



Deliverable n° 6.1.a – 2nd Part

Toolkit for local stakeholder assessment and involvement

SINFONIA

“Smart INitiative of cities Fully cOmmitted to iNvest In Advanced
large-scaled energy”

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List of abbreviations

ACC	Agenzia Casa Clima
BOZ	Municipality of Bolzano
CEN	European committee for Standardization
DoW	SINFONIA`s Description of Work
EIB	European Investment Bank
EURAC	European Academy of Bozen/Bolzano
G!E	Greenovate!Europe
IBK	Municipality of Innsbruck
IIG	Innsbrucker Immobilien Gesellschaft
IKB	Innsbrucker Kommunalbetriebe
IPES	Istituto per l'Edilizia Sociale
MAG IBK	Magistrat Innsbruck
NHT	Neue Heimat Tirol
PHI	Passive House Institute
SAT	Standortagentur Tirol
SEL	Società elettrica altoatesina SpA
TIGAS	TIGAS Erdgas Tirol GmbH
TIS	Techno Innovation South Tyrol KAG
TIWAG	Tiroler Wasserkraft AG
UIBK	Universität Innsbruck
WP	Work package



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EXPLANATORY NOTE – DEMARCATION OF DELIVERABLE 6.1A FROM DELIVERABLE 6.1B

The simultaneous delivery of the updated version of deliverable 6.1a and 6.1b suggests some words referring to their demarcation from each other.

The deliverable at hand has a focus on the **theoretical approach** of stakeholder involvement in SINFONIA. In D6.1a we evaluate the common and self-expressed goals of stakeholder involvement that have been reported in the first version. It contains a reflection on key messages for stakeholder involvement as well as a reflection of challenges and lessons learnt as experienced by SINFONIA's internal key stakeholders.

Deliverable 6.1b, on the other hand, has a focus on the **practical approach** of stakeholder involvement in SINFONIA. In D6.1b we describe and analyse applied involvement measures throughout the SINFONIA runtime including lessons learnt and recommendations for Early Adopter and Replication Cluster Cities as well as for other interested stakeholders.



PREFACE –MAIN CHALLENGES AND LESSONS LEARNT IN SINFONIA; THE VIEW OF THE PROJECT COORDINATOR

For the deliverable at hand we circulated a short survey form among the main key stakeholders of SINFONIA for the assessment of applied measures for stakeholder involvement, experienced challenges and lessons learnt (compare annex 2 and further explanations in the following chapters). Additionally, we asked Håkan Perslow for his perspective on the main challenges experienced throughout SINFONIA and his lessons learnt on that basis for his viewpoint as the project coordinator:

*“First, the main challenges related to **stakeholder dialogue and communication** have been that the **importance of it was not sufficiently recognised**, neither in the proposal and development of the project, nor in the two demo cities Innsbruck and Bolzano. SINFONIA was developed within FP7, the research and innovation programme of the EC, between 2007-2014. The call itself stemmed from previous initiatives, heavily focussing on individual technologies and systems. Therefore, it is natural that the core of the project has had a high emphasis on technology. However, a project of the scale of **SINFONIA**, with such ambitious and large-scale demonstration components, has a **significant impact on internal public processes** in the local societies in the demonstration cities. It is relatively easy to conduct a small project, as it does not substantially affect the “real world”. SINFONIA could not however be run isolated from the local contexts it was implemented in.*

In retrospect, the consortium as a whole should have focussed more on the importance of communication, since it has been a crucial prerequisite for the successful implementation of the project

*Secondly, **internal communication and collaboration between partners** within the cities have been challenging. The nature of SINFONIA with integrated and holistic solutions requires a new approach other than traditional thematic silo thinking. This fact is rarely recognised in Smart Cities, neither during the proposal phase, nor in initiatives such as Smart Cities Marketplace etc. Instead, focus is often on technical components, systems and business models. While these factors are important, the reality is that without a positive and constructive collaboration climate and culture within a city and between city administration and other involved organisations, none of the technical systems can be implemented. This aspect of SINFONIA was also not sufficiently addressed in the design of the project. My impression is that the local actors in Innsbruck and Bolzano have been able to overcome the traditional barriers, and in the end created very good schemes. However, perhaps with a facilitation of these processes, and common agreement of the challenges that SINFONIA posed to the organisations, the improved collaboration climate could have been achieved with less effort and struggle.*

*Thirdly, SINFONIA is a **research and innovation project**. This means that the demonstration projects are/were accompanied by research activities and a detailed and ambitious monitoring plan. Explaining and convincing the*



parties (both public and research partners) that the components of the project rely on each other has been a challenge. My impression is that we haven't fully been able to explain the need of the monitoring and analyses parts to the public actors and for example presented why a demonstration scheme could not just be changed because of internal priorities. We should also have put **more effort into explaining the working conditions of the public actors to the research partners**, so that they could understand why public actors might have difficulties in providing data etc.

Public policy research has during the past years pointed to the fact that the traditional way of organising public administration is unable to meet complex societal challenges. SINFONIA is a concrete example of this. Schemes and solutions in line with Smart Cities thinking cut across traditional boundaries both in legal, political, administrative and financial aspects. To be able to successfully implement Smart Cities solutions and schemes, new forms of collaboration between administrations within the municipality, as well as with other stakeholders, are needed. The prospect of continuing to scale up Smart city solutions in Innsbruck and Bolzano will therefore ultimately depend on the ability of all involved parties to continue and evolve the collaboration structures and processes which were established in SINFONIA.

What are my main lessons learnt?

- *SINFONIA is a communication project! The importance of communication cannot be underestimated in a project like this.*
- *Technology is not the problem! Basically, none of the demonstration projects that have faced challenges or have had to be amended was done so because of failure of the performance of the technical components and systems. The problems associated with implementation of the actions have related to legislation, collaboration, stakeholder dialogue or internal organisation. This is not recognised sufficiently in SINFONIA, or elsewhere when large scale demonstration projects are implemented.*
- *Recognise the importance of the difference of working cultures in different cities and countries! Cultural differences in organisations, communication and meeting traditions add a dimension to an already complex project. While EU-funded projects can be seen as 'European integration in the making', cultural differences should not be ignored as no project will in the end be successful without a good working culture."*

Håkan Perslow
SINFONIA Project coordinator



1. INTRODUCTION

The report at hand is based on the findings reported in Deliverable 6.1a – Part 1, which was published in May 2015, one year after the start of SINFONIA. Meanwhile we can look back to four more years of project experience which allows a retrospective view on the project including the evaluation of goals of stakeholder involvement and a reflection on implemented involvement measures.

Chapter 2 is dedicated to the evaluation of common goals and approaches of stakeholder involvement as applied in SINFONIA. In the first part of Deliverable 6.1a we published the partners' goals of stakeholder involvement. For the update version, we circulated a data entry form amongst the partners to evaluate their self-expressed goals of stakeholder involvement after five years of SINFONIA runtime. Chapter 2 also contains a reflection of previously reported key messages on stakeholder involvement that have been extracted from literature. By comparing "scientific" knowledge emanating from an idealized context with the "real-life" experiences in SINFONIA we tried to generate additional benefit for the Early Adopter and Replication Cluster Cities and hence, contribute to the facilitation of replication processes.

Chapter 3 highlights means of stakeholder involvement in the two demo cities Innsbruck and Bolzano. In the form of side specific reports we have a closer look on the personal interests for a participation in a smart city project like SINFONIA as reported in Deliverable 6.1a – Part1. For the deliverable at hand we asked key stakeholders of both demo cities if their specific interest in SINFONIA could be met after five years of project runtime. Furthermore, chapter 3 holds a reflection on challenges and lessons learnt as experienced by the local key stakeholders.

