Smart City Dialogue 2019
13th Federal Congress on National Urban Development Policy
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Foreword

Anne Katrin Bohle, State Secretary at the Federal Ministry of the Interior, Building and Community

Digital technologies are omnipresent. They are in use in almost every area of local government administration – But does this use alone make a Smart City?

Technologies are often simply used in parallel, and seldom provide a targeted response to public policy considerations. The question of how technologies can and should affect public policy is often neglected. It is therefore down to local governments to think beyond individual technical applications to make sure we can achieve our urban development objectives. We are gradually starting to see how digital technologies and their usage shape the public space. Online retail is already stiff competition to physical stores. The platform economy, perhaps most visible as bike and electric scooter rentals, is ubiquitous in our cities and has affected urban landscapes just as much as the change in innecity living space resulting from online holiday apartment rental platforms.

Not only that, but the digital revolution also poses new challenges for the world of work and the economy: how will location factors evolve as more people make use of mobile working and self-driving cars? How can we finance our local communities going forward? How does artificial intelligence affect democratic decision-making, and how do people and society deal with it? As the places where people live and work, local communities are the ideal launch pad for conversations about this with citizens and businesses. We must play an active role in shaping the digital revolution to reflect the public interest, so that we can safeguard our right to a free democracy and make sure that social cohesion remains strong. Cross-cutting strategies are essential when planning pilot projects; we need them to help us avoid potential pitfalls.

The call for tenders for smart city pilot projects launched by the Federal Ministry of the Interior, Building and Community is intended as a catalyst for the digital transformation of German cities. We want to achieve integrated urban development and share experience in a broad-based process of knowledge transfer that allows us to learn from one another. The 13th Federal Congress on National Urban Development Policy in Stuttgart was the launch event for this knowledge transfer.

This brochure is an element of knowledge transfer, too. It summarizes the content of the presentations given by Division SW III 2 - Smart Cities; International Urban Development Policy at this year’s congress. The numerous speakers at the events have submitted condensed versions of their contributions, ideas and positions in text format and provided them for publication. Our thanks to them and to all of the participants for the lively, constructive dialogue. This brochure is an element of knowledge transfer, too. It summarizes the content of the events at the Smart City Dialogue during this year’s congress.

We hope you find it an interesting and inspiring read and we want to keep up our dialogue!
1. 13th Federal Congress on National Urban Development Policy in Stuttgart

The 13th Federal Congress on National Urban Development Policy took place from 18 to 20 September 2019 in Stuttgart’s Wagenhallen venue. Its title was “Smart, supportive and resilient: Wie gestalten wir die Zukunft in Stadt und Land?” (Smart, supportive and resilient: what future do we want for our towns and cities?). The congress is the most important urban development policy forum in Germany. It is organized by the Federal Ministry of the Interior, Building and Community in conjunction with the Conference of German Building Ministers, the Association of German Cities and the German Association of Cities and Municipalities.

The three-day event provided policy-makers, planners, members of the research community and the general public from both Germany and abroad with a platform to discuss current urban development policy approaches and strategies and an opportunity to share ideas on the future design of urban and rural areas. The programme covered a broad spectrum of presentations, forums of ideas for the future, side events and excursions in the Stuttgart and Ludwigsburg area. Discussions touched on up-to-the-minute concerns such as affordable housing, health in urban areas, urban development policies focusing on environmental protection and the public good, and the latest findings in smart city development.

During this year’s congress, Division SW III 2, which is responsible for smart cities and urban development policy, organized two events as a contribution to the Smart City Dialogue.
The notion of the smart city refers to the long-term, integrative harnessing of the digital transformation at city, district and community level. The aim is to think beyond individual technical applications, looking at what our citizens really need. Digital technology is not an end in itself – it is a means for achieving our urban development goals.

The digital transformation poses similar questions for very different areas of Germany, Europe and the world. In this context, exchanging experiences and knowledge at national and international level can help cities and communities to develop sustainable digital strategies and to learn from successful solutions that are already in place. The challenge lies in transferring existing concepts and solutions to different contexts, observing and protecting specific local features and the unique nature of every place.

The following articles illustrate this balancing act and provide specific examples of the conditions needed for successful knowledge transfer and shared learning processes in the smart city context.
2.1. Smart Cities pilot projects – searching for beacons

Prof. Jochen Rabe, Professor for Urban Resilience and Digitalization, Einstein Center for Digital Future (ECDF), TU Berlin, Member of the Smart Cities Dialogue Platform

What is important in a beacon? We're not so interested in whether it is a thing of architectural beauty – what’s important is how bright it shines and how well it guides. With this in mind, the Federal Ministry of the Interior, Building and Community asks in its funding guidelines how to measure the effect that the first 13 pilot projects selected in autumn 2019 have on all of the other municipalities, and how this effect can be fostered and strengthened in the course of the projects. The exemplary nature of the pilot projects was already included in the selection criteria used. That said, the diversity and complexity of the projects described in the submissions encouraged the ministry to establish more precise fundamental criteria for this role model function. The criteria can be used primarily as guidelines for the success of the individual projects in their role as beacons for other projects. The new criteria are described briefly below and then discussed in more detail.

The urban digital revolution is the ideal opportunity for us to ensure the more intelligent, faster and more skilful intertwining of the social, natural, infrastructure and economic resources of our cities. This will allow the cities of the future to benefit from previously unused resources by recording them and making them available in real time. It is imperative that we shape and regulate these new possibilities so that they benefit urban society. Our city-dwellers are already keen and widespread users of these services. This represents a considerable contribution to the large-scale aggregating of real-time data, which has a strong influence on our cities and the systems we have used up to now for providing services of general interest. It is not local governments which control the considerable opportunities and risks posed by digital transformation, and in particular by using real-time data, but rather private industry. The momentum and scope of this challenge mean that individual local governments are not equipped to deal with it. There is an urgent need for the beacons to work together at all levels of government.

The criteria are divided into three main groups: urban foresight, scalability and portability.

The unprecedented pace and the huge scale of change brought about by digital technologies mean that future-proofing our local governments is more important than ever. Among other things, local governments must systematically address future scenarios and technologies and assess the consequences these will have on their areas of responsibility (5G and artificial intelligence have not been a factor in the pilot projects selected up to now). The urgency of day-to-day management and a lack of resources mean that urban foresight is implemented far too seldom and with no consistent system, yet it is essential if we are to remain capable of acting in the future. We must harness our better understanding of the rapid change in socio-technical systems so that we can steer these changes based on key central local government objectives (sustainability, climate change, demographic change, etc.). However, the responsive nature of the systems and their users increasingly nudge local governments away from the role of manager to the role of facilitator, which in
turn requires a significant cultural change at local government level. To bring this about, we must make sure we have the necessary skills, knowledge, resources, infrastructure and governance systems, and we must transfer them to modern innovation ecosystems. In doing this, we will need to foster cooperation between local governments which systematically responds to relevant topics and challenges linked to the urban digital transformation. Local governments will not be able to deal with all of the opportunities and risks on their own. Pilot projects which create new ways to share experience and develop knowledge and which foster new and interoperable solutions between pilot projects are therefore especially appealing. This is the only way to keep track of the power to transform our cities that the vast spectrum of digital developments offers and to make sure we are active in shaping the process, while at the same time avoiding disruptive developments or, where these are unavoidable, mitigating them by ensuring resilience. The influence of the digital revolution increases through networking and platforms. Local authorities can only cope with it properly if they also cooperate in networks.

“Death by pilot!”

All too often, promising pilot projects do not outlive the funding phase, a phenomenon known as “death by pilot”. Sometimes this is because such projects are not sustained by long-term probable future narratives, which means they are doomed to insularity. More often, though, the reason is that pilot projects are not designed from the start to be made permanent and scaled up if they are a success. Pilot projects are too frequently driven purely by technology; the projects do not reach
the level of maturity they would need to exist in the long term and on a larger scale and to meet the specific needs of local governments. The nature of digital, networked systems requires local governments to find new types of collaboration with private industry – local governments alone have neither the resources nor the skills to develop and operate large-scale IoT systems, for example. It goes without saying that responsibility for the public functions involved in providing vital services must remain independent and flexible. The Smart City Charter of the Smart City Dialogue Platform therefore set out in 2017 that vendor lock-ins through proprietary platform solutions for local government tasks are not acceptable, and that such solutions must observe the basic principle of interoperability.

