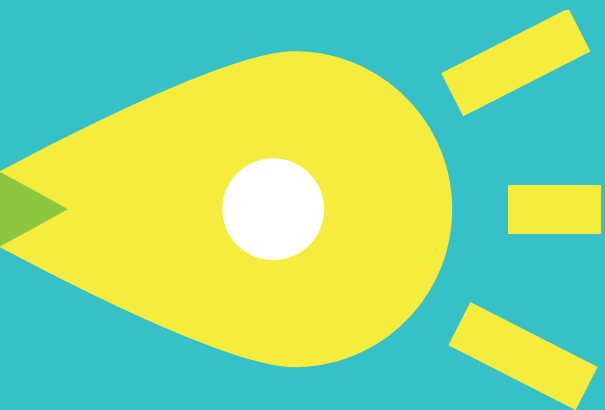


Smarter Together
Vienna

Urban Renewal with a Vision & Method





Urban Renewal with a Vision & Method

Vienna's final report on its share in the EU-funded H2020 / SCC1 project
Smarter Together
2016-2021



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Foreword

Image above:
Mayor Michael Ludwig (r.) at the
E-Carsharing Hauffgasse

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Dear readers

Dear Viennese

Dear European partners,

For years, Vienna has been ranked in many international rankings as one of the most liveable cities in the world. Affordable housing and the associated high level of social integration are decisive factors in this. With the Smarter Together project, Vienna has set itself the goal of implementing innovative, smart solutions in core areas of urban renewal in order to demonstrate potential for the future and to further develop a successful model of soft urban renewal in the face of new challenges and conditions. At the same time, Smarter Together makes European Union initiatives tangible on the local level in urban districts.

The committed team of 'Smarter Together' has fulfilled the mission of the project in a consistently cooperative and creative way. Citizen participation was given a central role, as is envisaged in the internationally acclaimed Smart City Framework Strategy of the City of Vienna.

Vienna's holistic approach to urban renewal has made it one of the most liveable cities and also more resilient to the many global challenges. The global financial crisis of 2008/2009 was felt less in Vienna than elsewhere because subsidised social housing provided people with a foundation that enabled them to meet to the cost of living in dignity. Even today, when rents and housing prices in the world's large metropolises are rising immeasurably, Vienna's social housing is a cornerstone that ensures affordable accommodation in our city. For decades, Vienna has pursued a responsible climate policy, especially in housing, and now has the necessary instruments to actively tackle the climate crisis together with its residents. And the COVID-19 pandemic has also shown that the social respectively subsidized housing gives people confidence in the future despite all the challenges.

Smarter Together has relied on partnership-based dialogue involving participants from politics, administration, business, science and civil society, and has included the population of Simmering – senior citizens, children, young people, students and everyone who lives and works in the district.



The final report shows the potential of a co-creative process in which high technology, business, innovative city administration and citizen participation complement each other.

The numerous locally and internationally oriented follow-up projects of the City of Vienna, as well as those of the project partners, bear witness to the sustainability of the project, which will benefit the Viennese for a long time to come.

We hope that this final report makes for stimulating reading for all of you – project partners and other readers alike – and that it provides inspiration for many more joint projects.

Image above:
(middle) Deputy Mayor Kathrin Gaál at the opening of the Smarter Together themeroad

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Michael Ludwig
Michael Ludwig
Mayor of the
City of Vienna



Kathrin Gaál
Kathrin Gaál
Deputy Mayor of the City
of Vienna and Executive
City Councillor for Housing,
Housing Construction, Urban
Renewal and Women's Issues



Acknowledgement



Otto Eckl
Head of Department
City of Vienna,
Technical Urban Renewal

Image above:
Otto Eckl at the Smarter Together
Symposium, 2019

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Dear readers,

After 5 years, the Smarter Together smart city urban renewal project, funded by the European Union, is coming to an end.

It is now time to take stock and say 'thank you'. One thing is already certain: Smarter Together has far exceeded its initial goals and has made an impact in Vienna and in Europe.

This final report provides an overview of the many activities, projects, methods and processes that made up Smarter Together in Vienna. The immediate results are quite impressive, as are the sustainable effects of this EU lighthouse project. Above all, however, the report gives the people who have contributed to the success of this joint project the chance to have their say.

Therefore, as the head of the City of Vienna Municipal Department for Technical Urban Renewal, which was in charge of coordinating the Viennese part of the project, I would like to express my special thanks to all the people and institutions involved.

Nine departments of the City of Vienna covering almost all policy areas, numerous science, research and economic institutions and municipal enterprises have worked together in an innovative way on this project.

Particularly valuable was and is the active commitment of local associations and local people of all ages and from all social classes. My special thanks go to all of them.

On behalf of everyone, I would like to thank the project leaders Julia Girardi-Hoog and Stephan Hartmann, as well as all those responsible for the individual thematic areas – the so-called task leaders – for their commitment, their technical competence, their professionalism and their enthusiasm.

I would particularly like to emphasise the spirit of joint project design – the 'co-creation' – which has been a feature of the work across all departments.

It is precisely this common striving for excellence that has made Smarter Together a forward-looking urban renewal project which is supported by a European vision and at the same

Acknowledgement

SMARTER TOGETHER

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time deeply anchored locally and
benefiting the people on the ground.

I wish all readers a stimulating read.

Together simply smarter!

Otto Eckl

Head of Department
City of Vienna,
Technical Urban Renewal

Image above:
Smarter Together Symposium

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SMARTER TOGETHER

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Editorial



Stephan Hartmann
Project Manager since
February 2019,
Taskleader Mobility



Bojan Schnabl
Taskleader
Communication,
Project Coordinator 2015

Dear readers,
dear Smarter Together community,
dear Smarties,

Since it began in February 2016, Smarter Together has developed into the primary holistic smart city urban renewal initiative in Vienna. It has implemented future-oriented solutions in pilot projects while testing and researching them at the same time.

Originally, the project proposal, submitted within the framework of the EU Horizon 2020 Smart Cities and Communities funding programme, was based on the idea of implementing the Smart City Vienna Framework Strategy through the project in a real-life context on site, together with citizens and stakeholders. Equally, the project provided the opportunity to test the potential of the Smart City Vienna Framework Strategy, the opportunities it offered and its suitability for everyday use. Thus, Smarter Together became a future-oriented urban living lab (ULL) – a participatory platform for urban innovation processes, and one which, moreover, was remarkable on an international scale. Numerous follow-up projects – particularly the WieNeu+ initiative, which is to continue the theme of urban renewal at neighbourhood level over the next 10 years following

the Smarter Together model – bear witness to the extent to which the Smarter Together project vision has already borne fruit.

Along with the innovative and interrelated technical solutions developed by Smarter Together, it is above all the methods and processes running in the background that have contributed significantly to the sustainable success of the project.

A main aim of the present publication is thus to shed light on these methods and processes. A synopsis of technical and data-based information on individual sub-projects (especially in the factsheets) on the one hand and process information on the other is intended to provide in-depth insight into the successful and sustainability-oriented management of the project.

A central concern in the conception of the project was to combine the best of two worlds: on the one hand, the concrete, goal-oriented approach of project management according to the SMART principles (Specific, Measurable, Attractive, Realistic, Timed); on the other hand, a process-oriented and sustainability-oriented project or actually a comprehensive programme as well as the work of the administration subject to democratic



control. This is also important for the further development of European programmes.

The starting point for this report is the Smarter Together – Urban Renewal in Times of Climate Crisis symposium held on 21 November 2019 in Vienna City Hall. This Symposium was dedicated to the experiences and insights gained in the course of the project and the question of how the stakeholders can take these experiences into their future work.

Structure of the final report

This publication essentially follows the structure of the symposium and at the same time provides further interesting information. As such, it is conceived of as the final report of Vienna's part of Smarter Together. A monitoring and evaluation report based on final data, to be prepared by AIT, is not planned until the end of the project in summer 2021. This is carried out by the AIT (Austrian Institute of Technology). Also separately, recommendations will be elaborated by the overall project consortium, into which the Viennese experience will be incorporated.

The **first part** of this publication encompasses, among other things, the opening speech by Kathrin Gaál,

which had become meanwhile Deputy Mayor and then City Councillor for Women's Issues and Housing. Also included are conceptual reflections on the smart city of the future by Thomas Madreither from the Chief Executive Office of the City of Vienna. In addition to a project overview by the project managers, there are statements by high-ranking stakeholders from Vienna and the partner cities of Munich and Lyon. Short presentations of the project partners highlight their specific and highly varied contributions to the project.

In her opening speech, Kathrin Gaál, Deputy Mayor and then City Councillor for Women's Issues and Housing, aptly characterised one of the central unique selling points of the project as follows:

In this way, she set the tone for the entire symposium.

„There was a great, almost visionary mood from the start.“

Vice-Mayor and Executive City Councillor Kathrin Gaál

The core of **Part 2** is formed by the exciting panel discussions from the Smarter Together Symposium on the

Image above:
Smarter Together Symposium
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experiences of numerous project participants on the four topics of refurbishment, participation, mobility and infrastructure, which are presented in written form for the first time in this report. Introductions by the different task leaders provide an overview of activities and experiences of the process for each topic from a project management perspective. The discussion contributions are supplemented by factsheets. These provide a brief, structured overview of numerous individual sub-projects. In addition to a review of the projects presented, these factsheets include reflections on future actions as regards lessons learned, replication and holistic approaches, and can be considered as recommendations.

Part 3 of the publication includes a series of conceptual contributions on methods and processes that provide insight into the factors underpinning successful project management. The content presented is essential for understanding the success of Smarter Together in Vienna. Thus, a connection is made between the project history as experienced by the individual partners and presented in the panel discussions in Part 2 and strategic considerations at project management level.

Part 4 describes the numerous sustainable results and follow-up projects. These go far beyond the concrete goals formulated in 2015 when the project proposal was submitted. A comprehensive list of all follow-up projects can be found in the replication chart presented as a graphic in the Project Tree. These continuing projects implemented by the City of Vienna and other project partners ensure the sustainable application of the various lessons learned during Smarter Together after the end of the project, thereby underlining the sustainability of the approach. The fact that Smarter Together is perceived as a success story and a 'brand' by the City of Vienna is demonstrated by the City's ongoing commitment to continue the project over the next 10 years as part of its large-scale renewal efforts under the title WieNeu+. In a city council

resolution adopted by a large majority from all parties, the title 'Smarter Together 2.0' has even been used.

A review at the end of the report shows that the overall results of the project have been very positive and that the sustainability of its impact is assured, especially since some of its approaches appear in the current Vienna government programme. For instance, the Vienna Urban Development Programme 2035 is even entitled 'Smarter together 3.0'. Smarter Together is indeed sometimes even one step ahead of the future.

We hope you enjoy reading this report and discovering the diversity of Smarter Together in Vienna!

Stephan Hartmann,
Project Manager,
Taskleader Mobility

Bojan Schnabl,
Taskleader Communication,
Project Coordinator 2015

Image on the right side:
Smarter Together Symposium

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**Soziale und
technische
Innovationen
für ein
lebenswertes
Stadtviertel.**



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SIEMENS



GUBE



Image above:
Solar benches in front of the
school NMS/ONMS Enkplatz

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Image above:
Barbara Novak with pupils of
the school NMS/ONMS Enkplatz
at the solar benches in the
schoolyard

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Part I

Together Smarter



Kathrin Gaál

Opening speech at the Smarter Together Symposium on 21st November 2019



Kathrin Gaál
Deputy Mayor and
Executive City Councillor
for Housing, Housing
Construction, Urban
Renewal and Women's
Issues

Image above:
Kathrin Gaál during her opening
speech at the Smarter Together
Symposium entitled "Urban
Renewal in Times of Climate
Crisis" in the City Hall of the City
of Vienna on November 21, 2019.

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Ladies and Gentlemen,
Welcome to Vienna City Hall!

Welcome to the Smarter Together
Symposium!

I am particularly pleased to welcome
representatives from our partner
cities, namely Munich and Lyon.
Many, many thanks for the excellent,
close, competent and trust-based
cooperation in the last few years.

Vienna has benefited greatly from EU
support on the one hand, of course,
and from our international exchange
on the other hand, and it would be
great to continue this cooperation after
the Smarter Together period.

In times of climate crisis urban
renewal is, and I am not telling you
anything new, more topical than ever.
Climate change phenomena are
increasing rapidly; we are all feeling
them. Research is being carried out
everywhere, attempts are being made
to initiate pilot projects in a wide variety
of subject areas and there is a constant
search for best practice examples.

In my opinion, Smarter Together in
Simmering can definitely be seen as a
role model for urban renewal. We were
able to support and implement about
40 projects in Simmering, starting with
thermal renovation in social housing,
mobility offers such as electric cars
for local communities or e-bike rental.
Undoubtedly, the four zero-energy
gymnasiums at the new secondary
school, NMS Enkplatz are further
highlights.

One of the success factors of Smarter
Together in Simmering was certainly
the intensive citizen participation from
the very beginning. Consultation and
information activities were carried out
as a matter of course by the employees
right from the start.

Another benefit was the cooperation
with local companies from the very
beginning. What was also particularly
important, and what we can be very
proud of, is that Smarter Together has
enabled us to secure 900 jobs and
even to create many new ones.



And the City of Vienna has shown how modern city administration works. Nine departments joined in the project as well as some 70 employees of the city. Thanks to all who have participated for the good cooperation.

Our task now is to continue the Vienna Smart City framework strategy with concrete projects. Smarter Together is certainly a role model for future urban renewal for us in the city.

Finally, I would like to thank you for the excellent cooperation. There was an almost visionary spirit from the beginning. This has accompanied Smarter Together through its entire duration and ultimately made this great success possible, and so once again a big thank you all.

„There was a great, almost visionary mood from the start.“

Deputy Mayor and Executive Councilor
Kathrin Gaál

Image above:
From left to right: Arthur Mannsbarth, Stephan Hartmann, Kathrin Gaál, Julia Girardi-Hoog, Otto Eckl, Bernhard Jarolim, Waltraud Schmid at the Smarter Together Symposium.

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Thomas Madreiter

Visions and challenges for a city of the future with a high quality of life



Thomas Madreiter
Planning Director of the
City of Vienna,
Chief Executive Office,
Executive Group for
Construction and
Technology

Image above:
Thomas Madreiter at the Smarter
Together Symposium

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We are facing great challenges – especially in urban areas – in the labour market, in health, care, education and integration, in financing the expansion of public facilities to respond to urban growth, in finding ways to deal with global market forces that are having an increasing impact at local and regional level.

But let's not fool ourselves: the climate crisis hangs over all these challenges like a sword of Damocles. Overcoming it is probably not the sine qua non for the survival of mankind, but it may well be for the continued existence of our society at its current high level of civilisation and even more so for the preservation of the high quality of life that many Europeans and especially most Viennese enjoy. And also in connection with the climate crisis, it is becoming clear that cities feel it early and become laboratories of change.

We call our response to these challenges 'Smart City Vienna'. The city should become smarter! Our mission is to combine the attainment of a high quality of life for all Viennese with the greatest possible conservation of resources through comprehensive innovations. For this, it is important to have a

broad understanding of innovation that includes social innovations, i.e. solutions based on behavioural changes or organisational measures. Because this development should not lead to a wonderland of gadgets, to a firework display of technical innovations that, on closer inspection, are only ends in themselves. We do not need everything that beeps and flashes. Rather, we need digitalisation that focuses on people and their needs and always looks out for those who cannot keep up with the rapid innovations.

In Vienna's understanding, a smart city can remain a traditional city; many extremely smart solutions that are the basis of our high quality of life have a long tradition: from the established system of social housing, to the public transport network, to compact urban development that allows for a high proportion of green space in the city.

But a smart city is a city that not only enables but also supports private initiatives and offers them space. Here, Vienna's traditionally strong city administration has undergone a remarkable process of opening up in recent years. On the one hand, this strengthens cohesion and makes the city even more of a shared

communal space. On the other hand, those affected become active participants and the knowledge of many people feeds into the process of finding solutions. Without comprehensive social inclusion and participation, the necessary transformation will fail; in other words, if we do not succeed in taking people along on this journey, we will not get very far!

The Smart City Vienna Framework Strategy has set the goal of reducing local per capita greenhouse gas emissions, which are not subject to European emissions trading, by 50% by 2030 and 85% by 2050. Why is 100% climate neutrality not required by 2050? Mainly because concepts for a complete conversion of Vienna's old building stock to a renewable heat supply by 2050 – i.e. the complete phasing out of gas – still need to be worked on.

In any case, it is clear that in addition to the huge expansion of renewables – which are to cover 70% of the city's total energy consumption by 2050 – energy consumption per capita must also be massively reduced in all areas of life.

It is already clear today that even if everyone in the world becomes a model pupil in climate protection overnight and the Paris goals are achieved, our climate will continue to warm up in the coming decades. Hot days and tropical nights will be part of everyday life in summer, especially in cities and even more so in their most densely built-up areas. Adapting to this is an even more pressing issue than climate protection for local and regional authorities.

The climate crisis requires rapid and decisive action, a sustainable transformation in virtually all areas of life. When building new urban districts, target horizons that seem distant today, such as the year 2050, must be taken into account due to long life cycles. Probably more challenging still from a technical, legal and social standpoint is finding ways of making established neighbourhoods fit for the future.

Smarter Together has shown how this can be achieved, and the fact that the Vienna City Council gave the green light for Smarter Together 2.0 in June 2020 is a significant step on Vienna's path to a climate-friendly future!

„Our mission is to ensure a high quality of life for all Viennese citizens with the greatest possible conservation of resources through comprehensive innovation.“

Thomas Madreiter



Smarter Together - A Viennese success story



Stephan Hartmann
Project Manager since
2019, Taskleader Mobility



Julia Girardi-Hoog
Project Manager 2016-2019

Image above:
Stephan Hartmann and Julia
Girardi-Hoog during their
presentation at the beginning of
the Smarter Together Symposium.

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Ladies and gentlemen,
dear Smarter Together community,
dear Smarties,

Smarter Together began in 2015 with the submission of the project proposal. This was followed in 2016 by the launch of the project as a Smart City project funded by the European Union. Vienna, together with Lyon and Munich as well as numerous other partners, set out to implement and test innovative future solutions on site. With the conclusion of the implementation phase in 2019, a large number of the planned projects had been implemented. They will be monitored and evaluated for their concrete results until the end of the project in 2021.

It can be stated with certainty that, thanks to everyone's commitment, the project has developed into a major Viennese smart city urban renewal initiative, dedicated to the further development of existing city districts. In view of the climate crisis and social change – and not least in light of the challenges posed by the COVID-19 pandemic – it is a central social task to maintain and further develop existing city districts in a climate-friendly, sustainable and liveable manner over the next 20, 30

and even 50 years. Smarter Together thus contributes to implementing Vienna's Smart City Framework Strategy and achieving the United Nations climate and sustainable development goals.

Smarter Together has shown ways and means of making the city of the future more resilient by working in partnership with all actors and drawing on the intensive involvement of the local population and systematic knowledge management. It is precisely this mix that makes Smarter Together so forward looking.

Overall, Smarter Together in Vienna served as a testing ground for the implementation of the Smart City Framework Strategy. Internationally, the term 'urban living lab' is used for this type of action. Vienna's special concern was to promote the interaction of all actors, both municipal and private. Numerous results, many of them particularly innovative, were only made possible through this cooperation or 'co-creation' within the framework of the EU-funded project.

In Vienna, the part of Simmering that is close to the historic city centre was chosen as the project area. This area combines numerous characteristics

of a typical existing city: mixed development with a high proportion of high-quality, subsidised social housing and privately owned housing from the late-19th and early-20th century (the so-called Gründerzeit), a socially very mixed population, historic green spaces, a large industrial area and the presence of infrastructure companies. Successful innovations and new experiences here can be transferred across the entire city.

Smarter Together has introduced numerous attractive innovations: the school extension at Enkplatz with four zero-energy gymnasiums, the first Vienna WienMobil Station at Simmeringer Platz including e-bike sharing at the Central Cemetery, and exciting innovations in residential buildings such as an e-car sharing system in the BWSG residential building complex in Hauffgasse or the first photovoltaic (PV) system on a municipal building. With Siemens Mobility, Smarter Together is the only EU Smart City project focusing on the issue of industrial site logistics. Thanks to EU funding, Austrian Post was able to test e-vans for CO₂-neutral parcel delivery in a pilot project. Wiener Stadtwerke also used Smarter Together to drive innovation in numerous areas. KELAG Energie & Wärme was able to make sustainable use of all project results. Sycube has developed new hardware parts for charging and locking systems and a new control system for its e-bikes, as well as a new app. Along with Wiener Linien, Sycube was also able to enter into a new cooperation arrangement with the Vienna cemeteries. With FIWARE, the project has created its own open source data platform, which has also been integrated into the city's IT system.

It is important to emphasise that some of the projects or elements of them have reached market maturity and can be implemented as good practices outside the Smarter Together framework.

Others, however, were initiated by Smarter Together and require

further development and quality management, as is usual in a market economy.

In addition, the contribution of science and research should be mentioned. The monitoring, especially by AIT, constitutes a particular added value for the project by making possible data-based analyses. Smarter Together also deepened scientific co-operation and gave young researchers the opportunity to carry out studies which provided a series of interesting results.

Furthermore, Smarter Together is characterised by numerous conceptual projects of strategic importance for the city and the project partners, such as the study on the potential uses of waste heat from data centres or the analysis of the potential for deployment of e-taxis in Simmering. The results of these were used for further activities.

“... over 40 individual projects, a funding volume of the European Union in Vienna of 7 million euros, a total investment volume of well over 80 million euros, around 38,000 people approached [...] at events.”

From the very beginning, the central political requirement for the project on the part of the mayor Michael Ludwig was to put people at the centre and to guarantee a high degree of participation. For this reason, the entire project in Vienna – which focuses on smart high technologies – was geared towards people and all sub-projects were conceived from the perspective of the human dimension of the city of the future. This is entirely in line with the Smart City Vienna Framework Strategy..

Children and young people were a very special target group for numerous workshops and participatory activities because, as multipliers, they have a direct line



Image above:
Stephan Hartmann and Julia
Girardi Hoog at the Smarter
Together Symposium.

© Zsolt Marton

to their parents, who already today can have a say and help shape the city. But it was also a special concern to share and jointly develop the values and vision of a liveable city of the future with the children and young people, because they will be in decision-making positions in the future.

Special mention should be made here of the numerous teachers who participated in the project through workshops and gamification as well as the two local institutions Science Pool or Balu&Du, which are geared towards children and young people and who implemented numerous projects such as workshops and painting campaigns in public spaces and.

In total, Smarter Together was able to personally address around 38,000 people in one form or another at events.

In addition to the initially planned projects, others were added during the course of Smarter Together. Examples include e-bike sharing at the Central Cemetery and the mobility game 'Beat the Street', which has since been copied by Munich and implemented in the Viennese districts of Donaustadt

and Favoriten. The free of charge district cargo bike 'Grätzelrad' in the Mautner-Markhof grounds is also new. Other examples are the high-quality touch-screen computer in the municipal library in VHS Simmering, the first Simmering Research Festival and the two painted benches called 'Enzis' in the forecourt of the school at Enkplatz which were provided by the MuseumsQuartier (MQ).

The focus on children and young people was only clearly defined in the course of the project and enabled Smarter Together to contribute to the development of the Enkplatz educational district. The promotion of students and young researchers has also emerged as a very valuable feature over time and has supported numerous research projects.

Of course, there were also projects that could not be implemented or completed within the framework of Smarter Together. E-taxis ultimately did not find their way to Simmering and a planned PV system on the Siemens Mobility buildings on Leberberg could not be implemented as part of the project, although in 2020 a 500-kilowatt peak (kWp) PV system was put into operation. Nor was it possible to make use of



waste heat from a first and then a second data centre, despite intensive preliminary studies. KELAG Energie & Wärme conducted a total of four feasibility studies before the PV system could finally be installed on the roof of the BWSG apartment building. Due to the lack of a CE certificate, the 'solar trees' with PV panels originally planned as a landmark in Herderpark could not be set up. However, landmarks were subsequently created with the installation of the two solar benches in the forecourt of the school at Enkplatz, and later, with graffiti paintings by children and young people at the regional railway station at Geiselberg.

Overall, all project partners confirm that all preliminary studies initiated and/or made possible within the framework of the project and thanks to the EU funds provided extremely valuable experience and were often the starting point for further activities and innovations. It was also only thanks to Smarter Together that it was possible to find out what does not work and what people will really accept. In many cases, the real work only begins once Smarter Together ends.

What has proven to be of the highest importance in the long run is the City of Vienna's assumption of an active leadership role from the very beginning. This is confirmed by the project partners. In this way, the knowledge generated in the project can be anchored in the city and its institutions and the sustainability of the project ensured.

More than 50 follow-up projects can be traced back to Smarter Together in Vienna, including some multi-million-euro, multi-year projects and investments that are of long-term economic importance. Smarter Together has also given rise to a follow-up project managed by the City of Vienna in the shape of the WieNeu+ programme. Over the next 10 years, further city districts are to be made fit for the future step by step.

We hope that this report will give you an exciting picture of the future!

Stephan Hartmann
Project Manager since February 2019

Julia Girardi-Hoog
Project Manager 2016-2019

Image above:
PV-plant on top of the
refurbished residential building
BWSG Hauffgasse.

© KELAG Energie und Wärme



Smarter Together.

The Smarter Together project and its area in Vienna's district of Simmering

The project

Smarter Together is a project funded by the EU under the Horizon 2020 programme, launched in February 2016 and implemented in a partnership comprising the cities of Lyon, Munich and Vienna, the 'follower cities' of Santiago de Compostela, Sofia and Venice and the 'observer cities' of Kiev and Yokohama. Smarter Together is part of the EU network of 80 lighthouse cities and contributes its experience to the common European smart city vision.

The 5,5-year project provides for a 3-year implementation phase (completed in February 2019) and a 2.5-year monitoring and evaluation phase (scheduled for completion by the end of July 2021).

Focal points of the project are large-scale energy-efficient renovation of residential buildings, energy savings, e-mobility and information and communication technology.

In addition, the project with a total of over 30 project partners was expanded to include the dimensions of citizen participation, stakeholder partnership and learning governance (process oriented knowledge management).

EU funding

The EU funding for the project amounts to a total of €25 million, €7 million of which are for Vienna's share of the project. In Vienna alone, total investment of more than €80 million (initially only €46 million was expected) was generated, providing an important catalyst for urban renewal in Simmering.

Thus, the EU funding has done exactly what it is supposed to do: provide an impetus for a wide range of further activities.

The project area

The Vienna Smarter Together urban renewal area is located between Simmeringer Hauptstraße and the Eastern railway line (i.e. the districts of Geiselberg, Enkplatz and Braunhuberviertel). In total, about 21,000 Viennese benefit from smart solutions. Through the involvement of numerous schools throughout the district in the context of mobility game Beat the Street and the first Simmering Research Festival or, for example, through cooperation with Caritas, residents from the entire district, which has approximately 100,000 inhabitants, were able to participate in the project.

Siemens Mobility



Simmeringer Hauptstraße

Lorystraße

NMS Enkplatz

Geiselbergstraße

U3 Enkplatz

VHS Simmering







BWSG Hauffgasse

Lorystraße

Herbortgasse

Simmering

WienMobil
Station

-  Refurbishment
-  Energy
-  Participation & Co-creation
-  Mobility
-  Infrastructure & Data management
-  Knowledge management, P2P, Replication

The Smarter Together project area in the district of Simmering in Vienna

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Julia Girardi-Hoog at the SIMobil with students of the NMS Enkplatz © PID / Christian Jobst



Trolley handover in Lorystraße with Kathrin Gaál © PID / David Bohmann



Drawing event at the Geiselberg S-Bahn station with Balu&Du and GB* © GB*



1st Simmering Research Festival with Kathrin Gaál (2018) © PID / David Bohmann



Christine Pig, former director of the VHS Simmering © Bojan Schnabl



Enzi painted by students at the school forecourt NMS Enkplatz (2019) © Stephan Hartmann



Opening of the 1st WienMobil station (2018)
© PID / Martin Votava



Kathrin Gaál at the presentation of the thematic
pathway panel (2019) © PID / Martin Votava



Walking café, 2017 © Mobilitätsagentur / Christian Rupp



E-Cargo bike at the GB* (2018)
© Christian Fürthner



Smart energy for Simmering, event at the VHS
Simmering (2017) © Andrea Klem



Smart City-Conference in San Sebastian-Donostia in
Spain (2019) © Bojan Schnabl

The lighthouse cities

and their significance from a European perspective

Vienna, Munich and Lyon have set in motion positive social dynamics and sustainable urban development in selected city districts. The focus is on effective measures to protect the climate and improve the quality of urban life, such as integrated building renovations, climate-friendly energy systems and e-mobility.

Vienna, a metropolis in the heart of Europe with a long tradition of subsidised social housing and a comprehensive Smart City Framework Strategy that has received worldwide attention. The project area in Simmering is a highly diversified existing district, facing all of the challenges that are relevant for future urban development. As regards the Horizon 2020 framework, Vienna's unique selling point is that industrial site logistics is an important urban regeneration topic for the city. A total of nine municipal departments of the City of Vienna and over 70 city employees are actively involved in the project. Some 21.000 people live in the project area.

Munich, a dynamic metropolis in the centre of Europe. The Munich projects are being implemented in the Neuaubing-Westkreuz urban renewal area and in the neighbouring Freiham development area in the west of the city. Neuaubing-Westkreuz is home to around 23,000 residents with very diverse socio-economic backgrounds. The streetscape is dominated by buildings from the 1960s and 1970s. Many of the apartment buildings are in need of extensive modernisation due to their age. Neuaubing-Westkreuz is part of the largest and at the same time most sparsely populated urban district in Munich. In Freiham, around 17,000 residential units and infrastructure for 28,000 residents are being built. The area's use of geothermal energy, mobility solutions and intelligent light poles connected to a data platform are exciting best practice solutions in a European context.

Lyon, one of the most important metropolitan regions in France, its inner-city conversion area, Lyon-Confluence is the setting for the deployment of solutions that are relevant for the future of France and Europe. They combine high-performance energy buildings (new and renovated), local renewable energy production, development of new public spaces and facilities and stakeholder involvement in order to improve quality of life in the district. The project area of 150 ha and 12,000 inhabitants (17,000 after project completion) is located at the confluence of the Rhone and Saône rivers. To continue its progress towards sustainable development, Lyon-Confluence is part of several innovation projects involving local, national and international stakeholders.

The follower cities”

European partners

Experiences and research results are exchanged at local and European level. Santiago de Compostela, Sofia and Venice participate in the EU funding programme as 'follower cities' with the primary aim of developing implementation strategies while implementing a series of projects..

Sofia, capital of Bulgaria with 1.2 million inhabitants, has a temperate continental climate. Refurbishment processes and energy-saving technologies, as well as mobility issues are at the centre of its replication strategies. Sofia, like many other cities, has undergone a transition process, which is why questions about refurbishment measures in multi-apartment buildings or new mobility solutions, including from a European perspective, are very relevant there. Traditionally, Vienna's experiences are particularly interesting for Sofia, which has worked intensively to involve other Bulgarian cities in its project activities.

Santiago de Compostela, the capital of the Spanish autonomous community of Galicia has 100,000 inhabitants. The extensive historic centre presents particular challenges in terms of climate-friendly smart city regeneration, as modern technology has to adapt to the architectural heritage. Santiago has placed an emphasis on citizen participation with a view to creating an attractive, green city with traffic-calming measures. In addition, local energy systems (especially district heating) and open source data platforms are of particular interest. Santiago de Compostela maintains intensive exchange with other Spanish cities, as well as with Europe.

Venice has set itself the task of not just formulating replication strategies but also of putting concrete measures into practice, especially in the Mestre district. Mestre focuses on deeper citizen participation, public spaces and e-mobility. Gazzera, the project's target area, is a neighbourhood facing typical Italian challenges: a lack of regulation of urban development since the 1970s, dense commuter traffic, typical local lifestyles and a long-standing experience of well-meaning political promises to 'do something' soon. Following the Viennese model, the 'participation mobile' – a decommissioned urban bus – was used as a communication platform from which numerous concrete measures emerged.

Kyiv (Kiev) and **Yokohama** also participated in the programme as 'observer cities', attending annual conferences and sharing information with project partners.

The Viennese consortium partners



City of Vienna, Technical Urban Renewal

The City of Vienna is responsible for the project management of Smarter Together in Vienna. A total of nine departments and over 70 employees are actively involved in the project. The lead has been given to the Department for Technical Urban Renewal (MA 25) in the Housing and Women's Affairs Group. The numerous strategies and concepts (e.g. Smart City Vienna Framework Strategy, Urban Development Plan 2025) of the City of Vienna represent the strategic basis for the project.



UIV Urban Innovation Vienna GmbH

Urban Innovation Vienna (UIV) is Vienna's competence centre for urban issues of the future and analyses, advises on and develops innovative strategies in dialogue with policy makers, administration, business and research, as well as with international partners in order to cope with the diverse tasks and challenges metropolises are confronted with. In accordance with the Smarter Together project mandate, UIV is dedicated to the topic of replication, with a particular focus on the sustainability of project results.



AIT Austrian Institute of Technology

The Austrian Institute of Technology (AIT) is Austria's largest non-university research institution and deals with, among other things, key infrastructure topics of the future. AIT's core tasks in the project were the design and installation of a data-based building and mobility monitoring system and the evaluation of the project results.



Siemens Mobility

Siemens Mobility is one of the world's leading high-tech companies, producing modern train sets and underground trains at the Geiselberg site in Simmering. Within the framework of Smarter Together, it was possible to rethink the logistics of the plant with the involvement of the employees and thus achieve increases in efficiency and significant savings in diesel consumption. E-forklifts, a new bulk warehouse for small parts, two e-cars for internal mail traffic, new charging stations for e-appliances and e-chargers for e-cars and e-bikes were introduced. A new 500-kWp PV system, which, however, was built entirely without project funds, is the jewel in the crown of the company's ongoing innovation efforts.



BWSG

Non-profit housing developer BWSG manages around 30,000 flats throughout Austria. In the Smarter Together project, Hauffgasse 37-47, a large BWSG housing complex from the 1980s, typical for Vienna, with a total of 485 flats was completely renovated. In the process, 79 flats were added on the roofs, a PV system was installed and a participatory e-car sharing system with potential for expansion across Vienna was introduced.



KELAG Energie & Wärme GmbH

KELAG Energie & Wärme GmbH is Austria's largest provider of district heating based on industrial waste heat and biomass. This is complemented by its innovative electricity and natural gas product portfolio for business customers. The company operates 83 district heating networks and more than 900 heating centres in eight federal states. Heat sales amount to around 1.7 billion kilowatt hours (kWh). KELAG Energie & Wärme is a heating and energy supplier to and partner of BWSG in Hauffgasse.



Sycube

Sycube is one of the leading companies in Austria in the field of e-mobility sharing for conventional bikes, e-bikes or pedelecs, e-cargo bikes and e-scooters. In the project, two mobility sharing stations with e-bikes and an e-cargo bike were set up and managed in cooperation with Sycube.



Österreichische Post

Austrian Post is Austria's leading logistics and postal service provider. Its business areas include the transport of letters, which is already completely CO₂-neutral, and the delivery of parcels. In the course of Smarter Together, Austrian Post used two e-vehicles in test operations for the first time. Furthermore, parcel boxes were also tested under the project.



Wiener Stadtwerke / Wiener Linien / Wien Energie

Wiener Stadtwerke is Austria's largest municipal infrastructure service provider. With its subsidiaries Wien Energie, Wiener Netze, Wiener Linien and Bestattung und Friedhöfe Wien, the group is active in the fields of infrastructure, energy, mobility and funerals, among other things and provides sustainable and climate-friendly solutions within the project.

Wien Energie GmbH is an energy company that is part of Wiener Stadtwerke and Austria's largest energy supplier. Every year the company sells around 23 terawatt hours (TWh) of electrical energy, natural gas and district heating. Its main tasks in the project were the evaluation of the possible use of waste heat from two data centres, as well as the construction and use of innovative energy solutions in the context of the school extension at NMS Enkplatz, including the feeding of surplus heat back into the district heating network.

Wiener Linien is Vienna's biggest integrated mobility provider with 2.6 million users per day and 8,700 staff. With the establishment of the first WienMobil Station by Wiener Linien in Simmering, a new service for the environmentally friendly completion of the 'last mile' between home and public transport was tested. A total of 100 more WienMobil Stations are to follow in Vienna over the next few years.

Other key partners in Vienna



City of Vienna - Housing in Vienna

Wiener Wohnen (Vienna Housing) is Europe's largest municipal property management company with over 220,000 flats. In two housing complexes with 95 and 52 flats respectively, and 8 newly built attic flats, Smarter Together introduced innovations into Wiener Wohnen's existing renovation processes. The replication potential, as well as the associated contribution to climate protection is of great societal importance for Vienna.



Gebietsbetreuung Stadterneuerung (GB*)

The Urban Renewal Office (Gebietsbetreuung Stadterneuerung, GB*) has been the prime mover behind soft urban renewal in Vienna for more than 40 years and has proactively contributed to the local dialogue between property owners, tenants and local businesses. Its experience in the project, its local network, as well as its work in the SIMmobile mobile lab and at numerous events have contributed significantly to anchoring the project in Simmering.



wohnpartner

wohnpartner is the central contact for the approximately 500,000 residents of Vienna's municipal residential buildings. In the project, wohnpartner was responsible for dialogue with the tenants of the two renovated municipal buildings. The process innovations generated in the course of the project can be transferred by wohnpartner to other municipal buildings. Wohnpartner is part of the Wohnservice Wien. wohnpartner is part of the Wohnservice Wien (WSW).



City of Vienna, Urban Development and Planning

The City of Vienna – Urban Development and Planning Department (MA 18) prepares overarching, spatially strategic plans and concepts in the areas of spatial planning and mobility. It is also the agency responsible for the preparation and further development of the Vienna Smart City Framework Strategy. Smarter Together was involved in the monitoring and further development process.



City of Vienna, Information Technology

Vienna Digital (MA 01) is the IT department of the City of Vienna and was involved in a 1-year internationally oriented research phase as part of Smarter Together, after which the decision was made to set up the open source FIWARE platform. So far, this platform has been integrated into the system of the City of Vienna for Internet of things (IoT) purposes.



City of Vienna, Building and Facility Management

The services of the Municipal Department for Construction and Facility Management (MA 34) include the administration, construction and maintenance of various municipal buildings, as well as the planning, construction, maintenance and assessment of technical facilities. Within the framework of Smarter Together, MA 34 was an important partner in the planning and construction of the heating systems in the NMS Enkplatz secondary school, as well as in the monitoring and optimisation of operations.



City of Vienna, Energy Planning

Die Abteilung Energieplanung (MA 20) schafft die Grundlagen für den Weg in eine nachhaltige Energiezukunft. Im Rahmen von Smarter Together war sie an sämtlichen Energie-Infrastrukturprojekten wesentlich mitbeteiligt.



Mobilitätsagentur

The Mobility Agency works as a mediator between the population, administration and policy makers to make walking and cycling in the city easier, more comfortable and safer. Within Smarter Together, it was a central partner in the development of the Beat the Street mobility game in 2017 and 2018, supported the creation of the local mobility strategy, provided the Grätzlrad.wien platform for two e-bikes as part of the Vienna initiative in Simmering and organised a district walk entitled 'Geh Caffee', among other things.



City of Vienna, Schools

The responsibilities of the Municipal Department of the City of Vienna for Schools (MA 56) include the planning, construction and maintenance of public, general and vocational school buildings. Within the framework of Smarter Together, MA 56 was, among other things, the central office for the planning of the school extension at Enkplatz. The executing agency was Wiener Infrastruktur Projekt GmbH (WIP), a company of the Vienna Holding subsidiary Wiener Standortentwicklung GmbH (WSE).



IBA_Wien 2022

IBA_Wien 2022 (International Building Exhibition Vienna 2022) is the first international building exhibition to be launched in Vienna. With the focus on the topic of new social housing, Vienna has set itself the task of developing pioneering solutions and approaches to the social housing policy challenges of our time. Smarter Together has been part of IBA_Wien from the very beginning and shows how the existing city can be further developed in dialogue with the residents.



wohnbund:consult

As an office for sustainable urban development, construction and housing, wohnbund:consult plans and accompanies housing policy initiatives, innovative housing projects and urban development processes, among other things. In the context of the refurbishment project in Hauffgasse 37-47, it facilitated the dialogue with the tenants on behalf of BWSG and was the central contact for e-car sharing.



Die Umweltberatung

Since 1988, DIE UMWELTBERATUNG (environmental counselling) has been involved in various environmental protection projects and supports private households and businesses with information and advice. Within the framework of Smarter Together, DIE UMWELTBERATUNG offered, among other things, energy-saving cafés for the residents of the BWSG Hauffgasse building and, in cooperation with Caritas, for refugees at VHS Simmering. An energy quiz was also created in cooperation with GB* as well as Info-table on energy saving.



Balu&Du

Balu&Du is a Viennese non-profit association providing services for children and young people aimed at the promotion of communication and play. Based in Simmering, the association also offers low-threshold social services for people of all ages. Within the framework of Smarter Together, Balu&Du was a valuable partner in workshops with school children (e.g. painting activities). Since autumn 2020, the association has been looking after an e-bike at the Senffabrik site as part of the Vienna Grätzlrad initiative.



wohnfonds

wohnfonds_wien – fonds für wohnbau und stadterneuerung, is the central competence centre for the development of subsidised housing in Vienna. It is responsible for property management, project development and quality assurance in new constructions and for the preparation and implementation of urban renewal measures via renovation, in particular consulting, coordination and control of subsidised housing renovation and development of block renovations. Within the framework of Smarter Together, its redevelopment and urban renewal competences were brought to bear.