The core of work package 6 is the toolkit for stakeholder involvement, a web application that provides an insight into all applied methods for the involvement of the SINFONIA stakeholders. By publishing information on different approaches and performed activities including the possibility to download utilized and proven material the Early Adopter and Replication Cluster Cities are given the tools for a successful stakeholder process. Explanation about the toolkit and an instruction manual is available in chapter 3.



2. EVALUATION OF COMMON GOALS AND APPROACHES IN STAKEHOLDER INVOLVEMENT

2.1 REFLECTION ON THE PROJECT GOALS OF STAKEHOLDER INVOLVEMENT

Concerning SINFONIA's "Description of work" the main objective of work package 6 is the increase of local acceptance of innovative demonstration measures by involving economic, political and local stakeholders in the smart districts in Bolzano and Innsbruck.

In order to reach this specific goal, partners applied a set of methods and corresponding instruments throughout the project runtime. Stakeholder involvement started with stakeholder mapping and profiling as described in Deliverable 6.1a – Part 1. All local project partners conjointly developed two stakeholder maps, one for each demo city.

For the deliverable at hand, we circulated a data entry form amongst SINFONIA's internal stakeholders (compare annex 2) to evaluate the stakeholder processes including the partners' self-expressed goals of stakeholder involvement after five years of SINFONIA runtime. The following eleven partners participated in the survey:

- Standortagentur Tirol (district lead Innsbruck)
- Municipality of Innsbruck
- Neue Heimat Tirol
- University of Innsbruck
- Passive House Institute
- Innsbrucker Kommunalbetriebe
- Urban Institute
- EURAC (district lead Bolzano)
- Municipality of Bolzano
- Agenzia CasaClima
- Heidenreich Consulting

In Deliverable 6.1a – Part 1 we reported on the partners self-expressed goals of stakeholder involvement. In the beginning of the project, SINFONIA's internal stakeholders represented by the project consortium declared the following main goals:

- to generate a positive atmosphere
- to raise or secure acceptance of implemented measures
- to educate and to teach consumers



- to provide knowledge and to assist
- to collect potential ideas

In March 2019, we asked the partners if the self-expressed goals that they declared earlier in the project could be met. All of the eleven participants stated that at least one of the above listed project goals could be met. Figure 1 provides an overview on the achieved goals according to the participants of the survey. Nine partners indicated that a positive atmosphere among the partners could be generated. Likewise, nine partners confirmed that it was possible to provide and be provided knowledge and assistance. Six partners experienced that the applied involvement measures could raise or secure the acceptance of implemented technical measures. Six partners were able to derive ideas with potential for future propositions out of the collaboration with stakeholders. Five succeeded in educating and teaching the consumers of the SINFONIA implementation measures.

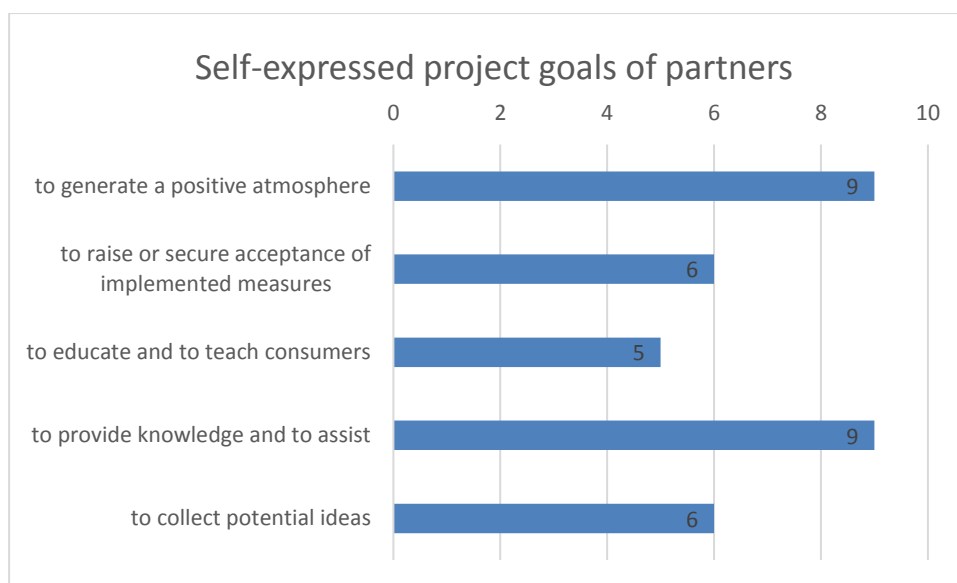


FIGURE 1 SURVEY FOR EVALUATION OF PROJECT GOALS, APPLIED STAKEHOLDER INVOLVEMENT MEASURES, CHALLENGES AND LESSONS LEARNT – ACHIEVED GOALS

2.2 REFLECTION ON KEY MESSAGES OF STAKEHOLDER INVOLVEMENT

In the first part of Deliverable 6.1a a selection of relevant key messages for stakeholder involvement was published in order to provide orientation. In the following, we take up the selection and associate the single key messages extracted from literature (references can be found in annex 3) with



experiences gained throughout the project runtime. This comparison of “scientific” knowledge with the situation in “real life” experienced in SINFONIA shall generate additional benefit for the Early Adopter and Replication Cluster Cities.

1. *A participation process is a benefit for every stakeholder due to reduced conflict and cumulative knowledge over market demand and needs.*

At the beginning of SINFONIA a big challenge was to bring everybody on board. Partners complained about the number of meetings and had doubts about the sense of them. Meanwhile, personal conflicts between the partners could be overcome and a good communication routine could be established. Partners now appreciate the positive and constructive work atmosphere.

In Innsbruck, the participatory efforts in SINFONIA strengthened the cooperation of the local players, which led to new cooperation beyond the project.

2. *Every [refurbishment] project will differ in size, type, economic-, cultural- or social characteristics. Therefore, every measure must be adapted individually for the situation at hand. Hence, most guidebooks put a special emphasis on a degree of flexibility that each method should inherit.*

In total, 15 refurbishment projects are part of SINFONIA. Each of them is bearing different characteristics, not only referring to technical issues but also, and predominantly, to the mix of tenants. In the course of the project, it became apparent that especially the contact with tenants requires a high degree of flexibility. The housing companies had to find and apply a series of individual solutions for the tenants of each of the refurbishment projects. In one building tenants even impeded the monitoring plans.

3. *For all levels of participation that exceed the basic level of information, it must be clear that no result of a participation process can be fixed from the beginning; a participation process will inevitably result in new results. Therefore, no decisions should be predefined.*

In SINFONIA, co-decision-making was only possible in a reduced way. Implementation measures were clearly defined in SINFONIA’s description of work and refurbishment plans had to be aligned with the Best Sheets. Hence, no open participation process in the proper meaning of the word was possible. Nevertheless, SINFONIA’s housing associations tried to consider some personal needs of the tenants (e.g. regarding the installation of ventilation systems).



Concerning the implementation of the monitoring concept for the energy performance of the SINFONIA apartments, tenants in Austria is given the right for co-decision-making in the sense that they are empowered to refuse the participation by law. Although Innsbruck's housing associations and the scientific consultants made a big persuasive effort not all tenants gave their approval. This factor was not considered in the working planning of SINFONIA but should be in future project applications.

4. External moderation is a key criterion to guarantee fair and neutral discussions between the stakeholders.

In the case of SINFONIA, the figure of the district lead is responsible for fair and neutral discussions between the internal stakeholders. In Innsbruck, the district lead is not directly involved in any implementation project. Hence, the district leader is a trustworthy person who pursues the overall success of the project. He is a neutral contact person for everybody and a diplomatic mediator between the project partners.

In Bolzano the situation is slightly different. The district lead EURAC has additional responsibilities in the project. EURAC is e.g. responsible for the monitoring of the refurbished building. For future projects it is recommendable to separate operational tasks from the managerial ones.

