



Munich – a laboratory for the European city of tomorrow

The EU Commission has chosen Munich, Lyon and Vienna to pilot ground-breaking smart city solutions. The EU project “Smarter Together” is turning Munich into a laboratory for the European city of the future, as local government collaborates closely with numerous partners in the business and academic communities.

The aim is to harness cutting-edge technology and use data intelligently to find answers to questions about the future or urban development. Residents' quality of life is to be improved, homes are to become more energy-efficient and connected mobility offerings are to be created. Deputy Mayor Josef Schmid is responsible for the project, and for him the magic number is 20: The goal is for the activities of the Munich Smarter Together project to reduce CO₂ emissions by more than 20 percent, to generate more than 20 percent of energy from renewable sources and to improve energy efficiency by more than 20 percent. By 2050, Munich indeed wants the Neuaubing-Westkreuz district to achieve a zero carbon footprint.

Between now and the start of 2021, Munich is investing the funds it receives from the EU in the Neuaubing-Westkreuz/Freiham district, home to around 30,000 people on the city's western edge. This, the largest but most sparsely populated district of Munich, is now also the biggest urban development space in Germany.

Lighthouse for smart city development

Model activities are being developed in Munich to serve as an example for other cities in Europe. Alongside energy-related housing refurbishment, Smarter Together also includes plans for smart street lamps,

multimodal mobility offerings and multifunctional neighbourhood sharing boxes, as well as a dedicated smart neighbourhood app that will intelligently link up municipal and mobility services in the pilot district. In Munich, Smarter Together is also drawing on the specialist knowledge of eleven partners in the business and academic communities.

As many as eight mobility stations are to be set up in the neighbourhood by 2019. Local transport utility MVG is in charge of a package of measures for sustainable mobility solutions, which it is implementing in cooperation with local government and other actors in the project area. At these stations, MVG will link its core public transport offerings to other mobility building blocks such as e-car sharing vehicles from Stattauto, utility pedelecs/e-trikes and charging stations for electric cars. Local digital information points and the smart neighbourhood app will serve as the control system, informing local residents about the availability of mobility offerings.

Cutting energy consumption

A comprehensive structural, technical and energy efficiency analysis will be provided to home owners. Based on the findings, proposals for modernization will be drafted that factor in the latest technologies, as well as innovative financing models such as crowdfunding and contracting. Close attention will be paid to reliable planning, costing and financing. The plan is to raise 42,000 square metres of living space to a high standard of energy efficiency while at the same time cutting household energy consumption by deploying smart home features.



These measures will be flanked by the use of renewable energy. A growing share of the district's energy needs should be met using district heating from the geothermal power plant in Freiham and by distributing photovoltaic modules across residential buildings. A battery store will allow surplus energy to be fed into the virtual power plant operated by municipal utility SWM. Small-scale power generation plants will become more cost-efficient as a result. The virtual power plant will establish connectivity between a large number of generation plants, thereby helping to stabilize regional grids thanks to smart power management. Energy-related refurbishment together with moves to ramp up the provision of energy from renewable sources can save as much as 700 tons of CO₂ emissions per year.

Smart data, not big data

On the technology front, the focus is on the intelligent use of information. Smart data, not big data is the motto: quality, not quantity. Logically, therefore, only those data will be collected, crunched and made available that yield direct benefits to local residents or to the city as a whole. Privacy and data security command top priority. Smart street lamps are a case in point: Sensors will enable these street lamps to harvest environmental, weather and traffic information – and adjust the brightness of lighting accordingly.

Building the future together

The Smarter Together project is being realized in collaboration with municipal enterprises, the corporate sector and academia. The project partners are: Bertvest, the Fraunhofer Institute for Industrial Engineering (IAO), the Fraunhofer Institute for Building Physics (IBP), G5, MVG/SWM, Securitas, Siemens, Stattauto München, the Munich Center for Technology in Society (MCTS) at the Technical University of Munich (TUM), TUM's Chair of Building Technology and Climate Responsive Design, and the University of St. Gallen. Project management has been entrusted to Munich's Department of Labor and Economic Development. On the ground, local government urban renewal company MGS is coordinating concrete processes in the pilot neighbourhood. Other municipal agencies involved in the project include the Department of Urban Planning and Building Regulations, the IT unit attached to the city's Managerial Board and the Department of Public Building Construction.