Stadt Wien, Wohnbauförderung und Schlichtungsstelle für wohnrechtliche Angelegenheiten

The Municipal Department for Housing Promotion and Arbitration Board for Legal Housing Matters (MA 50) is the central contact point for housing subsidies, subsidised housing and housing law matters. The conciliation office of MA 50 is an independent service and counselling institution. It is specialised in enforcing the rights of tenants and landlords in the area of rent reviews. The Housing Research Unit (WBF), which is integrated into MA 50, conducts retrospective and prospective analyses of social housing in Vienna. In Smarter Together, all the central tasks of MA 50 came into play.



Friedhöfe Wien

Friedhöfe Wien GmbH (Vienna Cemeteries) manages around 550,000 graves in 46 Viennese cemeteries. As part of Smarter Together, an e-bike station was set up at the main gate of the Central Cemetery in Simmering in April 2018. Six Sycube e-bikes have been available to visitors since then and can be used in conjunction with the WienMobil Station at Simmering U3 station.



Caruso is a cooperative car sharing company that created the platform for e-car sharing in the BWSG housing complex in Hauffgasse within the framework of Smarter Together and provides all services related to the operation of the vehicles.



MuseumsQuartier (MQ)

With around 60 cultural institutions, the MuseumsQuartier Wien (MQ) is one of the world's largest art and cultural quarters. The attractions range from world-class museums to participatory art education facilities. As a symbolic link between high and suburban culture, MQ provided two branded benches called 'Enzis' for the NMS and ONMS Enkplatz schools as part of Smarter Together.



VHS Simmering

VHS Simmering is part of the network of Viennese Adult Education Centres (VHS Wien), which is the largest adult education institution in German-speaking Europe with over 33 locations throughout Vienna. Within the framework of Smarter Together, VHS Simmering was a central cooperation partner for local as well as city-wide events.

The Sustainable Development Goals, SDGs

Contributions to the Agenda 2030 and the SDGs

In 2015, the United Nations Summit adopted the action plan 'Transforming our world: the 2030 Agenda for Sustainable Development'. Since then, all 193 UN member states have committed to implementing the 2030 Agenda and its 17 Sustainable Development Goals (SDGs) at all levels – international, national and regional.

Smarter Together contributed to achieving the following SDGs.



SDG 4: Quality Education

Ensuring inclusive and equitable quality of education and promoting lifelong learning opportunities for all is a major concern of Smarter Together in Vienna. This has been addressed both through the school renewal project and by involving pupils in the process. In addition, 'Kids in Focus' is an important pillar of local activities, such as Smart City workshops in numerous schools in the Simmering district, the first Simmering Research Festival, the 'Beat the Street' mobility game, the design of murals and a low-threshold democracy workshop. Smarter Together cooperated intensively with the VHS Simmering educational centre and created new, high-quality meeting places with two solar benches and two 'Enzi' benches from the MuseumsQuartier.

SDG 7: Affordable and Clean Energy

In Smarter Together, local energy production was combined with energy infrastructure measures. With the construction of new zero-energy gymnasiums, five energy systems were combined in one school building – a lighthouse project for Vienna's schools. The new PV systems built in the course of the project are trend-setting for social and subsidised housing, among other sectors. With four buildings having undergone renovations, significant measures were also taken to increase energy efficiency in the building sector.

SDG 9: Industry, Innovation and Infrastructure

The inclusion of Siemens Mobility's industrial site contributed to a boost in innovation in site logistics and led to numerous additional environmentally friendly measures that improve the company's ecological footprint.

SDG 11: Sustainable Cities and Communities

Holistic urban renewal is the core of the project and is pursued multidimensionally as an overall concept through participation, partnership and learning governance, including in terms of replication and sustainability.

Vienna hence interpreted this goal in a societal rather than a local government sense and conceptualised the whole project around participation and co-creation.

SDG 13: Climate Action

Smarter Together supports targeted action to combat climate change by reducing CO2 emissions in the building and mobility sectors through energy conservation, the use of on-site renewable energy and an increase in the share of e-mobility.



Prizes, awards and recognitions of Smarter Together Vienna



VCÖ Mobility Award 2017, category 'Active Mobility and Public Space'
© Matthäus Schmid



EU Mobility Award, European Mobility Award for the City of Vienna for its achievements in promoting environmentally friendly mobility, 2018
© EU 2018 / Ezequiel Scagnetti



„Sustainable District Grand Prize“, Green Solutions Award, 2019 © Construction 21



Sustainable City and Human Settlement Award for Vienna in the 'Sustainable City' category, 2016
on the right side: Andreas Rendl, Austrian Ambassador for Peru and Ecuador © GFHS

PRIZES AND AWARDS



Nomination for SMAVARD 2020, Special Merits Award
(2nd place in the Energy Efficiency category)
© SMAVARD



„Special Mention of the Sustainable District Grand
Prize“, Green Solutions Award, 2019
© Construction 21



Nomination for the Golden Baton for Innovation, 2016



Nomination for the eAward business award for projects
with IT relevance and greatest customer benefit, 2018
© Bojan Schnabl



Greetings from Munich

Bernhard Klassen



Bernhard Klassen
Project Manager Munich

Image above:
Bernhard Klassen during his
presentation at the Smarter
Together Symposium.

© Marton Zsolt

My dear colleagues from Vienna,

Thank you for the invitation to the Smarter Together Symposium in the Vienna City Hall, which we were very happy to accept.

Over the last few years, we have been able to fill our vision of Smarter Together with more and more life. From the very beginning, collaboration was intended to be a central component of the project. Only in practice did it become clear on how many different levels such a close exchange can lead to thought-provoking and innovative ideas. The fact that we worked on similar issues in the partner cities and were able to communicate directly on an expert and factual level, in addition to sharing best practice examples, was even more helpful and inspiring than we had initially thought.

“Smarter Together created an experimental field where we could test out our grand visions for the city of the future in a protected area.”

Berhard Klassen

The project has brought together both smart city experts and political decision makers. We discussed concrete challenges such as the possibilities of citizen participation and the development of mobility stations and also looked at the major smart city and urban development plans of the other cities – always with the opportunity to talk to each other in an open and uncomplicated way and to exchange experiences. Such a direct communication line to the partner cities is priceless.

Smarter Together created an experimental field where we could test out our grand visions for the city of the future in a protected area. The aim was to see if we already had the right tools to turn our ideas into reality. What looks good on the drawing board is not necessarily the best way to get there. In a complex microcosm like a city, some challenges only arise during implementation. Nevertheless, this is the only way to learn for the future.

For Munich, the Smarter Together project has brought new insights in all areas and laid the foundation for many future developments of Smart City Munich. Experiences from Smarter Together have, for example, fed into the development of the



digitalisation strategy of the Bavarian state capital and the decision to provide area-wide sharing services in the future. In addition, the Knowledge Carrier and the Smart Data Platform from the project were preliminary stages in the development of the 'digital twin' of the city of Munich. Among other things, we were inspired by Vienna for the interactive running game 'Kreuz & Quer'. The team there has implemented a similar game called 'Beat the Street'.

All in all, the insights and experience we have gained together with our partner cities in Smarter Together will continue to accompany the city of Munich on the path towards the achievement of a Smart City and climate neutrality by 2035.

And even though the conclusion of Smarter Together is in sight, this should by no means be the end of our close cooperation. Rather, we see the project as an important pillar for the future and look forward to continued lively exchange with our partner cities and within the entire European city network.

Image above:
Smarter Together annual
Conference 2017 in Munich

© Landeshauptstadt München /
Tobias Hase



Greetings from Lyon

Maxime Valentin, Etienne Vignali



Maxime Valentin
Smarter Together Project
Manager



Etienne Vignali
Project Management Lyon

Image above:
Etienne Vignali during his
presentation at the Smarter
Together Symposium.

© Marton Zsolt

Dear Smarter Together community in Vienna,

It is for us a great pleasure to send greetings from Lyon after 5 years of incredibly enriching and sympathetic collaboration.

From our point of view, Smarter Together remains, beyond the technical and practical advances it has made possible, above all a great human adventure.

The challenge that the European Commission set us can be summarised in three points: to reduce the ecological footprint of our cities, to make the inhabitant the central actor in this change and, finally, to achieve this through concrete cooperation at European level.

And this human adventure is a long-term one. It has taken 5 years of intensive exchanges to get to know each other, to understand each other and to forge unbreakable bonds between us. This project-based partnership will soon come to an end. It would undoubtedly be premature to take stock, but we can already draw up a list of some important lessons learned from this adventure.

It is above all pragmatism that prevails. The real value of Smarter Together is the concrete implementation of exemplary

projects in our neighbourhoods. Their implementation is characterised by the intensive involvement of the residents and aims to explain the respective measure, to convince the people, but it is also important to listen to the people in order to make corrections where necessary. One of the great strengths of this comprehensive programme is the space given to monitoring and evaluation. When we embarked on the adventure, we were all aware that the innovative responses we were proposing would face a number of hurdles. But facing reality is the only way to identify the real issues. Then it is about trying to understand the causes, deal with the consequences and draw lessons for the future. So in this process we had to adapt our projects as well as our approaches. But the project has also enriched us with an incomparable experience.

Nevertheless, this experience is only worthwhile if it is shared many times over, and it is precisely this sharing that, in our view, is the second important lesson we have learned from these 5 years of cooperation.

This sharing is also deeply inscribed in the DNA of Smarter Together. The replication of the implemented sub-projects is clearly written into the original project plan. And so concrete



continuing projects directly inspired by Smarter Together are already being implemented in Munich, Vienna and Lyon. Work with the partner cities of Venice, Santiago de Compostela and Sofia has led to the development of local action plans which we hope will enable these committed partners to continue their approach to reducing their environmental footprint.

But it is the exchange between the lighthouse cities that has allowed us to move faster or better in the different phases of the project. Smarter Together has forced us to go beyond our comfort zones. Through the cross-fertilisation of expertise the exchange of experiences with colleagues from the partner cities has allowed us to reassure ourselves about the directions we have taken.

This is especially true for issues related to digital platforms, where the city of Munich has excelled. This exchange was inspiring and spurred us to do more or better by observing the work of our partners. Another example is the incredible work done by the City of Vienna in the field of citizen participation. Finally, given the methodological difficulties encountered, especially in eco-renovation issues, Lyon took it upon itself to share its diverse approaches to finding solutions.

In conclusion, it is indeed the 'together' that we will remember above all in Smarter Together, because it is true that it is a journey that we have undertaken together – a journey whose course was clearly defined, but whose 'countries' had yet to be discovered.

This journey is coming to an end, but we have learned so much that we now have a great desire to experience this common adventure again in the future!

Image above:
Smarter Together Plenary in Lyon
© Laurence Danière

Project partners on Smarter Together



Mathias Moser, BWSG

„In the course of this project, we were able to sustainably renovate one of our largest residential complexes and implement a promising overall concept. In addition to the high quality of living, which we see as a core competence of BWSG, the EU funding has made new things possible: as well as the intensive dialogue with the tenants during the renovation, with photovoltaics and e-mobility, we were able to make important contributions to sustainability. The experience gained is already being used in follow-up projects.“



Kurt Stürzenbecher,

Member of Vienna's City Council

„The Smarter Together conference here in Sofia proved that European cities can work together very constructively and successfully, and also work with the European Commission, to bring about benefits for residents.“



Barbara Novak

Member of Vienna's City Council

„Thank you to the entire Smarter Together project team. The most successful and complex and the smartest urban renewal project in the history of the city administration and urban history in general.“ (Facebook entry). (pic: Barbara Novak (l) and Julia Girardi-Hoog (r.) at the Beat the Street chip reader)

PROJECT PARTNERS



Thomas Einwögerer, Sycube

„As part of the Smarter Together project, Sycube delivers innovative mobility concepts, currently at two locations: one at Simmeringer Platz and the other at the Central Cemetery in Vienna. For Sycube this is a good opportunity to test new approaches for intermodal mobility concepts together with Wiener Linien.“



Marc Sarmiento, Post AG

“Since 2011, Austrian Post has been delivering all items in Austria in a CO2-neutral manner. And that is why the EU project Smarter Together was a good opportunity to further promote this initiative. In this project, Austrian Post set up 450 parcel receiving boxes and used two electrically powered vans. In a nutshell: a great project with a smart project team.”



Martin Krajcsir, Wiener Stadtwerke

„On behalf of Wiener Stadtwerke, may I say that I am very pleased that we were able to participate in this exciting project. It was Wiener Linien that had the opportunity to implement the concept of a mobility station in Vienna for the first time. Wien Energie was allowed to research exciting topics of energy efficiency, with great results. Thank you very much. I am very proud of this great project.“



Adolf Melcher, Kelag Energie & Wärme

„It's not just about looking at individual sectors, but above all about getting people involved. Because energy projects are essentially also social projects. They have to be for the people, not just designed by technicians alone but something that people are happy to accept. Then such projects will also be successful. And I think what is noticeable today at international level is that these are also topics for young people. If you look at Greta Thunberg, for the first time today, climate protection and energy saving are associated with peace. I think this gives such projects a new dimension. Because in Simmering we are simply smarter together.“



Arnulf Wolfram, Siemens Mobility

„We at Siemens Mobility were very happy to participate in this project at our location, which has almost 200 years of history in Simmering. With Smarter Together, it was possible to implement a large number of individual measures at our Vienna-Simmering site and we also showed that it is possible to combine sustainability with economic efficiency in a sensible way.“



You can find the video statements in full length online here!



Changing perspectives: key statements from the panel discussion

The final panel of the Smarter Together Symposium was composed of renowned representatives of the City of Vienna, the social partners and companies in the fields of infrastructure, energy and transport technology.

Some of their key statements are summarised below.



Peter Weinelt Wiener Stadtwerke

"The great advantage of Vienna is that the Wiener Stadtwerke as municipal utility providers are already set up in the way that is now being discussed in Brussels, with sector coupling. What does that mean? They couple the energy sectors of electricity, gas and heat with the mobility sector."

"If one looks at the entire energy system together – as we do – in terms of sector coupling, one can optimise energy consumption decisively. We have been doing this for 70 years. That means the Wiener Stadtwerke are positioned in a way that some companies are only now thinking about. That is how an ideal company of the future should be positioned on these issues. We are already there."

"Since 2006, Vienna's population has increased by 300,000 – the equivalent of the entire city of Graz moving in. At the same time, energy consumption has not increased. That means we have made a huge step forward in terms of energy efficiency."

"For example, we built the new headquarters for Wiener Netze. This is the largest passive house in Europe with 1,400 workplaces. We essentially heat the building with a combined heat pump and PV system. And that's exactly where energy consumption in

the residential sector has to go in order to have a good chance of reaching the Paris climate targets."

"With our citizen solar power plants and also our wind power plants, we create a positive emotional impact in the region: 'This is my wind turbine!' and 'This is my PV system on the roof!'".

"The Viertel Zwei district is what these ideas look like when put into practice. We built it with an energy community from Wien Energie. The people who now live or work there already trade electricity from their own PV system. If we take an example: you're on holiday. I have a big party with high energy consumption. You sell electricity via blockchain technology to Wien Energie, which in turn sells it to me. Why is there a need for a middle man in the Viertel Zwei project? That's down to the legal situation in Austria at the moment. Customers are not allowed to trade directly. But we are working on a solution to make these energy communities possible."



Peter Weinelt
Deputy Managing Director
of Wiener Stadtwerke

Picture above:
From left to right: Waltraud Schmid, Mara Verlic, Peter Weinelt, Martin Russ, Bernhard Jarolim.
Panel discussion in the course of the Smarter Together Symposium

© Marton Zsolt



Martin Russ

AustriaTech



Martin Russ
Managing Director of
AustriaTech

Image above:
Martin Russ at the panel
discussion in the course of the
Smarter Together Symposium.

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„The objective of the Mission Board for Climate Neutral and Smart Cities is to seal a binding Green Deal with 100 European pioneer cities by 2030, thus enabling foundations, tools and frameworks to be put in place for cities of all sizes and geographical locations.“

„Pilot regions and urban neighbourhoods – like the Smarter Together project area as an excellent example – should form the concrete level of action where the lessons that have been learned can be made to work effectively. This is how you adapt legal frameworks and instruments to the new and concrete challenges in order to transfer and scale them up in the second phase.“

„In Austria, we also need suitable framework conditions for experimentation, i.e. experimentation clauses, like Germany, the Netherlands and Sweden already have.“

„As far as the mobility sector is concerned, I like to quote Einstein, who said, ‘We cannot solve our problems with the same level of thinking that created them’.

And this is also true for many transport issues, which can only be solved sustainably by taking account of

spatial planning aspects and in harmony with our life-worlds and lifestyle concepts.“



Mara Verlič

Arbeiterkammer Wien

"The participation of residents should be the be-all and end-all of housing renovation projects. The buzzwords 'participation' and 'involvement' are now used in many places where key decisions are made. However, outside of lighthouse projects like Smarter Together, participation is not fully implemented everywhere."

"It is very important that residents' concerns, fears and resistance are taken seriously."

"There are different kinds of participation. Sometimes it can simply mean informing people, which is also important. But participation can also mean active exchange and communication. Or it can mean real participation in situations where there is something to decide."

"It is important to involve target groups that are difficult to reach. Participation must not mean involving only the well-educated middle class."

"No format or method of participation is valuable per se. The content must come first. And there must also really be an advantage, an added value for the residents."



Mara Verlič
Urban sociologist,
AK Vienna (Chamber of
Labor Vienna)

Image above:
From left to right: Waltraud
Schmid, Mara Verlič, Peter
Weinelt.
Panel discussion in the course of
the Smarter Together Symposium

© Marton Zsolt



Waltraud Schmid

UIV Urban Innovation Vienna GmbH



Waltraud Schmid
Head of Energy Center,
UIV Urban Innovation
Vienna GmbH

Image above:
Waltraud Schmid at the panel
discussion in the course of the
Smarter Together Symposium.

© Marton Zsolt

"From my many years of experience with European projects, I know that at the end of a project it is often said, 'And now we'll tell the others how to do it properly'. By 'the others' it is often not the people in the neighbouring department or in one's own city who are meant, but people in another country. And that works very badly. When writing the Smarter Together project proposal, the topic of 'replication' was thus particularly important to me. For successful replication, it is important to look early and regularly at what we can learn from a project that can help other neighbourhoods, our city and other cities."

"We have many technical solutions, but often no one to communicate and explain to people how to participate. In the course of the project, we looked at these processes again and again. And it became clear that the role of the on-site caretaker plays a very important part in the whole process. And this is exactly what we paid attention to at many levels in Smarter Together."

"The City of Vienna joined the Climate Knowledge and Innovation Community to participate in the Deep Demonstration Programme for Healthy and Clean Cities. This is another EU

initiative that we will start in 2020. And what we have learned in Smarter Together has laid the concrete groundwork for this and many other future projects."



Bernhard Jarolim

City of Vienna, Chief Executive Office

„We have been hugely fortunate with the Smarter Together project in that 3 years ago the level of awareness of the issue of climate adaptation was nowhere near what it is today. That means there is a strong tailwind now. The awareness is already largely present. And we absolutely have to take the opportunity now to develop this project further, to take the ideas and solutions into new neighbourhoods. Together with more institutions and partners.“

„The potential of the comprehensive Smarter Together programme has been clearly recognised by the business community, as well as by innovation drivers.“

„What we have to do is to prepare the appropriate structures to be able to respond to the offers that will be there. And then actually get into action. Vienna mayor (Helmut) Zilk was famous for his quote, 'Do something now.' And that is exactly the task we have as a city.“

„The experience we had in this project amazed a lot of people at the beginning in that it just worked in an almost frictionless way across the business groups and the various organisations within and outside of the city. What did we

do? What did we communicate? We communicated at eye level. We had a very clear goal. We had somewhere to go. We had a timetable. And of course, we also had the opportunity to obtain a reasonable amount of EU funding.“

„With Smarter Together, a spirit has emerged that was perhaps new in some areas. And it is all the more valuable for that. And there is all the more reason for us to carry this spirit forward with the people who generated it. In other words, we have to take the people who participated with us to the next step. And when I look around, I see a network. And the network is huge, because we have reached all the areas that we need to reach for the development of an existing city.“



Bernhard Jarolim
City of Vienna, Chief Executive Office, Executive Group for Construction and Technology

Image above:
From left to right: Waltraud Schmid, Mara Verlic, Peter Weinelt, Marin Russ, Bernhard Jarolim, Markus Pohanke.
Panel discussion in the course of the Smarter Together Symposium

© Marton Zsolt



Kathrin Gaál at the 2019 Steering Committee
© PID / Alexandra Kromus



Street Points in Favoriten (2019)
© Mobilitätsagentur / Christian Fürthner



Andreas Tschismasia in the basement of the NMS Enkplatz
(2019) © Bojan Schnabl



Frank Nägele, State Secretary for Administrative and Infrastructure Modernization of the City of Berlin (2019)
© Bojan Schnabl



Mrs. Apeltauer in front of her restaurant with the Glossy Summary at the forecourt of the VHS Simmering
© Bojan Schnabl



Presentation on Smarter Together for a delegation from Innsbruck (2019) © Bojan Schnabl



Project manager Stephan Hartmann and Jana Hann (GB*) at the KommRaus Tour (2019) © Bojan Schnabl



Mayor Michael Ludwig at Siemens Mobility in Simmering (2016) © PID / Christian Fürthner



Education Day at the VHS Simmering (2016)
© Sabine Löw



City Councillor Czernohorszky, Education director Himmer, District Chairpersons Steinhart, City Councillor Gaál (f.l.t.r.) with children at the opening of the NMS Enkplatz (2019)
© PID / Martin Votava



Smarter Together Vienna project manager Stephan Hartmann & Sakir from Flying Pizza with the Glossy Summary © Bojan Schnabl



Mayor Michael Ludwig (r.) and Bojan Schnabl at the presentation of the Geiselberg block renovation (2017) © PID / Jobst



Image above:
Smarter Together Steering
Committee

© Alexandra Kromus



Part II

Themes and projects: smart implementation

The following chapter contains edited contributions to the discussion from the Smarter Together Symposium – Urban Renewal in Times of Climate Crisis, which took place on 21 November 2019 at Vienna City Hall.

Facts & figures

The refurbishment projects at a glance

1

housing estate
BWSG,
Hauffgasse

485

dwellings

79

additional attic dwellings

3

new e-cars for the e-carsharing

69 kWp

PV system

intensive co-operation with
BWSG and wohnbund:consult

9

Information boards on energy
saving for the 9 stairwells at
BWSG Hauffgasse

3

Theme trail boards for the
refurbishment projects BWSG,
Lorystraße and NMS/ONMS
schools on Enkplatz

2

housing estates by
Wiener Wohnen in
Lorystraße & Herbortgasse

95

dwellings in Lorystraße 54-60
(9 kWp PV system, empty
cabling for optical data fibres,
e-charging stations)

9 kWp

PV system (Lorystraße)

1

Information board "participaiton
process"

43

dwellings in the
Herbortgasse 43, 8 new attic flats

intensive co-operation
with Wiener Wohnen and
wohnpartner

providing shopping trolleys for
households on request

150

additional dwellings connected
to the district heating grid

1

school extension: NMS and
ONMS Enkplatz 4

4

underground zero-energy
gymnasiums, which can be
further divided to create 8
gymnasiums

16

geothermal probes (heat
pumps) based on a zero-energy
concept

67 kWp

PV system

320 m²

solar thermal system (feeding
back into the district heating
network)

2

solar benches and 2 Enzis

European architectural
competition

monitoring by MA 34, AIT and
Vasko&Partner

Renewable energy: 1135 MWh/y
produced and 296.79 tCO₂
saved/y



Refurbishment with a mission

Climate-friendly building stock in a low-energy district

Stability and change of the framework conditions

When the funding application for the Smarter Together project was conceived in 2015, climate protection was not on everyone's lips and in the media to anything like the extent it is today. Nevertheless, there were already well-established instruments in Vienna that are still making an important contribution to climate protection today. These include the THEWOSAN (thermal-energy housing renovation) subsidy, which has been in place since 2001, as well as subsidies for PV and solar thermal systems and heat pumps. Furthermore, the City of Vienna had already set itself city-wide goals in its Smart City Vienna Framework Strategy, including in the area of energy consumption in the building sector.

In retrospect, these very well-established instruments and the clear objectives of the Smart City Vienna Framework Strategy were extremely important for the successful funding application and the successful implementation of the Smarter Together project.

The Smarter Together refurbishment projects

Refurbishment of housing estates

Central topics of Smarter Together included the thermal refurbishment of residential buildings, the implementation of energy efficiency measures and the integration of renewable energy sources.

In the project area, three housing complexes were refurbished: one 485-flat complex belonging to a non-profit developer – BWSG – as well as two municipal complexes in Lorystraße and Herbortgasse with a total of about 150 flats. PV systems were installed on the roofs of the Hauffgasse complex and the building in Lorystraße.

Key actors in the housing sector were on board in the shape of BWSG and Wiener Wohnen. BWSG manages 37,500 flats throughout Austria and Wiener Wohnen lists 220,000 flats in its portfolio. Both institutions regularly renovate their housing stock and build new stock. If one adds to this the housing stock of the members of the Austrian Federation of Limited-Profit Housing Associations (GBV), the ideas and innovations developed within the framework of Smarter Together



Daniel Glaser
City of Vienna, Housing Promotion and Arbitration Board for Legal Housing Matters



Andreas Tschismasia
City of Vienna, Technical Urban Renewal

Image above:
The BWSG Hauffgasse housing complex in Simmering after renovation.

© Marton Zsolt



Image above:
f.l.t.r.: Martin Wall, Marianne
Durig, Michael Castellitz, Boris
Hajek, Anna-Vera Deinhammer

at the podium from left to
right: Daniel Glaser, Andreas
Tschismasia

Panel discussion on the topic of
redevelopment at the Smarter
Together Symposium

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are directly relevant for over 1 million flats across Austria. Combined with the effects of the lessons learned within Smarter Together on future projects, the involvement of these actors will contribute significantly to the sustainability of the project results. To cite one example: GBV has already included the new e-car sharing service at BWSG-Haufigasse, which was created as part of Smarter Together, in its training materials for its members and advertised it in various newsletters.

Enkplatz school extension

The school extension at Enkplatz served as a pilot project for the use of new energy solutions in non-residential buildings. As the old part of the building could no longer be renovated in a cost-effective manner, a replacement was built with four underground zero-energy gymnasiums, 16 classrooms, ancillary rooms and four leisure rooms with a total floor area of around 7,900 m². A feasibility study conducted in advance provided important insights into possibilities and potential. This was followed by a call for tender in the form of an international architectural competition. The winning project constituted a contribution to urban

design, not least thanks to its creation of a total of 3,500 m² of open space and appealing architecture.

Various new energy systems were integrated into the school extension concept, such as a PV system (67 kWp), a solar thermal system (320 m² collector area) and a near-surface geothermal energy system (16 geothermal probes with a depth of 120 m combined with a heat pump). In total, 300 megawatt hours of renewable energy per year are now generated at the site. This covers 70 % of the final energy demand of the gymnasiums and the new classroom building. In addition, the possibility of feeding surplus electricity back into the public grid and surplus thermal energy into the secondary district heating system was provided for. Since the use of geothermal energy enables a year-round heat cycle, it is also possible to cool rooms, especially in view of the increasingly frequent periods of extreme heat.

An ICT-based monitoring system was set up on site to evaluate the effectiveness of the measures in co-operation with the City administration (department for building management, MA 34) and the Vasko&Partner the provider

of the heating technology. This also supported the commissioning and adjustment of the system components.

Redensification of district heating: out of gas

Another important topic in the Smarter Together project was the 'redensification of district heating' with the goal of 'getting out of gas'. The conversion of gas-supplied flats to district heating as part of the pilot projects showed what possible approaches to this could look like. In this context, Wiener Wohnen launched a campaign together with Wien Energie, in the course of which around 150 flats were converted from natural gas to district heating.

Involvement and participation

To achieve climate and energy goals as regards sufficiency and sustainability, residents must be involved. An important aspect here is users' heating and energy consumption behaviour. Smarter Together has carried out numerous information and participation activities, such as energy-saving cafés and information boards on energy saving together with DIE UMWELTBERATUNG Wien.

The first conclusion was that energy-saving renovations in buildings are not necessarily seen by residents as an incentive to make a greater contribution to climate protection themselves (e.g. by proper aeration of flats). In addition, the most popular events were the energy-saving cafés organised in cooperation with Caritas, especially for people in need. For this reason, numerous workshops on Smart Cities and energy as well as games were organised for children and young people, with the idea that they would then pass on their newly acquired knowledge and motivation to their parents.

A short film was also created on the topic of saving energy in the home. To see it, follow this QR code.

Energy-efficient building services

The topic of energy efficiency in

building services will have to be addressed more intensively in the future. While purely structural renovation measures certainly deliver good results, innovative building technology can take a further, significant step towards energy savings. The questions that arise now are, how do we proceed? How do we further develop and adapt our existing funding instruments in order to pay more attention to the topic of building technology?

20 housing complexes like Hauffgasse 37-47 need to be renovated annually.

Targets from the Smart City Vienna Framework Strategy

Roughly calculated, private households in Vienna need about 10,000 gigawatt hours for heating water, cooking and heating. The goal is to reduce this energy consumption by 1 % annually, i.e. to save 100 gigawatt hours every year. Put simply, the Hauffgasse housing complex, with approximately 500 flats, consumed a total of about 5.5 gigawatt hours before its refurbishment. In terms of potential savings, this means that the City of Vienna has set itself the goal of disconnecting the equivalent of 20 Hauffgasse complexes from the grid every year.



As part of Smarter Together, a short film was also created on the topic of saving energy in the home. To do so, follow this QR code.



Click here to watch the Smarter Together refurbishment film!



Refurbishment

a talk with the project partners



Daniel Glaser
City of Vienna, Housing
Promotion and Arbitration
Board for Legal Housing
Matters



Marianne Durig
Burtscher-Durig ZT GmbH



Martin Wall
WIP, Wiener Infrastruktur
Projekte GmbH



Michael Castellitz
former Head of the
Department Revitalization,
BWSG



Boris Hajek
KELAG Energie und
Wärme



Anna-Vera Deinhammer
City of Vienna, Chief
Executive Office

Marianne Durig, as architect you were responsible for planning the school extension with the four zero-energy gymnasiums. Special specifications came directly from the Smarter Together project. How does it affect your work as an architect when such specifications have to be taken into account?

Marianne Durig: This school project came out of a competition. On the one hand, the brief was to extend the school by building zero-energy gymnasiums. Another task was to accommodate an extensive classroom area on a very narrow site. We very quickly decided to have the gymnasiums underground, thus putting a huge volume of the space underground. This made the zero-energy concept easier to handle, of course, and we were subsequently able to create very large above-ground outdoor sports areas for the students.

Would you usually have approached such a project differently? Would you have ever considered integrating zero-energy gyms if this had not been suggested by Smarter Together?

Marianne Durig: It's hard to say. It simply supported our design thinking in this case. Of course you think

about how to light gyms and how to arrange the cubature. In any case, the decision for underground gyms turned out to be a very good one. I think that, in the end, that is exactly what has created added value in terms of urban development in this area: no giant cubes were placed above ground, but rather a large open space was created. And I think that is also a big upgrade for the residents of the district.

It used to be said, "form follows function." Does that now mean that "form follows energy"? Has energy, or the careful use of energy, perhaps already become so important that it is pushing itself to the fore?

Marianne Durig: I would perhaps not reduce it to that. I think the sustainability issue is more complex than just the adaptation of form. But it will be the case that future projects will be influenced by thinking about energy efficiency and that perhaps other solutions will emerge as a result. But in the best case scenario, the inclusion of this topic should of course not result in a restriction of design freedom or diversity, but should rather create added value.

Martin Wall, you were the project manager on the client side (WIP

Wiener Infrastruktur Projekt GmbH) responsible for the school extension and zero-energy gymnasium project. Taking into account the aspects already mentioned, to what extent was it argued and accepted from the client's point of view that there would be additional costs?

Martin Wall: You are now saying that it costs so much. I admit that it costs a lot. However, the procedure in this case was somewhat different, especially since the project was already selected for Smarter Together from the outset. Even before the actual planning team was formed, we investigated the feasibility and suitability of this project as regards meeting the specified zero-energy targets. This was done on behalf of our client, the City of Vienna/ Vienna Schools, for whom we were working. Thus, the requirements were already included in the competition documents and formed important criteria in the assessment of the competition entries. The economic and technical feasibility was thus assessed from the outset. The legal requirements, especially for a building envelope, are now so high that it doesn't make much difference whether it is built to the zero-energy standard or not. In any case, the envelope has to be good.

Cost-wise, do you mean?

Martin Wall: Cost-wise and technically – there is not much difference. The specifications are simply already so strict and so extensive. In terms of energy provision, we have additional costs in the investment area. However, we also receive subsidies thanks to the EU and Smarter Together, which have covered a not insignificant part of these costs. The rest can be covered by a theoretical amortisation. So the argumentation was not difficult, because the City wanted to create an innovative project and not just an economic one.

Does that mean that if things are not as easy to manage as they were in terms of costs, it is very important to get funding?

Martin Wall: Of course.

Let's go one step further to the Hauffgasse project. Michael Castellitz, you are from BWSG and as project manager you naturally played a significant role in the refurbishment in Hauffgasse. It is often said that refurbishment is something that incurs costs but also benefits tenants. From BWSG's point of view, what was the motivation for such a costly refurbishment?

Michael Castellitz: As a non-profit housing developer, we have an obligation to provide socially acceptable housing. We take this obligation very seriously and in the course of this refurbishment we not only renovated, but we also increased the housing density, creating 80 additional flats in a high-rise area. Of course, the energy savings primarily benefit the residents, no question about that, but they also pay for the renovation in the end. In accordance with the 'polluter pays' principle, I think that's quite right. But we as a cooperative still get great added value – we preserve and create additional value. We create social housing. And that is the task of a non-profit property developer. The energy savings now and the energy savings in the future will be a major factor in whether someone can afford a flat or not. That means it is in our interest to keep the operating and energy costs as low as possible in order to get the houses full. It won't get any cheaper in the future. In addition, with e-car sharing, we have created an attractive and innovative mobility offer that contributes to improving quality of life and is also climate relevant.

Because that of course also improves quality of life for the residents. Is that something that is a concern for you as a cooperative?

Michael Castellitz: Of course. My favourite residents are those who are satisfied and stay in their flats for a long time.

Boris Hajek, as a representative of KELAG Energie & Wärme you were also involved in the renovation and modernisation project in Hauffgasse. Now, as an energy supplier, you

Image on the left page:
From left to right: Martin Wall,
Marianne Durig, Michael
Castellitz, Boris Hajek, Anna-Vera
Deinhammer, Daniel Glaser.

Panel discussion on the topic of
refurbishment in the course of the
Smarter Together Symposium

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Image above:
Herbortgasse after its
refurbishment, 2021

© Bojan Schnabl

presumably want to sell energy. Do you also want to save it? Why, and with what motivation?

Boris Hajek: On the one hand, we have a decades-long partnership with BWSG as a heat supplier in this property. But the group itself has also set itself the goal, in its guidelines for 2025, of making all electricity and heat generation plants as sustainable as possible and ensuring that they use alternative systems as much as possible. In Hauffgasse, we have equipped the district heating transfer stations and the hot water stations with the latest control technology and thus achieved a significant increase in efficiency.

“We also realized that a classic technician is not necessarily an expert in social skills and communication.”

Michael Castellitz

Thanks to these modernisation measures, we can now make better and more efficient use of energy. In itself, the changeover to an outdoor temperature-controlled heating curve

is a small measure that is common practice in modern housing, but in many cases it has not yet been implemented in properties that are 30 or 40 years old.

Has anything changed for you at KELAG Energie & Wärme in the course of the past months and years with regard to this energy-saving aspect?

Boris Hajek: Within the framework of Smarter Together, we have of course taken the opportunity to look at alternative systems in addition to the normal modernisation of the heat supply, and to implement them where possible. For example, we now have a new power-to-heat system in operation, in which we use solar power to generate heat. In this way, the locally generated electricity is increasingly used directly by the tenants and is not delivered to the grid as a surplus. The electricity can be used for many purposes, because its use is not limited.

This means that within the framework of Smarter Together, it has been possible to implement innovative ideas that can also be used for future projects.

Boris Hajek: That's right. A big impact came of course from the very

intensive contact that we had with many manufacturers in implementing the project. We are also seeing a change in thinking among heat pump manufacturers and manufacturers of power generation systems. PV systems offer more possibilities than, for example, grid-supported systems. This has already brought about a rethink and a movement in the market.

Ms Deinhammer, let's take a look at the big picture. You are from the construction department. Can these Smarter Together projects be integrated into the city's overall renovation strategy? If a district project like this were to be transferred to the whole city, what effects would it have on the city's overall objectives?

Anna-Vera Deinhammer: Of course, the projects fit very well into the overall city objectives. You have to think of it like this: we have a whole family of strategies that is interconnected at different levels. Figuratively speaking, starting with the climate protection programme and moving on to the Smart City Vienna Framework Strategy, which is connected to it and has already been mentioned many times, the energy framework strategy and the urban energy efficiency programme, which is already very close to implementation, etc., you have a ladder on which the vision can run down to the ground of reality and on which the projects can then run back up to the vision. And that is – and I would like to emphasise this – what excited me so much when observing the Smarter Together project: that in updating the Smart City Vienna Framework Strategy in 2019, findings from the projects implemented within the framework of Smarter Together had already been incorporated. After all, a strategy can demand a lot, but in the end it is only worth as much as what is implemented in reality. The Smart City Vienna Framework Strategy, for example, contains the catchword 'well-built'. This means that in 2050, buildings will ideally generate more energy or be zero-energy or low-energy buildings. The first pillars have been set in place with Smarter Together, showing

that it is basically possible. It is not cloud cuckoo land we are talking about in the strategy; it is possible. Furthermore, 'willing to experiment' is another key phrase in the strategy. Social and technical innovations are to be combined, and as an integral engineer, I am of course very grateful for this, because, as my alma mater (TU Wien) says, "We make technology for people".

"It is also very important that refurbishment projects are viewed holistically. You refurbish a property on the outside with wonderful new windows, new facades. But the building must also be approached from the inside..."

Boris Hajek

Looking to the future, how should neighbourhood development look in the future with regard to energy efficiency and increasing summer overheating? Are these relevant topics for you or aspects in general that are currently being considered?

Anna-Vera Deinhammer: These are very central issues for us. Of course, we must not view buildings as silos. Above all, we have to start looking at the district or neighbourhood. This will probably soon also make it possible for the buildings to share the burden among themselves. I think that we will have to put into cooling in the summer what we save in the presumably warmer winters. This is a concept that is probably easier to implement in new buildings or in an integrated planning process. A neighbourhood approach is therefore essential in redevelopment processes. The fact is the city is built; it is getting warmer. And this is exactly where we have to start.

A question for BWSG: to what extent have rents in Hauffgasse increased as a result of the redevelopment?

Michael Castellitz: I can give you an exact figure: we are currently at 60 cents per m².



Image above:
At the microphone: Anna-Vera
Deinhammer

© Marton Zsolt

So the renovation was acceptable, presumably, from the point of view of most tenants. Concerning the gymnasium, Mr Wall, to what extent were there additional costs due to the underground zero-energy construction method?

Martin Wall: Given their size, the costs for the geothermal energy and the geothermal probes were around €150,000. However, they do not work on their own, but require sophisticated peripheral technology for heat pumps. A very large part of the cost is due to the innovative energy concept of the building. This includes measurement, control and regulation technology, as we have to coordinate and optimally regulate four different forms of energy supply in this building. And it is a little difficult to determine how much of the cost can be attributed to geothermal energy, how much to solar thermal energy and how much to photovoltaics. As far as district heating is concerned, on the one hand, we can obtain district heating and, on the other hand, feed heat into the grid. This is a technically very complex part of the total project costs in which it is just as difficult to differentiate between the costs of each element.

Mr Glaser, the Municipal Department for Housing Subsidies and Arbitration Board for Legal Housing Matters (MA 50) is also responsible for redevelopment funding and thus for how much money can be allocated to such projects. What do you take away from your experience of the project in terms of future project funding?

Daniel Glaser: The City of Vienna, i.e. MA 50, is currently working together with MA 25 (the City of Vienna Department for Technical Urban Renewal) and many other partners on a follow-up project called RenoBooster, which is also funded by the EU. The aim is to learn from the Hauffgassen project and other renovation projects in order to subsequently identify findings for any necessary changes in funding. Central questions here include: what needs to be promoted more strongly and how can this promotion be linked more closely to monitoring? We expect to see a comparison between the expected and actual savings, especially in the case of Hauffgasse.

Do you think that the forecasts will actually come true?

Daniel Glaser: It is always difficult to make forecasts. The 120 kWh per m²



and year calculated for Hauffgasse relate to a climate that no longer exists in Vienna. The calculation is based on 3,400 heating degree days. At present, however, we have 2,800 heating degree days. This means that climate change helps us calculate the savings potential for a project. The Hauffgasse complex did not require 120 kWh per m² before the refurbishment, but only 80. We have seen that in the figures. Compared to the 80 kWh measured before the refurbishment, the calculated 22 kWh per m² after the refurbishment naturally shows much less potential for savings.

So funding could be even more targeted if more precise data and experience were available, for example from projects like Smarter Together?

Daniel Glaser: That's exactly what we would have to look at. And the second important point is that we will have to give much more thought to building technology. At present, this topic is considered rather casually. The big advantage with Hauffgasse was that we had two central partners on board: KELAG Energie & Wärme and BWSG. This meant that there was coordination between the

energy supplier and the flat owner. Unfortunately, this does not happen to the same extent in many projects.

Finally, let's take a look into the future, Mr Wall. What lessons have you learned from the project so far? How do they feed into your daily work or possibly into further projects?

