



HOUSEFUL

Co-creation Ideas Visual Summary

Demo site 1 General info

The **Demo site 1 in Sabadell** is currently being renovated for social housing. The building has eight residential floors with two flats per floor and it is owned by the Catalan Housing Agency.

Co-creation ideas in demo site 1

Co-creation idea 1.1: Training protocol for the use and maintenance of solutions

Rationale of the co-creation idea



A training protocol enables residents to adopt and use the technology effectively. It includes key messages and explains common terminology. The manual promotes the efficient and sustainable use of energy and water.

Description of co-creation idea



The protocol helps residents to understand all the benefits of using energy and water efficiently at home. The manual provides simple examples on how to manage consumption. It also helps residents to accept the Houseful solution and to adopt positive behaviour beyond the end of the project.

Benefits expected



The project is accepted, resources are used efficiently and Houseful solutions are long-lasting.

Co-creation idea 1.2: Visualization of the benefits of Houseful solutions

Rationale of the co-creation idea



Residents and stakeholders should be made aware of how Houseful measures can benefit them. Emphasis should go on the economic aspects and on environmental and energy data. This can help residents to accept the solutions and to use them together properly. Other stakeholders, such as investors and public administration, can promote the replication of Houseful solutions.

Description of co-creation idea






This involves communicating before and after the renovation. Online and physical meetings are organised to share information with stakeholders and future residents. The information panels, with visual explanations about the solutions implemented were then installed at the building entrance. In addition, an information guide about the renovation is distributed to residents. Moreover, the AHC website features a page about the Houseful project and its demo sites in Spanish. The information panels display a QR code to the AHC website. Residents and stakeholders will also be invited to a SaaS where they can visualise the benefits of the Houseful solutions.

Benefits expected






Residents will feel more comfortable and prouder of where they live. This in turn could lead to similar measures being applied in other buildings or districts.

Co-creation idea 1.3: Reducing costs of the Houseful solutions

<p>Rationale of the co-creation idea</p> 	<p>A circular house should not mean higher operational or maintenance costs. The project must therefore seek to minimise these while ensuring the solutions meet the residents' needs.</p>
<p>Description of co-creation idea</p> 	<p>This idea involves the identification of the different type of costs in all the Houseful Solutions implemented in demo site 1. Data is obtained from the LCC “Life cycle costing” and total cost ownership is calculated.</p>
<p>Benefits expected</p> 	<p>Total Ownership Cost for each solution and globally for the Solutions implemented in demo 1 is calculated. Final users can be shown the benefits throughout the life cycle of each solution.</p>

Co-creation idea 1.4: Social support in the long term of Houseful solutions

<p>Rationale of the co-creation idea</p> 	<p>Social housing management has to deal with residents and managers coming and going. Therefore, it is necessary to anticipate changes and to provide ideas for long-term social support in the area.</p>
<p>Description of co-creation idea</p> 	<p>This social support can be given in different areas. Whenever new residents arrive, this support includes all the information they may need (about the use of the solutions, the community itself, etc.) and provides them with a learning space. It also helps ensure that Houseful solutions have no impact on housing affordability, which is particularly important for a rental housing scheme. One of the aims is that tenants and the building managers consider the building as an integral part of the neighbourhood, consider the possible effects climate change might have in their building, and take advantage of the common areas to create a community and governance structures. This is facilitated with a dedicated person to it.</p>
<p>Benefits expected</p> 	<p>Long-term perspective on capacity building in social housing is addressed.</p>

Demo site 2 General info

Demo site 2 in Sant Quirze is a set of 3 residential blocks with 4 floors and 32 apartments. The buildings have constructive pathologies that particularly affect thermal comfort. They are owned by the Catalan Institute of Land. One of the blocks has a creche on the ground floor managed by the municipality.

Co-creation ideas in Demo-site 2

Co-creation idea 2.1: Visualization of the benefits of Houseful solutions

Rationale of the co-creation idea



Residents and stakeholders should be made aware of how Houseful measures can benefit them. Emphasis should go on the economic aspects and on environmental and energy data. This can help residents to accept the solutions and to use them together properly. Other stakeholders, such as investors and public administration, can promote the replication of Houseful solutions.

Description of co-creation idea






This involves communicating before and after the renovation. Online and physical meetings are organised to share information with stakeholders and future residents. The information panels, with visual explanations about the solutions implemented were then installed at the building entrance. In addition, an information guide about the renovation is distributed to residents. Moreover, the AHC website features a page about the Houseful project and its demo sites in Spanish. The information panels display a QR code to the AHC website. Residents and stakeholders will also be invited to a SaaS where they can visualise the benefits of the Houseful solutions.

Benefits expected






Residents feel more comfortable and prouder of where they live. This in turn could lead to similar measures being applied in other buildings or districts.

Co-creation idea 2.2: Training protocol for the use and maintenance of solutions

<p>Rationale of the co-creation idea</p> 	<p>A training protocol enables residents to adopt and use the technology effectively. It includes key messages and explains common terminology. The manual will promote the efficient and sustainable use of energy and water.</p>
<p>Description of co-creation idea</p> 	<p>The protocol helps residents to understand all the benefits of using energy and water efficiently at home. The manual provides simple examples on how to manage consumption. It also helps residents to accept the Houseful solution and to adopt positive behaviour beyond the end of the project.</p>
<p>Benefits expected</p> 	<p>The project will be accepted, resources will be used efficiently and Houseful solutions will be long-lasting.</p>

Co-creation idea 2.3 Co-management of shared Houseful services and community building to foster joint responsibility




<p>Rationale of the co-creation idea</p> 	<p>If the solutions are to be effectively applied in a social housing context, then it is important to keep stakeholders engaged, especially residents.</p>
<p>Description of co-creation idea</p> 	<p>To ensure solutions meet residents' needs, it is important to involve the residents themselves. They should have a way to report and discuss any issues they may have when using these solutions. This means creating a co-responsible neighbourhood community and close ties with various public administrations and other support bodies.</p>
<p>Benefits expected</p> 	<p>The benefit would be greater social cohesion in the building and the surroundings. Local communication channels would developed.</p>

Demo site 3 General info




Demo site 3 in Cambium is a community project in an old military barrack in Styria, Austria. As a frontrunner building, demo 3 has the potential to be a regional role model. Cambium accepts this role and aims to share its experiences.

