

# Concept

# Smart City Stuttgart



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# Stuttgart in transition

Stuttgart, like many other metropolises, is undergoing social and economic change: adaptations to climate impacts, an ageing population, increasing urbanisation and the social integration of an increasingly diverse society. Digital transformation and technologisation also continue to change all areas of life. At the same time, this also offers new opportunities for shaping all urban transformation processes.

The administration of the major city and metropolitan region of Stuttgart is challenged to keep pace with these technological and social developments. Networking and the use of the latest technologies enable the city to react flexibly and quickly to changes.

Stuttgart's topographical basin location shows in particular the challenges posed by urbanisation, housing shortages and extreme weather events. The adaptability of our city is thus the basis and success factor for securing a resilient, inclusive and attractive living space. As the winner of the German Sustainability Award 2022, Stuttgart shows that we can successfully shape the transformation towards sustainable modes of action.

In addition, citizens' demands on their city are increasing. These include easily accessible, fast digital citizen services, an attractive and sustainable design of public space, and strong social and digital participation. The diverse know-how of one of the most international populations of major German cities and the existing great pleasure of the citizens in shaping the city form a very good basis for bringing about change for the benefit of local people.

Thus, the city already has the best prerequisites for shaping this change. In addition, the urban community is characterised by tinkerers, committed



people and doers who have shaped our city into an internationally attractive and prosperous metropolis. The networking of people, ideas and innovations is part of our success model. In many areas of urban life, we are already driving forward the digital transformation through innovative projects that improve the quality of life of Stuttgart's citizens.

As the capital of Baden-Württemberg and the heart of the metropolitan region, we now want to become a smart city. This smart city concept is the kick-off for this. It summarises our understanding of a smart city, outlines a vision and explains the building blocks with which we will create the Smart City Stuttgart together.

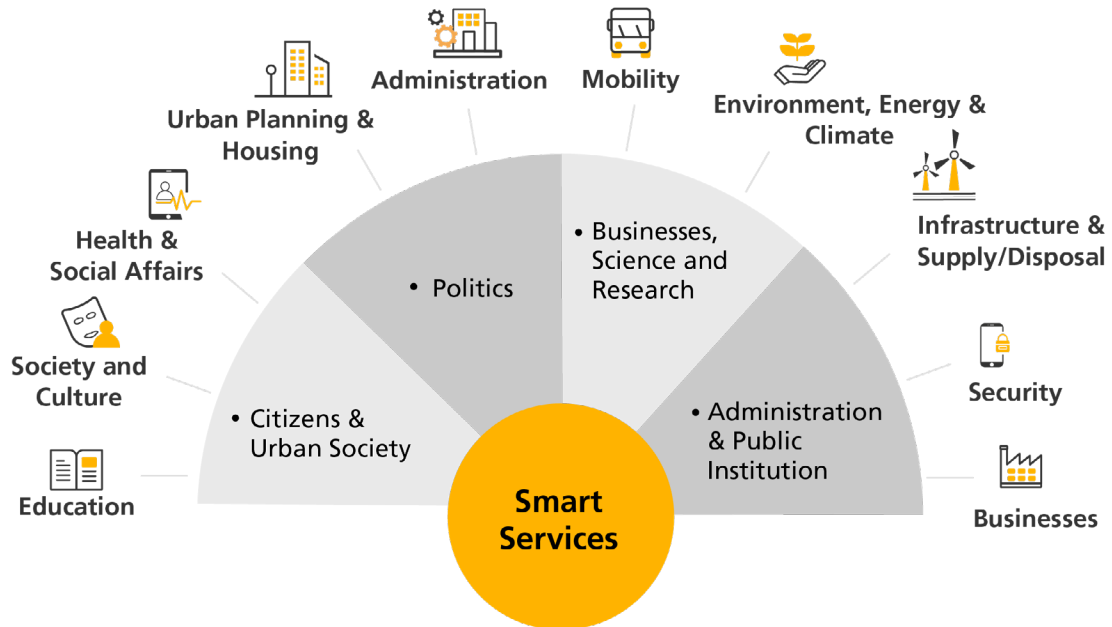
# Our understanding of a smart city

## **Smart city encompasses all areas of life**

A "smart city" describes a city of the future that becomes more sustainable, efficient and progressive through the digitalisation of public space. Through the effective use of technologies and the targeted use of data, we improve the everyday lives of citizens and conserve resources in the city. Smart solutions are characterised by intelligent and smart approaches. For example, they can shorten traffic times, reduce energy consumption in the city, increase social and digital participation or optimise urban planning and control processes through comprehensive data bases.



A smart city involves all areas of urban life:



These areas are confronted with target groups such as citizens and urban community, politics, businesses, science and research as well as administration and public institutions. They all have wishes and needs for a Smart City Stuttgart.

In September 2022, the city decided to create a “Smart City Concept Stuttgart” as a first step, which will be expanded by a Smart City Strategy in 2024. For this purpose, a city-wide Smart City Board was founded under the leadership of DO.IT – Office of Digitalisation, Organisation and IT. The Smart City Concept is based on the existing concepts and strategies from the areas of smart city, such as “Digital MoveS – Stuttgart.Gestaltet. Zukunft” (Stuttgart.Shapes.Future), “Nachhaltig und innovativ mobil in Stuttgart” (Sustainable and innovative mobility in Stuttgart), “Klima-Fahrplan 2035” (Climate Road Map 2035), “Green City Plan”, energy concept “Urbanisierung der Energiewende in Stuttgart” (Urbanisation of the energy transition in Stuttgart), “Digital Agenda Referat T”, etc. Based on these concepts and strategies, the Smart City Concept is developed as an “umbrella”.





# Smart services in all areas of life in the city

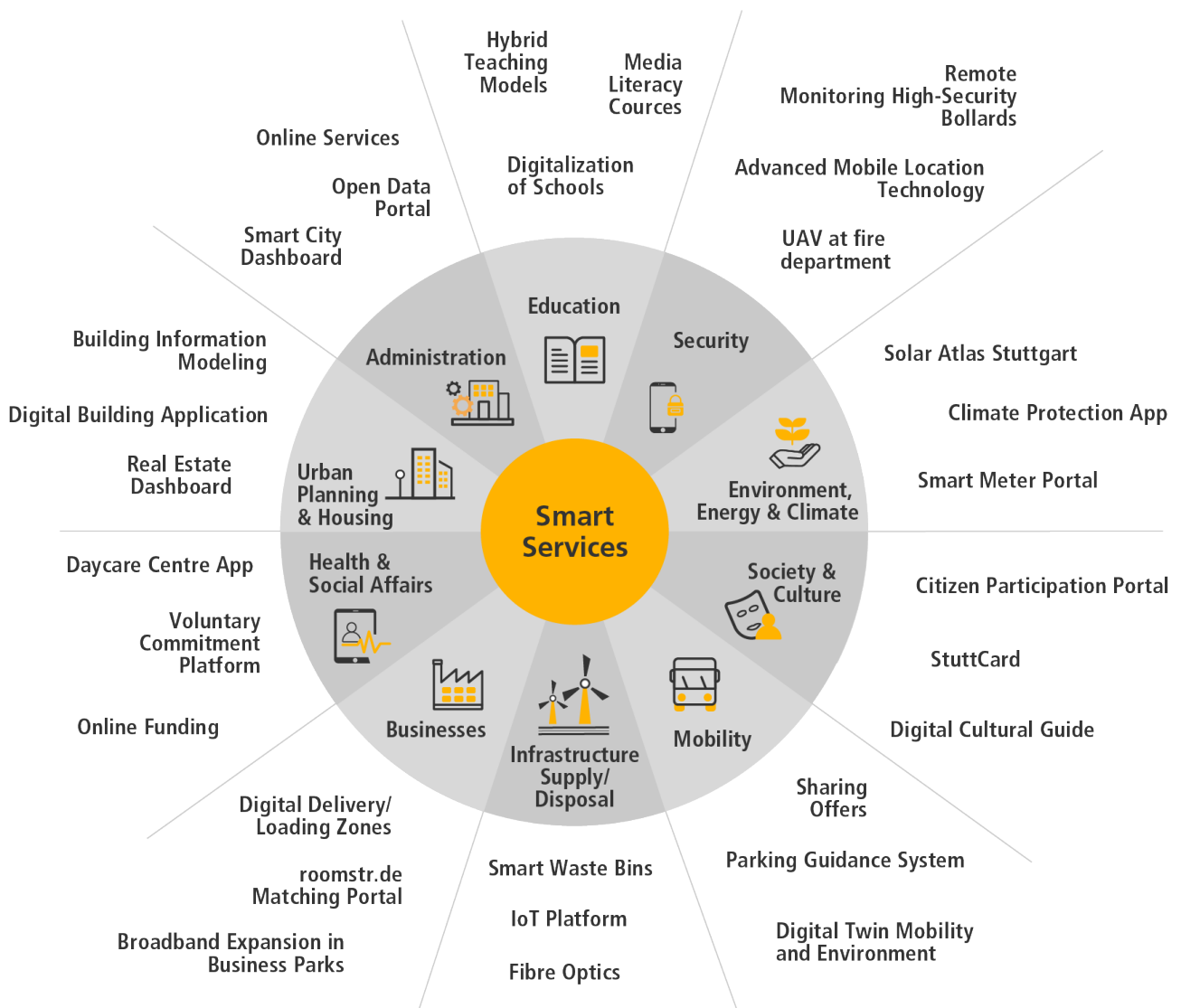
Stuttgart has already been very active in shaping the digital transformation for years. The strategic focus was particularly on the fields of action mobility, environment, energy & climate and digital administration. Here, the added value of smart, digital citizen services can be felt in everyday life.