“There are two fundamental differences between urban development and the digital transformation: speed of development, and area affected. The digital transformation knows no administrative boundaries. It spurs on urban development with relentless speed. Urban development is mainly regional in focus. It is organized at local level, and is currently based mainly on long-term development cycles. These aspects reflect the nature of the processes, which nonetheless increasingly influence each other. We must create the conditions to understand and shape this necessary new relationship and to channel it into sustainable, climate-friendly, democratic and human-centred urban development. We don’t just want to be a pretty beacon for the other municipalities; we want to be the fuel that keeps the beacon alight.

Additional information:
2.2. Reciprocal learning

2.2.1. Knowledge transfer and portable digital solutions

Mónica Elizabeth Ledezma Padilla, Director for Innovation in Government of the City of Zapopan, Mexico, and Saúl Eduardo Jiménez Camacho, Director for Innovation in Government of the City of Guadalajara, Mexico, International Smart Cities Network

If we are to achieve the long-term digital transformation of our cities, we must foster a transfer of local government knowledge and experience at national and international level. Although this is universally accepted, we must also consider what requirements must be met if this knowledge transfer is to succeed. Alongside helpful structural conditions in the administrative organization, specific projects can also contribute to successful knowledge transfer.

Innovation in government as a separate local government department
The municipalities of Guadalajara and Zapopan in the federal state of Jalisco in Mexico both have a department for innovation in government. The department is responsible for developing and programming pilot software which can in turn be replicated by other municipalities and federal states. Digital solutions have been transferred frequently from one municipality to another since the department was established. Where digital solutions are replicated, the staff involved are responsible for solving any problems that emerge during replication and for ensuring the successful replication.

Citizen needs as the starting point for digital solutions
The key aim for both municipalities is to take citizen needs as the starting point when developing digital solutions, and to use digital technology to meet these needs or to solve problems. It is therefore extremely important to provide clear, precise information which is understandable and accessible for all citizens. Constantly striving to adapt systems to meet the needs of the public leads to an intensive learning process and necessitates cross-disciplinary cooperation.

In practice, current government agendas and political priorities are major factors in the actual implementation of digital solutions. The need to reach a consensus often means there is a long wait before projects can be implemented. The two local governments nonetheless consider it essential to adapt digital solutions to the needs of the people and to transfer these solutions. These processes call for teamwork, patience and dedication.

Additional information:

Free citizen consultation platform on urban development in the city of Guadalajara
https://www.visorurbano.com/

Climate-Smart Adaptation in Cities
https://tica.guadalajara.gob.mx/
Dr Stephanie Arens, Eva Borgmann (Südwestfalen Agentur), Karin Glingener (Arnsberg), Colette Siebert (Bad Berleburg), Birgit Rindel (Menden), Thorsten Kaufmann (Olpe), Jörg Radandt (Soest), Smart Cities Pilot Project

One for all – All for one
South Westphalia (SWF) is a regional association that has existed since 2007 of five districts (Soest, Olpe, Siegen-Wittgenstein, Märkischer Kreis, Hochsauerlandkreis) and 59 local government areas. The members of the association agree the region only has a future if all stakeholders work together beyond district boundaries. SWF, which is largely rural, economically strong but characterized by demographic change, compiled its “Vision 2030” in 2016 using a bottom-up approach. Following this, it created the implementation strategy “Südwestfalen - digital-nachhaltig- authentisch (DNA)” (South Westphalia – digital; sustainable; authentic). The region’s aim is to ensure there is a future for the next generation and to react to changing demands affecting housing, work and life. The central element of the project is empowerment to shape the digital transformation.

“Our Smart City approach: 5 for South Westphalia – digital; sustainable; authentic”

This approach was the basis for the joint regional application to be a Smart Cities pilot project. Arnsberg, Bad Berleburg, Menden, Olpe and Soest represent five local governments at the avant-garde of the digital transformation. The five emerged as pioneers in the field during the regional application process. Each of them has started work on a smart city strategy. They address complementary topics and are distributed broadly across SWF, allowing them to act as decentralized multipliers throughout the region. They will also be pioneers for a digital data strategy.

A smart city school for South Westphalia
There is a high degree of interaction in the region between questions and solutions in a number of local governments which are all at different stages
of harnessing the digital transformation in urban development. The region therefore plans to develop local, feasible strategies for building skills and implementing technologies in the field of smart cities which can serve as models. These projects are to be based on a shared framework and are to be carried out both in the region and for the region. “5 for SWF” explicitly aims to expand the smart city mentality to the region as a whole, bringing SWF into the future. The pioneering local governments intend to establish a “Smart City School” in South Westphalia to allow straightforward discussion and create an environment for building knowledge and skills. This will allow all of the local governments in South Westphalia to learn, for example, how to draw up a local smart city strategy in consultation with their citizens, and how to put the necessary measures in place. The project aims to ensure that existing best practices are followed, adapting them for SWF. In areas of life affected by the smart city concept where there are as yet no parameters, “5 for SWF” will compile new ideas and present them to the other local governments. The formats will include special events, invitations to the pioneering local government areas, excursions and workshops, in parallel with virtual documentation of the process, of success stories and honest “lessons learned”. As sixth member of the “5 for SWF”, the agency Südwestfalen Agentur GmbH will be tasked with establishing the Smart City School and organizing additional knowledge transfer among local governments. Südwestfalen Agentur GmbH is the regional development agency acting on behalf of the five districts and of the Wirtschaft für Südwestfalen association. It serves as a hub, coordinating the process among the pioneering local governments and ensuring knowledge transfer throughout the region.

Additional information:

https://www.suedwestfalen-agentur.com
https://www.arnsberg.de
https://www.bad-berleburg.de
https://www.menden.de
https://www.olpe.de
https://www.soest.de
Results of the live poll carried out during the Smart City Dialogue 2019, Wagenhallen, Stuttgart

How to improve knowledge transfer & scalability

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<tr>
<th>Answer Options</th>
<th>Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interdisciplinary mixed teams &amp; consultancies</td>
<td>47</td>
<td>52.81 %</td>
</tr>
<tr>
<td>Digital (nautical) pilots &amp; Smart City Schools</td>
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<td>25.84 %</td>
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<tr>
<td>Smart City Kiosks / City Labs</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>89</strong></td>
<td><strong>100.00 %</strong></td>
</tr>
</tbody>
</table>
2.2.2. Data protection and open data

Julia Manske, data governance and data protection expert, Mexico City, Mexico, International Smart Cities Network

The digital transformation of cities calls for a responsible approach to data on the part of the city administration.

Handling data responsibly in cities
City administrations must handle data responsibly. A lack of transparency and prudence in handling data can have direct or indirect consequences for citizens and can also damage trust in public institutions.

Up to now, topics like data protection have mainly been left up to legal departments. However, current developments in artificial intelligence, machine learning and de-anonymization show that we also need technical expertise if we are to understand the opportunities and risks associated with data capture and data processing. Cooperation between the public sector and private industry often brings with it the insistence on capturing as much data as possible, without accompanying discussions with citizens and experts of just what applications are actually useful. We must initiate a cross-disciplinary discussion of this approach and examine the question of how to handle data as an integral part of urban digital and data policy.

To achieve this, a practical training course and an online training module have been developed which are intended to help cities to address the question of a responsible approach to data on a cross-disciplinary basis as early as possible. Local governments in Mexico and Peru have already used the training options, which focus on principles such as transparency, data minimization, impact assessments and participatory design.

