



Attractive, Acceptable and Affordable deep Renovation by a consumers orientated and performance evidence based approach

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1 Introduction

This reports attempts at outlining the possible implementation strategies to broaden and extend the use of the TripleA-reno gamified platform, attracting new owners/tenants, investors and professionals to upload and to share their case studies, economical and business interests (home-owners, building owners, municipalities and other public administrations, housing associations, architects, industrial organisations - including SMEs- running a business in buildings retrofitting, equities).

TripleA-reno offers support on decision making for deep renovation and shows how owners/tenants can benefit from the overall quality of a renovated home. Furthermore, they can be informed on the overall performances (energy savings, IEQ and associated health benefits) after renovation.

This document has been produced starting from the activities carried out in the WP4 in the first twelve months of activity.

Dissemination, Communication and Training are the pillars of the TripleA-reno approach in terms of targeting different audience groups and presenting the Gamification Platform results and new functionalities to them.

As stated in **D7.2 Project Dissemination and Communication Plan**, the communication and dissemination strategy differs for every category of identified stakeholders. The main two target groups in the project are the end-users/customers of deep renovations and industry stakeholders.

This is the first version of the **D4.3: Description of the actions to be taken to communicate and extend the use of the business module** (M12), which outlines the overall strategy for the successful dissemination of business module's new functionalities and features. As communication and dissemination, as well as the implementation of new features and functionalities in the platform, are a continuous process, actors, strategies and actions may be adapted and modified over time.

As a result, this document will be updated throughout the project lifespan with reports of the partners on their expected and actual dissemination activities, new dissemination materials and amendments to the strategy, if necessary.

Communication and dissemination strategy is addressed in WP 7 'Communication and Dissemination' and its objective is the professional and public coverage of the project achievements and results. In particular, with reference to the reporting activities planned in the D7.2 Project Dissemination and Communication Plan. Commercial and business activities uptake during and after the project duration are addressed in WP6 'Exploitation and EU wide replication'.

In this framework, it is important to highlight that the Communication and Dissemination strategy foresees the design and implementation of different communication strategies, means and materials to address dissemination (centred in scientific-technical, public agents and professional stakeholders), and communication (to a wider audience that includes a very important number of building owners, whose acceptance of TripleA-reno is critical)¹.

¹ As reported in Deliverable 7.1., dissemination activities focus on the transfer of knowledge and information towards key stakeholders, opinion leaders and multipliers (Scientific community, Technological Platforms, Networks and Initiatives). Whereas communication

TripleA-reno addresses the total value chain in a building and renovation process.

The most important targeted impact areas are following situations:

On the demand side:

1. Multiapartment buildings
2. Multiapartment buildings, a) social housing company owned, b) governmentally owned (e.g. by a municipality)
3. Privately owned single family dwellings

On the supply side:

1. ESCO and construction companies as potential investors
2. Architects
3. Concept developers for individual house owners

From now on we will replace the term “*end-user/user*” with the term “**player**”. Referring to players we mean each registered user of the computer platform that can belong to each category highlighted above. Everyone becomes player at the time of registration and can use different tools implemented within the platform itself according to their profile and role.

2 The “Level 1” of the TripleA-reno platform

Level 1 of the platform refers to the activities that are carried out during the creation and general planning phase.

TripleA-reno will be based on aspects that try to make the entire process of energy renovation available and usable through understandable, interactive and attractive ways.

The idea is to activate the "engine of energy renovation" by focusing on those who enjoy the benefits of a renovation through a platform that facilitates the understanding of the benefits obtainable, enhancing the following key-aspects:

- **trust:** to provide transparency, traceability and recognition of all the actors involved in the process;
- **compatibility:** building and making available solutions that are immediately usable by the technicians and the companies involved in the process, through the adoption of standardized tools and components;
- **participation:** encouraging the involvement dwellers in decision making, facilitating the creation of virtual spaces that connect them with stakeholders, architects, technicians, construction companies, installation companies to accelerate the ongoing renovation processes and to increase the number of potential retrofit interventions;

activities are complementary to dissemination and are intended as public communication, i.e. outreach activities targeting the general public (varying from citizens, to end-users and stakeholders at large). Thus communication activities add public value to the achievements of the project by aiming at larger audiences. They focus on key headlines outlining the project's results with the objective to promote the project and enhance its visibility. These activities impact on larger audiences in terms of awareness increase on issues such as nZEB, building performance and IEQ after renovation.

