

MORGENSTADT INNOVATION NETWORK

# THE FUTURE OF PUBLIC SPACE

Stuttgart 16<sup>th</sup> of September, 2019



# 1 INTRODUCTION

On 16<sup>th</sup> of September, over 60 members of the Morgenstadt network have convened in Stuttgart to explore the Future of Public Space.

**Dr. Alanus von Radecki** the director of the Morgenstadt network, opened the conference highlighting the unique qualities of Morgenstadt, which is able to have a systemic approach to innovation management and to cover a broad range of topics due to the diversity of the network members.

Concerning the future of public space, Dr. Radecki outlined that the public space connects many features and aspects of the sustainable city, which is increasingly dominated by two larger trends. Firstly, there is a functional differentiation, i.e. a rising number of tasks that public spaces need to fulfil which for instance can be seen in the multitude of technological applications and mobility solutions that are visible in the public space nowadays. Secondly, there is a tendency towards privatisation of public spaces, which challenges the notion of the public space as a public good. A solution for these pressing issues can be found in the efficient use and allocation of data, which will be beneficial for a better governance of the cities of tomorrow.

## 2 KEYNOTES

As the first of many engaging speakers, **Dr. Afshin Afshari** from Fraunhofer IBP demonstrated the interactions between buildings and the microclimate of a city. Therein, he highlighted the differences between green roof, cool roof and PV, which all provide means to tackle urban heat islands, as heat events will become more and more frequent in the future. Mr. Afshari outlined how the benefits of the respective systems depend on the baseline albedo, if the albedo was low at the beginning due to a dark surface, then all configurations can bring about benefits. However, as a result of life-cycle assessments it could be established that green roof and PV are preferable to cool roofs from a global warming perspective.

*"Heat events will become more and more frequent, that is now a given."*

Following this, **Günther Wenzel** from Fraunhofer IAO, elaborated on the future of building sites in the cities of tomorrow and highlighted that construction sites will soon become a permanent feature of cities, since they are constantly being (re-)developed. This raised the question of how citizens will be able to bear with this situation and how they would like to live with it. To this end, the project FUCON.digital strives to develop new planning tools, which are able to deal with digital parameters. Furthermore, it attempts to increase efficiency in the building industry and its value chain and aims to reduce political barriers for a digitalised building sector.

*"Only 70% of buildings can be used, 30% are constantly rebuilt."*

Subsequently, **Dr. Iris Belle** from Drees & Sommer shared valuable insights in her keynote "Digital Districts – the blue way", in which she outlined that the systems of a city are becoming increasingly complex in their working, which is why integrated planning methods are absolutely necessary nowadays. The collective goal is therefore to understand the smart city as systems of smart assets and networks. Prominent use cases of Drees & Sommer are office/co-working spaces, facility management as well as parking spaces and mobility hubs. Furthermore, Drees & Sommer has developed a technical masterplan which contains a seven step method for integrated planning. This method has already been successfully applied in the cases of Viertel Zwei Vienna and the Springpark Valley in Bad Vilbel. Dr. Belle emphasised especially the importance of goal and strategy setting, a feature that is often not addressed thoroughly in planning processes.

*"Data ethics is a challenge we have to deal with now in order to be prepared for the future."*

Providing insights from the city level, **Veronika Kienzle**, the district director of Stuttgart Mitte, delivered a thought-provoking keynote dealing with "Participation formats for the revitalisation of inner-city spaces using the example of the state capital Stuttgart". Ms. Kienzle criticised that public spaces are often considered as leftover areas that are dominated by inner city traffic. To revitalise unused and neglected spaces many civil society initiatives have been founded in Stuttgart which are supported by the city. Among the supporting tools are funding programmes and professional consulting for district developments and neighbourhood initiatives.

*"Public spaces are spaces where democracy is created and lived."*





In his keynote about smart supply systems, **Gerhard Stryi-Hipp** from Fraunhofer ISE discussed smart city challenges and requirements for supply structures. Mr. Stryi-Hipp elaborated on the need for integrated, interdisciplinary technical solutions which are based on an optimised mixture of renewable energy sources and related technologies that are adapted to the local conditions. Further requirements include new planning methods and tools, which make use of modern ICT technologies and technical innovations on the system level.

