Workshops – Collaborative Arena for Generative Research

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Abstract. This paper describes workshops as a means for generative research. The workshops are based on a need to a collaborative arena for sharing perspectives and creating shared visions. The paper presents the principles, and user and expert workshop processes in three cases. The workshops were events that gathered various actors to face-to-face collaboration and challenged them to perceive anew the ordinary ways of thinking to design for the future. The open and equal arena based on creativity, democracy and participation was moderated by a design university in collaboration with users, several companies and experts.

1 Generative Research and Workshops

In the 2000's we are living in a new era of design research and method development [e.g. 12]. One of the approaches that are considered interesting, in design practice, research, and industry, is the combination of research and concept design, practices which are collaborative and visionary by nature. The interest relates to the contemporary culture companies favour. Companies have increasingly been outsourcing their research and development activities since the 1980's, and most of work has been structured to efficient processes within last ten-twenty years. Activities that relate to research, concept design and planning strategies are likely to be operated, for example, with universities. There are several examples of such collaboration in Scandinavia [1,10,14,]. In these cases universities not only produced information to be documented in reports, but also delivered it, and moreover enabled sharing of the knowledge with companies through intensive collaboration.

1.1 Generative Research

Generative research may, according to Sanders, provide answers, insights and opportunities to a key issue for industry in the 2000's – "What should we make/offer?" – by blending informational and inspirational approaches [19]. Usually, informational approaches are conducted by trained researchers with scientific approach focusing on
past events. Inspirational approaches usually concern designers with experimental, ambiguous and surprising means emphasising future and unknown aspects. Generative research combines these approaches, and brings different actors together in participatory manner [e.g. 5,11] – usually users, designers and researchers – to design for the future with tools that inform and inspire. So, research and design get closer as research expands to design and design elaborates research.

Furthermore, design that is a keystone of generative research may be seen as an activity that is shared by everybody: everybody designs all the time [e.g. 20,15]. Buchanan explains the view as he describes that design is "a discipline of thinking that may be shared to some degree by all men and women in their daily lives and is, in turn, mastered by few people who practice the discipline with distinctive insight and sometimes advance it to new areas of innovation." [2]. Joining amateur and professional designers is growing ever more actual as design has penetrated the contemporary society: everything seems to be design and design as a word is everywhere [e.g. 9]. According to Leadbeater and Miller, a new breed of amateurs called Pro-Ams – "innovative, committed and networked amateurs working to professional standards" [13] – have and will shape the society within the next two decades.

Thackara [21] describes designers in the future working as moderators, helping others to design a world based less on objects and more on people. In this kind of reality, professional designers may act as creative agents for everyday creativity, democracy and participation; daily life is a design opportunity and the opportunity lies in the ideas that are everywhere waiting to be turned into original combinations.

1.2 Workshops

If generative research is interpreted as an approach to look to strategic and concept design problems, workshops may be seen as a concrete means to approach them. The aim is to challenge diverse actors to perceive anew the ordinary and familiar ways of thinking. Workshops are collaborative design events providing a participatory and equal arena for sharing perspectives, forming visions and creating new solutions [22]. Especially in projects that involve various actors, such as users and companies, occasions to share perspectives and adjust the aims grow important [4].

The atmosphere of workshops is important: by creating a trusting situation the events may compose mutual empowerment, whereas uncomfortable situation may prevent the collaboration [8]. Johansson et al [10] have experimented workshops as design events in activities they call partner engaged design. Partner engaged design aims at developing new concepts through joint interaction and dialogue with users, various stakeholders and designers. One of the main preconditions for succeeding is to involve people in design events in a way they themselves see purposeful: the participants should have a joint mission [10] and their different views should be appreciated as an advantage.

Several tools are used to enable collaboration in workshops: primers to submerge and consider the topic prior to workshop, and collaboration tools to bridge the gap between different actors. For example, several probes studies, the user study method for self documentation, have been conducted in collaboration with companies in
Finland [6,14], with the main area of interest in gathering visual and narrative user material with a wide perspective for concept design. In these cases, the probes enabled empathic dialogue between the users, designers and the company representatives and created a communication link that informed and inspired the design team. Other tools for collaboration in workshops are such as mock-ups, projective tools, collaborative design games like video card game and board games, and visualisations of the future like scenarios or VR visualisations [3,4,8,10,18]. All of these tools are visual, playful and tangible artefacts that aim at creating a common ground for connecting the thoughts and the ideas of people from different disciplines and perspectives to discover issues that are as-yet unknown or undefined [17].

