participation to collaboration!

### *Use facilitators when needed*

It is no shame to turn to outside parties for help in facilitating complex processes. Utilizing neutral professionals or other kind of ‘brokers’ may help to avoid unnecessary confrontation and bring in additional expertise. Through a well facilitated process all stakeholders learn from each other.

### *Learning is crucial*

All the stakeholders need to be involved in co-producing the vision for their district. This is the only way to know what works in practice. Reach for new collective understanding and allow time for learning!





Tämä tulostiivistelmä esittelee kaksivuotisen TEKES-hankkeen “Systemic Architectures for Sustainable Urban Innovation” (SASUI) keskeisimmät tulokset. SASUI-hankkeen toteuttivat Aalto-yliopiston maankäyttötieteiden laitos (nyk. rakennetun ympäristön laitos), Tampereen yliopiston Johtamiskorkeakoulu ja Synocus Oy. Rahoitus tuli TEKESin innovaatiotutkimuksen ohjelmasta sekä Espoon ja Tampereen kaupungeilta.

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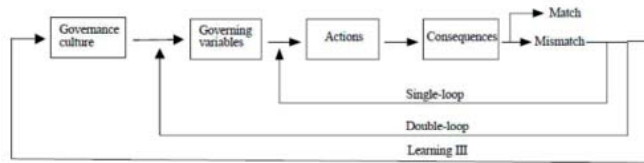


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## Suunnittelu systeemisellä oppimisprosessina



Lähestyimme suunnittelua systeemisellä oppimisprosessina, jossa on useita oppimisen tasoja. Täydensimme Argyriksen ja Schönin (1978) tekemää jakoa (single- and double loop) oppimisen kolmannella tasolla (Learning III, Bateson 1972/1987). Yrityksen ja erehdyksen kautta tapahtuva 'single-loop learning' lienee oppimisen yleisin muoto, mutta sen avulla ei voida vaikuttaa systeemin hallinnan keskeisiin muuttujiin (governing variables). Ongelmien määrittelyyn ja tarjolla oleviin ratkaisumalleihin puuttuminen edellyttää 'double-loop' -oppimista, jota muun muassa toimivat yhteistyöjärjestelyt voivat edesauttaa. Kolmannen tason oppiminen (Learning III) puolestaan tarkoittaa sitä, että koko hallinnan kulttuuriin osataan suhtautua reflektiivisesti. Jotta kaupungeissa tapahtuisi myös kolmannen tason oppimista, toiminnassa pitäisi pystyä kyseenalaistamaan myös itsestäänselviltä vaikuttavia toimintatapoja. Toimintakykyä rajoittavia tapoja ei välttämättä tiedosteta, tai niiden kanssa on vain alistuttu elämään.



## Tapaus Otaniemi

- Suunnittelussa ”tilanne päällä” jo pitkään; uusille avauksille tilausta
- Espoon traditio antanut tilaa maanomistajien aloitteellisuudelle
- Keke-ohjelman intresseissä kumppanuuksjärjestelyjen kehittäminen ja kestävän arkiliikkumisen tematiikka
- Hanke- ja tutkimustiedon kokoamiselle tuntui olevan tarvetta, kun kumppanuuksverkosto ei toiminut riittävän hyvin



Kuva: <http://rym.fi/results/otaniemi-walka-facilitating-sustainable-campus/>

Espoon kaupungin kanssa käytyjen neuvottelujen tuloksena SASUI-hankkeen yhdeksi tapaustutkimukseksi valikoitui Otaniemen suunnittelu. Yksi tausta-ajatus oli, että Otaniemi voisi toimia Kestävä kehitys -politiikkaohjelman alustana, keke-kumppanuuden mallialueena. Taustalla vaikutti myös Espoon tarve hahmottaa Otaniemen kestävän arkiliikkumisen kysymyksiä. Tutkijaryhmän työ suuntautui kuitenkin – hankkeen ohjausryhmän myötävaikutuksella – kohti sosiaalisen kestävyden kysymyksiä. Toimivat kumppanuuksjärjestelyt nähtiin sosiaalisina innovaatioina, joiden omaksuminen edesauttaisi kestävien kaupunki-innovaatioiden kehittämistä.