In this respect, it is not surprising that Stuttgart has already been ranked 5th in the Germany-wide smart city ranking in 2022 (Smart City Index 2022).

We are building on this foundation and expanding our initiatives to all areas of urban life. To this end, we have defined ten smart city-relevant fields of action that reflect the wishes of the citizens, as shown by the online citizen participation (see chart on the next page).



Following on from established measures and pilot projects, we will design further measures in all fields of action and implement them in a networked manner in order to offer further smart services for urban community. We have formulated profiles for each field of action, which you will find at the end of the concept.



# On the way to a smart city that can

## The vision – Stuttgart: Liveable. Innovative. Connected.

We are a modern smart city in which municipal data and technologies are used for the benefit of urban community. We are smart as new digital services make people's everyday lives noticeably easier and solve urban challenges. We are smart if we shape the city of the future together with all stakeholders and create a platform for innovation. We are Stuttgart: Liveable. Innovative. Connected.

- **Liveable:** The smart city stands for a liveable metropolis that offers a sustainable, safe and attractive living and working space for a growing city. Quality of life and social participation are strengthened through the use of digital services.
- **Innovative:** As a city of tinkerers and a high-tech location, we push forward technical and social innovation in the smart city together with the urban community. With the help of connected data, we secure the future viability as well as the innovative and economic power of our city.
- **Connected:** In the Smart City Stuttgart, we connect people, ideas and data to jointly create added value for our city. Stuttgart is becoming a platform through which administrative, social and economic digitalisation projects can interlock.





## **Our mission – We create a chain of lights of urban innovation**

As a municipal service of general interest, it is our core task to offer services in a legally compliant and customer-oriented manner for all citizens, the municipal and the business community.

At the same time, as the state capital, we are pioneers in recognising and actively shaping social change, which is currently characterised in particular by the digital transformation. We have our focus on Stuttgart as an attractive place to live and work and are continuously developing it with all stakeholders in a needs and future-oriented manner.

To this end, we are developing smart services for and with the people of our city that bring improvements and measurable added value to everyday life - towards the Smart City Stuttgart. We are building the necessary digital skills and enabling broad participation and contribution.

## **Goals of the city administration**

In line with our mission and to achieve the vision, we set ourselves the following goals to serve the needs of the people of our city.



Ensure participation and involve urban community



Increase protection of public space and infrastructures



Act holistically across the city and overcome disciplinary boundaries



Use data and technologies in a value-creating and secure way



Strengthen innovative capacity, facilitate knowledge transfer



Be a pioneer and complete digitalisation of key citizen services



In addition, the city has committed itself to the 2030 Agenda adopted by the United Nations with its 17 goals for sustainable development (UN Sustainable Development Goals). With a holistic view, these goals are to be implemented in all areas of urban life.



# Creating the conditions for a Smart City

The specialised strategies and measures of the municipal offices and in-house operated enterprises are important foundations on the way to a Smart City Stuttgart. In the next step, we will cooperate even more closely across disciplines and make greater use of digital technologies. We are concentrating on three key areas: The networking of data and technologies via platform solutions for a smart technical architecture for the entire city, the networking of actors to create a smart city ecosystem, and the networking of individual solutions to create comprehensive smart services.

## **Building a city-wide technical architecture**

In the City of Stuttgart, we are now laying the foundations of a smart city and establishing a city-wide technical architecture at an early stage. We integrate the diverse technology solutions and enable their use for all municipal offices and in-house operated enterprises. In this way, development and investment costs for smart services can be reduced and synergies between smart city solutions can be leveraged.

For the first time, the central element is a smart city platform that provides an overall view of the city's data. Here, data from the various offices, databases and platforms are merged. Using artificial intelligence methods, new data evaluations can be carried out in real time and the platform can bundle information from all urban systems, enable new insights and export individualised data evaluations for relevant recipients. For example,



this can involve providing low-threshold, visually attractive information for smart city participants and the public on the one hand, and enabling technical, automated feedback of analyses to individual offices on the other hand. This gives Stuttgart the opportunity to create real added value from digitalisation and state-of-the-art technologies and not, as it is often the case elsewhere, only implement a necessary minimum. The platform is a supplementary element to the already implemented or planned additional components that form a technical smart city architecture in Stuttgart.

Data is collected from a variety of data sources in the city (data level) and transmitted via a modern digital infrastructure, including WLAN, fibre optics, 5G or LoRaWAN and cloud to the agencies that analyse the data (infrastructure level). Stuttgart is already very well positioned at both of these levels. Data collection and network expansion will continue to be driven forward.

For the city administration, the next step is the expansion and networking of the technical components of a smart city architecture (component level). In addition to the Smart City platform, the architecture is based on an urban data platform, an IoT platform and digital twins. We also plan to use a Smart City Dashboard to visualise data as well as an Open Data Portal to make data sets available to third parties and to set up an innovation Lab.