2 Workshop Principles and Processes

In this paper, we will describe workshops as a part of three quite extensive generative research projects that were conducted and moderated at a design university by designer-researchers. For us, workshops were events that gathered various actors from different backgrounds and organisations to social interaction, face-to-face collaboration that challenged the actors to perceive anew the ordinary and familiar ways of thinking and seeing to design for the future (Fig. 1). In the workshops, people provided their experiences and perspectives; we provided tools to share the experiences and perspectives. At the same time, we did data collection and interpretation by gathering knowledge and producing new understanding. It aspired for commitment to the mutual visions the participants had created together. We will try to describe our means of workshops concretely by presenting the main principles, user and expert workshop processes and three cases: 1) IKE: Rethinking the Building Renovation Process, 2) Mass.Be: Structuring the Situations of Mobile Work, and 3) Astat: Building Partnerships in Housing Technology.

Fig. 1. A design university gathered various actors to face-to-face collaboration in order to share perspectives in workshops aiming at creation of visions and making commitment to them
We chose workshops as the means for generative research in order to create an open arena for generative research, to provide the essential actors a chance to become absorbed in the project theme and to participate to the process as equally as possible. The four main principles that defined the approach were:

1. **Trusted event**: The workshops were organised in an environment that was considered trusted and neutral, e.g. at a university, in order to invoke even sensitive subjects.

2. **Several multi-disciplinary participants**: The essential actors were defined by the objectives of the projects, including i.e. users, designers, researchers, company representatives and other stakeholders, e.g. from the government. The roles were clear and natural to the participants.

3. **Series of workshops**: The iterative working method gradually focused the issues and allowed open-minded thinking in each stage. Each workshop had a clear objective of its own that provided a joint mission.

4. **Participatory tools**: Mostly visual, easy-to-use and tangible tools provided a shared ground to compare, contrast and reflect issues. The tools were compatible with the focus and participants.

Workshops were applied for two different purposes: for collaboration with users and for collaboration with experts. The working method varied according to the participants and objectives but also shared a process of a kind: 1) preparation of the event, 2) attuning presentations, 3) multidisciplinary group work, and 4) summarising presentation and discussion. In the following, we will describe the user workshops as reflection and preliminary interpretation of the previous user study, and expert workshops as events for knowledge sharing and creation of a shared view.

### 2.1 User Workshops

In the cases *IKE* and *Mass.Be* we conducted extensive user studies that were focused progressively during the process from wider to more detailed aspects. The most contextual and rich descriptions of the users' experiences was acquired in the last user study phase conducted with a self documentation method called the probes. The probes was designed to feasible forms for the research context: a traditional probes package form for the residents in the first case (Fig. 2), and mobile phone probes for the mobile workers in the latter case (Fig. 3). User workshops were organised for reflecting and interpreting the user study and outlining the main issues to be examined further.

In addition to two moderators, 2-5 users, and 3-13 project partners such as company representatives and researchers (expect in two workshops) attended each user workshop. Altogether the amount of participants varied from 4-20, holding 54 participants in six workshops.

The user workshop process was the following:

1. **Creating the atmosphere**: In the beginning, after greetings and a cup of coffee, a moderator described the objectives, roles and rules of the workshop. Objectives consisted of the entire project's and the workshop's. Rules described the working method. Roles emphasised participants' distinct personality: the participants were...
asked to represent the state, perspectives and values that were natural to them. These were premises that created confident atmosphere.

2. **Attuning the participants:** Prior to the workshop users probed their experiences and created an opinion of their own through self documentation about the issues defined by project objectives. The self documentation material acted as a primer in the beginning of the workshop: the users described their experiences by presenting their personal materials. In this way, the workshop participants, representatives of various industries and research units attuned to the theme of the workshops.