Furthermore, in many cases the project coordinator was able to mediate in case of conflicts between partners of different cities. Since the coordinator is not directly involved in the implementation, he is a suitable person for mediation between the partners (internal stakeholders). However, as self-reported by the coordinator from Sweden, working as a coordinator from a distance is difficult. A greater presence in the demo cities might be beneficial to fully understand the details and purpose of many different parts of the work.

5. The involvement action should start as early as possible in the process.

The importance of early involvement of stakeholders became apparent when newspapers in Innsbruck released negative headlines on refurbishment plans for SINFONIA. Newspapers proclaimed that SINFONIA leads to rent raises. The negative resonance from tenants and the concerned public could have been avoided or at least reduced by an earlier involvement of tenants and more effective PR on the local level by the SINFONIA partners.

As an answer to these negative press releases local communication teams were established in the demo cities aiming at bundling and coordination of communication activities at all different levels during the runtime of SINFONIA. A special focus of the local Communication Team in Innsbruck was on



the establishment of clear communication routines in order to channel the transfer of knowledge that is inherent to the project partners to “external” stakeholders, e.g. to tenants or to the general public.

6. *Participation structures should be confirmed until the refurbishment is finished and beyond to be able to react to failures and foster social bonding within the community.*

In both demo cities, participation structures were established prior to the refurbishment activities and were confirmed, with some adaptations, until their finalisation and beyond. Perpetuation of participation structures was also considered in the design of SINFONIA`’s tenant survey – including the consultation of tenants before and after the actual implementation of refurbishments.

In Bolzano, the municipality has appointed the figure of a tenants’ representative (trustee) as a mediator between building owners and tenants. The tenants` representative is living in the refurbishment buildings and is elected annually by the other tenants. He/she is responsible for the communication of every relational problem between tenants or issues regarding the building (maintenance, management) to the Municipality of Bolzano, the promotion of peaceful and harmonious relations between the tenants and the proposal of ordinary and extraordinary improvements related to the buildings to the municipal administration. The role of the trustee will sustain after the completion of the refurbishments. Having appointed a tenants’ representative helped to guarantee a flow of timely and transparent information. Besides, it has allowed the Municipality of Bolzano to operate in a climate of complete trust, preventing the emergence of possible conflicts between the tenants and the municipality.

7. *All tenants (from every social and cultural group) must be informed and invited to be part of the involvement process.*

Every single tenant has the power to critically delay the refurbishment. Hence, all tenants regardless of the social and cultural background have to be given the attention they require.

In the refurbished apartment buildings, a high proportion of tenants are of higher age. Involvement material was designed accordingly. No digital media was applied. The questionnaire surveys were kept short and in some cases personal assistants on site helped the tenants to fill out the questionnaires. In Bolzano all information material was bilingual.

The municipality of Bolzano has appointed a Tenants’ Representative as a mediator between building owners and tenants. Having understood the necessity of the role of mediator between the needs of the city and those of tenants, the municipality has chosen to entrust this role to tenants who already regularly provide such service for the local administration in the role of “trustees”.



8. *Different representatives within the stakeholder groups may have very different access to certain types of information. Thus, alternative methods may need to address these different groups with respect to stakeholder characteristics (social class, migration, type of business, size of business...).*

In Innsbruck, three elementary school were refurbished in the framework of SINFONIA. Hence, schools and their users (teachers and students) were identified as key stakeholders in Innsbruck. In order to involve this stakeholder group different involvement measures were applied (e.g. development and implementation of a school workshop program on SINFONIA`s smart cities, participation at different events, development of a quiz game). In the context of the “Young University – day of action”, an initiative of the University of Innsbruck founded in 2001 aiming at creating enthusiasm for science among children and adolescents at the age of 8 to 18 years, alpS twice (2015 and 2017) organized an ideas competition on the smart city of the future. On these occasions, several hundred pupils worked on small projects, focusing on “sustainable energy supply”, “renewable energies”, etc. Since we received such a positive resonance on the events, we decided to repeat the ideas competition in another context. Schools were invited to autonomously draft ideas or concepts on the smart city of the future in a format of their choice. The competition was advertised in the local newspaper, by bulk mail to all local schools and at several other occasion as e.g. the kick-off meeting of the Austrian research project K.I.D.Z.21 (<https://kidz.ccca.ac.at/>). Nonetheless, the competition flopped due to the lack of participants. It became evident, that the direct contact with students and teachers in the context of an open-door event is much more suitable than an intervention that requires that participants get active themselves. Apparently, schools and teachers are overloaded with free extracurricular offers and the motivation to participate in additional program points is very low.

9. *Architects, construction managers and similar executives should be personally available onsite.*

All housing agencies participating in SINFONIA organized counselling hours on-site. These counselling hours were held regularly, e.g. every Tuesday at a certain time. In the case of doubts, questions, complaints or similar concerns tenants could find a representative of the housing associations at their building site. This offer was well-received by the tenants.



10. Graphical support like thermo-graphic images or construction time-lines should be prepared in order to gain widespread acceptance and support for energy efficiency measures.

Thermo-graphic images and timelines were presented for every single SINFONIA building in the course of tenant assemblies - the classical instrument used by housing associations to inform their tenants about upcoming refurbishments. The focus of the meetings lies on transparency and preciseness of information, including technical solutions, costs or timescales. Figure 2 shows thermographic pictures of the SINFONIA object IN40 before and after the refurbishment.

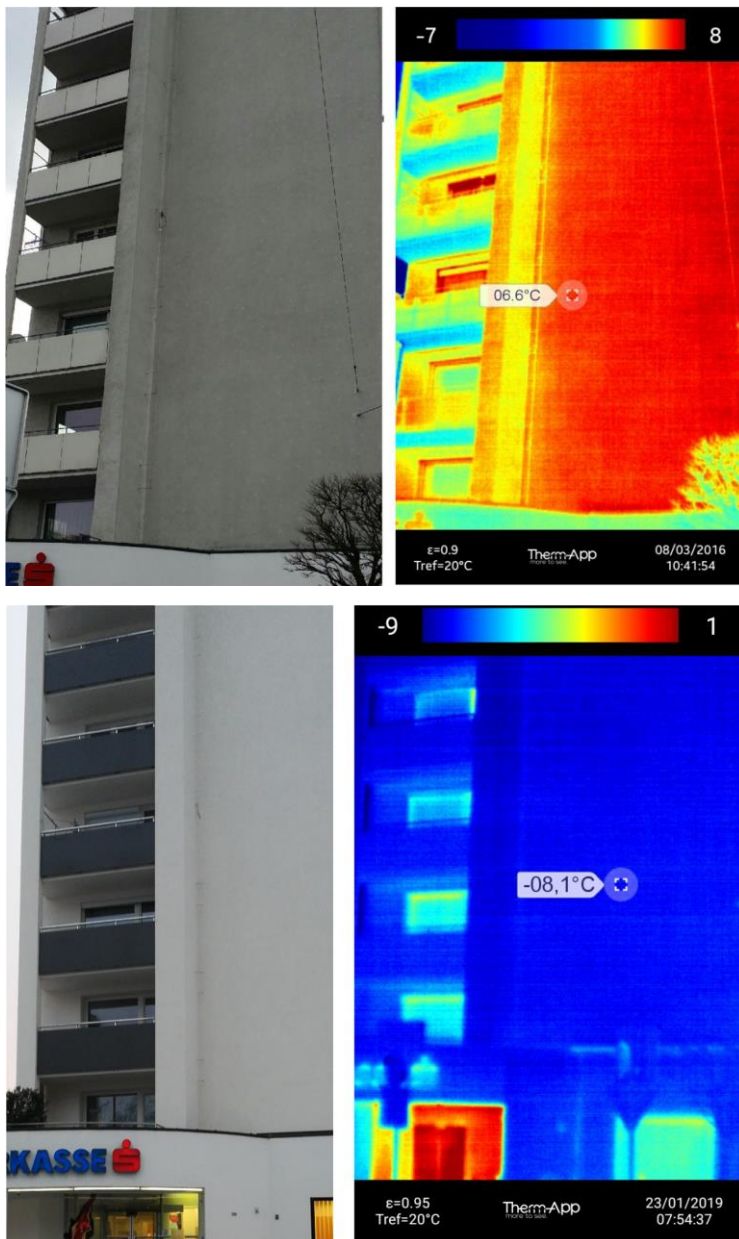


FIGURE 2 THERMOGRAPHIC IMAGE OF SINFONIA OBJECT IN40 BEFORE (UPPER PICTURES) AND AFTER (LOWER PICTURE) REFUBISHMENT



11. Critical, highly engaged individuals or organisations that normally exacerbate conflict and distrust can be highly useful for the project.

