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<td>First version submitted</td>
</tr>
</tbody>
</table>

Table of content

1. Introduction .................................................................................................................. 3
2. Overview on user-centred business models ................................................................. 4
3. Platform based business model ..................................................................................... 7
   3.1 Why a TripleA-reno platform? ............................................................................... 9
   3.2 The customer journey ......................................................................................... 12
   3.3 See Think Do Care ............................................................................................. 13
   3.4 From user-centric towards people-centered development ..................................... 14
4. Replication and Exploitation of the TripleA-reno results ............................................ 18
   4.1 Key exploitable results ....................................................................................... 18
   4.2 Plan for Exploitation and Dissemination of Results (PEDR) .................................. 19
   4.3 Inputs for the Plan for Exploitation and Dissemination of Results (PEDR) ............ 19
5. Storytelling Canvas ....................................................................................................... 22
   5.1 Storytelling results from the 1st Gamification Task Force Meeting ....................... 24
1 Introduction

This document was produced starting from the activities carried out in the WP6 in the first six months of activity. WP 6 starts with devising a replication and exploitation plan, including a set of special indicators to assess the process, outcome and impact of scaling up.

Activities: In this task following activities will be done:

a) Analysis and identification of possible key exploitable results (KERs)
b) Development of an action plan to increase the scalability of KERs
c) Analysis of market and business models suitable for the exploitation and scalability of KERs
d) Finalizing the scaling-up strategy and plan
e) Development of a user-centered business plan to continue the activities after the project duration

Actions: beginning from M6, the following actions have been initiated:

M6: A first Working Session on WP6 – Replication and Exploitation of the TripleA-reno results has been organized during M2 to discuss with the GA the possible replication and exploitation strategies for the TripleA-reno project.

M9: A separate Web meeting is organized by WP6 leader (HIA) with all the relevant WP6 partners, in which the Plan for the Exploitation and Dissemination of Results (PEDR) template is firstly introduced, to start with a deeper elaboration of the first plan for exploitation in the next months of the project.

M10: A physical half-day meeting is organized to further discuss KERs and elaborate the user journeys for the usage of the TripleA-reno platform, under the perspective of relevant stakeholders represented by the project partners (HE, UIPI, HIA, ISSO, UNIBO, IRI-UL, IVE)

M12: A draft plan for the TripleA-reno replication and exploitation plan and user-center business model is ready at the end of M12 with regular updates in M18, M30 and at the end of the project.

As a consequence, this version of D6.1 has to be regarded as a starting point for the further TripleA-reno replication and exploitation plan, that will be progressively updated and reviewed to take into account the indications and suggestions. These will be implemented in the following phases of the TripleA-reno project.
2 Overview on user-centred business models

The ability to envision user needs and integrate them into a project value proposition is a vehicle towards more effective and sustainable business models. However, many projects still struggle to involve the user in their business model design method. Therefore, in this deliverable we are investigating what user-centred approaches to more sustainable business model design exist in practice, and how they actually are impacting the market uptake of deep renovation practices.

In spite of the clarified potential for business models underpinning energy efficiency measures to generate profit in the clean energy market, the uptake of deep renovation practices is not flourishing to its full potential (IEA, 2015). The OECD mentions several barriers that still distress the market uptake of energy efficiency measures, among which the need for long-term capital for often comparatively small investments, the strain of measuring and distributing the energy savings due to deep renovation practices, as well as general lack of familiarity among consumers with renovation concepts (OECD, 2016). The dispute here, with even the economically sound business models, is that, for the user, there is an apparent lack of attractiveness that goes beyond the mere financial savings or economical profitability offered by the investment (IEA, 2015).

A conceivable resolution to upsurge the market uptake of renovation practices, is therefore the design of business models, which focus on the multiple environmental, social and financial benefits deep renovation practices might deliver for the different stakeholders involved in the process. Benefits, that are sometimes hard to monetise and generalize among the involved user groups, as they do not always resonate to the provider/receiver of these values equally, but on the contrary can develop contrasting interests. (Boons and Ludeke-Freund, 2013; Mourik and Rotmann, 2013; IEA, 2014a).

This deliverable aims to first explore which business models exist in the field providing multiple types of user-centred value in delivering deep renovation practices. A key challenge to unlocking non-monetary values, is indeed the discovery which these values are and what they mean for different types of users. A hypothesis supported by part of the research developed by Tolkamp et al (2018) postulates that:

"if the business model emphasises user needs and user involvement to discover their problems, this could lead to well-tailored value propositions and improved business model design, combining monetary and non-monetary value”.

Consensus is indeed growing around the idea that EU-funded projects should develop more user-centred solutions and services to tackle deep renovation practices (D’Oca et al, Podjed et al, Tisov et al). The role of users in energy efficiency building renovation and innovation processes and their impact on the business model have been identified as key areas for current EU-funded projects (MOBISTYLE, ABRACADABRA, DRIVE0, HAPPEN, ALDREN, iBROAD, etc.).

In the energy efficiency and deep renovation sector various barriers that relate to the user have been identified (D’Oca et al). An emphasis on user involvement in the business model design could therefore be a starting point for removing these barriers and for reducing the complexity that users encounter during the renovation journey. As an example, a key research question for the IEA DSM research was thus if and how user involvement can lead to developing more sustainable, energy efficiency business models, and to which extent these improve the value propositions offered, as well as their market uptake.
The central question handled in this early deliverable on exploitation and replication for the TripleA-reño project is what user-centred approaches to business model design exist in practice in the field of renovation practices and platform based service provision, and how can they impact the market uptake and exploitation of the proposed by the TripleA-reño renovation approach.

A potentially interesting contribution to the discussion on the TripleA-reño business model comes from stakeholder theory. It supports the vision that the entire set of interests of all stakeholders that can either affect or be affected by the success of a project, product or service must be taken into account (Jensen, 2001; Sen and Bhattacharya, 2001). Applying the stakeholder theory would thus allow the TripleA-reño project to take into account more types of value and more stakeholders compared to a situation when a project is only aiming for profit maximization. In this deliverable we focus on the importance and role of a specific category of stakeholder for the TripleA-reño project: the project partners. Involving the project partners in the design of a the TripleA-reño business model is envisioned as a way to help isolating the diverse user related values represented by their organizations including architects, engineers, consultants, ICT developers, housing associations, research institutions, association of property owners, and municipalities.

Highlighting user needs through user involvement is not a new idea: the term ‘user-centred design’ actually originates from human computer interaction in the 1980s as described by Preece et al. (1994) who suggested a central position for the user and their wishes through feedback from user involvement. In the different social sciences and humanities focusing on the energy field user involvement is a much discussed topic as well. More recently, the role of the user and their involvement in innovation as well as the concept of the actual ‘user’ have taken many different forms (Verhees and Verbong, 2014). However, only recently user centeredness started to gain more attention in the field of business modelling.

Identifying user needs and user-centred approaches to business model design are therefore essential elements to delivering effective exploitation and replication plans for EU-funded projects. The capability to identify user needs correlates positively with profit generation, and the increase in market uptake. For the development of innovative services that focus on deep renovation practices, understating and isolating customer needs is also considered an important entrepreneurial skill in current practices (i.e. see the Allantie+ and Energiesprong models in the Netherlands). Within the building construction sector however, current renovation practices rarely achieve more user-centred business model or effectively sense user needs.

Cui and Wu (2015) define three conceptual roles for users in a firm’s innovation process: they can be involved as information source, as co- developer and as co-innovator (Cui and Wu, 2015).

In TripleA-reño, key stakeholders of the renovation process are included as a co-producer of value: these users are given a practical role in the creation and delivery of the value proposition and essentially becomes a part of the business model.

A common example is co-production of value is eBay, where the user takes upon him or herself the role of sales agent and performs marketing activities itself (Zott et al., 2011)i. The same mechanisms apply in the energy efficiency market: users can act as salesmen, provide a channel to their peers or perform other activities that benefit the user as well as the firm. As mentioned before, such involvement can improve acceptance and trust among users (Sauter and Watson, 2007; Raven et al., 2009). Generally speaking, the
key motivational factors for engaging the user as co-producer is the generation of trust, not only among the involved user, but also among its peers.

Another example of co-innovation was present at Buurkracht: groups of users in the Buurkracht initiative were asked to consider the values added by retrofitting and insulating window panes and how these correspond with local issues. It turned out that crime rates were perceived as high in the region and that an aspect of safety could be added to the value proposition, making it more valuable to local residents. This (tacit) information was gathered and implemented by these users.

The process of learning and adapting in co-creation with the users can furthermore help projects to find attractive but previously non evident values, which the user is willing to pay for. For instance, Woonconnect interviewed the residents of a large apartment building. Thanks to this direct interaction with the users, the company learned that energy efficiency was not a salient trigger, instead, drafts and noisiness were top of mind issues. These issues was then solved with simple retrofitting measures that required a minimal change in the value proposition for Woonconnect. This, to confirm that taking advantages of the user’s knowledge can also be a cost-effective market strategy for product positioning.

In this deliverable, a broad range of characteristics of user involvement and its underlying mechanisms have been discussed. However, the question whether user-centered approaches to business model design improves the market uptake of deep renovation practices and services cannot be answered conclusively at the time being. What is a fact, is that in practice many EU companies in the renovation market still struggle with the implementation of a user-centred business model design. In fact, directives and practical insight that supports the experimentation with user-centred approaches is still needed.
3 Platform based business model

Objective of the TripleA-reno project is to develop a platform that serves a service and tool for key stakeholders involved in the renovation journey, to facilitate understanding, communication exchange, decision making, practices and guarantee high efficient performance.

With this, it is paramount to clarify first what a platform and a platform-based service model are exactly.