3. **Reflective group work with experience board:** The reflection and interpretation of the user study and outlining the issues was founded on users’ experience cards in groups of a user and other participants. The cards were visual and narrative samples of experiences that the group clustered to an experience board that was divided to positive and negative sides (Fig. 2 and 3). In this work, users’ were able to express their experiences and perspectives that challenged the experts’ (tacit) knowledge. The result was a tangible and contextual description of the main issues to be further considered in the project.

4. **Summarising:** In the end of the workshop each group presented their results. They usually comprised of two aspects: a selection of issues that described the desired direction for the strategies and development, and a selection of issues that represented the contemporary problems and not-wanted future. The presentations were usually informal and inspired a lot of questions and discussion.

Workshops explored the users’ individual experiences in personal contexts of living from the perspective of the project objectives. The probes acted as a primer in the workshops for the users and the other participants. The tangible clustering of experience cards representing particular situations in users’ lives provoked intense and con-

**Fig. 2.** The residents documented their experiences during the renovation processes with probes in the case *IKE.* Experience cards (including photos and text) were a conversation tool in workshops: the cards were clustered to main positive and negative issues on an experience board.
textual discussion. The group work in the workshop empowered people to challenge themselves, inspired learning, resulted a mutual vision for development needs, and fostered commitment. The commitment was based on own experience of contemplating the issues in close face-to-face interaction. The results directed the following analysis and concept design by the designer-researchers and other project participants in expert workshops. Also, scenarios and emphatic personas were created based on the user studies and workshops as a tool for later work.

![Image](image.png)

Fig. 3. The mobile workers in the case Mass.Be documented real-time their experiences in variable context with mobile phones quipped with digital cameras, and sent their examples of experiences to a website. The examples of experiences were printed out for the workshop and used as a conversation tool in multidisciplinary groups.

### 2.2 Expert Workshops

Multi-disciplinary workshops can be seen as not only an instrument of analysis or concept development. They were essentially events of knowledge transfer, where the results of user study was further distributed, creating understanding of user needs. Furthermore, the workshops aimed at creating an efficient and open collaboration event for diverse experts. The workshops contributed to creating commitment and common vision on how the future should be developed and what new solutions could possibly be offered for the users.

The four expert workshops were moderated in the three cases by two designer-researchers and involved 18-40 company representatives, users, researchers and other experts each. The workshops, involved altogether 100 participants, were events of face-to-face collaboration of diverse experts. Later, two more expert workshops will be organised in the ongoing case Astat. In addition to these workshops, seven evaluative company-specific workshops were organised in the case Mass.Be.
The expert workshop process was the following:

1. **Giving the assignment**: Because experts hold a massive amount of (tacit) knowledge, we presented clear objectives, roles, and tasks so as to create a mutual platform for engaging collaboration that make the most of their expertise. Objectives described the aim of the project and outcome of the workshop, whereas tasks composed the working method. Roles emphasized the particular expertise, perspectives, and values of the participants. This phase may also be placed after the second phase, introductory presentations, depending on the situation.

2. **Introductory presentations**: Among experts there were some who had a distinct standpoint regarding the theme of the workshop. Thus, prior to the group work a few researchers, experts, and company representatives gave presentations to prime the event. These presentations reviewed actual phenomena, stressed approaches that were valuable for the project and presented research results of the earlier phases in the project, such as user scenarios, empathetic personas, and tentative main themes.

3. **Group work with theme boards**: Group work was a platform for sharing perspectives, challenge previous conceptions, and gain confirmation for some conceptions. The groups comprised of 3-7 persons, and they documented their work to theme boards (Fig. 4). Theme board was a ready-made frame based on the previous research that was a representation of the objectives for the workshops. The themes in boards concerned development needs in relation to a process, factors of situations, and concept ideas in a timescale.

4. **Reflection**: Each group presented their results in the end of the workshop (Fig. 5). Results were evaluations of research results, producing and clustering of ideas, and iterative development of ideas, concepts, and models. There were five to six groups that had been given different perspectives to consider the issue. The presentations of these diverse perspectives provoked reflection between different groups and raised new associations.