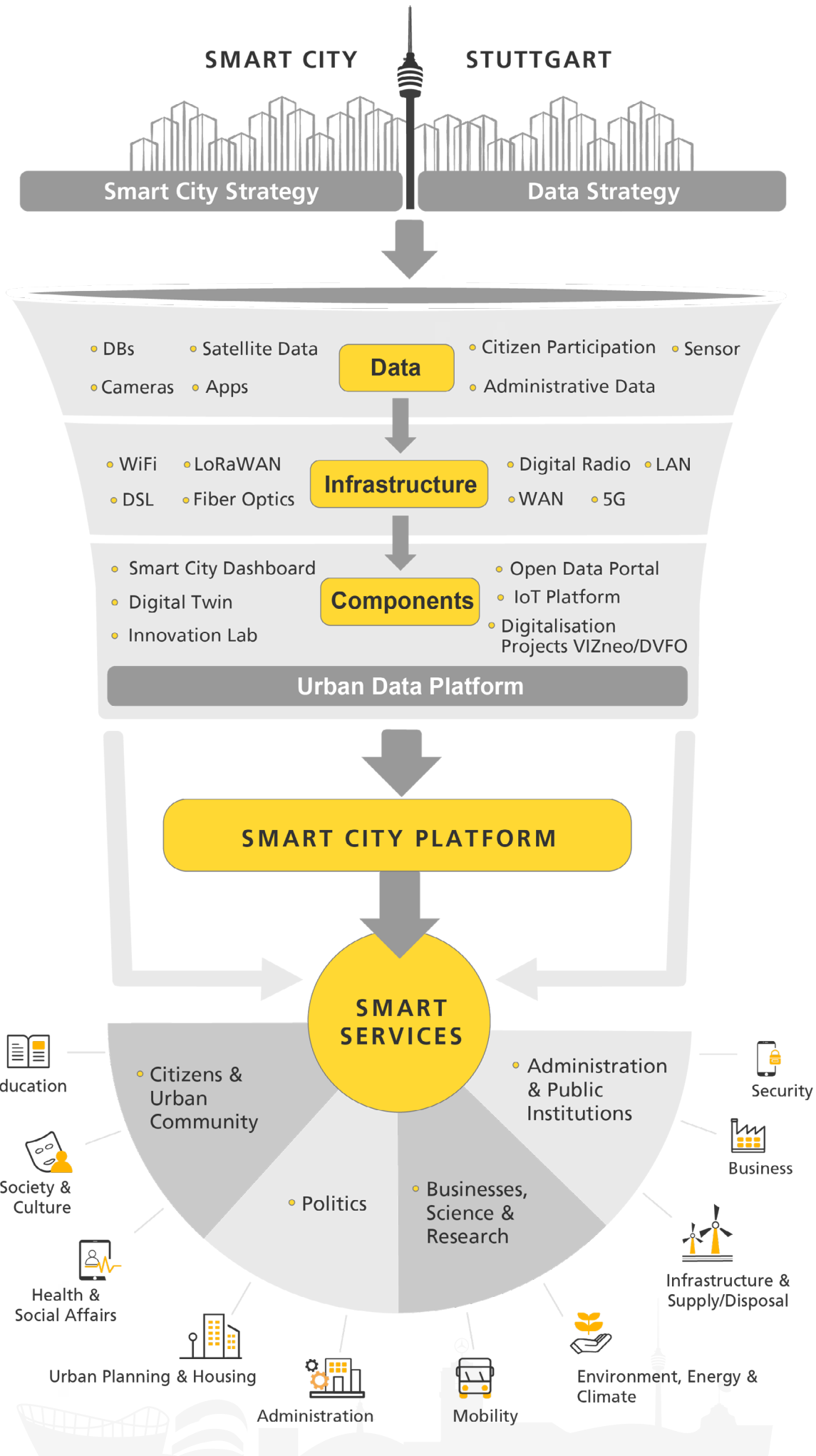
- The Urban Data Platform is a central municipal data marketplace that provides geodata, among other things. The platform is the prerequisite for the networking of urban data.
- Municipal facilities can be controlled via the IoT platform. In this way, various devices and applications are linked to each other via the platform and can react to each other. Data from smart components (e.g. sensors) in the entire city area are analysed and processed for this purpose and in turn used for targeted control via so-called actuators (the counterpart of sensors) on the facilities or applications.



- Digital twins combine static and dynamic data to create a realistic digital image of the city and thus allow, among other things, simulations and the adaptation of forecast models. In addition to streets and buildings, social interactions, greenhouse gas emissions or mobility flows can also be modelled.
- A Smart City Dashboard can be used to visualise analysis results and to present activities of the City of Stuttgart in the field of smart city to the general public in real time. The user-friendly preparation of complex data sets not only contributes to transparency, but also enables the development and control of smart services.
- The digital traffic information centre VIZneo and the digital traffic flow optimisation DVFO network and provide data and information from the areas of traffic and the environment as well as continuous findings on emissions, immissions, traffic and traffic safety conditions across all offices.
- The provision of freely available and reusable data via an Open Data Portal is an important building block for developing innovations together with the urban community. Stuttgart thus also fulfils legal requirements (EU Open Data Directive).
- The Innovation Lab provides the experimental space to develop innovative ideas and products using agile working methods and to test them using prototypes.

All these systems and elements interact with each other and complement each other. The architecture is designed to be open to integrate new technology solutions.





## Securing data use via data strategy

The evaluation and utilisation of data represents a great potential, but must meet the requirements of data protection and data security as well as optimal data management. With a data strategy, the City of Stuttgart provides itself with a citywide framework for optimising data structure and quality and defines the rules of the game for a municipal data room. This also includes the definition of access rights, standards and interfaces. This ensures the interoperability of the systems and enables the integration of further technical solutions in the future. A city-wide data map is used to systematically record existing data sets and data sources and to evaluate potential uses.

## Networking as a central prerequisite

Smart means more than just using digital technologies and generating data. What is really smart is thinking about urban challenges in a multidisciplinary way and viewing the city as a network. Networking is the basic prerequisite for realising a smart city vision for the entire city. Digital technologies create the possibilities, spaces and necessary tools for this.

True to the motto “From lighthouses to a chain of lights,” networking has been lived in Stuttgart for a long time and this success factor will also be expanded in a smart city. This includes

- networking within the city administration to coordinate processes and projects ambrosioquickly and agilely
- networking within urban community and among citizens for active participationand social participation without barriers;
- networking of research institutions and companies to create powerful partnerships and innovation projects, and



- networking the City of Stuttgart with the surrounding regions as well as nationally and internationally.

Professional networking for inter-office and inter-departmental cooperation and rapid decision-making is already taking place in working groups such as AG Mobilität (Mobility Working Group). For coordinating the goals and overall smart city measures, a city-wide Smart City Board was set up as an advisory body representing many specialised offices. In this way, synergies between individual measures and the offices are leveraged and overarching issues are dealt with jointly.

Such formats must also be used and further developed with the business community and research institutions within the framework of smart city.

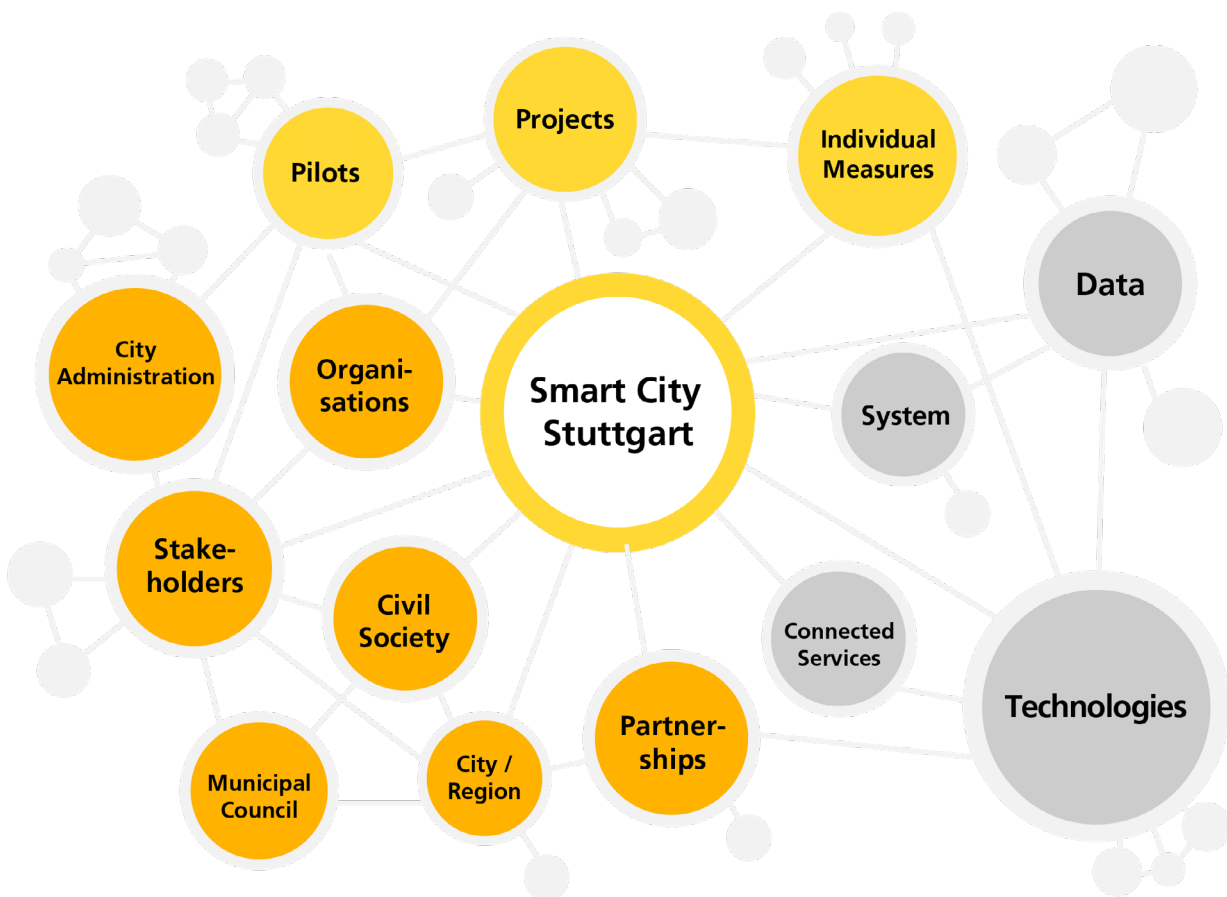
With the Office of Digitalisation, Organisation and IT (DO.IT), the City of Stuttgart has created an interface to accelerate smart city projects in coordination with the responsible offices.





