Smart City at DIN – SCSF

Awareness of the significance of municipalities and communities in the context of digitization and sustainability has arrived in our zeitgeist. At DIN, the topic of „Smart City" has already been intensively examined since 2013 and processed in a future-oriented manner through corresponding national and international standardization activities. The Smart City Standards Forum (SCSF) of DIN and DKE plays a special role as a strategic driving force and is therefore directly affiliated with SO-FIE, the DIN Presidial Committee for Research, Innovation and Development. A total of about thirty representatives from municipalities, industry, research, technical regulators and others currently contribute to the SCSF, which is led by two Chairs; Klaus Illigmann (provincial capital Munich) from a municipality and Joachim Schonowski (msg systems ag) from industry. The SCSF analyzes and

coordinates ongoing standardization activities, identifies fields of action, and then initiates new standardization projects. The resulting DIN SPEC 913x7 standards series already provides municipalities, such as those funded by the BMI's "Made in Germany" initiative, with supportive action guidelines for their digital transformation.
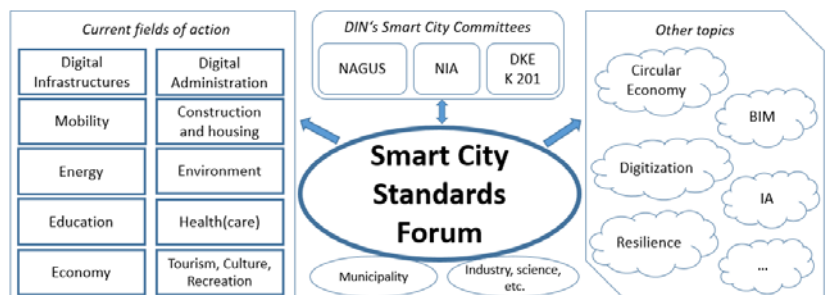
Positioning of the Smart City Standards Forum

Impulse paper II on Standards – Smart City

The SCSF published the second Smart City Impulse Paper in the series „Technology and people in the community of tomorrow" in June 2021. Twenty two representatives from municipalities, associations, industry, and science contributed to the document. Three workshops titled „Digitization under exceptional conditions", „Securing the future of cities and communities through sustainability and circular economy" and "Resilience in cities and communities" served as the basis for this paper. Under the heading „Thinking ahead to digital transformation", opportunities and challenges for municipalities were collected and discussed in relation to the three workshop topics, and recommendations for action and needs for standardization were derived.

During the first workshop „Digitization under exceptional conditions", participants shared their experiences on the implementation of digital tools during the current crisis, discussed general changes in the urban ecosystem caused by digitization, and identified blind spots that need to be addressed in the future. In the second workshop, „Securing the future of cities and communities through sustainability and circular economy", use cases, concepts, and blind spots were discussed to support sustainable and circular cities. The third workshop, "Resilience in cities and communities", was able to gather basic information from a wide variety of sectors of society on how to promote the resilience of cities to, among other things, the covid-19 crisis.

The results of the three workshops were subsequently processed and amended accordingly in several virtual meetings with interested workshop participants and later authors of the impulse paper. The main results of the impulse paper are:

Digitization under exceptional conditions

➢ There is a need for action on digitization in the municipal context.
➢ At the same time, the digital deficits of municipalities are becoming increasingly clear.
➢ The performance of municipalities depends on the progress of digitization.
➢ How do we handle data? Data sovereignty vs. surveillance capitalism.

Standardization potentials:

✓ Development of a sustainable municipal digitization strategy
✓ Review of the quality and success of digital measures
✓ Requirements for the digital systems of a smart municipality

Fiber optic cable laying in a village (Source: K. Illigmann)

Circular value creation in the smart community

➢ The topic of municipal sustainability and circular value creation should be addressed point by point.
➢ The consideration of the entire life cycle of products, processes and activities should find its way into our society's culture of life.

Standardization potentials:

✓ Requirements for a circular, sustainable community
✓ Indicators and effectiveness measurement for municipal circular value creation
✓ Requirements for sustainable digital Systems (e.g. data platforms or digital twin), data economics and necessary data exchange formats
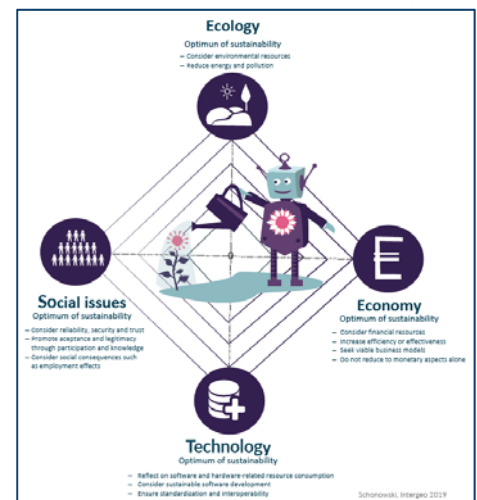
Sustainability diamond and digital balance using the example of AI

Resilience in cities and communities

➢ Awareness of resilience and resilient (infra-)structures must be created (including through citizen participation).
➢ A resilient public data infrastructure is needed.
➢ Municipal services of general interest should be the focus.
➢ Data for crisis management must be collected accordingly.

Standardization potentials:

✓ Resilience measurement for technical/digital infrastructures
✓ Regulation of legally compliant data exchange between municipalities (including data collection and evaluation)
✓ Stress testing of technical and digital infrastructures
✓ Requirements for a municipal resilience organization (like, for example, a „Chief Resilience Office")

Resilience spiral (Source: acatech 2021)

Outcome and Outlook

Based on the findings of the impulse paper, standardization activities are currently being considered in the municipal sector on the topics of digital twin, standards-based data platforms and circular value creation. The SCSF will continue to work on transferring future topics from the above-mentioned fields of action into standardization.