Background information

Digital pent-up demand in German cities and municipalities
"Smart City Readiness Check" by the Innovators Club of the German Association of Cities and Municipalities and TÜV Rheinland / Large discrepancy between digital expectations and municipal offerings continues / Funding opportunities often remain unused

Cities and municipalities in Germany still have a long way to go before they can convert to digital cities and regions. At the same time, many municipalities are not yet making sufficiently consistent use of state subsidies to expand digitization. Nevertheless, trends towards an improvement in digital services are discernible, albeit not yet across the board. The range of results of the "Smart City Readiness Check" makes it clear that the state of implementation of digital solutions in German municipalities varies greatly. In the survey conducted by the Innovators Club of the German Association of Cities and Municipalities and TÜV Rheinland, the 500 largest cities and municipalities in Germany were asked about the topics of digital infrastructure, eGovernance, mobility and energy. More than one in five of the 500 municipalities took part in the survey between the end of July and the end of September 2018.

Digital Infrastructure
Programmes for broadband expansion, public W-Lan, digital documentation of the infrastructure for telecommunications - local authorities in Germany have many opportunities to promote the expansion of their network infrastructure and thus the improvement of the quality of life and stay on site. Nevertheless, almost every fifth city or municipality states that it does not yet have a nationwide supply of a high-performance broadband infrastructure. One positive aspect is that in more than 80 percent of the municipalities, an empty conduit infrastructure is being set up as part of construction measures. Around 70 percent of all cities and municipalities surveyed are currently planning new fiber optic connections up to the building (FTTB - Fiber to the Building), and in many places expansion is also taking place on the basis of vectoring technology. Another result: More than one in three municipalities states that it does not participate in nationwide programs that promote broadband expansion. "If a municipality does not call up the funding, the funding procedure may be too complicated. Investments in the digital infrastructure pay off in the long run," says Gürkan Ünlü, Head of Business Development at TÜV Rheinland Consulting and Head of the Corporate Center of Excellence Data Analytics at TÜV Rheinland AG. "After all, a good digital infrastructure increasingly

determines how attractive a location is from the point of view of citizens and companies. "Analogous to the sluggish broadband expansion, there is currently no nationwide public W-Lan in most of the municipalities participating in the survey. In the implementation of Smart City infrastructures, the municipalities' own municipal utilities enjoy by far the greatest trust. More than 80 percent of the cities and municipalities surveyed stated that they wanted to entrust the municipal utilities with this task, while large international service providers were only eligible for this task for every fifth municipality. Ünlü continues: "Only just under half of all municipalities participating in the survey report having high-performance networks with supply speeds of more than 50 Mbps. These form the basis for a nationwide expansion of the new 5G mobile communications standard. If infrastructure development is not driven forward to the extent that it is needed, cities and municipalities run the risk of being left behind digitally. In our view, this is also a risk for economic growth in a region."

eGovernance
Online management services are becoming increasingly important for citizens and businesses. Almost three-quarters of German citizens would like to do more administrative work online (source: Civey). But the cities and municipalities are apparently still struggling with this at the moment. Nearly 30 percent of those surveyed stated that their own municipality offers little or no services online as a service for citizens, such as applying for a passport, identity card or resident parking card, etc. The survey also revealed that the local authorities do not offer any services online. Municipalities with less than 50,000 inhabitants in particular are currently only responding to digital needs to a very limited extent. The situation is also difficult with regard to the offers for companies. More than half of the smaller municipalities state that they offer little or no commercial services online. Companies, for example, can only apply for a trade licence online in a good fifteen percent of the smaller municipalities. "For start-up companies and small businesses, municipal administration is often a very similar experience," says Alexander Handschuh, spokesman for the German Association of Cities and Municipalities and head of the Innovators Club. "This makes it unnecessarily complicated for committed founders to set up a business in one of the municipalities concerned. Innovative companies in particular are establishing themselves where people speak 'digitally'. In this respect, the lack of such offers has an effect on the quality of the location," continues Alexander Handschuh. Much remains to be done to digitise internal administrative processes. Telephone and e-mail remain the preferred means of communication within administrations. Less than half of the municipalities surveyed already use cloud solutions for their

data storage. Especially in the area of further training for employees, many towns and municipalities are not yet well positioned. Three-quarters of all the municipalities surveyed state that they offer digital continuing education only irregularly or not at all. "In view of the high speed of change due to digitisation, there is an urgent need for action here, especially in the area of corresponding training courses," emphasises Alexander Handschuh. "On the positive side, however, around 40 percent of towns and municipalities process specific information for their citizens in a spatial data infrastructure. This shows that significant progress has already been made here," says Handschuh.