Single partners of the consortium (i.e. internal stakeholders) were very critical at the beginning of SINFONIA. A lot of persuasive effort was necessary to convince these partners of the benefits of the project. But thanks to these “troublesome” partners the quality of project outputs could be improved in many cases. Not least the first rejection of project deliveries by the project manager led to their significant improvements.

12. Housing associations should draft individual rent agreements to acknowledge already refurbished flats through the tenant in order to clearly account for the work needed to be done by the general refurbishment.

In the framework of SINFONIA more than 1000 apartments have been refurbished. In many cases tenants already did some smaller or bigger restructuring measures. Hence, the draft of individual rent agreements is not feasible for the housing agencies and was not applied in the framework of SINFONIA.

13. Wherever possible, to include certain aspects of co-determination, no matter how small the decision would be, is immensely beneficial for the acceptance of the project.

Although at the beginning of SINFONIA all involved housing owners pursued involving tenants only at the level of information throughout the project also different consultation measures have been performed. Tenants were consulted via two questionnaire surveys. Information provided by the tenants helped the housing owners to get a clear picture of the condition of the apartments and facilitated the refurbishments.

In single cases performed involvement measures also reached the level of co-determination, especially concerning the installation of ventilation systems in the lived-in apartments. These acts of empowerment indeed could raise the acceptance for the refurbishments on the part of the tenants.

14. As consumer behaviour can highly affect the final energy savings, educational measures about heating, electricity and appliance should be offered.

In the framework of SINFONIA different partners offered a series of educational measures to the tenants.

In order to guarantee the proper use of new technologies in the SINFONIA apartments the City of Bolzano and IDM elaborated a user manual for tenants. Releasing a user manual is a good strategy to interact with the tenants. It transports the proper user-behaviour in refurbished buildings - a key factor



for achieving the expected energy savings. It contains a guideline that can help tenants to better manage their apartments and the main technical devices installed within SINFONIA.

Specifically, the guidebook addresses the following questions:

- What is controlled mechanical ventilation and how can I use it?
- How should I use the new sunblind in order to prevent overheating of my apartment during the hottest hours?
- How should I manage the temperature inside my apartment?

In Innsbruck, tenants of 40 apartments participated in a detailed monitoring of their personal energy consumption. For this purpose, the partner PHI installed eight measuring plugs in each apartment and the consumption of main devices (e.g. refrigerator or electric stove) was measured for one to three months. After this period, the tenants will be consulted based on the evaluation of the measurements. Contents of these meetings will be the presentation of the measuring results and suggestions concerning the optimization of energy consumption.

First results of the monitoring pointed out a clear savings potential.

In Bolzano, tenant will receive real-time feedback on their energy consumption via a touch-screen display (see below).

The partner IKB is testing a smart home system in 15 to 18 refurbished apartments in Innsbruck. The system consists of internet-connected devices to enable the remote control of e.g. heating or lightning by a smart application. After a monitoring period of twelve months IKB will evaluate the performance of the smart home system regarding the potential for energy saving and user satisfaction. Results are not available yet. The motivation of tenants to participate in the testing of the smart home services was not primarily to save energy but could be triggered by providing the testing equipment (including a Samsung tablet) for free.

15. Tenants should be able to control their services independently (gas, water, electricity, etc.); immediate savings should be made as transparent as possible in order to fully convince tenants of the use of a retrofit.

In Bolzano, a field experiment based on the randomised assignment of households to treatment and control groups will be run in 140 apartments. In particular, all tenants in these apartments will receive a real-time feedback on their energy consumption via a touch-screen display (compare D5.21).



A dedicated Graphical User Interface has been designed and developed for this purpose. This latter will also send i) saving tips when a particular energy consumption threshold is achieved (indoor comfort values and energy values), based on the assumption that energy saving tips increase individuals' likelihood to change behaviour, and ii) information on historical household consumption data at a daily, weekly and monthly levels.

Those who are randomly assigned to the treatment group, in addition to the abovementioned feedback, will receive a normative message including descriptive and injunctive norms, based on the evidence that social comparison feedback activates individuals' intrinsic motivation to change behaviour. The descriptive message informs the household of the past day mean energy consumption of the most efficient similar residents.

The display is an activity related to the monitoring system, but it is also a tool to increase knowledge of tenants on how to effectively use the retrofitted flats and on the importance of individual and family's behaviours on energy efficiency.

The displays will be installed during the next months and workshops with tenants will be carried out to strengthen the capacities to use it and to promote the engagement of tenants in the achievement of effective results for the project and their lives.

16. Many retrofits turn out to save less energy than expected, therefore they are often unable to meet the expected financial benefits in saving energy. This can significantly be influenced by consumer perceptions of warmer living comfort and energy scarcity.

A statement to the key message is not possible at this stage of the project because monitoring results are not available yet. Only the monitoring of two school building in Innsbruck is finalized. Here, energy savings exceed the expected energy savings.



3. SITE SPECIFIC REPORTS

3.1 BOLZANO

3.1.1 STAKEHOLDER INVOLVEMENT IN BOLZANO

All involvement measures applied throughout SINFONIA had to be tailored to local networks and institutions and to their specific needs. Hence, at the beginning of the project it was crucial to find out how the internal stakeholders (i.e. the main key stakeholders) perceive their role in the project. Thus, a profiling and characterization of these stakeholders was applied. In this context, partners declared their specific interest in SINFONIA. Feedback could be summarized in the following four categories:

- Learning through exchange: This covers mutual learning and exchange on demo city level as well as the interest in international exchange of expertise and widening of networks.
- Economic benefits through innovation: Technical innovation, the development of new markets and cost efficiency measures
- Sustainability goals: This includes community development, safety, environmentally friendly technologies and energy efficiency.
- Development and deepening of expertise: That the development and application of new, innovative technology as well as their demonstration aspect creates new know-how and expertise.

For the deliverable at hand we asked Bolzano's key stakeholders if their specific interest in SINFONIA could be met after five years of project runtime. The communication between the Innsbruck and Bolzano partners does not yet have a unique path. The face-to-face or telephone communications between partners within the same district (for example in Bolzano) have increased the response rate in data collection experiences. In Bolzano, experience teaches that requests carried out in a structured, clear and always in the same way are more effective. This statement can be fixed in the *Recognition of the importance of the difference of working cultures in different cities and countries (Coordinator of the project)*.

The survey results show that at least one concern of each participating partner could be satisfied. All partners agreed that SINFONIA induced a process of mutual learning and exchange between the partners. As the partners expected, SINFONIA also led to the development and deepening of expertise. None of the three participants perceived the achievement of sustainability goals.



3.1.2 FIVE YEARS SINFONIA - REFLECTION OF INTERNAL KEY STAKEHOLDERS ON CHALLENGES AND LESSONS LEARNT

The main challenges in Bolzano as in Innsbruck were not related to the application of technical components and systems but concerned the internal communication and collaboration between partners as well as stakeholder dialogues and external communication. Many activities of the project are related to research activities that reach among the local level and seek a comparison between the two demo cities. Here, the research partners in Bolzano had to face difficulties to create synergies with Innsbruck. Especially the development of a joint questionnaire for tenants in both demo cities was only possible with some limitations. On the one hand, this might be due to a lack of comprehension for the need of monitoring by the public partners. On the other hand, some items of the questionnaire applied in Bolzano were found to be not suitable for the tenants in Innsbruck. Hence, according to some partners in Bolzano it was hardly possible to exploit the full research potential of SINFONIA.