Additional information:

The training materials and the online training tool will be available shortly at the following address: https://www.climate-digital-cities.com/knowledge/tools-training/

Cities coalition for digital rights: https://www.citiesfordigitalrights.org/

Barcelona: General Principles of Technological Sovereignty: https://www.barcelona.cat/digitalstandards/en/tech-sovereignty/0.1/general-principles

Nils Gerken, Chief Innovation Officer, City of Solingen, and Dirk Wagner, Director of the Mayor’s Office/Chief Digital Officer, City of Solingen, Smart Cities Pilot Project

The question of responsibility

When we look at what heading smart cities should come under, the following questions immediately emerge: Is it part of IT? Urban development? City planning? Or is it considered a municipal utility?

Regardless of where we embed smart city issues in terms of organization, we must make sure that data protection and data security are two of the main pillars of any smart city infrastructure. Which department these issues are actually assigned to is incidental. It is not just about ensuring the technical security of systems and about staffing and organization questions. We are talking here about winning the trust of the citizens who live in a smart city, and who need to feel that their city is both liveable and secure.

Data security is fundamental to ensuring data can be protected by technology. For “new” smart cities, this means that the basic prerequisite for handling personal data, including when using new technologies, is data security. We should not be garnering our first experiences of a smart city using personal data. We have enough use cases already. The pilot projects are, by definition, use cases. The whole point of them is to try out and experiment with use cases, and to adjust them where necessary. We can only innovate by testing, by building prototypes and by learning from our mistakes. At the same time, we cannot do this to the detriment of data security or data protection, which means, again, that sensitive data must be excluded from trials from the start, and should only be used after a project has reached a certain level of maturity. During the pilot projects, these pillars should be taken into account alongside the actual project content. When doing so, we come up in particular against the question of whether we need to establish new critical infrastructure in the city, and if so, what that actually means.

The pilot projects should aim to develop shared, appropriate standards and perhaps even certification which would create portability of this essential building block to other smart cities.

In the administration, IT security standards were developed after the IT systems had been introduced. For smart cities we must develop these in parallel and establish them as an essential component. Citizen trust in urban infrastructure is at stake.

Additional information:
https://www.solingen.de/de/inhalt/mensch-sind-wir-smart/
Results of the live poll carried out during the Smart City Dialogue 2019, Wagenhallen, Stuttgart

Cornerstones of data management & open data

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<tr>
<th>Answer Options</th>
<th>Responses</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Privacy issues and public data management need dialogue</td>
<td>41</td>
<td>45.56 %</td>
</tr>
<tr>
<td>(Re-)anonymizing and data storage are key challenges</td>
<td>30</td>
<td>33.33 %</td>
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<tr>
<td>Checkpilots before scaling (side effects of AI)</td>
<td>19</td>
<td>21.11 %</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>90</strong></td>
<td><strong>100.00 %</strong></td>
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</table>
2.2.3. Digital participation

Digital solutions for local adaptation to climate change
The city of Bhubaneswar in north-eastern India is currently carrying out projects aimed at increasing digital participation by the population. These projects are part of the national strategies, implemented through Bhubaneswar Smart City Limited (BSCL). One example is the implementation of the global project “ICT-based Adaptation to Climate Change in Cities”, in cooperation with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. The goal of the project is for the city administration and citizens to share the monitoring of canals. It also aims to raise awareness among the general public of the importance of clean, free-flowing canals. The digital solution allows data to be collected and enables this data to be integrated into the smart city system in Bhubaneswar, facilitating long-term planning and the prioritizing of canals that require cleaning. The algorithm for this was developed based on criteria set out by the city administration.

Handling data at local government level
Digital participation and data exchange also require a responsible approach to handling data. This applies both to guaranteeing data security and to responsible data management, so that data generated and provided by citizens is protected. BSCL therefore started by working on its data policy at city level, so that it not only guarantees the security and the protection of data, but also helps ensure that data can be shared with a range of stakeholders and citizens for a variety of purposes. In cooperation with GIZ, BSCL also organize data protection training sessions to teach those in relevant posts within the city administration about responsible data management.

Additional information:

Smart City Mission India
http://www.smartcities.gov.in
Cities as we know them today can be described in a range of ways: based on settlement types, legal definitions, or sociological, cultural, functional, building-related, geographical or administrative characteristics.

The future of the city is shaped on the one hand by its historical development, and on the other by secular megatrends which, considered from a spatial and functional perspective, will have varying effects. I would like to highlight the effects of new types of communication and mobility, as these will be considerable. The digital transformation provides opportunities in this regard that have as yet barely been touched on. However, there are also risks, such as the digital divide and the loss of “analogue” jobs.

“The digital transformation must come from within society.”

Digital technology will entirely redefine cities as we know them. This will lead to a new assessment of space and time, which will require us to rethink the location factors we have taken as a given. In my opinion, up to now there has been little research into the spatial effects of the digital transformation.

The city of the future is to be smart, supportive and resilient. If these traits are to be the goal of our urban development strategy, then our cities need to be designed to meet the needs of their citizens. The city of Kaiserslautern, with its motto “herzlich digital” (digital at heart), places its citizens at the fore, urging them to help shape the city’s future. Kaiserslautern adopted its strategy for becoming a digital city in 2017, drawing up a roadmap which was approved in the city council in February 2018. The city, which prides itself on being digital at heart, uses socially responsible technology aimed at empowering residents. The digital transformation must come from within society and must be of benefit to it. The strategies and structures to be put in place were taken from the Smart City Charter.

Based on these, Kaiserslautern uses new forms of communication to enter into dialogue with civil society on how urban development goals can be achieved better with the new technological possibilities than without them. To be able to answer this question, the urban development goals must have been precisely defined, and it must be clear what technology is being discussed and for whom, how and where it is to be used. In Kaiserslautern, for example, we are holding an in-depth discussion of what benefits 5G technology offers, and whether it is better than 4G technology. Are there any risks? What urban development goals might I need this technology for? Is the autonomous driving of the future really autonomous, or is it simply automated? What does this mean for local public transport and for sustainable mobility? Does new technology bring progress with it, for example for an ageing city population, or are we just using the technology because of technological progress itself? We feel that these questions must be addressed first, and then the necessary plans should be drawn up and measures taken.
With our strategy of using the digital transformation in the service of people, we want to establish a compass based on our aims and values, to help us navigate to the smart city of the future. We also want other local governments in the network of cities to benefit from our experiences as a city which is digital at heart.

Results of the live poll carried out during the Smart City Dialogue 2019, Wagenhallen, Stuttgart

Most important questions of digital participation, inclusion & integration

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>How to motivate / urge citizens to participate?</td>
<td>22</td>
<td>29.73 %</td>
</tr>
<tr>
<td>How to enable citizens / build up knowledge?</td>
<td>39</td>
<td>52.70 %</td>
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<tr>
<td>How to build up supporting systems?</td>
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<td>Total</td>
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Additional information: https://www.herzlich-digital.de/
2.3. Four countries – four different approaches

2.3.1. Brazil

Eduardo Kaplan, Head of the Smart Cities Initiative, Brazilian Development Bank BNDES, Brazil, International Smart Cities Network

Brazil increasingly sees the use of information and communication technology (ICT) as an opportunity to find a pragmatic approach to challenges in cities, a goal which requires institutional innovation. Brazil’s local governments face a number of issues in this regard: a limited range of public services, little capacity within institutions, and restricted means for investment by local administrations.

"Most cities in Brazil are still organized in sectoral departments that usually think and work in silos. There is little sharing of data and knowledge about the use of new technologies. This makes cross-cutting cooperation and learning from one another more difficult."

“We need to have experiments.”

Many local governments in Brazil are working to implement smart city solutions without really being aware of the costs, but also the potential benefits, of these solutions. Experimental projects are necessary to increase this awareness and achieve widespread acceptance of the Internet of Things and other pilot projects. This would allow the cost-effectiveness of new technologies and public-private partnerships to be tested and assessed. The Brazilian development bank (Banco Nacional de Desenvolvimento Econômico e Social, BNDES) has therefore selected specific cities in Brazil to test new technologies and evaluate their use. During the test phase, the projects focused in particular on what the cities could learn about the costs and benefits of using IoT solutions. It is particularly important for a development bank to observe the whole implementation process and not just to assess the ultimate costs and benefits of its projects. This is the only way of really understanding how the city administration and civil society handle this technology, and how the solutions could be implemented more efficiently. In addition, the findings of the process are to be published and shared with interested parties around the world.