mobility

Larger cities with over 50,000 inhabitants in particular almost always use permanently installed traffic guidance systems to guide people looking for a parking space to existing parking spaces. But currently only just under 14 percent of the municipalities surveyed offer apps that display vacant parking spaces in public spaces or multi-storey car parks. Even though only a fraction of local authorities make data on traffic volume and parking space available for navigation devices and apps, around 26 percent are currently planning to address this issue. In order to digitise their own transport system, the municipalities could make use of appropriate federal funding opportunities. However, over 60 percent of the municipalities participating in the survey do not currently make use of these opportunities. "Similar to broadband expansion, many cities and municipalities appear to lack the resources to take advantage of funding opportunities - or the hurdles are simply too high," says Ünlü. "In addition, the existing traffic data is not yet sufficiently used. Local authorities thus run the risk of gambling away digital opportunities in the mobility sector. "It is positive to note that the topic "Sharing" has arrived in the municipalities. Nearly three quarters of the municipalities surveyed have Car-Sharing services, and more than 30 percent also have Bike-Sharing. The digitalisation of traffic management and intelligent traffic light circuits are also on the agenda of local authorities. For example, one in three municipalities plans to establish external control options for traffic lights in special situations. According to the local authorities surveyed, e-ticketing is still lacking in almost every second city or municipality in the public transport sector. The situation is similar with the provision of timetables in real time.

Energy

For the buildings managed by the city, cities and municipalities already use smart technologies comparatively frequently. According to respondents, more than 30 percent of buildings are already equipped with technologies such as monitoring

and control units to improve energy efficiency. And as many as 20 percent of municipal buildings are equipped with intelligent electricity meters, the respondents estimate. In addition, more than half of the participating municipalities with more than 50,000 inhabitants record the building data digitally. There is still potential for expansion in the field of street lighting. Not even half of the luminaires are equipped with LED technology, only around 15 percent of the light points are equipped with additional sensors or intelligent control devices. "All in all, the cities and municipalities are on the right track in the field of energy," says Alexander Handschuh. "One reason might be that municipalities can save money comparatively quickly by using digital technologies, for example by reducing heating costs or electricity costs for street lighting.

Smart Cities are still in their infancy
Cities and municipalities still have a long way to go before they become digital cities and regions. What is positive is that many of the topics have arrived in the municipalities and corresponding conversion projects are being planned for the coming years. The problem, however, is that there is a lack of capacity and know-how to implement the projects quickly. It is worrying that even in the comparatively large cities there is still no nationwide broadband infrastructure. "Here, the foundation for digital transformation is missing. The relatively low use of funding opportunities shows that a reduction in funding bureaucracy and more advice is urgently needed," says Alexander Handschuh. "The majority of the participating cities and municipalities are prepared to make investments that bring direct cost savings. However, it is still difficult for cities and municipalities to invest extensively in future technologies," Ünlü adds.

"The results of the Smart City Readiness Check make it clear that municipalities will have to pick up more speed when digitizing. There is a risk that they will be left behind and thus lose their attractiveness both as an employer and as a place to live and work. In this respect, we believe that cities and municipalities absolutely must become active here. In addition, there is a lack of trained staff, so there is an urgent need to expand training and further education programmes for municipal and communal employees. Access to funding must also be simplified. This also corresponds to the experiences we have as an association in our daily work. It is not uncommon for smaller municipalities in particular to be in danger of failing because of the complexity of the funding applications," sums up Alexander Handschuh.

"Consulting is in demand with regard to the funding programmes. We urgently need to bring our competencies and know-how into the region with consulting expertise. Furthermore, we believe it is necessary to offer solutions for digitisation projects that can be transferred to several cities and municipalities. No city has anything of the 'wheel to reinvent every time'. A 'one-size-fits-all' solution would help the municipalities to draw on funding on the one hand and to implement new and innovative digitisation concepts on the other", concludes Gürkan Ünlü.

About the Innovators Club of the German Association of Cities and Municipalities

The Innovators Club is the local think tank of the German Association of Towns and Municipalities. The Innovators Club is staffed by mayors and mayors. Land councils and other municipal decision-makers work interdisciplinary together with representatives from science, business and politics on future topics for municipalities. The Innovators Club is supported in its work by renowned companies, including TÜV Rheinland. Further information can be found at www.innovatorsclub.de

About TÜV Rheinland

TÜV Rheinland is one of the world's leading independent testing service providers with 145 years of tradition. The Group employs more than 20,000 people around the globe. They generate an annual turnover of almost 2 billion euros. The independent experts stand for the quality and safety of people, technology and the environment in almost all areas of business and life. TÜV Rheinland inspects technical systems, products and services, accompanies projects, processes and information security for companies. The experts train people in numerous professions and industries. TÜV Rheinland has a global network of recognized laboratories, test centers and training centers at its disposal for this purpose. TÜV Rheinland has been a member of the United Nations Global Compact for greater sustainability and against corruption since 2006. Website: www.tuv.com

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