*"Infrastructure, which is installed today, must fit to future needs and must enable the introduction of new technologies."*

**Claudius Schaufler** from Fraunhofer IAO elaborated on the Fraunhofer IAO study – AFKOS -, which deals with the potential of autonomous driving in urban contexts. Mr. Schaufler outlined the multitude of benefits that come along with autonomous driving, such as a reduction of parking space that could open up new uses for the public space. However, currently there are many obstacles in the way of autonomous driving solutions, as described in the AFKOS study: there is a focus on implementing individual mobility solutions instead of shared systems, car manufacturers have to adapt their business models to make shared use more attractive, and many studies dealing with autonomous driving focus on different contexts instead of city traffic. The findings of the AFKOS study therefore provide decision-makers in the spheres of local administration and the business community with evidence-based information on which to define their strategies and targets for tomorrow's world of mobility.

*"With the rise of autonomous driving needed parking space could go down to 7%."*

Consecutively, **Dr. Maria Bernard-Schwarz** from the BERNARD Gruppe showcased traffic monitoring systems for public spaces of tomorrow. The in-house developed sensor system is an intelligent optical system that is able to obtain the current status on roads and makes the information directly accessible. This innovative technology has a variety of use cases, ranging from traffic and transit supervision to the identification of occupied and free parking lots. Due to its simple assembly, low need for data storage capacity, real time information and GDPR compliance it is an efficient tool for cities to enhance traffic oversight and thus establish informed traffic decision-making.

*"Dynamic parking systems guides road users to available spots as well as indicates changes to parking capacity prematurely."*

To conclude the morning session of exciting keynotes, **Willi Wendt** from Fraunhofer IAO illustrated perspectives and future strategies for urban development from a data governance perspective. Very short innovation cycles are increasingly becoming problematic for cities. Thus, from a city administration perspective, it is important that digitalisation becomes more demand driven instead of technology driven. To this end, Fraunhofer IAO aims at understanding and strengthening the opportunities of the interaction of digital and non-digital, analogue methods and tools. Among the current projects, Mr. Wendt highlighted UNaLab, Digitalakademie BWL, Smarter Together, Smart Urban Services, the project Zukunftsschau München and Morgenstadt: City Insights, which are all aiming to shape smart cities and districts of the future towards sustainability and future viability.

*"Digitalization does not make the data we collect better. If the data you collect is bad, its digital version will be bad, too."*

### 3 MORGENSTADT CHALLENGE WORKSHOPS

The aim of the Challenge Workshops was to bring together the perspectives of representatives of cities, companies and Fraunhofer Institutes in order to develop concrete and – above all – addressable challenges of urban systems in the five areas of "Smart Supply Systems", "Mobility", "Smart Governance", "Urban Design" and "Data & Digitalisation". On this basis, possible solutions were devised and discussed in a co-creative design thinking process. The focus, however, was on the precise definition and understanding of the identified challenge in order to be able to address it more extensively and concretely within the framework of the "Future City Innovation Programme" (FCIP). The Challenge Workshops therefore generate added value in the form of an exchange of knowledge and perspectives on their own, as well as being the first prototype event for the FCIP.

Within the framework of the "[Future City Innovation Programme](#)", the challenges presented below can be further explored and addressed in more concrete terms.



## 3.1 URBAN DESIGN: CREATING PUBLIC ENGAGEMENT TOOLS

### The Broader Issue – Definition & Understanding

- "How can one design public spaces that are resilient, easy to maintain and enhance liveability?"
- The problem must be solved for city administrations, as they are tasked with public space design.
- Inefficient allocation of funds, lack of understanding of externalities, city density/lack of space, lack of a model for a participation-based public opinion gathering tool inhibit addressing the issue.

### Concrete Challenges:

- Creating free-of-charge public spaces, especially in financing them and the equity questions that arise as a result
- Preserving and promoting green space, with respect to green roofs, urban farming, and ensuring affordability
- The cleanliness and maintenance of public spaces, waste management, and the impact on usability and well-being

### Observations

Regarding the challenge, the following observations have been made by the participants of the workshop:

- There is a lack of trust in the co-creative process by citizens and administration.
- Certain groups (example: commuters) may feel less strongly about public spaces in general. In addition, certain areas may lack local leadership.
- Solutions must be tailored to unique issues faced by a district. We need a framework for uncovering those problems and addressing them.
- It is important that frequent users of a surrounding space feel connected with a sense of pride and identity to that space. People prefer spaces they feel a connection with and ownership for.
- Guidelines are often not followed—there is a need for evidence-based design.
- There is a lack of communication between departments on the city level, wasting potential synergy benefits.
- We may need a way to evaluate the cost-effectiveness of extensive participation-based research, in order to convince a city of its importance