Martin Wall: I think it has already been indirectly mentioned here a few times: we are talking about urban renewal in a climate crisis. A very important point is that summer will occupy us much more in the future than heating in winter. People usually still think of heating energy when they think of energy saving. The much more important issue in the next few years, however, will be cooling energy and thus comfort. We are not just talking about numbers here. Our buildings are used by people and they should be able to live, learn and teach in them. A second important point is monitoring – that is, looking at the years after commissioning. What we are trying to do at NMS Enkplatz and what I believe we will manage to do is to adjust, readjust and thus operate this highly complex facility on the basis of the monitoring figures.

Image above:
At the microphone: Michael
Castellitz

© Marton Zsolt

Ms Durig, what are the most important lessons you have learned from your participation in this project?

Marianne Durig: For us as an office, the project has definitely provided an incentive to continue to incorporate thinking on energy efficiency into projects in the future.

Did this give you an advantage over other architectural firms that were not involved in this type of project?

Marianne Durig: I think so. We have met many interesting people and are now a little more clear about what can perhaps be suggested to builders in terms of alternative approaches.

“For us as an office, the project definitely provided an incentive to continue to incorporate thoughts on energy efficiency into projects in the future.”

Marianne Durig

Mr Castellitz, for BWSG or for you personally: project insights and experiences?

Michael Castellitz: Good preparation is essential in any project, but with existing buildings in particular it is a guarantee of success. You have to bring your partners into the project as early as possible. We work on existing buildings with sustained full occupancy. Above all, tenants have to be involved at an early stage. If the tenants are not involved, you have a big problem. We have also realised that a 'classical' technician is not necessarily an expert in social skills and communication.

I think that's a completely new insight you have there, isn't it?

Michael Castellitz: But we have admitted it to ourselves; that is the difference: problem recognised, problem solved. And as in many other areas, we enlisted experts to handle it. Our thanks go to wohnbund:consult, who actively supported us in this. You have to have partners.

So you need partners to actually achieve what you have set out to do. Thank you very much. Mr Hajek?

Boris Hajek: I can only agree with Mr Castellitz's statement. The pre-planning or pre-project phase is important. It is also very important that renovation projects are viewed holistically. You renovate a building on the outside with wonderful new windows, new façades. But the building must also be tackled from the inside, especially with regard to the heat and hot water supply. It is essential to make sure that appropriate measures are taken here as well, as long as it is technically, structurally and economically possible. And of course, the tenants or owners should also be brought on board, because user behaviour is a decisive factor in determining whether a building consumes a lot of or little heat – like with hot water, for example.

A perfect transition to one of our next theme talk on participation. Ms Deinhammer, how do things look from your point of view? What are your most important insights?

Anna-Vera Deinhammer: My most important insights were – and here I remember a hint given to me by a much cleverer person than I – ambition, courage and speed. And when I think of ambition, I quite quickly get this image of Through the Looking Glass in my head, when Alice meets the Red Queen at the chessboard and the Red Queen takes her and runs with her as fast as she can. And Alice asks the Red queen, “Why are we running so fast?” The answer: “So that we stay in the same spot.” And I think this is exactly the issue that we will now have to think about for the next few years. Because what has been achieved now are really great pilot projects, big steps. But more and more players are being added. Another racer that is now being added in the area of renovation is the fascinating field of recyclable construction and resource and material efficiency. And there, of course, we still have a few planks to drill and a few things to think about.



So speed alone is not enough either. Success will probably also depend on the quality of the implementation?

Anna-Vera Deinhammer: Exactly. And the path on which we run has to be widened, of course.

Mr Glaser, in conclusion, what are your findings or your view of the future for further projects of this kind?

Daniel Glaser: I don't think there is much to add to what has already been said. What I would add is that we need optimism. So don't just give up in the face of these great challenges, but approach the solutions to these problems with optimism. I believe we can do it; so once again the call to all those who are here or who are part of this circle is: develop ideas, develop projects, come to us, meet us, propose something to us, let us agree on it. I think it really only works if we do things together. We are too weak as a city on our own. We need the developers, the people outside, the tenants. But together we can do it well.

Image above:
At the microphone: Marianne
Durig

© Marton Zsolt



Factsheet

Refurbishment of the BWSG Hauffgasse estate

Facts & Figures

485

residential units + 79
new attic flats

69 kWp

PV system

1

e-carsharing with 3
e-cars

Contact

**City of Vienna, Housing Promotion
and Arbitration Board for Legal
Housing Matters**

Daniel Glaser
daniel.glaser@wien.gv.at

Project partner:

- BWSG
- KELAG Energie & Wärme
- wohnbund:consult
- Austrian Institute of Technology (AIT)
- DIE UMWELTBERATUNG



A film on the
refurbishment
projects!

Project context

Within the framework of this pilot project, the large housing complex owned by non-profit housing developer BWSG was comprehensively renovated and extended. The refurbished building is a social/subsidised housing complex with a total of 485 residential units and around 1,000 residents. In the course of the refurbishment, 79 new residential units were created in the attic.

Smarter Together measures

- promotion of the use of renewable energy sources (construction of a 69-kWp PV system on the roof)
- creation of an on-site e-car sharing system with 3 e-cars in cooperation with the residents
- organisation of two series energy-saving cafés in co-operation with DIE UMWELTBERATUNG before and after completion of the refurbishment to raise awareness of energy measures as well as information boards on energy saving behaviour in the staircases.

Boosting the process

The planning process for the redevelopment of the housing complex started as early as 2011/2012, long before the launch of Smarter Together (2016). Smarter Together was able to contribute to fostering

a new and positive dynamic of the refurbishment process by the introduction of measures such as e-car sharing and PV-system.

Construction phases

Construction started in May 2017 and was completed in mid-2020. Over a total of three implementation phases, a step-by-step renovation of the residential complex, which is divided into three separate blocks, was carried out.

In addition to the necessary removal of the external wall panels as well as general thermal refurbishment measures (including fitting of thermal insulation on the outer façade and ceiling using mineral wool, new windows and doors) to reduce energy demand, maintenance work was carried out (e.g. renovation of balconies, installation of blinds, replacement of electrical systems, thermal insulation of pipes, installation of thermostats in the flats). General measures to improve comfort for the residents (e.g. creation of barrier-free access, relocation of the bicycle parking area to the ground floor, renovation of communal facilities) were also taken.

For more details see
www.smartertogether.at

Heating technology and local energy production

In addition to the renovation of the building envelope, measures were taken to improve the heating technology (renewal of the district heating and hot water transfer stations).

On the basis of several feasibility studies by the energy supplier, for structural reasons it was decided to install a PV system on the roofs of block 1 and block 3, covering approximately 275 m² and 80 m² respectively, and able to generate a total of 69 kWp. The electricity produced on site is now also used to heat water with electric boilers.

Tenant participation

Each construction phase started with an information meeting for the residents of the block earmarked for renovation. Thanks to an information point installed in the area, it was possible to provide the residents with continuous information.

In addition, a participatory e-car sharing scheme with 3 e-cars was introduced for the residents of the complex. A group of around 10-15 residents was formed to maintain and service the vehicles. In particular, the on-site presence of a 'caretaker' has turned out to be an essential success factor.

Monitoring

Measurement infrastructure has been set up. Data from the residential complex will be collected until 2021 and evaluated as part of the monitoring activities. This should result in recommendations for future actions.

Lessons Learned

Comprehensive renovations always contribute to an improvement in quality of life after the construction phase. In terms of energy savings, renovations is considered comprehensive if, in addition to the insulation of the building envelope and the integration of renewable energy sources, the heating technology is tackled.

Heating savings depend on numerous factors. In addition to structural façade and energy supply renovation, building services and tenant behaviour are also



Housing estate Hauffgasse © BWSG / AT Media Solutions

relevant. For this, it is essential to provide them with comprehensive information at an early stage.

Replikation

The holistic approach of this project offers an innovation-oriented potential for replication. The process-oriented approach ensured that the experience gained from the renovation process was integrated into the organisational culture of those directly involved and is now already being implemented in other projects (housing estate Drischützgasse of the BWSG, funding scheme for e-car sharing). In addition, the collected knowledge was shared within the framework of the Austrian Association of Non-Profit Building Associations (GBV). Non-Profit Building Associations manage all together over 952,000 flats throughout Austria.

Holistic thinking about redevelopment

- Redevelopment on this scale offers a starting point for a transformation of the entire area into a low-energy district.
- Positive dialogue between all stakeholders contributes significantly to increasing acceptance of the measures.
- Although the renovation work is stressful for tenants, introducing new themes and future-oriented, innovative solutions help them to understand why refurbishment needs to be done.
- Full and continuous involvement of tenants in the refurbishment process from an early stage is essential.
- From an energy standpoint, successful refurbishment requires the complete renewal of the heating technology right down to the individual flats and the associated hydraulic balancing of the heating system.

Refurbishment municipal housing Lorystraße and Herbortgasse

Facts & Figures

2

Municipal buildings,
155 housing units

Tenant meetings

1

PV-system

Contact

City of Vienna, Housing Promotion and Arbitration Board for Legal Housing Matters

Daniel Glaser
daniel.glaser@wien.gv.at

City of Vienna - Housing in Vienna

Julia Girardi-Hoog
julia.girardi-hoog@wien.gv.at

Project partner:

- **wohnpartner_wien**
- **Austrian Institute of Technology (AIT)**

For more details see
www.smartertogether.at

Project context

Wiener Wohnen is the largest municipal housing management company in Europe with 220,000 flats. Around a quarter of Vienna's population lives in municipal residential buildings. Wiener Wohnen renovates these buildings cyclically, among other things, to maintain a high standard of housing with a view to keeping rents affordable. Wiener Wohnen thus has a significant role model effect on other property developers.

Within the framework of Smarter Together, two apartment buildings were refurbished by Wiener Wohnen. Special attention was paid to communication with the residents. They were informed from the beginning and involved in the renovation process.

Smarter Together measures

- facilitation of dialogue with the tenants on the renovations (the residents had a say in the colour scheme of the façade, among other things)
- installation of a 50 m² PV system (9 kWp)
- installation of empty fibre-optic cabling

- preparation for setting up of an e-charging station
- fitting of a compressed air ventilation system in the staircase
- construction of a stair lift
- supply of shopping trolleys to residents

Boosting the process

Thanks to the EU funding provided through Smarter Together, the refurbishment offers the tenants numerous additional services (PV system, stair lift, pressurised ventilation). It also enabled Wiener Wohnen to implement and pilot new aspects of refurbishment, among other benefits.

Also, the refurbishment of the Herbortgasse housing complex was accelerated thanks to its inclusion in an EU-funded project like Smarter Together.

Construction phases

The thermal renovation of the façade is expected to reduce the calculated heating demand by more than 80%, from 130 kWh/m² to 23 kWh/m² per year. The concrete results of monitoring based on local energy consumption measurements after the refurbishment are expected in 2021.

Tenant participation – innovative design of tenant meetings

In the course of tenant meetings, the residents were given general information about Smarter Together and the renovation project, as well as about future opportunities for participation in the renovation process. Individual concerns (about technology, funding opportunities, etc.) were assuaged by experts at on-site 'topic tables' in advance of the renovation.

Some suggestions arising from exchanges with the tenants were taken into account in the planning and renovation activities (input for the façade design, use of the backcourt, etc.). At the request of the residents, no benches were placed in the backyard, etc.). The project started a participatory process to name the municipal building "Lory-Hof".

Lessons Learned

An intensive, long-lasting on-site participation process led by wohnpartner contributed greatly to tenant satisfaction before, during and after the renovation work. The participation process thus also helped to foster good relations within the housing complex.

Replication bzw. Weiterführung

The former project manager of Smarter Together Vienna, Julia Girardi-Hoog, who has worked for Wiener Wohnen since spring 2019, was commissioned by the company to strategically apply the experience gained from the project throughout Vienna and to embed it in the company culture of Wiener Wohnen. The installation of PV systems in the course of comprehensive renovation measures is also being considered. The first follow-up projects with PV systems have already been realised.



You can find more details about tenant info Lorystraße here! (Blog post, 06.07.2017)

Holistic thinking about refurbishment

- Through the EU-funded Smarter Together project, Wiener Wohnen, an important institution for the City of Vienna, was able to pilot internal innovations and create a number of additional services for the benefit of tenants.
- An intensive, long-term, on-site participation process can contribute greatly to tenant satisfaction during refurbishment activities.





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Factsheet

School renovation Enkplatz, 4 zero-energy gyms

Facts & Figures

4

underground zero-energy gymnasiums

4.100 m²

GFA gym
3.500 m²
open-air sports area

4

interconnected energy systems

Contact

City of Vienna, Department for Technical Urban Renewal

Andreas Tschismasia
andreas.tschismasia@wien.gv.at

Project partner:

- City of Vienna, Schools
- City of Vienna, Building and Facility Management
- WIP Wiener Infrastruktur Projekt GmbH
- Burtcher-Durig ZT GmbH
- Vasko&Partner
- Wien Energie
- Austrian Institute of Technology (AIT)
- MuseumsQuartier (MQ)



Short film on refurbishment!

Total budget: 27 Millionen Euro

For more details see
www.smartertogether.at

Project context

The construction of four zero-energy gymnasiums and the extension of the secondary schools at Enkplatz serve as a pilot project for the use of new energy solutions in non-residential buildings.

Smarter Together measures

- networking between the actors
- promotion of an intelligent energy supply using different renewable energy sources
- feeding surplus solar thermal energy into the district heating network
- implementation of a participatory co-creation process with pupils and teachers

Boosting the process

The project is based on the municipal mandate to ensure a high level of public participation. In this case, the project tried to include children in particular on the Smart City journey.

The technical starting point for the school extension project within the framework of Smarter Together was the replacement of gymnasiums and the creation of a total of 16 classrooms plus ancillary rooms and 4 leisure rooms covering a total of around 8,000 m² of floor area.

Construction phases

The idea for the project emerged in 2015 in the course of the Smarter Together conception phase. In 2016, a feasibility study was carried out by WIP on behalf of the client. This was followed by an international architectural competition in 2017, for which additional criteria (e.g. zero-energy concept, solar thermal system with district heating feed-in) were defined in advance. Construction started in January 2018 and the building was handed over and put into operation when school started in September/October 2019.

Energy systems

Various energy systems were integrated in the course of the project:

- PV system on the roof (67 kWp)
- solar thermal system on the roof (320 m² collector surface)
- use of near-surface geothermal energy (16 geothermal probes with a depth of 120 m connected to a heat pump)

In total, 300 megawatt hours per year (MWh/a) of renewable energy are now generated on the site, covering 70% of the final energy demand of the gymnasiums and the new classroom building.

The surplus electricity is fed back into the public grid, and the surplus heat is fed into the secondary district heating system. The temperature of the rooms is controlled thanks to the all-year-round geothermal energy heat cycle.

Pupil participation

The SIMmobile (see related factsheet in this publication) was on site for 4 weeks in 2017 and formed the starting point for an intensive participation process. The pupils and teachers were asked, among other things, what they wanted their school to look like in the future. The result: their wish for a climbing wall became reality, and the students had a say in the colour scheme of the building. Furthermore, numerous workshops relevant to the topic were organised by the teachers themselves and/or with the Science Pool association.

Solar benches and 2 "Enzis"

- In 2017, 2 solar benches with power sockets were installed in the forecourt.
- In 2019, 2 Enzis (fancy benches) were installed in cooperation with MuseumsQuartier MQ. The pupils subsequently decorated them with artwork.

Monitoring

For the purpose of testing the effectiveness of the measures, an ICT-based monitoring system was set up and related measuring devices were installed. The data is read and subsequently evaluated by AIT and the City of Vienna Department for Building Management. All data is entered into the new data platform 'smartdata.wien', which was set up within Smarter Together.

Lessons Learned

The use of solar and geothermal energy makes it possible to meet a large part of the energy demand on site. The integration of different energy sources requires intensive coordination of various actors in advance, as well as ensuring follow-up support for fine-tuning of the facilities after the handover.



The project's success rests on a holistic vision, consistent networking among all actors (co-creation), a proactive municipal government and professional city administration, and the active involvement of children and young people.

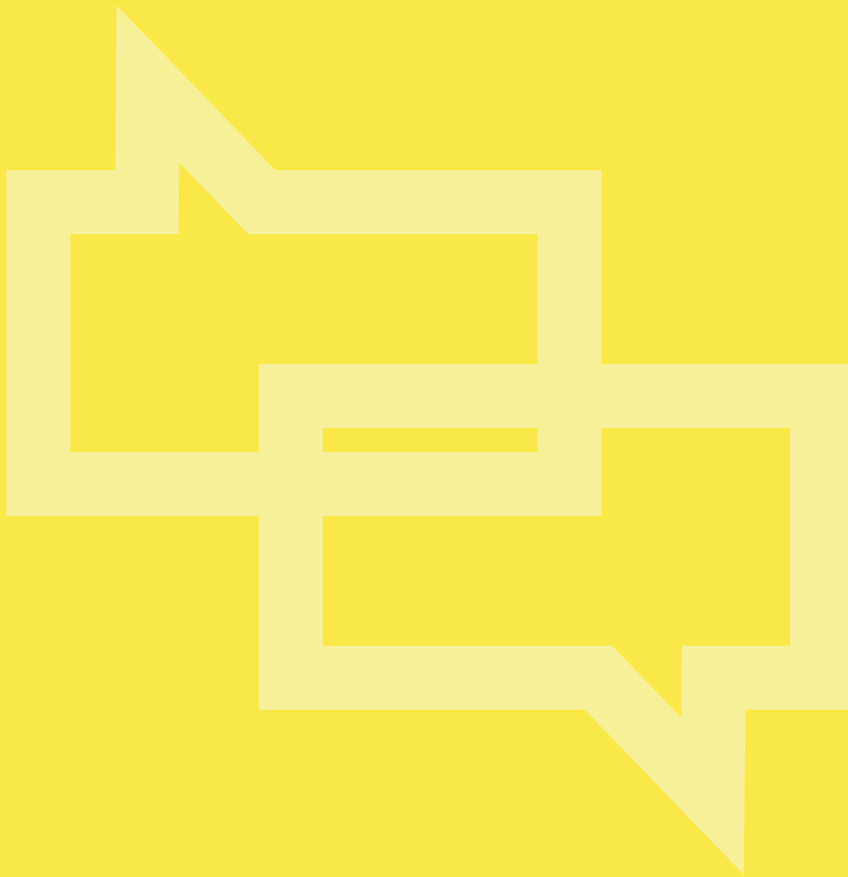
Replication bzw. Weiterführung

The project results and findings can be integrated by all participants in their respective areas of competence.

Holistic thinking about school expansion

- seeing the refurbishment of a school building as an opportunity for innovation.
- implementing integrated energy solutions to drive innovation among energy suppliers and other groups.
- viewing the expansion as a landmark project for the haptic communication of topics.
- organising workshops with children, using the gamification approach and seeing children as a bridge to their parents.





Facts & figures

Participation

21.300

inhabitants in the project area (Enkplatz, Geiselberg, Braunhuberviertel)

104,000 inhabitants in the district of Simmering

preparation of a social space analysis

use of the SIMmobile as a central communication tool in the public space

38.000

contacts during the project period, about half during project activities and events (in the SIMmobile, at tenants' meetings, Beat the Street, etc.) and half at events organised by third parties (conferences, meetings, etc.)

3

surveys on local mobility

Programmatic focuses:

gamification / Kids in focus / next generation researchers

6

Theme trail boards on the project

9

info boards on energy saving

Key project partners

Urban Renewal Office (Gebietsbetreuung Stadterneuerung, GB*), wohnpartner, wohnbund:consult, Regionalforum (network of socially active local associations), VHS Simmering, Science Pool, Balu&Du, MS and ONMS Enkplatz secondary schools, other primary and secondary schools in the district, Dopplinger&Dopplinger, Mobilitätsagentur GmbH, City Library in the Simmering Educational Centre, DIE UMWELTBERATUNG, Caritas, MuseumsQuartier, Bildungsgrätzl Enkplatz, Sakir's Flyin Pizza, Appeltauer's Horse Meet Fast Food, Zlatno burence's Čevapčići,



Participation

in direct exchange with the local people

Participation is a central concern of Smarter Together on many different levels

I recently saw a saying on a young employee's laptop that sums it up quite well: "Doing is like wanting, only more blatant." In the course of Smarter Together we wanted to find out what people want. What do the 21,000 people from Simmering need in the project area? Based on this, we did a lot of things and it became quite blatant. That's what we're talking about today. I will start by briefly outlining a few projects to give you an overview of the topic. Then I look forward to hearing from our experts, who will also provide us with a few quotes.

The Project neighbourhood

What were we concerned with? 21,000 people live in the project area in Simmering, in the neighbourhoods of Geiselberg, Enkplatz and Braunhuberviertel. We took a close look at who lives in Simmering, who we are dealing with here, and to what extent these people are already organised in local organisations, associations and initiatives. We then worked together with them, of course. This area is characterised by below-average incomes, above-average unemployment and migration rates

and a relatively low average level of educational attainment. Far fewer academics live in the area than in the rest of Vienna.

The SIMmobile

Compared to the population groups we have worked with so far, we were dealing with a rather unusual group. And that made it very difficult for us at times. In the beginning, we designed activities in the adult education centre, among other places. What we saw, however, was that some of the lovingly conceived events were not very well received. It was clear to us that we had to go out to the people and get in their way. And so we developed our SIMmobile from an old sausage van. Andrea Breiffuss from the Urban Renewal Office had once brought this to Vienna under the motto, 'Add your two cents: put yourself in the public space and if in doubt offer them food'. In the SIMmobile, however, we didn't always have food to offer, just games, an energy quiz and information materials. We were at different locations for 4-6 weeks at a time, because after 6 weeks at most we had the feeling that the people passing the SIMmobile already knew us. People were very open and interested. We also geared the content to different target groups.



Julia Girardi-Hoog
Project Manager
2016-2019, City of Vienna -
Vienna housing

Image above:
Dana Hann at the SIMmobil
© PID / Jobst



Image above:
At the microphone: Julia Girardi-Hoog

© Zsolt Marton

So we were in front of the school, talked to the pupils and asked them how the new courtyard and gymnasiums should look. Then we went to other places like in front of the adult education centre, where there were also many young people, and we asked them about their needs. We went out into the public space. Sometimes the visits were short, but the discussion was always very valuable. Every year, simply because of our long-term presence on the ground, we were able to have more than 1,600 conversations with people, exchange ideas, explain to them what we are up to, what is being done and where they can get involved. That was a very valuable tool for us to get a sense of the public mood and to pick up on people's needs.

The topic of refurbishment

What was difficult at the beginning, but for which we already had many contacts, were the renovations. We have already heard today at the symposium – and I liked that – that residents are of course greatly affected by renovations, since it is their living space that is at stake. For this reason, they come in large numbers to various events. When people are very concerned and very upset, this can go in all directions. To be honest, it

can also escalate. We were surprised at the energy to which such evenings can give rise and how it can also become negative. We have therefore developed new methods to respond adequately to individual needs. At information evenings with tenants, for example, we used different theme tables. Wiener Wohnen, and also BWSG, were very quick and innovative. They came to information evenings with a lot of manpower and answered many individual questions. People had a lot of questions: “When will the satellite dish be removed?”, “When will the laundry room be taken out of service?”, “How long will it be out of operation?” These are completely trivial questions for a technician. He can answer them gladly and well. But the right environment is needed for orderly dialogue to take place. That means you have to be able to deal with the initial excitement and show people that they are also part of the renovation, that they will enjoy living in their housing complex afterwards, that they can help to shape the renovation to a certain extent and that maximum effort is being made to ensure their well-being.

Particularly in Lorystraße – and Wiener Wohnen will also have something to say about this – we actively tried to let the people have their say. That didn't



always win me friends among the building owners. In the end, they had to coordinate the use of three colours for the façade with MA 19 (City of Vienna Department of Architecture and Urban Design), because the people were supposed to choose what the façade would look like after the renovation. The residents also had a say in the green space designs. We then had people saying things like, “You want to put up benches for us? We’ll burn them.” In the end, it doesn’t matter to Wiener Wohnen whether benches or raised beds are installed. But in this case we got very clear indications from the residents about what they did and didn’t want. You could tell that the residents were very pleasantly surprised at the end of the day. And also, after the first information evening using the new format, the Wiener Wohnen staff said that it was the first time that they had received applause at this kind of event. The reason for the applause was that trees did not have to be uprooted after all, as alternative routes for the fire brigade access road could be found.

Mobility

It has already been mentioned that the topic of mobility was a central one in Smarter Together. People often don’t actively think about mobility. People

don’t ‘mobilise’ themselves; they just have an incredibly complicated everyday life that somehow works. Mobility is an important part of this. Changing familiar routes (for getting to work, taking the children out, doing the shopping, etc.) is tedious and exhausting for people, especially in a setting such as their own place of residence. When people move somewhere new, they have to think about these things anyway. That, too, is often very exhausting. But it happens in a situation where they are most likely going to be forced to change that kind of thing, because everything else is changing.

“You want to put benches there? We’ll torch them.”
Quote, Lorystraße resident

But getting people in a familiar setting, with a more or less functioning daily routine, to change their ingrained habits is very difficult. There are many discussions to be had with people and many options to be shown to them. Above all, it often needs to be explained what the benefits of the whole thing are, or where the added value is for the individual person, for the neighbourhood or even the whole

Image above:
City Councilor Kathrin Gaal
handing over shopping trolleys
to residents of the Lorystraße
housing complex

© PID / David Bohmann



Image above:
The Simmering Infomobile
(SIMmobil) in August 2017

© PID / Christian Jobst

district if fewer parking spaces are now available because they are no longer necessary. Within the framework of Smarter Together, we were fortunately able to draw on the expertise of wohnbund:consult in the area of communication with the residents of the BWSG housing complex.

Education

What was also very important to us, of course, was the topic of education. Integration works above all through education. Science Pool is an innovative non-profit association based in Simmering and offers a great hands-on exhibition. More than a thousand visitors from all over Vienna come to their annual open days, including numerous families from the inner city districts with their children. In Simmering, on the other hand, hardly anyone knows about these events. As part of Smarter Together, we organised an open house day just for Simmering families. A total of five families came to visit. The Science Pool's science workshops cost €6 per pupil. However, many families in Simmering cannot afford this. As a result, although Science Pool is actually based in Simmering, it hardly offers any courses at Simmering schools. Therefore, with Smarter Together we have funded many science courses for schools all

over Simmering, even beyond the actual project area. We organised the first Simmering Research Festival and were amazed at how many children – especially girls – were interested in robotics and programming. We did our utmost to encourage them further.

Using the gamification approach

With Beat the Street, we have tried to combine a deadly boring message, namely 'Walk more. Cycle more. Don't let your parents drive you to school. See what you can experience on your doorstep' with games and fun (gamification). If this boring message were printed on a flyer, it would probably not even end up in the rubbish, but would simply be left lying around. But this message reached a total of over 9,000 people thanks to the use of the gamification approach. It mobilised numerous pupils, and also their parents, aunts, uncles and grandparents. "Mum, we have to go and collect points," they said. Many told us that because it became boring over time to always just go back and forth between the sensor boxes, they also discovered new parts of the city and completely new footpaths in the neighbourhood. This game ran for a total of 6 weeks in 2017 and 2018 respectively. It can be assumed that the



active mobility (walking, cycling, etc.) stimulated by this game has also found its way into everyday life.

Street Art: 'Simmering is my Future'

We quickly understood that public spaces are extremely important for people. They affect all residents. That is why we, as Smarter Together, have immortalised local children and got young people, and somehow ourselves too, interested in two public spaces. At the Geiselberg railway station, we created a mural together with Balu&Du and the Urban Renewal Office. Together, around 50 young people and children from the district wrote 'Simmering is my future.' We were really excited because the mural came from the children. But that is exactly what our work on the ground is about. For the school (NMS Enkplatz), in addition to the two solar benches, we received two Enzis from MQ. The children were invited to design the artwork for the Enzis themselves. One group even finished designing theirs after they had broken up for the summer. The pupils use the benches every day, even after school. You can sense that the kids just feel good in the revitalised school environment. What more could you want?

Image above:
Children playing the Beat the Streets mobility game.

© Mobility Agency / Christian Fürthner

Image below:
"Komm raus tour"

© Bojan Schnabl





Participation

a talk with the project partners



Julia Girardi-Hoog
Project manager
2016-2019, City of Vienna -
Vienna housing



Andrea Breittfuß
Gebietsbetreuung
Stadterneuerung



Elena Resch
wohnpartner



Lukas Oberhuemer
wohnbund:consult



Bojan Schnabl
City of Vienna, Housing
Promotion and Arbitration
Board for Legal Housing
Matters, Taskleader
Communication

Ms Breittfuß, you organised the SIMmobile with the Urban Renewal Office. How did you experience the interaction within the framework of Smarter Together?

Andrea Breittfuß: The idea of going out with a car came from an earlier project, when we asked Simmering residents for their opinions at various locations as part of the 'Put your two cents in' campaign. Those were just short interventions for specific purposes. With Smarter Together we had the opportunity to be present on site nearly all the time for over 3 years. This made a significant difference. We became better known as an institution and we were able to talk in more depth with the residents about their everyday life and get tips from them on how to ensure that the topic of smart cities would take root in the community. Because honestly, communication is often top-down: we come and tell people how to behave. You can do that, but it doesn't always find a receptive audience. But if you are on the ground, talk to people about their everyday life and find common starting points from where they can see that change makes sense for them, you naturally make progress. This has of course had a great influence on the work and the

area's support for further projects. And it is a great advantage to have an institution involved that already existed before the project and that continues its work afterwards.

Were people able to participate using other languages? Were people from migrant backgrounds included?

Andrea Breittfuß: I think it is no coincidence that the Urban Renewal Office, which is financed by MA 25, was involved in the project. As a local point of contact, it has long been a concern of ours to reflect the diversity of the city districts in our team. So we used staff members who speak different languages in Smarter Together and this proved very successful. Most of the time, it is not so much that the people we come into contact with do not understand German well enough, but that they open up when they are addressed in their mother tongue or when their interlocutor also has a migrant background.

So in a way you were not only giving support to the people in the area, but you also gained something from it. Can you also use the experience from the project for your future work in area management?

Andrea Breittfuß: I think that should always be the case. Every contact with the people, including in the professional environment, should be based on an attitude of "What can I learn from you? Tell me something about your everyday life. What can I give you that you can use?" Only then do we really reach people.

Can you give us any other insights into the scope of your work on the ground? And will it be possible to carry out actions involving this level of participation to the same extent in the future?

Andrea Breittfuß: That is a difficult question. Since 2018, upon restructuring, the areas covered by the single Urban Renewal Offices have included the whole territory of the City of Vienna. Our office, the GB* ost (Urban Renewal Office East), is now specifically responsible for the 3rd, 4th, 5th, 10th and 11th districts. Working in a geographical broad area cannot be done over five districts in the same intensity; it must necessarily be done through a targeted project; there is no other way. Otherwise we would need more resources. Nevertheless, projects make a lot of sense because you can draw on the contacts you make for a long time. We have established personal relationships that people remember, and we are on site again and again for longer periods. Finally, we have had new experiences that we can draw on in other districts.

Elena Resch from wohnpartner, we come to the topic of renovation. You accompanied the renovation at Lorystraße together with the residents. What issues came up? And how did you experience this participatory process?

Elena Resch: Perhaps I should first clarify that wohnpartner does not renovate. Wiener Wohnen does that. wohnpartner is responsible for preventing and mediating in conflicts in the neighbourhood and does community work related to municipal housing. Refurbishment as such naturally means an improvement in people's quality of life and housing, but it also creates potential for conflict.

That is why it is very important for wohnpartner to accompany this kind of activity and to provide advice to everyone involved: the property management, the residents, the communication partners. Transparency and communication are very important. I have to say that renovations in municipal buildings with elements of resident participation are not yet a widespread phenomenon. As an example of this type of process, Lorystraße has provided some positive experiences.

"...We were able to talk more intensively with the residents about their everyday lives and get tips from them on how to anchor the smart topic well."

Andrea Breittfuß

What was it like for us? For us, the process was, as always, multifaceted: upsetting at times, but satisfying in the end. For example, we managed to ensure that all necessary information was available and checked before the redevelopment started. What has already been decided? In which areas can we still have a say? Where can we help shape things? – being able to answer these questions is very important for a project like this.

Before we approach people, we have to know how much room for manoeuvre we have. If we communicate this incorrectly, it can lead to resentment, uncertainty and disappointment. In municipal buildings we often deal with people who are disappointed. And we do not want to add to this disappointment. In this project, all of the cooperation partners agreed exactly what was possible and what needed to be done.

Do people then also understand that expectations should not be set too high, that participation is not possible everywhere?

Elena Resch: People simply need a fixed truth. People who live in community housing are often at risk

Image to the left:
From left to right: Andrea Breittfuß,
Elena Resch, Lukas Oberhuemer,
Bojan Schnabl, Julia Girardi-
Hoog.

© Marton Zsolt



Bild oben:
Am Mikrophon: Andrea
Breittfuß, Gebietsbetreuung-
Stadterneuerung

© Marton Zsolt

of poverty. For us, this means that on the one hand we have to introduce innovations, but on the other hand we have to take into account the living environments of the residents and constantly ask ourselves what is reasonable from their point of view. Redevelopment often stirs up fears among people that rents will become unaffordable. That is usually the first question. Residents often think that a refurbishment was promised several times, but then nothing happened. Other questions follow: "I changed my door myself. I installed my windows myself. What will happen to them?", "I have a satellite system. What will happen to it?" And so on and so forth.

Before we go to the people, we have to bring this information with us. However, I would then continue with basic techniques, not modern, innovative methods. It is about being there for people, working on the spot, having individual conversations, going from door to door, explaining various things, speaking in a different language from time to time, but first and foremost simply taking time for people, time to understand what moves them and then to explain what it is all about. Thanks to our easy-to-understand information and

work on the ground, we were able to get three quarters of the tenants to attend the meetings. They also attended workshops, took part in surveys and managed to voice their own concerns. It is very important for me to be able to say this. From the beginning they were told, "O.K., you can think about what colours will be on the façade, staircases and balconies." A redesign of the courtyard was also planned.

However, during our initial survey we found that people did not need a courtyard makeover. There were also trees that provided noise protection that the residents wanted to keep. The initial plan was to allow for a new fire brigade access route, but this would have meant uprooting the trees. What were the options? This issue was subsequently debated with other experts. In the end, thanks to EU funding, a pressurised ventilation system was built in and the trees were preserved. That is, of course, a success factor.

We did not work in a problem-oriented way but in a solution-oriented way. We made sure that the garden was preserved and the fire brigade access road was relocated. During the initial survey we also found

out that 10 residents could only get to the lift with great difficulty. These people didn't really care what colour the stairs were. The budget did not originally cover the installation of stair lifts. Again, it took persistent negotiations, but we finally managed to get these stair lifts installed. This is a win-win for me. This progress reduces disparities between people and allows people with lower incomes to participate in progress in general.

Ms Resch, you said that this kind of participation and communication process requires a lot of time and effort. Is such a process only possible within the framework of an EU-funded project, or will it also be needed for general renovation projects in the future?

Elena Resch: I think we at wohnpartner work at the grassroots level anyway; we work with people. And we have seen that even in complex, innovative projects, you must not forget that innovation is not possible without people and that you have to meet the people where they are. Some people already feel overwhelmed by this progress and are somehow lagging behind. For us, it is very important that we stay with people, we pull them up and we help them to move forward. I believe that innovation should not discourage, but encourage. It is then our task to stay around and help people up.

Lukas Oberhuemer from wohnbund:consult. Let's move to Hauffgasse. This giant project has already been briefly discussed. Perhaps you could explain a little about your areas of responsibility. How have these changed through Smarter Together?

Lukas Oberhuemer: The redevelopment of the BWSG housing complex at Hauffgasse 37-47 has been going on for quite some time. We at wohnbund:consult have been on site since 2013 and have been supporting the project and the residents throughout that time. This means that Smarter Together was actually a lateral entrant in this case, but a very welcome lateral entrant.

A lateral entrant into your project or your plans?

Lukas Oberhuemer: I'll just say 'our project'; yes, exactly. However, we are not a direct project partner but a contractor of BWSG. But in the meantime it has become 'our' project, because we have been on site for what feels like decades and have been there from the very beginning. BWSG saw a need and recognised that a planned refurbishment on that scale would not work without professional support. The first time we informed the tenants about the renovation project, we got a very sceptical and aggressive response from some of the residents. Because of this, we were commissioned by BWSG to launch a large-scale information and participation process. The aim was to involve the residents and to inform them in a transparent and comprehensive way about all of the measures, planning steps and processes included in the refurbishment.

"... In complex projects, in innovative projects, you must not forget that innovation is not possible without people and that you have to pick up the people."

Elena Resch

As Stephan (Hartmann) said at the beginning, it was essential to generate trust. We believe that in order to be able to perceive change as an opportunity, the residents need to be willing to support these changes and at the same time to strengthen the neighbourhood. And that was actually the big goal, which in the end was not easy to achieve. It took a long time, a lot of manpower and a lot of persuasion before finally, after 3 or 4 years, we came to the point where we could say, "O.K., a large number of the tenants actually accept this renovation and also support it." However, we did not completely succeed in involving all tenants or in convincing all of them.

What were the biggest challenges, or even problems, from your point of view?

Lukas Oberhuemer: Of course there were problems; I wouldn't say there were only challenges. Some of them were big problems. The big fear of some of the residents was, "Something is changing and we have to pay for it!" Some of these people have lived here for over 30 years in their flats, in their neighbourhoods, and on the whole they like it that way. The rents are low and that should not be changed. And now someone, even if it is the owner, comes along and changes this whole system. That was a real problem for many people.

Has Smarter Together been able to help you solve these problems or address these challenges?

Lukas Oberhuemer: Well, I would not say that Smarter Together directly helped to solve these problems. I would say they were two different things. With the redevelopment support, we always tried to address problems as transparently as possible with the residents. Many experts were involved in the planning and design, and in the end many things were implemented. Of course, we also have to thank the architect, Mr Rebernig (GSD), who was very open and often talked to the residents himself, discussed things and took sensible input into account in the planning. That cannot be taken for granted.

"Above all, the Smarter Together project has meant that, in addition to the structural and social components of the renovation, we have had the opportunity to develop innovative mobility solutions with the residents. "

Lukas Oberhuemer

Above all, the Smarter Together project has meant that, in addition to the structural and social components of the renovation, we have had the opportunity to develop innovative mobility solutions with the residents.

Together with the car sharing operator, Caruso from Vorarlberg, we tried to develop a customised e-car sharing concept with the residents. An active group of committed residents has been formed to take care of all matters relating to these three electric cars. In addition to software and hardware and provision of technical infrastructure, this group has been at the heart of the concept from the very beginning in order to ensure the long-term operation of this location-based e-car sharing system. The people in this group are still supporting the project. They are contact persons for the neighbourhood and the users, and have played a significant part in the success so far. In the afternoon, we have the opportunity to listen to a member of the group here on the podium.

Bojan Schnabl, one of your tasks in the project was to bring the actors together and to form them into a network. How did you do it and to what extent has this cohesion perhaps been influenced by the EU-funded project?

Bojan Schnabl: In Smarter Together, we tried from the very beginning to involve and build a network of many local actors who were already on the ground. The idea was that through joint activities they would 'experience', so to speak, the approaches and experiences of the other participants, including on a personal, emotional level, and thus enable themselves to make use of the other participants' knowledge. This is a core area of what we call 'learning governance', which helps to ensure the sustainability of the project.

I had the task of presenting all of the project partners in the newsletter and in the blog posts, because this is also a question of project culture. And this project culture is of central importance for the project dynamics and thus for the aforementioned sustainability of the processes.

This was already so important to me in my function as project coordinator during the preparation phase and this is how I subsequently understood my role as a 'storyteller' and as someone



entrusted with taking care of the positive dynamics of the project. In concrete terms, the networking of all partners was also very important, especially for further cooperation within and outside of Smarter Together. Many people confirm that this has brought real added value. For example, we held tenant meetings at Wiener Wohnen together with the housing partners (wohnpartner) and the Urban Renewal Office (GB*), and we created a support network in the area with wohnbund:consult. Very early on in the project, we also integrated the adults educational center resp. the people's university VHS Simmering as a local partner and got involved in the Regional Forum (Regionalforum), a network of local institutions, thereby reaching many additional multipliers and developing additional activities. As part of BWSG's renovation project in Hauffgasse, we worked together with KELAG Energie & Wärme on innovative energy solutions and launched e-car sharing.

Above all, we introduced completely new topics into the redevelopment process that went beyond the conflict-laden issues and understandable fears surrounding redevelopment. And we have put everything into a larger European and

global framework, and in this too, we have taken the tenants into account to some extent.

I believe that overall we have also helped to calm the debate regarding the redevelopment process in Hauffgasse and have promoted future-oriented dialogue. Last but not least, we were on site with the SIMmobil and later designed a thematic trail with information boards, one of which was placed in the housing complex in Hauffgasse.

So there were already many local actors and institutions to build on. To what extent could the Smarter Together project help to strengthen existing networks and thus create added value?

Bojan Schnabl: In many cases, we have introduced new topics because this was specifically made possible by the project. Kids in Focus, for example, is an important concern that was not really originally in the foreground, but then became more and more important with the workshops from the Science Pool, the involvement of the pupils in the school expansion and finally with the participatory mobility game, Beat the Street. This even attracted international attention. There is now even a research study

Image above:
At the microphone: Lukas
Oberhuemer

© Zsolt Marton



Image above:
Kick-off at the WienMobil-station,
2018

© Bojan Schnabl

on 'Smart Cities and Children'. And we, as Vienna Smarter Together, are certainly seen as a primary contact for this.

Within the many projects with children, we have also naturally taken up the topic of integration and the inclusion of people with a migrant background without moralising. All segments of the population took part in Beat the Street. And I was really thrilled when I saw the mural at the railway station on Geiselberg with the slogan 'Simmering is my future'. Without wanting to put words into the children's mouths, this is our central message, so to speak: that everyone who lives here can help shape our common future. Thanks again to the staff from Balu&Du.