Networking is needed in three respects:

1. Networking of individual solutions towards comprehensive smart services
2. Networking of stakeholders towards a smart city ecosystem
3. Networking of data and technologies via platform solutions for a city-wide smart technical architecture



## Ethical and social aspects of digitalisation

In addition to all the expected and desired positive effects on Stuttgart as a living space, the digital transformation is also associated with ambivalences. For example, the collection, use and provision of data and the use of technologies harbour the risk of unwanted third-party access to sensitive information, system failures or disruptions due to hacker attacks. The use of artificial intelligence raises ethical questions. We take these aspects, which are relevant for the acceptance and effectiveness of a smart city, into account in the planning and implementation of new smart services and will define specifications in a data strategy with regard to data protection, data security and data sovereignty.

We also take the concerns about a digital divide in society seriously and in our measures, we take up the question of competence transfer in society as well as new ways of working and qualification in the administration. The Smart City Concept sets a first framework for Stuttgart's development towards an inclusive smart city.

# Outlook

The development towards a smart city is a dynamic, constantly ongoing process, because a city of the future is characterised by regularly occurring new technical and social innovations. With the Smart City Concept, Stuttgart is providing itself with an initial framework for actively shaping this transformation.

In order to achieve the vision of a smart city "Stuttgart: Liveable. Innovative. Connected.", the next step requires a comprehensive strategy and planning of measures.



A strategy process will be launched in 2024. Based on broad participation, the needs and wishes of citizens, urban community, businesses, science and research institutions will be collected. The findings will be incorporated into the definition of goals in all fields of action and areas of responsibility of a smart city.

Finally, by 2025, the Smart City Strategy should be in place – our roadmap to becoming one of the best smart cities in Germany, so that we can bring together lighthouse projects to create a chain of lights.

# Overview of the urban fields of action

On the following pages, a selection of previous activities of the city administration will be listed, as well as a selection of future contributions.

More projects can be found on the homepage of the city of Stuttgart. To do so, please click on the following link or copy it into the address bar of your internet browser: <https://lmy.de/UQpuoaey>



# Field of action **Administration**

#Digital MoveS #Online Services #E-File #Smart City Platform

## Challenge for Stuttgart

Digitalisation is already shaping administrative processes and the demands and expectations that citizens, businesses and employees have of the administration. Even though we have already implemented many important measures – see the strategy “Digital MoveS – Stuttgart. Gestaltet. Zukunft: Strategie für eine digitale Stadtverwaltung” (Stuttgart. Shapes. Future: Strategy for a Digital City Administration)– there is still a lot to be done in order to continue to offer citizen-friendly services, to be an attractive employer for skilled workers and to remain a digital pioneer in the municipal sector. In a smart city, in addition to administrative digitisation, the administration takes on the coordination of smart city measures and must build up the necessary structures and competences for this. For example, standards for handling data and special ITinfrastructures are needed.

## Outlook – added value for citizens

The services of the administration will be made more needs-oriented, more innovative, more transparent and more convenient for citizens and businesses at the same time. For the employees of the administration, digitalisation means a modernisation of the working environment and everyday working life. At the same time, the use of resources in the city administration will be reduced and efficiency increased. As a smart city coordinator and designer, the administration creates the basic conditions for the potential of technological possibilities and municipal data to be used comprehensively and above all – in the interest of the people. By creating spaces for experimentation and freedom in the administration and the urban community, it is possible to react agilely to technical innovations and social challenges. With Digital MoveS – Stuttgart.Gestaltet.Zukunft, there is already a specialist strategy that contains a large number of measures, some of which have already been implemented.

## Strategic goals

- Modernising the administration in a user-centred way as a service provider for citizens and businesses as well as an employer
- Expanding online services for the urban community
- Developing new services and products based on municipal data sets using data platforms such as the Smart City Platform and Open Data Portal
- Building digital competences and an agile culture of innovation in the administration and its in-house operated enterprises

## UN Sustainable Development Goals



## Selection of previous activities of the municipality:

**Continuous expansion of online services:** Digital application - including application, housing subsidy application, passenger transport, parking facilitation for severely disabled persons.

**Introduction of the city-wide e-file:** Implementation of the new document management system as a central platform for all documents, files and processes; forms the basis for city-wide e-file.

**Seamless online services:** Connection of "service-bw" processes via interfaces to specialised procedures, document management system and citizen service account.

**Online appointment booking and queue info at Citizens' Offices:** Already in use in the large Citizens' Offices. Further city-wide rollout planned for 2024/2025.

**Dashboard infrastructure:** Establishment of the technical infrastructure to introduce dashboards both within the administration and for communication with the urban community.

## Selection of future contributions of the municipality:

**Video counselling (In planning):** Via video counselling, people can access the city's counselling services from the comfort of their own homes. Video counselling is to be introduced city-wide.

**Smart City Platform (In planning):** Establishment of a superordinate Smart City Platform with an integrated overall view of all municipal data for offices/inhouse operated enterprises.

**Smart City Dashboard (In planning):** Bundling of interactively displayed (real-time) data of the City of Stuttgart in a cross-departmental dashboard for the city community.

**Open Data Portal (In planning):** Making Open Data available to industry, research and the public, among others, and thus creating sustainable partnerships.

**Innovation Lab (In planning):** Establish of experimental spaces for administrative staff to design and agilely test innovative projects and prototypes.

**ChatBot (In Planning/citizen proposal\*):** Introduction of chatbots as innovation and to relieve employees, as service improvement, process optimisation.

**\*Note:** Citizen suggestions result from online citizen participation (11.04.2023 to 18.05.2023).

# Field of action **Mobility**

#Traffic Data #Mobility Hub #Logistics #ParaParking #Public Transport

## **Challenge for Stuttgart**

The mobility field of action deals with the question of how well-connected mobility in our city can be established (planning), organised (control) and optimised for the benefit of the people and designed safely and sustainably (attractiveness, safety, sustainability) with the help of digital and technical solutions. Mobility includes walking, cycling and motorised individual transport, the already well-developed public transport system, but also sharing services and commercial transport.

Mobility is a basic need and is increasing worldwide, especially in conurbations. Against this background, it is a central task to design the mobility of the future in a way that is compatible with the environment, cities and people. The City of Stuttgart has been active for many years with extensive and wide-ranging measures to implement this. So far, the focus has been on improving air quality, promoting eco-mobility, efficient traffic control and the expansion of sharing services and e-mobility. The diverse activities are having an effect: for example, the air quality in Stuttgart has improved step by step; the share of environmentally friendly transport is increasing.