### Definition

In creating a persona, we decided to characterize the city planner who would be responsible for the design and outreach phase of the public space. Her name is Magdalena; she has a small dog (with large ears). She is an urban planner in Berlin, living close to the community of focus, but not directly within it. At 26 years old, she is more open-minded than some of her planning colleagues and intends to bring her new ideas to the city to change “business as usual.” While she is passionate about improving the public space and has a fresh understanding of sustainability challenges in planning, she is out of touch with the reality faced by lower socioeconomic classes. To further characterize our person of focus, she is vegetarian, enjoys the outdoors, votes “Green” (and, of course, believes in climate change). She is most accessible through Snapchat and Instagram, email, telephone number, online news/podcasts, YouTube advertisements and public transit (on which she brings her expensive bicycle) advertising. Her quote is: “Be the change you want to see.”

### Ideation

The participants ideated the following solution:

- On-site planning office with posted information and open doors for feedback.
- Tactical urbanism to see flexibility within a space.
- Find out where the people in the area gather. Organize an event there. Test guideline-oriented designs to gauge satisfaction with proposed solutions.
- Use a photo-based survey to allow individuals to indicate preferences, avoiding the open-ended questions that might result in unrealistic expectations.
- A local contest allowing citizens to propose ideas/solutions for the space.
- Present the most idiotic plan to mobilize people against it and suggest better ideas.

**Prototypes & Test**

The following prototypes were developed by the participants:

<b>An on-site planning office</b>	<b>Tactical urbanism in the form of moveable furniture</b>	<b>Present the most idiotic plan</b>
Allows work for city officials to continue while also encouraging authentic engagement with locals when they are available. The office does not necessarily mean that the design must be representative, but on-site research tends to lead to more genuine results.	Understanding how users would ideally utilize their public space is important. Ensure that chairs cannot easily be removed from the public space entirely and that there are additional avenues for feedback.	Has the potential to later be combined with another idea, such as a contest or event but will serve to initially pique interest. This prototype has strong potential for backlash and should be attempted carefully.





## 3.2 MOBILITY: MANAGEMENT OF SPACE IN THE CONTEXT OF MOBILITY

### The Broader Issue – Definition & Understanding

- The definition of the challenge started with a discussion, which led all participants to the common question: “Who uses public space and who decides to whom belongs this space?” The main issue of this topic was identified as the urban agenda which is often full of things which are important but not necessarily urgent to solve. The problem of quality of life is often overseen in the context of competition for space in the city and the issue of urban mobility only inhibits it.
- The problem should be solved not only for one group but for various social groups who have the same right to use a certain amount of public space. These people often include those in between: they want to have liveable areas, but at the same time they want to have enough parking spaces. On the other hand it is also the problem of municipal administration who is the direct manager of the above mentioned public areas.
- The space itself or its limited number inhibits the challenge.
- Limited amount of space is available for use and only conditional expansion possible.
- New mobility offers which impact is hard to predict are changing the utilisation of public space.
- Old transport infrastructure vs. Costs and limited resources.

As a part of this broader issue, the following specific challenge is going to be tackled: *How can area control and management processes be (efficiently) adapted to actual requirements?*

### Observations

Regarding the challenge, the following observations have been made by the participants of the workshop:

- Participants struggled with the solution’s core direction: whether it should be technology-based solution or legislation/governance-based solution.
- The “generation gap” question was also mentioned as the supporting fact: in the city are too many people and some care only about their grandchildren, and some are career-oriented and want to move from point A to B as fast as possible.
- What is the process of the solution finding for our particular case: is it just a process, or a more flexible dynamic process?

- People who want too much in the city are the part of the challenge. At first they want to see as much as possible new mobility offers, and afterwards if something went wrong they want to ban them and get rid of them.
- Municipalities and representatives are communicating too long on the use of spaces in cities.

### Definition

In order to ideate first solutions to address the challenge, the participants developed a persona, i.e. a fictive person which should accept and use the solutions. The participants agree on the following persona:

#### *Erica Mustermann*

- 37, works as a lawyer (assistant), mother of 2 kids.
- Lives in München-Ismaning and commutes to Pollach by car every day.
- She listens to podcasts in her car, goes for a walk in the nearby forest pretty often and likes to check new food places in the city.
- She uses Instagram and Facebook.
- She is passionate about innovations in her daily life.
- Quote: "I am simply not satisfied with the mobility options available."