Platforms have been diversely defined. In short, a platform can be considered as a business model that creates value by facilitating interaction and exchanges between two or more groups, most frequently users and suppliers. Sangeet Choudary defined platforms as “business models that allow multiple sides (producers and consumers) to interact [...] by providing an infrastructure that connects them”. John Hagel states that platforms are made of: “a governance structure [...] that determines who can participate, what roles they might play, how they might interact and how disputes get resolved” and “an additional set of protocols or standards [...] to facilitate connection, coordination, and collaboration”. The recent Global Survey on The Rise of the Platform Enterprise defines platform business as a “medium which lets others connect to it”.

The development of platform-based service business models started in the United States, where warehouses have more and more difficulties to sell their products. At the current time, seven among the most success companies in the world work with a platform-based business model services, including Facebook and Amazon.

To completely grasp the current state of post-industrial, digitally enabled economy is certainly key to understand also how platforms fit in the overall digitally transformed market and societal frame. What are the types of players? What are the market drivers? What are the evolutionary forces that operate in the context? What comes after platforms as we know them today? How are platforms evolving eventually? These are all key questions. Different types of platform can be distinguished. A few examples are:

- Services marketplace (Like AirBnB)
- Product marketplace (Like Amazon and Ebay)
- Payments platforms (Like Paypal)
- Social Networking platforms (Like Facebook)

Global platforms use digital technologies and new ways of thinking in a smart way to develop innovative business models. Facilitating interaction between others, usually between supply and demand, is something that global platforms are strong at. An important point, because platforms are most successful when there is a good balance between supply and demand.

Platforms create value in two different ways, and differ accordingly in their categorization:

1. Transaction Platforms: Facilitating transactions between different types of individuals and organizations that would otherwise have difficulty finding each other.
2. Innovation Platforms: Providing technological building blocks that are used as a foundation on top of which a large number of innovators can develop complementary services or products.
Compared to traditional infrastructure, setting the bottom of the value chain, platforms aims to reach at the top of the value chain and directly interact with the users.

<table>
<thead>
<tr>
<th>What do they offer?</th>
<th>INFRASTRUCTURES</th>
<th>PLATFORMS</th>
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<tbody>
<tr>
<td></td>
<td>Mostly unbundled modules made of whitelabelled building blocks</td>
<td>Bundled experiences that are strongly linked to the brand image and presence</td>
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<tr>
<td>Key elements of value</td>
<td>The building blocks making up the value proposition that adopters can recognize</td>
<td>The channels and contexts making it easier to perform transactions and build relationships inside the platform</td>
</tr>
<tr>
<td>Key value creation process</td>
<td>Supporting the creation of more value propositions by combining blocks</td>
<td>Givespace and empower peer to peer relationships and transactions to happen</td>
</tr>
<tr>
<td>Main Competitive Advantage</td>
<td>Economic Efficiency</td>
<td>User (peer) Experience</td>
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</table>

TripleA-reno idea of modern platform service for deep renovation revolves around four major traits. TripleA-reno wants renovation services to be fast and in fast control like a Uber ride can be; wants them to be personalized like the latest model of Nike sneakers we can self-configure up to the colour of the swoosh; wants them to be relevant as Amazon’s suggestions and human like the chatbots with whom you can relate by natural language or, better, like the Airbnb host you can talk to via WhatsApp, feeling like you’re really going to sleep at a friend’s place.

| FAST : instantly searchable, identifiable and accessible | PERSONALIZED : enabling us to directly intervene in creating custom solutions, perfect for our needs (affordable) |
| RELEVANT : fulfilling our needs contextually when they occur, in a relevant and precise manner without needing our intervention (attractive) | HUMAN : relating with us in a friendly, interpretable, understandable, accessible, sensible manner, interacting with us as human beings (acceptable) |
3.1 Why a TripleA-reno platform?

Understanding platforms as a modern extension of traditional infrastructures to connect demand and offer in the renovation market, is the first stepping stone to understand the exploitation potential of the TripleA-reno platform as a tool.

A matching position is remarkable for TripleA-reno: the strong focus on marketing and customer needs. TripleA-reno has a strong focus on communication. With the TripleA-reno platform, users will be facilitated to communicate easily during a renovation. Analysis of all the data available will give insights in best practices in renovations and will show the quality of the renovations.

Because of the mediation role between stakeholders involved in the renovation process, the platforms has exponential potential of growth. Both minor service providers and dominant suppliers can join the development of the platform, in which they can take part via API’s. This cooperation, is foreseen changing the market for home renovations. Examples like Airbnb and Alibaba show how suppliers can get active quickly in their reference markets. These platforms have an impact on the market because of the strong focus on marketing and lower prices of the inherent service provided, because of their direct connection to manufacturers and brands. This is consistent with the vision of TripleA-reno to make deep renovations attractive, acceptable and affordable.

Platforms act as old fashioned middlemen: they offer products and services based on their knowledge and the need of the end users. As an innovation example, Amazon connects third party sellers with consumers, Airbnb lets people rent out their properties and spare rooms to guests, Netflix connects movie makers and viewers and TV series Uber connects drivers and travelers. The platform takes care of the infrastructure and with that, makes it easy for suppliers and end users. That’s the way TripleA-reno works as well: a middleman between the users (the home owners) and the suppliers (architects, engineers, contractors). Connecting, communicating, reinsuring (and motivating) throughout the renovation process (and after).

Many are the opportunities, as visions for key exploitable results, for the platform-based plan for TripleA-reno:

- A platform allows users to work together, with an emphasis on collaboration. For classic suppliers it’s hard to compete with this. Classic suppliers see other suppliers as competition, while platforms connects suppliers and users. And collaborates with multiple suppliers.
- A platform is successful when it’s innovative and when there are advantages for both parties (suppliers and end users).
- A platform is able to earn money without damaging in the incomes of the others competitors in the market.
- A platform cuts the adoption time of the products and services supported in the market.
- A platform creates the possibility to build a network with existing parties.
- A platform creates the possibility to get enough communication & impact on short term.

The biggest added value of a platform lies in the reduction of friction in the old supply - demand model. The TripleA-reno platform reduces friction on affordability, acceptability and attractiveness. It solves the friction
of the user not knowing what to do before, during and after a renovation, while it solves friction for the suppliers as well: their instructions will be more clear and they will have the right tool with TripleA-renovation to complete the job.

The concept of Customer Relationship will be exploited: the TripleA-renovation platform will act as the kind of agent who’s responsible to connect peers to opportunities, that acts as intelligent broker, and that takes care of shared information, eventually translating these into intelligent algorithmic features.

Entities involved in the ecosystem may find two macro-types of incentives in joining the TripleA-renovation platform and starting to produce value through the platform: intrinsic motivation (advantages to joining the system vs. playing independently on the same market) and give take-opportunities (possibilities to rebuilding relationships, transaction and trade among other players) through the platform.

The TripleA-renovation platform will provide a long term experience boost in the renovation journey, compared to the episodic touchpoint that might have occurred outside the platform. As an example, Airbnb hosts are incentivized to make transactions happen inside the platform thanks to the powerful reinforcing effect that reputation gives them in attracting customers to the next booking and emerging from the anonymity of the crowd.
The TripleA-reno platform also gives the chance to small suppliers to have a bigger audience (that they wouldn’t reach on their own). In TripleA-reno users can leave reviews about the suppliers they worked with. Suppliers can therefore focus more on quality (get a good review) than on traditional marketing for themselves (they will be found via the platform).

The TripleA-reno platform must behave as a tool whose primary feature is to empower and enable independent exchanges to happen in the renovation market and to enable customers’ (construction industry, entities, peers) usage, experience, appreciation, and retainment.

The TripleA-reno platform also offers the renovation end user much more choice for less work (they don’t have to find all these companies to compare themselves) compared to traditional renovations experiences.

Other key aspects driving platform success is the creation of a context for learning and improving skills. In particular, some distinctions can be made, based on the focus of the transaction, product or service provided.

<table>
<thead>
<tr>
<th>AGGREGATION PLATFORMS</th>
<th>Focus on transactions, connecting users to resources</th>
</tr>
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<tbody>
<tr>
<td>SOCIAL PLATFORMS</td>
<td>Focus on social interactions, connecting individuals to communities</td>
</tr>
<tr>
<td>MOBILIZATION PLATFORMS</td>
<td>Helping people to “act together” on a long term challenge</td>
</tr>
<tr>
<td>LEARNING PLATFORMS</td>
<td>Aiming to facilitate learning, help participants realize more together and one their capabilities</td>
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</tbody>
</table>

The TripleA-reno platform will leverage on a mix of these traits, with the different users (customer journeys) emphasising on separate elements: i.e. home owners focusing on social interactions, connecting individuals to communities, installators focusing on learning and improving skills, etc.

The platform offers certain securities for the end user. As an example, no matter from whom the home owner orders a product or service, they can rely on the trustworthiness and customer service of the platform. In this, the TripleA-reno platforms get success by:

- Developing trust between the demand and supply side;
- Attracting potential users by offering a brokerage service that supports the renovation decision making process, material purchase and professional support selection;
- Responding to interest areas, and target users needs;
- Prioritizing affordability of renovation solutions (i.e. including information on access to incentives, tax reduction for deep renovation process)
- Developing a one-stop-shop service supporting the customer journey
3.2 The customer journey

The first radical mindset and operational innovation in TripleA-reno, when facing the platform service and product design, is to leave behind the idea of a linear business models, with a service provider from one side and a service recipient (or customer) from the other. The traditional business model canvas (BMC) created by Alex Osterwalder remains indeed a great tool to represent linear aspects of businesses, but fails in modeling emerging ecosystem-based and multi-sided platform models where different players, have different customer journeys, including different motivations to join, needs, and visions to co-participate in the whole value creation of the process.