## **Outlook – added value for citizens**

Smart city solutions offer the potential to consistently expand digital traffic and mobility management, to achieve a stabilisation of traffic flow, to promote the networking of mobility offers and mobility services, to support the strengthening of public transport and to strengthen and make cycling and walking safer. The real-time provision and evaluation of data (on traffic flows, journey times, current disruptions, etc.) forms the basis for this. Traffic strategies can be optimised and intelligent guidance systems can be used. In addition, traffic data enables dynamic routing. Open data and dashboards can be used for more traffic safety. Furthermore, data-based approaches make it possible to design mobility offers in a more innovative, demand-oriented and sustainable way and to link them even better with each other in terms of multimodality. On-demand offers, mobility hubs, sharing concepts, last-mile offers and simple, digital booking systems make the switch to alternative mobility offers more attractive and more commonplace for citizens. The change in behaviour is supported by incentive models and gamification approaches. The use of digital solutions also offers potential in terms of accessibility: e.g. ticket bookings can be simplified and assistance needs at public transport stops can be easily registered with a click. With the master plan for sustainable and emission-free mobility "Green City Plan" and the action plan "Nachhaltig und innovativ mobil in Stuttgart" (Sustainable and innovative mobility in Stuttgart) and pilot projects such as "Smart Zone Stuttgart" or "LogSPACE – Micro-Hubs für eine nachhaltige Citylogistik" (Micro-hubs for sustainable city logistics), strategies with various measures have already been presented and the first pilot projects implemented (see also "Environment" field of action). Further measures will follow and be implemented.

## Strategic goals

- Strengthening the quality of life in the city
- Further developing needs-based and userfriendly mobility services for all citizens
- Linking mobility offers and services
- Promoting sustainable forms of mobility and mobility behaviour
- Optimising traffic flow for all traffic types
- Optimised handling of commercial traffic

## UN Sustainable Development Goals



## Selection of previous activities of the municipality:

**Light signal control requirements:** Through several pilot projects, the Civil Engineering Office is starting to test new requirements for traffic signal control.

**Improvement and increase in attractiveness:** Digital stops, mobile phone ticket, cash and contactless ticket purchase, free WiFi in the vehicles, real-time timetable information online and via app.

**Sharing offers:** Offers for car sharing, bike sharing, ride sharing, electric kick scooters, e-scooters incl. multimodal app and mobile stations.

**Parking guidance system:** Modernisation of the parking guidance system in the Stuttgart city centre, which aims to reduce the number of drivers looking for parking spaces through improved, dynamic information.

**Reduction / Improvement of last mile delivery traffic:** Micro hubs and alternative delivery methods to reduce / improve last mile delivery traffic.

## **Selection of future contributions of the municipality:**

**Digital traffic flow optimisation (In implementation):** Successive provision of traffic data, modelling and simulations for optimised traffic strategies.

**Further development of the digital twin Mobility and Environment(In implementation):** Further development of the digital twin with central information platform, simulation laboratory, 3D and VR visualisation.

**Further development of "Mobilithek"(In implementation):** Connection to the National Access Point "Mobilithek" as a platform for exchanging digital information, e.g. of mobility providers.

**"Paraparking" (In implementation):** Connection of sensors to detect the occupancy status of disabled parking spaces.

**With Mobilab towards the car-free campus (In implementation):** Real laboratory at the University of Stuttgart for the research fields of autonomous vehicles, street concepts, parking garages.

**E2E Transport Platform (Citizen proposal\*/underconsideration):** Platform for booking and paying for trips using sustainable means of transport can.

**\*Note:** Citizen suggestions result from online citizen participation (11.04.2023 to 18.05.2023).



# Field of action

## Environment, Climate & Energy

#Climate neutrality #Energy transition #Digital twin #User sensitisation

### Challenge for Stuttgart

Climate change is advancing, extreme weather and precipitation events are increasing. These impacts affect all infrastructures and living areas of a city, but also nature conservation and the preservation of biodiversity itself. The City of Stuttgart is already very active and has already been able to reduce greenhouse gas emissions by 48% since 1990 (as of 2020); the city aims to be climate neutral by 2035.

### Outlook – added value for citizens

Digital and data-based solutions help to sustainably reduce the energy and resource consumption of municipal properties and infrastructures as well as the city as a whole. This includes, for example, intelligent energy monitoring or the installation of smart street lights that illuminate streets and footpaths only as needed. Smart grids go one step further and precisely coordinate energy generation, storage and consumption.

Intelligent traffic guidance systems and optimal traffic strategies from the digital traffic flow optimisation (DVFO) system additionally contribute to the reduction of greenhouse gases.

The preparation and provision of urban (environmental) data (e.g. air quality, energy consumption, CO<sub>2</sub> emissions) via the digital twin and the Smart City Dashboard are intended to promote transparency for citizens about Stuttgart's progress towards achieving the city's climate goals. Additional (digital) information and awareness-raising offers provide incentives to make one's own behaviour more climate-conscious.

Data analyses and simulations also enable increased resilience to climate impacts in the long term: sensor-based collection of environmental data in real time and intelligent early warning systems enable a faster response to extreme weather events and climate impacts.

With the Stuttgart Climate Roadmap, the Guidelines for Climate-Friendly Road Planning, the Energy Concept "Urbanisierung der Energiewende in Stuttgart" (Urbanisation of the Energy Turnaround in Stuttgart), the Master Plan 100 % Climate Protection, the Climate Action Programme as well as the Green City Plan, specialised strategies have been presented that already contain a large number of individual measures to reduce energy and resource consumption, emissions and the energy and heat turnaround.

## Strategic goals

- Climate neutrality by 2035
- CO2 emissions to be reduced to 80 % by 2030 compared to 1990 levels
- Reducing final energy consumption by 50% (2035 compared to 1990)

## UN Sustainable Development Goals



## Selection of previous activities of the municipality:

**Digital twin mobility and environment:** Focus on networking the existing systems and data stocks, closing data gaps and providing data and services in line with requirements. Will become a central element in the smart city architecture.

**Low-emission buses:** Continuous expansion of the fleet of low-emission buses.

**Environmentally sensitive traffic management:** This includes the digitalisation of the Integrated Traffic Control Centre (IVLZ), the introduction of a digital traffic situation map and a real-time warning system.

**Smart Meter Portal:** Companies receive a real-time overview of accruing energy consumption via the smart meter portal of Stadtwerke Stuttgart.

**Solar Atlas Stuttgart:** The Solar Atlas Stuttgart shows the photovoltaic potential on the city's roofs.

## **Selection of future contributions of the municipality:**

### **Digital processing of progress in energy transition and climate protection (In planning):**

Development of an interactive digital platform on which urban data on energy consumption, CO2 balance and the expansion of renewable energies are presented.

**Climate protection app (In planning):** Development of an app for citizens with information, incentives, tips, contact persons, etc.

**Further digitisation of the funding programmes (In implementation):** Digitalisation of the application process for funding programmes based on experience with "solar offensive" and "heat pump".

**Innovative plant technology in municipal properties (In planning/in implementation):** Among other things, testing of smart meter technology, displays for visualisation, intelligent lights, hydrogen applications, etc. as showcase examples.

**User sensitisation in companies (In planning):** Interactive website that provides tips on energy saving and efficiency for various trades in a playful way.

**Power generation (Citizens' proposal\*/in implementation):** Electricity generation through solar installations on balconies. The Stuttgart Solar Offensive already provides financial support for the realisation of projects to expand electricity generation through solar energy. A Solar Atlas provides an overview of potential solar yields.

**\*Note:** Citizen suggestions result from online citizen participation (11.04.2023 to 18.05.2023).

# Field of action

## Security

#Cybersecurity #Resilience #Data security #Security forces #Emergency forces

### Challenge for Stuttgart

The “Security” field of action comprises two focal points: on the one hand, the security of citizens and utilities (police, fire brigade, rescue services, disaster control, Office of Public Order) must be guaranteed, and on the other hand, the long-term functionality of the (newly created) communication infrastructures must be protected.

The increasing development of digital and technical infrastructures and the integration of digital solutions into urban life creates new risks and concerns, such as cyber security and data protection, that need to be addressed. At the same time, technological solutions are subject to constant change. The protection of IT systems, their sensible interconnection and the data protection-compliant handling of data must therefore be prioritised in a smart city and regularly trained.

### Outlook – added value for citizens

The cooperation of all security partners can be further expanded through digital methods, especially in the area of crime prevention, and the equipment and working methods of our security and supply forces can be optimised.

Data-based analyses and simulations enable effective preparation of the various facilities for crisis situations – processes within communication networks can also be tested and optimised in advance. In exceptional situations, well-developed sensor networks help to spatially record the situation and coordinate the reactions of the security partners.