In general, we had a very broad concept of participation and co-creation, as we worked with the general public as well as with different target groups. Finally, inclusive learning governance can also be seen as a means of participation.

Julia Girardi-Hoog, how is this whole participation process evaluated? How do you determine what it has achieved? What can perhaps be taken away for the future?

Julia Girardi-Hoog: Of course we also asked ourselves this question about evaluation. It is difficult to evaluate qualitatively. The use of e-cars, for example, can be evaluated quantitatively very easily on the basis of the electronic data. On the other hand, it is more difficult to find out qualitatively what remains sustainable for the residents and the individual institutions, in order to be able to ask what can be done better next time. In the next few years, it will still have to be considered whether the level of acceptance of the measures taken will remain as high. Will the mobility services still be visible and widely used in the future? Ultimately, a mixture of quantitative and qualitative evaluation is needed.

Finally, perhaps one more question for everyone: if you had the opportunity to participate in such a project again from the beginning, what would you do differently and what would you do in exactly the same way?

Andrea Breittfuß: We would do everything in exactly the same way again (laughs). We are happy when we can work so intensively on site. We have learned a lot about smart topics, and this is knowledge that we continue to work with. We got



a cargo bike, which we continue to lend to the residents for free. We have made sure that some of our work remains on site: we have developed a smart district plan in which we have prepared smart information and topics for the district; we have a theme trail that can be followed on site, and in the course of which important features of Smarter Together can be visited independently and explained – this is also listed in the smart district plan. I think there is nothing better than a project that runs so well, in which you have such good cooperation partners and after which you can continue working seamlessly.

What could be better to hear than that? Thank you very much. Elena Resch, wohnpartner?

Elena Resch: First of all, what remains? In the rehabilitated housing complex in Simmering, it is the trees that remain; it is the stair lifts that have been installed; it is the people who live there who now want to choose tenant representatives; it is the people who now want to have communal rooms because their communication with each other has become even more active. And there is also the desire for a neighbourhood garden. That is what

needs to be done. What we have taken away is that where people respect each other's expertise, where a strategy is coordinated together and where reliability and credibility are demonstrated, cooperation can take place on a deeper level. That is what we have learned together. This has all happened within the framework of this project and that is how we would like to continue to work. Thank you.

Thank you. Mr Oberhuemer?

Lukas Oberhuemer: Looking back, I see that there were some things that we did wrong or could have done better. But that was and is also the beauty of this project: that we had the opportunity to try things out here the outcome of which was not entirely clear. And I think we learned a lot from our partners, including how to work together, how to approach each other and how to solve challenges. Another nice thing about this project was that we had the opportunity to publicise a large-scale renovation project as a whole. To draw attention to the fact that residential renovations on this scale cannot simply be carried out, but require special planning and the involvement of the residents. We

Image above:
Walking Café

© Mobilitätsagentur /
Christian Rupp



Image above:
Kick-off of the Beat the Street
game

© DDBVB, Mobilitätsagentur,
Smarter Together /
Philipp Lipiarski

currently have many conversations with developers who ask, "How does this work? How can we involve the tenants? What do we gain from that? What can that achieve in the long term? What kind of problems could we face?" These are essential points and questions that we try to discuss and clarify together with those responsible for the respective projects.

Especially in a city like Vienna, where population growth, redensification and density of existing buildings are burning issues, this will be a major undertaking for the next 10-20 years. It will and must happen. The only question is how?

"Peer-to-peer, the exchange among equals, was definitely a method we practiced throughout at all levels."

Julia Girardi-Hoog

Of course, it was also a great opportunity to think differently about mobility, to rethink mobility not only in the inner city, but to try out 'shared mobility' in Simmering and to involve the residents in the process. As a company, we were able to take a lot

of things with us and benefit a lot. And we are already taking what we have learned into other projects and trying to adapt this to other settings.

Mr Schnabl?

Bojan Schnabl: What was very exciting was the networking of numerous actors. Especially because I live in the district myself, I was thrilled by the many highly committed people who make a daily contribution to change or simply to social interaction. I'm thinking of the staff of Balu&Du, our colleagues at VHS Simmering and many others. In concrete terms, participation means reaching the different target groups or segments of society. At Siemens Mobility, for example, we involved the employees and they contributed to the collection of ideas and the implementation of new projects. That was quite exciting. In other words, we even did a bit of business promotion here and contributed to the attractiveness of the business location. That was also important to us.

Finally, I think what it fundamentally takes is vision, passion and love. And that is what distinguishes the Smarter Together team.



Julia Girardi-Hoog, will the residents be able to pass on the experience they have now gained to others, for example in a peer-to-peer exchange?

Julia Girardi-Hoog: Peer-to-peer, exchange among equals, was definitely a method we practised throughout at all levels. In the Hauffgasse active group, the residents are very interested in training their neighbours to use the rental cars and recruiting new users for this car sharing system. Our Wiener Linien WienMobil Station or our data platform have their roots in the exchange of knowledge between colleagues within the European network. And this exchange also had a happy ending at political level within the framework of international cooperation. Not only did Munich beer mugs find their way to Vienna (note: The handover of Munich beer mugs took place during the Smarter Together Symposium.), this cooperation between the two cities has generally had a very funny side. For example, some Munich city councillors were in Vienna for a technical visit just as we were organising our Beat the Street smart mobility game. In the first year we organised Beat the Street for 6 weeks in Vienna using 50 rented English

beatboxes distributed in Simmering. A Munich city councillor was particularly enthusiastic and said, "We'll do that in Munich too. We'll have the boxes specially developed for this."

This opportunity to tender for the production of the boxes in turn inspired the Viennese event management company Dopplinger & Dopplinger, which had organised Beat the Street twice, to develop these boxes themselves.

Today the boxes are called 'street points' and have already been successfully tested in Favoriten and Donaustadt. This is perhaps a very special happy ending to our project.

Image above:
NMS Enkplatz, construction fence painting.

© Martina Vogel-Waldhütter



SIMmobil © Jana Hann

Factsheet

The SIMmobil

A lively grassroots dialogue with the people

Facts & Figures

1

SIMobile, 10 locations

93

93 opening days,
3-4 weeks at each
location

>3.500

visitors

Contact

**City of Vienna, Department for
Technical Urban Renewal**

Stephan Hartmann
stephan.hartmann@wien.gv.at

Urban Renewal Office (GB*)

info@gbstern.at

Project partner:

- **DIE UMWELTBERATUNG**
- **Balu&Du**
- **Science Pool**
- **waff**
- **KELAG Energie & Wärme**
- **Radwerkstadt**
- **Verein Wanderklasse**
- **Wiener Linien**
- **Siemens Mobility**
- **NMS Enkplatz**

For more details see
www.smartertogether.at

Project context

The project area has a very heterogeneous population. The residents were addressed on their daily routes with the help of a mobile communication laboratory - the SIMmobil.

For this purpose, a discarded trailer was purchased within the framework of Smarter Together and converted into a mobile information stand in a cost-effective and ecologically sustainable way (keyword: circular economy). This was used for several weeks at a time at a total of ten locations in public spaces in Simmering between 2016 and 2019.

Smarter Together measures

- acquisition of a discarded trailer
- design and branding of a mobile information and communication stand for use in public spaces
- commissioning of GB* for implementation
- use of the information stand for 3-4 weeks at a time at each location, for 3-4 days/half days a week.

Boosting the process

The SIMmobil was set up specifically where Smarter Together project activities required targeted information exchange with the local

population: for example collection of wishes and ideas from pupils for school expansion, information on energy-saving tips for tenants in renovated buildings, introduction of new users to the WienMobil Station, participation of Siemens Mobility employees, setting up of info points for participants in the context of walking cafés, etc. Features included:

Participation & Goodies

- surveys of all kinds on various project topics;
- a fixed e-bike producing electricity and energy quizzes;
- goodies such as T-shirts, bicycle bells, etc.;
- flyers, information materials.

Monitoring

GB* kept statistical records of the activities and reported on participation, location attractiveness, focal interests, etc.

Lessons Learned: success factors

A central success factor is the involvement of an institution that is already present on site (in this case GB*) and which, with its local knowledge and network, contributes significantly to the sustainability of the activities. In addition, multilingual staff

with a sound knowledge of urban issues are essential in order to get people with a migrant background involved. External project partners also offer additional opportunities for networking and the inclusion of new attractive topics.

Replication

While it is possible to incorporate the results into the work of the organisations involved, the SIMmobile has not been used outside of a specific project context to date. The recycling and the favourable acquisition costs make the limited use justifiable and recommendable.

Holistic grassroots communication

A mobile information stand of this kind can be used for surveys, information dissemination and participation opportunities, and as a starting point for further projects (e.g. bike repair workshop, staff information, etc.).



Click here for the
SIMmobil film!

Selfi with Sakir (l.) from Flying Pizza © Smarter Together / Sakir Sarioglu



Beat the Street Kick off 2018 © DDBVB, MOBAG; Smarter Together/Philipp Lipiarski

Factsheet

Gamification in the context of Smarter Together

Facts & Figures

9.000

participants at Beat the Street
"Kids in focus"

1st

Simmering Research Festival

3

painting events, countless workshops by Science Pool

Contact

City of Vienna, Department for Technical Urban Renewal

Stephan Hartmann
stephan.hartmann@wien.gv.at

Urban Renewal Office (GB*)

info@gbstern.at

Project partner:

- **Urban Renewal Office (GB*)**
- **Mobility Agency Vienna**
- **VHS Simmering**
- **NMS Enkplatz**
- **DIE UMWELTBERATUNG**
- **Balu&Du Association, offered by Mojosa**
- **Dopplinger&Dopplinger**

For more details see
www.smartertogether.at

Project context

In the context of Smarter Together, the gamification approach was used in particular for the participation and involvement of children and young people in the project activities. The target group went far beyond the project area with its 23,000 inhabitants, to include kids and youngsters from the entire district of some 100,000 inhabitants.

Measures within the framework of Smarter Together

- 2 editions of Beat the Street with 6,000 and 3,000 participants respectively
- energy quizzes, painting activities and other workshops for and with children (Kids in Focus)
- 1st Simmering Research Festival
- increasing the target population from 23,000 in the project area to 100,000 in the whole district

„Beat the Street“

Beat the Street is a participatory mobility game in which the core target groups are school classes in the project area and the close relatives of the children. The aim is to activate a maximum number of beat boxes in the project area by using chips (children) or cards (adults) and travelling on foot

or by bicycle. The game was run over 6 weeks in 2017 in 2018 respectively. Groups such as school classes or even whole schools collected points based on the number of kilometres they covered. The winning groups were awarded prizes such as gymnastics equipment for schools.

The basic aim of the game was to encourage children to exercise healthily and to get to know their neighbourhood. Ultimately, everyone's participation also promoted integration in a playful way.

Success factors : think big

Minimum size of the project, active project support, attractive goodies, high-profile communication, cooperation with schools and teachers, intensive preparatory work.

Energy quiz

In cooperation with UMWELTBERATUNG, an energy quiz for children and adults was created and used as a communication tool in the SIMmobile.

Workshops

In cooperation with the Science Pool non-profit association, which also runs a museum of 'nerdiness' aimed in particular at children in the project area, numerous low-threshold

workshops were offered during the project to bring children into contact with research in a playful way. The contents and topics of Smarter Together could thus be conveyed in an age-appropriate manner. Workshops were held for almost all state schools in the project area, as well as for many schools elsewhere in the district. The costs of the workshops were borne by the EU funding, as many parents could not afford them themselves.

1st Simmering Research Festival

In the course of Smarter Together, the 1st Simmering Research Festival was held. The aim was to attract children and young people in particular and generally to get people with low levels of educational attainment interested in research. School classes from schools in the district were encouraged to prepare contributions and for this reason, the workshops were also integrated into lessons in the schools.

Painting activities, art and Enzi benches

Creative forms of expression lead to emotionally memorable experiences. Together with the staff from Balu&Du, a mural was created at a railway station. Created by the young people, the slogan 'Simmering is my future' is representative of the Smarter Together message regarding the need to create a liveable, communal city for the future.

In addition, two Enzis (fancy benches/street furniture) were acquired from the MuseumsQuartier (MQ) and artistically designed by the pupils of NMS Enkplatz.

Monitoring

Beat the Street was implemented with ICT support and is monitored on the basis of electronically gathered data.

Lessons Learned

Low-threshold participatory games and support for artistic expression are particularly interesting for children and young people and convey the values and messages of a project in a very authentic way. They also contribute to



Beat the Street 2017 © Mobilitätsagentur/Christian Fürthner

enhancing the image of a project and acceptance of its measures.

Replication

Beat the Street fand bereits mehrfach NaBeat the Street has already been copied several times. Inspired by the project experiences in Vienna, Munich reinvented the game as 'Kreuz & Quer'. In Vienna, the game was subsequently successfully implemented again in the districts of Donaustadt and Favoriten using the Munich technology under the name 'Climate Heroes'.

Smarter Together is already the subject of research as part of a project on smart cities and children.



Film of the painting action of Balu&Du!

Holistic and playful thinking about participation

- Playful elements are essential for conveying the values and messages underpinning a project.
- Low-threshold participatory activities can show that a project is there to help people.
- Younger children in particular are important mediators of project content.
- Playful elements make it easier to overcome language and educational barriers.
- Through low-threshold and playful activities all social classes can be included.



Painting action Geiselberg © Gb*



Lecture at the VHS Simmering 2017 © Smarter Together/Andrea Klem

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Educational institutions

Important local partners

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adult education centre (VHS Simmering), with
1 Music School and
1 Municipal Library

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Regional Forum

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educational district
Enkplatz

Contact

City of Vienna, Housing Promotion and Arbitration Board for Legal Housing Matters/Housing Research

Bojan Schnabl
bojan-ilija.schnabl@wien.gv.at

Project partner:

- City of Vienna Schools
- VHS Simmering
- Musikschule Simmering
- Städtische Bücherei Simmering
- DIE UMWELTBERATUNG



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Näheres zum TOMMI
Kindersoftwarepreis 2019!



Hier finden Sie Tipps zum
Energiesparen!

For more details see
www.smartertogether.at

Project context

Cooperation with local educational institutions – such as the Simmering educational centre with its adult education centre, music school and municipal library as well as local primary and secondary schools – plays an important role in the work of Smarter Together. Vienna's adult education centre network has a 100-year tradition of imparting knowledge and is organised in a decentralised manner through its branch offices in the city districts. VHS Simmering is an important centre for numerous participation activities in the district.

Smarter Together measures

- In cooperation with VHS Simmering, a number of larger events on smart city topics were organised in 2017.
- A series of workshops was held with environmental counselling organisation, DIE UMWELTBERATUNG.
- Numerous workshops for international professional visitors were also held at VHS Simmering.
- The municipal library was provided with a large touch-screen computer with project information. This allowed children to participate as judges in the Tommy Children's

Software Award for the first time.

- Numerous information materials on the project are now available at VHS Simmering.
- An energy-saving café was set up at the VHS.

Boosting the process

The anchoring of the project with VHS Simmering, an important local educational institution, has contributed significantly to its positive dynamics and success.

Using public space

- The forecourt of VHS Simmering was a central venue for Smarter Together.
- Numerous guided district walks started in front of VHS Simmering.
- Smarter Together participated several times in the Simmering Street Festival, as well as in the VHS Simmering Education Day.
- An information board on the Smarter Together thematic trail is clearly visible in the forecourt.
- The SIMmobile made several stops in front of VHS Simmering.
- The Mobility Agency's walking café was set up in front of VHS Simmering.
- The catering outlets located in

the forecourt of the VHS were also regularly involved in the project.

Regional Forum and Educational Quarter

At the start of the project, structured cooperation with Regional Forum, a network of local socially participative institutions was agreed upon. It was subsequently possible to transfer the numerous cooperation formats with a focus on education into structured and continuous cooperation with local educational institutions in the Enkplatz Education Quarter.

Lessons Learned

From a project management perspective, networking with and among local partners was extremely conducive to success respectively for reaching out to so many people in the quarter on a personal basis. The local partners and their networking activities were also essential in generating public goodwill towards the project.

Replication

The numerous joint activities of the local actors contributed to sustainable networking.

Holistic thinking about participation and communication

- The structured cooperation with VHS Simmering made it possible to address specific target audiences from the outset.
- VHS Simmering was a central anchor for local networking.





Smarter Themenweg © PID / Martin Votava

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Thematic trail and neighbourhood map

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thematic trail

6+9

Info boards

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smart neighbourhood map

Contact

City of Vienna, Department for Technical Urban Renewal

Stephan Hartmann
stephan.hartmann@wien.gv.at

Urban Renewal Office (GB*)

info@gbstern.at

Project partners:

- VHS Simmering
- wohnpartner_wien
- DIE UMWELTBERATUNG



Hier gehts zum g'scheiten Weg für Simmering!

For more details see
www.smartertogether.at

Project context

Smarter Together implemented over 40 individual projects in the project area covering Enkplatz, Geiselberg and Brauhubergasse between 2016 and 2019. The work done within these projects must be visible to the public and it has to be possible for interested parties to explore it independently. For this purpose, a thematic trail was developed within the framework of Smarter Together. Visitors can now walk between the Smarter Together sites in order to find out more about the individual projects.

Smarter Together measures

- development of six thematic trail boards
- uploading of the thematic trail boards to the website, thus making them digitally available and retrievable
- publication of audio contributions from residents and project participants on the website
- creation of a smart neighbourhood map
- integration of the smart neighbourhood map into the website.

The six thematic trail boards and their locations

On the six boards, visitors will find an overview of the numerous on-site project activities that have taken place in the course of Smarter Together.

- Siemens Mobility (Leberstraße 34): on the wall to the left of the main entrance
- Hauffgasse housing complex (Hauffgasse 39): on the wall of the community centre opposite the tobacconist
- Wiener Wohnen apartment building (Lorystraße 60): on the wall of the building on the left corner
- NMS Enkplatz I+II / zero-energy gymnasium (Enkplatz 4): by the glass façade between the main entrances of the two schools
- VHS Simmering (Gottschalkgasse 10): at the glass façade to the left of the main entrance to the VHS
- Wiener Linien WienMobil station: in the entrance area of the station building (currently removed due to structural work).

The thematic trail boards also give visitors (children as well as adults) the chance to play a puzzle game.

Smarter Together testimonials in the form of audio recordings

On the Smarter Together website, there are six audio contributions that complement the thematic trail.

- Siemens employees Robert Knotek and Georg Wolfram talk about their practical experience at work.
- Two pupils from NMS Enkplatz talk about the changes initiated by Smarter Together.
- Patricia Lang from wohnpartner talks about resident participation in Lorystraße.
- Jana Hann from the Urban Renewal Office tells us about the added value of Smarter Together and the smart city concept.
- In Hauffgasse, a resident tells us why he no longer needs his own car.
- Vincent Neumayer from Wiener Linien provides information about the WienMobil Station.



Thinking holistically about information

- With the thematic trail, interested visitors can explore the activities in the project area in a playful way using audio-visual supports.
- The contents of Smarter Together in Simmering can be experienced through different formats.

The smart neighbourhood map of Simmering

All project activities as well as other project-relevant information were summarised and graphically presented in the smart neighbourhood map of Simmering. It is intended to facilitate independent exploration of the district.

9 information boards on energy saving

In cooperation with DIE UMWELTBERATUNG, 9 information boards on energy saving were installed in the stairwells of the BWSG facility.

Lessons Learned

The thematic trail and the district map were well received. Both offer an attractive, playful way to familiarise oneself with Smarter Together. A friendly design contributes significantly to their acceptance.

Replication

The thematic trail was exhibited in the Vienna City Hall.



Smarter Together thematic trail © PID / Votava



Sustainability Challenge 2018 © Hannah Frost

Factsheet

Research cooperation

Anchored in the biographies of the students

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participations in the Sustainability Challenge

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Viennese universities
Focus next generation researchers

Contact

Austria Institute of Technology (AIT)

Hans-Martin Neumann
hans-martin.neumann@ait.ac.at

Ali Hainoun
ali.hainoun@ait.ac.at

Stadt Wien, Technische Stadterneuerung

Stephan Hartmann
stephan.hartmann@wien.gv.at

City of Vienna, Department for Housing Subsidy and Arbitration Board for Legal Housing Matters / Housing Research

Bojan-Ilja Schnabl
bojan.schnabl@wien.gv.at

Project partners:

- University of St. Gallen
- Fraunhofer Institute
- EIP-SCC
- Sustainability Challenge
- ICT Challenge

For more details see
www.smartertogether.at

Project context

Among the strategic tasks of all projects implemented within the framework of the EU's Horizon 2020 programme are cooperation between and with scientific institutions and scientific project monitoring. Of particular relevance is monitoring and data-based evaluation of the effectiveness of the projects. Smarter Together Vienna worked intensively with the University of St. Gallen (involved in, among other things, the development within the project of a business model for e-car sharing), the Fraunhofer Institute and the AIT (responsible for monitoring and evaluation) as research cooperation partners. It was also involved in the European Innovation Partnership on Smart Cities and Communities (EIP-SCC).

Research cooperation with prestigious international research institutions is often aimed at producing results agreed in advance within the framework of formalised project cooperation. These institutions are also responsible for providing contributions to scientific publications.

Smarter Together Vienna deepened this basic idea by supporting the study projects of numerous Viennese and international students within the framework of academic courses as well

as individual Bachelor's, Master's and doctoral theses.

Smarter Together measures

- intensive cooperation with and support for international research partners (AIT, Fraunhofer, University of St. Gallen)
- participation in two editions of the Sustainability Challenge (2017/18, 2018/19), which is held annually by the University of Vienna, the Vienna University of Technology (TU), the Vienna University of Natural Resources and Life Sciences (BOKU) and the Vienna University of Economics and Business (WU) as a 1-year university course
- supporting the 2019/20 Sustainability Challenge students at Siemens Mobility
- numerous district walks for Viennese and international students
- personal supervision of the bachelor's, master's and doctoral theses of Austrian and international students
- participation in international research conferences (e.g. at the Vienna University of Applied Sciences)
- contributions to research into housing by the City of Vienna.

Boosting the process

Research collaboration with young students offers an opportunity to transfer knowledge, experience of processes and values to future decision-makers. It also provides a valuable opportunity for reflection and for anchoring resp. disseminating results among a broader scientific community. By supporting young students, Smarter Together ensures that its themes and approaches are reflected in their research.

Next generation researchers

Smarter Together has cooperated with the organisers of the Sustainability Challenge on two occasions. In 2017/18, the students conducted a study on greening of façades in connection with the school extension at Enkplatz. The results were taken up and further utilised by the responsible municipal department (the City of Vienna Department for Environmental Protection). In 2018/19, Sustainability Challenge students participated in the elaboration of a final business model for the e-car sharing system in the BWSG Hauffgasse complex.

In 2019/20, Siemens Mobility invited Sustainability Challenge students to think about energy solutions for the company based on the positive experiences from Smarter Together. The result was a 500-kWp PV system, which was installed in 2020.

Christian Allmer's thesis in the interdisciplinary '4Cities' master's programme deals with ULLs. In this two-year programme, which brings together six European universities in four countries, students conduct research in Brussels (Vrije Universiteit Brussel, Université Libre de Bruxelles), Vienna (University of Vienna), Copenhagen (Københavns Universitet) and Madrid (Universidad Complutense de Madrid, Universidad Autónoma de Madrid). 4Cities is an Erasmus Mundus programme supported by the EU.

Kids and pupils in Focus

International interest was aroused by the multiple activities that specifically promoted the involvement of children and school pupils. The contents were



Morgenstätt Werkstatt 2018 © Fraunhofer IAO / Ludmilla Parsyuk

included in the dissertation of Dana Ghafoor-Zadeh, a PhD student at the University of Education, Freiburg, who is writing her dissertation on the topic of 'Children and Smart Cities'.

Lessons Learned

Cooperation with and support for students represents a form of participation and also contributes to anchoring the project in the scientific community and enhancing its image.

The promotion of individual research projects by students helps to ensure that topics relevant to the project will feature prominently in those students' research careers after they have graduated.

The numerous bachelor's, master's and doctoral theses supervised within the framework of Smarter Together shed light on additional aspects relevant to the project from a scientific perspective and often raise new research questions on issues like smart cities and children, governance, mobility, processes, ULL etc., which would not otherwise have arisen.

Replication

Various Smarter Together research topics have already been taken up in different courses. On account of its positive experiences, Siemens Mobility continued its cooperation with the Sustainability Challenge.

Holistic thinking about research cooperation

- Cooperation between technologically demanding EU projects and internationally active research institutions is indispensable for the fulfilment of certain project goals. However, it also offers these institutions the opportunity to integrate valuable experience into their programmes and projects.
- This also makes the concerns and innovations of the City of Vienna more visible internationally.
- Support for students is aimed at future generations who, as researchers or professionally qualified employees of a wide variety of institutions, many of them local, will bring the knowledge they have acquired through this process and the values and visions associated with it into their work in a sustainable way. This form of cooperation with its focus on research processes thus contributes significantly to the sustainability of the results.

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innovations in plant logistics

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1

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1

e-car sharing system with 3 cars
in a social housing complex

450

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1

e-taxi conception project

2

e-cargo bikes





Smart mobility in Simmering

The Smarter Together mobility activities

Smart Mobility in Simmering (or G'scheit mobil unterwegs in Simmering) is the title of the video we made about our mobility projects. We often talk about 40 individual projects in Smarter Together. Eight projects were implemented in the area of mobility. One of these projects has already been briefly outlined today by Lukas Oberhuemer of wohnbund:consult: the e-car sharing system in the BWSG housing complex in Hauffgasse with Caruso as the operator. I would like to briefly outline the other mobility projects within the framework of Smarter Together.

Local mobility strategy and surveys

At the beginning of the project in 2016, we started to develop a local mobility strategy for the whole district. The work was led by the Vienna Municipal Department for Urban Planning (MA 18) and other departments were also involved. At the beginning of the conception phase for the mobility station residents were repeatedly asked, "What would you like to see in a Simmering mobility point?"

In the course of the development of the local mobility strategy, numbers of pedestrians and cyclists, strengths and weaknesses of public and private

transport and car traffic volumes were analysed for the entire project area. In a further step, potential locations for mobility stations were surveyed. For this purpose, two large-scale mobility surveys were carried out together with AIT, which was responsible for monitoring in the project. In 2016, 240 people were interviewed in depth on the topic of mobility, followed by a further 200 in 2018 (comment: a final survey was made online at the end of 2020).

Some exciting findings from these mobility surveys included the fact that around 40% of households in Simmering do not own a car. Others, on the other hand, have two cars. In addition, there are many holders of annual or season tickets for public transport. Public transport thus plays an important role in the lives of the residents of the project area. The proportion of people who would like to cycle more often is also high.

With the help of surveys, various potential actions were identified. Furthermore, a site analysis for an e-taxi rank was carried out in 2016 and 2017.



Stephan Hartmann
Project Manager since
February 2019,
Taskleader Mobility

Image above:
E-Carsharing Hauffgasse

© PID / Gökmen



Image above:
Project Manager Stephan
Hartmann at the Smarter
Together Symposium

© Zsolt Marton

WienMobil Station

Another of these eight mobility projects was the WienMobil Station. Wiener Linien implemented and tested the concept of a mobility station for the first time in Vienna as part of Smarter Together. Internationally, this is called a mobility point. Vincent Neumayer will describe it in more detail later. The core of this concept is to bundle and link different mobility offers in a public place. The mobility station was built at the Simmering underground terminus. A charging station for electric vehicles, shared e-cars, e-bikes, lockable boxes for bicycles and an information point were installed. The station could, of course, be expanded to include many more services, and Wiener Linien are doing just that. The mobility station is a step towards an integrated mobility system. This is a very important aspect that is needed in order to rethink public spaces to a certain extent. Public space is one of the most important examples of urban infrastructure. The mobility station has been developed together with energy and data infrastructure.

The Central Cemetery and its e-bikes

As part of another sub-project,

e-bikes were installed at the Central Cemetery. This is interesting in that several possibilities were evaluated in advance. A total of four locations for e-bikes were analysed in Simmering for this purpose. However, at none of these locations could the service be set up, often for minor reasons. In one case, the discussions with the developer were already well advanced and the location was available, but the project could still not be implemented. In the end, the e-bike station was installed at the Central Cemetery. Why? The managing director of the Vienna cemeteries told us, "We cemeteries also see ourselves as a local recreation area." With their well-known graves, the Vienna cemeteries also have tourist potential and are an attraction for many visitors and guests. At the Central Cemetery, which is 2 km from the underground station, there is also a cake shop and other facilities. E-bikes have now been added to the on-site offer. With these, the long distances on the huge grounds can be covered without any problems. With the Central Cemetery, we had a partner on site who had a concrete demand. We were able to meet this demand with a suitable offer. This resulted in a clear win-win situation.

Austrian Post

Austrian Post was an interesting, interested and committed partner in the context of Smarter Together. We will hear more in detail from Daniel-Sebastian Mühlbach later. I find Austrian Post exciting in that it has been taking account of the issue of CO2 neutrality, which is on everyone's lips again now, for many years. Swiss Post worked on CO2-neutral urban logistics very early on by converting its entire fleet to electric vehicles or other non-fossil fuel delivery systems. When we started working on the project a few years ago, there was something missing at Austrian Post: larger vehicles for parcel delivery. Since 2017, two new e-vans have been on the road in several of the Post's delivery areas. Initially, there were some teething problems with the vehicles, but in the meantime the vehicle technology has developed further. Despite initial uncertainties, Austrian Post has also done a lot of work on of parcel delivery boxes and logistical solutions. In addition, there has also been further reflection on the WienMobil Station, based on the model deployed in Munich.

Siemens Mobility

Siemens Mobility manufactures trams, trains and metro sets in Simmering. Railjet trains, the Vienna trams and the Munich Metro trains, for example, are produced there. To have Siemens Mobility as a Smarter Together project partner was exciting for us because it gave us the opportunity to learn from them just how complex industrial, production and background processes aimed at increasing energy efficiency and reducing CO2 emissions are. As part of Smarter Together, various special vehicles were specifically promoted such as six e-forklifts and an e-car for internal post. In addition, a battery-powered lifting vehicle was used for the first time to manoeuvre semi-finished metro and underground train sets. A new bulk goods warehouse for small parts made plant logistics more energy-efficient and economical. Furthermore, the number of truck journeys was significantly reduced.

Siemens employees suggested new charging stations for equipment and then tested them. Their experience was ultimately decisive for the selection of the charging stations. And this spirit of innovation continues to have an effect to this day. New ideas were constantly introduced by Siemens Mobility. It was impressive to see by how many tonnes CO2 emissions could ultimately be reduced in the industrial sector and through alternative mobility solutions. At some point, even the diesel supplier himself called and asked if everything was still O.K. in the company, because the diesel consumption had decreased noticeably. In the final analysis, some really important changes were made at Siemens Mobility. Since autumn 2019, the company has also been involved in the Sustainability Challenge.

District cargo bike and bike repair workshops

What I would like to emphasise here is that mobility is part of so many other projects and has played a role in so many other activities in Smarter Together. I would like to tell you about some add-ons that were not planned at the beginning of the project.

First of all, there was the district cargo bike which we purchased with EU funding in 2017. It can be rented free of charge by residents from the Urban Renewal Department and has been very well received.

We also offered bike repair workshops in the SIMmobile. The colleagues from the Urban Renewal Office and the repair specialists told us that they had never received so many bikes in such a bad shape as they did in Simmering. We are of the opinion that this is a very sensible mobility measure, because every bicycle that can be made to work again represents a new vehicle that can be used for active, environmentally friendly mobility. It is therefore also a sustainable mobility measure.



Follow this QR-code to find the film about the mobility projects in Smarter Together!

Healthy mobility

Overall, we have developed the EU's mission of promoting innovative and environmentally friendly e-mobility and healthy and social mobility.

The highlight of this was the mobility game Beat the Street, which was highly successful in 2017 and 2018, with 6,000 and 3,000 participants respectively. In cooperation with numerous schools from the entire district and far beyond the project area, children and young people were encouraged to be actively mobile. The motto was: walk, cycle and discover your district with your parents or grandparents. The children were the best ambassadors for this project idea. In the end, we were able to get all sections of the population involved with this game. In this way, we also fostered integration without making a big deal about it. Our Munich partners were so enthusiastic that they immediately adopted the game.

Shopping trolleys in the municipal housing building

Finally, after the end of the renovation of the municipal housing building in Lorystraße, we provided shopping trolleys to every household or tenant. This is healthy, saves car journeys and supports the local businesses on Simmeringer Hauptstraße, as well as the economy in the district. We also saw this as a small mobility measure.

I believe that many of these small measures add up to a lot. And it should also be our ambition to leave no stone unturned, especially in the mobility sector, to see how much more progress we can still make.



The film about the e-car sharing Hauffgasse!

Image on the right side:
LEGO model of the City of
Vienna, Wien Digital (MA 01)
to visualize the Smart City
approach.

© Zsolt Marton





Smarter mobility

A talk with the project partners



Stephan Hartmann
Project Manager since
February 2019,
Taskleader Mobility



Markus Zagermann
E-Carsharing
"Aktivgruppe",
resident in Hauffgasse



Georg Wolfram
Siemens Mobility



Vincent Neumayer
Wiener Linien



Markus Gansterer
formerly: VCÖ

Let us first turn our attention to the new e-car sharing project in Hauffgasse. Markus Zagermann, could you perhaps give us an insight into your practical experience? Who uses e-car sharing and how is it generally accepted in your apartment complex?

Markus Zagermann: E-car sharing in Hauffgasse was originally planned as part of the renovation of the Hauffgasse housing complex. This includes a total of 450 residential units. Subsequently, the offer was extended to the surrounding BWSG buildings. At present, therefore, more than a thousand housing units can participate in the project. However, only about 10% of the households have actually signed up at the moment. Is it down to reluctance in the face of something new? I can't tell you. We just don't understand it because the rental system itself is really simple. All you have to do is register with an app.

Who are these 10% who participate? Or who, for example, participated in the active group? Maybe we can then draw conclusions about who these 90% are who still need to be convinced.

Markus Zagermann: The users are quite different and cannot be assigned to a specific group. In terms of age, they are between 18 and 80. The Hauffgasse active group also consists of normal tenants. There are currently about 10 of us who take care of the vehicles in our spare time, of course free of charge. This involves various tasks: cleaning, trips to the workshop, etc. But we are also a link to the e-car sharing company Caruso, as well as to wohnbund:consult and Smarter Together, simply because we are located on Hauffgasse.

But the 10% you mentioned should not be underestimated either. After all, that's 100 people or 100 households participating in the project. That's not such a small number. Do you have the feeling that the residents' needs have been addressed by Smarter Together? How has the project been received by them?

Markus Zagermann: I still see a need to catch up. Those who are using it now, who have registered, are happy to do so. They see the sense in it. As for the other 90%, we still have to find a way to involve them more or advertise more forcefully in order to increase the utilisation of the vehicles.

Why do you think people are currently using the service? What are the advantages?

Markus Zagermann: The motivations vary widely, from daily shopping, a quick 1-hour trip to the supermarket or a longer trip to the furniture store all the way to holiday trips. For example, one colleague likes to drive to Styria at weekends.

So longer trips can also be taken?

Markus Zagermann: Yes, of course. If the vehicle is available, you can even rent it for a week. It costs a bit more then.

Do you plan to promote the project in your housing complex in the future? How would you rate Smarter Together's support of the project?

Markus Zagermann: The support from Smarter Together, or mainly from wohnbund:consult, is very good because it is often provided on site. There is really nothing we need to improve. But of course, even after the project has come to an end, we have to think about how we can advertise to people. How can we get people to use the service? The problem with the whole story is that about 90% of the residents in our housing estate own their own car. Many only use e-car sharing on the side when their own car is being used by someone else in the family. What we need in any case is to continue to promote the project. Apart from that, we feel well looked after. It works for us. Only the issue of problem management perhaps still needs improvement. After the e-cars and the charging stations were purchased, the question of who should maintain the charging stations soon arose. The e-car sharing company Caruso is based in Vorarlberg and can therefore only provide limited on-site support. We are now in our third year and unfortunately we still haven't found a solution. We have to keep at it, but these are teething problems.

Does the project have any ideas on how to deal with the everyday problems of e-car sharing? Will the project also need external support in the future and are you worried that

you will be left on your own after the conclusion of Smarter Together?

Markus Zagermann: E-car sharing is a great example of how new technologies can be put into practical operation in the city. Take charging points. You can buy them and install them. However, as with every technical product, the question arises as to who takes care of the service. What happens if something is faulty and no longer works? Is there a warranty? If so, for many years? These issues also came up with the solar bench in front of the school at Enkplatz. If new technologies are used, it must be ensured that they are serviced regularly and that someone takes care of them. Someone has to be behind it. If nothing goes wrong, then you are lucky. But if something does, as is often the case with technical products, then above all the warranty must take effect. Providing appropriate service here also means explaining who has to report any damage and to whom, and who then repairs the product on site. This process must be clear. In our case, it was the electrician whom we as an active group called and who quickly repaired the charging point. He happened to be there and was able to fix the problem quickly. It is precisely technicians and service people of this kind who are needed on site.

This means that there is still a need for monitoring over the next 2 years in order to be able to identify such problems and find practicable solutions. Thank you, Markus Zagermann, for your report.

Markus Zagermann: I would like to address two more questions: "What does the active group do?" and "Do we need the active group in this e-car sharing model at all?" We are of the opinion that such a project could not have succeeded without the commitment of ourselves or the residents. We are on the spot when there are problems. We introduce new users to the vehicles. We take care of technical problems. If there wasn't anyone on site who could take care of these problems quickly and at short notice, it wouldn't work in this form.

Image on the left:
Panel discussion on mobility at
the Smarter Together Symposium.

© Zsolt Marton

Another question that has perhaps not yet been addressed is what does participation in e-car sharing actually cost? That is always a decisive factor.

Markus Zagermann: Since the entire project is completely financed by EU funding, we have been able to offer the use of the service very cheaply so far. Users currently pay €1 per hour and 10 cents per km. That is very cheap compared to other car sharing models. However, as a first step, we will double the tariff at the beginning of December (2019). We then hope to see significant results next year (2020) in terms of profitability. The e-car sharing model simply has to pay for itself, otherwise it has no future for BWSG.

Then, of course, it will become clear whether the offer will be taken up when the prices are higher. These are some of the many exciting experiences that come up in a project like this. Finally, has anyone already given up or sold their own car because of the new e-car sharing service?

Markus Zagermann: I can't imagine it. I don't own a car myself at the moment.

Georg Wolfram, Siemens Mobility. Let's move on to industry. At Siemens Mobility, you deal with the topic of mobility anyway. What was the motivation for you and for Siemens to participate in Smarter Together?

Georg Wolfram: We are a manufacturer of rail vehicles. Thus, on the one hand, we contribute to the promotion of environmentally friendly mobility, and on the other hand, we supply energy-efficient vehicles with which we make a concrete contribution to CO₂ emission reduction. However, we had to understand that the path to the finished product was not necessarily CO₂-neutral. The starting point or the decisive factor for our participation in Smarter Together was above all the general change in awareness of environmental protection, the increasing sensibility surrounding the issue of CO₂ reduction, as well as the Group's internal goal of reducing our CO₂ emissions by 50% by 2025. This

is when the opportunity arose for us to participate in Smarter Together. One consideration for us was where we saw the greatest potential. We are located in Simmering, in the middle of the city. We still have a large number of old diesel-powered forklift trucks. The question was then: do we switch to new diesel vehicles with particle filters or do we retrofit with particle filters? At the beginning of the discussion, electric forklifts were a rather marginal topic because they were perceived as too expensive. But that has changed fundamentally through participation in Smarter Together. Inspired by the goals of Smarter Together, we have concentrated on converting the old diesel vehicles to electric forklifts. The original plan was to convert gradually. With the support of our management, who were convinced by the idea of the project, we got the go-ahead for the investment. This meant that five vehicles could be replaced in one go. The diesel supplier then called after about 3 months. We normally had an annual consumption of around 30,000 l of diesel and are now down to less than 15,000 l. This reduction was achieved just by replacing these vehicles. However, we did not stop there, but exchanged another two vehicles in 2019. The budget for 2020 includes another two vehicles. It started with Smarter Together and we are now taking the idea further.

What is the diesel supplier doing now? Has he switched to another business field?

Georg Wolfram: He will certainly continue to do business. What was very important for us was the general experience with Smarter Together. They were very, very good. There couldn't have been a better motto than the one that came out of the first meeting: 'Smarter together'. And I can only confirm that, together we are smarter. In the end, we were able to take away a lot of ideas and suggestions and disseminate them in our company, especially because the project was very broad based and the participants were very diverse.



Did the motivation for these measures come from management level or was it something you were able to take to the company? I think this multiplier effect is probably ultimately what can be used in a large company like yours, if it works.

Georg Wolfram: The management decision was important; that was the prerequisite for implementation. But it was even more important that the employees also went along with it afterwards.

Did the employees then join in?

Georg Wolfram: They certainly went along with it. As I said, we were able to take a lot of ideas with us. For example, we took up the idea of e-bike charging stations and implemented them here. We are slowly but surely becoming a company for which bicycles are very important and are now even having to install additional bicycle parking spaces. But maybe the fact that we are now in a short-stay parking zone also has a positive effect. People are changing their mobility behaviour. Through this forklift project we also got new chargers. The employees who installed them then had the idea of changing all the chargers. We now have a total of 45 electric vehicles.

Through these measures, albeit small ones, we have been able to make substantial savings. Of course, money had to be spent, but it made sense. We also now use electric cars to carry out our internal postal operations. The second e-car is already in operation. Thus, a plethora of small ideas has emerged, and these ideas then lead to big ideas or form the nuclei for big ideas. A few years ago, no one could have imagined converting diesel-powered rail vehicles to battery power. Today, this idea is already well advanced. Prototypes exist and are being trialled. The small ideas and the participation of the employees therefore make sense. This leads to big solutions.