What we are currently trying to shape by leveraging on customer journey is indeed not (just) a business model, but a platform-shaping strategy

<table>
<thead>
<tr>
<th>TripleA-reno SHAPING STRATEGY (based on customer journeys)</th>
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<tbody>
<tr>
<td>Entity</td>
</tr>
<tr>
<td>Home owners</td>
</tr>
<tr>
<td>Architects</td>
</tr>
<tr>
<td>Engineers and Consultants</td>
</tr>
<tr>
<td>Building contractors</td>
</tr>
<tr>
<td>Municipalities</td>
</tr>
<tr>
<td>Manufacturers</td>
</tr>
<tr>
<td>Installators</td>
</tr>
<tr>
<td>Software developers</td>
</tr>
</tbody>
</table>

This customer journey includes all the stages users go through when interacting with a company, from looking up the products or services to buying products online, calling customer service and posting on social media about the company. For TripleA-reno, the customer journey is the path suppliers and users follow in discovering, using and reviewing the platform. In a broader perspective, every interaction with TripleA-reno is part of their customer journey of deep renovation.

When users make a decision or buy a product or service, that’s just the tip of the iceberg. The same counts for home owners and supplier start using a platform. In the specific case of TripleA-reno, the customer journey contains all the relevant steps leading up to the renovation. These correspond to the functionalities of the platform in the three levels: 1) design, 2) renovation 3) after renovation. However, the customer journey doesn’t stop after renovating. The TripleA-reno platform also maintains insights and services to the home owners and after renovating. This, aftercare is also one of the key exploitable results the TripleA-reno platform.

A lot of aspects influence the TripleA-reno customer journey. These include speed of delivery, the platform design and usability itself, the gamification features, the contact between suppliers and users etc. Every time a user enters in contact with a TripleA-reno product and service, this is called a ‘touchpoint’. The architect
using the platform during the design phase is a touchpoint. Same is for a user visiting the website or a home owner contacting a supplier via the TripleA-reno platform. The goal is to make every touchpoint a smooth as possible. Each weak link in a touchpoint (a slowly loading website, an unkind conversation with customer service, an error while ordering) could send the user or supplier elsewhere. That’s why it is important to keep an eye on the customer journey and improve the quality of the touchpoints it as well. To make sure users and suppliers don’t go elsewhere.

Focusing on the customer journey and the quality of the touchpoints, it helps to frame the experience of using the TripleA-reno in its whole, and for the different stakeholders involved.

3.3 See Think Do Care

One example in how to imagine the customer journey is by looking at Google’s See-Think-Do-Care model. This model helps to see the stages customers can go through. The principle of the model is that the more people that think about you in relation to competition, the higher the likelihood that they buy when they are ready to buy. With Google's model you can respond to the needs of your customer better, depending on the phase in which he or she is sitting.

- **See**: In this phase the potential customer is passive and has no purchase intention. You work on the reputation of your brand and make sure you get on top of mind. You focus quite broadly on anyone who might find your product or service interesting.
- **Think**: The potential customer is now in the consideration phase. He is looking for a product in your industry. It doesn’t specifically have to buy your product. He’s looking for inspiration, information and gets more knowledge.
- **Do**: The potential customer is now ready make a purchase and has made up his mind about from whom to buy.
- **Care**: The client has done a purchase and is happy with it. In this phase you want to keep connecting with the customer.

Looked under a marketing perspective, one of target groups in the TripleA-reno exploitation model would look like this:

<table>
<thead>
<tr>
<th>Who</th>
<th>Example: the home owners</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>See</strong></td>
<td>Anyone who might use the TripleA-reno platform</td>
</tr>
<tr>
<td><strong>Think</strong></td>
<td>Anyone who would use the TripleA-reno platform</td>
</tr>
<tr>
<td><strong>Do</strong></td>
<td>Anyone who would use the TripleA-reno platform showing a lot of intent</td>
</tr>
<tr>
<td><strong>Care</strong></td>
<td>Any customer who used the TripleA-reno platform</td>
</tr>
</tbody>
</table>

Looking at the TripleA-reno exploitation strategy under this perspective, it becomes clearer to map the customer journey.
User journeys and the Google See-Think-Do-Care model lead us back to platforms. For a lot of web shops and websites, all the phases of the customer journey are crucial. The **TripleA-reno platform will change the traditional phases of the journey of deep renovation.** The user journey of the customers of suppliers will change. Suppliers will (also) be found via the platform. When that works well, they will have to invest less in the ‘see’ phase themselves. The ads will become less generic, because the platforms provide in relevant data about the customers. Also the Do and Care phase on a platform is important. You want to make sure customers keep coming back to you. Every phase is a different entity because the wishes of the end user are different per phase. During the See and Think phase, the platform offers product suggestions, alternatives & information about the products or services. They actual purchase takes place via the platform (the Do phase) and in the care phase people an leave reviews or ask questions about their purchase.

3.4 From user-centric towards people-centered development

Regardless of industry, product, or company size, the user-centric approach is known to increase customer retention, referrals, advocacy, cross-selling, and all in all improve exploitation of project results. **By tailoring the TripleA-reno platform to the wishes and visions of practitioners, suppliers and home owners, we’re creating a renovation service that they actually need and want.** This is achieved by making sure the platform includes functionalities, tools and services that users need. By constantly looking at both the demand-side and suppliers wishes, TripleA-reno will also generate insights for cross-selling. As an example, home owners can use the platform during the design phase, but can also buy the required material and connect with the contractors for their renovation. In this, the TripleA-reno platform provides the complete service and product package for deep renovations. Also, by allowing home owners to leave a review, TripleA-reno also focusses on customer retention, referrals and advocacy for both the platform itself as the suppliers they work with.

**The 4 main components of user-centricty in TripleA-reno are:**

1. **User research.** Understanding the TripleA-reno platform users is essential. They are the reason the TripleA-reno renovation approach exists and brings innovation compared to traditional renovation practices. The success of the exploitation strategies for TripleA-reno depends on how well the platform development will understand and include the needs, wishes and practices;

2. **Product/service utility.** TripleA-reno needs to make sure to meet the needs of both users and suppliers, and transform the insights from user research into product development directives that focus on design products and services that are useful and usable. Also, the TripleA-reno platform must provide a good user experience: the emphasis must be placed in attractiveness and acceptability. This means making the renovation journey simpler, responding to users’ feedback and providing suitable features and tools for practitioners.

3. **User engagement.** TripleA-reno guest close to the users early in their decision process (see, do think, care) by using ethnographic study approaches. Along the whole renovation journey, the TripleA-reno platform will constantly provide help, inform and educate the potential users.

4. **User & supplier satisfaction.** TripleA-reno needs to make sure to have and keep a strong relationship with its users after the renovation is concluded. Both home owners and practitioners must use the Platform Level 3 functionalities, services and support for this.
The 3 key challenges in the TripleA-reno customer centric development are:

1. **Identifying platform users and suppliers.** TripleA-reno needs to stay on track with who your they are, and must keep track of their customer journey and touchpoints (from the demand/offer sides).
2. **Gathering customer data.** TripleA-reno needs to clarify the level of accessibility of the data collected about the user.
3. **Keeping all teams involved.** TripleA-reno must keep all partners representing key users of the platform focused on the user centric approach.

Furthermore, the TripleA-Reno project aims to directly involve the “users” to become active partners and active co-creators in the platform design and development process through implementing a **more participatory, people-centred approach**. A useful tool and starting point for making sense of the various cross-cutting fields of study and the practices, research approaches and methods of people-centred development is Elizabeth Sanders’ “Map of Design Research” (Sanders 2006; 2008). In her map (see Figure 1), Sanders defines existing design research types/approaches as “zones” (large circles), “clusters” (larger bubbles within zones that signify the existence and support of professional organisations), and “bubbles” (smaller, not yet supported by professional organisations). They are positioned along two dimensions. The vertical dimension is defined by approach (research-led or design-led), whereas “the research-led perspective has the longest history and has been driven by applied psychologists, anthropologists, sociologists, and engineers” (Sanders 2008:13). The horizontal dimension portrays the “mindsets of those who practice and teach design research” (Sanders 2006:5).

![Map of Design Research](image)

*Figure 1: Map of Design Research (Sanders 2008: 14).*

In continuation (see Figure 2), Sanders overlays “People-Centered Innovation” on the map of design research. As is evident from Figure 2, People-centred innovation (development) leans towards the participatory model,
where “users” become partners in the design/development process. She identifies three main research types: Applied Ethnography, Participatory Design, and Lead-User Innovation.

Sanders first presented the map in 2006 as a “cognitive collage” of design research that was still taking shape (Sanders 2006: 4). She subsequently altered some details (2008) and invited others to work on the map from their perspectives. From our standpoint - and taking into account the literature published in the 10 years after the first publication of Sanders’ map - we might also add to this overview the more recent and expanding field of Design Anthropology, placing it at the intersection of the People-Centred Innovation and User-Centred Design zones between Expert and Participatory Mindsets, leaning towards Research-Led approaches.

In the context of WP2 (specifically Task 2.3 and 2.4) the people-centred ethnographic studies have been carried out to research and involve people (demo case occupants) in the platform design process. The overall user- or people-centred study & development approach was based on the following key premises:

• People (occupants) are involved in platform design & development phases in order to create meaningful, relevant, useful, socially responsible, user-friendly, and sustainable solutions. People (occupants) are thus considered more than just “users”. Instead, they became active co-creators of solutions.