In the event of a disaster, warning messages can already be distributed directly to citizens throughout Germany via the mobile network. Digital technologies such as the Advanced Mobile Location system for better location of emergency calls for fire and rescue services and smart street lighting can strengthen the safety of citizens. Video surveillance and monitoring by the Integrated Traffic Control Centre (IVLZ) can contribute to the reduction of perceived “areas of fear” (e.g. bridge underpasses or tunnels).

Digital technologies are also increasingly used to track and record crimes, e.g. in the context of drone missions to collect data at crime scenes or accident scenes. Under certain conditions, the collection and evaluation of data can also support crime prevention (“predictive policing”).

## Strategic goals

- Strengthening urban resilience in disaster situations
- Optimising the deployment of security and rescue forces on the basis of digital solutions
- Strengthening the digital resilience of the City of Stuttgart
- Continuously improving of cyber security in the administration and regular training of employees

## UN Sustainable Development Goals



### Selection of previous activities of the municipality:

**Advanced Mobile Location Technology:** Technology to improve the location of emergency calls for fire and rescue services.

**UAV at fire department:** Unmanned Aerial Vehicles (drones) are used at the Stuttgart Fire Department.

**High security bollards with remote monitoring:** Regulation of high security bollards in central public places.

**Video surveillance in the city centre:** In Stuttgart city centre, central public areas are equipped with a video surveillance system.

**IT systems of the administration:** Modern and secure IT systems in the administration that ensure the security of citizens' data.

## **Selection of future contributions of the municipality:**

**Digital operation support (In planning):** Optimisation of operations through the support of digital solutions for everyday emergencies up to major emergencies.

**Integrated traffic control centre(In planning):** Renewal/expansion of the control centre technology with possibilities for innovative future-oriented smart solutions.

**Digital mission communication (In planning):** Update/renewal of the reporting/billing/statistics system with leaner and seamless processes.

**Critical infrastructure("KRITIS") (In implementation):** The introduced IT Security Act 2.0 expanded the Act of the Federal Office for Information Security to include the obligation to use an attack detection system. This results in new tasks.

**Information security (In implementation):** Further development and ongoing adaptation to new developments.

**Digital communication with the police authority (Citizen proposal\*/under consideration):** A direct digital communication with the Municipal Enforcement Service.

**\*Note:** Citizen suggestions result from online citizen participation (11.04.2023 to 18.05.2023).

# Field of action

## Infrastructure & Supply/Disposal

#Internet of Things (IoT) #Fibre Optics #Circular Economy #Automation

### Challenge for Stuttgart

The “Infrastructure and Supply/Disposal” field of action includes roads and transport systems, wastewater collection and treatment, energy supply, communication networks, public buildings, parks and green spaces, and the collection, disposal and recycling of domestic and other waste.

The current challenges are numerous: population growth, increasing demand for raw materials and quantities of waste, traffic loads, climate change, ensuring the functionality and safeguarding of the structural substance as well as resilience to crises and threats. In addition, the expansion of structural infrastructures (roads, etc.) in particular is subject to high planning costs and numerous interests and framework conditions that must be coordinated on a regular basis

### Outlook – added value for citizens

Smart, digital technologies optimise the planning and construction, control and operation of urban infrastructures and municipal supply and disposal services. More efficient use of resources: Through the integration of technologies and data analysis, energy consumption can be reduced, for example. Data-based decision-making: collection and analysis of real-time data, among other things, to identify trends and problems in order to take action for improvement.

Data-supported damage recording can be used, for example, to optimise the maintenance of roads or bridges. Digitised flood protection increases safety and optimises existing early warning systems. Simulations based on digital twins can additionally help to predict the effects of external influences and take appropriate measures.

Infrastructural construction projects are planned and executed more efficiently with the help of digital solutions (“Building Information Modelling” (BIM)). Digital construction site coordination and monitoring, which can be synchronised with the infrastructure projects of other pipeline owners, can reduce disruptions for citizens and lower the costs of infrastructure expansion.

Resources and costs can also be saved in the area of supply and disposal: e.g. through the use of smart waste bins that are only emptied at specific fill levels or autonomous waste disposal vehicles with flexible routes.

## Strategic goals

- Creating resilient, sustainable infrastructures through modern planning and operations and platforms for construction and maintenance processes
- Optimising the wastewater infrastructure by means of digital solutions
- Strengthening the circular economy and minimising resource consumption in the City of Stuttgart
- Creating digital twins for mapping and simulation of the urban infrastructure in the departments
- Creating the technical prerequisites for connecting sensors and actuators and setting up a sensor network

## UN Sustainable Development Goals



## Selection of previous activities of the municipality:

**Fibre optics:** Cooperative fibre optic expansion project of the Gigabit Region Stuttgart with Deutsche Telekom - City of Stuttgart is project partner.

**Common Data Environment (CDE) for digital building processes (BIM):** The provision of a project platform (CDE) enables the use of Building Information Modelling (BIM) to handle selected infrastructure projects.



**Smart waste bins:** Data transfer of the waste containers to the in-house operated enterprise Stuttgart Waste Management (AWS) for the control of waste management.

**Drone-controlled building monitoring:** Low-risk, fast, flexible and precise recording of the condition of structures using airborne documentation.

**Automatic building monitoring:** Permanent and highly accurate condition recording of structures by means of automated measuring systems.

### **Selection of future contributions of the municipality:**

**IoT platform (In implementation):** Piloting the introduction of an IoT platform that manages, controls, authenticates and graphically visualises data and system states in a common environment.

**Set-up LoRaWAN test network (In implementation):** LoRaWAN (Long Range Wide Area Network) as the basis for data transmission from sensors. Connection of the data to the IoT platform takes place.

**AI-based damage assessment (In planning):** Project for the automated and efficient recording of the condition of cycle paths. Damage to the road surface is recorded, analysed and categorised using AI technology.

**Further development of the telemetry solution for sewer cleaning (In implementation):** Telemetry solution to continue and increase the efficiency of street drains. Information on level measurement, cleaning frequency or coordinates of the drain.

**Digital sewage treatment plant Möhringen (In implementation):** Forecast-based operational management and automation based on a digital twin. Introduction of Smart Lighting.

**Solar-powered charging stations (Citizen proposal\*/underconsideration):** Publicly accessible charging stations for mobile devices that are solar-powered.

**\*Note:** Citizen suggestions result from online citizen participation (11.04.2023 to 18.05.2023).

# Field of action

## Urban Planning, Housing & Buildings

#Digital Twin #Citizen Participation #Stuttgart3D #Climate Neutrality

### Challenge for Stuttgart

The quality of life in Stuttgart is high – and this has an impact on the housing market. As in many large cities, living space is scarce, demand and rental and purchase prices are correspondingly high.

At the same time, the available space is limited. In the urban area in particular, it is important to maintain the functional diversity of the space – the coexistence of housing, retail, commerce, public facilities, transport, nature and recreation. One of the goals of the City of Stuttgart is to reduce land consumption and still be able to provide sufficient building land for residential and commercial use.

In addition, the demands for transparent urban development and opportunities for participation in one's own neighbourhood are increasing, which require new ways and structures in the city administration.

### Outlook – added value for citizens

In a smart city, data-based models and simulations support urban planning and facilitate demand-oriented land use. By combining municipal data, e.g. on weather conditions, heat patterns, air quality and movement patterns in public spaces, usage patterns can be identified and planning and decision-making processes can be controlled according to demand. The digital twin can not only be used to simulate future construction projects and land reallocations – including their spatial and ecological effects – but also to prepare them in a comprehensible way for the public.

Digitally supported participation processes, such as idea competitions and digital deficiency reports, can be used to identify the needs of the population (see "Society & Culture" field of action). More and more digital solutions are also finding their way into private living environments. Smart home applications can be tested and tried out in real laboratories. Building projects are planned and executed more efficiently with the help of digital solutions (keyword "Building Information Modelling" (BIM), see "Infrastructures & Supply/Disposal" field of action).

A framework for action for the spatial development of Stuttgart is being developed in a participatory planning process. Innovative formats and tools accompany the process and help to discuss the goals of urban development with the public and thus reach a common understanding of planning.