„It may have started with Smarter Together, but now it won't stop.“

Georg Wolfram, Siemens Mobility

From Siemens Mobility's point of view, where do you see the potential for or main drivers of CO2 savings in large industrial companies?

Georg Wolfram: There will be no general formula for this. I can only say where we have driven forward

Image above:
Smarter Together receives the 2017 VCÖ Mobility Award in "Active Mobility and Public Space".

© VCÖ



Image above:
At the microphone: Georg
Wolfram, Siemens Mobility

© Marton Zsolt

the process and seen positive results. One driver is obvious: moving away from energy and electricity guzzling machines. This is something that we are now actively pursuing. Vehicles that have been painted have to be dried. Up to now we have done this with gas. We now want to switch to infrared dryers. That means moving away from gas. We also want to reduce the drying time from 8 to 2 hours. Other examples that we have implemented include renovation of façades. This is also something we have taken away from Smarter Together. We are starting to insulate our buildings so that we have to heat them less. Within Siemens AG Austria, there is now also a requirement to convert all cars either to electric or at least to hybrid vehicles within the next 2 years.

So this is a trend that can no longer be stopped?

Georg Wolfram: Yes, and for our plant it started with Smarter Together.

Is that also already part of your corporate philosophy?

Georg Wolfram: Not yet. But we are getting in on the act with the project. It may have started with Smarter Together, but now it won't stop.

Many thanks. Vincent Neumayer from Wiener Linien, Wiener Linien also participated in the Smarter Together project in Simmering with the WienMobil Station, among other things. What are your experiences from this process?

Vincent Neumayer: I myself have not been with Wiener Linien for very long, but came to Wiener Linien during the implementation phase of the Mobility Station from the Stadtwerke group management. As you probably all know, we are not in such a bad position at Wiener Linien when it comes to the tram, bus and underground. At least that is said internationally. But when it comes to complementary mobility services and putting something completely new in the public domain, we have much less experience.

Why do you do this kind of thing at all?

Vincent Neumayer: That is the beauty of this project, of how it is implemented and of this new product of ours: it fits into a larger strategic concept. The mobility stations are already part of the mobility concept – the basic strategic paper for transport that the City of Vienna has drawn up. This has stated since 2014 that we

want to introduce mobility stations to public space in Vienna as a supplementary service. Wiener Linien is now the implementation partner for reaching this strategic goal and this is a great experience for us. Why are we doing this? I have to explain this to my colleagues very often. Why do we care about bicycle racks? Why are we starting to integrate charging stations into our offer? The underlying reason to all this is because we as Wiener Linien have started the transition towards integrated mobility service provision and are now on our way. The WienMobil Stations, the Mobility Point at Simmeringer Platz – this was a concrete piece of the puzzle, so to speak. The idea was to create internal processes for this. How do you create something like that? You have to strike a balance between construction operations, IT, electrical engineering, etc., but more importantly, you have to work in cooperation with the City of Vienna, the municipal departments for street planning, architecture and urban design and the approving authorities, as well as with Wiener Netze and our sister company Wien Energie, etc.

Does this mean that with this support for multimodal transport, with these mobility stations, you want to attract even more people to Wiener Linien?

Vincent Neumayer: To put it bluntly, we want people to be unable to ignore us if they want to be mobile. We want to offer the ultimate alternative to the private car.

Now, of course, I have to question this critically. At Simmeringer Platz there are now three or four bicycle boxes, a bicycle stand, maybe a charging station or two, etc. Is this the way to achieve a mobility transition? Is that enough or do further steps need to be taken?

Vincent Neumayer: Well, from an infrastructural point of view, as well as from a mobility and service point of view, this is not the way to achieve a mobility transition. But it is a first step that needs to be taken. We have now taken the first step with this mobility station. In September, two more mobility stations were opened. We

are working on another three to four stations for 2020.

Are the mobility stations accepted? Can they really make a difference or is it just a drop in the ocean?

Vincent Neumayer: If you look at the map with the WienMobil Stations marked on it or the KPI (key performance indicator – a figure that can be used to determine the performance of a company) modal split, then it really is just a drop in the ocean, even if we take into account all the other services we already know about in the public domain, such as Car2go, e-scooters, sharing mopeds etc., as these are not reflected in the modal split of the city of Vienna. Ultimately, it is very much about changing our own image internally. On the other hand, we also want to educate our customers. This can be seen very clearly at Simmeringer Platz. Even though this station has been there for more than a year, if you stand next to it for a quarter of an hour and observe the people, you notice that they stop. But some of them still don't know what it's for.

“The management decision was important; that was the prerequisite for implementation. But it was even more important that the employees also went along with it afterwards.”

Georg Wolfram, Siemens Mobility

Is that an advantage or a disadvantage?

Vincent Neumayer: It can be an advantage or a disadvantage. But it is a fact that we have to learn to deal with. That means, on the one hand, we have to do a lot to raise awareness of transport sharing offers. How do you use them? How do you overcome people's reluctance to use them? What does the service need to provide?

Keyword: framework conditions. Who or what is needed to further support these initiatives and offers?

Vincent Neumayer: On the one hand, there needs to be something that we can influence indirectly: a certain change in people's thinking. Some of those present here today at the symposium deal with the topic of mobility transitions in their professional and private lives. However, sharing has not yet taken root in the minds of the broad mass of people. They still say, "I have my car and it's parked in front of the house.", or, "I have my bicycle and it's in the bicycle storage room." In principle, mobility is something that people don't want to

"This means that at the decision-making level, Smarter Together has already succeeded in kick-starting this process. However, we still need to institutionalise these decisions."

Vincent Neumayer, Wiener Linien

deal with. It has to work. What we at Wiener Linien need in order to be able to create the product and realise our vision of an integrated mobility service is the strong support of the partners with whom we have now set up these first test and pilot stations. Among other things, we need space for our mobility services. We have the goal of not having to operate many mobility services ourselves, but of being able to rely on private providers. We believe that Vienna is an attractive enough market. For this, we need the right amount of space at acceptable conditions. We need simple and speedy approval procedures. We need cooperation with the districts. On this point we have already seen that these first three stations have provided a strong impetus. Districts approach us and ask, "Don't you want to open a mobility station here next year?", even without knowing exactly what that means for them. This means that at the decision-making level, Smarter Together has already succeeded in kick-starting this process. However, we still need to institutionalise these decisions. I'm not so worried about that. But how do we reach our customers? Fortunately, at Wiener Linien we have a good

stock of regular customers, such as our annual pass holders, who know our brand but may not yet be very familiar with the concept of sharing. However, they already share an underground train or a bus with other people.

People are perhaps simply not yet used to getting off the metro and then using other sharing services. Thank you very much, Vincent Neumayer.

Markus Gansterer from the Austrian Transport Club. You were not involved in the project as an institution?

Markus Gansterer: The VCÖ works as a knowledge-based environmental organisation and is rarely involved in practical implementation projects. But we have a good overview of what is going on and quite a lot has been done in Smarter Together. That's why the project won the VCÖ Mobility Award.

How do you assess such initiatives and what is needed in general to achieve the mobility turnaround?

Markus Gansterer: A lot of great things were done in the area of mobility in this project. I think e-car sharing, for example, which is now about gathering experience, is great, as are the WienMobil Stations. With these we also ventured into unknown territory to find out what people do with it and how we can integrate this into the classic public transport offer. As an NGO, we naturally hope that the projects and measures which have a positive effect will become widespread as quickly as possible and contribute to solving the climate crisis. Generally speaking, mobility issues in housing and settlement development, such as accessibility, should be considered and planned for from the very beginning and not be seen as individual measures that just top off projects of that kind. Mobility must be integrated into an overall system. Some time ago, we estimated what mobility can contribute to climate protection in the area of housing. Depending on the type of housing and, of course, the energy standard, a household that manages without its own car can cut its CO₂ emissions by 30-50%.



Within Smarter Together, many new services have now been put in place in Simmering. Obviously, however, there is still a lack of acceptance or awareness. Why are some of the offers not more widely accepted? What measures should be taken to change this situation?

Markus Gansterer: Yes, lighthouse projects like this can be a good starting point for further changes to the whole environment. We have heard that it was extremely important to gain experience. Then it is often a question of what problems arise in practice. People simply need time to change their routines. There is hardly an area that is so routine, so habit-based, as mobility. You plan your way to work once when you have a new job or when you move house. Then you sit in the same car or on the same train for years or even decades. It therefore takes time for people to realise that there is now a new e-car sharing service that could at least save them from having a second car. I might not even need a new car when my current one gives up the ghost. That takes time and you have to have staying power. In addition, the offer must be expanded as much as possible, taking into account costs and feasibility. Especially with sharing,

network effects are crucial. It is not enough if there is only one station. Take bike-sharing, for example: with city bikes, the City of Vienna is pursuing a strategy of increasing the density of the network. If I have to travel several kilometres to a station to return the bike, then I will have little desire to continue using the service.

You also want to get from the Central Cemetery to somewhere else and not just cycle around in circles there.

Markus Gansterer: Exactly. People need to be sure that if there is no bike there now or if there is a problem with the charging station for the e-car, then there is a facility nearby that they can use instead.

Finally, can this process of rethinking be accelerated?

Markus Gansterer: Well, one thing is certain: awareness of the need to do something for climate protection is growing. In any case, life changes, such as moving into a new flat, starting a new job, renovating a residential complex, should be used to change certain habits. At the same time, the additional benefits of climate-friendly mobility should not be underestimated. When you cycle, for example, you are also doing something for your health. You

Image above:
At the microphone: Vincent
Neumayer, Wiener Linien

© Zsolt Marton

keep fit. When travelling by train, you can use the time to read, for example. With sharing, you have the advantage that you have a variety of mobility options at your disposal and are not chained to a car.

Thank you very much, Markus Gansterer. Perhaps we can now start the final round? Mr Neumayer, your summary of Smarter Together?

Vincent Neumayer: I would like to add something to Markus Gansterer's contribution or to the question of how to accelerate the process of rethinking mobility. Georg Wolfram from Siemens has already briefly mentioned this: parking permit schemes or the introduction of parking space management in general can have an accelerating effect.

Parking management as a climate protection measure?

Vincent Neumayer: Absolutely. You have to think a lot about push and pull factors. At Wiener Linien, we are of course very much on the supply side. In return, you also have to take measures that could perhaps be a little bit restrictive. My summary of Smarter Together is that it has succeeded more or less, as an external funding project, in bringing the strategies from the Smart City Vienna Framework Strategy, the urban development plan and the mobility concept into an operational form. This means that we were able to actually implement measures through the project. And that, I believe, is worth its weight in gold. This is partly because you have many actors working towards a common goal. Strategies, even if they are often defined at management level, must of course also be supported by the implementing staff.

Smarter Together also simply set a timeframe. It was clear from the start that the implementation phase would end in the winter of this year (2019). And at least one mobility station had to be in place by then. This certainly put pressure on us, but it also motivated all the project partners and everyone else who we had to work with.

Georg Wolfram, Siemens Mobility? What was the most important thing you took away from Smarter Together for yourself or for Siemens?

Georg Wolfram: Smarter Together has set things in motion. And as already mentioned, it continues to do so. At the beginning of November, we started another project with students from the Vienna University of Technology. It's on energy efficiency and, above all, about the people who have to deal with the topic. It is about the employees and especially their awareness and behaviour as energy users, which should be improved in the long term. Finally, I would like to thank you once again for allowing us to be part of the project.

Mr Zagermann, what was or is the most important thing for you?

Markus Zagermann: What I would take away from this is that in principle, we have the same problems in the Hauffgasse housing complex as Wiener Linien but on a different scale. Acceptance of any kind of sharing is generally increasing. Now it's a matter of getting people to use the services more. That will be a big task in the future.

Mr Hartmann? As the person responsible for the topic of mobility how do you see things from a project management point of view?

Stephan Hartmann: I would like to come back to the example of the mobility stations. It is said that neither one bus station nor even two or three will save the transport system. Of course, a whole network is needed. That's exactly how you have to think about this issue. There are now 120 city bike stations in Vienna. This project also started in the inner city. Assuming that there were 200 or 300 mobility stations in Vienna, we would of course have to ask ourselves further questions about parking, construction of new garages, management of traffic flows and connections to the public transport system, including construction of access roads. Then we would also have to talk about public space in a new way. Rethinking public space has an impact on



mobility, and also on climate adaptation (keyword: greening). Public space is an important element of infrastructure to which these services are linked. So we should ask ourselves what public space can and will look like in the future. Currently, there are almost 2,000 shared cars in Vienna. What would Vienna look like if there were 50,000? When this whole network becomes denser, the effects will be seen in the modal split. Possibly, various modal shifts will then occur and added value will emerge. That is clearly where the journey should go in my opinion.

In many respects, new policies are certainly needed. With regard to the mobility stations, for example, the processes in Vienna still need to be streamlined and institutionalised. Rules are also needed for the e-scooters that are now popping up in many cities. In Vienna, for example, it is clear how to apply to set up an outdoor café in a public space and how the process basically works. It has to be similar for mobility issues, such as the construction of new mobility stations. Questions like who takes care of the services in the winter and how much everything costs are all things that we have to think about.

For me, the most exciting press release came in October. In it, the Chamber of Commerce called for a pedestrian zone in every district, although at the time of the redesign of Mariahilfer Straße, the attitude of many business people was quite different. However, the analyses have shown that the so called “encounter zones” where different types of users of the public space meet also brings great advantages to local business people. So, step by step, things are moving forward. With Smarter Together we have taken the first steps in Simmering.

Image above:
At the microphone: Markus
Gansterer, VCÖ

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E-Carsharing Hauffgasse © Smarter Together

Factsheet

E-car sharing in the BWSG Hauffgasse estate

Facts & Figures

1

housing complex,
3 e-cars,
1 active group

1

car reservation app

~ 70-80

active users

Contact

**City of Vienna, Department for
Technical Urban Renewal**

Stephan Hartmann,
stephan.hartmann@wien.gv.at

Project partners:

- **BWSG housing cooperative**
- **Participation: wohnbund:consult**
- **On-site maintenance/support: Aktivgruppe**
- **E-car sharing provider: Caruso**
- **Wien Energie GmbH**



Follow this QR-code for the
e-car sharing film!



Here you can find more
info about e-car sharing
Hauffgasse!

**For more details see
www.smartertogether.at**

Project context

E-mobility contributes to achieving climate goals. At the end of 2017, community-based e-car sharing was launched as part of Smarter Together against the backdrop of a comprehensive building renovation in the BWSG housing complex, which has around 500 rental flats. This is a first for an existing non-profit housing complex.

Smarter Together measures

- project idea, project initiative
- networking of actors
- support for the implementers.

Boosting the process

A central task in the development of e-car sharing is mediation. In this instance, wohnbund:consult was commissioned by the housing association BWSG to run an on-site information point from 2013 to accompany the renovation measures. This information point, which was continuously supervised by the project partner, proved to be an important contact point for the residents for questions regarding both the renovation and e-car sharing.

Already in the conception phase, intensive involvement of the residents was promoted by means

of workshops and surveys. An initial information event took place within the framework of Smarter Together during a tenant meeting.

Practical implementation

Since spring 2018, residents have had access to three electric cars: a sporty BMWi3, a Renault Zoe suitable for everyday use and a Nissan Evalia, a people carrier. The selection of the cars was based, among other things, on various mobility surveys as well as on conversations with the residents on site. The Renault Zoe is widely regarded as the most popular e-car sharing vehicle as it is quick and easy to use for trips around town. The BMW i3 has been acquired as an eye catcher).

The three e-cars are easily visible in the space in front of the residential complex and can be booked via the car sharing provider's online platform. The vehicles can be opened using a radio-frequency identification (RFID) card.

The active group

An 'active group' was formed from among the residents to look after and maintain the cars. Its members take care of the e-cars on an ongoing basis, inform and support the users, and in return benefit from reduced

usage rates. The active group also makes a significant contribution to publicising the project in the housing complex and, in particular, to getting potential users involved. As a general rule, new users are only allowed to use the e-cars after they have been trained by the active group.

Tariffs

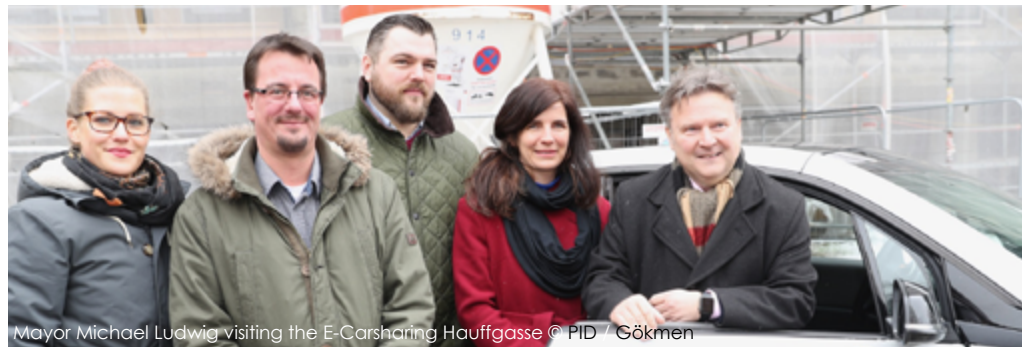
The initial tariff model provided for usage costs of €1 per hour plus €0.10 per km. These comparatively low tariffs were made possible mainly due to the EU funding. When the project ends in 2021, tariffs will have to be adjusted to ensure the sustainability of the service.

Monitoring

Data-based monitoring is carried out via the ICT infrastructure.

Lessons Learned

- Processes of change (e.g. redevelopment, densification) often provide a good entry point for the introduction of new mobility concepts.
- Proactive involvement of stakeholders is essential. The active participation of users must be initiated and intensively supported.
- A participative e-car sharing system of this kind also contributes to the promotion of good relations in the housing complex.
- The choice of vehicles should be made together with the future users.
- The presence of a caretaker is crucial. An 'active group' can take care of the e-car sharing on site.
- It is advantageous to have a service partner who can carry out all work on site in a timely manner. Any future changes in tariffs should be communicated well in advance.



Replication

E-car sharing has been widely promoted as a best practice by the project partners and the umbrella organisation of non-profit housing developers GBV. The experiences with e-car sharing at the BWSG Hauffgasse complex provided essential input for the development and implementation of a new funding scheme by the City of Vienna to support the establishment of this type of location-based e-car sharing system in housing estates.

Holistic thinking about e-mobility

- With the e-car sharing project in Hauffgasse, Smarter Together was able to introduce new, future-oriented topics into the renovation process of the housing complex and thus also contribute to an increased understanding of the renovation measures.
- Through the participatory development of the project, a product has been developed that is suitable for the target group and has a positive effect on communal life in the housing complex. This also has an influence on the image and value of the complex.





WienMobil-Station © Bojan Schnabl

Factsheet

The first WienMobil Station

Facts & Figures

1st

WienMobil Station
(September 2018)

5

services integrated

7

additional stations
installed (March 2021)
100 stations planned
in total

Contact

Wiener Linien

Vincent Neumayer
vincent.neumayer@wienerlinien.at

City of Vienna, Department for Technical Urban Renewal

Stephan Hartmann
stephan.hartmann@wien.gv.at

Project partners:

- Upstream Mobility
- Wien Energie
- City of Vienna Department of Traffic Management and Organisation
- Sycube (SIM BIKE)
- Stadttauto
- AIT
- Balu&Du

For more details see
www.smartertogether.at

Project context

Mobility stations, known internationally as 'mobility points', contribute to an integrated, sustainable mobility system, which is intended to cut CO₂ emissions, among other things.

Within the framework of Smarter Together, the first WienMobil mobility station was built in Vienna.

Strategic objectives in Vienna

The planned establishment of mobility stations as a supplement to other mobility measures and offers in the city was laid down in the 'Fachkonzept Mobilität', the basic strategic paper of the City of Vienna in the field of transport, which was adopted in 2014. The Vienna Mobility Concept puts the vision formulated in the Urban Development Plan STEP 2025 – that the mobility offer in Vienna should be fair, healthy, compact, ecological, robust and efficient – into practice. It is a question of becoming 'mobile together'. Expressed in modal split figures, the objective is an 80:20 split with 80% for public transport, cycling, walking, etc. and 20% for motorised private transport.

The aim of the mobility stations is to bundle and link different transport services in the public domain in order to make it easier for users to switch

to environmentally friendly mobility modes.

The WienMobil Station created by the municipal mobility service provider Wiener Linien now combines public transport with a wide range of services and transport sharing offers.

Smarter Together measures

- establishment of the first WienMobil Station
- international exchange with Munich and its knowledge network
- promotion of technical innovations (hardware and software) by Sycube
- development of the SIMBIKE app by Sycube.

Services

A mobility station – the WienMobil Station – was set up near the terminus of underground line U3 at Simmeringer Platz. The station offers the following mobility options:

- 1 charging station with two charging points for electric cars
- 6 e-bikes
- 1 e-cargo bike
- 3 bicycle boxes for parking private bicycles
- 1 digital information terminal

where multimodal routes can be planned

- 1 bicycle pump and 1 bench

Citizen participation

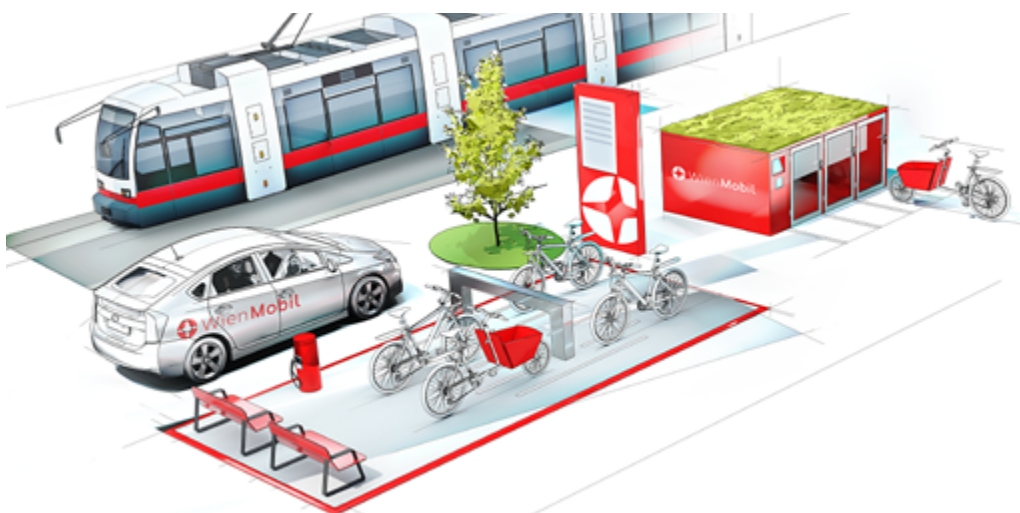
Two mobility surveys were carried out on site in the run-up to the project, followed by one online survey in the autumn of 2020. In addition, the City of Vienna developed a local mobility strategy for the entire area, in which locally available offers, needs, etc. were mapped.

Monitoring

The mobility data is processed via the 'smartdata.wien' platform and evaluated by the AIT, which is responsible for monitoring.

Lessons Learned

- Smarter Together with its international knowledge network provided a decisive boost for the concrete realisation and piloting of the first WienMobil Station in Vienna.
- Thanks to EU funding, it was possible to introduce various innovations as pilot projects. Some of them could not be included in the city-wide WienMobil Stations concept, but nonetheless benefited the participating companies.
- For the establishment of a comprehensive city-wide mobility offer, further accompanying monitoring is evidently necessary, as it exceeds the scope of an initial pilot phase.
- The high costs and the increased workload caused by vandalism of the e-bikes as well as strategic considerations led to the decision not to continue the e-bike sharing scheme in its original form after the end of the project. Negotiations are underway for setting up a scheme at the Central Cemetery and the e-cargo bike has been transferred to the Balu&Du association.



Schematic structure of the WienMobil station © Wiener Linien

Replication

The opening of the station in Simmering took place in September 2018. Since then, seven further stations have been built in Vienna (with different services adapted to their specific environment). All WienMobil stations and their mobility services are integrated into the Wiener Linien WienMobil mobile app and the WienMobil Stations themselves were integrated into the Vienna city government's programme for 2020. In total, 100 WienMobil Stations are planned.



Here you can find the film about the mobility station!



Das Siemens Werk © Siemens

Factsheet

Siemens Mobility

Smart plant logistics

Facts & Figures

6

e-forklifts
2 e-cars,
1 bulk goods
warehouse and more.

2

large e-lift trucks for
semi-finished wagons

1

new plant logistics
system,
employee
participation

Contact

**City of Vienna, Department for
Technical Urban Renewal**

Stephan Hartmann,
stephan.hartmann@wien.gv.at

Siemens Mobility

Project partner:

- **Urban Renewal Office (GB*)**
- **Sustainability Challenge**



Hier gehts zum Film über
die Mobilitätsprojekte im
Rahmen von
Smarter Together!

**For more details see
www.smartertogether.at**

Project context

Siemens Mobility is a leading international company that manufactures trams, trains and metro sets in Simmering, such as the Railjets, the Vienna trams and the Munich metro.

Within the framework of Smarter Together, it has been shown that in many cases there is great potential for energy efficiency and CO2 savings in operations, which can also be used accordingly.

Starting with 6 electric forklifts, Siemens Mobility initiated numerous other measures and modernised the plant logistics as part of Smarter Together.

Smarter Together measures

Based on a new plant logistics concept, the following features were introduced in the course of the EU-funded project:

- 6 new e-forklifts
- 1 bulk goods warehouse for small parts
- charging stations for small equipment
- 2 e-cars for the internal post office
- 2 large e-forklift trucks for semi-finished wagons

- 2 e-car charging stations
- e-bike charging stations for employees
- participation in the Viennese universities' Sustainability Challenge
- employee involvement and participation.

Boosting the process

By working in partnership, the project gave impetus to innovation in the fields of plant mobility, plant logistics and climate neutrality

Employee participation

At the beginning of the project, Siemens Mobility invited its employees to contribute new, alternative ideas to the process.

Employee participation was further promoted under Smarter Together through the SIMmobile. The mobile information point made a stop at the Siemens Mobility site in autumn 2017.

The results of this participation process include new e-charging stations and e-bikes for employees. The selection of the models of the new e-forklifts and the new charging stations for small devices was also based on suggestions from employees.

Measurable effects

The switch to e-mobility in many areas of plant logistics ultimately resulted in a reduction in annual diesel consumption of around 20,000 litres.

Lessons Learned

- EU pilot projects can also boost innovation in large companies and contribute to the attractiveness of a location.
- The involvement of employees contributes to employee satisfaction and is relevant for the success of the company.

Replication

Siemens Mobility has implemented numerous follow-up projects based on the results and experience gained from Smarter Together.

Siemens participated in the Sustainability Challenge in the 2019/20 academic year, offering students a hands-on opportunity to explore innovative energy solutions for its operations.

In 2020, a 500-kWp PV system was commissioned and installed at the plant.



E-forklifts © Siemens



Michael Ludwig at Siemens © PID / Christian Fürthner



New 500 kWp PV-plant at Siemens Mobility © Alexander Teufel



Austrian Post's new e-vans © Christian Houdek

Factsheet

Austrian Post

Mobility at the core

Facts & Figures

2

e-vans

450

post delivery boxes

Contact

**City of Vienna, Department for
Technical Urban Renewal**

Stephan Hartmann
stephan.hartmann@wien.gv.at

Austrian Post

Project context

Austrian Post is known for its commitment to sustainability and has already received several awards for this. Since 2011, it has been delivering all items within Austria in a CO₂-neutral manner, making it a pioneer among postal operators. Under the motto 'CO₂ neutral delivery', Austrian Post is already focusing on measures to increase efficiency as regards the use of alternative energy solutions and offsetting through climate protection projects. By 2030, Austrian Post also plans to create a completely CO₂-free delivery system. Ultimately, this means that by then only e-vehicles or vehicles with alternative drive systems will be in use, even on the last mile.

Austrian Post delivers about 1,600 parcels per week in the Simmering project area alone. This involves almost 400 km of journeys.

Smarter Together measures

Within the framework of Smarter Together, Austrian Post was able to pilot test new e-van models for the first time and thus promote their use. The measures were:

- acquisition of 2 new Iveco e-vans;
- installation of 450 new postal delivery boxes in the project area.

A total of 70% of the costs of deploying the e-vans came from the EU budget. The low-noise operation of the new vehicles is very pleasant, especially for residents in urban areas.

With an output of 60 kilowatts (kW) and a maximum speed of 80 km/h, the vehicles are used for inner-city deliveries in Vienna. Their loading space capacity of 10.8 m³ and their range of about 65 km makes them well suited to this task.

For more details see
www.smartertogether.at



Mayor Michael Ludwig visiting the post office (2017) © Christian Houdek

Lessons Learned

At the time of the project launch, large e-vehicles were not as technologically mature as e-cars. Smarter Together thus offered a test environment for piloting novel and innovative e-vehicle models.

Replication

The transition of the delivery fleet to e-mobility will also begin at the new Austrian Post logistics centre in Kalsdorf, Styria. Around 100 new e-vehicles will be purchased for this purpose. The conversion is expected to be completed there in August 2021.

It will then be possible to deliver all parcels, letters and advertising mail in the city of Graz CO2-free. In total, Austrian Post will use 160 vehicles in Graz alone. As part of the City Hub Graz pilot project, parcel delivery in Graz city centre was carried out with e-cargo bikes from June to October 2020



Mailbox © Austrian Post



Mayor Michael Ludwig visiting the post office (2017) © Christian Houdek



Grätzrad © Christian Fürthner

Factsheet

E-cargo bike

Service for free in the district

Facts & Figures

2

e-cargo bikes for free rental

1

IT platform

Ansprechpartner

Urban Renewal Office (GB* Ost)
info@gbstern.at

Verein Balu&Du
balu@balu.wien

City of Vienna, Department for Technical Urban Renewal
Stephan.Hartmann@wien.gv.at

Project partners:

- Mobility Agency Vienna
- GB* ost
- Balu&Du
- Wiener Linien
- Sycube



Follow this link to the Grätzrad website!

For more details see
www.smartertogether.at

Project context

Since 2017, 'Grätzlräder', or cargo bikes, for local use can be borrowed free of charge from participating businesses in Vienna. Grätzrad operators include local pubs, offices and shops that own the bikes. The purchase of the cargo bikes by their operators was partly financed through the City of Vienna's bike subsidy. In return, the operators make the bikes available for the public free of charge. They can be reserved online via the website www.graetzrad.wien, which is maintained by the Vienna Mobility Agency.

Smarter Together measures

Acquisition of an e-cargo bike for the WienMobil station; since autumn 2020 Balu&Du has been responsible for servicing the cargo bike and acquired it at the end of the project.

Acquisition of an e-cargo bike as part of the Vienna-wide Grätzrad initiative with support from GB*.

Connecting stakeholders Wiener Linien, Sycube, GB*, Mobility Agency and Balu&Du.

Boosting the process

Thanks to EU funding, Smarter Together was able to offer the project area its first sharing model for an e-cargo bike that is suitable for everyday use.

Process

In August 2017, a first e-cargo bike was made available by GB* in the project area. In March 2018, this was integrated into the free city-wide bike-sharing platform [graetzrad.wien](http://www.graetzrad.wien).

From September 2018, another e-bike was made available through the WienMobil station. This bike has been managed by Balu&Du since October 2020 and was taken over by them in March 2021.

Demand

In the course of the local mobility surveys and questionnaires on mobility offers, many residents expressed an interest in e-cargo bikes.

Monitoring

The utilisation of the e-bikes is recorded and fed into the data platform created under Smarter Together by the project partners.



Grätzrad © Christian Fürthner

Lessons Learned

- Networking between individual services helps them to become more efficient.
- Vandalism issues at the WienMobil Station prompted those responsible for the project to enlist a local operator (Balu&Du) to maintain and operate the e-cargo bike.
- The integration into the Vienna-wide bike-sharing platform on the one hand, and the guarantee of day-to-day management by GB* Ost and Balu&Du on the other ensures both intensive use and necessary maintenance and control.

Replication

The sharing model is well established through the common Vienna-wide platform. This means that the service can continue without any problem even after the end of the project.

Siemens Mobility purchased e-cargo bikes for its plant logistics.



Grätzrad © Christian Fürthner



The Gb* and the Grätzrad © Christian Fürthner



Opening of the Simbikes at the Central Cemetery © R&F Vienna / Tobias Natter

Factsheet

E-bike-sharing at Vienna Central Cemetery

Facts & Figures

6
e-bikes

1
charging and
borrowing station

1
cemetery, the biggest
in Vienna

Contact

Wiener Friedhöfe

**City of Vienna, Department for
Technical Urban Renewal**

Stephan Hartmann
stephan.hartmann@wien.gv.at

Project partner:

- Sycube

Project context

Cemeteries are primarily places of burial. As green spaces, they also serve as recreational areas for many city dwellers.

The Vienna Central Cemetery is the second largest cemetery in Europe with 2.5 km² and is also a tourist hotspot for (international) visitors with its numerous graves and monuments. It is one of the most important architectural and cultural-historical ensembles in Vienna. Around 100,000 people visit the Central Cemetery every year.

Smarter Together measures

Under the motto 'Long live the Central Cemetery and all its e-bikes', an e-bike station with six e-bikes was installed in the main entrance area of the Vienna Central Cemetery.

- installation of an e-bike station with six e-bikes (SIM BIKES)
- networking between stakeholders
- promotion of technical innovations (hardware and software) and development of the SIMBIKE app by Sycube.
- The bikes could be rented via the SIMBIKE app, which is available for both iOS and Android.

Project progress

In April 2018, the first automatic e-bike rental station, initially with a total of six e-bikes, was opened at the Vienna Central Cemetery (Gate 2, Simmeringer Hauptstraße 234). The bikes can be used for tours of the cemetery and on routes outside the cemetery grounds.

From September 2018, when the WienMobil Station opened on Simmeringer Platz, users could also return the e-bikes to this station. However, major issues with vandalism of the bikes has made it impossible to continue using two docking stations.

Tariff system

During the test phase, use of the bikes was free for 2 hours per day. Each additional hour cost €2 up to a maximum of €20 per day.

Utilisation

The offer was very well received from the beginning. Since the start of the COVID-19 pandemic, the number of bikes branded by and from the Central cemetery returned at the WienMobil Station has increased noticeably. This meant a considerable additional effort for the operator, as the bicycles had to be redistributed by the locations evenly.

For more details see
www.smartertogether.at



Simbikes at the central cemetery © B&F Vienna / Tobias Natter

Monitoring

Figures on registrations, rentals, etc. were recorded by the bike-sharing operator Sycube and subsequently transferred to a project database. Data evaluation was carried out by AIT, which is responsible for monitoring.

Replication

Based on the experience gained during the pilot phase (especially at the time of the Corona pandemic), the Vienna Cemeteries are striving to establish a location-based e-bike rental service.



Simbikes at the Central Cemetery © Bojan Schnabl



Click here for the blog entry on bike sharing at the Central Cemetery!



Mobility survey in the Simmering shopping center 2016 © Jana Hahn

Factsheet

Mobility surveys

Facts & Figures

3

mobility surveys in
Simmering

2

AIT and GB*

Contact

Austrian Institute of Technology (AIT)

Wolfgang Ponweiser
wolfgang.ponweiser@ait.ac.at

Karin Markvica
karin.markvica@ait.ac.at

Project partners:

- **Gebietsbetreuung
Stadterneuerung (GB*)**
- **City of Vienna,
Technical Urban Renewal**
Stephan Hartmann
stephan.hartmann@wien.gv.at

For more details see
www.smartertogether.at

Project context

From a mobility perspective, CO₂ savings in the project area of Simmering can only be achieved if the new mobility offers are actually used. Comprehensive knowledge of the target group is necessary to get residents to change their existing routines, to develop the appropriate offers and to continuously improve them.

Smarter Together measures

Initially, two large-scale mobility surveys were conducted in the project area, partly in person and partly online. The survey conducted between August and December 2016 was aimed at taking stock in order to be able to develop attractive mobility offers. The second survey, carried out in September and October 2018, examined how familiar and satisfied residents were with the new mobility services and where they needed to be improved.

A third survey was implemented in November 2020 in order to determine the success of the Smarter Together measures.

Research design

As the partners responsible for the projects sometimes had very specific questions for the residents of the study area regarding the design or the costs of services, it was decided to divide the survey into sub-areas. The mobility surveys in the project area thus comprise a core survey, while further surveys on specific topics are covered in focus groups and individual interviews.

Topics

People aged 18 and over with access to all modes of transport (including cars) were surveyed. Topics of the first interviews were:

- the respondents' current mobility behaviour;
- the means of transport used by respondents';
- prevailing attitudes towards different forms of travel;
- preferences regarding service expansion;
- willingness to engage in active mobility;
- changes in behaviour since the respondents' last moved to a new home;
- evaluation indicators.

As a lot had happened since the first survey in 2016, further contents were added for the second survey to get respondents' views on the following issues:

- experiences with mobility services (e-bike sharing at the Central Cemetery, e-car sharing at Hauffgasse, WienMobil Station, mobility/energy counselling from GB*, services at VHS Simmering, etc.)
- scooter sharing providers
- parking fees, ticket prices, etc.
- additional offers in the vicinity, e.g. Austrian Railways Rail&Drive
- parking permits (then being introduced in the area).

Lessons Learned

The survey results were an important input for the implementation partners in terms of enabling them to provide their services in a tailor-made way. It was therefore essential to reach as many different population groups as possible.

In multicultural Simmering, it was particularly useful to involve trained people with foreign language skills so that the surveys could be conducted in Arabic, Turkish, Bosnian/Croatian/Serbian, French and other languages, and a large number of people could be reached who would otherwise have been excluded from the surveys due to insufficient knowledge of German.



Mobility survey in the Simmering shopping center 2016 © Jana Hann

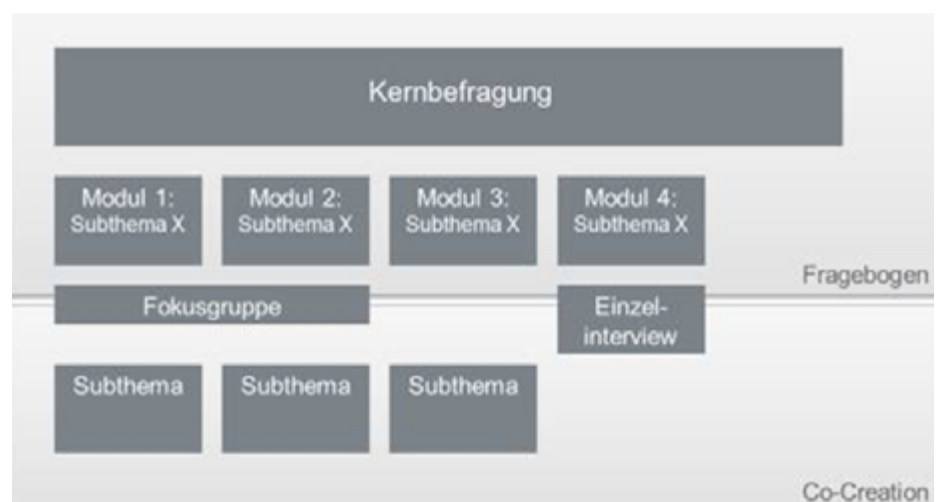
Replication

The topics of the mobility survey were discussed with the project partners from Munich and Lyon and the questionnaire was shared so that they could conduct their own surveys if necessary.

It has been shown that surveys can be helpful, especially in the newly developed resp. new built area in Munich, in order to be able to steer residents' mobility behaviour towards low-emission transport modes at an early stage by providing appropriate mobility offers. Accordingly, the approach can be used for areas earmarked for urban development in Vienna.

Ensuring tailor-made offers

- Smart City projects focus on a variety of technical and infrastructural solutions.
- It is important to adapt these solutions to local conditions and the needs of the residents, because only then will they actually be seen as generating added value by the population.
- Surveys are an important tool in the development of new services.



Structure of the mobility survey © AIT

Fact & figures

Infrastructure

Energy supply / waste heat

2

detailed concepts elaborated for utilisation of waste heat from data centres

concepts drawn up for the use of the captured heat in district heating

3

PV systems installed (NMS & ONMS Enkplatz, BWSG Hauffgasse, Wiener Wohnen / Lorystraße)

2

solar benches

Data infrastructure

1

1 FIWARE data platform established, put online and integrated into the urban system

energy analyses and maps prepared and an online energy atlas for the area set up (as a basis for energy planning)

international comparative analysis on urban data platforms established

Monitoring

measurement instruments set up

data-based monitoring set up and evaluation ensured



Smart Infrastructure

A holistic approach

Within the framework of Smarter Together, the topic of technical infrastructure in the project area was subjected to closer scrutiny, thus allowing the implementation of numerous measures and sub-projects in this field. The following summary is intended to provide an overview of these measures, first and foremost as regards the topics of energy supply, data acquisition and analysis, associated infrastructure and monitoring.

Waste heat utilisation

Waste heat is heat that is generated during production processes in companies. There are various sources of waste heat, such as cold storage rooms or bakeries, some of which have quite different temperature levels. Data centres are a very interesting source of waste heat as the operation of server processors generates heat. Most of the time, the resulting waste heat is simply cooled away or vented into the air. A current prominent example of the targeted use of waste heat comes from the Manner company in Ottakring, whose waste heat from production is fed into the local district heating network. Smarter Together therefore considered methods for feeding waste heat into

district heating networks to provide an additional energy resource. Two sophisticated concepts for the use of waste heat from two different data centres were developed: one for the Spardat Data Centre located in the project area; the other for the Vienna Scientific Cluster, the data centre of the Technical University of Vienna, which is located near the project area and is also used by other universities. The analysis gave rise to a lot of interesting insights, especially with regard to technical feasibility, different variants of business models and legal requirements. In the end, however, this project could not be implemented.