Vaikka Otaniemi onkin monella tapaa erikoistapaus Espoon alueiden joukossa, se on toki tutkimuksellisesti kiinnostava. Otaniemen suunnittelussa on ns. ”tilanne päällä”, mutta toisaalta näin on ollut jo pitkään. Aallon ARTS-koulun uudisrakennuksen suunnittelukilpailun ja kaupunkisuunnittelulautakunnan teesien myötä löytynyt uusi vaih(d)e ei vielä tuottanut selvyyttä siitä, miten ja millä suunnitteluvälineillä aluetta kokonaisuutena tulisi kehittää. Kun maanomistajat ottivat visiotyössä aloitteen käsiinsä ja useat muut eri toimijat reagoivat laatimalla omia visioitaan, SASUI-hanke oli juuri päässyt käyntiin. Hankkeen näkökulmasta oli siis hyvin luontevaa tarkastella juuri Otaniemen suunnittelun kumppanuuksia.

## Kokokuva, varjosuunnitelmat ja Otaniemi OK

- Maanomistajien Kokokuva myös Espoon visio? =>
- Varjosuunnitelmat haastajina =>
- Fasilitoinnin tarve tunnustettiin =>
- Otaniemi OK turvasi rakentavan keskustelun



=> ks. motto 7: "Käytä kolmatta osapuolta tarvittaessa"

Suurten maanomistajien Otaniemeen laatima Kokokuva-visio otettiin Espoon kaupungin puolella – etenkin lautakunnassa – varsin lämpimästi vastaan. Välillä näytti jopa siltä, että Kokokuva toimisi eräänlaisena jatkosuunnittelun alustana. Alueen asukkaat ja opiskelija-aktiivit eivät kuitenkaan tyytyneet Kokokuvan esittämään visioon vaan ryhtyivät laatimaan omia vastasuunnitelmiaan. Väittelymäinen asetelma pystyttiin välttämään, kun Espoon kaupunki ja Aalto Built Environment Lab (ABE) sopivat, että Otaniemen suunnittelu toimii ABE:n pilottihankkeena, jossa Espoon kaupunki antaa ABE:n asiantuntijoiden koota osapuolet yhteiselle keskusteluforumille, Otaniemen "päätöksentekoteatteriin". Kuten seuraavissa dioissa erittelemme, päätös oli viisas.

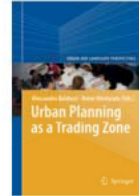
Hankkeemme viestit kiteyttävän huoneentaulun motto numero 7 kuuluukin:

*Käytä kolmatta osapuolta tarvittaessa:* Ulkopuolisten fasilitaattoreiden puoleen kääntymisessä ei ole mitään hävettävää. Monimutkaisten prosessien pyörteissä neutraalit ammattilaiset voivat vähentää turhaa vastakkainasettelua ja auttaa tuomaan keskusteluun uudenlaista asiantuntijatietoa. Hyvin fasilitoitu yhteistyö toimii myös oppimisprosessina kaikille osapuolille.



## Otaniemi OK & visualisointien voima

- Fasilitoijien visualisoinnit = ”trading zone”, jonka turvin kivuttomat kohdat paikallistettiin
- Kokouksissa askelia kohti kaavarunkoa / periaatekaavaa
- Tasapainon löytäminen hankalaa: haussa kattava visio ilman osayleiskaavaa
- Motto: *Kartoita laajasti keskeiset toimijat ja heidän intressinsä. Älä oleta asioita. Opi tuntemaan kohde ajan kanssa; kertarysäys ei riitä.*



Otaniemi OK -prosessin ytimen muodostivat osapuolten yhteiset tapaamiset. Ensimmäinen keskusteluforum järjestettiin joulukuussa 2014, toinen vuoden 2015 huhtikuussa ja kolmas marraskuussa. Ensimmäisessä tapaamisessa kaikki osapuolet saivat esittää oman käsityksensä Otaniemen keskeisistä linjauksista. Aalto Built Environment Labin henkilökunnan avustuksella myös asukas- ja opiskelija-aktiivien oli mahdollista laatia varteenotettava esitys, vaikka maanomistajille toki jäikin teknistä etumatkaa. Toisessa tapaamisessa fasilitoijien esityksessä paikannettiin Otaniemestä kohteita, joiden suhteen osapuolten näkemykset vaikuttivat olevan keskenään ristiriidattomia. Näiden kohteiden visualisointi toimi ”trading zonen” tavoin: löydettiin yhteistyön riittävät ehdot ilman että kaikesta olisi pitänyt saavuttaa syvä yhteisymmärrys. Sen turvin pystyttiin etenemään varsin sujuvasti kohti yhteistä visiota. Kolmannessa tapaamisessa Espoon kaupunkisuunnittelijat esittivät omia ajatuksiaan ”kaavarungon” laatimisesta esim. osayleiskaavan sijaan.