Furthermore, the interaction with tenants was a major challenge that was highly underestimated by the Bolzano housing associations. With the purpose to find the proper way to communicate with the tenants the Municipality of Bolzano and IPES decided to appoint a new figure for the daily assistance of the tenants in the implementation phase of the refurbishments. This “ombudsperson” is an employee of the Municipality and of IPES with the followings assignments:

- Personal presence at the construction sites as a contact person in case of complaints;
- Mediation between the municipality and the tenants to better plan and organize the different interventions in the apartments;
- Hands-to-door-delivery of all the information material;
- Control of schedules for intervention in the apartments by various construction companies.

The installation of such an ombudsperson could improve the relationship between the Municipality and the tenants and led to the establishment of a climate of trust. To talk face-to-face with the tenants was found to be very useful in order to increase their acceptance for the refurbishment measures that required the access to the apartments.

The installation of demonstration apartments was another important experience in the project. The demo-apartments are exhibitions for tenants in which guides explain each technology included in the refurbished flats and the tips to choose the best behaviours according to specific weather and indoor



situations (e.g. sunlight, cold temperatures, humidity, etc.). These exhibitions are very effective in increasing the acceptance of the tenants concerning the refurbished flats. Researchers suppose that higher acceptance fosters a behaviour that decreases energy consumption. A closer look at this aspect will be possible when monitoring data is available. In the upcoming months, further activities with tenants will be carried out in Bolzano that aim at increasing the acceptance and engagement of tenants in decreasing consumptions.

Another challenge for Bolzano's housing associations was the coordination of the different activities performed by a series of construction companies. In order to meet this challenge and to be able to solve any technical and economic problem in a coordinated and effective way, meetings were held at a weekly basis. All involved construction companies, crafts men, the architectural designers, the security manager on site and a representative of the municipality as well as of the SINFONIA project lead participated in the meetings. Discussion points were e.g. modifications of the refurbishment projects, the price of the materials etc.

Furthermore, the coordination of activities of different entities within a single partner institution was found challenging in Bolzano. For example, within the Municipality of Bolzano, a series of different departments took part in SINFONIA or were affected by the project. By the organization of weekly internal coordination meetings with the offices of the municipality that are involved in SINFONIA activities it could be established a constructive working climate and common decisions could be reached.

In general, the importance of internal communication as well as (and specifically) the communication with tenants has been underestimated in Bolzano as also in Innsbruck. Also, the communication with partners beyond the local level was challenging. Strategies for coordination and communication had to be established while the project was already ongoing. The establishment of communication routines need a stronger focus and should already be considered in the design phase of a project like SINFONIA and included in the description of work (DoW).



3.2 INNSBRUCK

3.2.1 STAKEHOLDER INVOLVEMENT IN INNSBRUCK

During stakeholder profiling in the beginning of SINFONIA partners in Innsbruck declared their specific interest in the project (compare D6.1a – Part 1). Feedback could be summarized in the following four categories:

- Learning through exchange: This covers mutual learning and exchange on demo city level as well as the interest in international exchange of expertise and widening of networks.
- Economic benefits through innovation: Technical innovation, the development of new markets and cost efficiency measures
- Sustainability goals: This includes community development, safety, environmentally friendly technologies and energy efficiency.
- Development and deepening of expertise: That the development and application of new, innovative technology as well as their demonstration aspect creates new know-how and expertise.

For the deliverable at hand we asked Innsbruck's key stakeholders if their specific interest in SINFONIA could be met after five years of project runtime (compare Figure 3). The survey results show that at least one concern of each participating partner could be satisfied. As in Bolzano, all partners from Innsbruck that participated in the survey agreed that SINFONIA induced a process of mutual learning and exchange between the partners. This response indicates that initial challenges related to collaboration between the participating institutions could be overcome and a positive and constructive collaboration climate within the cities and between city administrations could be established. Five out of six participating partners were able to reach the interest of sustainability of goals. Also, five out of six were able to develop and deepen expertise. Economic benefits through innovation was a less important motive. On the contrary, partners often complain that the ambitious goals of SINFONIA are not to be reached without financial losses and additional investments exceed the EU funding.



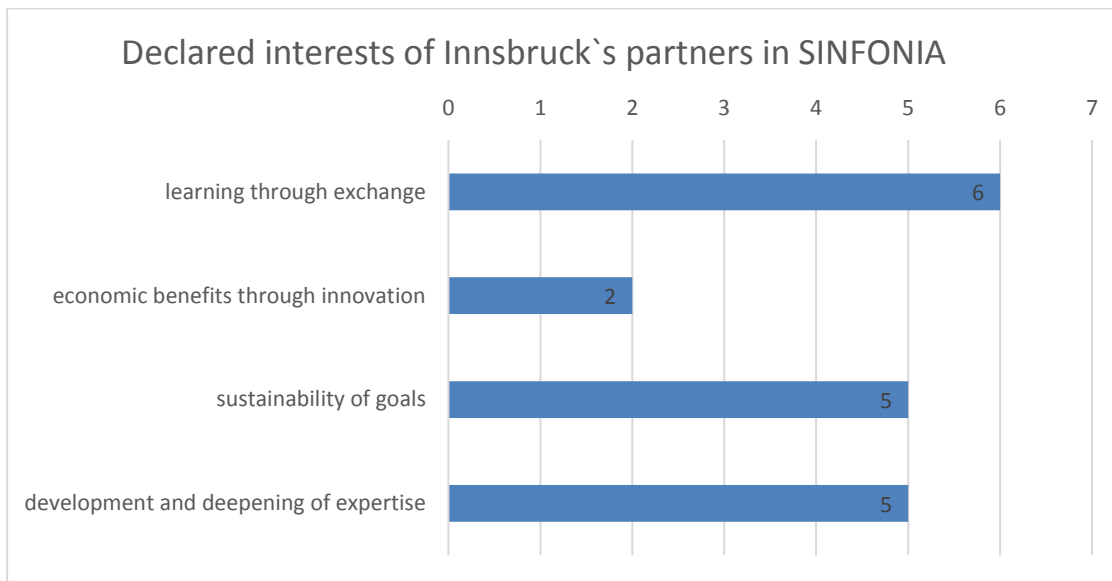


FIGURE 3 SURVEY FOR EVALUATION OF PROJECT GOALS, APPLIED STAKEHOLDER INVOLVEMENT MEASURES, CHALLENGES AND LESSONS LEARNT – ACHIEVED INTERESTS DECLARED BY PARTNERS IN INNSBRUCK

For the city of Innsbruck SINFONIA could initiate a boost to innovation. The city got in the focus of interest as a smart city, which is proven by a series of international requests on the different partial projects (e.g. school refurbishment sites, Power house Rossau, Smart city lab). The significance of the “smart city concept” could be raised not only on the political and administrative level but also within the general public. Furthermore, SINFONIA led to a significantly better cooperation climate among the big local players and thereby also to a better collaboration with regard to future projects.

3.2.2 FIVE YEARS SINFONIA - REFLECTION OF INTERNAL KEY STAKEHOLDERS ON CHALLENGES AND LESSONS LEARNT

We have already reported earlier in the project that partners in Innsbruck feel limited by the strict targets of the DoW (compare D6.1a – Part1). Furthermore, many parts of the DoW were not fully understandable, vague or not described sufficiently. Most authors of the DoW were not part of the project team after the application phase. In order to minimize frictions during the implementation phase it is hence recommendable to pay closer attention to future project application and set-up phases. In the case of SINFONIA, some amendments of the DoW became necessary during the



implementation phase, which caused uncertainty and delays. In future, more person months should be reserved from the project budget for administrative tasks.