A fundamental challenge here are the considerable seasonal fluctuations in the demand for heat in a district heating sub-network. In the case of a data centre, however, almost the same amount of heat is emitted throughout the year. All available heat has to be fed in to the network – even in summer. In the case of Spardat, the waste heat is used internally in winter, but in summer there is too much waste heat available, so several secondary district heating network would have to be interconnected to receive this heat. Another challenge was the duration of the contracts and the guarantees regarding the security of tenure of the



Herbert Hemis
City of Vienna,
Energy Planning

Image above:
District heating pipeline, Wien
Energie

© Bojan Schnabl



Image above:
Herbert Hemis during his
presentation at the Smarter
Together Symposium.

© Zsolt Marton

site. Both the producer of the waste heat and its consumers require security of purchase and feed-in.

Waste heat utilisation thus continues to be an issue. It will also be possible to implement it in the foreseeable future, even though the two data centres mentioned above have not yet managed to do so.

Furthermore, the use of return heat and the further development of the district heating network by Wien Energie were also examined within the framework of Smarter Together. The district heating pipes carry water at temperatures of 70-90°C to the buildings. The heat is then used in the buildings for heating and hot water. In the return pipe, the temperature is still 50-60°C. In new buildings, it is possible to use the return flow in these pipes for heating. An innovative concept was developed for this in Smarter Together, and it can be applied to other new buildings in other areas. In this way, the efficiency of the network can be increased.

Photovoltaics and solar thermal energy

The installation of four PV systems as part of the project was definitely a success story. One was operated by KELAG Energie & Wärme for hot

water production on the roof of the renovated apartment building in the BWSG complex in Hauffgasse (see also the chapter on renovation). Another is on the roof of the renovated municipal housing building in Lorystraße and is operated by Wien Energie. The system at the Enkplatz school was built and operated by MA 34. In addition, a solar thermal system was installed at the school by Wien Energie, the surpluses from which are fed into the district heating network. A large PV system was also installed by Wien Energie at the new logistics centre of the Vöslauer-Ottakringer company on the Austrian Railways site. This is a 310-kWp system, which meets energy consumption needs equivalent to those of 100-150 households or one third of the annual electricity consumption of the logistics centre (comment: a 500-kWp PV system was installed on the Siemens Mobility site in 2020, but without EU/Smarter Together funds).

In order to familiarise target groups such as schoolchildren with the topic, two solar benches were installed in front of the school at Enkplatz. These have integrated PV panels that can be used to charge smartphones via a USB port. It has become apparent that this current generation of street furniture



still has a lot of teething problems. It is to be expected that higher quality products will come onto the market in the next few years. At present, for example, various new types of street furniture are being designed by Austrian companies. Some Viennese districts are already showing an interest in it.

Data infrastructure

Another major issue is the data infrastructure or the interface between energy and data. The Municipal Department for Energy Planning has worked intensively on the question of what energy data is already available for the area. From this, numerous descriptive maps as well as an online atlas were generated.

The potential for renewable energy was also considered. This concerns the solar potential (solar thermal and PV) and the geothermal potential. This potential was extrapolated to individual buildings. Then information on energy supply was analysed. This includes the grid-based supply via district heating and gas. Currently, there are still gaps in knowledge with regard to individual solutions (such as oil, electricity or pellet heating) used in houses. It is also unclear how they are distributed within buildings if several

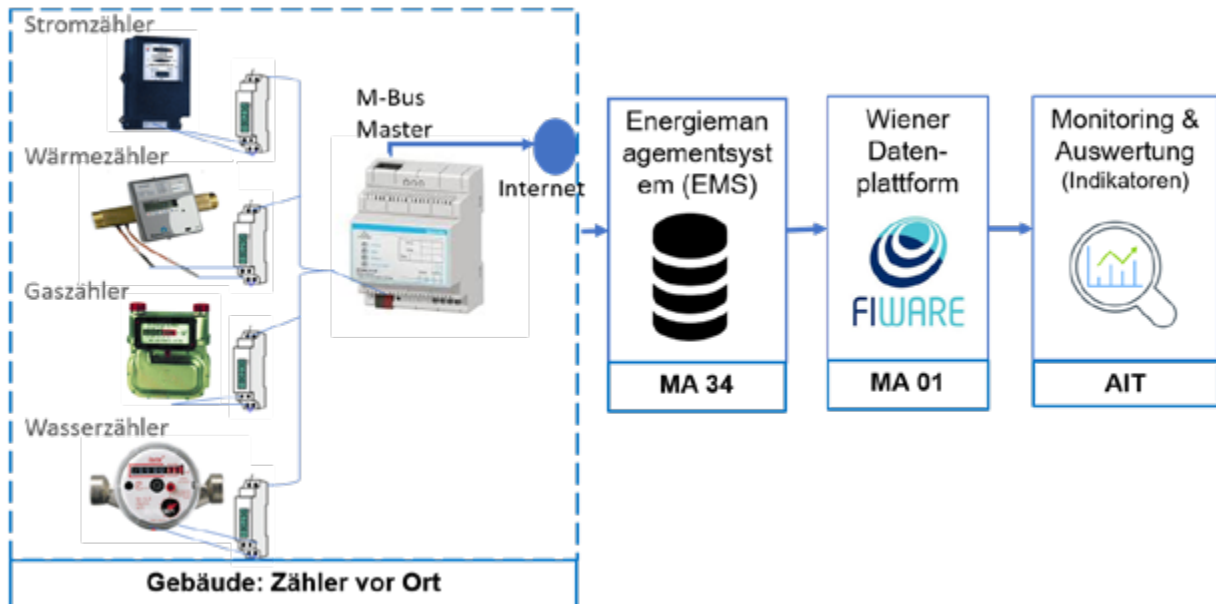
systems are used. Furthermore, the demand for energy for each building was analysed and compared to the potential for renewable energy use. This allowed the proportion of on-site energy needs that could potentially be met by renewable energy to be calculated.

If all buildings were renovated and the renewable energy potential was maximised, it would almost be possible to meet the entire demand of the building. This calculation method was extended for the whole of Vienna and further maps were produced. Some of the information was also made available in an online atlas of the area.

It became clear that descriptive maps and planning documents are a very important communication tool. This methodology is being further developed in the Climate and Energy Fund's 'Green Energy Lab, Spatial Energy Planning' research project (www.waermeplanung.at). Together with the states of Salzburg and Styria and various research partners, a heat atlas is being created. Information on energy supply will be processed even more effectively with current data broken down to property and sub-area level and presented clearly. This will make it possible to answer

Picture on the right:
PV system on the roof of the
BWSG Hauffgasse residential
complex.

© KELAG Energy & Heat



Picture above:
Structure of the monitoring
concept

© City of Vienna / AIT /
Smarter Together

the following questions: What energy supply options are available locally? How close are piped energy sources or waste heat sources? What is the potential of renewable energy sources? What is the energy demand for a given area and its surroundings? This allows the development of action approaches for a sustainable energy supply.

Data platform

The establishment of a data platform was a requirement for the project on the part of the funding body, namely the European Commission. The Vienna Municipal Department, Vienna Digital (MA 01) was responsible for the technical implementation. As a first step, data platforms of other cities were examined – both commercial and open source. Among the cities considered were Amsterdam, Barcelona and London. In the end, a decision was made in favour of the open-source solution, FIWARE. This solution was developed by the EU with a lot of funding over many years. It is a basic operating system that consists of several components and can be built up modularly. This makes it possible to adapt it to the requirements of a city or a company. The main application for Vienna is an IoT platform. These

are real objects that are more or less connected to virtual objects to allow the integration of sensor data, among other things. In the Smarter Together project, this was mainly sensor data from the e-car sharing vehicles and the meter data from the renovated residential buildings and school.

All data converges on this central platform and is available for access, processing and visualisation at any time. The platform can be accessed by the public at the smartdata.wien website. Ultimately, the data platform also serves to enable AIT to use this original data to calculate indicators. This is an important basis for monitoring.

Monitoring

Monitoring and evaluation represent the third major field of action in the area of infrastructure. In this context, monitoring means observing processes in order to determine what has been invested and what has been achieved with which measures, in a measurable, data-based and objective manner. It was a strategically important and valuable requirement of the EU that monitoring of the implementation of the projects had to be set up by 2021.

While the monitoring for the mobility projects was still relatively simple, the



situation was somewhat different for the renovation projects. The installation of the meters, which serve to ensure data transmission, turned out to be quite complex. In two cases, the data was ultimately uploaded to the platform via the building monitoring platform of the City of Vienna Department for Building Management. In other cases, the data came directly from the meters to the data platform.

With this data, AIT can now monitor, because in the end we want to know what has really been achieved: for example, what percentage of energy was saved. The monitoring phase of the project was designed to last for 2 years, starting in 2019. Measurable results of all Smarter Together projects will be available upon project completion in 2021, when all the data has been processed and evaluated. A final monitoring and evaluation report will be provided by AIT.

Image above:
LEGO model of the City of
Vienna, Wien Digital (MA 01)
to visualize the Smart City
approach.

© Zsolt Marton



Infrastructure

A talk with the project partners



Herbert Hemis
City of Vienna,
Energy Planning



Martin Höller
Wien Energie



Brigitte Lutz
City of Vienna, Executive
Group for Organisation
and Security



Ali Hainoun
AIT Austrian Institute of
Technology

Image above:
Presentation by Herbert Hemis at
the Smarter Together Symposium.

© Marton Zsolt

Mr Höller, from yours or Wien Energie's point of view, what were the insights gained from Smarter Together?

Martin Höller: For us, the two priority topics in the project were the use of waste heat from data centres and the integration of return pipes to supply heat to buildings. Even though it is often not a question of large amounts of energy being fed back into the grid, at times more difficulties arose than we had originally expected. I would like to briefly explain why this was the case. Already at the beginning of the project it became clear that many rounds of coordination would be needed, especially with regard to the data centre. In the existing building, there is often the problem that the customer plans something, such as the installation of a cooling machine, which then has to be replaced in due course. This opens up a very narrow window of opportunity to come up with an alternative heat source or method of waste heat utilisation. We are then called upon to quickly develop a concept and show how it might look. We as an energy supplier on the one hand and the operator of a data centre on the other have completely different time horizons with regard to investments and their

depreciation. The district heating pipes installed under the street are designed for certain needs and their dimensions a fixed accordingly; and they last for many, many years. The legally justifiable time horizon of a data centre is usually around 5 years, even though it may be likely that the data centre will be on site for longer. So there is a legitimate question of liability here. Additional waste heat capacity is either available or it is needed at short notice. It is therefore difficult to come together in view of the different time horizons, depreciation periods and economic conditions. More courage is needed from both sides to find sustainable solutions, simply because otherwise it will not be possible. In the end, technical problems were not the reason why the concept was not implemented; rather it was because the conditions did not fit.

We also took a closer look at using the return flow of district heating for the supply of buildings in the project. From our side, we have to pay very close attention to where such a thing is possible at all. On the one hand, this requires network infrastructure with the appropriate conditions and prerequisites, and on the other hand, it requires a customer who is prepared

to coordinate his heating system with the requirements. In concrete terms, this means, for example, that a panel heating system or underfloor heating is most likely to be needed. In a new building project we looked at, we were simply too late. The developer was already so far advanced with his planning that he could no longer implement the use of return flow. Heating systems are included in the architects' planning at a very early stage, for example because they have an impact on the construction of the floor. With underfloor heating systems, the thickness of the floor has to be factored in. And that is an important insight for me: we have to work much more closely with the partners on such projects and discuss these things very early on in order to be able to find a joint solution.

So the ideas are there, but implementation is often still a problem. What will it take to be able to implement such findings successfully in the future?

Martin Höller: Research projects have the advantage that not everything always has to be fully developed by the end. There is only one essential goal that you set at the beginning: to learn from the findings. In any case, the EU funding from Smarter Together was a valuable opportunity to conduct future-oriented field research. If we are to move towards complete decarbonisation, then we now need to lance the boil as regards district heating. Why is it necessary for us to focus on this energy source? We simply do not have the possibility to develop large-scale renewable energy sources in densely populated areas. There are indeed certain places where heat pumps can be used. But it is impossible to supply these buildings with locally available renewables, especially in high-density urban areas, and above all in old buildings. District heating establishes the connection between the renewable energy source and the consumer. I can use the possibility of transporting waste heat from a computer centre or from an industrial company such as Manner to the customer via a long-distance

transmission pipe without having to create additional resources on site. In this context, the reduction of the return temperature is particularly important. The use of return flow, which was mentioned earlier, makes an important contribution to being able to switch to renewable sources at the root of the district heating process, where we also use cogeneration to a very large extent in addition to waste incineration. For example, we recently installed a new large-scale heat pump in Leopoldau, a so-called Power-2-Heat plant with an output of 30 megawatts. That's roughly what the entire Smarter Together project area needs in terms of heat. And this pump is largely fed from surplus green electricity. So it definitely has potential.

Because you just mentioned it, how long will decarbonisation take?

Martin Höller: I am a technician and, it has to be said, not a fanatic. We are making a lot of progress in this area. In the near future, it is not likely that we will be able to do without combined heat and power, i.e. gas-fired power plants, completely. What we can do, however, is produce this gas in a renewable way. For example, we have another research project in which we are trying to produce renewable gas from waste and sewage sludge with an output of around 1 megawatt or more. This renewable gas could then be used instead of fossil gas.

“ If we are to move towards complete decarbonisation, then we now need to lance the boil as regards district heating.”

Martin Höller, Wien Energie

That means that gas would still be used in combined heat and power plants, but it would be renewable?

Martin Höller: Gas is gas. It doesn't have a 'distinguishing mark'. But it would then be from a renewable source and that is what that can be achieved with change. The crucial thing is that with district heating you have the possibility to link those heat

sources, wherever they are available, to the customer via the existing infrastructure. Something does not always have to be done on site. In the near future, however, it will be crucial to prepare buildings for this. Buildings last at least 100 years so what we build now and the standard to which we build it will remain for decades to come.

One topic that is also gaining more and more attention is that of cooling. Is this also an issue for Wien Energie?

Martin Höller: District cooling is a big issue for us, but I think it is particularly important for large commercial buildings. If you want to cool Vienna General Hospital or an office building, district cooling is the optimal solution. In residential buildings, on the other hand, it is often not necessary to cool the air temperature to 20°C. Flats usually do not have ventilation systems either. What they can do in this case is to achieve moderate cooling by means of building component activation.

“Buildings last at least 100 years. So what we build now and the standard to which we build it will remain for decades to come.”

Martin Höller, Wien Energie

This can also be done somewhat less well with underfloor heating. I heard earlier from Julia Girardi-Hoog that Wiener Wohnen solves the problem of 28°C temperature in flats in summer with external blinds and thus proper shading. The most important thing is not to let the energy into the flats in the summer.

But then it is rather dark.

Martin Höller: Yes, but the residents are usually not at home at those times of day. They might normally go to work during the week. And you probably won't have all the windows facing south or east-west. Thanks to cooling with component activation, the indoor temperature can be cooled down by up to 2-3°C. And that is

exactly what is usually comfortable for a person. It doesn't have to be 20°C in the flat. It's about creating a more moderate level of temperature in the flat. To make the connection to district heating again: district heating can also be used for re-cooling, for example by using the waste heat from the data centre. With a heat pump, the temperature level can then be raised slightly and the heat fed back into the heating network. A few buildings further on, hot water can be used. And so this circle of energy is closed. The energy remains in the circle and is used within it. Of course, it has to be said that not just any amount can be used; in summer, for example, we now have a load of 200 megawatts in Vienna. But I believe that several new buildings that are now being built could be connected to this kind of system.

Thank you very much. We would now like to turn to the topic of data collection and analysis, which also played an important role in Smarter Together. Brigitte Lutz from the City of Vienna Vienna Digital department, what exactly is the role of the data platform created in the course of the project and what benefits does it bring?

Brigitte Lutz: Data is very important in our era. That's why we need a data platform. And FIWARE is one such platform. We used the Smarter Together project to gain new experience with this kind of data platform because we didn't have one before. So it made sense to try out this open source product, FIWARE, which has received a lot of support from the EU, and to answer questions like “What is the use of having a platform on which data can be stored and made usable again?” and “What is the use of connecting all kinds of sensors and other data sources to it and then making them usable for people by means of apps and visualisation tools?”

Is the data platform something that will extend beyond the project or will it ultimately be used only for the project itself?

Brigitte Lutz: The initial plan was to implement the data platform within the project. We – my colleague Gerhard Hartmann and I – put a lot of faith in FIWARE at the time and always believed in it, even though we encountered quite a bit of headwind during the course of the project. But we were convinced that it was the right thing to do.

What was the reason for this headwind?

Brigitte Lutz: Of course there is lobbying in this area too. There have even been people at EU level who preferred other platforms, although the EU itself has financed this platform. In the meantime, however, the FIWARE technology has developed further. The platform has been largely de-cluttered. It is now a classic urban data platform used in other cities across Europe and worldwide. We have since made the decision that we will continue to operate the platform after the conclusion of Smarter Together. We are currently using it in the City of Vienna's own data centre and are also in the process of making it usable for other smart city projects.

To come back to data collection, is there a limit to it or is everything that can be obtained collected on this platform?

Brigitte Lutz: As data governance coordinator, I would say that everything has to be organised. Of course, you have to think about what you need data for, which data sources should be used, which departments provide the data, who is responsible for the data and how you can handle the data life cycle in general.

Are there already decisions that are set in stone or do you make continuously new experiences?

Brigitte Lutz: I think the Smarter Together project was ideal for gaining experience. Especially with the energy data, we could already see what good data sources should look like. We now also have other projects running in the city. The topic of IoT is leaving us behind at the moment. Every mobile phone is a

sensor in itself that can provide data. In the future, there will be many data sources that can be integrated and then processed. Actually, everything is big data that can ultimately be combined or used for analyses.

“We used the Smarter Together project to gain new experience with this kind of data platform because we didn't have one before.”

Brigitte Lutz, Stadt Wien - Magistratsdirektion

The topic of big data is always connected to the topics of security and anonymity. What conclusions can be drawn from this?

Brigitte Lutz: Of course. It is perhaps worth noting that much of the data we are talking about here is non-personal. In the case of non-personal data, we are talking about data classification, which can be public or only viewed by a restricted group, for example project partners. With personal data, the situation is different. The issue of anonymity is of course an important one. Careful consideration must be given before any data is blended with other data sets, for example.

Ali Hainoun, AIT has been asked to take over the monitoring for the next 2 years. What are the major challenges in evaluating the data? What happens with these evaluations?

Ali Hainoun: An important question is how do you design a monitoring system in the first place. This does not only concern the collection of data or the necessary sensors. We now speak of an integrated monitoring concept. First we have the sensors (the meters) and the automated transmission paths to the central data management platform, where the data for monitoring and evaluation are available. Then the collected data is checked for quality assurance. This is an important step for ensuring a solid data basis for the evaluation of the measurements and the monitoring of the smart solutions implemented in the project. In the end, we have to focus on who is



Image above:
f.l.t.r.: Martin Höller, Ali Hainoun,
Brigitte Lutz

© Marton Zsolt

doing the work throughout the entire process, i.e. from the collection of the data to the time when the data reaches us, in order to be able to evaluate it and calculate the KPIs. The challenge was that in the beginning we underestimated the importance of the stakeholders. We are dealing with many stakeholders here, such as energy suppliers, property developers, industry, research institutions, etc. We have already received a lot of feedback from the City of Vienna alone, which accounts for three stakeholders. Our cooperation with all these colleagues was very good but it was also very time-consuming in some cases. A very important point was the cost of the monitoring infrastructure, which was primarily due to the large number of sensors. In Hauffgasse alone, the cost of wiring all these meters was €40,000-50,000. The costs for the gas meters in Lorystraße were about the same. Of course, we also addressed the problem of data protection. We only collect general data; we do not collect personal data unless we get the consent of the residents. We are trying to do that right now in Hauffgasse. Our colleague Boris Hajek from KELAG Energie & Wärme is trying very hard to find volunteers who would be willing to have the energy

consumption in their flat recorded. So far, however, we have limited ourselves to general consumption data.

Would there be a possibility to make it more cost-efficient or cheaper in the future?

Ali Hainoun: I can answer that question on two levels. On the one hand, I believe that we will be able to set up a standardised process for monitoring in and of itself in the future. Because of what we have learned, we can lower the monitoring costs overall. On the other hand, when looking at the system as a whole, there is of course the question of what we are actually doing the monitoring for. Ultimately, we want to evaluate the measures we have implemented. Have they achieved anything? And this is also fundamentally about sustainability. In the end, we have to prove that we have been able to save energy and reduce CO₂ emissions, that we have created something socially useful and achieved a better quality of life than before. However, just because you do something better does not mean that it will be free in the future. We certainly have to expect that there will be costs. But at least we will learn from this process.



With regard to standardised monitoring processes, are there already results or findings?

With regard to standardised monitoring processes, are there already results or findings?

Ali Hainoun: Yes, we already have some results. Within the framework of the project, both the building sector and the mobility sector are being monitored. Perhaps I can pick out a few examples. Take Hauffgasse: we are talking about more than 53,000 m² and we have already made a few calculations. However, these are only initial calculations. It will take at least another year before we have final calculations. At the moment we have collected data for about 9 months for one block of flats. The final data will probably follow at the beginning of next year (2020). Then we will be able to make an initial assessment. In Hauffgasse, annual energy savings of about 3,850 megawatt hours are expected after the renovation – a reduction of about 60% compared to the situation before the refurbishment.

So a distinction must also be made between calculations and forecasts. Will the forecasts perhaps become even more accurate in the future? What are your expectations?

Ali Hainoun: We learn from the monitoring, of course. We already know important aspects concerning the saving of heat demand. One point, for example, is the climate around us. In this respect, the data must first be adjusted. For example, we cannot simply compare January 2019 with January 2018; rather we must take into account that the climate is different and we therefore first have to isolate the data. Another point concerns technology; what we have implemented are technical measures. We can certainly learn with them, and in the future we will be better able to predict what the results might look like in reality. However, there are always differences between theory and practice. That is normal. That's why we still participate in research projects like Smarter Together.

Herbert Hemis from the Vienna Municipal Department for Energy Planning, how can the decarbonisation of an entire city district succeed? What kind of information do you need?

Herbert Hemis: This is a very important topic. Unfortunately, there is no single solution. Ultimately, a suitable tailor-made solution must be found for each

Image above:
Piping in the NMS Enkplatz
© Bojan Schnabl

district, for each neighbourhood. An important starting point for this is a sufficiently good data basis. An analysis of the data has shown that there are still many gaps regarding building information. For example, we know little about the actual energy supply of buildings, especially when different systems are used. Knowledge about the actual condition of buildings is also limited. In order to close this gap a little, many processes are underway in the city. Furthermore, we are currently working on a heat atlas – an online information system – within the national research project Green Energy Lab – Spatial Energy Planning (GEL-SEP). This will provide all of the information on heat supply for buildings, properties and sub-areas.

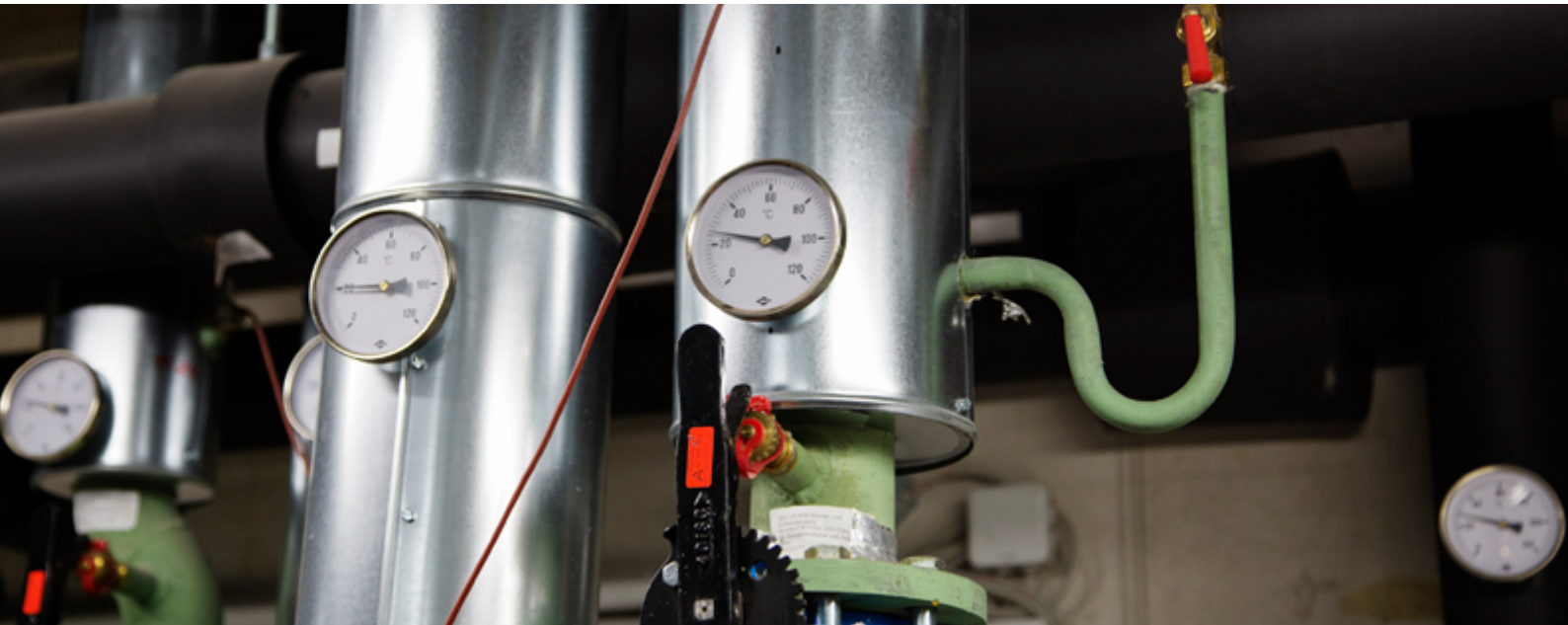
That means that a lot of data still has to be available in sufficient quantities and, above all, of adequate quality?

Herbert Hemis: Exactly. You always have to validate the data and take a closer look at it. The better the quality of the data, the sooner evidence-based decisions can be made. Of course, we should not wait until perfect data is available to start, and we are already working hard to find out where we can start. Here, I am thinking in particular of identifying spatial focal points. For example, where are the areas in the city that are particularly suitable for energy-efficient renovation on account of the energy supply, the age of the buildings, the ownership structure, etc.? The better and more correct the data is, the more precisely renovations can be managed in terms of spatial planning so as to increase energy efficiency. However, this data alone is not enough. It is also important to carry out the renovations in accordance with the right processes. An example: in one area, three refurbishments take place at approximately the same time. From the data, we know that there are other buildings in need of renovation in the vicinity. So, on the one hand, the refurbishments could be bundled together in order to push for the adoption of cross-building solutions. A good example of this was the Smart Block project in Geblergasse. On the

other hand, other owners could also be encouraged to renovate. In the same way as we do it today for new constructions, with cross-building site competitions between developers, we should also proceed with refurbishments.

What is still needed and how long will it take to get it? When should we have solid, reliable data so that we can take appropriate measures?

Herbert Hemis: The question of when is difficult for me to answer now. I do think that with all that is going on now, we will know a lot more in the next few years and we will be able to make some progress. For example, the aforementioned heat atlas should be available by the end of 2020. Beyond that, however, as has already been mentioned, commitment is needed at several levels. In addition to the data, the processes and the associated instruments are particularly important. In the city of Vienna, for example, we have an instrument, in the form of the energy spatial plans, that allows for spatial control of the energy supply. These binding ordinances determine where district heating or other highly efficient alternative solutions are to be used in new buildings. The task now is to develop these instruments further for existing buildings. Another starting point is spatial prioritisation or staggering of subsidies for energy-efficient renovation or changes to energy sources. This means that subsidies should first be granted or increased where the benefits from the point of view of energy efficiency and climate protection are the greatest. Of course, this should be coupled with monitoring in order to create a learning loop and to be able to determine whether the measures taken actually achieve the desired effect. A data platform with user management, as developed in this project, also offers the possibility of disseminating the information widely. In any case, there is still work to be done. In many cases, the question of decarbonisation still has to be answered in existing buildings. There is still a lot of room for improvement. If we take the climate protection goals seriously, and we do, then we see a



great need for action, especially in existing buildings.

How does the City of Vienna plan to phase out fossil gas in the future?

Herbert Hemis: In Vienna, many historic buildings – I estimate about 90% – are supplied with gas. Even if these buildings are connected to the district heating system, they almost always have a gas connection as well. The gas infrastructure is enormous and runs right through the city. Maintaining this network is complex and expensive. Often, single-floor gas heating systems are found in these buildings rather than a central heating system. In any case, the question here is how this conversion process can be designed. Certain projects show that this is a big task. A conversion to district heating, for example, requires a central heating system. In this case, structural measures are required in every flat. Renewable solutions are more difficult to implement in such buildings, but are possible in principle. In old buildings, green gas would therefore definitely be an option. Condensing boilers that are linked to a solar energy system but continue to use fossil gas should be avoided in the long term.

Another retrofitting issue?

Herbert Hemis: The question is whether the builder or owner is willing to do something environmentally friendly. Often these are private individuals. If it is possible to produce an amount of green gas from renewable sources that corresponds to their energy needs, as I indicated earlier, then one can certainly do part of the job through retrofitting. In other words, the existing gas infrastructure can then remain in certain areas. However, it is also important to look at the CO₂ emissions over the entire life cycle and the overall production levels of all different types of system and to compare them honestly. Especially when it comes to the availability of green gas, very different figures are circulating. How much biomass – and thus biogas – and how many other options for producing synthetic gas will actually be available in Austria in the future? How much can and should be used, and for what? And where would we make best use of it?

Let's turn our attention once again to monitoring. AIT is also carrying out monitoring for Munich and Lyon as part of Smarter Together. Will there be a comparison between the three cities or are there already findings on this?

Image above:
VHS Simmering, Energy System

© Smarter Together /
Andrea Klem



Bild oben:
LED-Lampe in Simmering

© PID / Jobst

Ali Hainoun: Yes, we call it peer-to-peer comparison. We collect the data from the three cities – Lyon, Munich and Vienna – and calculate the results for the individual cities. However, the socio-economic components must also be taken into account when calculating energy savings and CO2 reduction. It is important to know the conditions in each city well. It is not about ranking the cities. We learn from these peer-to-peer processes. How can we set up monitoring processes better and what can we learn for the future? Have our colleagues in Munich developed a different or even a better e-mobility solution than we have? We have certainly gained some interesting experience in the building sector in Vienna. We now want to work on formulating fact-based key indicators for this process so that we can then roll them out in the city. Furthermore, they should be able to be replicated in the follower cities. This process is important because the data should not only come from one city, but from different cities with different socio-economic and technical conditions. And that is what matters to us in this comparison. Formulating these comparative values will be a positive step, allowing us to learn from experience, develop fact-

based indicators and roll them out to other areas.

We now come to the final round. Ali Hainoun, what is the most important thing you have learned from the project? What will you take away with you?

Ali Hainoun: Smarter Together is certainly a very important project. It is great to work with over 30 partners. For the future, what we will take with us is that it is important to set up a process with all stakeholders at an early stage and in a positive way. When it comes to cities, there are usually a lot of stakeholders. Furthermore, it will also be important to standardise and optimise processes so that planned measures are ultimately implemented in a cost-effective and time-effective manner. But we also have to keep in mind that we are working in an innovative field. There will always be surprises. But we learn from these surprises and challenges. That is what we want to take with us. Smarter Together is crucial for future projects. We are talking about a lighthouse project. That means projects like Smarter Together can act as lighthouses for other sustainable solutions in cities.

Mr Höller?

Martin Höller: I might add that, on a personal note, I have been involved in many research projects over the years, including some in which the City of Vienna participated. Smarter Together was more or less optimal for me in terms of cooperation. In no previous project have I seen such close cooperation between different departments of the city administration, which in principle is the owner of my enterprise. And yet the paths we have to take to reach our goals are often very long, especially when everything is broken down to the level of a specific district, which was certainly not easy to implement. For myself, I can only take away a wish to maintain the dialogue that we have established. I believe that this will help us all move forward together in the future.

What will remain of the project for you, Ms Lutz?

Brigitte Lutz: With any technology, it is true that it does not work without people. By that I also mean the networks between different cities, which were certainly very useful. As far as FIWARE is concerned, we have been able to set up other networks, including with Austrian cities like Linz, Graz and Salzburg, and it is nice that we were able to build up a community in Vienna. We should also mention the educational institutions, such as the University of Applied Sciences or the Technical University of Vienna, which also use the FIWARE platform. In this way, we are passing information on to the next generation.

Mr Hemis, what do you take away from this project?

Herbert Hemis: I can only agree with the contributions of my colleagues. The ongoing exchange between the project partners was really impressive and achieved a lot. Everyone involved was and is very motivated. Many of these contacts and partnerships will continue. For us, the direct exchange with the two energy suppliers, Wien Energie and KELAG Energie & Wärme, as well with the grid operator was very helpful. As a municipal administration, we now have a different perspective and

approach. Seeing what challenges the other actors have to deal with broadens our understanding and allows us to think about these requirements without losing sight of the overall goals. This includes, for example, the challenges that the energy market brings with it. In addition, I think that the role and responsibility that we have as a city became clear to the project partners, and also, we have to make sure that the decarbonisation of the energy supply really happens. What we also took away from the project is the importance of data. A lot is happening in the city in this area right now – work in areas ranging from metadata to the quality, maintenance and use of data. What action do we want to take to build on this? What we have also noticed again and again – both in this and in other projects – is that it is important to recognise, understand and describe the relevant processes in good time so that the right measures and instruments can then be used at the right moment. Above all, we have to involve relevant stakeholders at an early stage, as AIT can confirm with regard to the development of the monitoring. In the end, we did not have enough time for some measures or initiatives. Sometimes important information about activities reached us very late: for example regarding the use of district heating for a new building in the area. Here we saw what a difference it makes when you clearly define the processes and

“If we take the climate protection targets seriously, and we do, then we see a great need for action, particularly in the existing building stock.”

Herbert Hemis, Stadt Wien - Energieplanung

the related flow of information as compared to when you just let things run as they had before. This underlines the importance of agile partnerships between different actors, as well as communication platforms that bring together the right people, tools and criteria at the right moment to achieve efficient implementation.



Pipes at NMS Enkplatz © Bojan Schnabl

Factsheet

Data platform “smartdata.wien”

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screening process

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FIWARE
data platform

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ICT Challenge, 2
winning apps

Contact

City of Vienna, Vienna Digital
Gerhard Hartmann
gerhard.hartmann@wien.gv.at

**City of Vienna, Department
for Construction and Facility
Management (MD-OS)**
Brigitte Lutz
brigitte.lutz@wien.gv.at

**Austrian Institute of
Technology, AIT**
Ali Hainoun
ali.hainoun@ait.ac.at

For more details see
www.smartertogether.at

Project context

Measuring data is an important tool for understanding processes, developments and indicators. Data management is a major challenge for a city, but it is also at the heart of a smart city.

In the course of Smarter Together, an open-source data platform was developed to make the long-term sustainability of the project's successes measurable. The platform creates an urban infrastructure for data collection and exchange between public and private partners.

Smarter Together measures

In the course of the Smarter Together project submission (2015), European Commission representatives expressed the wish that Vienna should create and use a data platform. It was agreed that Vienna should use EU project funds in an exploratory phase to develop an innovative solution with the potential to meet future needs within the city. Based on this, the following activities were carried out within Smarter Together:

- screening of existing urban databases with an international focus over a 1-year period
- creation of a central data management system

- establishment of an open-source data platform based on FIWARE
- use of this same platform as a real-time interface for energy and mobility data and for project monitoring and evaluation
- installation of monitoring and metering infrastructure in buildings
- participation of 7 Smarter Together teams in the 2018 ICT Challenge (2 apps presented, 2 Smarter Together winners).

Boosting the process

Smarter Together served as a pilot project to test both the overall data management system and its individual components.

What is FIWARE?

The smartdata.wien urban data platform established by Smarter Together uses the open source FIWARE platform. This allows for autonomous urban data management and has great potential for expansion.

FIWARE was developed as an EU project. As it is an open source platform, it is not dependent on large manufacturers. Furthermore, FIWARE's Context Broker (a central element of the FIWARE architecture) was accepted by the EU as a building block of its Connecting Europe Facility.

Both the platform and the data remain the property of the City of Vienna.

Schematic Flowchart © City of Vienna / AIT

Use of the data platform in the monitoring process

Within the Smarter Together project, numerous measures were taken for the sustainable development of buildings and mobility. To assess their impact, an Integrated Monitoring Methodology (IMM) connected to the data platform was implemented as part of a participatory process with the city stakeholders.

In this process, data is collected from local monitoring infrastructure (for buildings and mobility) and transmitted via the energy management system of MA 34 to the central administration office of MA 01. This in turn uploads the data to the data platform. The data retrieval and analysis is ultimately carried out by AIT.

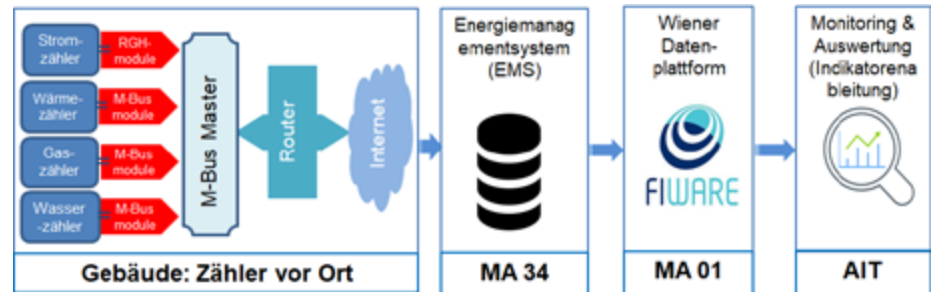
The data platform used in the project, with its connectors, standardised interfaces and use of standard protocols, creates considerable added value for future monitoring and standardisation of monitoring in the city.

International activities

The City of Vienna is a member of the Open & Agile Smart Cities network (OASC) and takes account of minimal interoperability mechanisms (MIMs) on its data platform. The aim is to achieve interoperability of all members' systems based on minimal common standards.

The staff of the MA 01 carried out intensive international peer-to-peer research work. This ensured that internal city resources could carry the project forward sustainably.

Smarter Together participated with FIWARE in numerous conferences, including the 2018 ICT Challenge, at which 6,000 participants and 7 Smarter Together teams were present.



Lessons Learned

The involvement of future users, including municipal stakeholders within the City of Vienna administration, and the 1-year screening phase were essential for the success and sustainability of the project.

Replication

The smartdata.wien data platform has already been formally integrated into the systems of the City of Vienna (MA 01) and used for the IoT. The first sets of measurement data from the project are already being imported and can be accessed online here: <https://smartdata.wien>.

The platform will also be used by the City of Vienna in the future.

Holistic thinking about data management

- In a first step, the City of Vienna carried out an intensive screening of existing solutions by its own staff. In this way, Smarter Together did not chew up a finished product on the open market that would necessarily have had inherent follow-up costs for further use.
- By involving the staff at an early stage, the necessary human resources were developed at the same time, which are important for the sustainable use of a data platform.
- In the end, the decision was made in favour of the FIWARE open source modular system, which is funded by the EU.



ICT Challenge © Stephan Hartmann

Solar benches

Facts & Figures

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solar benches with
power sockets

2

schools and
1 school forecourt

Contact

City of Vienna, Department for Energy Planning

Herbert Hemis
herbert.hemis@wien.extern.gv.at

Andrea Kinsperger
andrea.kinsperger@wien.gv.at

City of Vienna, Department for Construction and Facility Management

post@ma34.wien.gv.at

For more details see
www.smartertogether.at

Project context

From the beginning of the project and in the course of the preparations for the school extension at Enkplatz, various possibilities for the early involvement of pupils were considered.

The installation of solar benches within the framework of Smarter Together was intended to make the innovations tangible for pupils and ensure their visibility in a public space.

Smarter Together measures

- international screening of the market for solar-powered furniture for public spaces
- acquisition and installation of solar benches on the school forecourt of the NMS and ONMS Enkplatz secondary schools
- monitoring and maintenance management.

Boosting the process

Smarter Together served as a test environment for piloting this type of street furniture. It also allowed the procurement process to be implemented under favourable conditions and tested for subsequent purchases.

Use by pupils

The solar benches are primarily used by the pupils of both schools at Enkplatz. They were a welcome alternative meeting place, especially during the construction work.

In addition to being used as seating, the benches have power sockets attached to the table, which are supplied with energy by the PV panel enclosed under glass on the table. These are also very popular with the pupils.

Lessons Learned

The susceptibility to faults of the product and the necessary guarantee of service and repair must be evaluated and ascertained in advance, not only legally but also practically, and included in the decision-making process.

Replication bzw. Weiterführung

Enquiries from various municipal district representatives regarding the possible procurement of this type of furniture confirm the pioneering role of Smarter Together.



Solar benches NMS Enkplatz © PID / Jobst

Holistic thinking about solar benches as street furniture

- The solar benches can be seen not only as independently functioning urban installations, but also as a means to convey broader messages and values related to the smart city concept.
- Innovations in the field of renewable energy and energy solutions can be made more tangible for targeted user groups, while at the same time providing them with practical added value.



Solar benches NMS Enkplatz © PID / Jobst



Solar benches NMS Enkplatz © PID / Jobst





Part III

Methods and processes: simply smart



Smarter Together as an Urban Living Lab



Bojan Schnabl
City of Vienna, Housing
Promotion and Arbitration
Board for Legal Housing
Matters, Taskleader
Communication

Image above:
Visit of Mayor Michael Ludwig
and a delegation from Lyon to
SIMmobile, 2016.