## Strategic goals

- Maintaining a liveable residential and living space for all population groups
- Improving the data basis for urban planning within the administration
- Optimising citizen participation and transparency in urban planning processes
- Sustainable urban development through the promotion of “green” buildings and the use of renewable energies
- Integration of living and working and creation of multifunctional spaces

## UN Sustainable Development Goals



## Selection of previous activities of the municipality:

**Digital building application:** Introduction of the digital building application in 2022 and ongoing digitisation of building law procedures. Online administration via [service-bw.de](https://service-bw.de).

**Computer Aided Facility Management (CAFM):** Digital linkages of real-time building data enable fast and effective responses to incidents.

**Stuttgart 3D:** 3D city model of the City of Stuttgart.

**Construction of energetically innovative buildings:** The Waldau sports hall is one of the first municipal buildings to meet the goal of climate neutrality.

**Real Estate Dashboard:** Dashboard to visualise sales and prices of apartments (release in 2023).

## **Selection of future contributions of the municipality:**

**Building Information Modeling / BIM (In planning):** Introduction of the BIM method for planning, construction and operation of buildings in the offices and in-house operated enterprises of the City of Stuttgart by 2030.

**Digital twin and information portal for real estate (In planning):** Development of an information portal and a digital twin real estate market with sales data and real estate price calculator.

**Development of a new "ISTEK" (In planning):** 3D display of architectural models in urban planning competitions and online access.

**Erarbeitung eines neuen ISTEK (In planning):** Development of a new Integrated Urban Development Concept (ISTEK) in the course of a multi-year participation and planning process.

**Smart Buildings (Citizen proposal\*/under consideration):** Efficient operation and energy cost reduction through intelligent building management systems and smart home technologies.

**\*Note:** Citizen suggestions result from online citizen participation (11.04.2023 to 18.05.2023).

# Field of action

## Society & Culture

#Citizen participation #Digital cultural offerings #Accessibility #Tourism

### Challenge for Stuttgart

A liveable city is also characterised by the commitment and creativity of local people. It is therefore important to strengthen participation and find new ways for citizens to actively shape this smart city in the future. At the same time, the effects of digitalisation on social structures and urban culture must be managed positively.

Thus, there is a danger of a digital divide in society. Lack of language or digital skills, low digital affinity or lack of access to digital services can lead to exclusion from urban services. Equal opportunities require a combination of analogue and digital offerings. This also affects Stuttgart's cultural scene, which needs to maintain cultural offerings and increase or secure user numbers.

### Outlook – added value for citizens

Digital participation offerings reach new target groups and provide transparent information about planning procedures and political decision-making processes. In this way, the acceptance and user-friendliness of smart city solutions can be increased and innovations can be developed co-creatively together with the people.

Through accessibility concepts, plain language and translation functions, special functions for people with visual impairments and also through the parallel provision of analogue alternatives, all people can benefit from smart services. Access to digital technologies can be created through "test shops" or "makerspaces".

Digital solutions will shape the "experience" of art and cultural offerings even more. Technologies such as augmented and virtual reality solutions merge the virtual and real worlds and enable new forms of expression and experience. The gamification approach links elements of art and education and promotes new collaborations and forms of social engagement. Digital, simplified booking and travel experiences reach both locals and guests. Through digital platforms and guest cards, arts and cultural offerings become available in additional innovative formats regardless of location. This also strengthens the local economy. For large events, digital solutions offer not only optimised planning and a modern visitor experience (e.g. via an event app) but also additional safety benefits such as visitor guidance (keyword "crowd management").

## Strategic goals

- Promoting civic participation, strengthening civic engagement, creating digital equality of opportunity
- Complementary digital, accessible offerings in the arts and culture scene
- Opening up new possibilities for cultural education through the use of software and smart technologies
- Creating artificial and creative (experimental) spaces for art with digital technology
- Further developing tourism

## UN Sustainable Development Goals



## Selection of previous activities of the municipality:

**Information pillars (touch pillars, welcome wall):** Complementing the tourist service and advice offer, through which visitors receive information for their stay when they arrive in the city.

**Pedestrian guidance system (FLS):** Pedestrian information system in the city centre

**“MeinServiceStuttgart” Cultural Events:** Online service where cultural organisers can independently enter their events. After moderation, these are published in the event calendar of stuttgart.de.

**StuttCard:** Digital city experience map for tourism and leisure.

**Online citizen participation:** Information and participation portal stuttgart-meine-stadt.de

## Selection of future contributions of the municipality:

**Go-live relaunch Citizen Participation Portal (In planning):** Further development of the participation formats to better convey information and to increase the degree of utilisation offered.

**“EM App” / future City App (In implementation):** Development of a Host City EM App on the occasion of UEFA EURO 2024 (European Football Championship), which informs visitors about the most important touchpoints of the city and offers further services.

**Digital city tour (In planning):** Audio-based guided tour played automatically by GPS matching on a predefined route.

**“Kulturwegweiser” and “CultureNavi” (In planning):** Online cultural information system (Kulturwegweiser) and optimisation of the events calendar (KulturNavi).

**Neighbourhood app (Citizen proposal\*/under consideration):** Digital platform through which topic-related teams within a city district can form and exchange ideas.

**\*Note:** Citizen suggestions result from online citizen participation (11.04.2023 to 18.05.2023).

# Field of action

## Social & Health

#Health promotion #Volunteering #Care provision #Participation

### Challenge for Stuttgart

The “Social Affairs and Health” field of action deals with issues of medical and social services of general interest as well as integration and diversity. The shortage of skilled workers is putting increasing pressure on health and social systems. While digital technologies can contribute to the solution through efficiency gains and assistance systems, many patients, relatives and staff in hospitals and care facilities are not yet familiar with them and must first learn how to use them.

In the course of the pandemic, it also became clear how important social cohesion at neighbourhood and district level is for a high quality of life and social services of general interest for all population groups. Therefore, it is also important to continuously strengthen lively neighbourhoods and districts in Stuttgart - also with the help of digital solutions. On-site services can be supplemented by digital solutions and thus create more contact opportunities or expand service offerings.

### Outlook – added value for citizens

In a smart city, digital solutions complement medical and social services in a variety of ways. Digital everyday helpers (so-called Ambient Assisted Living Solutions – AAL) and automatic emergency call systems can make life easier for senior citizens and their relatives and enable them to live a long and self-determined life in their own homes. Digital services offered by the city administration, such as online counselling, can reduce the workload for citizens in the future.

In hospitals and care facilities, the digitalisation and automation of processes and documentation can save valuable time and relieve skilled personnel. Care robots and assistance systems can simplify heavy physical tasks. By networking the medical facilities in the city, patients can be better cared for, prescriptions and work letters, for example, can be transferred directly and resources can be conserved. However, in order to use such technologies and solutions sustainably, special training and further education programmes must be created. Participation in digitalisation should be possible for all citizens at a low threshold.

Neighbourhood platforms and clever sharing concepts, such as digitally networked toy and tool cabinets in the neighbourhood, bring neighbourhoods closer together again. Neighbourhood centres, public community spaces and multifunctional facilities such as multi-generation houses also play a major role. Smart city solutions such as booking systems, intelligent information pillars or digital pilots can usefully complement these facilities.



## Strategic goals

- Self-determined and safe living in old age/ Ambient Assisted Living
- Relief in health and care provision through digital technologies
- Securing well-trained professionals in the health sector
- Intelligent networking of neighbourhoods
- Low-threshold participation in digitalisation for all citizens

## UN Sustainable Development Goals



## Selection of previous activities of the municipality:

**Subsidies online:** Simplified online application for funding for associations / organisations.

**Health screenings:** The mesana health check-up measures and evaluates individual health data and provides tips for a healthier lifestyle.

**Stuttgart inklusiv (Stuttgart inclusive):** Accessible online city guide with detailed information about guidance systems and markings for blind and visually/mobility impaired people.

**SIRa (Sport and Information System):** Information on the topic of sport and physical activity is available to citizens at [www.stuttgart-bewegt-sich.de](http://www.stuttgart-bewegt-sich.de). Further development is planned.