“The federal perspective helps to understand what we have in common in many cities and to prepare pilot initiatives.”

On top of this, most cities in Brazil are organized into sector-specific departments which tend to

Alongside institutional innovation, it is also important to rethink participation processes
for institutional innovation, it is also important to rethink participation processes for smart city projects. Brazil is therefore currently working on its own Smart City Charter. Based on the German example, the charter aims to provide a comprehensive strategy for smart cities in Brazil. The aim of the charter is to set out guidelines and recommendations for city administrations, companies (private industry) and civil society, with a view to sparking a dialogue that will speed up the process of learning from one another.

Additional information:
Brazil – Member of the International Smart Cities Network
https://www.smart-city-dialog.de

2.3.2. India

Kunal Kumar, Joint Secretary & Mission Director of the Smart Cities Mission, Ministry of Housing and Urban Affairs (MoHUA), India, International Smart Cities Network

The challenge facing urban planning in India is to abide by appropriate standards during planning and implementation, while focusing on citizen wellbeing. To ensure quality urban development in the future, the Ministry of Housing and Urban Affairs is pursuing a holistic approach that takes all of the dimensions of integrative urban development into account: social, economic, environmental, technical, innovation and governance. The ministry therefore initiates and funds a variety of development programmes providing financial help to cities and communities for the adequate provision of essential utilities such as water and sanitation. The programme’s main focus is on the use of technology-based digital solutions aimed at improving public services and the provision of physical infrastructure. In this context, the Smart Cities Mission (SCM) is a flagship project.

“When we say ‘digital’, we are talking about a trio of factors coming together. First, digital access: how do we ensure access for the majority? Second, applications and services: how do we provide better applications and better services for people who use digital technologies? Third, integration and skills: how can we work with people, lead them, and motivate them to use digital applications?”

Regardless of their level of development, India’s cities have begun developing intelligent, individual solutions which will promote inclusive growth and improve their citizens’ quality of life. The aim of making a city a smart city focuses on three main goals:

- Promoting inclusive projects that provide key infrastructure and improve quality of life for citizens.
- Promoting sustainable economic growth (implying improved quality of life for city inhabitants) and innovation.
- Promoting a clean, sustainable environment.
In developing intelligent digital solutions for tackling the challenges in cities, the aim is to create replicable models in a limited area that can then serve as an example for other aspiring cities.

“Technology serves as an instrument for the smart city, but it must never be the driving force or the goal of development.”

India’s Smart Cities Mission will help create examples that can be replicated both within and outside of smart cities. The aim is to foster the development of smart cities throughout the country. The Mission has identified key sectors that contribute to smart, innovative solutions within the project. These include the Integrated Command and Control Centres (ICCC), which help cities improve their planning and administration; the provision of intelligent infrastructure, for example in the fields of mobility, water and sewage management or sustainable energy provision; public-private partnerships (PPP); clean technologies, and renewable or circular resources to bolster environmental sustainability. The initiatives within the SCM will ultimately help to harness the full potential of technological innovation and smart ecosystems in cities, while focusing at all times on the benefits for society. Technology is a tool that will help in reaching these objectives, but it must never be the driving force or the goal of development. The responsibility for designing the objectives and the projects for the benefit of society lies with decision-makers from local up to national government level. Participatory instruments and processes are particularly important for this.

They ensure continuous feedback, strengthen dialogue and provide accountability.

Additional information:

Smart City Mission India
http://www.smartcities.gov.in

How can we describe the Smart Cities Mission India, and how do we achieve a smart city?

Just CLEAR IT

C Connected (to people, stakeholders, etc.) / collaborative
L Liveable (be part of the city, care for it, take ownership of good conditions)
E Efficiency / Economic Growth (produce more from less, optimize resources)
A Adaptability
R Resilience
I Inclusiveness (with regard to migration, demography) / innovation
T Technology / transparency / Trust
Results of the live poll carried out during the Smart City Dialogue 2019, Wagenhallen, Stuttgart

Technology is an instrument – not the aim of the process

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2.3.3. Finland

Outi Rouru, Senior Advisor in international relations for the city of Oulu, Finland

Seventy-five percent of European citizens live in urban areas which have often developed into digital innovation centres, such as the city of Oulu in Finland.

“We need to encourage our citizens to embrace the digital transformation”

Oulu is currently planning to revise its own smart city strategy. In future, the strategy is to provide solutions and answers to those questions affecting the welfare of our planet and the wellbeing of its inhabitants. Although cities rely on cooperation with civil society, and in spite of continuous progress and related investments, local governments still have difficulty encouraging citizens to embrace the digital transformation. One of the most important measures within the Urban Agenda for the EU’s Partnership on Digital Transition is therefore to empower citizens to use digital services. One example is the Digital Economy and Society Index (DESI), which is currently compiled within the EU. The index measures digital performance at national and local level.

“Finding channels for citizen involvement”

The city of Oulu also provides its citizens with a range of public channels to give feedback, make enquiries and submit suggestions for the digital transformation of their city. The city administration processes these submissions appropriately and can in turn use the channels to provide information on the implementation and status of suggestions in ongoing processes. The city also works to provide options that encourage business, research institutes and civil society to become involved in digital transformation processes. These options can be tested in pilot projects of up to six months. The learning processes involved foster digital innovation, and the results are effectively channelled into ongoing processes.

“Upscaling Digital Solutions in Cities”

In December 2019, Oulu will host the conference “Upscaling Digital Solutions in Cities” alongside the Finnish EU Council Presidency, as part of the Urban Agenda for the European Union. The event will be organized in conjunction with the Finnish Ministry of Economic Affairs and Employment and Ministry of the Environment. The event will focus on digital innovation that increases quality of life and sustainable development in cities while at the same time promoting economic growth.

Additional information:

https://www.living-in.EU
2.3.4. Germany

Sabine Meigel, Director of the Office for the Digital Agenda in the city of Ulm, Smart Cities Pilot Project

The aim of the pilot project funded by the Federal Ministry of the Interior, Building and Community is to develop strategies and solutions for future tasks in the city of Ulm in the areas “Growing city (resilient city),” “Transformation city (demography, society and structures)” and “Sustainability and climate action in the context of a circular economy”. Implementing the strategy is to be linked to urban development in a range of different neighbourhoods (existing, new and urban renewal areas) in and around the new transport hub of Ulm. The neighbourhoods face different problems and will change considerably in the coming years.

Implementation measures are based directly on the challenges facing the city or neighbourhoods and on specific future tasks. Systematic implementation is based on the bottom-up approach set out in the Leipzig Charter. The measures are intended to promote skills development (Fellowship Programme based on the model of Code for America and Planning Laboratory) and independent data storage infrastructure development, based on democratically legitimate rules. They are based on an urban prototyping approach. In the first two years of the strategy phase, the measures should make the strategy visible in the neighbourhoods. They are designed to be easily accessible. Phase two measures will be developed during phase one.

The following are cross-sectoral tasks: fellowships for the later founding of the planning laboratories, open planning tools for citizens and the administration, a data and service platform for storing own data, and own infrastructure.

The aim is to establish an urban planning lab along the lines of 18F in New York starting in the third year, following on from the creation of a fellowship programme similar to Code for America during the strategy phase in the first two years. This is to lead to the creation of an interdisciplinary team of programmers and planners who throughout the project can develop open source tools and a toolbox for planners and users in the field of urban development. The whole project represents a transfer to urban development level of the Digital Service Labs principle for implementing the Online Access Act. From the third year onwards, measures will be implemented with support from the urban planning lab for the entire territory. A digital twin will also be created to increase efficiency in maintaining infrastructure and to improve planning expertise for far-reaching decisions.