### Ideation

The participants ideated three different ways of addressing different aspects of the challenge.

- Flexible zoning of all mobility offers in the city.
- Bike sharing as a last mile option + Cargo pedelecs around the city.
- On-demand shuttles.
- Improvements to bicycle infrastructure (such as lightning).
- Give access to existing data (for possible improvements).
- Data collection app with sustainability analysis.

### Prototype and Test

#### Feldtest App

- Gives access to the story of your trips and analyses the travel pattern of the user.
- Proposes an optimal way using all mobility options available.
- Includes sustainability analysis of the trip and utilizes all data available from the city.



### 3.3 GOVERNANCE: CREATING LEGITIMACY OF & TRUST IN PROCESSES OF URBAN DECISION-MAKING AND ADMINISTRATION

#### The broader Issue – Definition & Understanding

- The governance of cities is becoming increasingly complex in three aspects: the negotiation and consistent pursuit of common goals (vision); the inclusion of all social milieus in processes of information, planning and decision-making (participation); the overcoming of uncertainty and complexity in decision-making and organisational processes through data-based ICT technologies, which are often viewed critically (information and organisation).
- These challenges are faced by the citizens (participation and trust) as well as the employees of municipal administrations (organisation) and municipal politics (decisions).
- This challenge of urban complexity consists of three individual challenges: 1. deficiencies in communication culture and quality (misleading/incomplete/late information; "black box" administrative processes); 2. Difficulties in understanding complex interrelationships (facts vs. opinions; "experts" vs. "laymen"; difficult to predict implications of decisions); 3. declining trust (in digital processes/systems; in representation by decision-makers, etc.).

As a part of this broader issue, the following specific challenge is going to be tackled: *How can the legitimacy of & trust in processes of urban decision-making and administration be enhanced?*

#### Observations

Regarding the challenge, the following observations have been made by the participants of the workshop:

#### General Observations on the Challenge:

- (Urban) societies are currently often divided at opposing ideological points of view. At the same time, there is the assumption that absolute consensus must be the goal, which makes it difficult to reach agreement on imperfect consensus (since groups of people do not see their views adopted). Legitimacy and trust are often personal - you trust a person because they appear to be of integrity.

### **More Specific Observations on the Challenge:**

- Decision and organizational processes are usually poorly communicated → black box problem. Decisions etc. are therefore often seen as arbitrary, which can lead to rejection.
- Participation is unbalanced (rather older, well-educated people etc.), they mainly inform themselves. Other groups are excluded.
- Therefore opinions dominate the discourse, and rather less possible facts.

### **Definition**

In order to ideate first solutions to address the challenge, the participants developed a persona, i.e. a fictive person which should accept and use the solutions. The participants agree on the following persona:

#### *Jacqueline*

- 24 years old, trained in media design, now does "something with media" and is a modest influencer. She lives in Frankfurt Niederrad.
- What is important to her: J. is a Digital Native as well as an influencer-to-be, therefore followers and likes are important to her. She is very interested in clothes etc., she also blogs about it. "Someday" she wants to start a family.
- More details: She suffers from chronic shortage of money. Her main source of information are social media channels (Facebook etc.). She is politically indifferent and therefore easy to influence and above all: easy to outrage. She is an active multiplier through retweets, etc.
- Touchpoints: You can reach J. via social media. She does not consume Television, newspapers etc.
- Quote: "If I want to know something, there's a Youtube tutorial!"

## Ideation

The participants ideated three different ways of addressing different aspects of the challenge.

### Information - through strategic social media support

Citizens are provided with constant social media coverage in order to keep them up to date on municipal decision-making processes, projects, etc.:

- Storytelling, embedding in larger contexts.
- Regular updates.
- Personal Explainer, a person who achieves recognition value and trust through frequent presence - perhaps an influencer?

### Participation – Participation via social media

Social media channels enable citizens to participate (surveys, votes, etc.) in processes and projects relevant to the city.

- Incentives through nudging and benefits, e.g. coupons, goodies, etc.
- Advertising through multiplier function of influencers → Use integrity.
- Lottery to select random citizens for participation procedures → variance.

### Alternatives to current Social Media

There is a need for alternative futures and positive role models. But currently there is too much orientation towards (superficial) influencers with dubious information bases

**As an alternative:** integer alternatives to Instagram, Facebook, etc. Less superficiality, more content. Turning away from the logic of current social media. Use of this alternative social media by public institutions, etc.