© PID / Jobst

Urban living labs as an urban innovation process

In western democracies, more and more emphasis is being placed on participatory forms of urban innovation process because they are highly integrative, promote positive local dynamics and identification of participants and thus have a sustainable effect. In many cases, social challenges cannot be met, or can only be met with difficulty, without the participation of broad segments of the population. Examples range from waste separation to climate change and above all concern how people live together in their neighbourhoods. Moreover, in such processes additional knowledge and resources can be used outside of the usual structures. The end users of products and services are actively involved at an early stage in a co-creative process. Smarter Together has pursued this approach in numerous sub-projects as well as in the project as a whole.

Smarter Together in line with contemporary trends

Numerous examples show how not only the residents of the district but also a wide range of municipal institutions and private companies

were involved in project development and implementation.

With the SIMmobile, the wider population of Simmering was included, informed, questioned and actively involved in the Smart City processes. For example, on the SIMmobile, the pupils of the Enkplatz secondary schools were able to find out about the redesign of the school extension, but above all they were able to get involved in a concrete way. The new bouldering wall in one of the gymnasiums is a direct result of a wish expressed by the pupils.

The selection of the e-bike model for the WienMobil Station at Simmeringer Platz is also a prime example of a ULL process. During an event organised by GB* on the forecourt of VHS Simmering, various models presented by the provider Sycube were tested by passers-by. The model with the most votes was selected.

The e-car sharing scheme in the BWSG Hauffgasse complex is a prime example of co-creation involving all participants, because the end users were just as active in the conception of the project as in its implementation and further development. In addition, the launch of its pilot phase was only made possible by the EU funding

combined with the support of BWSG. And the project was so successful that the City of Vienna has set up a new funding programme that allows property developers to set up e-car sharing schemes in their new housing complexes. The prerequisite for this is that the future users are involved in the whole process.

In the course of the renovation of the municipal building in Lorystraße, the residents were able to get involved and have a say, for example by voting on the design of the façade. Other measures were also either rejected or accepted and implemented accordingly. The experience gained subsequently fed into further work by Wiener Wohnen and wohnpartner.

In fact, Smarter Together as a whole can be regarded as a large ULL. The experiences of the project were incorporated into the further development of the Smart City Vienna Framework Strategy at a very early stage.

The creative and innovative interaction of numerous departments of the city administration both among each other and with external partners was tested in many ways. The development of the new FIWARE-based data platform is based on an international exchange of knowledge, which was made possible by EU funding. The integration of different energy systems in the secondary schools on Enkplatz simultaneously entailed co-creation and testing of innovative solutions, because a wide variety of players (MA 56, MA 34, Wien Energie, building service engineers, AIT, etc.) jointly created a concept, implemented it and finally participated in the monitoring.

Internationally, the 'learning governance' in Smarter Together has attracted a lot of attention. It is aimed in particular at using experience to embed knowledge within the city administration. Co-creative processes were also initiated in this context. The best proof of the success of this work is the follow-up project WieNeu+, which will be implemented in various

districts in Vienna over the next 10 years, starting in the inner parts of the district of Favoriten in 2021.

The numerous co-creative innovation processes of Smarter Together were researched as part of a master's thesis on the interaction between ULLs and urban planning written by a student on the 4Cities master's programme in urban studies, which is run at universities in Brussels, Vienna, Copenhagen and Madrid.



Urban Living Labs in focus. Click here for the blog post!



Learning governance

A method of knowledge management



Bojan Schnabl
City of Vienna, Housing
Promotion and Arbitration
Board for Legal Housing
Matters, Taskleader
Communication

Image above:
Visit of a delegation from Munich
(environmental committee) 2019.

© PID / Martin Votava

What is learning governance?

Learning governance is a method of knowledge management and a systemic focus of Smarter Together. Human resource development is at the core of the concept as sustainable development stands or falls with people.

The aim is to actively ensure that the results and process experiences of Smarter Together are anchored in the city administration and municipal policy, as well as in the staff of all participating institutions, and thus show sustainable effects. In particular, values are communicated and the vision underlying the project is shared.

Dialogue-oriented peer-to-peer knowledge exchange and changes of perspective

The focus of peer-to-peer learning is on the one hand the networking of an organisation's staff and on the other hand the project processes or the process-oriented approach. Concrete project and technical knowledge or an understanding of context-related challenges are usually not to be garnered from textbooks, ready-made databases or even glossy brochures.

The necessary knowledge is only usefully aggregated in dialogue through concrete questions based on the subjective expectations of the questioners or through the communication of the thoroughly subjective experiences of the interviewees as well as through the dynamics of the dialogue itself, and only in this way does it represent added value for both sides.

The personal encounter also has an emotional and lived experiential added value. One remembers a certain person or encounter and thus integrates the knowledge thus acquired on a deeper level.

With regard to the sender-receiver model of communication, the method of peer-to-peer learning in particular enables a shift from the perspective of the sender (the authors of the aforementioned text books and databases) to that of the receiver (practitioners in local administrations and project managers). In addition, such experiences are lived outside of one's comfort zone as peer-to-peer learning necessarily leads all participants to broaden their horizons.

Innovation-oriented organisational culture and dynamics

A consistent budget for staff within the project (person months) was of key importance, as were clear agreements on tasks with the different departments and supervisors of these staff members. The aim was to enable staff to contribute creatively to the project. The idea was to impart not only specific technical knowledge, but rather also a vision, values and an enthusiasm for them in order to promote an innovation-oriented organisational culture and dynamic.

Network of excellence

Smarter Together served as the hub of a broad 'network of excellence' in which the different partners could share the deeper vision and meaning of their individual contributions. On the one hand, the staff involved contributed their skills, knowledge and networks so that they could identify with the project and its values. On the other hand, the project offered a range of mostly informal opportunities for exchange during implementation as well as more formalised formats such as annual conferences, peer-to-peer learning and 'harvesting workshops'.

Examples...

Dialogue with tenants:

Smarter Together brought together at least three institutions dealing with dialogue with tenants in subsidised housing, namely GB*; wohnpartner, focusing on municipal housing; and wohnbund:consult, a private mediation institution focusing on the non-profit housing association BWSG in Hauffgasse. All three have different areas of focus and approaches. Through their interaction in the project, they were able to experience each other's approaches and procedures, make use of them and integrate them.

IT-Plattform:

The municipal IT staff were tasked with researching international best practices for innovative data platforms. As a result, they developed a novel platform for use in the Smarter Together project (smartdata.wien). Subsequently, their high degree of identification with the platform

contributed to the decision to integrate it into the City of Vienna's systems for IoT applications.

Employees as the focus of communication work:

On the one hand, the project's communication work was aimed at a wide audience. On the other hand, another target audience were the project staff. Different means from newsletters to blog entries to walks in the neighbourhood served to arouse interest and to strengthen identification with the project. The aim was to instil a deeper understanding of the underlying concerns and the vision of the project in the city's decision-makers.

...and sustainable results

As a result of the excellent project dynamics, it was possible to initiate and even implement the intensive learning governance drawing on active involvement of the employees of the City of Vienna and the partner organisations, as well as numerous follow-up activities, projects and funding programmes.



Governance Learning.
Follow this QR-Code to read
the blog post!



Smarter Together - gemeinsam g'scheiter

A bilingual project name with a vision



Bojan Schnabl
City of Vienna, Housing
Promotion and Arbitration
Board for Legal Housing
Matters, Taskleader
Communication

Image above:
Nordic Edge, Stavanger, 2018
Graphic designer: Kristof
Braekeleire

© Bojan Schnabl

One contribution to the success story of Smarter Together is the project name itself. The basic programmatic orientation of the project was established with its naming. The project name conveys fundamental values such as the project vision, the project culture, the internal project communication and the project dynamics, all of which constitute or contribute to a specific added value for an EU-funded project. According to management concepts, the project name itself conveys the 'vision', i.e. the core message of the project.

The project name, the DNA of the project

'Together' stands for organisational culture and thus the values that the project conveys, as well as for the partnership and cooperation of the stakeholders and the systematic involvement and participation of the population, i.e. participation to the fullest extent.

'Together' thus also conveys a positive emotion, which is the basis for co-creation, the joint and inspirational development of the project in terms of the specific solutions, which, in retrospect, was particularly successful.

'Smarter' in turn stands for knowledge and thus knowledge management, i.e. 'learning governance' and the efforts made in the course of the project itself to ensure the sustainability of the results through replication at an early stage.

The comparative aspect of 'Smarter' stands for the strong focus on sustainable processes. After all, the supreme skill of project management is in transforming projects that are time-limited and intended to deliver measurable results (SMART = Specific, Measurable, Attractive, Realistic, Timed) into long-term and sustainable structures. And that has certainly been successful given the numerous multimillion-euro follow-up projects.

Finally, the bilingual naming of the project – and moreover the rendering of its German name, 'Gemeinsam g'scheiter' in Viennese dialect – conveys its local roots, authenticity and thus credibility. This should help to bring the smart city concept closer to people and make it more understandable.

At the same time, these are the connecting threads that have made up the uniqueness and charm of the project throughout its entire implementation.



Smarter Together – Gemeinsam g'scheiter, a project with vision that connects people and offers concrete solutions.

Image above:
Beet-the-Street Kick off
© Philipp Lipiarski



Image below:
Closing slide, Smarter Together Symposium
© Smarter Together



Smart communication

Vision & passion with method



Bojan Schnabl
City of Vienna, Housing
Promotion and Arbitration
Board for Legal Housing
Matters, Taskleader
Communication

Image above:
Photo collage from the office
door: front pages with Smarter
Together in the local newspaper
of Simmering.

© Bojan Schnabl

Smart City: a leading urban renewal initiative with a strong image

Multifaceted project communication is a central project management task. In its external communication, Smarter Together reaches numerous people, enhances the image of the project and raises awareness of issues. On many issues, Smarter Together has even been able to play a leading role, which is most important for the sustainable impact of the project. Internally, communication is a key part of the project culture and supports the project dynamics, which are also crucial. The Viennese mission statement is:

*Local people, the City of Vienna
and many partners and companies
jointly designing actions for a liveable
neighbourhood.*

EU funding for Vienna that benefits its people

The fundamental orientation of Vienna's project communication is based on the political mandate of the then patron of the project and City Councillor for Housing and now City Mayor, Dr. Michael Ludwig, namely to "ensure a high degree of citizen participation" in the project. This orientation led to an in-depth

analysis of potential target groups and stakeholders to be included in the participation processes. The same approach is also being intensively pursued by Deputy Mayor and City Councillor for Women's Affairs and Housing, Kathrin Gaál.

Vienna's project communication goes far beyond simply informing citizens. Based on the Austrian tradition of social dialogue in partnership (or social partnership), a wide variety of communication target groups were identified, involved and activated.

Co-creation with added value

Vienna's project communication is based on the active participation of numerous project stakeholders (co-creation). This contributes significantly to the success of the project because it multiplies the communication channels. In accordance with the common understanding of the project, Smarter Together sees itself as a communication platform for all its project partners. It also makes use of the dynamics of EU-wide cooperation.

The intensive participation of local citizens and actors fulfils the increasingly important requirement

of democratic accountability and transparency. The active involvement of citizens is important in times of climate crisis. If everyone understands why one should participate, it is easier to achieve climate goals.

Three crucial communication catalysts

VISION: On the one hand, the vision conveys the values behind global goals such as environmental protection in times of climate crisis and good living conditions for future generations. On the other hand, communicating the values or the vision ensures that the project reaches the people and is rooted in society. This gives the project a deeper sense of purpose and credibility, which in turn makes societal impact possible.

PASSION: Enthusiasm is conveyed consciously and actively. The emotional level turns a technology-oriented project implemented by experts into a project that appeals to a broad section of the population. Enthusiasm has a motivating effect and contributes to the project dynamics. It activates additional resources through the strengthened commitment of all actors and promotes additional innovations.

METHODS. The more than 40 sub-projects of Smarter Together in Vienna as well as the international cooperation make it necessary to identify numerous target groups for the diverse forms of communication work and subsequently activate them as multipliers. The homepage is available to all of them as a primary source of information. The individual blog posts in particular are designed to provide a daily update on the development of the project. In the homepage media library one can find copies of printed material of all kinds, a press review, films and clips, information from the thematic trail and, especially for all who love Simmering and the international project partners and guests, a district travel guide (www.smartertogether.at/simmeringer-bezirksreisefuehrer). The photo story was created by collecting pictures on Flickr and includes over 7,500

photos. In addition, information on Smarter Together can be found on the homepages of numerous other institutions and the project has also made use of social media.

Stakeholder management in communication is crucially important for additional project results. The numerous employees of the City of Vienna can carry the 'spirit' of Smarter Together into their everyday work. The same goes for people at strategic decision-making and management levels, employees of consortium partners and partners who joined in the course of the project. International project partners can promote the concerns of the City of Vienna in Europe. The stakeholders were hence informed, involved or activated as multipliers, or their commitment to the project was publicised. The results, as shown in the 'replication chart' and in the 'project tree' (see the following chapters), confirm that the intensive support and involvement of the stakeholders, e.g. in the context of communication work, has borne fruit in the long term.

Special attention was paid to local residents, children and young students. The SIMmobil – the project's mobile information lab in the district mainly run by GB*, the Urban Renewal Office – always stopped where a sub-project was being implemented. In the courtyard of the schools at Enkplatz, for example, the pupils were asked about their wishes and visions for their school of the future; and their wishes were implemented and became reality! Thus the children played an active part in the school's planning process and Smarter Together was able to fulfil the EU's requirement for 'co-creation' in this area. The same applies to the residents of the BWSG housing complex in Haufigasse, who were actively involved in the design and implementation of the e-car sharing scheme.

The communication work also includes the numerous information events at VHS Simmering. In the course of many workshops, Science Pool instilled in children an interest



Here you will find further information on the topic of project communication!



You can find the full report here!

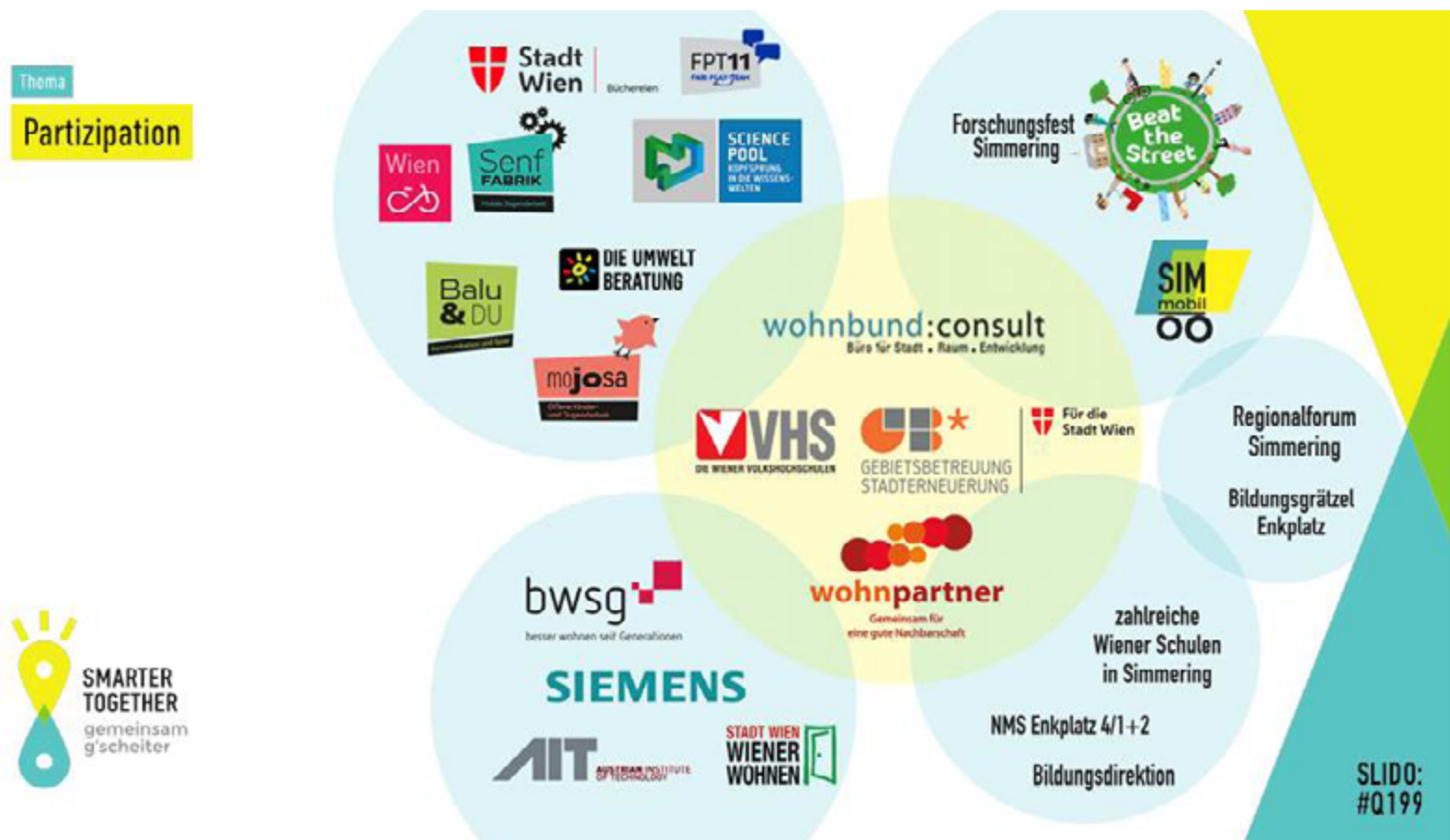


Image above:
Clustering of the project partners.
Presentation document from the
Smarter Together Symposium
2019.

© Smarter Together / Bojan
Schnabl

in research and key issues for the future in a playful, easy-to-understand way. The 1st Smimmering Research Festival, in which several schools in the district took part, was the highlight of this work. The Beat the Street mobility game got 9,000 people from Simmering actively involved in Smarter Together in 2017 and 2018, while countless walks through the neighbourhood communicated the diverse activities of Smarter Together in Simmering to local people, international delegations and students. In total, Smarter Together has been able to address more than 38,000 people at events since the project began: around 21,000 at events organised by Smarter Together itself, and another 17,500 at events organised by other parties. In 2019 alone, 52 in-house events were held and the project was present at 36 events organised by other institutions. In the same year, Smarter Together organised 21 guided district walks

itself or in cooperation with other partner organisations, received 21 international delegations and held the symposium on 'Urban Renewal in Times of Climate Crisis' at the City Hall. During 2019, approximately 2,700 participants were addressed at project events and approximately 4,100 at events organised by third parties.

2019 was the most intensive year in terms of concrete implementation and completion of projects. This was reflected in Smarter Together featuring in 51 press information pieces from third parties, 3 front page articles and 12 press releases from the City of Vienna and 5 reports in 'Mein Wien' – a monthly magazine sent to all 900,000 Viennese households. Also, Smarter Together was featured several times on the front page of the district newspaper, which goes to all 100,000 residents of Simmering, and in numerous detailed double-page



reports and smaller entries in the same publication. All of this confirms the effectiveness of Smarter Together's local-level communication and its real-life impact on people.

Image above:
Walking Cafe 2017

© Mobility Agency /
Christian Fürthner



Processes in focus



Bojan Schnabl
City of Vienna, Housing
Promotion and Arbitration
Board for Legal Housing
Matters, Taskleader
Communication

Image above:
Inner courtyard NMS Enkplatz

© Burtcher-Durig ZT / Bruno
Klomfar

Projects are usually designed to achieve their goals in a way that is SMART: Specific, Measurable, Attractive, Realistic and Timed. This gives them a completion date. Thanks to the project management by the City of Vienna, Smarter Together was also able to pay special attention to the processes themselves and thus to sustainability. Numerous ideas could therefore be developed and implemented in the course of the project itself. In particular, many initial ideas that were not implemented were nevertheless able to deliver sustainable results. And so the success story of Smarter Together is also the story of how those ideas that could not be implemented within the project were used. This shows the importance of a strong culture of internal communication.

A PV plant that came through after all

The installation of PV systems at Siemens Mobility's Leberberg site was considered in the course of the project preparation, but this idea had to be discarded. Instead, the project focused on issues of plant mobility with the acquisition of six e-forklift trucks. Nevertheless, in 2020 – although no longer directly within the scope of the project – a 500-kWp PV system was commissioned by Siemens Mobility.

Use of waste heat from data centres

It was also not possible to use the waste heat from a data centre as envisaged. The decision not to proceed was followed by an internal evaluation of the heat potential of a second data centre. Here it was mainly the different time horizons related to investment, guaranteed availability of the location and amortisation that made the realisation of the plan impossible. Some of the results of the preliminary studies were incorporated into the development of the integrated energy solution for the four zero-energy gymnasiums in the school at Enkplatz, as well as into the planning of a site for future waste heat utilisation.

Feasibility studies

KELAG Energie & Wärme carried out a total of four feasibility studies before the PV system could finally be installed on the roof of the BWSG residential complex. The first feasibility study showed the way, but there was still a long way to go before the work would bear fruit. Among other things, the possibility of installing PV modules not only on the roof but also on the façade was discussed. In the end, structural analysis of the building, as well as insurance and fire protection issues meant that the new ultra-light modules

were not installed. While it wasn't put into practice directly, the experience gained during the preliminary studies fed indirectly into the eventual installation of a PV system and also serves as a source of knowledge for future KELAG Energie & Wärme projects.

An initial feasibility study for the replacement of the school gymnasium was also not taken further, but the findings formed the basis for the subsequent work at the school.

E-taxis

It was still too early for e-taxis in Simmering in 2016, and subsequent trends in the mobility sector (city bikes, e-scooters, new mobility behaviour as a result of the COVID-19 pandemic) left little room for a breakthrough.

Solar tree

Originally, a solar tree with PV cells in the 'leaves', of a type similar to others installed elsewhere, was planned as a landmark in Herderpark or in the school yard at Enkplatz. Due to the lack of a CE certificate from the providing company, which, for insurance reasons, is indispensable for any installation set up by the City of Vienna, the 'landmark' idea could not be implemented in this way. However, it was subsequently taken up again with the installation of two solar benches in the forecourt of the school at Enkplatz.

WienMobil Station modules

The WienMobil Station is a good example of the added value of innovation-oriented, EU-funded projects, as well as of the importance of pilot projects. The concept as a whole was validated within the framework of Smarter Together and WienMobil Stations were included in the November 2020 Vienna government programme. The piloting of the station also enabled the testing of individual modules and produced a series of technical innovations that will have a lasting effect. The example of the bicycle parking boxes shows that the requirements for the stations differ depending on their location, and where the bike boxes are provided, they attract users. The same applies to the e-bikes and e-cargo bikes. The results from the process of setting up the first WienMobil station were used by Wiener Linien for their further activities.

Sustainability

Smarter Together Vienna implemented a systematic quality- and knowledge-management method for its projects called learning governance. On this basis, the sustainability potential of each individual sub-project was evaluated during implementation by the project management team as well as by the individual project partners. This applies to those projects that were implemented in their entirety or only as a concept, as well as to those that were not implemented or only implemented to a limited extent. Working in this way led to the launch of numerous additional projects, initiatives and activities even before the conclusion of Smarter Together.

“Failure is simply the opportunity to begin again, this time more intelligently.”

Henry Ford (1923)

The project partners confirm that all preliminary studies that were initiated within the framework of Smarter Together or made possible by the project and the EU funds provided extremely valuable experience, and many of them were the starting point for further activities and innovations.

These are presented below in the chapter 'Smarter Together 2.0' and in the replication chart and project tree.

Facts & figures

Monitoring

1

smart data platform

Mobility

2

e-vans

7

e-forklifts

3

3 e-cars

13

e-bikes

Building

3

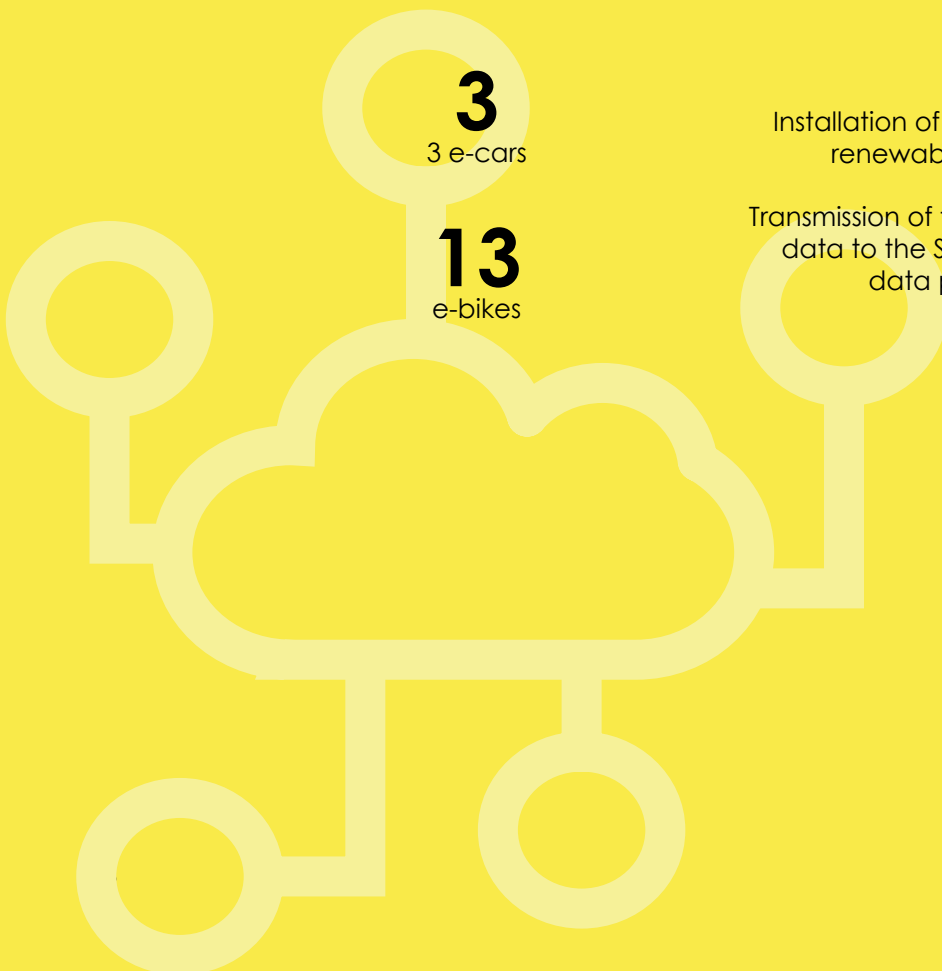
residential buildings

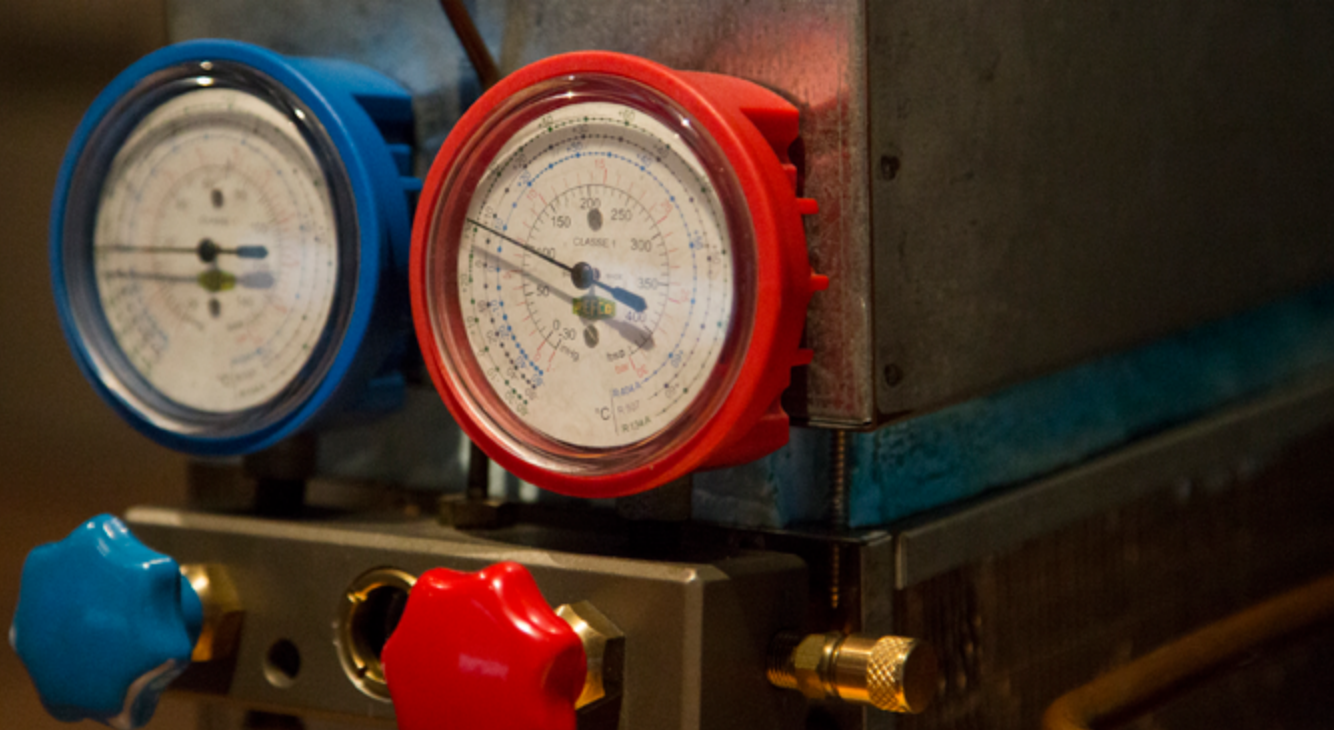
1

public building (secondary
schools on Enkplatz)

Installation of numerous local
renewable energies

Transmission of the measurement
data to the Smart City Wien
data platform





Monitoring

Smarter Together measures

- development of an integrated monitoring concept (including metering)
- establishment of a smart data platform
- implementation of monitoring in cooperation with local partners in Vienna as well as exchange within the framework of European cooperation
- preparation of KPI-based monitoring results and conclusions (lessons learned) in relation to the project partners, the City of Vienna and the European level
- final report upon project completion.

Project context

In the project, various measures were implemented to save energy and CO₂, increase the share of renewable energy in electricity and heat generation, and overall contribute to a higher quality of life in the area.

For this purpose, an integrated monitoring concept was tested in a participatory process involving key stakeholders from the City of Vienna and various other stakeholders from

research institutions, industry and construction companies.

The monitoring will be carried out in the areas of buildings and mobility and the effects will be measured over a period of up to 2 years.

The concept includes the entire automated process of sensor-based data collection, transmission and storage on the Smart City Vienna data management platform of the City of Vienna as well as the subsequent processing, visualisation and generation of associated KPIs.

The KPI-based monitoring process aims to track the impact of the implemented solutions as well as their potential contribution to achieving the city's sustainable development goals. The figure on the next page shows a simplified flowchart of the concept for building monitoring in Vienna.

Holistic thinking on monitoring

A special opportunity and at the same time a challenge was the central task of designing the monitoring in a holistic way in order to generate added value for the process itself and the project as a whole. This means that the monitoring measures should not only provide



Hans-Martin Neumann
Austrian Institute of Technology



Ali Hainoun
Austrian Institute of Technology



Wolfgang Ponweiser
Austrian Institute of Technology

Image above:
Energy system VHS Simmering

© Smarter Together /
Andrea Klem

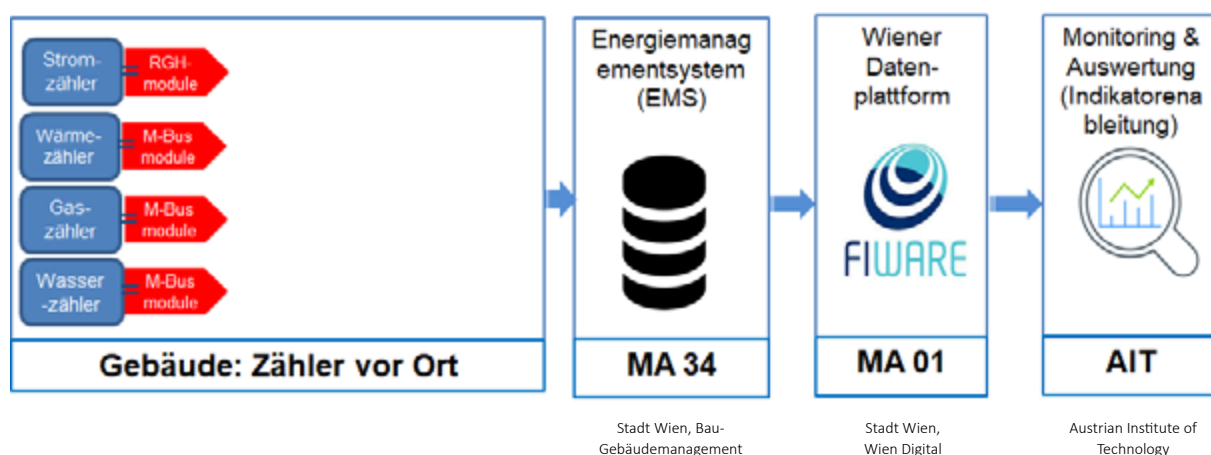


Image above:
Schematic flowchart for
automated collection, transfer
and evaluation of energy
consumption data of refurbished
buildings in Vienna.

© City of Vienna / AIT

individual measurements but should also contribute to the analysis of the processes and, where necessary, produce suggestions for improvement in terms of standardisation. To this end, the following steps were taken:

- Comprehensive assessment of consumption data (heating, hot water, electricity) prior to refurbishment of the individual properties.
- Involvement of and exchange with various stakeholders for a better understanding of the data over the entire monitoring period.
- In addition to the measurement data analysis, further methods (e.g. sending out questionnaires) are used for the mobility measures in order to make additional observations and provide further explanations.
- Results from the monitoring are interpreted and linked to social and technical influences.

Die Smart Data Plattform

An important component of monitoring is the smart data platform, to which data can be uploaded for further use or processing (<https://>

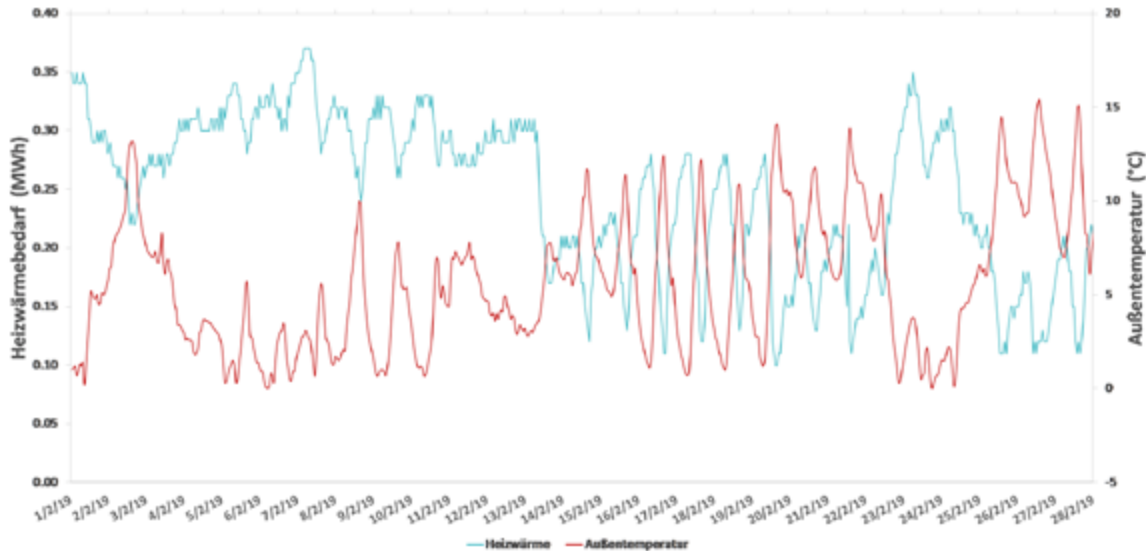
smartdata.wien). Through the Smarter Together project, this data platform has been further developed and tested in practice through its integration into the monitoring process. In the future, the smart data platform will collect data from research projects, etc. and make it available to the general public, to a certain extent as open source data.

Monitoring phases

Set-up of the monitoring infrastructure:

Via an M-Bus interface, each of the meters for electricity, heat and gas is equipped with an M-Bus module on site and connected to an M-Bus master. The sampling frequency of the data acquisition is 15 minutes. The measured data is transmitted to the MA 34 energy management system using the supervisory control and data acquisition (SCADA) system. The data is then stored and managed on the smart data platform of MA 01. Finally, it is made available to AIT for further processing (including quality checks), processing and subsequent calculation of KPIs and evaluation of the impact of the measures.

Daily heating demand in February 2019, Hauffgasse - Block 1



Historical data: In the first stage, historical consumption data for the individual objects and solutions was collected and processed. It serves as a basis for determining changes in consumption and mapping the current status.

Stakeholder involvement: Intensive cooperation with various stakeholders takes place in all phases of monitoring. Through their expertise in the technical, social or economic fields, the monitoring team can verify and correlate findings.

Monitoring: The measurement infrastructure set up in the individual residential buildings and for the mobility solutions will provide consumption and production data at least until the end of the project in 2021. The data will be continuously evaluated and compared with the historical data (before the refurbishment) and the respective KPIs will be generated.

Based on the combination of measurement data and surveys, user behaviour can be analysed and the necessary conditions for replication elsewhere in the city can be identified.

Selected monitoring results

The comprehensive evaluation of the monitoring results can basically only take place after the completion of the project or the monitoring of the respective sub-projects. The following are some of the data on buildings and mobility collected and evaluated by the monitoring system developed within the project.

Building monitoring

The figure on this page (above) shows the daily heating consumption pattern of block 1 of Hauffgasse 37-47 (blue), compared with the outdoor temperature pattern (red). The measurements show a plausible correlation between the increase in heating demand and the decrease in outdoor temperature. The curve showing the electricity generated on 2 summer days (see graph at the top of this page) reflects the solar radiation on the PV system in Hauffgasse during these days. The fluctuations are the result of lower levels of radiation due to temporary cloud cover.

Image above:
Course of daily heating demand and outdoor temperature in February 2019 (winter month). (Hauffgasse block 1).

© AIT

PV-power generation 08.08.2019 and 09.08.2020, Hauffgasse - Block 1



Image above:
Course of power generation
of locally installed PV modules
on two consecutive days in
(Hauffgasse Block 1).

© AIT

Mobility monitoring of e-forklift trucks

Siemens Mobility replaced ageing diesel-powered forklifts with six subsidised e-forklifts. Over 2 years, Smarter Together monitored the resulting energy savings and reductions in CO₂ emissions. With 6,870 hours of operation per year, this results in an annual energy saving of 79.5 MWh (equivalent to the average electricity consumption of about 23 households in Vienna). The reduction in CO₂ emissions resulting from the switch to electricity is around 25 tonnes per year for electricity from the national public grid and 34 tonnes for green electricity.

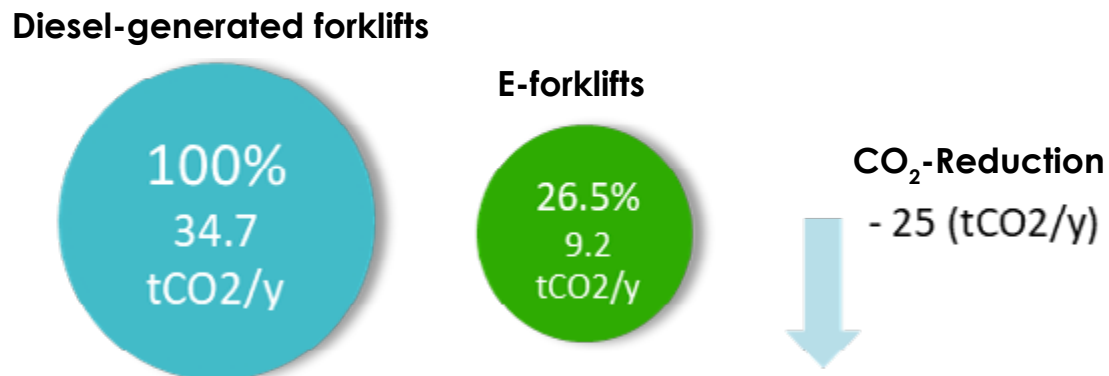
Lessons Learned

Monitoring contributes significantly to a better understanding of the effects of various measures. This benefits policymakers, the economy and users. The success of monitoring depends largely on communication with individual actors, as it requires a large amount of data, which in turn is collected and collated by different institutions. In addition, different data collection systems, responsibilities and data protection concerns must

be taken into account. Until the flow of data finally takes place, many conversations are needed in which the framework conditions have to be clarified.

There is a need for a uniform approach to monitoring energy consumption and production. A scientifically sound monitoring concept must be established in advance.

Measures that aim to change mobility behaviour need a lot of time to have an effect as getting people to change their habits takes a long time. Therefore, the effect can only be roughly estimated within projects (even with a 2-year monitoring period after the implementation of the measures). It was also found that only a few users can be surveyed on measures implemented in a small area.



Replication

Project monitoring takes place at various levels and requires the installation and networking of hardware such as consumption meters, as well as processes and knowledge management (human resource development). The individual monitoring steps have been documented and made available for future projects. Experiences from working with different analysis programmes have also been incorporated, as have procedures for individual monitoring phases. Future renovation projects can benefit from the many findings and implement promising approaches right from the start. In particular, the monitoring results also provide important argumentation and decision-making bases for politics and business.

Image above:
Annual reduction in CO₂
emissions through the use of six
e-forklifts.