   Background research material, results of the user study, and other preceding research phases, presentations by researchers and other expert primed the expert workshops and created a common platform for evaluation, reflection, and creation of visions. The workshops organized in university premises were a neutral ground for inter-
action with other companies and experts. In the workshops the experts were able to
test and evaluate of ideas, learn from others and build a shared vision. The vision cre-
ated a foundation for the consecutive work on the subject, which is enabled and sup-
ported by commitment as a result of being personally part of designing for the future.

Fig. 5. Presentation in the end of the expert workshop: participants listen to the other group's presentation and discuss the subject simultaneously. On the right hand side is a part of a theme board that documented the results

3 Three Cases – Seventeen Workshops

Next, we will present three cases which describe the context of generative research and 17 workshops as a means to it. All the cases were aiming at creation of visions that enable diversity and fulfilment of individual needs in the long term: 1) IKE: Rethinking the Building Renovation Process, 2) Mass.Be: Structuring the Situations of Mobile Work, and 3) Astat: Building Partnerships in Housing Technology. The projects were collaborative projects with a design university, several companies and other research units. The university acted as a neutral platform and moderator for the events where diverse actors, companies and industries assembled to share their perspectives, reassess critical issues and create visions. The projects concerned issues that are actual in the progressive society and require actions in inter-industry level.

3.1 CASE 1 | IKE: Rethinking the Building Renovation Process

Our first case was based on the conception that most of the Finnish apartment houses were built during 1950s-70s and, thus, the need for renovation and modernisation of housing condominium properties will increase significantly over the next few decades. Today, the building industry lacks capability to introduce solutions to the ageing residential buildings that meet the changing needs and requirements of different kinds of residents. The industry is facing a challenge to move from the production-oriented renovation to proactive resident-oriented renovation and modernisation.
Recently, the Ministry of the Environment in Finland funded a research project, the case IKE, to examine holistically the critical points and best practices relating to building renovation and modernisation of residential buildings, especially from the previously paltered perspective of the residents [23]. The results identified the development needs for the industry concerning for example strategic goal-setting and life-cycle management of housing condominiums, and the building condition index. Furthermore, one of the most important aspects is to develop a process that creates a concept of mutual cooperation and service between residents, the housing condominium and construction professionals, enabling the parties to work together to renovate and improve buildings.

The research project combined altogether over 60 residents and professionals of research, design, construction, financing and jurisprudence. The core research group consisted of three partners: 1) a design university focused on residents’ experiences and needs, 2) an engineering consultancy surveyed the current status and future development of the implementation and process management, and 3) a housing information centre examined communication and interaction relating to building renovation and modernisation.

**Three User Workshops and One Expert Workshop**

The project consisted of six main phases reflecting the residents’ actual experiences in renovation projects to other expert knowledge in the project (Fig. 6). The first four phases are part of the extensive user study focusing on experiences, i.e. the critical points and best practices of the renovation and modernisation, against the meaning of living, in the residential house. The user study was conducted in three parallel representatives of plumbing renovation projects in different phases, in three residential
houses: in the planning, implementation and use phases. The user study formed the setting for the multidisciplinary reflection and the results of the project.

In the last user study phase the user workshops were organised with all the three residential houses, their residents, project partners and researchers. The workshops anticipated the residents' self documentation with the probes on experiences of renovation, against the important aspects in living. Both of the aspects, and especially when reflected, provided new and challenging issues to be thought by the construction professionals. The self documentation material primed the users and provided means to discuss with the construction professionals. Some of the residents considered the workshops a better event for constructive discussion than the planning meetings they had had with other residents and professionals. The results of the user workshops were the main issues that need to be developed in renovation and modernisation projects and also best practices to be kept were identified by each participating resident.

The fourth workshop was organised with forty participants from different industries and also residents. In the beginning of the workshop the preliminary results of the user study, views on processes, communication, mass customisation and inclusiveness were presented to prime the event. Then six groups were asked to define development needs based on the user study and their professional knowledge in a theme board. These definitions created the basis for analysis of the vast amount of material, which was eventually constructed to a set of development needs by the research group.