Additional information:
https://www.ulm.de/leben-in-ulm/digitale-stadt/ulm4clevercity
Results of the live poll carried out during the Smart City Dialogue 2019, Wagenhallen, Stuttgart

Citizens at the core! Dialogues should provide guidelines & recommendations

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Results of the live poll carried out during the Smart City Dialogue 2019, Wagenhallen, Stuttgart

Smart City concepts need institutional change and innovation!

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<td>2.25 %</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>89</strong></td>
<td><strong>100.00 %</strong></td>
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</table>
The Smart Cities pilot projects represent the Federal Ministry of the Interior, Building and Community’s first step in promoting a strategic approach to the new challenges and opportunities digital technology encompasses for urban development.

Dr. Nadine Kuhla von Bergmann dealt with issues related to digitization and urban development and analyzed the applications of the 13 model communities of the Smart Cities pilot projects.

How far along the way to becoming smart cities are German municipalities? In which areas can digital technology contribute to sustainable development? What structural changes are emerging from the use of digital technology in the municipalities?
3.1. Digital technology as a motor for sustainable, resilient cities

Dr Nadine Kuhla von Bergmann, founder and managing director, Creative Climate Cities, University of Applied Sciences Stuttgart

Statement 1: Smart Cities? Smart Urbanism!
Those local governments that have already embarked bravely on the journey to becoming smart cities can only say with limited certainty where the resources available to them now will get them in the future. It is therefore all the more important to look more closely at the processes and instruments that are currently available, to make sure that the journey is as sustainable and future-focused as possible, and to avoid any spur-of-the-moment decisions. We need "smart urbanism" – clever urban strategies and design processes which develop and connect digital and analogue instruments based on local resources.

Statement 2: Even now, digital technology is transforming our cities and our concept of urban systems.
New digital business models such as digital platform economies (e-scooter sharing) or, for example, the rapid increase in geodata and digital geoinformation systems (twin cities) already influence our perception of urban systems more than architects, planners and city administrations were ever able to.

Statement 3: Data sovereignty will determine the future provision of vital services.
Digital participation is increasingly important for our citizens. Data sovereignty and access to urban data are becoming the yardstick for democracy and the common good.

How well prepared are German cities for the digital revolution?
The Smart Cities pilot project funding programme of the Federal Ministry of the Interior, Building and Community promotes pilot projects which can successfully extend their digital strategies to cover a wider area and which take sustainability factors into account.

These digital strategies serve as the glue holding different master plans together and taking the manifesto of integrated urban development, a sort of Leipzig Charter for the digital age, to another level. According to Ms Kuhla von Bergmann, the local governments which won the competition designed digital strategies in response to urgent local challenges and successfully rolled them out in integrated urban development plans. The common characteristics of promising digital strategies are the authenticity of their measures and the fact that they are commensurate to local resources and finances. Ms Kuhla von Bergmann sees digital strategies and smart technologies that have been developed on the basis of new partnerships and that are devised to be particularly integrated as especially promising. As well as this, cross-sectoral implementation measures have brought new ideas of management committees and formats to the fore, such as smart boards, fellowships or the "Verschwörhaus" (House of Conspiracy) experimentation platform.
The use of technological solutions is closely linked to the aim of harnessing the digital transformation of urban development as a way to create skills. The idea behind this is that formats that have been suggested or successfully applied already support lifelong learning and the digital education of the urban population as a whole, encouraging the involvement of non-digital natives. According to Ms Kuhla von Bergmann, knowledge transfer is the core of any convincing digital transformation measures, and must extend beyond local borders.

How can we transfer digital transformation strategies? Local governments take very different approaches. Ms Kuhla von Bergmann is convinced that simply making the different, complementary solutions transparent would lead to the creation of a “Smart Cities Made in Germany” ecosystem.

Decentralized knowledge transfer systems are key for a learning system that spans local government areas. Ms Kuhla von Bergmann recommends setting up a national think tank for digital urban development which is neutral, multi-institutional and open. If the ideas created are to be scaled up, however, then we need to understand the conditions that lead to successful digital strategies. This could be, for example, in the form of a database of solutions collecting basic data and processes used by local governments.

The long-term aim of the funding programme could be a “deep learning” smart city ecosystem in which, by creating solutions databases and applying artificial intelligence, it becomes possible to transfer solutions on the basis of new options to combine integrated smart solutions.

Additional information:
https://www.creativeclimatecities.org/de/home-de/

Smart Cities Made in Germany – Action Areas
Smart Cities Made in Germany – Action Areas

Kooperation I:
- Brandis
- Naunhof
- Borsdorf
- Großpösna
- Belgershain
- Pathenstein
- Machern

Kooperation II:
- Arnsberg
- Olpe
- Menden
- Soest
- Bad Berleburg

Verkehr, Mobilität und Logistik

Digitale/IT-Infrastruktur zur Daseinsvorsorgung

Wohnen, Städtebau und Stadtentwicklung

Lokale Wirtschaft und Innovationskraft

Soziale Teilhabe und digitale Bildung

Klimafreundliche Energieversorgung und Ressourceneffizienz

Sektorübergreifende Verwaltung und digitaler Kompetenzaufbau

Digitale Bürgerdienste und Datenplattform

Wissenstransfer und Vernetzung
3.2. Overview: Phase 1 – Smart Cities Pilot Projects

http://www.bmi.bund.de/smart-cities
https://www.smart-city-dialog.de
3.3. Smart Cities Pilot Projects – rural districts, cooperation among local governments, small towns

- Anne Katrin Bohle, State Secretary at the Federal Ministry of the Interior, Building and Community
- Lars Prahler, Mayor of the city of Grevesmühlen
- Ralf Paul Bittner, Mayor of the city of Arnsberg
- Dr. Karl Döhler, District Commissioner of the rural district of Wunsiedel in the Fichtel Mountains
**Dr. Antje Grobe:**
How far along the way are you to becoming a smart city?

**Lars Prahler:**
A huge amount has changed in the last 30 years. We really are experiencing transformation. We have had a development instrument, an urban action instrument, and the first ever development purification plant. In terms of climate action, we have put in place the primary energy factor 0.21 in our district heating systems. As a city, we are convinced that an active approach to urban development is essential. And then came the digital revolution. So we sat down together five years ago to discuss what we as a city could do with the new digital technologies.

**Dr. Antje Grobe:**
The city of Grevesmühlen drew up a master plan at a very early stage. What exactly did it include?

**Lars Prahler:**
Some time ago, an inhabitant of the city wrote to me through Facebook and called on me as mayor to take action. My answer was, “Come on over and bring your friends, because I don’t have a clue about the subject.” And that was how the “Digitale Stadt” (Digital City) working group came to be. We looked at what we needed to do as the city of Grevesmühlen, and what we should do in relation to digital technology. The answer rests heavily on the general context in which the question is asked: Do you have broadband, or not? Do you have people in your city who are active in the digital world, online retailers etc., or are all your bakers still selling their wares in bricks-and-mortar shops, so to speak? And this resulted in a whole range of measures that we then consolidated. Right from the start, we knew that it wasn’t the mayor or the city administration or the utility companies or the joint authorities whose point of view counted. It was the citizens who mattered. Although our guests matter too, because Grevesmühlen is a fantastic city that is well worth a visit.

**Dr. Antje Grobe:**
You used the Digitale Stadt working group to create a huge network, including with Wismar University of Applied Sciences and with the utility companies. How did you go about it? Grevesmühlen is a really small municipality. How would you motivate others to move forward with the topic?

**Lars Prahler:**
The fact that we’re so small is a good thing. The promise to create a digital city is easier to achieve in a small city than a large one, in my opinion, because it is easier to come into contact with all of the relevant stakeholders.
Dr. Antje Grobe:
Mr Bittner, you are coordinator of the project “5 for South Westphalia” which, as the image shows, consists of a very large network. What is the main challenge, in your opinion?