• The dialogue between engineers, developers, research, design teams, and people (potential users of new solutions) is ongoing throughout the development process, including design. Research is part of the creative process in platform development, and not merely a problem-solving tool.
• Researchers have the unique knowledge, methods, and skills for creating a link between occupants and other relevant stakeholders (e.g. architects, engineers, consultants, building constructors, housing company, software developers etc.), thus enabling and supporting the transition from users to active co-creators.

Some of the key ethnographic research techniques implemented in the WP2 are summarized below:

• Using all five senses, the TripleA-Reno ethnographers served as the primary tool of data collection, staying in the case study context for certain period of time.

• Participating in a wide range of activities that were both routine and extraordinary, along with the people (occupants) who were the full participants in that context.

• Recording observations and thoughts in fieldnotes in case study settings.

• Learning from, interpreting and building on the perspectives of the people in the research setting inductively, using both explicit and tacit information in analysis and writing, to develop (local case study) theories for testing and then adapting these theories for broader use (i.e. TripleA-Reno platform design & development).
4 Replication and Exploitation of the TripleA-reno results

A working session was organized in M2 to discuss with the GA the possible replication and exploitation strategies for the TripleA-reno project. After gathering experience from 2 SSERR workshops (BImplement & MOBISTYLE), HIA as coordinator believes it is important to elaborate first brainstorming and discussion among the partners at this early stage of the project. Hence, TripleA-reno can learn from these experiences and start clarifying – or even avoiding – some issues, that could pop up later in the project stage from the early stage. Hence, HIA organized a preliminary working session on Replication and Exploitation in M2, as the first TripleA-reno discussion where partners are encouraged to try/start thinking of the Key exploitable results (KER) in TripleA-reno.

The concept of exploitation as a value-driven process, entails the fact that the notion of value can have different meanings. These, among others, include (i) Generate revenue if there are circumstances, or if there are customers available to pay for the new technology and products, (ii) fulfil an existing gap or (iii) generate impacts, etc. It is paramount, in this context, to make a distinction between exploitation (utilization of results) and dissemination (disclosure of results). The concept of exploitation goes indeed beyond ticking box for submitted deliverable (report), but show on the other hand how real impact and sustainability of results is achieved on long-term. The characterization of intrinsic Key Exploitable Results (KERs) and the clarification of the issues connected with the KERs, will together help the project consortium to have a clear understanding what needs to be achieved at the end of the project duration.

In case one of the project beneficiary fails to accomplish its obligations with reference the improper implementation of the action, the grant may be reduced (see Article 43 – Model Grant Agreement).

4.1 Key exploitable results

Using the Customer Journey mapping model, TripleA-reno can outline and tailor the functionalities needed from users and suppliers at the different levels, and define the touchpoints between users. Once a full view on the customer journey is available, the key exploitable results for TripleA-reno will emerge.

In Task 6.1, project partners representing the interest and needs of key users of the TripleA-reno platform are asked to start brainstorming on their customer journey. A set of punctual information are gathered from these partners (Housing Europe, REHVA, ICLEI, UIPI, ACE) including: Which problems does TripleA-reno solve for the members of your institutions? Which are the most significant functionalities of the platform for them? Which touchpoints are more important during the customer journey? Where and how the TripleA-reno platform can help your members? By filling in the customer journey under these lens, we can see TripleA-reno from their perspective and see where to optimize.

During the whole project duration, the customer journey will be improved, based on the experience gathered trough storytelling, demonstrating, testing, as part as the TripleA-reno Roadshow.
4.2 Plan for Exploitation and Dissemination of Results (PEDR)

The Plan for Exploitation and Dissemination of Results (PEDR) is a strategic document for H2020 project partners helping them to establish the bases for their intellectual property strategy, dissemination and exploitation activities. This is a template document developed by the EU, but specific questions can be directly addressed to the project partners, such as:

→ What kind of problems TripleA-reno will solve?
→ Why the TripleA-reno gamified platform will be better than the existing ones?
→ What new knowledge (Key Exploitable Results - KERs) the project will generate?
→ Who will use/buy the results from TripleA-reno?
→ How the results will be delivered to users/customers? Who are the users/customers?
→ What resources (human, financial, etc.) have to be secured to deliver the novel solution to the users/customers?

With this information available, every project partner is asked about the TripleA-reno exploitation vision of their individual organization. Such dynamic discussion supporting the development of “embryonic” exploitation visions, aims to improve the ‘team spirit’ and made everyone think what Triple-A reno in its core value is about (what’s there different compared to what market already has to offer).

Such a discussion is envisioned to strengthen the consortium involvement, as well as the collaboration between WPs, as they start thinking about the exploitation that binds them and first business case ideas can pop up. Indeed, despite this discussion has been handled in a relatively early stage of the project, provoking such exploitation related discussion is foreseen as a way to help to crystalize KER’s on the long term.

4.3 Inputs for the Plan for Exploitation and Dissemination of Results (PEDR)

A Web meeting with all the umbrella organizations (HE, REHVA, ACE, ICEI, FERERCASA, EHVA) has been organized, in which the Plan for the Exploitation and Dissemination of Results (PEDR) template is introduced, to start with a deeper elaboration of the Key Exploitable Results (KER) to support the first Plan For Exploitation and Replication in the next months of the project.

The filled KEY templates have been collected and have been extensively discussed during the I Gamification Task Force meeting, held in Rotterdam, on the 27th February 2019.
The following table presents summary of key WP2 research, re-elaborating the results deriving from the filled KERs templates from partners, that are relevant and applicable for developing the TripleA-Reno replication and exploitation plan and user/customer journeys. It summarizes key platform users together with different functionalities (KER) that the platform could provide, considering the 3 the three levels: 1) design, 2) renovation 3) after renovation.

<table>
<thead>
<tr>
<th>Partners Involved</th>
<th>Stakeholders</th>
<th>Design level</th>
<th>Renovation level</th>
<th>After renovation level</th>
</tr>
</thead>
<tbody>
<tr>
<td>UIPI</td>
<td>Home Owners</td>
<td>x</td>
<td>x</td>
<td>x x x</td>
</tr>
<tr>
<td>HE, FEDERC, ICLEI</td>
<td>Housing Association</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>ACE, UNIBO</td>
<td>Architects</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>REHVA, UNIBO</td>
<td>Engineers</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIA, BAUW</td>
<td>Contractors</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>ISSO, BAUW</td>
<td>Installers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISSO</td>
<td>Quality Inspectors</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Platform Users</th>
<th>Design level</th>
<th>Renovation level</th>
<th>After renovation level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community manager</td>
<td>- Identifying and interacting with all involved stakeholders - Create and demonstrate transparent network - Identifying user needs and technical &amp; legal requirements etc. - Selecting and optimizing energy efficiency measures - Identifying and communicating impact on occupants and owners - Provide and communicate timeline and plan - Simplified methods to conduct ethnographic inquiry - Build community and shared responsibility - Collecting feedback from other stakeholders - Provide relevant and simplified information to other stakeholders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(architect)</td>
<td>- Collecting feedback from other stakeholders - Provide relevant and simplified information to other stakeholders - Selection, analysis and transfer of feedback from users to contractors, supervisors - Plan and communicate daily timeline and interventions (task management) that influence occupants’ daily routine or disturb the occupants - Communicate deviations from plan or additional work - Supervise contractors</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Collecting feedback from other stakeholders - Provide relevant and simplified information to other stakeholders - Monitor, interpret and communicate IEQ - Analyse and communicate return on investments - Monitor / enhance behavioural change (persistence in behavioural change) - Perceived IEQ and health (e.g. gamified questionnaires)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupants</td>
<td>- access to relevant information (simplified and customized)</td>
<td>- access to relevant information (simplified and customized)</td>
<td>- access to relevant information (simplified), e.g. IEQ, return on investments etc.</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>- access to timeline and financial plan</td>
<td>- monitoring the renovation (based on timeline)</td>
<td>- providing feedback and possible issues (sensory ethnography)</td>
</tr>
<tr>
<td></td>
<td>- access to lessons learnt and good / bad practices from neighborhood</td>
<td>- enhance feeling of control and being heard</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- demonstrate future projections (e.g. improved IEQ and health, visual appearance)</td>
<td>- receiving feedback when it comes to progress, delays etc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- providing feedback and possible issues (sensory ethnography)</td>
<td>- being informed about disturbances well in advance (also when it comes to additional unexpected work)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- providing feedback and possible issues (sensory ethnography)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Owners (investors)</th>
<th>- cost and benefit analysis</th>
<th>- deviations from planned work</th>
<th>- monitoring and achieving planned KPIs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- timeline</td>
<td>- what decisions need to be taken</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- selection of relevant contractors</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- process transparency</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contractors</th>
<th>- competitive prices</th>
<th>- communication with other stakeholders (e.g. when job is finished, problems are detected or solved, possible disturbance)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- familiar with building and project characteristics and requirements</td>
<td>- receiving feedback from community manager (and occupants)</td>
</tr>
<tr>
<td></td>
<td>- being part of the project</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Housing company</th>
<th>- communicating with occupants and owners</th>
<th>- Supervise contractors</th>
<th>- monitoring and achieving planned KPIs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- close cooperation with community manager</td>
<td>- Process monitoring</td>
<td>- receiving feedback from stakeholders (e.g. issues) and monitoring maintenance</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Experts</th>
<th>- existence and awareness of project</th>
<th>- expertise and quality assurance, advice</th>
<th>- monitoring (certification)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- familiar with building and project characteristics and requirements</td>
<td>- achieving certification requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- providing advice, help and expertise when it comes to selecting contractors</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These inputs will constitute the basis for a dedicated Exploitation working session that will be held among the project partners during the 3rd project meeting (June 2019, Budapest), for the further elaboration of the Plan for Exploitation and Dissemination of Results (PEDR).
5 Storytelling Canvas

A physical one day meeting (the TripleA-reno Gamification Task Force) has been organized with some selected partners to brainstorm about the user-journey of the TripleA-reno platform.