© AIT



Replication and the harvesting method



Waltraud Schmid
Urban Innovation Vienna
GmbH, Energy Center



Petra Schöffmann
Urban Innovation Vienna
GmbH, Energy Center



Viktoria Forstinger
Urban Innovation Vienna
GmbH, Energy Center

Image above:
Harvesting workshop on
refurbishment, 2019

© UIV

Ensuring the sustainability of project results

Projects generally have a limited timeframe and scope. In 2019, Smarter Together Vienna was essentially able to conclude its 3-year implementation phase (2016-2019), during which time more than 40 pilot projects were implemented. However, the numerous innovations created within the framework of the project should not end at this point, but should be continued and rolled out even after the end of the project. This also corresponds to a central concern of the EU with regard to Horizon 2020 projects, that being to initiate developments that have a lasting effect and can be carried on in the participating cities and institutions and also transferred, copied and multiplied further afield. The term 'replication' is often used for this purpose.

The project partners have attached great importance to the issue of replicability of the results and experiences gained from Smarter Together so that these results and experiences can be applied beyond the end of the project and continue to provide benefits.

The basic intention was to consider the possibilities and conditions for replication as early as possible in the process, to evaluate projects and processes continuously through dialogue and to record findings. During the implementation phase, exploratory projects that had already been completed were subjected to an intensive, often process-oriented evaluation in order to identify possibilities and potential for introducing further topics and projects. The replicability of projects and experiences depends on the one hand on the prevailing legal and economic conditions and on the other hand on the support of key organisations and people. As a result of good project dynamics, intensive learning governance and the continuous involvement of employees of the City of Vienna and the partner organisations, numerous follow-up activities, projects, strategic developments and even funding programmes have already been initiated or implemented.

Smarter Together measures

- ensure sustainability of project results through process-oriented knowledge management by project staff (governance learning)

- ensure structured topic-specific knowledge management through special formats (harvesting workshops and peer-to-peer learning).

What can be replicated?

Replication often refers first and foremost to technological innovations. In the context of Smarter Together, however, it became apparent that many innovations are linked to so-called 'soft factors'. Also, social innovations, including at the level of governance, are essential for a successful roll-out of smart city developments. The Smarter Together pilots thus promoted not only technical but also organisational, institutional and procedural innovations (for example, in the context of retrofitting and refurbishment of social housing or e-mobility activities).

International exchange

Discussion of the replicability of the various pilot projects was also conducted at international level. In several workshops with the partner cities of Lyon, Munich, Santiago de Compostela, Sofia and Venice, as well as other cities from smart city lighthouse projects, the question of favourable conditions for the replicability of the solutions was explored.

Obstacles and barriers were examined to identify commonalities between different cities, experiences were exchanged and viable approaches to finding solutions were identified. Furthermore, these network meetings were also used for peer-to-peer learning for representatives of the energy and housing industries and other project partners.

Integration of replication activities into the project structure

Replication is supported in Smarter Together by the fundamentally process-oriented structure of the project (with the emphasis on learning governance) in the participating cities. Also, two specific work packages – 'Integrated

Strategies in Follower Cities' and 'Replication of Smart City Solutions' – were dedicated to this topic in the project proposal. In Lyon, Munich and Vienna, a separate work assignment carried out in parallel to the pilot projects focused on enhancing understanding of ways of achieving successful replication on a larger scale.

“Kapieren statt Kopieren.” (engl.: “Not to copy but to understand.”)

Bernhard Klassen, City of Munich
with regard to replication

In order to enable the partners to recognise and use opportunities and knowledge generated by pilot projects as early as possible, the 'art of harvesting' concept was used in Vienna. This offers an effective method for increasing the knowledge levels of the people and institutions involved, sharing and consolidating knowledge within the group and contributing to institutional learning and further development. The term 'harvesting' stands for the collection and effective application of experiences and results. With the 'art of harvesting' concept, co-creation aspects, which run like a thread through the entire project, were also applied.

Art of harvesting workshops

To support individual and collective understanding and learning, harvesting workshops were organised for the most important pilot projects. These workshops were held either after or shortly before the end of a pilot project in order to bring it to a conclusion and to jointly take stock of the achievements.

Procedure of a workshop

Depending on the complexity of the topic and the size of the group, a workshop lasts between half a day and 1 day, is organised in close consultation with the respective task leaders and is adapted to the specifics of the project and

Stakeholder-Koordinierung & technische Aspekte

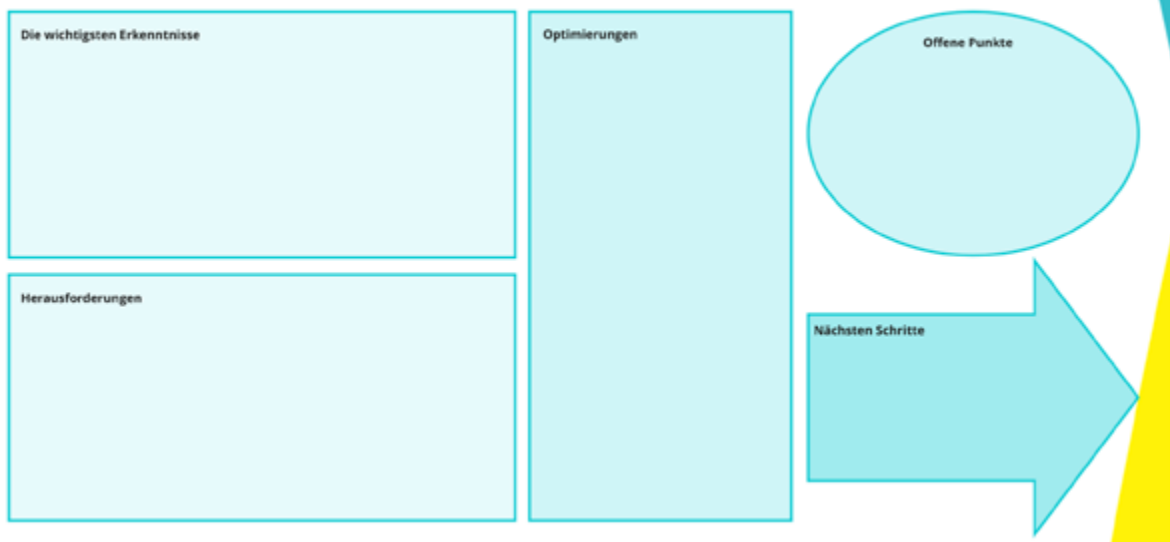


Image above:
Template for a digital flipchart for
a harvesting workshop, 2020.

© UIV / Viktoria Forstinger

the composition of the group. The group ideally includes all persons and institutions involved in the pilot project. In this project, the group sizes varied between 5 and 20 people. During the workshop, the participants carefully outline and reflect collectively on the whole process, collect and share individual and collective experiences, and identify suggestions for improvement and lessons learned for possible follow-up projects. The workshops end with a discussion on possible next steps and potential areas for optimisation. In preparation for a workshop, two or three topics or aspects are usually identified for closer examination and discussion. Consecutively, the following questions are then raised for each topic:

- the most important findings
- challenges
- potential for optimisation
- open points
- next steps.

The content contributed by the participants is continuously recorded (usually graphically) by the facilitator.

Workshops held so far

In the Viennese part of the project, nine harvesting workshops have been held so far for a total of about 85 participants.

The following is a list of the topics discussed:

- data platform
- energy
- Siemens Industrial logistics
- Austrian Post
- the WienMobil Station
- renovations
- e-car sharing
- the school extension / zero-energy gym
- monitoring.

Sustainable results

The fact that Smarter Together Vienna has already produced a large number of sustainable project ideas and experiences is shown by a summary of the various ongoing activities in the form of a replication chart in the following chapter.



Lessons Learned

- The continuous examination from an early stage of key aspects relevant to the replicability of the pilot projects and the constant striving for improved effectiveness are essential success factors for the sustainable impact of the project and the dissemination of its results.
- Exchange with other cities on comparable pilot projects gives a clearer view of the essential parameters for success and the situation of one's own project.
- Openness, trust and a project culture based on co-creation and joint improvement are basic prerequisites for successful harvesting.

Image above:
Smart Cities & Communities
Lighthouse network event in
Lyon, 2019.

© on stage

“Art of Harvesting is an effective way to share and communalize results and experiences within groups of different sizes, fostering institutional learning.”

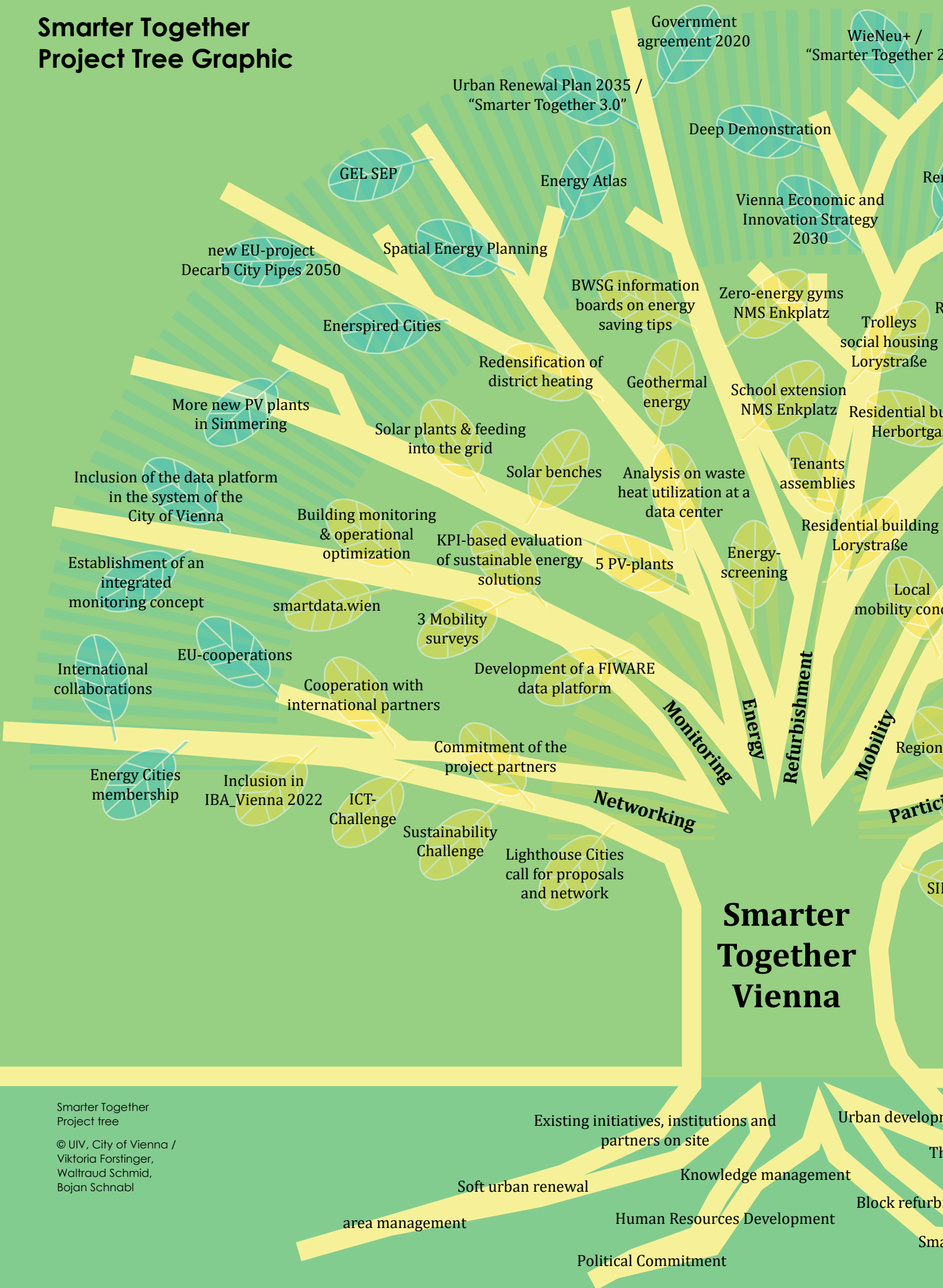


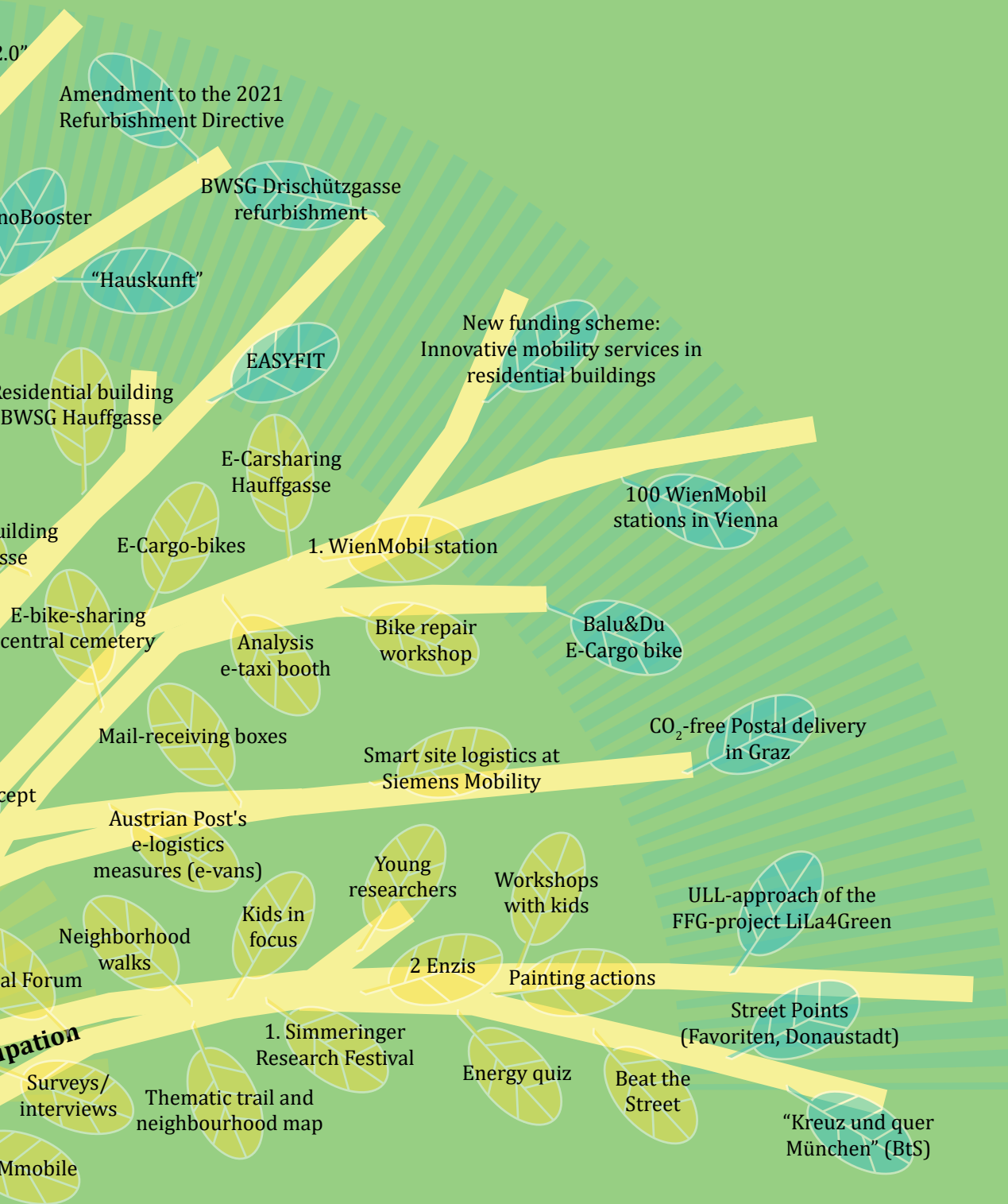


Part IV

Smarter Together 2.0: smart next steps

Smarter Together Project Tree Graphic





Projects within the framework of Smarter Together

Further measures and projects

ment plan 2025

Thematic concept Mobility

ishment

art City Vienna Framework Strategy

Strategic basis

Urban Mobility Guideline

Urban Energy Efficiency Programme 2030

Energy Framework Strategy 2030



Replication Chart

Smarter Together sustainability in 50 steps

Image above:
WieNeu+ project area
© City of Vienna

Smarter Together has given a big boost to the City of Vienna on many levels. With around €7 million in EU funding and total investment of over €80 million in Vienna alone, it has provided important incentives for urban renewal, and not only in Simmering. Hence, the EU funding did exactly what it was supposed to do.

The following summary lists all results of the project in Vienna and follow-up projects. With more than 50 items, it demonstrates the continuing positive project dynamics. These knock-on effects and follow-up projects are one of the main justifications for launching further projects of the magnitude of Smarter Together, with funding from the European Union and other bodies.

Continuation of Smarter Together / political commitment

1. WieNeu+ / „Smarter Together 2.0“

In September 2020, Vienna launched a new urban renewal initiative under the name WieNeu+. It promotes holistic urban renewal at neighbourhood level. WieNeu+ is directly related to Smarter Together; the relevant municipal council resolution of June 2020 refers to 'Smarter Together 2.0'. The first project area of WieNeu+ (the final title) is Innerfavoriten, the most historic part of the district of Favoriten. Implementation starts in 2021. Further areas are defined in the new government agreement of November 2020.

2. Government Agreement / Smarter Together 3.0

The November 2020 city government programme contains numerous fields of action that were the subject of activities in Smarter Together: from the smart city concept to ICT solutions and direct participation of children. In the area of climate protection in the housing and urban renewal sectors, Vienna is striving to become a model city, while remaining affordable for its residents.

This goal will be achieved by focusing on renewable energy sources, PV systems on municipal buildings and e-car sharing, among other things. In addition to the renovation initiative 'Wir SAN Wien' (which translates as both 'We are Vienna' and 'We refurbish Vienna') implemented within WieNeu+ and the new service point for renovations called 'Hauskunft' (House Information or House Future), the programme mentions the new Urban Development Plan 2035 to be developed under the title 'Smarter Together 3.0'.

3. "Deep Demonstration"

The conceptual work on WieNeu+/Smarter Together 2.0 was made possible by the EU-funded EIT Climate-KIC programme 'Deep Demonstration', which provided a framework for key actors in the city administration to network with each other and for their projects to achieve climate and smart city goals. This goal of Deep Demonstration – accelerating the city's transition to sustainability – was also endorsed by the city council in January 2020.

"Replication" on strategic and legal level ene

4. Smart City Vienna Framework Strategy

The central strategy paper setting out the overarching long-term strategy for Vienna, which was first adopted in 2014, was updated in 2019 on the basis of a monitoring process in which Smarter Together was involved. As a result, particular importance was attached to the topics of citizen participation and data management.

5. Vienna 2030 – the economic and innovation strategy of the City of Vienna

In this Viennese strategy document published in 2019, a total of six key areas were defined. One topic mentioned in this strategy, 'Smart solutions for the urban living space of the 21st century', relates directly to the holistic approach to urban renewal applied by Smarter Together in Simmering.

6. Urban Mobility Guide

Several pilot projects from Smarter Together were highlighted as best practices in this guide.

7. Concept of spatial planning of energy.

Lessons learned from Smarter Together are highlighted as key inputs in this policy paper, which builds on the Vienna Urban Development Plan 2025 (STEP 2025).

8. The 2021 amendment to the Renovation Ordinance

With the 2021 amendment to the 2008 Renovation Ordinance, the implementation of hydraulic balancing and the replacement of circulation pumps and hot water circulation pumps with more efficient models in central heating systems will be subsidised for the first time (as a result of the knowledge gained from Smarter Together). The ordinance also includes measures related to the transition to more efficient alternative energy systems, the conversion of certain subsidies to one-off payments to make them more attractive and easier to plan, an increase in subsidies for the thermal-energy renovation of residential buildings and subsidies for the elaboration of a holistic renovation concept for residential buildings.

9. Hauskunft

On 1 October 2020, the free advisory service, 'Hauskunft' (House Information/House Future) which is aimed at private owners of apartment buildings, flats and single-family houses was launched. A result of the EU-funded RenoBooster project (see below), it was integrated into the operations of wohnfonds_wien on 1 April 2021 (www.hauskunft-wien.at).

Organisational measures or 'learning governance' within the City of Vienna administration

10. Knowledge management

Some of the most important methodological and innovative approaches of Smarter Together have already been integrated into

Vienna's knowledge management, i.e. 'learning governance', as outlined above in the descriptions of the strategies and funding programmes.

11. The smartdata.wien data platform

The smartdata.wien data platform has already been formally integrated into the IT system of the City of Vienna (Vienna Digital department) and used for the IoT.

12. Membership of Energy Cities

Thanks in part to the Smarter Together best practice experience, cooperation within the Energy Cities network was formalised with Vienna becoming a member in 2019.

13. Replikation at Wiener Wohnen

Wiener Wohnen and wohnpartner are committed to replication of the results of Smarter Together. Former Smarter Together project manager, Julia Girardi-Hoog has held a strategic management position at Wiener Wohnen since March 2019 and is thus able to integrate many of the findings into the day-to-day running of the organisation. This goes hand in hand with Wiener Wohnen's best practice-based cooperation with wohnpartner. One result is the decision to install more PV systems on municipal buildings.

14. New insights for future school projects

The experiences from the Enkplatz school extension (construction of zero-energy gymnasiums) were used by the relevant bodies (WSE, WIP) to define criteria for further renovations or construction of new schools. Above all, the findings on how to create a liveable environment related to temperature in schools are becoming increasingly important.

15. Energy planning

The Department for Energy Planning (MA 20) referred to the experiences of Smarter Together, among other projects, when discussing the development of strategies and projects in other districts. For the district of Floridsdorf, data was prepared and maps generated in

the same way as had been done in Smarter Together. In addition, knowledge was gained regarding procedures for energy planning in existing buildings. This strengthened the communication between MA 20, the municipal utility providers and other partners (including other energy suppliers).

16. Energy atlas

MA 20 is currently preparing the first static energy atlas for the whole city, based on the energy screening carried out in Smarter Together. This atlas will be further developed into a dynamic model as part of the GEL-SEP project (see below).

17. New insights through monitoring

The monitoring will provide all partners, especially the municipal administration, with valuable long-term experience. The monitoring of energy consumption before and after the building refurbishments has shown that percentages of energy saved can reach double digits through improvements in building services, while similar amounts of energy can be lost if these aspects are not tackled during refurbishments. In WieNeu+, this aspect is to be addressed more intensively.

18. IBA_Wien 2022

Smarter Together is one of the lighthouse projects at the International Building Exhibition Vienna 2022.

19. Knowledge exchange on Smarter Together has taken place with Austrian cities such as Innsbruck and Graz.

20. New funding scheme for innovative, energy-efficient mobility offers in residential buildings

In February 2020, two new mobility funding schemes were launched by the City of Vienna. The 'Innovative, energy-efficient mobility offers in residential buildings' scheme specifically supports participatory e-car sharing projects in larger residential complexes. The aim is to promote a total of 10-15 such projects in Vienna. The experiences

of the e-car sharing project set up in the BWSG Hauffgasse housing complex as part of Smarter Together provided an important impetus for the development of this programme, which will apply the findings from the Hauffgasse project.

EU-funded follow-up projects

21. RenoBooster

Partly as a result of Smarter Together, Vienna has managed to bring another EU-funded Horizon 2020 project to the city. The RenoBooster project promotes housing renovation in the private sector. It started in May 2019, runs for 3.5 years and has a budget of €1.9 million. As a result of this, the 'Hauskunft' service was launched on 1 October 2020 (see above).

22. Decarb City Pipes 2050

This project brings together cities from across Europe for the first time to dialogue on spatially differentiated transition roadmaps for decarbonising urban heating and cooling systems by 2050. It takes up the lessons learned from the Smarter Together renovation projects regarding the need for better integration of heating systems and heat supply and the promotion of holistic strategies, and continues Vienna's cooperation with Munich. It also addresses key questions on the future use of gas and gas infrastructure (phasing-out of fossil gas in the heating sector, dealing with green gas). Seven cities – Bilbao, Bratislava, Dublin, Munich, Rotterdam, Vienna and Winterthur – with quite heterogeneous starting positions are joining forces within the project in order to learn from each other and work out innovative answers. Within the respective cities, the project brings all energy-relevant actors to the table to address the issues together.

23. Regional Energy Demand Analysis Portal (REDAP)

In 2020, AIT launched the REDAP project with partners from Ireland and Sweden. This deals with the spatio-temporal assessment of the energy demand of buildings and

mobility in urban areas. The portal is being tested in various urban case studies and it is planned to apply it to Simmering in order to demonstrate the effectiveness of smart solutions for buildings and mobility at district level.

24. EASYFIT

EASYFIT is a Horizon 2020 project proposal submitted by AIT together with other EU partners, for which experience gained in building renovation in the Smarter Together project was used. Its focus is on facilitating and accelerating the building renovation process of multi-family dwellings.

State-funded follow-up projects

25. Green Energy Lab - Spatial Energy Planning (GEL SEP)

The research project 'Spatial Energy Planning for Heat Transition' aims to help achieve a breakthrough in the use of spatial energy planning as a steering tool for urban planning and decarbonisation of heat supply through the development of digital base maps. The energy screening carried out as part of Smarter Together provided an important contribution to the development of a dynamic energy/heat atlas and the underlying data on which this atlas is based could be massively expanded and improved. See also www.waermeplanung.at.

26. Enerspired Cities

The energy screening and its connection to the data platform contribute to increasing the availability of data for cities. The national research project Enerspired Cities has done similar work on metadata with the aim of developing a concept for open and harmonised access to data for spatial energy planning.

27. LiLa4Green

Within the framework of this project, AIT (responsible for project management) supports the realisation of green-blue infrastructure projects in the 10th and 14th districts of Vienna. One of the focal points is the involvement of users in a ULL. In

addition, the project is dedicated to the use of virtual reality tools and monitoring of implementation.

28. Model for Analysis of Energy Demand for Cities (MAED-City)

AIT has prepared the first version of the bottom-up tool MAED-City, which performs integrated sectoral energy demand analysis for regions, cities and districts. This supports the decision-making process in the preparation of sustainable energy strategies and decarbonisation scenarios. The results of Smarter Together in the area of building renovation are used to calibrate the tool with regard to the impact of energy efficiency and local renewable energy measures. Further adaptations for the application of the tool to the planning of positive energy districts are underway.

Commitment and engagement of the project partners

29. BWSG

Based on the refurbishment of the Hauffgasse 37-47 housing complex, BWSG is implementing an ambitious rehabilitation process for some of its other properties. This includes the use of best practices from Hauffgasse such as the early involvement of the tenants in a mediation/participation process (by wohnbund:consult) as well as the development of a battery energy storage system as was done in the neighbouring housing complex in Drischützgasse. BWSG is expanding provision of e-car sharing within its housing estates and has involved its employees in organisational learning through a Smarter Together district walk.

30. Wien Energie

Wien Energie applied the insights and knowledge gained from the design of the two data centres to the analysis of the district heating network in Simmering and the use of waste heat in other areas. It also entered into negotiations with other data centres. In addition, the concepts of return heat utilisation and the integration of renewable energy sources into the grid were further developed. They are

to be implemented in other parts of the city.

31. KELAG Energie & Wärme

The renovation of the Hauffgasse complex and the associated monitoring led to measures to increase the efficiency of the local district heating network. In addition, KELAG Energie & Wärme explored the integration and implementation of PV systems on high-rise buildings.

32. Wiener Linien

Wiener Linien has already opened four more WienMobil Stations in Vienna and will further expand the network in 2021. After a pilot phase with seven WienMobil Stations offering different mobility service options, a network of 100 WienMobil Stations is planned to cover the whole of Vienna.

33. Siemens Mobility

At its Leberstraße site in Simmering, Siemens Mobility has continued to develop Smarter Together initiatives related to on-site industrial logistics and has acquired additional e-vehicles (e-forklifts, e-cars for internal mail, e-transporters for semi-finished wagons). An analysis of potential energy savings in each assembly hall was also carried out. Finally, Siemens systematically motivates employees to help shape innovative ideas, as the involvement of employees in project development has already proven to be very productive, making the site an even more attractive example for European industry.

34. New PV plant for Siemens Mobility

Siemens Mobility built a 500-kWp PV plant in 2020. It was thus able to implement a Smarter Together idea of installing a PV system on a newly constructed building, although not within the framework of the project.

35. Siemens Mobility and the Sustainability Challenge

Siemens Mobility also participated in the 2019/20 Sustainability Challenge, involving seven young students in a green energy solution development

initiative. During a district walk, the students were given insights into the Smarter Together project.

36. Die Österreichische Post

With the commissioning of the new Austrian Post logistics centre in Kalsdorf, Styria, the modernisation of the parcel delivery fleet will also begin and around 100 new e-vehicles will be purchased. The conversion will be completed in August 2021, so that parcels in the city of Graz can then also be delivered CO2-free. A total of around 160 e-vehicles will then be in use for Austrian Post in Graz. As part of the 'City Hub Graz' pilot project, parcel delivery using e-bikes will be carried out on a test basis in the city centre of Graz from June 2020.

37. Wohnbund:consult

wohnbund:consult, which is working closely with BWSG at its Hauffgasse housing complex, has included the e-car sharing model in a number of other housing projects as well as in a short film on the subject.

38. GBV (Österreichischer Verband Gemeinnütziger Bauvereinigungen)

GBV has included the Smarter Together e-car sharing model in its training material for innovative housing ideas.

39. Zukunftsoffensive Verkehr und Infrastruktur/Future Initiative for Transport and Infrastructure (ZOVI)

ZOVI is a platform of leading Austrian companies from the transport, energy, logistics and digitalisation sectors. In its study 'One Infrastructure', PwC performed a scientific analysis of the above-mentioned areas and ranked the European countries. On this basis, the ZOVI companies have made recommendations for action which should move Austria from the middle of the rankings towards the top. One of these fields of action is the networking of companies through cross-sectoral projects. Smarter Together is an illustrative example of this, as from ZOVI's ranks, Wiener Stadtwerke, Siemens and Austrian Post all participated in it.

Concrete follow-up projects

40. Beat the Street

Beat the Street was replicated by Munich, which developed its own technology under the name 'Kreuz & Quer'. It was used again in Vienna under the new name 'Climate Heroes'.

41. Solar benches

Einige Bezirke Wiens wollen die Installation der Solarbänke replizieren. Insbesondere der 21. Bezirk beabsichtigt, so rasch wie möglich Solarbänke zu installieren.

42. Some districts of Vienna want to replicate the installation of solar benches. In particular, the 21st district intends to install solar benches as soon as possible.

Local cooperation between educational institutions is widely pursued in Vienna. In Simmering, Smarter Together had so many education-oriented activities that it was part of this strategy (<https://www.smartertogether.at/bildungsgraetzel-enkplatz/>).

43. Klimaaktiv

The klimaaktiv mobil consulting programme 'Mobility management for companies, property developers and fleet operators' supports investments in environmentally friendly mobility solutions and promotes the purchase of e-cars and e-charging infrastructure. It is implemented by the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology. An information sheet on the best-practice example in the BWSG Hauffgasse complex is intended to motivate other property developers to follow suit.

Internationally, Smarter Together Vienna promotes replication through networks such as...

44. Horizon 2020 Smart Cities and Communities (SCC1) collaboration groups set up joint workshops to strengthen the replication potential of the Vienna part of Smarter Together and engage in



Find here the e-car sharing short film!

knowledge sharing and exchange via the European Innovation Partnership of Smart Cities and Communities.

45. Smart Cities Information System (SCIS)

46. Club of Cities

47. Energy Cities

48. Smarter Together Vienna participates in international smart city conferences in venues such as Barcelona (Smart City Expo), Stavanger, Brno and Budapest.

49. Smarter Together Vienna promotes replication through bilateral contacts with international partners such as Munich.

50. International networking through BABLE (www.smartertogether.at/bable) and cooperation within the framework of international (virtual) visit programmes of Smart City Lighthouse Cities (such as SPARCS)

51. International networking through Construction21.org

52. Project presentation as part of Climate Action Stories in preparation for the Austrian World Summit 2021 of the Arnold Schwarzenegger Climate Initiative (<https://www.climateactionstories.com/cities-regions/smarter-together-vienna>)

53. Smarter Together Vienna promotes replication through international scientific cooperation. For example, the project was included in a European best practice collection in 2019 and is the subject of various scientific articles in international journals.

54. International networking by supporting students from European universities with work on topics such as smart cities and children, mobility stations or ULLs (<https://www.smartertogether.at/smart-city-und-kids/>)

Image on the right:
Project manager Stephan
Hartmann at the press event for
the refurbishment Initiative.



© PID / Votava



WieNeu

- Blocksanierungsgebiete
- Sanierungsgebiete
- Aktuell geförderte Projekte
- Aktuell fertiggestellte geförderte Projekte

- 1 Karmarschgasse 46
- 2 Karmarschgasse 47
- 3 Karmarschgasse 49
- 4 Nelkenhofgasse 23
- 5 Eckhofgasse 18
- 6 Eckhofgasse 16
- 7 Neudorfplatz 3-5
- 8 Seidenburggasse 10
- 9 Leimbühnergasse 29 - 30
- 10 Leimbühnergasse 59
- 11 Stadlerhof
Leimbühnergasse 14
Reichengasse 41
Reichengasse 41 A
Reichengasse 41B
Reichengasse 41
- 12 Jägergasse 36
- 13 Arthaberplatz 7
- 14 Reichenhofgasse 53
- 15 Leimbühngasse 49

wohnfonds_wien  

WieNeu

- 16 Gellert Hof: Innenhof
- 17 Gellert Hof
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Stadt Wien  



Smarter Together 2.0 becomes WieNeu+

Image above:
Press event for the refurbishment
initiative

© PID / Votava

Renovation initiative with smart inspiration

On 16 September 2020, the City of Vienna launched its renovation initiative Wir SAN Wien (We are/ refurbish Vienna) with two new programmes: the urban renewal programme WieNeu+ (Vienna New+/ As New+) and the Hauskunft (House Information/House Future) advice centre. The latter provides information on renovation specifically for private house and flat owners. This is intended to make the city even more liveable and, above all, climate-friendly in the tradition of gradual urban renewal.

With WieNeu+, an entire neighbourhood is being made fit for the future, with the population again being intensively involved. New topics and opportunities are however also emerging such as the circular economy or special funding for climate-friendly grassroots activities in the district of Favoriten.

Both programmes are closely linked to Smarter Together and two key findings from the project: on the one hand, that holistic urban renewal needs to take place at neighbourhood (Grätzl) level and, on the other hand, the realisation that private flat and house owners – who were not

targeted by Smarter Together – must be addressed in order for Vienna to achieve the important climate-relevant renovation goals of the EU.

The press release states:

Together with Head of District/District Mayor of Favoriten, Marcus Franz, City Councillor for Women's Affairs and Housing, Kathrin Gaál announced the start of the refurbishment initiative in the 10th district. "With the WieNeu+ programme we are making a district fit for the future and with Hauskunft we are creating a completely new contact point with free advice for everyone who wants to renovate houses in Vienna," said Gaál.

And Smarter Together was also explicitly mentioned:

"The Smarter Together/Gemeinsam g'scheiter project in Simmering served as a successful pilot project with an exemplary effect. In this EU-funded urban renewal initiative, upgrades were made to a neighbourhood in Simmering."

'Wir SAN Wien' is the future of urban renewal

"The City of Vienna has more than 40 years of experience in the



field of housing renovation and neighbourhood development with its model of gradual urban renewal, the block renovation instrument of wohnfonds_wien and its Urban Renewal Offices (GB*) which provide services for local residents. With the thermal-energetic housing renovation (THEWOSAN) subsidy, the City has also been actively promoting climate protection for many years.

In the past 10 years alone, around 1,500 subsidised housing refurbishment projects encompassing some 61,500 flats have been completed. The total construction costs of about €2.1 billion were subsidised to the tune of more than €1.2 billion (of which about 1/3 was a provincial loan and 2/3 was a grant). Every year, about 379,000 tonnes of CO₂ are saved through the subsidised renovation of residential buildings.

With the Wir SAN Wien renovation initiative, the City is taking the next step and launching the urban renewal of the future. The focus is on the renewal of residential buildings and entire districts over the coming decades. The aim is to maintain a high quality of life in Vienna – even in the face of increasing heat in summer and climate change." [End quote]

*Press release of the City of Vienna,
16.09.2020*

Image above:
District Chairperson Marcus
Franz and Deputy Mayor and
City Councillor for Women's
Affairs and Housing Kathrin
Gaál at the press event for the
redevelopment offensive.

© PID / Votava



Together one step ahead of the future



Stephan Hartmann
Project manager since
Februar 2019,
Taskleader mobility

Review and outlook

Smarter Together is Vienna's contribution to smart city renewal of existing urban infrastructure and is made up of over 40 individual projects. The project, funded by the European Union, is linked to Vienna's Smart City Framework Strategy and addresses global challenges such as climate change, urbanisation and digitalisation on the one hand and local needs and conditions on the other.

Five years after the start of the project, Smarter Together has had an impact far beyond the boundaries of the participating cities, and yet it has always been deeply rooted in the local area, precisely because it places the people on the ground and the shared issues at the centre of its considerations and activities.

Smarter Together also provided the City of Vienna with a technical and social testing environment in which theoretical potential could be evaluated and transformed into concrete solutions. Numerous follow-up projects launched by the city and the various project partners now tie in with selected aspects and (sub-) projects and deepen the work done in these areas. The comprehensive

urban renewal approach used in Smarter Together is reflected in Vienna's follow-up programme WieNeu+ (the programme is still called 'Smarter Together 2.0' in the relevant municipal council resolution).

In autumn 2020, the new programme of the 'Progressive Coalition' government for the City of Vienna stipulated the need to achieve climate neutrality by 2040. Not least because of this, the areas dealt with in Smarter Together will become even more important in the coming years.

This publication provides a variety of insights into the very methods, processes and results that have turned this European Union-funded project into a highly regarded initiative with a focus on technical as well as social innovations. Particularly valuable are the lessons learned from the project.

These lessons should always be understood contextually and as part of a holistic approach. It is clear that even the best 'good practice pilot projects' usually have to go through further quality management loops or at least adaptation to ever-changing external conditions before they can be further rolled out or replicated. This applies to projects in public and non-

Image above:
Beat the Street Kick-off event
(2017)

© PID



profit sectors as well as to those in the private sector, and is also the case for Smarter Together. However, good practice examples can always serve as inspiration. And the more than 40 sub-projects of Smarter Together certainly do that!

A thank you to everyone

This final report is primarily intended to highlight the work done by the people involved in the project from the city administration, research and the private sector, who have faced up to some of the biggest challenges of our time within the framework of this EU project. A technically demanding smart city project has thus become a comprehensive project for the future with a broad support base.

The publication is thus also an acknowledgement and a vote of thanks to all those who have contributed to Smarter Together, especially in Vienna.

A heartfelt thank you!

Image above:
Deputy Mayor Kathrin Gál and
Smart Together Vienna project
partners at the Smarter Together
Symposium (2019).

© Marton Zsolt

Webpages

project websites

Smarter Together Wien

www.smartertogether.at

Smart Together Lyon

<https://www.lyon-confluence.fr/fr/smarter-together-lenergie-sous-controle>

Smart Together München

<https://www.muenchen.de/rathaus/Stadtverwaltung/Referat-fuer-Arbeit-und-Wirtschaft/Europa/Smart-Cities.html>

Smart Together EU / Brüssel

<https://www.smarter-together.eu/>

Smarter Together Vienna

Prints

<https://www.smartertogether.at/mediathek/downloads-2/>

Films

<https://www.smartertogether.at/mediathek/filme-clips-projektpraesentationen/>

Media echo

<https://www.smartertogether.at/mediathek/medienecho/>

Press releases

<https://www.smartertogether.at/mediathek/presseaussendungen/>

Documentaions

<https://www.smartertogether.at/mediathek/dokumentationen-und-jahresberichte/>

Impelmentation report

<https://www.smartertogether.at/3-jahre-smarter-together-in-wien-simmering/>

Audio statements

<https://www.smartertogether.at/tour/audio/>

video statements

<https://www.smartertogether.at/ueber-smarter-together/stimmen/>

Social Media

Facebook

<https://www.facebook.com/SmarterTogether>, <https://www.facebook.com/smarter,wien>

Twitter

https://twitter.com/smarter_wien

Vimeo

<https://vimeo.com/user71145591>

Flickr

https://www.flickr.com/photos/smarter_together_wien/

additional links (choice)

Smartdata.wien

<https://stp.wien.gv.at/smartdata.wien/gis/>

Smart City Wien

<https://smartcity.wien.gv.at/site/smarter-together/>

GB*

<https://www.gbstern.at/themen-projekte/smarter-together/>

IBA_Wien

<https://www.iba-wien.at/projekte/projekt-detail/project/smarter-together>

Grätzelrad

<https://www.graetzelrad.wien/bike/smarter-together/>

<https://www.graetzelrad.wien/bike/raddu/>

UIV

<https://www.urbaninnovation.at/de/SMARTER-TOGETHER>

Austrian World Summit

<https://www.climateactionstories.com/cities-regions/smarter-together-vienna>

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Bojan Schnabl (MA 50 / WBF), Viktoria Forstinger (UIV), Linda Schneider (MA 25)

Editing & layout : Viktoria Forstinger (UIV), Bojan Schnabl (MA 50 /WBF)

Translation: Bojan Schnabl (MA 50 /WBF)

Proofreading: GOPA Com

Co-operation / the whole core team of Smarter Together Vienna:

Otto Eckl (MA 25), Viktoria Forstinger (UIV), Julia Girardi-Hoog (Wiener Wohnen), Daniel Glaser (MA 50), Ali Hainoun (AIT), Stephan Hartmann (MA 25), Herbert Hemis (MA 20), Andrea Kinsperger (MA 20), Arthur Mannsbart (MA 25), Hans-Martin Neumann (AIT), Wolfgang Ponweiser (AIT), Caroline Stainer (AIT), Andreas Tschismasia (MA 25), Waltraud Schmid (UIV), Bojan Schnabl (MA 50), Linda Schneider (MA 25), Petra Schöfmann (UIV)

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