Ralf Paul Bittner:
State Secretary Bohle already asked the key question in her introductory speech today: Are we already networked? Are we already connected? I think there have been very strong links between local government areas for centuries, but we don’t really see them any more. I think the digital transformation is an excellent opportunity to make these links visible again. Every municipality in South Westphalia has its strengths. We strongly believe that current trends such as growing nationalist tendencies or even Brexit, with all of their consequences, are the wrong way to go. We are of the view that local governments are stronger when they are connected in networks. So we joined with stakeholders from different fields to produce our Vision 2030, a document explaining the direction the region wants to take. We are a region with lots of jobs and (though not many people know this) lots of global market leaders. We want this to still be the case in 2030. The region is endowed with excellent recreational opportunities. It is a fantastic spot to live and work. In addition, the Regionale 2025 project is coming up soon. Digital, sustainable and authentic – these values describe the whole of the region. That is why we have applied for the project. So that the individual local government areas, from the smallest to the largest, can show off their strengths, but also learn from each other. Two-thirds of the population live in regions like this – they don’t live in large cities, but rather in rural areas, and I think we have lots of opportunities for knowledge transfer.
Dr. Antje Grobe:
As part of your “5 for South Westphalia” strategy, you want to introduce digital mentors and a digital, or smart, school. Can you explain both of these things in more detail?

Ralf Paul Bittner:
Local governments have always set the scene for interaction, going back many years, and we want to continue in that tradition. We need digital mentors whose expertise enables them to act as multipliers, approaching associations and approaching people on sports fields or pedestrian precincts. So we decided to integrate the two components. The Smart Cities School works in the other direction. We invite people to come and take part in projects and events that promote the transfer of knowledge to other local governments, which is very exciting.

Dr. Antje Grobe:
The rural district of Wunsiedel has a total of 17 local government areas. I can imagine that cooperation on digital topics would be very difficult there. How do you do it?

Dr. Karl Döhler:
Globalization has led to the loss of a third of our jobs and a quarter of our population. We realized that we can only tackle this problem by working together. So we created structures and alliances between local governments. The mayors of the individual local governments joined one after the other, and are committed to working together to address structural change. So far, we have mainly carried out regional projects with universities, the Fraunhofer Institute and with other higher education institutes, etc. within the local government areas. We therefore want to create a basis that will enable us as a region to approach structural change and to use digital technology to help us keep pace with it. We have several ideas of how to do this. For example, we know that 55 per cent of citizens in the region are already over 60, which means that we need to act now in terms of medical and health care. We used to have lots of shift workers in the region. This figure has fallen over the years, which means that today, fewer shift workers use public transport services. We therefore have to look at the topic of mobility and assess the problems facing us in our rural areas.

Dr. Antje Grobe:
You also hold regular meetings at rural district level in which mayors can discuss current issues with their network partners. How do you organize that?

Dr. Karl Döhler:
It is important to develop trust in one another and not to discriminate against anyone. A structure and/or regular meetings are key. A region’s general development will be better if each individual area can also develop. It took a number of years to create the necessary organization and structure. I would once again like to say thank you for the opportunity to be part of the Smart Cities Pilot Projects. One thing is clear: if a region loses a third of its jobs and a quarter of its population, then its coffers are empty. This project means that we finally have access to the financial resources we need to improve urban development in the region. We can now see a future again in which we can manage structural change to ensure equality for all.
Dr. Antje Grobe:
How would you explain to the larger cities or to our beacons that the Federal Ministry of the Interior, Building and Community focused on rural areas when selecting the pilot projects?

Anne Katrin Bohle:
It isn’t often that I receive as many calls from disappointed applicants as I did in this project. We had 100 applications, some from fairly powerful large cities. Our definition of large cities is cities with more than 100,000 inhabitants, and Germany has several of those. It was key for us that the project offered the opportunity to learn from one another. It therefore makes sense to create groupings that enable a comparison. We created four categories. And in case anyone thinks we based our decision on the outline of Germany, I can assure them that it is purely coincidental. We had every application checked by two independent experts. To make things easier for ourselves, when the jury sat we divided the applicants into the categories of large cities, medium-sized and smaller cities, and rural communities. In addition, cooperation among local governments was categorized and assessed. This aspect was something I was very keen to include. We knew that we could select around ten projects and in the end we settled on 13. We relied on the quality of the expert opinions when making our selection, and we requested an additional, comprehensive explanation of what made the individual applicants stand out, regardless of the size of the city. The format has helped mayors, district commissioners and regions learn how to work with each other. One reason for including rural districts in the scheme was the structural policy component – how do we approach the urban-rural situation, what structural policy levers do we have for urban development? The rural district of Wunsiedel was selected for that reason, for example. And I stand by the decision. I would ask you, would it be fair if the money we are investing only flowed into large cities?
Dr. Antje Grobe:
What do you think are the key challenges that we face at the moment in rural areas? We already mentioned some: the ageing society, rural flight, problems with medical care.

Lars Prahler:
First and foremost we have to cope with a sense of pessimism that comes from poverty and age. I became aware of this during the workshops we held in Grevesmühlen. A whole lot of energy seems to go into asking cynical questions about why we’re bothering. I feel like it is getting more and more difficult to break away from this mindset. Secondly (and this is related to the first point), the success of a digital or smart city depends on its relevance to the population and the extent to which they are actually aware of what we are doing. This is something we have to tackle within the next five years and going forward. For example, we recently shared a photo on Facebook of me receiving a certificate in Berlin. One of the comments about the photo was: “Yes, but what about the pavements, will they ever be made accessible too?” Citizens use social media all right, but often as a channel for spreading cynicism. In addition, although people are active in the digital world, they don’t seem to realize that it’s important for a city to engage with it.

Dr. Antje Grobe:
How do you encourage citizens to embrace the digital transformation? You already said you have mentors who approach sports associations and go along to senior citizen social events to involve people in the process.

Ralf Paul Bittner:
We are still working on it. We have to be very honest, and say that we are still at the very beginning of a long journey. That’s why we are here, and that’s why we are so excited to have received this funding. We face a broad spectrum of challenges, which I think the mayor and the district commissioner could say a lot about. I have one particular example that concerns me, though. In my opinion, one of the greatest challenges is mobility. One day the master baker, or the owner of a small, family-run bakery chain, calls me up and says, “Mr. Bittner, I don’t know what to do. I can’t find any bakers to work with me. Most of them drop out of their training.” And I ask, “Why do they drop out?” And I hear the answer, “The bakery is so remote that it just isn’t profitable for the public transport companies to serve the region.” How can we ensure mobility so that the apprentices who have to be at the bakery at 4 in the morning can get there? The transport companies can’t provide a bus for three people. But maybe we could find a smart solution to the problem, let’s say by using an app that the apprentices can log into and enter their travel route. These are specific digital measures that we are launching and that have the potential to be extremely useful.
Dr. Antje Grobe:
What do you see as the key challenges, Mr Döhler?

Dr. Karl Döhler:
Mobility and health care provision are key challenges for us, too. It is important to think about how we can provide useful services to our population with the help of digital technology. Mobility, or public transport, is expensive for local governments. The question, then, is how we can provide public transport that is of maximum use to our population, on a limited budget. What would be the best design for an administration, based on e-government, if I have 17 local governments in my rural district? What is the most efficient way to connect all 17 administrations so that at the end of the day I can provide the citizens with more, for the same cost? We want to use digital technology in a way that helps those who are afraid of digital technology to see the benefits.

Dr. Antje Grobe:
The aim of the programme is to transfer knowledge. How exactly is that to be achieved, Ms Bohle?

Anne Katrin Bohle:
We will support the local governments during the process. They will be able to hold workshops, network meetings or similar events to get together and discuss their projects. We do not see the Smart Cities Pilot Projects as a classic funding programme. It is more of a one-off assistance action over a limited period of time. Future Smart Cities Pilot Projects will probably focus on different things. We may shine a spotlight on a single issue. Everyone is looking at mobility and public administration, but what about social or health care? Our first priority for this project is to further the common good.