Co-creation ideas in demo site 3

Co-creation idea 3.1: Effective communication of Houseful activities including the use and maintenance of Houseful solutions considering aesthetics of these

<p>Rationale of the co-creation idea</p> 	<p>A key aspect of disseminating and replicating circular solutions is effective communication. Potential scepticism or prejudices (e.g., odour) can be addressed and resolved.</p>
<p>Description of co-creation idea</p> 	<p>Houseful solutions are promoted via different formats for different target groups:</p> <ul style="list-style-type: none"> • Solutions are shown in action. • Environmental impacts of linear models are communicated • A long-term strategy is developed for spreading solutions • A communication mechanism is set up to identify and mitigate potential pitfalls.
<p>Benefits expected</p> 	<p>Stakeholders will provide positive feedback about dissemination. Long-term trust and interest in circular solutions will grow.</p>

Co-creation idea 3.3: Use and maintenance of Houseful solutions: training activities

<p>Rationale of the co-creation idea</p> 	<p>An important aspect is operation and maintenance. Ideally, residents should have a basic understanding of nature-based technology and how it works. External training activities can support awareness raising and dissemination.</p>
<p>Description of co-creation idea</p> 	<p>Basic training helps Cambium residents to maintain the solutions. Training could also be provided for schools, universities, municipalities and follower buildings to increase participation and understanding.</p>
<p>Benefits expected</p> 	<p>The Cambium community uses and maintains the solutions effectively. As the residents will better understand the solutions, their trust and interest in them grows.</p>

Demo site 4 General info

Demo site 4 (Donaufelder Strasse 115) is a residential building consisting of 54 social housing units, a day care centre, and a supervised flat-sharing community for young people. It is a building representing typical Austrian social housing. Therefore, the context of the demo site is wider and encompasses a vision of sustainability and circular housing in Austria and Vienna.

Co-creation ideas in demo site 4

Co-creation idea 4.1: Identification of circular materials for the housing sector

Rationale of the co-creation idea



Incorporating circular materials in projects, which is the main objective, is not always easy. It depends on several factors including: experience of the technician, the availability of information about products already on the market, and the availability of suppliers close to the building site.

Description of co-creation idea






The aim is to co-create a vision about materials. The teams determine how much they cost and where they come from. They see if the materials can be applied in concrete cases. Furthermore, they have a critical perspective in order to help decision making. Important concepts are recycled content, embedded energy, durability, flexibility variability and disassembly of materials/products.

Benefits expected






Teams have clear and comparable information at their disposal. This information allows them to reduce cost, prevent waste and increase circular economy potential.


Co-creation idea 4.2: Key messages for future communication on Houseful solutions

<p>Rationale of the co-creation idea</p> 	<p>In order to upscale the Houseful solutions, relevant local stakeholders must first be involved in the project 'and then 'informed' about the possibilities of the circular solutions.</p>
<p>Description of co-creation idea</p> 	<p>This idea involves getting non-technical experts excited about the Houseful solutions. This is achieved by creating easy-to-digest key messages and content on the solutions' positive outcomes. Videos, podcasts and publications are used to communicate this content.</p>
<p>Benefits expected</p> 	<p>Idea 4.2 provides a number of new communication tools, specifically aimed at reaching a broader audience and promoting the replication of the Houseful solutions.</p>

Co-creation idea 4.3: Means to promote the participation of actors in the Houseful solutions

<p>Rationale of the co-creation idea</p> 	<p>In this demo site, the context of the Houseful ideas encompasses a vision of sustainability and circular housing in Vienna. For the future, what is aimed for is a socially heterogeneous city with a stronger neighbourhood network of mutual support. At the building level, the objective is to reduce the gap between sustainability and affordability while increasing the share of circular solutions. To achieve this, all building sector stakeholders should be involved.</p>
<p>Description of co-creation idea</p> 	<p>This idea deals with the decision-making structure around Houseful solutions. For that it was important to determine which actors have an interest in or influence on the Houseful solutions. A guide is developed to depict which aspects to consider before, during and after the implementation of the solutions. The aim is to help the housing value chain adopt the solutions. It is thus important to consider ways to establish the socio-economic requirements for successfully applying the ideas. It is also important to determine how to define roles and responsibilities and to set up mechanisms for communication before, during and after the implementation of the ideas.</p>
<p>Benefits expected</p> 	<p>A policy brief about recommendations on governance circular housing is available. A Network of Social Housing Supporters is set up as well as minimum requirements about governance with and for residents.</p>

Co-creation idea 4.4: The principles of Aesthetics for circular Houseful solutions

<p>Rationale of the co-creation idea</p> 	<p>Aesthetics as a means for effective communication: the aim would be to show that sustainability and circularity as such should be considered as the best chance to be aesthetic and valuable.</p>
<p>Description of co-creation idea</p> 	<p>The objective is to spread the message that smart nature-based and circular solutions allow a different relation to the living space. This relation is a good one and can be seen as aesthetic. Functionality is also important. If solutions are not functional, they won't be used and cannot be seen as beautiful.</p>
<p>Benefits expected</p> 	<p>Effective communication is supported, trust and engagement increase, and solutions are more likely to be replicated.</p>



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