In addition, the commitment of the political representatives of the municipality was not strong enough at the beginning of SINFONIA and could only be generated with time passing by. Commitment of the municipality is seen as a key prerequisite for smart city implementations.

Further conflicts derived from the fact that most participating institutions had no experience with international EU funded projects. Hence, some partners lacked understanding for project management procedures like e.g. reporting to the commission, regular project updates at TC and PMB meetings etc. The management of unexperienced partners was challenging for the district lead SAT in the initial phase of the project.

Most major challenges experienced in Innsbruck throughout the project's runtime were related to stakeholder dialogue and communication. Firstly, partners faced difficulties to embed SINFONIA within their own company. Some local partner institutions have a considerable hierarchical working culture that require constant check back with the management level which complicates quick decision-making during project meetings. Involved individual representatives of all partners should have the right to make decisions as a reflection of the importance of the project within the participating institution.

Secondly, it took time to create good working schemes between the internal stakeholders (local project partners). Conflicts and distrust in the beginning of SINFONIA required mediation and conflict management by the district lead SAT. While by now, a good working climate could be established among the Innsbruck partners, communication between the demo cities is still challenging. When collaboration is necessary it is not always easy to get the required input of some partners from Bolzano and vice-versa. The impression becomes apparent that the partners are fully engaged with the tasks that are to be fulfilled on the local level and that activities beyond the local level are not so much in the focus.. As SINFONIA is a research and innovation project that has a focus also on transnational comparison, some tasks (e.g. Task 5.4 or Task 6.3) have difficulties to reach their full potential. There is no responsible entity for the coordination of activities between the demo cities intended in the DoW. Apparently, half-yearly personal exchange meetings during SINFONIA's general assemblies have not been sufficient to anchor a constructive working climate.

Thirdly, communication with external stakeholders and in particular with tenants beard an underestimated challenge to many project partners in Innsbruck. To convince tenants about the



advantages of the refurbishments, especially referring to the controlled ventilation system, is still difficult for Innsbruck's housing associations. Their clients require individual consulting and a transparent and constant flow of information. After first challenges with tenants occurred, the housing association changed the communication approach with the tenants. As a first contact, individual meetings with each tenant were held followed by an externally moderated workshop for all tenants of one apartment building about one month later. Additionally, partners were offered the possibility to visit and inspect a renovated apartment with a built-in ventilation system. As a small gift, each tenants received a breakfast bag and the daily newspaper accompanied with a letter from the housing agencies – an easy but effective intervention that partner NHT adopted for all of their refurbishment projects also apart from SINFONIA.

Overall, the time (and money) required for the stakeholder dialogue with tenants was enormous (and not considered in that extent in the budget plans). In summary, the completed refurbishment of Sillblock, IN28, IN13, IN40 and IN43 was a success and the tenants could be convinced of the meaningfulness of the renovation. During the meetings with tenants, partner NHT got a good feedback from the residents regarding the improvement of their living quality. This oral feedback could be confirmed by first results of the ex-post questionnaire survey for tenants. More than a hundred tenants from the refurbished building sites Sillblock, IN28, IN 13, IN40 and IN 43 were asked if they are satisfied with their renovated apartment (see Figure 4) and if their apartment has been improved due to the renovation works carried out in the framework of SINFONIA (see Figure 5). 55 out of 106 participants strongly agree with the statement “Overall, you are satisfied with the renovated apartment”, 36 moderately agree. Only 11 tenants disagree with the statement. 84 tenants agree that their apartments have been improved by the refurbishment measures carried out in SINFONIA while only 12 disagree. This high percentage of satisfied tenants (more than 80 %) can be booked as a success.



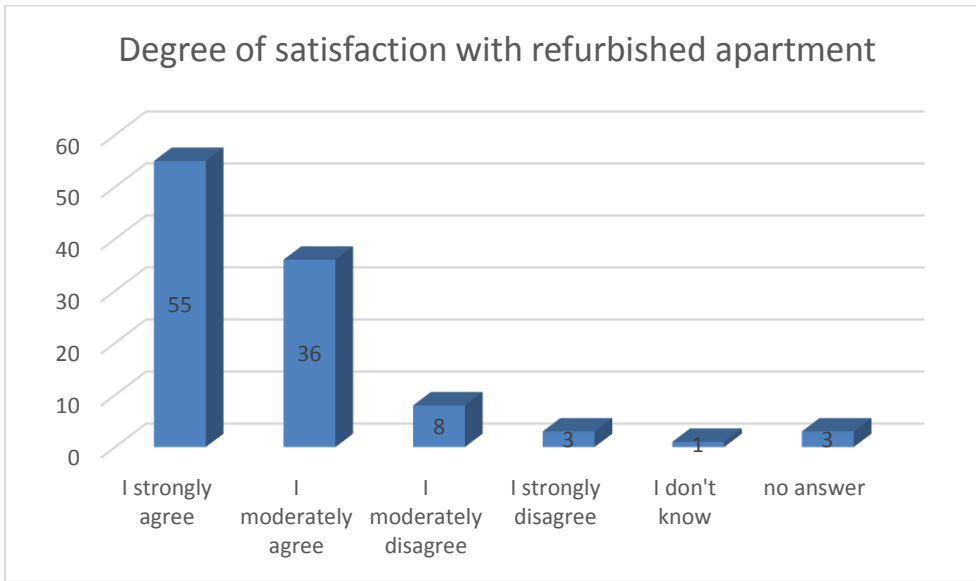


FIGURE 4 EX-POST TENANT SURVEY – FIRST RESULTS ON THE QUESTIONNAIRE ITEM “OVERALL, YOU ARE SATISFIED WITH THE RENOVATED APARTMENT.”

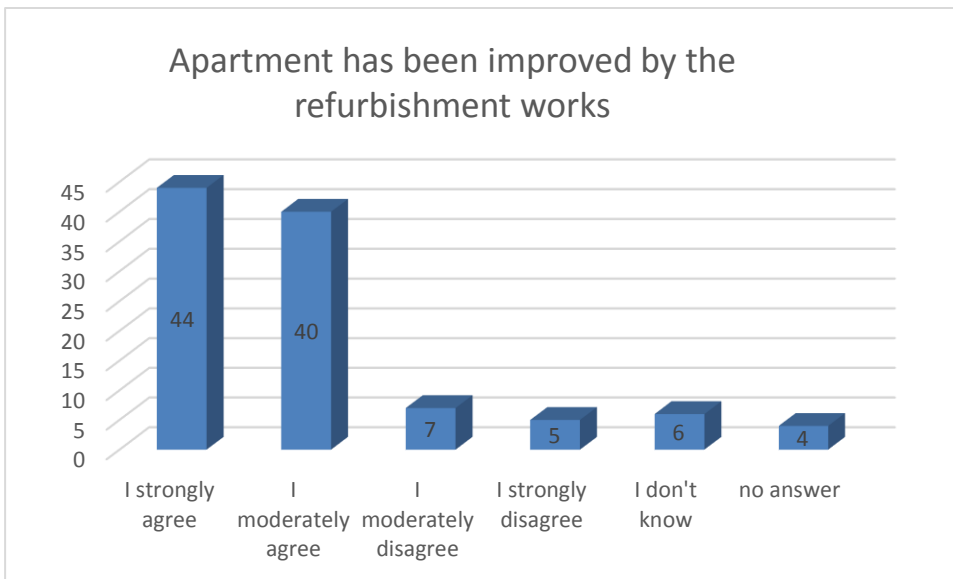


FIGURE 5 EX-POST TENANT SURVEY – FIRST RESULTS ON THE QUESTIONNAIRE ITEM “YOUR APARTMENT HAS BEEN IMPROVED WITH THE RENOVATION WORKS.”

As the series of individual consulting of the tenants was very time-consuming, individual appointments by representatives of NHT will be done upon request only.