Dr. Antje Grobe:
In an age of globalization and the digital global economy, how can local governments fund themselves and create their own added value? Is that part of your programme?

Lars Prahler:
The first thing we need is public infrastructure, by which I mean broadband and Wi-Fi networks, so that we are on a sound footing in the digital world. Once that is in place, local governments can make their municipality a desirable location with a viable future. It improves the municipality’s attractiveness both as a place to live and as a base for business. But local traders can also benefit, given that they offer certain advantages over online trade. Since small towns only have retailers, we have to support their marketing. They need Internet access so that they can market their products online and allow customers to reserve them, to be picked up the next day in combination with expert advice on the premises. I am confident that this can work; it has been reflected often enough in the trade tax.
Dr. Antje Grobe:
Have you already started thinking about how you could further strengthen the regional economy?

Ralf Paul Bittner:
To me, it’s all about social policy and about making people’s lives better. For example, I have started a regular, informal meet-up for companies, where local businesspeople can get together and discuss their needs and what we can do to support business. Their feedback is important. I think every mayor should do the same. Our neighbouring town had a local grocery store which had to close down after many years of trade. This affected the 1,200 inhabitants greatly, so they all got together and reopened the shop. It’s not just a nice project on an emotional level – it also shows that when they get the support they need, people can do a lot to benefit the community in which they live. This is a great example that I can imagine happening in other places too.

Dr. Karl Döhler:
We have a lot of family firms in which 50 per cent of business is exports. We talk to these companies about what is possible and how, and what infrastructure they need. The second aspect is the energy industry. Our utility companies and local governments have invested a great deal in renewable energy. Now we need to look at how we can regulate energy consumption and production within the region, and how we can organize it with the help of digital technology to achieve an affordable changeover to renewable energy.

Dr. Antje Grobe:
What will things be like for local governments, especially in rural areas, in 2030?

Anne Katrin Bohle:
I hope that local governments will work with us to develop ideas and to think about where there is room for improvement. I don’t want to see local governments waiting for whatever crumbs might come their way. I want them to evolve together and not waste money competing pointlessly against each other. I am looking for the highest possible level of smart self-sufficiency, while working together in solidarity, regardless of how small a community is.

Lars Prahler:
You come to Grevesmühlen in 2030, to the open-air pirate theatre event. You connect to the public Wi-Fi, if that’s still the technology that we’re using. Since you bought your ticket online two hours before the event, all the information about other things in Grevesmühlen you could do before the event will be sent to your mobile phone. So you get on the self-driving bus and are chauffeured into the town centre, where you buy a product that you chose in advance on your smartphone. However, you realize that it isn’t a perfect fit. The retailer advises you and in the end you buy a different product with a slightly higher profit margin. Since you are already in the town centre, you choose a tourist attraction you would like to see, and get all of the relevant historical information on your device. After that, you check how quickly you can get to the pirates open-air event, you find the quickest bus route and within ten minutes you are right back where you parked your car.

Ralf Paul Bittner:
I would like to think that by 2030 we will have grown closer together in South Westphalia, and that we will still consider ourselves a region. I hope that we will be thinking even bigger, and that in 2030 we will be happier than we even thought possible today. Our citizens will be confident of their future, confident of their administration and confident in their lives. This would mean that we had successfully managed the digital transformation and had overcome the problems that we currently have.
Dr. Karl Döhler: I hope that when we get to 2030, we will see that we have also taken care of social participation. We are aware that we have the highest average age in Bavaria. The question of how to bring about the digital transformation while making sure no one is left behind, especially our older citizens, is therefore key for us. I hope that in 2030, every single citizen who lives here will be able to navigate the digital world successfully.

Additional information:


City of Grevesmühlen: https://www.grevesmuehlen.eu/2019/09/05/grevesm%C3%BChlen-die-digitale-stadt/

Smart Cities Pilot Projects: http://www.bmi.bund.de/smart-cities
3.4. Smart Cities Pilot Projects – medium-sized and large towns and cities

- **Dr. Susanne Lottermoser**, Head of Directorate SW III and responsible for building policy, urban development and public building law at the Federal Ministry of the Interior, Building and Community

- **Prof. Dr. Gerhard Steinebach**, Chief Urban Officer of the city of Kaiserslautern

- **Dennis Weilmann**, Deputy for economic, digital and cultural affairs of the city of Wolfsburg

- **Dr. Gustav Lebhart**, Chief Information Officer of the city of Cottbus

- **Hartmut Hoferichter**, Chief Executive Official of the city of Solingen
Dr. Antje Grobe:
Mr Hoferichter, based on this image, can you give us more details on the Digital Smart City – 2030 project in the city of Solingen? I believe the project slogan is “Zukunft Willkommen” (Welcoming the Future).

Hartmut Hoferichter:
The image explains the development process that the city has been undergoing for a number of years. If the colleagues think back to the 8th Federal Congress on National Urban Development in 2014, which was held at the Zollverein former coal mine complex in Essen, we were already talking about the topic of smart cities back then. At that time, we all had different ideas of what the term actually meant. That was our starting point. At around the same time, as a city we looked at a number of smart city “building blocks” and started taking action in the fields of climate prevention and adaptation and of education, and most of all of governance. Even back then we were strongly aware of the importance of citizen participation and just how important it is to involve our citizens in the process. About three months ago, we approved an urban development strategy for our city centre. In early 2018, we developed a digital transformation strategy based on the numerous individual measures, and then summarized this in our Smart City 2030 concept paper.
**Dr. Antje Grobe:**
Can you tell us about your concept of digital advertising columns?

**Hartmut Hoferichter:**
The city of Solingen intends to install digital advertising columns that serve not only as information systems, but that also facilitate dialogue with the city’s inhabitants. The aim is for knowledge transfer to take place during the pilot project not just with research institutions, but also with citizens. The digital advertising columns will display weather and climate data, for example forecasts for heavy rain, and also traffic data in order to improve the flow of traffic in the city centre. It is a top priority for us to ensure that the data collected for these purposes is handled responsibly.

**Dr. Antje Grobe:**
Mr Lebhart, can you outline your plan for the city of Cottbus?

**Dr. Gustav Lebhart:**
In 2017, I was tasked with drawing up a new digital transformation strategy for the city. Taking Germany’s Regional Planning Act, which encompasses all of the relevant factors linked to demographic, structural and digital change, as the starting point, I worked with colleagues to create a new vision for the city of Cottbus. The basic services of education, energy, health care, mobility, urban development, administration and business as set out in the Regional Planning Act formed the methodological framework for the new digital transformation strategy. We appointed ambassadors for each of these seven focal points, as representatives of the digital agenda for the city of Cottbus. As we wanted to speak to our citizens, it was essential for these ambassadors to be candid, well-known figures in Cottbus. For example, the mayor himself is the ambassador for the topic of administration. One of our plans in this areas is to launch an online site for citizen services which is adapted to function on mobile devices, so that it can be used from anywhere in the world. The site is aimed at the citizens not just of Cottbus, but of all local government areas in the region, adding impetus to the digital transformation in Brandenburg.
**Dr. Antje Grobe:**
Mr Weilmann, looking at this image, can you use it to explain your plan for the city of Wolfsburg?

**Dennis Weilmann:**
The image shows the networks of the city of Wolfsburg, with the wolf in the middle as the symbol of the city. It shows that in terms of core administration, we are concerned with two key issues in the smart city context. We have set up a separate division for digital and economic affairs, which is linked to the areas of local government IT and organization. Then we also have a division for urban development, which answers directly to the mayor. We aim to take a holistic approach to these issues. This means we don’t look at them just in the context of the core administration. We also take them into account when we think about local government participation, business, and urban society as a whole.
**Dr. Antje Grobe:**
How do you network, and how do you bring the individual stakeholders together?