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- connection: directly with selected providers of certified products and technologies available on the market;
- attractiveness: of the energy renovation process, using tools and techniques from the gaming world (gamification).

The functional description document (D4.1) provided a description of the actors involved in the deep renovation process (end-user/user) and defined the role of each player entering and using the platform.

Then it described the workspaces, intended as a dashboard in which one or more types of players can perform different actions. The workspaces represent the gateway by which the players access the platform according to their defined role, as well as the input data, the output data, and the actions that can be performed.

The processes entailed in energy renovation are complex. Different individual actors may have colliding economic interests, while from a technical point of view these processes may have a more synergic common vision. The development of the business model should take into account the different interests and concerns of the various players of the platform. This is why the platform provides homogeneous yet consistent aggregation of spaces to manage the aggregation of players with the same interests. This also makes available to the members of the community their willingness to interact with each other.

For example, in a multi-family building, where some of the apartments are owner-occupied (while the rest are rented by tenants), the different groups could discuss, vote or provide suggestions through the platform, building-up a “team” on issues relevant to an energy renovation project. Their opinion and point of view can be communicated with the condominium manager, the potential investor, architect and any other relevant party relevant to an energy renovation. An additional example could be a group of tenants initiating a discussion for an energy renovation: they will be able to explore with the building owner/investor opportunities about sharing costs and benefits and explore win-win solutions.

User-driven dynamics are multiple. Dwellers who live in the same building, such as a multiapartment building are pursuing a common interest: improving the quality of their building in terms of wellbeing of the occupants, and reduced energy bills. Two or more players’ team, gathered for the upgrading of their buildings, are in competition with each other: their proposal has to be the most appealing to the potential investors. Also the investors could aggregate each other in groups, but in general they compete with each other to gain the access to the best buildings in terms of profitability of the investment.

In parallel, certified professionals are generally in competition with each other; yet they may form a team that, in the case of complex interventions, could provide improved and more competitive services than the ones they could guarantee individually.

Therefore, the TripleA-reno platform will:

- **encourage the aggregation of players** sharing the same interests and provide them with an instrument to facilitate the exchange of information, ideas, etc.;

- **build a mechanism that can support competitive dynamics** with clear, fair and shared rules, so as to facilitate the achievement of objectives that may strike a balance among the needs of the different participants.

Trying to cross the characteristics of the gamification platform at the first level – the design phase – with the possible players, it becomes clear that, in different ways, all players can be involved in this phase. It will therefore be of fundamental importance to **make the very first contact with the platform attractive and welcoming**, with a strong brand identity. This will be the pivotal point to address players to the most interesting and attractive features for their skills and their involvement. On one hand this will allow to keep the interest threshold high towards the platform itself, while avoiding too steep learning curves for unexperienced users; on the other it will show to specialists and technicians all platform’s potential.

For example, architects and engineers should be immediately diverted to the connected platforms (i.e. BUS app) and investors and municipalities to the features of comparison and analysis where the definitive projects are presented. Finally, unexperienced users, especially small owners and tenants, will be guided by a step-by-step procedure through the platform’s functionalities and capabilities, in which a simple and understandable tool will help them to estimate the potential energy savings, level of comfort and health benefits that a renovation might entail.

Focusing on the very first “touchpoint” (D6.1) for the players’ journey as the “Home Page”, it will help to point out the most efficient communication strategies to reach the highest wide spreading and visibility. D7.2 Communication and Dissemination plan will be consulted for this activity, as its various channels and methods to reach the target groups are elaborated.

2.1 Players groups according to activation channels

Since different players will be involved in the platform, it is crucial to highlight which are the proper channels to boost their engagement level within the gamification process. At this stage, the focus isn’t on the features of the gamification platform itself, nor on the project portal functionalities. Our scope is to foresee the player journey in order to start developing the best dissemination strategies. As the main channels to trigger participation is listed in Table 1, in the next paragraph we will refer to them using the ID column.