Koska niin prosessin omistajuuteen ja osapuolten keskinäisiin suhteisiin liittyi paljon institutionaalista epäselvyyttä, kumppanuuden rakentuminen oli tasapainottelua. Asetelmaa horjuttivat mm. asukkaiden ”Rantaraitti-kortin” käyttö sekä Aalto-yliopistokiinteistön (AYK) ”purkamiskortin” käyttö. Asukkaat olivat oppineet käyttämään joustavan prosessin tuomaa pelitilaa niin tehokkaasti, että uskalsivat vedota Rantaraitin säilyttämiseen (eli yleiseen etuun) sen sijaan, että olisivat siilipuolustaneet esim. merinäköalojaan tai rantaruovikkojaan. AYK puolestaan oli suorastaan vetää maton alta alueen tiivistämispyrkimyksiltä tuodessaan esiin, miten suuri osa sen hallinnoimista rakennuksista voitaisiin yliopiston näkökulmasta tarpeettomina purkaa esimerkiksi uusien asuntojen tieltä.

## Luottamuskysymykset keskiössä

- Syntynyt luottamus auttaa sietämään epäselvyyttä, vaikkei sitä karkotakaan
- Kasvokkaisten tapaamisten sarja antaa luottamukselle aikaa rakentua
- Luottamuksen horjuminen näkyi jarrutuksina



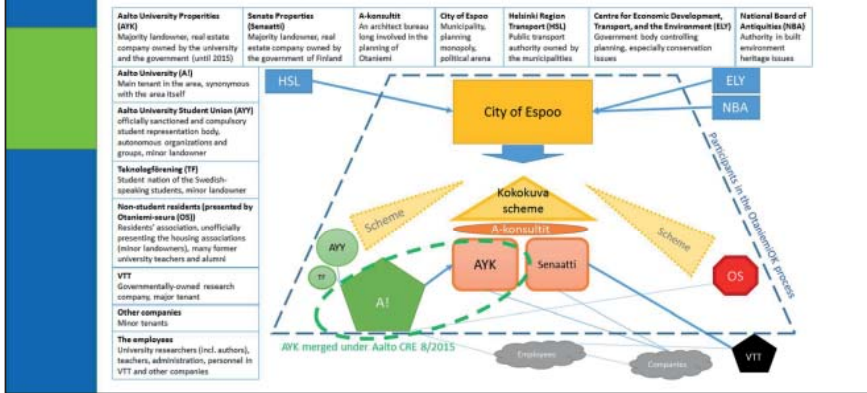
Otaniemi OK –prosessi oli menestys, koska se pystyi rakentamaan toimijoiden välille uudenlaista luottamusta. Yhteiset keskustelut auttoivat toimijoita sietämään epäselvyyttä ja luovimaan sen keskellä. Sopivin väliajoin – riittävän harvoin mutta tarpeeksi usein – järjestetyt tapaamiset antoivat aikaa sulatella ja suhteuttaa asioita, kun ei ollut pakko pistää kaikkea peliin yhden kokouksen yhteydessä. ”Facework” eli kasvokkaisten tapaamisten myötä edistynyt vuorovaikutus edisti luottamuksen syntyä: välitön mahdollisuus reagoida ja esittää selvittäviä kysymyksiä tuntuivat pikemminkin nopeuttavan kuin hidastavan prosessia.

Jarrun lailla sen sijaan toimivat luottamuksen horjumisen hetket. Esimerkiksi kun asukkaiden edustajat kokivat, ettei ehdotettu etenemistapa takaa sitä, etteikö heitä erityisesti kiinnostaville rantakaistaleille rakentamiseen palattaisi pian uudestaan, he ilmaisivat tyytymättömyytensä pala palalta etenemiseen ja uhittelivat vaativansa osayleiskaavan laatimista. Vastikään perustetun ACRE:n (Aalto University Campus and Real Estate Services) toimiin näytetään sen sijaan luotettavan varsin vakaasti. Aalto-yliopistokiinteistöjen työtä jatkava yliopiston kokonaan omistama yhtiö saa paljon tilaa toimia, kuten seuraavassa diassa tuomme esiin.