**Dennis Weilmann:**
There are different approaches to networking. Kaiserslautern, for example, has set up its own association purely for that purpose. We have taken another tack, assigning the topic directly to the city management. It is important for us to connect with as many stakeholders as possible within the city. The “Digital City” competition provided something of an initial spark for us. The application phase forced us to hold intensive discussions and create networks with the city population in a very short space of time. We still benefit from this network today. In addition, three years ago the city of Wolfsburg joined together with the Volkswagen Group to launch the “Wolfsburg Digital” initiative. Our aim with this project was to develop the city of the future. A total of 10 topics were set out for discussion with representatives from VW. These were not just topics like e-mobility. We also looked at topics like education, housing and the administration of the future. This helped us build an excellent network which allows us to learn from our partners’ different approaches. We can only move forward with the digital transformation if we work together with business and learn from the expertise of the VW Group, much like in the pilot projects.

**Dr. Antje Grobe:**
The slogan of the city of Kaiserslautern is “digital at heart”. Mr Steinebach, can you explain what this actually means?

**Prof. Dr. Gerhard Steinebach:**
The logo is part of a testimonial campaign launched by the city of Kaiserslautern that came out of the Bitkom competition in 2005. The competition was to answer the question of how the city was developing in a context of structural change. Kaiserslautern has been strongly affected by structural change. After the founding of the university in 1970, it has developed from an industrial city to a city of science. This has helped compensate for some of the job losses. The competition revealed that an ICT cluster had developed at the university, creating 8,000 jobs at that time. Later, the city entered other competitions like the T-City competition and the 2017 digital city competition. These competitions prioritized the inclusion of social aspects in the digital transformation and it was this that led us to come up with the slogan “Our Lautern – digital at heart”. We put people first, not technology, and have done since the very start.
Dr. Antje Grobe:
Ms Lottermoser, can you tell us more about the Smart Cities Pilot Projects and your priorities in the selection process?

Dr. Susanne Lottermoser:
Digital technology is a huge catalyst for transformation. The Federation is aware that local governments need support with the digital transformation process. To provide this support, we established the Smart Cities Dialogue Platform a number of years ago, with the aim of raising awareness of the opportunities and risks posed by adopting digital technology, and providing a compass to guide local governments so that a shared general understanding of the concept of digital transformation could evolve. The idea was that, after the initial abstract, fundamental discussion, we would turn to the question of practical application, because even today the idea of the digital transformation remains intangible to many people. The Federation therefore decided, after the competitions mentioned earlier, to launch its own competition. The selection process for the pilot projects addresses a complex situation that applies to all local governments in Germany: it is always important to take into account the starting point for every local government, with their individual geographical conditions, challenges, goals and potential, as well as the approach they plan to take. Their potential solution must be considered in relation to a representative urban development policy challenge that affects the entire local government situation in Germany. The only way to determine whether a project deserves funding as a Smart Cities Pilot Project is in the context of an assessment of the overall picture of the application together with its contribution to added value for German cities, districts and communities, rather than the extent to which it meets individual standards or benchmarks.

Dr. Antje Grobe:
The competition refers to the Smart City Charter, asking how it can be put into practice. You have prioritized different aspects. Can you tell us again what they are?

Dr. Susanne Lottermoser:
I would like to give a general introduction to the concept first of all, rather than concentrating on the priority areas. At the start, we thought about how to decide on our priorities. We decided to organize a longer, phased process, designed as a learning system. It’s not about providing individual cities with the perfect strategy. Our aim is to generate knowledge that can be applied across the board by lots of local governments. We want knowledge creation and knowledge transfer. The idea behind the pilot projects is to support local governments with strategy development at the start, and then with the implementation of the strategies they develop. The phased timing means that pilot projects in the first phase can transfer their knowledge to future pilot projects. We also want to support this knowledge transfer through a coordination and transfer office, which we are currently setting up.

Dr. Antje Grobe:
What are the key challenges for medium-sized and large cities?

Hartmut Hoferichter:
When we talk about key challenges, we are not looking just at the technical aspects. In fact, the top challenge is the transfer of knowledge within the city and ensuring citizen involvement at an early stage.

Dr. Gustav Lebhart:
The key challenges include the inadequate legal framework in Germany and the transfer of knowledge and cooperation at a horizontal level (between local governments) and vertical level (between federal and state level). State and federal govern-
ments must work together to provide the solutions found by individual local governments to other local governments by creating the necessary legal framework for this. The horizontal challenge is to convince other local governments of the benefits of the digital transformation.

_Dennis Weilmann:_
The legal framework is definitely a key challenge. But it is even more important to ensure that all of our citizens are included in the process in equal measure. To achieve this, we must create platforms for participation involving all areas of society and all of the different target groups.

_Prof. Dr. Gerhard Steinebach:_
The biggest challenge lies in assessing what consequences the digital transformation will have for territorial planning. How might it affect housing, work, mobility or leisure? Can digital technology help us to achieve our goals in each of these areas? We shouldn't even think about implementing the digital transformation in these fields until we have really thought about these questions, and answered the second one with “yes”. The second challenge is to keep up with rapid technological development and to base urban development projects, where the concept of time is entirely different, on this.

**Dr. Antje Grobe:**
How can local governments enjoy economic benefits from the digital transformation in the future?

**Hartmut Hoferichter:**
First things first: the digital infrastructure needs to be built out. The rollout of the 5G network is necessary to motivate companies to keep thinking about Solingen as a potential business location so that we can avoid deindustrialization and depopulation. Secondly, putting the digital transformation into practice in areas such as education and culture, the “soft location factors”, is essential as a complementary step if we want to make Solingen more attractive. Moving into the digital era in these areas will have no immediate effect on the economic situation, but it will be positive in the long term and will encourage people to move to Solingen.

_Dennis Weilmann:_
Positive cooperation between local governments and business is essential. In Wolfsburg, for example, local digital companies have banded together and formed the “Digitale Gesellschaft” (digital society) association. In conjunction with the association, the city of Wolfsburg recently held a digital summer camp which included coding workshops.

**Dr. Antje Grobe:**
Where will you be in 2030?

**Prof. Dr. Gerhard Steinebach:**
I would like to give one example: the Pfaff site, where sewing machines used to be produced, is to be developed into a mixed-use area for both living and working. Citizens will be able to order a self-driving car using an app, or be able to use public transport, to get to work or go to the theatre. This will make life much easier for many people, since the car will take itself to the car wash, recharge, and park by itself.

**Dr. Gustav Lebhart:**
The city of Cottbus has integrated its digital transformation strategy very closely with its urban development and urban regeneration plan. By 2030, the city aims to be the most modern administration in Brandenburg, providing all city administration services online. There will also be an on-demand traffic direction system, enabling real-time data to be transferred from one place to the next. The city will increase its citizen dialogue processes, making information
available on mobile devices irrespective of time or place. There will be public Wi-Fi in the city, based on a marketing concept. This Wi-Fi will give companies and hoteliers the possibility to send push notifications to citizens’ smartphones.

In 2030, quality of life in the city of Cottbus will be high. To achieve this, the city must set benchmarks and create financing instruments to ensure that it remains attractive. If we manage this, in 10 years we will no longer be talking about a lack of skilled workers, because that is a symptom of the unattractive nature of the region.

Dr. Antje Grobe:
The call for applications for smart cities pilot projects is not a one-off measure, but a longer-term programme. Can you tell us anything about that?

Dr. Susanne Lottermoser:
The funding plan extends over ten years. Around 50 pilot projects are to be launched and supported, in four phases. We want to provide a volume of 750 Mio. € for the Smart Cities Pilot Projects. We want to make a contribution that will help improve the quality of life in our municipalities over the next ten years. At the same time we want to retain the public space as a meeting place. We do not want the digital transformation to force us to focus only on technological development.

Additional information:

City of Solingen: https://www.solingen.de/de/aktuelles/einstieg-in-smart-city-solingen/

City of Kaiserslautern: https://www.herzlich-digital.de/

City of Wolfsburg: https://hub.beesmart.city/de/city-portraits/smart-city-wolfsburg

City of Cottbus: https://hub.beesmart.city/de/city-portraits-smart-city-cottbus

Smart Cities Pilot Projects: http://www.bmi.bund.de/smart-cities