Relevant project partners have been invited to represent directly or indirectly (members of their associations) relevant user experiences, by following the using a TripleA-reno Storytelling Canvas.

![Storytelling Canvas Diagram]

The elements of the Storytelling Canvas has been introduced by HIA and a brainstorming session involving actively the project partners took place.
As a follow up action, these selected partners have been asked to use the storytelling approach to identify KERs tracked to the following steps:

1. **Describe your user-experience story!** Translate the experience drawn in the “Storytelling Canvas” during the brainstorming working session in a descriptive story (max 10 lines). Please use all the elements you included in your storytelling canvas, including:
   - Who is your audience?
   - What is the real world you are facing?
   - Who is your hero?
   - Who is the helper?
   - Who is the monster to fight?
   - Which is the call to adventure?
   - Why and when the crisis occurs and how the hero can overcome it? Etc...

2. **Use your story and turn it into a challenge!** Use for this exercise the inputs from the II Working Session led by Geckotech, and try to address the following topics:
   - What is the trigger?
   - Who are the (possible) players?
   - What are the goals? Where are these achieved?
   - How are the goals achieved? When is it complete?
   - What are the rewards for completion of the challenge?
   - Which feedback loops are involved?

3. **Describe your onboarding story!** Also for this step, use the inputs from the II Working Session led by Geckotech, and try to resolve the following issues:
   - Who should take part in the platform?
   - How are they registered?
   - Where are they registered?
   - When are they registered?

The results of the storytelling session are summarized in the following chapter. This exercise has a paramount significance in the perspective of further developing the scenario of usage of the platform and its relevant (on-line/off-line) features and KERs.
5.1 Storytelling results from the 1st Gamification Task Force Meeting

Story 1 Gunther and Sabine – Bavaria – Germany – Late 50ies – small individual landlord with 1 own house and two rental apartments

Gunther and Sabine are a German couple in their late 50ies. Gunther is a baker and his wife Sabine is a nurse in a public hospital. They have 2 kids, but both left for university. Both work hard but they are slowly getting tired and they hope to be able to take a well-deserved break in 5 to 10 years (Gunther might work a bit longer). Since Gunther’s pension will be rather low, they will mostly depend on Sabine’s one. Thanks to the money they managed to put aside all their working life, they bought their house in the small Bayern village where Gunther started his bakery in the beginning of the 80ies. Later on, in the late 90ies, when they had more or less finished to pay their entire mortgage back, they could afford to buy a small apartment and then a second one ten years later in the same multi-apartment building in the near city of Bamberg. They of course took a loan for this, but since the apartments were small and Gunther and Sabine never really had the time to get proper holidays, these are also more or less paid off now. Gunther is good at DIY, so they had renovated these apartments to the 80–90ies taste. But now they would need to fresh them up a bit because they realised that they are getting harder to rent (at least one of them, the other one is rented to a single man for years). He is also considering changing the old water boiler and the windows, because the previous tenants complained of some draughts coming from one of the window. Yet he will have to check with the co-owners and see if it is possible. Maybe, since the two apartments are next to each other, he will also change the boiler and the windows in the other one. But he hopes that the tenant will accept to increase a bit the rent. He read somewhere that in Germany he can pass some of the renovation costs to your tenant, but he is not sure how it works. Well he might ask his local Haus und Grund club. They are always helpful with these questions. He will go there. Actually he has no time so Sabine will go.

The Haus und Grund legal advisor answered her questions: to change the windows, you need agreement of the co-owners indeed, yet to increase the rent you can do it by law: 8% of the modernisation cost can be passed on to the tenants as the regulation changed recently. Yet the advisor tells her to be careful, these rent increase lead to a lot of disputes. Yet, the new law simplified the scheme a bit for small landlords. Before they had to prove and separate carefully modernisation costs and the rest of the renovation costs (e.g. maintenance). Very difficult! Now they can calculate a flat rate of the whole renovation that can be considered as renovation costs and then calculate 8% of it. So to assess how much they could invest, it would be nice to have an idea of the rent increase possible, so to have an idea of the total renovation cost.
The lady from Haus und Grund told him that there is a website/platform that can help her to do so and assess all options. The Haus und Grund lady is kind enough to show her this platform. With the standard information she has she can already do a quick simulation for her, show her how an average boiler will cost them, with installation costs also. And also for the windows. The platform is also able to tell them if and which type of fiscal rebate, incentives and loans option they could get from KfW. Of course these are only rough estimation, but Sabine can leave Haus und Grund with a better feeling!

At home she shows the website to Gunther. They are not good with all these internet things, but they manage to send emails, pay their bills online and Skype with their kids who study and come back home only at weekend. Gunther finds the website interesting. He likes the idea to be able to simulate different things without any commitment or necessity to disclose all kind of information to a public body. You never know what they can do with your data. Oh! It seems that there is an incentive in Bayern to change the boilers. This was also mentioned by the lady from Haus und Grund, Sabine wrote it down somewhere. But they can see it again on the platform. They could save some few hundreds euros. Sitting around the kitchen table that evening they do not have much to do, so why not looking at what they could do with their house. It was built in the 60ties, and it could do with some improvement too. Gunther start to play around on the platform. Actually it is quite easy to use, not much more complicated than Skype and with some basic information about the house, the type of heating they use, etc., it can give them an idea of what they have to do.

Story 2 – Patrick and his wife – 2 kids – Mid-40ies – Wallonia Belgium

Patrick and his wife Martine live in Brussels, but he owns a small semi-detached house in Wallonia. Actually, he just inherited it from his grand-mother recently. He would like to rent it out, but it would first need to be completely renovated. He will contact some contractors in the area. But he doesn’t really trust contractors and where to find one?

He could ask around, but he didn’t grow in the area where his grandmother is from. So he doesn’t know any contractors or architects there. Or has no friends that could recommend someone. Patrick has not much to do today in his office, so he starts surfing the internet to look for contractors in Wallonia. He enters in Google “good contractor in Wallonia”. Results are not very satisfying and how can he relies on them. He tries “how to renovate Wallonia” and scroll down on the google pages. He sees a link “independent tool to assess renovation options” and “how to best select your contractor”. This sounds promising! He clicks on the link.

It seems to be something financed by the EU, so it should be reliable and neutral, right? At least it is not one specific company doing some marketing. The site is also pleasant and very modern, with easy to understand section and icons. Here he can choose your country. He clicks on Belgium. Cool there is a simulation tool. It promises you to also give you advice on planning permissions needed and on legal aspects linked to urbanism, rental and condominium law. Pfff! He is quite sceptical. Do these people know that in Belgium everything is much more complicated than anywhere else. That everything is regionalised. And when you call somewhere
they always send you somewhere else. This is a Belgium sport. They always come up with an excuse: “This is not our competence! Call there” and when you call the other service, it is the same! So much energy lost! If only they could have un “gichet central”, a “one-stop-shop”.

Patrick concentrates himself back to this website. Oh! That’s a good start, you can choose between Wallonia, Brussels or Flanders region. He chooses Wallonia. He sees that they have a tool that can tell you how much energy you can save after a certain type of renovation or after a jump in the EPC scale and on top on that they calculate this in euros saved based on the average energy prices in Wallonia. How cool! This would be a great thing to show to the potential tenants, who might complain that your rent is too high compare to the neighbourhood similar kind of properties. Not only you will be able to explain them that it is because you have fully renovated, installed a new kitchen, etc. But you will also be able to show them how much they will save on their electricity bill.

What about the type of renovation you can do. Even cooler, you can choose different options, have some ideas of the average investment and on top of that you can visualised the type of renovation on simulation buildings in 3-D. How cool! He will show this to his friends!

Ok, all this is cool, but what about the contractor. Because in the end he still needs to find a contractor! **Oh there is a section on “how to choose a contractor”**. It gives you plenty of tips on how to make sure that the contractor is a reliable one, the number of quotes you should get. There is also a list of reliable websites (public ones mostly) that list contractors. On top of that, it advises you to do more serious simulation on the platform, with more detailed data about your house, the actual consumption (I wonder if I can find grandma bills), the local real estate market, local construction costs, the local energy prices, etc. With this kind of tool you can have an idea on how much a renovation could cost you. Of course they write that this is only indicative and that the price and solutions will vary greatly between the different offers you will get. But the advice given on the website is for you to keep this simulation(s) together with you, at least the part on the technical options, and discuss them openly with the contractor!

This is not a bad idea. Patrick enters his contact details and choose a password. There is list of things you have to gather to get a simulation as accurate as possible. In the coming days, he is going to gather all this information.

He has a good feeling, with this simulation, he will be able to have a slightly more informed discussion with your contractor. Like this he might be less incline to betray you.

Reassured, Patrick clicks on the box that brings you to the list of contractors. Cool **one of them is a website that provides a peer to peer rating of contractor! Ok, you have to pay a bit, but it might be worth it.**
Story 3 – Marlene – Rennes, France – 35 years old – Single

Marlene moved to Rennes about 10 years ago for work. She decided to buy a small apartment (two bedrooms) pretty much in the city centre. Like this her parents and friends can visit her and the price in the city are ok. Plus she got a good mortgage. She has a secure job in the bank where she got her mortgage. She likes her apartment, but she has quite a high energy bill. She likes to feel warm. But the building is not so well insulated. Actually, there would be substantial work to do in the building, including replacing the central heating. She mentioned this at the last general assembly. She also said she could ask in her bank to make a simulation for a loan. The other co-owners were not all there, but no one seemed interested and the condominium manager doesn’t seem to take the lead on this.