The starting point may be a player (an **owner-occupier**, [ID 01] a **landlord** [ID 12], a **tenant** [ID 05], a **co-owner** [ID 02], a **housing company/association** [ID 03]) who intends to renovate his/her house/apartment, private or public residential buildings. Let’s assume that he looks at the virtual space of the realised projects; this virtual space should activate the person’s, the company’s or the public authority’s curiosity, making them wonder: *“How would my life have been improved financially and comfort wise, if the building where I live/own was retrofitted?”* or *“Compared to similar buildings, how much I spend for gas, electricity, water?”* *“How could the municipality (for example) save money on heating and cooling?”*

In the next step, the player should be encouraged to initiate and activate the project of renovation of his/her house/apartment/building. On the other hand, if the renovation process is initiated and managed by others (i.e. the **housing company/association** [ID 03] or **municipality** [ID 04] owning a social/public housing complex), the platform will enable the monitoring of the renovation process and provide inputs during and

after the renovation works. Once the renovation project is activated, all involved players can go through the planning phase of the intervention and then access the workspace of the ongoing renovation projects.

If the journey starts, **banks & equities** [ID 09], and generally speaking the investors of the renovation process (i.e. the **housing corporation** [ID 03], an **ESCO** [ID 10], the **owner-occupier** [ID 01], **landlord** [ID 12] etc.) will have access to a virtual space in which deep renovation best practices will be showcased. In case the investor is interested in a particular intervention, he/she will send the "proposal of interest" in which he/she can specify his/her own economic and financial proposal, along with the services and the support provided for the implementation. The investor also has his/her own space in which 1) all the proposals can easily be handled, 2) where it is possible to join other possible investors and 3) eventually create a team in those cases where additional resources are needed to carry out the deep renovation project. The bottom-up activation of the energy requalification process is beneficial for the investor because he/she can easily and directly handle a database of candidate projects, with no use of internal resources for the research and the creation of feasibility projects to identify potential business cases. Furthermore, the individual investors, especially the minor ones, have the possibility to join together to implement more significant interventions, for example nZEB and beyond, and thus improve their own chances of accessing the deep renovation market, providing more attractive offers.

The role of **architects** [ID 06], **engineers** [ID 06] and **consultants** [ID 07] is mainly to establish a bridge (mediator role) between the various entities involved in the requalification process (owners/tenants, investor, builder) and to support the development of the project, including all relevant administrative procedures. As professional advisors the goal is to facilitate the start of the process by finding a solution that can work for all involved parties. The advantage for this kind of players is to expand their project portfolio and to find new business opportunities. Participation in projects gives them the possibility to acquire credit points through the platform and therefore to improve their professional reputation.

Certified installers and professionals [ID 08] includes the **construction companies** [ID 11], HVAC and RES operators and small artisans (for small interventions) and the ESCOs that, in this case, propose integrated financing and implementation solutions. These players, such as building operators and qualified professionals, are interested to join Level 2 of the platform. The player or team that started the renovation project can indeed consult a list of qualified professionals (result of the WP3 activity). The certified professional can therefore propose his/her services and competences for the implementation of selected interventions; also, in this case, he/she can create a team of professionals who gather to participate in a specific deep renovation intervention. Technology producers, manufacturing companies, as well as building construction companies and contractors that offer their own products and services for deep renovations (i.e. Alliantie+ offer). The reseller will have the possibility to generate an offer, based on the selected measures of renovation adopted during the development of the project.

Municipalities [ID 04] or public bodies, when engaged with energy efficiency and buildings renovation (public funds, energy agencies, utilities, development banks), need to remain well informed about the renovation market, including the rate and quality of buildings renovations within their territory/market. For that purpose, they can make use of the platform (Level 1) to observe on-going and already finished renovation processes as well as to identify potential barriers, or opportunities they could leverage. This information could help inform their decision-making processes. As public bodies with certain mandates, they should use

the platform (at all levels) to provide reliable information on renovation procedures (for the design, development and monitoring phase), subsidies or any other information that should be widely disseminated and serve their local community. Municipalities may also be interested in exploiting the knowledge (data-based) collected through the TripleA-reno platform, with the specific aim of raising awareness and creating value within the community, while also giving relevance to local actors (consumers and producers) and existing practices (e.g. the BOUW/Alliantie+ offer for renovation in the Netherlands, etc.).