**Social and Digital Participation in Old Age Specialist Unit at the Stuttgart Social Welfare Office:** The specialist unit develops contact points and digital consultation hours for older people in order to enable structures for digital and social participation. It works together with volunteers, local actors and social institutions.

## **Selection of future contributions of the municipality:**

**“Kita-App” (In implementation):** Introduction and establishment of a platform for better communication between parents and the day care centre.

**Video interpreter (In implementation):** Interpreters can be added to a counselling session on demand via video.

**Guide of the Social Welfare Office (In planning):** Provision of an accessible service robot in the Social Welfare Office. The guide communicates in several languages and in easy language. In addition, the service will be available as an app.

**Digitalisation measures youth welfare planning (In planning):** Online submission of information and factual reports by the agencies to the youth welfare planning and further processing of the data there.

**Online appointment of the STD outpatient clinic (In implementation):** Installation of an online appointment platform to simplify the appointment process.

**Doctor’s appointment portal (Citizen proposal\*/under consideration):** Digital platform that enables doctors’ availability to be displayed and appointments to be made online.

**\*Note:** Citizen suggestions result from online citizen participation (11.04.2023 to 18.05.2023).

# Field of action

## Education

#Educational equity #Digital skills #Digital media

### Challenge for Stuttgart

In a highly digitalised city of the future, all population groups will need digital skills in the medium term in order to use networked, digital services, whether privately or in the world of work.

In coordination with the Ministry of Education, this requires target group-oriented educational offers that also include technological progress. This is not primarily about teaching programming skills, but about the confident handling of data and technologies as well as supplementing educational offers with digital tools.

An important building block is the comprehensive digitisation of formal and nonformal educational institutions, i.e. the connection of educational institutions to highperformance and education-specific telecommunication networks, the availability of WiFi at all educational institutions as well as media-pedagogical, high-performance and future-proof hardware and software must be ensured.

### Outlook – added value for citizens

In a smart city, analogue educational offers are supplemented by digital formats, not replaced. Through digital participation and (further) education formats, additional lowthreshold offers can be created for all population groups and according to individual educational needs.

The personal teaching of digital skills by well-trained teachers, but also innovative pedagogical approaches from the field of gamification, among others, strengthen digital sovereignty and a self-confident handling of public and private data and technologies.

Joint educational offers with science and business promote the culture of innovation in all age groups. Educational institutions strengthen their function as enablers of social, technical and scientific innovation.

### Strategic goals

- Ensuring educational equity and social participation
- Promoting digital skills among students and trainees
- Strengthening digital sovereignty

## UN Sustainable Development Goals



### Selection of previous activities of the municipality:

**Media education equipment:** Media education equipment.

**Educational network environments:** Provision of high-performance and education-specific telecommunication and information technology network environments and WiFi infrastructure.

**Educational media development planning:** Media development planning that is needs-based and geared to pedagogy.

### Selection of future contributions of the municipality:

**Networking of all classrooms with IT and media infrastructure adapted to teaching as a basis for subject integrative media education (In implementation):** It is imperative to create a digital infrastructure in all school buildings, classrooms and group rooms as well as multifunctional rooms that is precisely tailored to the respective (subject-) didactic teaching requirements. In order to realise hybrid teaching and other digital learning scenarios and to enable media education that is integrated across the board in all grades and types of schools, a further expansion of media pedagogical IT infrastructure and targeted support offers for the pedagogical staff is necessary in parallel to the increasing number of end devices in the schools.

**Broadband connection for all schools and increase in connection speed in the educational network (In implementation or registered for the two-year budget 2024 / 2025):** The network environment must provide a high-performance local connection in and between the school buildings and all services and functions in the IT rooms, classrooms, group rooms and subject rooms. It is essential that scaling is possible in order to be able to handle an increase in hardware and software. At the same time, the end devices should be able to access data, services and functions and use them securely. Thus, the servers, firewalls, switches and other active components must be installed, configured and maintained to match the pedagogical solution, so that availability for teaching is guaranteed.

**Fully equipping teachers and pupils with mobile loan equipment (In implementation):** Mobile, digital devices (e.g. tablets) can be used by teachers for innovative teaching methods as well as by pupils to learn how to use digital media consciously. The devices should be made available for this purpose.

**Online school and training guide (In planning):** A state of the art online offer is to be provided on all municipal school and training offers.

**Media skills courses (Citizen proposal\*/under consideration):** Courses for all age groups that promote the conscious use of social/digital media and information from the internet as a consumer and producer.

**\*Note:** Citizen suggestions result from online citizen participation (11.04.2023 to 18.05.2023).

# Field of action

## Economy

#Digital infrastructure #Value creation #Industry 4.0 #Technology transfer

### Challenge for Stuttgart

Stuttgart is a hotspot for innovation in the automotive cluster, in electronics and information technology and in mechanical engineering. The attractiveness of the business location depends, among other things, on the comprehensive availability of digital infrastructures (fibre optics, LTE/5G), a strong innovation ecosystem and a welltrained workforce.

Even though the economy is characterised by sectors that are strong in technology and innovation, it is important to further strengthen and promote digitalisation, especially in the SME and craft sectors. Due to limited human and financial resources, the development of new, digital business models as well as the digitalisation of existing business processes is often seen here as an additional task and prioritised too late.

### Outlook – added value for citizens

By promoting innovation networks of science and start-ups as well as cross-innovation offers, such as the City Innovation Lab, the innovation ecosystem can be further strengthened and the development of new, digital business models promoted.

It is of crucial importance for the business location that companies can carry out their exchange with the city digitally, easily and quickly. This applies to application procedures, administrative files and the general exchange of data.

Another important added value for businesses is the municipal data. They should be made available to businesses in an accessible and open manner. The data opens up opportunities, especially for SMEs, the craft sector or even the service and tourism sector, to develop new products and services.

The manufacturing industry and local companies contribute to resource efficiency and the reduction of traffic through process optimisation and intelligent fleet management. At the same time, this supports the innovative strength of the local economy and thus strengthens our attractiveness as a business location.

With the action plan “Entwicklungskonzeption Wirtschaftsflächen in Stuttgart” (Development concept for economic areas in Stuttgart), a plan was presented that already contains a large number of individual measures in the field of economy. The plans “Smart Zone Stuttgart” and “Micro-Hubs für eine nachhaltige Citylogistik” (Micro-Hubs for Sustainable City Logistics) also contain relevant measures.

## Strategic goals

- Strengthening the city as a business location with modern technology accesses and a close link between science and business
- Providing digital services that simplify/ accelerate application and administrative procedures for businesses
- Providing high-performance digital infrastructure for all businesses
- Promoting the innovation ecosystem and the development of new business models through the provision of municipal data
- Promoting start-ups and innovative companies in their use of AI and Big Data technologies

## UN Sustainable Development Goals



### Selection of previous activities of the municipality:

**Expansion of the broadband connection:** Fibre-optic connection of all businesses in commercial areas by 2025.

**Exploring new 5G applications:** Project to research new 5G applications for Industry 4.0 and smart city in cooperation with partners from science and industry (“SynergieRegion”).

**Digital delivery and loading zones:** Together with the platform provider PARKUNLOAD, the digitalisation of loading zones is being designed, piloted and evaluated in the project.

**Matching portal roomstr.de:** Portal for searching and advertising commercial space in Stuttgart with the aim of actively averting or reviving vacancies in district centres and the city centre.

**Digital booking of tourist services:** Various web-based tools have been developed that enable the online booking of tourist services (hotels, city tours, experiences).

### **Selection of future contributions of the municipality:**

**Online appointment allocation for start-up advice (In planning):** Für die Gründerberatung soll die Terminvergabe zukünftig über ein Portal online erfolgen. Auch die Vermittlung zu den Beratern soll online erfolgen.

**Digital business registration (In implementation):** A trade can be registered, deregistered and re-registered via the online procedure.

**Job market for Stuttgart (Citizen proposal\*/underconsideration):** A digital job board that provides an overview and access to job offers in the city.

**\*Note:** Citizen suggestions result from online citizen participation (11.04.2023 to 18.05.2023).



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