She heard at the bank about this website which can simulate renovation solution and give you advice on potential tax incentives. Maybe she could start it from there make a simulation and bring it to the next general assembly, maybe with an offer for a mortgage from her bank on top. This is slightly more concrete. It can show how much they can save on energy. But what about the landlords in the house? They are not interested about reduced utility bills. As a matter of fact, when you surf on the platform, you see that if you enter the local real estate prices and rental prices, you can see how much profit you could make on a renovated property. On top of that, the platform gives you a couple of advices on how to present and make your case in condominium. Very cool. If she managed to get a greater interest from her co-owners for this project during the next general assembly, she might manage to convince them to get some quotes for the one after that. It will take time! But one thing she learnt, is that you need to be patient when you want to do something in a condominium.

Story 4 – Household with 3-5 members that live in their own house which is a detached single-family house located in the suburbs of a north European city and it was built during 1960s.

The house is a bit old, energy inefficient and expensive to heat especially during the winter. The owners that have some savings are considering to renovate it and they are interested to know more about the potential energy savings, without knowing at the moment what will be the amount that they have to invest and the amount that can potentially save in long term. They care mainly about the comfort and the aesthetical value of the renovation but the increasing oil prices impact the heating costs and that’s why they also consider making substantial improvements, including the replacement of the oil boiler. The house is located in a neighbourhood where the most of the buildings are listed and they don’t know if the current building legislation will allow for major improvements.

In the past, they had discussed potential improvements with some local contractors but the proposed solutions were very different in price and quality, something that made them more sceptical about the actual performance that these interventions can deliver. They then referred to the local property owners’ association for advice, where they informed them about the legal obligations that they first have to
consider and they suggested them a one-stop shop online platform, through which many of their members had renovated their houses in the past and they were very satisfied about the price and the quality of the works. Once they tried to use the platform they had access to some videos with tips on how to save energy at home and how to efficiently operate a heating boiler. A notification popped up suggesting that they have already completed the 20% of the free online courses and by completing the whole curriculum they would have access to discount coupons for energy efficient components like windows/boilers etc. in collaboration with local suppliers (the discount from the suppliers could be provided to the users of the platform as an exchange for promotional services).

Once they completed the interesting curriculum and accessed the discount, they should register in order to be able to use it. Once they registered they received a notification about their free access to the services that the platform provides. One of the services/tools is that they can insert more information about their house (upload floor plan, 3D pictures, location etc) and the platform will generate a virtual model of their house where they will be able to customize it according to their preferences. Every time they make an improvement or change some components, the platform will generate automatically results that translate these improvements in comfort, energy savings and quality of indoor environment. Once they have concluded to the final design the platform will provide suggestions for extra energy efficient house or extra cheap to run or any other type of alternative scenario. Once they choose which one is better for them, the platform will ask from the registered contractors to provide detailed offers with costs breakdown and description of the works to take place

They are very happy that they could have so many options to design the renovation from the beginning and that the platform offered them tailor-made and turnkey renovation solutions. But the most important thing is that by completing the renovation and giving feedback to the construction works and craftsmen, they got a lifetime access to the “home energy planner”, an online tool through which, they will be able to monitor in real time their energy consumption and compare the energy performance of the building before and after the renovation. They will definitely suggest them to their neighbours.

Story 5 - Mr Johan, a landlord that owns a small, 3-4 floor multifamily building.

The building is old and he has seen the price of the rent to go down year by year, since there are better, newer and cheaper apartments in the neighbourhood.

Mr Johan was considering to make some renovation and make the building attractive to the market again but he doesn’t know how he should start and he doesn’t trust much the local craftsmen. Also, he is afraid that the money that he considers to invest might be disproportionally high compared to the expected value increase after the improvements and it is rather preferable not to take any actions at all.

Angela, his nephew, is working as an architect at the city centre and recently suggested him to have a look at a new platform that promises to take you step-by-step to the renovation journey. Once he clicked the address on his browser he received an Invitation to participate in a quiz. The quiz prompted him to watch a video below. It was about a man at his age, having the same concerns and plans and showed how through
the platform managed to identify profitable renovation solutions without really even moving from his armchair. When the video finished, he answered to some easy questions and he directly received a discount coupon on a local store/points to use in the platform/free property value estimation without even registering in the platform. He was impressed that by indicating his location, the age and surface of the building, the platform was able to estimate the potential increase of its value. He was amazed to see the results and he clicked on the “register here for a precise estimation”. He signed up in the platform, he provided more information and the platform made him a more precise revenue analysis.

Through the TripleA-reno platform he is able to access a network/market place of construction professionals that have been validated for the quality of the services they provide and the comparably attractive prices they offer. TripleA-reno platform promises to offer him tailor-made offers of energy renovations at the lowest price in the market, with estimations about the expected value increase of the house after renovation along with the available financing schemes in order to reduce his investment risks. Mr Johan is very curious to see how this platform could help him take informed decisions, but despite his amazement, the absence of a physical face to face interaction make him reluctant to give his full trust.

He is very impressed though that he will be able to check at any time the progress and quality of the construction, the current costs and will be able to choose online the materials and other parameters by communicating anytime with constructors and craftsmen either online or by phone. Also, he is impressed that the platform offers to send him weekly reports with the most interesting, clear and non-technical information about the progress of the construction, whenever this will take place.

Not very well known about his decisiveness skills, Mr Johan is satisfied with the flexibility that this platform provides him and makes him able to change his mind about the different components (windows, insulation, heating-cooling systems etc.) of the renovation even a week before the specific work takes place (replacement of windows). He is also happy that the platform promises to make precise estimations about the total construction costs and the expected property value after the renovation. Before he submits the final request in the platform, he can still “play around” with the different elements/components and see how the price can change. Once, he decides to submit a final request, after a week, he will receive a precise estimation about costs and expected benefits.

His approval for a final submission generated a bid request to the constructors/suppliers, where they will be requested to make an offer within a week. Mr Johan’s request will be active on the platform for a month where suppliers can change their bids anytime. He thinks that in this way he can achieve cheaper requests and that’s why he will be checking the platform every week. Apart from the overall benefits that the platform can offer to him, Mr Johan is happy that can receive trustful and reliable information. He feels confident using it because he knows that there is a single point of accountability. In case he wants to make questions or clarifications about the offer or the construction phase, he can visit his local engineering office which is accountable for creating, designing, executing and monitoring the offer and the construction works.
Story 1 – The Slovenian demo case building

The story is focusing on the Slovenian demo case building on the results from ethnographic studies that were carried out in the frame of WP2, Task 2.3 and 2.4. The key audience consists of demo case building occupants. The real world represents the building (block of flats) that is planned for renovation and in which these individuals live or use. The building is situated in a medium-sized town (approx. 7000 inhabitants) in central Slovenia.

Our local hero is a person/occupant who wants to actively engage in the renovation process. Within the renovation initiative, she aims to hold a key position. Her skillset and knowledge enable her to understand what it takes to realize a renovation project and to coordinate most of the activities associated with it. As an active member of the supervisory committee, she is essentially the initiative’s voice when communicating with the representatives of the Housing Corporation and other stakeholders involved in the value chain.

The helper is the TripleA-Reno community manager / project facilitator who is skilled in using the TripleA-Reno platform and able to oversee, facilitate and manage the overall renovation process.

The monster is a bar owner which obstructs the renovation due to relatively high renovation costs that he will have to cover taking into account the floor area and losses that will occur due to renovation work.

The call for adventure comes from different sources; firstly, there are several good examples of renovation projects that were successfully carried out in the neighbourhood. Furthermore, the majority of the occupants are in favour of the renovation but they do not have proper skills, network or motivation to initiate the necessary renovation activities – so they are searching for someone to represent the occupants and take over a more active role. Next, the national and local government strategies aim to enhance renovation and improve energy efficiency of buildings. Since the renovation is highly complex process, several crises occur already in the preparation and planning phases (before actual implementation). The main ones are related to gaining peoples’ trust and achieving collective decisions, lack of competent experts that would provide...
independent and expert advice, bureaucracy and paperwork, regulatory obstacles (e.g. proper distribution of costs), finding the right contractor, occupants resisting to change, lack of transparency, costs etc.

**Our hero overcomes the crises with a strong support from the community manager / project facilitator providing easily understandable information from the start of renovation process.**

The Community manager is able to understand the complexity of building renovation and has both the necessary knowledge on how to use the tools integrated in the platform, as well as the capacity to translate knowledge on the specific renovations to other stakeholders in an appropriate and understandable way.

The treasures that enhance the renovation activities come in different forms, such as awareness raising campaigns and customized education for occupants; clear timelines that break-down the renovation process into smaller segments (missions), which are specific, measurable, achievable, relevant and time bound/limited; examples of same/similar successful projects from the neighbourhood (before and after with visual support); access to ambassadors of successful projects; providing feedback to occupants when necessary (just-in-time), etc.

The final result is the achieved collective decision and consensus towards renovation and the green light to start with actual implementation.

**Turning story into a challenge**

**Trigger:** Need to reach collective decision (consensus). Project portal triggers a challenge for all involved.

Possible players: Local hero, community manager (project facilitator), owners, representative of housing company, other occupants

**Goal:** Build transparent network of actors/players (roles, attitudes, values, motives...). Each player should clearly describe their positions (e.g. ticking boxes, additional explanations) together with motives. If players are unable to identify or express their real positions (e.g. being unaware, hidden motives etc.) they could engage in an “ethnographic quiz” or interact with community manager (interviews, focus groups).

Rewards: a badge when a player provides all requested information

Feedback loops: When information provided is not complete.

**Onboarding story**

**How are they registered?** Directly on the platform, providing user name and password

**Where are they registered?** Platform – personal computer or mobile phone. Community manager send out invitations or does the registration for those who are unable to register (e.g. elderly).