### 3.4 DIGITALISATION: IT USABILITY VS. COMPETENCIES

#### The broader Issue – Definition & Understanding

Digitalisation requires a broad set of data and media competencies among cities (and their administrative bodies), as well as citizens. Both parties do not yet possess those competencies. Whereas city administrations often experience a fear of transformation due to a lacking failing culture, citizens are often afraid to share their personal data with officials due to cases of data abuse. Apart from that, silo- thinking and budgeting are further issues that inhibit digitalisation in cities.

As a part of this broader issue, the more specific challenge IT usability vs. competencies of citizens is going to be tackled in the following.

#### Observations

Regarding the challenge IT usability vs. competencies of citizens, the following observations have been made by the participants of the workshop:

- There are many different IT solutions but no standardised solutions.
- Citizens are suspicious of authorities' data competencies which inhibits their willingness to share data.
- General lack of knowledge about potential digital competencies, attempts to educate a few employees, often responsibilities are denied within departments and people are rebuked to other departments.
- People without media and data competencies are nevertheless making use of data and interpret it (e.g. via social media).
- Data should be processed automatically, so that people do not have to become data literate
- City Administrations need a "licence to fail".
- Transfer of models to existing software is poor.

#### Definition

In order to ideate first solutions to address the challenge, the participants developed a persona, i.e. a fictive person which should accept and use the solutions. The participants agree on the following personas:

*Kevin, 14y, Pupil, Stuttgart*

- Characteristics: Cool kid, smokes, skateboarding
- Parents live from unemployment benefits
- Touchpoints: Smart Phone (Tinder, Youtube, Snapchat, Twitch)
- Quote: "Leider geil", "Dumm wie Brot und stolz drauf".

*Erika W., 80y, Bärenklause-Kautzsch*

- Characteristics: Former professional wrestler, likes hiking, meeting friends, gardening, meeting grandchildren
- Touchpoints: Radio, E-Mail
- Quote: "I am always on the road". Ideation

### Ideation

The participants ideated an app, which could connect people with digital competence (like Kevin) with people with need for digital competence (like Erika). The app could have the following functions and benefits:

- Twinning model for digital competencies/ participation
- Tinder Model: Supply                  Demand
- The state/ municipalities will save money
- Digital inclusion of elderly people can be achieved

### Prototypes and Tests

The participants developed a first, simple draft of what such an app could look like. Erika und Kevin could connect via a tinder-like matching system, which would linke people looking for digital competencies and people offering digital competencies, for example:

*Role: Offering Digital Competencies*  
(what Erika sees)



*Kevin, 14*

Touchpoints: Youtube, Tinder, Snapchat, Twitch  
Can be reached by public transport

*Role: Looking for Digital Competencies*  
(what Kevin sees)



*Erika, 80*

Touchpoints: Radio, E-Mail  
„I am always on the road“



### 3.5 SUPPLY SYSTEMS: “ENERGY ISLANDS” AS INTEGRATED LOCAL ENERGY SYSTEMS

#### The broader Issue – Definition & Understanding

- Cities operate real estate development themselves.
- Cities give the real estate development to private companies.
- How can future-proof and efficient profits be generated with energy?

There are various technology options, but there are severe know how-deficits, which lead to unclear objectives and therefore unclear procedures.

#### Observations

Regarding the challenge, the following observations have been made by the participants of the workshop:

- Close cooperation of the people involved is very important.
- Participants “speak different languages” and pursue different goals.

#### Definition

Due to time issues, no persona was created.

#### Ideation

The participants ideated two different ways of addressing different aspects of the challenge.

- H 2020 Project (LC-SC3-ES-3-2018-2020) - Integrated local energy systems can be used to create economically attractive conditions to boost local energy sources and activate local demand-response. Innovative approaches, for example based on Renewable Energy Communities, in line with the recently adopted Renewable Energy Directive (EU) 2018/2001 can result in attractive business cases for local investments in smart integrated energy systems with weakly or non-existing grid connections. At the same time, decarbonisation can go hand-in-hand with the improvement of local air quality and citizens’ engagement.
- Energy Islands - By implementing a set of interconnected projects, the Smart Islands programme aims to cut electricity bills by 40%, meet 40% of energy demand through renewables, and see electric and low-carbon cars make up 40% of vehicles.

#### Prototype and Test

No prototypes have been created. Instead the ideas from the “Ideation” were illustrated on a poster.

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