The project defined the development directions for the building industry of renovation and modernisation. The new understanding of the residents' experiences among all the actors that participated the project surfaced the painful reality of the current cumbersome, expensive and unpredictable practices. The existing technologically-driven knowledge and attitude has to be reconsidered and developed to one that takes the residents' everyday reality into account. Based on the project, several national and company projects are in preparation.

3.2 CASE 2 | Mass.Be: Structuring the Situation of Mobile Work

The second case was a research and concept design project that studied the needs and demands of mobile knowledge workers combining user study methods with mass customisation approach. One of the main objectives of the project was to enable organisations to support mobile knowledge workers through personalised, situation-specific solutions. Knowledge work is increasingly interwoven with the everyday life of individuals: work, leisure, social life and use of commercial services alternate as blurred sequences. The research aimed at finding means to increase the productivity and efficiency of this kind of work, yet supporting the work-life balance and well-being of the individuals.

The project was a collaboration of the design university, seven companies (telecommunications, mobile phones, real estate management, energy and building and construction industries), and technological and mobile work experts from other research units. Also, over 60 mobile workers participated in the project.

The outcome of the project is the interpretation and structuralisation of diverse individual needs, practices and situations of mobile work emerged during the user study
The model aims at defining the most relevant needs of workers and the most typical situations of work to be sustainably addressed by a modular set of solutions. The research indicated that challenges faced by mobile workers were not dependent on industry or job positions but situations (comprising of the variation of time, practice and place) the workers face in their daily work. The model, including also concepts and listings of existing solutions, can be utilised as a framework when developing modular services and applications for the workers and validating different workplace solutions.

### Three User Workshops, Two Expert Workshops and Seven Company Workshops

In the project, an extensive user study in the companies was followed by a series of multi-disciplinary model and concept development workshops involving mobile workers, researchers and other professionals (Fig. 7). Qualitative user study methods with emphasis on understanding the individual user experience of mobile work were utilised in order to gain knowledge on mobile work in diverse organisations and working cultures [7].

Altogether ten workshops were organised with users, researchers and other company representatives based on the user study, in order to gain deeper multi-disciplinary understanding of the complex phenomenon of mobile work. In between and beyond the workshops, the data was further analysed by the researchers applying qualitative analysis methods. The first three workshops interpreted the user study; the MMS messages gathered in the probes phase primed the workshops and provided a ground for discussion and interpretation. The results of the workshops were collage type presenta-

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**Mass.Be**

*Mass Customization in Built Environment*

- **Expert Interviews:** 2 mobile work experts
- **Activity Mapping:** 60 mobile workers in 7 companies
- **Experience Sampling:** 206 mobile workers
- **Workshop 1:** User Experience
  - Mobile work profiles of mobile work
  - 5 main themes of mobile work
- **Workshop 2:** User Environment
  - Company profiles of mobile work
- **Workshop 3:** Model
  - Model for supporting mobile work
- **Workshop 4:** Evaluation
  - Multi-mode mapping questionnaire on mobile work
  - Validity of the model to be improved

**Fig. 7.** The case *Mass.Be* consisted several phases starting from an extensive user study and following several multi-disciplinary activities.
tions showing main parts of the individual experience of mobile work. Several user scenarios were later constructed based on the workshops.

In analysis and model development phase, two workshops were organised in order to further analyse the variety of accumulated data and user study results in parallel with expert perspectives. The objective of the first of them was to synthesise the individual user experiences of mobile work into generic parameters that would optimally cover most of the emerged needs. A preliminary model for supporting mobile work was developed after this workshop. In the second analysis workshop, the model was presented and further formulated by experts and researchers. After the model workshop, design drivers and examples on applying the model utilising existing products and services as well as new concept ideas were formulated.

The last seven workshops were conducted separately in all the companies in order to validate the model by discussion and evaluative questionnaire. Furthermore, the workshops proved to be good occasions for communicating the results of the project to a broader audience inside the companies.

During the project the complex challenge of mobile work was constructed into a model that represents the main situations in the multi-mode work. The construction was a learning process for several project participants and provided a structure to consider the issue through mutual concepts. It also clarified the similarities and differences of the companies and industries: the difference lies in situations, not in industries or job positions. The model is currently utilised in an EU funded multi-national project.