**When?** At the very beginning of the renovation process (planning & consensus building phase)
Story 1 - A small Dutch installation company working in the residential sector and small utility buildings

‘GasWorks’, a local installation company with around 30 fulltime employed-workers, reads in the regional weekly newspaper that the local government is developing strategies to get all residential buildings of the gas-grid before 2050. This will be done in six phases, each phase addressing an area of around 1500 dwellings. In each of these areas GasWorks has a significant number of clients with service contracts (60%). GasWorks also has such a contract with the local social housing cooperation. In the last ten years GasWorks signalled that more and more clients added solar panels and low temperature heating systems to their homes. He even lost some clients to heatpump-installers. This work was mostly done by other companies. Also the housing cooperation has done an increased number of sustaining activities, especially focusing on isolation and glass replacement to Label B. The owner of GasWorks is aware that for realizing the ‘new world’ his traditional business will be cannibalized by companies or networks delivering integrated solutions. As proud self-made man he decides not to let his company be cannibalized by others, this means he decides to turn around his company into GreenWorks the Sustainable Installer. He starts his adventure by downloading the BUILD UP Skills Advisor app to get acquainted with other disciplines and technologies. Each week for the Friday afternoon drink he prepares a short knowledge session together with his team by using the e-learning challenges the BUILD UP Skills advisor-app provides. Furthermore some younger workers are invited to use the BUILD UP Skills advisor-app to find the right upskilling courses and supplier events. After 6 months he is invited by the housing cooperation to a tender for a first pilot of 100 residential buildings. Two weeks later he learns that a multiple offers will be made by other players in the field and that proven effective concepts will be preferred. This means that he has to accelerate in order to excel. By using the TripleA-reno platform he finds some neighbouring companies & they decide to go for an integrated offer. The proven effectiveness will be realized by using the quality check functions of TripleA-reno. By using the community function of TripleA-reno the social impact and neighbourhood elements are underlined in their proposal. This local cooperation positively surprised the housing cooperative and they got awarded with the assignment.

Story 2 – A big Dutch installation company that want to start a franchise in this field

UltraGreenWorks is a big installation company, they are experienced in sustaining the built environment. Based on their experience they plotted a user-journey for customers, a purchasing organization a communication concept and a training concept. They want to combine these into a franchise formula that can be applied by smaller installation companies. Due to the combined purchasing and a small % as fee for
each project small installers can step in quite easy (and with minimal costs). UltraGreenWorks starts adding their franchise formula to the TripleA-reno platform. UltraGreenWorks is in other words a third party exploiting the TripleA-reno platform. For the gamification and onboarding of the smaller installers storyline 1 is valid.

Turning story into a challenge

Exploration-phase: downloading the BUS-app
Tender-phase: finding and connecting the network to for a team & making proper agreements with this team

Who are the (possible) players?

- The owner of GasWorks
- The team members of GasWorks
- Other local players in the field (self-employed and SME’s)

What are the goals? Where are these achieved?

- Exploration-phase: to get acquainted with
- Tender-phase: to get connections & to gain confidence with proven quality
- Execution-phase: co-create with the neighbourhood fitting concepts and realise them with proper teamwork and guaranteed and transparent quality

How are the goals achieved? When are these completed?

- Exploration phase: small sub goals and learning steps, each step is awarded
- Tender-phase: when a team is successfully formed and individual responsibilities are allocated. Winning a tender
- Execution phase: when a concept is co-created and accepted, when parts of the concept are realized, when the total performance is proven.

What are the rewards for completion of the challenge?
Stars, Reviews, ranking of proven quality, and so on

Which feedback loops are involved?
Small loops within each phase to nudge the users into the storyline.
This storytelling relays on the IVE regular activity of supporting professionals and improving their capacities by providing information, training, materials and tools to be used once developing their daily activities. IVE provides professionals with these tools mainly through a subscription pack (packIVE).

The IVE non-profit business model therefore applies for this storytelling, being the TripleA-reno co-design tool subject to license for professionals, given its facilitator/middle-agent for overcoming the communication gap between them and their potential clients.

packIVE is offered annually, adding each year new documents/tools and updated editions for the ones previously included. Each subscription includes 1 or 2 licenses for each of the products covered. The advanced TripleA-reno co-design tool capabilities could be included in this pack.

Story 1 – a building professional

A professional (architect, building engineer) needs to provide the best design solution to building/dwelling owners who want to (that should) retrofit their dwellings; according to client concerns, but also (and above all) improving comfort and energy performance.

Who is your audience?
This storyline is addressed to professionals (architects, building engineers) in charge of designing renovation projects, and also to potential customers (owners) retrofitting their dwellings.

What is the real world you are facing?
Facing the communication gap existing between the optimal design solutions, related to the retrofitting measures applied to uncomfortable dwellings and affecting also their energy performance, and the owners’ wishes. The existence of numerous uncomfortable/ non-efficient dwellings due to their building characteristics supposes a market niche for professionals, but professionals’ motivations (energy efficiency and/or comfort, functionality, durability, resilience) might not be aligned with those of the dwellings’ occupants (economy, image).

Who is the helper?
Public administrations: through subsidies and regulations and through their institutional support in the form of diffusion channels and actions; financial entities: through special loans; previous satisfied customers: mouth to ear or social media channels; users’ associations: through their newsletters or other
communication channels and activities; and building managers/administrators: by channelling owners needs and/or obligations

Who is the monster to fight?
Both the lack of awareness of building/dwelling owners to undertake renovation and their reluctance/fear to undertake a long-term process, expenses, unknown revenues, unclear benefits, uncertainty about public refunds, incapability for visualizing the final result.

Which is the call to adventure?

- Get a safer world for healthier people to enjoy it (through building improvement for more comfortable energy-efficient dwellings).
- Getting more work load through satisfied customers for professionals.
- Informed decision making for customers.

Why and when the crisis occurs and how the hero can overcome it?
When owners are aware of the energy/comfort malfunctioning of their dwelling (too hot in summer, whatever cooling strategy they try; too cold in winter, whatever heating strategy they try; unusually high energy bills; annoying noises...) and seek help on the community portal.
With the help of the co-design tool, professionals will present appealing alternatives well in-line and focused on clients’ expectations, regulations, comfort levels and energy performance.
**Turning story into a challenge**

A professional (architect, building engineer) needs to provide the best design solution to an owner who wants to (that should) retrofit its dwelling; according to client concerns, but also (and above all) improving comfort and energy performance, in order to get a new customer.

![Figure 1: challenge story](image)

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What is the trigger?
For professionals: project portal triggers epidemic offspring (new project) challenge after a user (owner, public housing companies or financial entity) asks a question/searches for solutions on the community portal. For customers: project portal triggers epidemic offspring (best solution) challenge after a professional answer a question/solution search performed by them on the community portal.

Who are the (possible) players?
doctors: professional
population: customer (owner, public housing companies or financial entity)

Figure 2: tasks
What are the goals? Where are these achieved?

Goals define different phases through the challenge, which take into account the learning curve and the balance between difficulty and rewards for the whole player journey.

For professionals (doctors):

- triage: Solve customer doubts (in community portal)
- Guinea Pig: drive them into a specific dialogue (from community portal to co-design tool)
- experiment: propose solutions (in co-design tool)
- diagnosis: get a new client/project (in real world)

For customers (population):

- triage: find a solvent professional (in community portal)
- Guinea Pig: start an understandable dialogue (from community portal to co-design tool)
- experiment: discuss solutions (in co-design tool)
- diagnosis: make an informed decision (in real world)

Figure 3: goals, phases and rewards
How are the goals achieved? When is it complete?
Goals define different phases through the challenge. Achieving them requires the performance of certain actions, several times, by the players, considering the learning curve and the balance between difficulty and rewards for the whole player journey. Easy to achieve at the beginning and getting more difficult as they advance; but taking into account that too easy challenges will get the game boring and rewards will be underestimated, and too difficult will prevent from continuing playing.

For professionals (doctors):
- triage: forum answer rated by the customer as useful (x1)
- Guinea Pig: accepted invitation to co-design tool (x1)
- experiment: dialogue set on the co-design tool (>= 2 different solution with client feedback)
- diagnosis: solution accepted by client (x1)

For customers (population):
- triage: rating received answers (x3)
- Guinea Pig: accept invitation to co-design tool (x2)
- experiment: dialogue set on the co-design tool (>= 3 feedback on different solutions proposed by professional)
- diagnosis: accept solution from co-design tool dialogue (x1)

After achieving these goals (phases), challenge is completed, and players will be drawn into a contractor/product search for implementation of solutions: the drug quest challenge.

What are the rewards for completion of the challenge?
Rewards can be divided into knowledge, power, access and stuff; and are represented through use, points, badges, levels and perks.

- Use gets knowledge.
- Points get stuff (eligible webinars, product samples, seminars invitations, discounts...) and can be transformed into badges when achieving certain thresholds.
- Badges get power and can be transformed into levels when collecting a certain set of them (topic-expert or a combination of 2 lab-chief and one doctor)
- Levels get access (to users/products databases – with privacy constrains)
- Perks get direct stuff (non-eligible, complete, physical)

For professionals (doctors):
- triage: dr-smarty badge (forum moderation...) + points
- Guinea Pig: dr-hunt badge (broadcasting messages...) + points
• experiment: lab-chief badge (recommending specific brand or contractor…) + points
• diagnosis: level 2 – treatment access + topic-expert badge, depending on the solution/measure’s types (address to a specific user and start a dialogue, given that now they have more information about them) + points
• (a combination of 2 dr-hunt badges and one lab-chief badge also give access to level 2 – treatment)

For customers (population):
• triage: waiting-list badge (forum moderation…) + points
• Guinea Pig: lucky badge (broadcasting messages…) + points
• experiment: subject badge (interchanging/asking for other professionals’ solutions that they are also discussing) + points
• diagnosis: level 2 – treatment access + patient badge (address to a specific user and start a dialogue, given that now they have more information about them) + points
• (a combination of 2 lucky badges and one subject badge also give access to level 2 – treatment)

Which feedback loops are involved?
From start/motivate to design (Guinea Pig) and/or back to motivate (triage); inside design and back to motivate (experiment); or forth to implement and back to design (diagnose)
**The onboarding process**

A professional (architect, building engineer) needs to provide the best design solution to building/ dwelling owners who want to (that should) retrofit their dwellings; according to client concerns, but also (and above all) improving comfort and energy performance... but how do they access the platform?