Muistuttaisimme myös, että jos ja kun kuvatus kaltaisia prosesseja käynnistetään, niistä pitää myös kantaa vastuuta. Mottomme tässä suhteessa on:

*Tunnista tavoitteet ja toimi niiden mukaan:* Kun pistät jonkun prosessin alulle, pysy kärryllä sen etenemisestä. Innostus vaihtuu nopeasti turhautumiseksi, jos osapuolet tuntevat, että heidät on osallistettu prosessiin, jonka etenemiseen ei ole sitouduttu.

## Moniääninen Otaniemi ja Espoo



Otaniemen toimijakenttä on ollut prosessin aikana jatkuvassa muutoksessa. Maanomistajien Kokokuva-aloite vei maanomistajat tuuliselle paikalle, jonne oli hankala jäädä makaamaan. Asukkaiden ja opiskelijoiden varjosuunnitelmat saivat Espoon kaupungin heräämään ja kokeilemaan uudenlaista keskustelevaa otetta. Myös ACRE:n aktivoituminen itsenäisenä toteuttajatahona vaikutti Kokokuvan marginalisoitumiseen. Espoolla on nyt hyvä sauma olla itse aktiivinen ja kokeilla jatkosuunnittelussa uusia strategisen suunnittelun instrumentteja, esim. ”kaavarunkoa”. Työ on kuitenkin tehtävä kieli keskellä suuta.

Prosessi on tuonut esiin myös Espoon sisäisen epäyhtenäisyyden, mikä on toki todellisuutta melkein missä kaupungissa tahansa. Neuvottelutilanteissa tuleekin olla tarkkana sen suhteen, kuka kenenkin ääntä käyttää. On myös pyrittävä välttämään sellaisten keskustelujen järjestämistä, jossa paikallaolijoilla ei ole esiintymisilleen riittävää mandaattia edustamiltaan tahoilta. Tähän liittyvät mm. seuraavat motot:

*Käytä poliittista arvovaltaa:* Hanki selustatukea etukäteen, mikäli mahdollista, koska se helpottaa neuvottelutilanteita.

*Neuvotteluvallaa sitä tarvitseville:* Varmista, että neuvottelijoilla on mahdollisuus ja oikeus puhua edustamansa tahon tai asian puolesta. Tee tapaamisten välillä kotiläksyt huolellisesti.

## Governance culture muutoksessa?

- Kaikki osapuolet ovat oppineet uutta prosessin kautta, usealla eri tasolla (etenkin single & double loop, ks. alkupuolen kaavio)
- Syvä oppiminen (Learning III) vaatii kriittistä reflektiota
  - Hybridisoitumisen tulee näkyä suunnittelun työkaluissa ja toimintatavoissa
  - Luottamuksella ei tule leikkiä
- Motto: osallistuminen ei riitä, tarvitaan yhteiskehittelyä

Jos Otaniemen suunnittelussa olisi tapahtunut ns. kolmannen tason oppimista (Learning III), se tarkoittaisi että prosessi olisi ollut osaltaan muuttamassa koko hallinnan/hallinnon kulttuuria. Tämä tarkoittaisi, että jopa itsestäänselvyyksinä pidettyjä mutta toimintaa rajoittavia toimintatapoja olisi pystytty tunnistamaan ja tarkastelemaan kriittisesti. Reflektion tuloksena nousisi esiin sisäisiä ristiriitaisuuksia, joiden tiedostaminen auttaisi myös suunnitteluviestinnässä.

Tulkintamme mukaan hallinnan kulttuurin muutoksesta on Otaniemen tapauksessa jonkin verran näyttöä sekä yksittäisten toimijoiden kohdalla että koko yhteistoiminnan / systeemin tasolla. Osapuolet pystyvät luovimaan epäselvyyden keskellä ja käyttämään löytämäänsä tilaa joko yhteiseksi hyväksi tai omaksi hyväkseen.