3.3 CASE 3 | Astat: Building Partnerships in Housing Technology

The third case of an ongoing research and concept design project aims at bridging the gap between consumers, i.e. residents, and providers of housing technology solutions. Today, housing technology is mostly marketed through technical arguments, which do not take sufficiently into consideration the residents’ individual needs and situations of living. Purchasing housing technology requires knowledge and expertise that customers do not usually have. Furthermore, the offering of solutions is fragmented – integrated housing technology packages are not easily available. The main objectives of the ongoing project are to develop and test alternative user oriented housing technology concepts, to suggest solutions for enhancing the housing technology supply chain and availability of housing technology systems and services from resident point of view, and to look at how technologies of today and of the near future could be better utilised in home environments.

The project consortium consists of three universities and two other research units. More than twenty companies participate in the project. They represent a broad spectrum of fields related to housing: building and construction, housing technology, home electronics, ICT and services. Wide variety of housing technologies is also included. Due to the great variation in scope and size of the partner companies, one of the main challenges of the research is to create a common ground that enables synergetic dialogue between the companies. Shifting the focus from separate housing technology products and applications towards user centredness and concepts of living has seemed to be a viable way to achieve that.
Three Expert Workshops

The project comprises of six work packages. The first two work packages, Concepts of living and Enabling technologies, have been started simultaneously and are currently (in fall 2005) running parallel, the latter providing technological input to the conceptualisation process. Also, an interview study is conducted parallel to the conceptualisation process, contributing to it in different stages. This paper only concentrates in the conceptualisation process conducted in work package one, aiming at a set of concepts of living based on user study and multi-disciplinary expert workshops. As the research is still ongoing, the results presented here have to be taken as preliminary and partly propositional.

The concept development process is divided into three main tasks (Fig. 8), each including one multi-disciplinary workshop. First task was the creation of scenarios of living. Prior to the workshops, a group of researchers were asked to state central arguments and research results concerning their own field of expertise in relation to three given areas of interest – future of living, user needs, and housing technology as enabler. This background information helped in focusing the research and four major themes emerged as basis for the scenarios. Then, in the first workshop, company representatives and researchers added ideas and trends to each theme, organised the ideas

![Fig 8. The case Astat is an independent work package of and interaction with a bigger project. The process is built upon three workshops](image-url)
on a timescale, and summarised their vision as a preliminary scenario. A table of design drivers and six scenarios of typical situations and related housing technology were constructed from the results of the workshop.

The aim of the following second workshop will be to evaluate and select the scenarios and add enablers to them. Enablers can be existing housing technology systems, products or services offered by the companies, or new development ideas. The workshop will be arranged so, that companies related to same area, e.g. kitchen, will be working on the same scenario, focusing and developing it further according to their mutual interests. As result of the second workshop, we will have evaluated and focused scenarios complimented with actual enablers.

Third task in the concept development process will be the construction of actual concepts of living – descriptions of a combination of certain housing technology systems, products and services answering to needs and situations expressed in the scenarios. These concepts of living will guide the development of technological enablers, spatial models and system models in next phases of the project. Third workshop will concentrate in evaluating and selecting the most viable concepts.

The ongoing project aims at bridging the gap between different stakeholders of housing technology. The iterative development of concepts is anticipated to create a mutual platform for residents and housing technology professionals, and to encourage open discussion among them. As an ideal outcome of the project, companies would form partnership clusters that would independently continue developing further some of the concepts created during the project.

4 Discussion and Conclusions

Change in companies R&D has ended to a fragmented culture that does not enable holistic strategic and concept design activities to search for answers, insights and opportunities. The outcomes, i.e. research reports, of outsourcing the R&D are often hard to introduce to activities inside companies, and they are easily left unused. Therefore, in the companies there is a considerable need to share perspectives, evaluate ideas and create shared visions that cross industry boundaries in a confident setting.

In the cases presented earlier, the design university was able to provide means for such work that also fit to the contemporary company culture: purposeful workshop events at a university to create shared visions based on opportunities in daily life. The workshops shared the four principles: they 1) created a trusted and neutral event and invoked also sensitive subjects in discussions, and 2) involved several diverse actors having different experiences and perspectives. 3) There were a series of workshops creating an iterative working method where 4) participatory tools provided a shared ground to compare, contrast and reflect issues.