**Who should take part in the platform:** professional (architect, building engineer); customers (owner, public housing companies or financial entity)

**How do they get in touch/ acknowledge of the platform:** Through institutional campaigns/ diffusion channels and actions; other users’ mouth to ear or social media channels; users’ associations newsletters/ communication channels and activities; or building managers/ administrators facilitating owners needs or obligations achievement.

**How are they registered:** On-line questionnaire for professionals, public housing companies or financial entities; existing accounts for owners (gmail, facebook...)

**Where are they registered:** In co-design tool for professionals, which gives them access to community/project portal; in community/project portal for owners, public housing companies or financial entities, who can be invited to co-design tool by designers.
Story 1 – City Official
A city official, wants to check proven solutions for certain building typologies before developing new incentive measures for buildings renovation. After the incentives program is defined, the city official wants it to be published on the platform.

Turning story into a challenge

Trigger: The City wants to have a higher rate of deep renovation projects. Project platform contains useful information on renovation steps and a library with realized renovation projects.

Possible players: Home owners / tenants, engineers, craftsmen, contractors.

Goal: The goal is to replicate successful solutions of deep renovation across the city´s territory. The platform will be used to check already proven solutions of deep renovations (based on performance indicators and ranking received) and take them into consideration when developing eligibility criteria for new buildings renovation incentives program. Once the incentives program is out, the city official will use the platform to inform future renovation customers.

The goal is achieved after the city receives new applications for new buildings renovation incentives program.

Rewards for completion of the challenge: The reward is a great demand for incentives and start of a large number of deep renovation projects.

Feedback loops: City official will look back at the chosen renovation measures and concepts, as well as the training level of engineers and craftsmen who did the renovation.

The onboarding process

Who should take part in the platform? City officials being in charge for climate and energy.

How are they registered? They register upon the approval of their supervisors.

When are they registered? They are registered as soon as the platform ‘starts being alive’ to provide information of the local energy efficiency in buildings support program.
Story 1 - Peppe, a happy owner living in his single story house

After a ‘climate change’ related event (Floods, drought, extreme hot temperatures, extreme cold temperatures, cyclones -strong winds, earthquakes), Peppe, a house owner needs to improve his house to avoid new damages in case these events happen again. The climate change event can have different degrees of strengths which will cause small damages or major damages.

The house owner will seek help with an architect, Sofia, who will present the tools to fight against these events. Sofia has all the tools to help Peppe. She has many suggestions: Increase cross ventilation by adding new window. Installing an external shading devices to the windows, plating trees that can help shade the house during the summer. Installing air conditioning for extreme events.
Sofia also advise Peppe on the cost for each alternative and suggest some common-sense cost-free actions like drinking plenty of cold water, avoid exercise and wear light clothes.

Certainly Sofia can help him. She gives him some options such as; apply storm shutter to the windows, make the external door more resistant by installing 3 hinges instead of two, renovate the garden and remove the gravels and finally replace the windows by pressure rate windows. As usual, she also advises a cost-free common-sense solution of taping an ‘X’ to the windows glass. Peppe doesn’t have much money after the summer renovation so he chooses the cost-free solution.

Sofia once again provide the options to him. He could improve the roof insulation, the wall insulation, the house air tightness, install double glazing windows, improve the heating system and apply and internal shutter to the windows. She also reminds him of the common-sense cost-free solutions such as wear warm clothes and drink hot beverages.

Peppe got a loan to fix the windows from the autumn events, so he decides also to improve the roof and walls insulations.

Sofia gives him the options. Peppe could build a retention pond together with the community, he could make an individual retention tank, he could elevate his house from the ground and he could make a water reservoir for drinkable water.

She also advises on low-cost solutions to avoid major damages such as install valves in the drainage to prevent water from the flood to go inside the house and elevate the electrical installations.

Peppe decides to add a new window to his bedroom to improve the cross ventilation during night time. That is great! Peppe had a good night of sleep during summer and enjoyed a renovated bedroom.
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SUMMER

AUTUMN

WINTER

SPRING

Oh no! You forgot to remove the gravel from the garden and it has broken the window. Sorry!

Well done! You improved your roof and wall insulation and also kept yourself warm during this cold winter.

Oh no! The individual retention tank was not enough to avoid the flood! Next time talk to your community, perhaps a retention pond would work better.
Turning story into a challenge

What is the trigger?
Climate change related events (Floods, drought, extreme hot temperatures, extreme cold temperatures, cyclones - strong winds, earthquakes

Who are the (possible) players?
House owner and district/ street neighbours = community

What are the goals?
Renovate the house in order to improve it for an eventual return of the weather event.

Where are these achieved?
The house is the centre of the game. The tool applied will increase the house strength against climate change events.

How are the goals achieved?
The tools presented will have different strengths. Light ones (‘common sense’ – refer to the picture at the end of this exercise) which will resolve light events. Major which will resolve major events (‘architectural solutions’). The tools are going to have a cost so the house owner will need to decide how much he/she can afford on his/her refurbishment.
If it is a light event, it might be that the owner will opt to do only the minimum needed (use only common sense tools). Prevention of future events is also possible, there could be warnings during the game, if you e.g. build a water retention pool, you could avoid the flooding

When is it complete?
When the owner gets the house renovated to face any weather condition

What are the rewards for completion of the challenge?
Have a safer, resilient and comfortable home for life
Story 1 – Paolo, a technician working in a social housing company in Italy

A social housing company (private property company) owns an old residential building that desperately needs renovation. All dwellings are occupied by tenants with low incomes. Therefore, maintenance conditions are not so good and energy bills are getting higher and higher. Managers and technicians of the social housing company (private property company) are not willing to proceed with a deep renovation because the entire cost of the renovation has to be borne by them whereas the reduction of bills will favor only tenants.

One day, Paolo, one of the technicians discovers an online tool capable of simulating the return of investment of a deep renovation process in a clear and understandable way taking into account a volumetric add-on scenario. As a reward for significantly reducing energy consumption in a building, owners are allowed by national urbanistic standards to build up additional new apartments. The technician suggests to the housing company (private property company) managers to undertake deep renovation processes not only in the old residential building but in all buildings owned by the company in order to guarantee to the company itself a lot of new apartments to be sold on the market. At the same time, while the real estate value of buildings gets higher and higher, energy bills for the tenants become more affordable.

Turning story into a challenge

What is the trigger: Volumetric add-ons. Return of investment in terms of new sellable spaces
Who are the (possible) players: Social housing companies (private property company), managers, technicians
What are the goals? Where are these achieved: The goal is to incentive deep renovation through value equalization. The more you save the more you can add.
How are the goals achieved? When is it complete: Goal is achieved when a certain amount of energy saving is reached by deep renovating a building.
What are the rewards for completion of the challenge: Challenge completion gives new living space to build
Which feedback loops are involved: More buildings are going under deep renovation the more “new spaces” you can build. The more spaces built the faster is the return of investment. The faster the return of investment the more buildings you can renovate. And so on....

The onboarding story

Who should take part in the platform? Social housing companies, private property owners
How are they registered? Each Housing company (private property owner) has its own account
When are they registered? They are registered as soon as the platform „starts being alive“ to feed the platform with candidate buildings for renovation
Story – A building service engineer who is willing to get training in design and quality control aspect of deep renovation looks for free CDP trainings offered by a reliable and independent institution.

Turning story into a challenge

Trigger: The engineer has been looking for CDP trainings and training resources that can be used for free and with no major constraints (ex. They do not need to be attended live).

Possible players: Engineers, other building services professionals with architect-engineer background.

Goal: The goal is for the trained engineer/professional to be able to design a retrofitting project using the sources available with the free CDP and training material on the platform. The platform should then contribute to the overall increase of the compliance in deep renovation across the building services professional’s category, thanks to a snowball effect triggered by mouth-to-mouth and social media communication driven by engineers, as well as institutional communication of a professional associations at national and European level.

Rewards for completion of the challenge: The reward is an increased awareness in deep renovation and a higher number of building services engineers/professional able to apply such projects thanks to the resources freely available on the platform. New professional are attracted thanks to the resources provided.

Feedback loops: Engineers who used the available training materials or used the CDP will then insert on the platform the after deep renovation data regarding quality control, comfort and energy savings, in order to contribute to the set of data available for the public.

The onboarding process

Who should take part in the platform? building services engineers.

How are they registered? They register online free of charge to attend the online courses.

When are they registered? They are registered when new courses are launched on the platform -registration is required to enroll to the courses.
Story 1 – Marc, a Dutch building consultant

Marc is a building consultant. He just started his own company. And he is thinking about his unique selling points. How can he help future clients in a way that others can’t?

A friend tells him about an app. It’s a platform that brings all information together, for suppliers and users. Marc wants to stay ahead and joins to try.

Marc sees questions from building occupants and helps them out. That way, he lands his first project. He is so happy!

During the design phase, Marc is very helpful; he’s always there for his clients. He gets some great reviews which leads to way more work! What a great start for his company.