Still challenging is the persuasion for the installation of a comfort ventilation system in the existing buildings. Many tenants are afraid of the massive structural interventions in the apartment and it is difficult to convince them of the advantages (better air quality, no mold growth possible, etc.).



Other main challenges faced in Innsbruck are related to legal restrictions. Legal regulations are a major obstacle for the implementation of high-efficient concepts. The strong Austrian tenancy act impedes the implementation of refurbishment activities inside the apartments and monitoring activities as intended in the DoW because tenants have the right to refuse the access to their apartment. In one building, monitoring at apartment level will not be possible at all. Furthermore, the data protection law in Austria is a challenge for the implementation of the monitoring plan.

Furthermore, a legal challenge arose out of the Austrian Electricity Act 2010 that restricted the self-consumption of electric power generated on rooftops of multi-family dwellings. In order to support the amendment of the legal framework the involved partners positioned their concern at the responsible authority - the Austrian Ministry of Science, Research and Economy. As a result, the legal regulation was adapted in 2018. Partner IKB and NHT successfully implemented the so-called “tenant-power-model” in the SINFONIA apartment house IN40. 38 of 49 tenants purchase solar energy produced on their rooftops. Repetition of the pilot project are in planning.



4. TOOLKIT FOR STAKEHOLDER INVOLVEMENT - DRAFT OF WEB APPLICATION

The “Toolkit for stakeholder involvement” is the core output of WP6. It is an interactive web-application that summarizes all activities throughout the project runtime in the context of stakeholder involvement. The overall aim of the toolkit is to capitalize the know-how derived on-site from the demo cities for facilitation of dissemination in the Early Adopter Cities and the Replication Cluster as well as in other interested cities beyond the SINFONIA network.

Figure 6 summarizes the contents of the toolkit structured in five domains. Items in the figure represent the different entry-levels to the toolkit. All elements of the graph serve as clickable entry links to detailed information about the single subjects. Subsections are interlinked to enable a multi-dimensional access to contents resulting of WP6 outcomes. The language is easily understandable, and contents are loosened with picture material. This way, it shall be ensured that different target groups can easily orientate in the toolkit and screen relevant information.

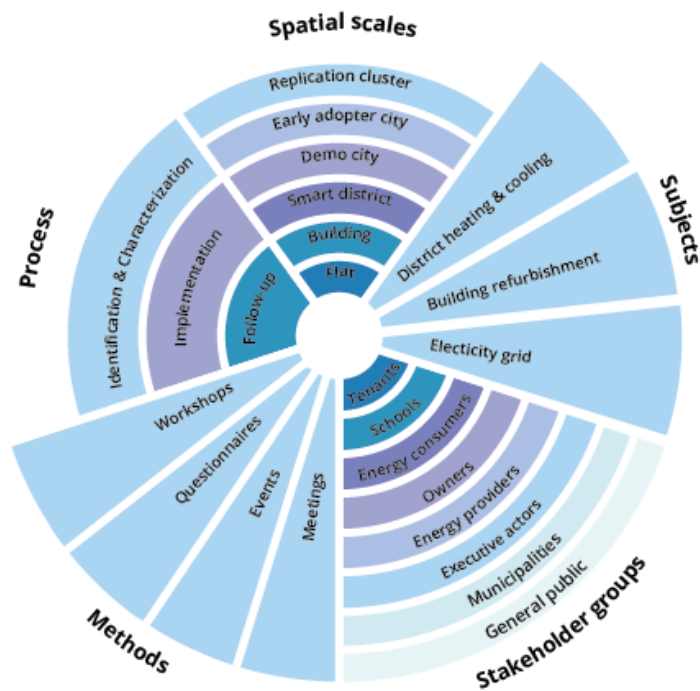


FIGURE 6 TOOLKIT FOR STAKEHOLDER INVOLVEMENT – ENTRY GRAPH REPRESENTING THE TOOLKIT’S STRUCTURE

The toolkit is structured in the following five domains: spatial scales, subjects, stakeholder groups, methods and process. While the domains subjects and methods present different tasks and methods



on the same level that cut-through and apply to all parties and levels, process, spatial scales and stakeholder groups are ranked by scale.

The domain “[subject](#)” is subdivided into the three main issues of SINFONIA: [district heating and cooling](#), the [refurbishment of buildings](#) and the [establishment of a smart city grid](#). The domain provides the user with information about the implemented measures in the demo cities including experienced challenges and approved solution. It allows the users to put applied methods for the involvement of selected stakeholders in a thematic context. The section “building refurbishment” also includes information on challenges and solutions for the monitoring of the refurbishment performance which is a key aspect for the research project SINFONIA.

The implementation of these issues affects several stakeholder groups as defined in Deliverable 6.1a – Part1. Eight “[stakeholder groups](#)” are of mayor importance for SINFONIA. Each of these groups ([tenants](#), [schools](#), [energy consumers](#), [owners](#), [energy providers](#), [executive actors](#), [municipalities](#) and the [general public](#)) is represented by a subsection in the toolkit where we present involvement strategies and methods specific for the respective stakeholder. On that basis, we also included the report of experienced challenges and applied solutions.

In the domain “[methods](#)” all applied methodology is sorted by [workshops](#), [questionnaires](#) (e.g. for tenants, owners and users), [events](#) and a variety of panel and onsite-[meetings](#). All applied methodology (e.g. workshop concepts and material) can be downloaded and adapted to specific local needs (compare Figure 7). Hence, it facilitates significantly the effort of other cities and stakeholders on their way to become a smart city.



Involvement strategies and methods

School Workshop Program: Smart Cities



At the Kick-Off Workshop

The involvement of the SINFONIA schools started with a kick-off event in the framework of the "Young University – day of action" of the University of Innsbruck in November 2015. At the kick-off event the local SINFONIA partners organized workshops/stands for pupils of the three involved schools, to give first insights in the backgrounds of the imminent refurbishments of the school buildings.

The kick-off was followed by a series of workshops in selected classes of the SINFONIA schools during the school year 2015/2016. The workshop program consisted of two obligatory basic modules and three elective modules, of which one workshop each should be selected. A coordination unit consisting of local project partners guaranteed the consistency of the program sequences.

Download the "School workshop program: Smart cities" below:



"School workshop program: Smart cities"

FIGURE 7 SCREENSHOT OF THE TOOLKIT PAGE "SCHOOLS" – PRESENTATION OF THE SCHOOL WORKSHOP PROGRAM: SMART CITIES

The SINFONIA implementation measures, hand in hand with different stakeholder processes, proceed on different "[spatial scales](#)" - the [flat](#) being the smallest unit that is located in a [building](#), this building is placed in a [smart district](#) of one of the two [demo cities](#). Beyond the local scales, involvement activities also take place at the level of [Early Adopter Cities](#) and the [Replication Cluster](#) where the process is to be adapted and replicated. This domain gives the users insights in applied methods - also technical ones - on different spatial scales. The description is completed with pictures (compare Figure 8).