The living lab: a central meeting place to shape the neighbourhood

“Smarter Together” gets locals in the project neighbourhood actively engaged to ensure that the resultant applications are practical, workable and genuinely meet the needs of residents. To this end, urban renewal company Münchner Gesellschaft für Stadterneuerung mbH has set up a “smart living lab”.

The lab hosts regular workshops, lectures, film nights and debates. At the same time, it is a forum where people can pool and share their opinions, interests, knowledge and experience. Mobility stations, sharing boxes and smart street lamps are only three of the many measures that are planned and will ultimately help create a smart city. But how must district sharing boxes be designed to best accommodate a delivery, shopping and sharing service? And what exactly should the locally piloted smart street lamps be able to do? Provide WiFi? Measure traffic volumes? These are the kind of questions that local residents and experts from local government and its partners in industry can discuss in order to develop specific solutions for their immediate neighbourhood.

New form of public participation

The Munich Center for Technology in Society, a facility run by the Technical University of Munich, has organized conceptual design workshops as a new form of public participation. Hosted in the local neighbourhood, these workshops serve to examine situations, identify problem areas, design and test prototype solutions and explore alternatives. That gives local residents a very real way to influence the design and conception of the planned measures.

Concrete implementation of the Smarter Together project began on June 2 in the Neuaubing-Westkreuz and Freiham project area on the western edge of Munich. Deputy Mayor Josef Schmid, head of the Department of Labor and Economic Development, sees public participation as an important mandate for the project: “It’s all about making everyday life better and simpler for the people who live here. That’s why it is so important for locals to be involved in shaping the project. Ultimately, though, the locals themselves decide what they really need.”



Shared objectives

At a meeting in Lyon last March, the cities of Lyon, Munich and Vienna announced the official launch of the EU project “Smarter Together”. The European Commission had selected these three cities from over 40 candidates, and they will now receive funds totaling EUR 24.7 million to channel into innovative urban development. Munich-based projects will receive about EUR 6.85 million. This money will be boosted by local government’s own contributions and funding from businesses and research organizations, with the result that EUR 20 million in all will be invested in Neuaubing-Westkreuz.

Representatives of the three European lighthouse cities, three “follower cities” (Santiago de Compostela, Sofia and Venice), two observer cities (Kiev and Yokohama), local and international companies, research institutes, SMEs and the European Commission all came together in March to stake out their plan and vision for a better quality of life in (ageing) urban neighbourhoods.

Standing in for Deputy Mayor Josef Schmid, who also heads Munich’s Department of Labor and Economic Development, Munich City Councillor Johann Sauerer (CSU) told the gathering in Lyon what Munich expects from the project and what it will contribute. Sauerer agreed with the representatives of Vienna and Lyon that involving local citizens is a key success factor in shaping the city of tomorrow.

The three lighthouse cities are of comparable size and dynamism and will target five specific areas:

- “Living labs” – a format to facilitate the participation of local residents
- District heating and renewable energy for the targeted low-energy districts
- Comprehensive, integrated refurbishment to achieve low energy levels in public and private construction by local government and relevant cooperatives
- A platform for smart data management and smart services in integrated infrastructure installations
- Sustainable e-mobility

Lyon, Munich and Vienna have set themselves the following project targets:

- Smart refurbishment of 143,067 m² of living space, mostly in social housing, to cut energy consumption and CO₂ emissions roughly in half
- 17.2 Megawatts of new, renewable, local energy capacity in the various districts/project areas
- 15 innovative e-mobility solutions for passenger and freight transport, saving 95.5 tons of carbon dioxide per year
- More than 1,500 new jobs created with the assistance of integrated ICT solutions and in dialogue with local residents

Dialogue with Graz

In November, a delegation from Munich visited the German-Austrian URBAN network, an association of cities which has applied itself to the implementation of urban development actions funded by the ERDF for the past 20 years, and which has already formulated its positions for the coming funding period. The network’s conference in Graz tackled the subject of “Smart city solutions and digitization in urban development”. Representatives of the European Affairs Team took the opportunity to showcase Munich’s “Smarter Together” project and, in return, were able to gather a wealth of information about Graz’s own smart city project.

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