Tiivistämme tätä seuraavilla motoilla:

*Osallistumisesta yhteiskehittelyyn:* Täydennysrakentaminen on yhteinen suunnitteluprosessi. Älä siis mieti, keidät pitäisi kutsua osallistumaan, vaan varmista, että kaikki osapuolet pääsevät mukaan yhteiskehittelyyn.

*Oppiminen on kaiken ydin:* Kaikkien osapuolten on osallistuttava oman alueensa visiointiin, jotta varmistetaan sen toimiminen käytännössä. Pyri kohti uutta yhteisymmärrystä ja varaa aikaa oppimiselle!



## Täydennysrakentaminen ja kansalaisosallistumisen uusi pelitilanne



Taloyhtiöt maanomistajina keskeisessä roolissa, asukkaista rakennuttajiksi

Uudet toimijaroolit ja toimintatavat muodostumassa

Muuttunut tilanne ja roolitus edellyttää uudenlaista tukea taloyhtiöille, moni tuntui olevan ymmällään

Tunnista tavoitteet ja toimi niiden mukaan –  
hitaasti ja aikaa käyttäen



Tunnista yhteinen historia, keskustele siitä ja  
käytä aikaa kuuntelemiseen.

1970-luku: puu-Tammelasta betoni-  
Tammelaksi

2020-luku: betoni-Tammelasta  
monimuotoiseksi keskustakaupunginosaksi?



Kaupunki ei ole koskaan valmis, vaikka joillekin asukkaille se voi ajatuksissa sitä olla. Historiasta voi myös ammentaa esimerkkejä siitä, mitkä ovat olleet oman aikansa tavoitteita ja miten niitä ei nyt tavoitella.

## Kontti keskellä kylää: käytä kolmatta osapuolta tarvittaessa



Kartoita laajasti keskeiset toimijat ja heidän intressinsä. Pohdi tapoja joilla kuunteleminen järjestetään.

Joissain tilanteissa riippumaton osapuoli voi auttaa keskustelun avaamisessa ja uusien näkökulmien löytämisessä.

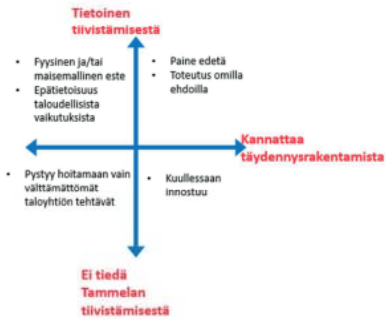
Osallistumis- ja vuorovaikutustapojen kirjo on hyvin runsas, niiden kokeileminen erilaisissa prosesseissa ja limittäin auttaa löytämään tilanteeseen parhaiten sopivat.



## Tiedosta toimijoiden erilaisuus ja näkemysten keskeneräisyys

Tammelan taloyhtiöllä erilaiset toimintamahdollisuudet

Ei kannata täydennysrakentamista



Täydennysidean toteuttamisessa taloyhtiöt eivät ole samanlaisia, toiset tuskastuvat hitaaseen ja monivaiheiseen prosessiin, toiset pitävät etenemistä liian kiivaana ja päällekkävänä.

## Visualisoinnit mielikuvituksen virittäjinä

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Mielikuva täydennysrakentamisesta ilman erilaisia visuaalisia vaihtoehtoja saattaa olla joillekin osapuolille kielteinen. Vaihtoehtojen näkeminen auttaa laajentamaan mielikuvia mahdollisuuksista. Konttitapahtumassa huomasimme tämän toimivan.

## Yksityiskohdista kokonaisuuksien hahmottamiseen

- Kartoita keskinäiset riippuvuussuhteet – varmista että myös muut tiedostavat ne.
- Pohdi esitettyjä ideoita kaikkien kannalta: mitä hyvää ehdotus voisi tuoda kokonaisuuteen?
- Miten pidät prosessin vaiheittaisen muotoutumisen (myös tulokset) näkyvänä kaikille?

Tammelaa tutkiessa huomasimme, ettei kyse ole yhdestä prosessista, vaan useista yhtäaikaista tapahtumakuluista, jotka helposti jäävät eri osapuolille näkymättömiin.

## Osallistumisesta yhteistoimintaan

Pohdi matkanvarrella oppimaasi. Kyseenalaista vanhat ja totutut toimintamallit. Älä oletta.