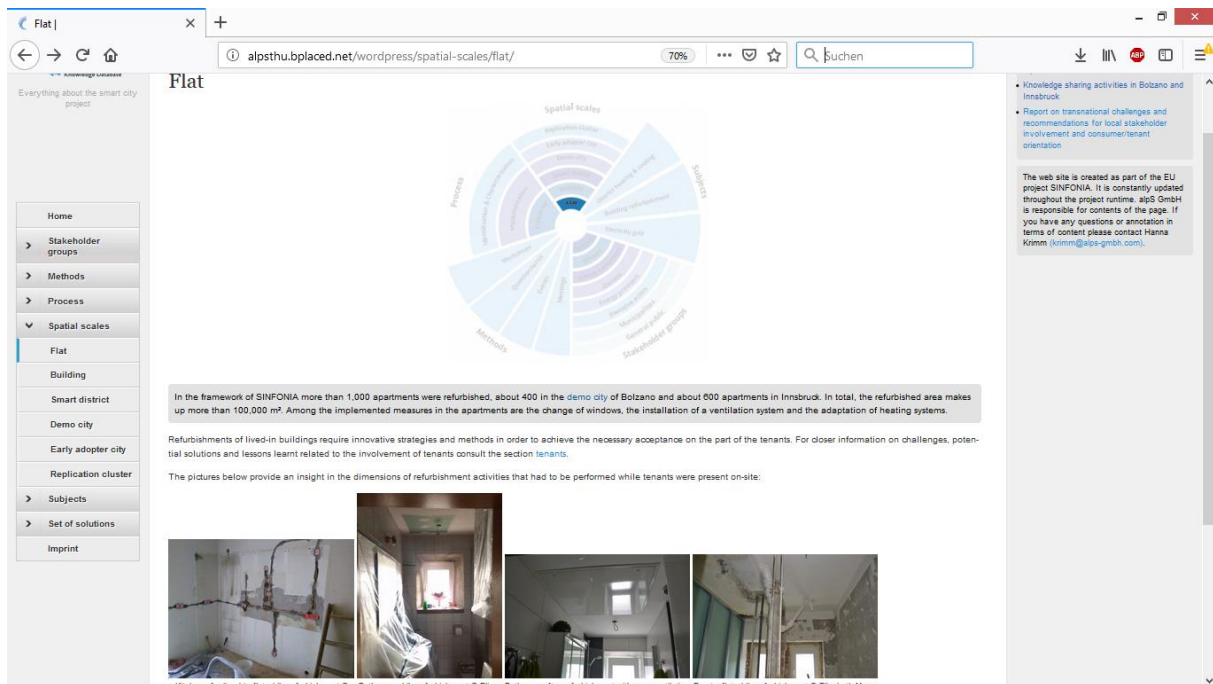


FIGURE 8 SCREENSHOT OF THE TOOLKIT PAGE “FLAT”

In the “[process](#)” domain users can learn about necessary preparatory tasks like stakeholder mapping and profiling (“[Identification & Characterization](#)”) and get an overview on the timeline of activities in the implementation phase (“[Implementation](#)”). The domain will be completed with the subsection “follow-up”. Content for the chapter is still outstanding.

In addition to the five main domains, the toolkit contains Task 6.2’s “Set of solution” (SOS) which is a collection of about 30 lessons learnt on different aspects of the project (e.g. project management, communication). The SOS are accessible via the left navigation bar of the website (see Figure 9). The



lessons learnt are structured by categories being different target groups and different fields which facilitates the screening of relevant information by the user.



FIGURE 9 SCREENSHOT – ACCESS TO “SET OF SOLUTION” ON THE LEFT NAVIGATION BAR

By now, we presented the toolkit at internal project meetings and at single events in the region of the Tyrol (e.g. Tiroler Zukunftstag 2018 or EUSALP event 2018). Also, the link to the toolkit is available via the project web site. In the remaining last project year we will put a special emphasis on the promotion of the toolkit. By organizing workshops with Early Adopter Cities in the framework of the SINFONIA general project assemblies it shall be assured that the toolkit’s target group learns about the toolkit in the first place.

In June, we will get in contact of representatives of the Early Adopter Cities and provide them with the link to the web site and an associated questionnaire that is aiming at the collection of feedback for the improvement of the usability of the tool. Based on this feedback we will organize a workshop at the next general project assembly in Rosenheim in September.

The toolkit will be available at least five years after the end of the SINFONIA project.



Annex 1: DOCUMENT INFORMATION

SINFONIA DELIVERABLE FACT SHEET	
PROJECT START DATE	1 st June 2014
PROJECT DURATION	60 months
PROJECT WEBSITE	http://www.sinfonia-smartcities.eu
DOCUMENT	
DELIVERABLE NUMBER:	D 6.1a – Part2
DELIVERABLE TITLE:	Toolkit for local stakeholder assessment and involvement
DUE DATE OF DELIVERABLE:	
ACTUAL SUBMISSION DATE:	
EDITORS:	
AUTHORS:	Kathrin Schwab Hanna Krimm
REVIEWERS:	Daniela Hohenwallner-Ries
PARTICIPATING BENEFICIARIES:	
WORK PACKAGE NO.:	6
WORK PACKAGE TITLE:	Local Stakeholders involvement, evaluation & follow up in demo cities
WORK PACKAGE LEADER:	UIBK, alpS GmbH
WORK PACKAGE PARTICIPANTS:	SP, MAGIBK, IKB, UIBK, SAT, BOZ, EURAC, IPES, SEL, ACC, BORAS, LARO, SEV, PAFOS, G!E, PHI, ROSE, ALF, LIE
DISSEMINATION LEVEL:	
CO (CONFIDENTIAL, ONLY FOR MEMBERS OF THE CONSORTIUM INCLUDING THE COMMISSION SERVICES)	
PU (PUBLIC)	
PP (RESTRICTED TO OTHER PROGRAMME PARTICIPANTS, (INCLUDING THE COMMISSION SERVICES)	
RE (RESTRICTED TO A GROUP SPECIFIED BY THE CONSORTIUM INCLUDING THE COMMISSION SERVICES)	
DRAFT/FINAL:	
NO OF PAGES (INCLUDING COVER):	



COLLABORATIVE PROJECT; GRANT AGREEMENT NO
609019

WORK PACKAGE:
VERSION:
DATE:

6
0.1
28.05.2015

KEYWORDS:



Annex 2: Template for assessment of goals of stakeholder involvement, applied methods, challenges and lessons learnt amongst SINFONIA`s internal key stakeholders





Innsbruck, 11/03/2019

5 years SINFONIA

Reflection of internal key stakeholders on goals of stakeholder involvement, applied methods, challenges and lessons learnt



SINFONIA stands for "Smart INitiative of cities Fully cOMmitted to iNvest In Advanced large-scaled energy solutions". This project has received funding from the European Union's Seventh Programme for research, technological development and demonstration under grant agreement No 609019

Scope & how to use the document

This document contributes to the development of an update of Deliverable D 6.1 which shall provide condensed information about the involvement of stakeholders in Innsbruck and Bolzano, possible and tested means of involvement, a profound description of the main actors and lessons learnt out of the participation processes in both demo cities.

The first part of D6.1 was delivered in May 2015. It included a systematic collection of stakeholder's communication characteristics and served as a basis for the development of adequate methods for a successful participation process.

In order to evaluate the stakeholder processes including the partners self-expressed goals of stakeholder involvement after five years of SINFONIA runtime we rely on your input. Any information provided will be kept in confidence and will be used in an abstracted matter.



Name of partner:	_____
------------------	-------

1. Could the following self-expressed goals of stakeholder involvement be met?

- to generate a positive atmosphere
- to raise or secure acceptance of implemented measures
- to educate and to teach consumers
- to provide knowledge and to assist
- to collect potential ideas
- others:

2. Could the following declared interests in SINFONIA be met?

- learning through exchange
- economic benefits through innovation
- sustainability of goals
- development and deepening of expertise
- others:

3. What stakeholder group did you address with your activities in SINFONIA?

- | | | |
|---|---|---|
| <input type="checkbox"/> tenants | <input type="checkbox"/> housing owners | <input type="checkbox"/> municipalities |
| <input type="checkbox"/> schools | <input type="checkbox"/> energy providers | <input type="checkbox"/> general public |
| <input type="checkbox"/> energy consumers | <input type="checkbox"/> executive actors | <input type="checkbox"/> |

others: _____



4. What involvement methods (questionnaire survey, events, workshops, meetings etc.) did you apply to reach out to the above mentioned stakeholder groups? Please shortly describe them:

Method	Target group	Date	Description



5. What were the main challenges experienced throughout SINFONIA?

6. What are your main lessons learnt?



Annex 3: Literature key messages

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