The main challenge, and also the main opportunity, was to convert the everyday creativity, democracy and participation to a starting point and ground for the work. Democracy was based on the ambition of minimising the actors' differences and combining their perspectives. The participation and creativity was enabled by concentrating on (users') everyday experiences that were naturally easy to relate to. This merged
the actors’ different backgrounds to a same level; due to the shared level of understanding the interaction was inspiring and constructive.

The goal was not easy to achieve. How to get all the different actors to collaborate and to commit to the work? The active participation of various actors such as users, designers, researchers, company representatives and other stakeholders was not self-evident but required thorough preparation of the events. The workshop process comprised of four phases: preparation of the event, attuning presentations, multidisciplinary group work and summarising presentation and discussion. Users and their everyday experiences prepared and attuned the ground for the work in all the cases. In two cases, the users were asked to self-document their experiences with probes for one week prior to the workshops. This kind of reflection prepared the users for interaction with companies and experts, but also provided a primer for the user workshops with tangible stories. For the purpose of the primers and background material of expert workshops the user workshop results were further developed to scenarios, emphatic personas and tentative main themes by the designer-researchers. In parallel to preparation, the workshops needed to be moderated sensitively with an intuitive and flexible manner. This required as well leadership as empathy in order to cater for individual actors.

The three cases comprised totally seventeen workshops. The scope and anticipated outcome of each of the projects was distinctly different. Same methods and ways of working were applied, but they needed to be adapted according to project-specific requirements: the nature of workshops and final outcomes varied in each of the cases. The collaboration led to three distinct ways to integrate visions:

1. Creating shared insights: Developing a powerful shared vision through learning from users became central in the case IKE. The workshops in this case became interactive learning events, where experts were challenged to rethink their practices and the current paradigm of the building renovation industry. The three user workshops outlined the critical points and best practices to be analysed further from the users' point of view. The expert workshop created a new approach to the experts by being based on the users' individual experiences. Looking at the renovation process from user point of view opened totally new insights to some of the participants in the project. The understanding framed a shared insight to the development needs, and created strong commitment and enthusiasm.

2. Discovering common denominators: In the case Mass.Be the needs of mobile workers were studied in order to find ways for the organisations to support them in a sustainable way through personalised, situation-specific solutions. Focusing in the individual user experience instead of company-specific organisational requirements led to the finding, that most of the needs were common to all organisations and job positions. The three user workshops summarised the main parts of the mobile work and life style of the mobile workers from different industries. The two expert workshops resulted generic parameters for mobile work, and structured model for mobile work situations, which were evaluated in seven company workshops. In this case, commitment and vision were created through the discovery of these common denominators among the actors.

3. Clustering competencies: The ongoing case Astat involves large number of companies with great variation in size and scope. In this project, the challenge of the
workshop process is to develop concepts that enable each company to commit to. This happens within a common conceptual framework based on user study and expert knowledge. Scenarios and concepts of living are utilised as means of clustering ideas and matching the competencies of the companies. The yet organised workshop provided a preliminary scenario for concepts of living, and the following two workshops will precede the work. The workshops provide a neutral ground for free interaction and testing of ideas together with other companies. The ideal outcome of the process will be several viable concepts, each with a cluster of companies willing to develop it further.

The strength of the workshops was the participants themselves as experts of diverse subject matters or their own life as users. Perhaps most importantly, the workshops offered a free discussion arena for the very heterogeneous group of companies to test and challenge their ideas and relate to other companies and other stakeholders on a non-competitive ground. This kind of series of workshops as a part of generative research necessitates committed work. The designer-researchers prepared, interpreted and made representations carefully and extensively, and conducted the events sensitively. In return, the university got genuine context for method development. The workshops required users', designers', researchers', company representatives' and other stakeholders' participation and willingness to collaborate open-mindedly, and concretely take time to the events. The results are effective in its content, and also as means to share the understanding in organisations. The whole process enabled learning and perceiving the challenges anew in an equal and constructive setting for collaboration.

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References