Lähtökohtana yhteinen ongelmanmäärittely. Tavoitteena ratkaisu joka hyödyttää kaikkia osapuolia.

Yhteiset tapahtumat tärkeitä, sekä formaalit että epäformaalit.

Pohdi, millaisia yhteisiä ongelmanratkaisukeinoja on mahdollista käyttää.

## Case Malmö - Avaimet menestykseen



- Malmön kaupunki omaksui kokonaisvaltaisen lähestymistavan kehityksen ohjaamisessa
- Kaupunki käytti yleisiä teemoja, jotka sisälsivät ja vaativat yhteisön kaikkien jäsenten sitoutumisen kehityksen ohjaamiseksi ja innovaatioiden kannustamiseksi – aluksi ympäristönäkökulmasta, myöhemmin laajennettuna sosiaalisesti kestävään kehitykseen.

- 1970-luvulla Malmö oli Ruotsin johtava laivanrakennuskaupunki. Telakan sulkemisen jälkeen vuonna 1986 kaupungin tulevaisuus oli epävarma. Yli 25 % Malmön alueen työpaikoista katosi vuosien 1990-93 välillä, ja 1993 työttömyys oli yli 16 %.
- Vuoden 2001 alussa Malmön kaupunginjohtaja Ilmar Reepalu ohjasi Västra hamnenin kehitystä tarkoituksenaan tehdä alueesta johtava esimerkki ympäristöystävällisestä, taajaan rakennetusta urbaanista alueesta.
- Kehittämisessä otettiin käyttöön kokonaisvaltainen lähestymistapa, jossa arkkitehti, kaupungin virkamiehet, osastot ja kehittäjät olivat mukana "luovassa vuoropuhelussa".
- Osallistujat muodostivat useiden kokousten ja esitysten kautta Laatuohjelman (yksinkertainen hahmotelma arkkitehtuurin, maiseman, energian, veden, jätteenhuollon ja luonnon monimuotoisuuden minimivaatimuksista), joka määritteli lopputuloksen vaatimukset.

## Case Malmö - Avaimet menestykseen



- Ympäristöystävällisen kaupungin kehittäminen vaatii yhteistyötä kaupungin, yritysten, yliopistojen ja muiden organisaatioiden välillä.
- Poliittisesti sitoutumaton, vuonna 2010 muodostettu Malmökomissionen oli keskeinen elementti kaupungin johdon ja sen tärkeimpien sidosryhmien yhdistämisessä kestävän kehityksen toimenpiteiden edistämiseksi.

- Kokonaisvaltainen kestävän kehityksen määritelmä sai aikaan esteettisiä ja sosiaalisia mahdollisuuksia, jotka sopivat yhteen teknisen suorituksen korkean tason kanssa.
- Professori Gary Austinin (University of Idaho) mielestä menestys johtui kaupungin johdon vahvasta panostuksesta omistajuuteen, tavoitteiden määrittelyyn ja suunnitteluun.
- Menestys on kannustanut kaupunkia aloittamaan vastaavan projektin Hylliessä sekä kunnostusprojekteja jo olemassa olevilla alueilla alkaen Augustenborgista (1998) ja laajentaen Rosengårdiin ja Lindängeniin.
- Talouskriisin seurauksena kaupungin ympäristöystävällisyyden painopistettä täydennettiin sosiaalisesti kestäväällä kehityksellä tarkoituksena vastata kaupungin väestön eriarvoistumiseen ja työttömyyteen liittyviin haasteisiin.



## Täydennysrakentajan huoneentaulu

- *Tunnista tavoitteet ja toimi niiden mukaan*
- *Käytä poliittista arvovaltaa*
- *Kartoita laajasti keskeiset toimijat ja heidän intressinsä: Älä oletta.*
- *Siiloajattelusta yhteisen hyvän tuottamiseen*
- *Käytä poliittista arvovaltaa: Hanki neuvotteluihin selustatukea*
- *Neuvotteluvaltaa sitä tarvitseville: Varmista, että neuvottelijat saavat puhua edustamansa tahon tai asian puolesta.*
- *Osallistumisesta yhteiskehittelyyn!*
- *Käytä kolmatta osapuolta tarvittaessa*
- *Oppiminen on kaiken ydin*

Kokosimme hankkeen keskeisimmät huomiot huoneentauluksi. Ks. Appendix 1.





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