2.2 Actions to extend and promote the platform

Once all target groups have been identified it is possible to define their involvement in the use and exploitation of the specific features and functionalities in the business module. Furthermore, given the dissemination strategies identified in the Project Dissemination and Communication Plan (D7.2), it is possible to highlight the best actions to be undertaken in order to extend and promote the use of the business module. D7.2 will be updated with the input from this report and thus D4.3 will feed into the final D7.6 Report on dissemination and communication activities.

Following the Dissemination and Communication Strategy described in section 1, it is possible to define the main functionalities connected these target groups and the possible means to trigger and communicate those functionalities to them. A first association has been outlined in table 1.

Table 1: target groups and triggering channels

Players and triggering channels [ID]	target group	triggered by	Notes
01	owner-occupiers	Buildings and Property Managers and Associations, municipalities, Housing association of private owners Newspapers, flyers and social media (Facebook, Twitter, etc.)	Awareness of energy and cost savings, IEQ, comfort levels and health benefits by user-oriented information on overall performances after renovation
02	Co-owners in multi-apartment buildings	Buildings and Property Managers and Associations, property owners' associations. Housing association of private owners Newspapers, flyers and social media (Facebook, Twitter, etc.)	Guide and enable renovation decision with the promotion of the platform tool among co-owners

03	Social Housing companies/associations	Public and private promoters and associations on social housing	Awareness of energy, cost saving and attractive measures by their tenants by user-oriented information on overall performances after renovation
04	Municipalities	Municipalities, assoc. and networks with energy, urban and env. Issues/Cities Energy Agencies	They are unlikely to be players, but present as observers; however, they could be one of the drivers to motivate citizens to deep renovate by using the platform
05	Tenants	Buildings and Property Managers and Associations Housing association of private owners	They are challenging to involve as they do not directly participate in the renovation project. The platform shall provide opportunities for their stronger involvement
06	Architects and engineers	Consortium partners ACE and REHVA Architect chambers Architect & Engineering Associations Engineers branches (HVAC and building services)	Act as facilitators between the players and the construction companies. Awareness of quality control aspects in design, construction and maintenance process. Coordinating and monitoring the quality in relation to architectural design.
07	Consultants	Tech. Platforms networks and other Initiatives	Awareness of quality control aspects in design process. Understanding of roles of other trades in realizing quality in relation to architectural design. BIM is an important tool for architects to combine it with quality control

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08	Installers and certified professionals	BUS (Build Up Skills) Social media (Facebook, Twitter, etc.)	
09	Banks and equities	Clustering with other EU projects/networks on financial aspects and bankability	
10	ESCO	Energy Efficiency systems providers	
11	Construction company	European & national construction Associations Other EU / global building organisation, Large Construction promoters	
12	Landlords	Buildings and Property Managers and Associations, municipalities, property owners' associations. Newspapers, flyers and social media (Facebook, Twitter, etc.)	Make them aware of the possibilities to collaborate with experts and tenants on finding a common solution to make energy renovation an attractive investment.

3 Dissemination actions and next steps

This document had the purpose of identifying, with reference to the TripleA-reno platform, suggestions and possible actions to attract new players according to their role within the platform and their involvement, with particular reference to the usage of the business module in Level 1 (design / decision making phase).

The actions to be undertaken to communicate and disseminate the platform should proceed in parallel with the various dissemination activities planned or designed to ensure a good visibility of the project towards the identified target groups and general public (D7.2 -Project Dissemination and Communication Plan).

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National training and dissemination workshops have also been planned for students that will become engineers, architects and professionals by the involved universities in Slovenia and Italy and training providers ISSO and IVE.

The Dissemination and Communication Plan has already identified the needs and expectations of the target groups and possible ways/channels of contacting actors.

In this framework, a specific **call of interest** from the different stakeholders' groups should be designed in order to broaden and extend the use of the gamified platform, attract new dwellers, investors and professionals, and to upload and share their case studies on the basis of their specific economic and business interests (home-owners, building owners, municipalities and other public administrations, housing associations, industrial organisations -including SMEs- running a business in buildings retrofitting).

For this to be truly effective, the idea is that a targeted key sentence to attract the specific group of stakeholders should be developed and implemented in a campaign strategy. The relative dissemination and communication plan will reflect and report on the undertaken call of interest.

I.e., via the identified channels (LinkedIn group, Facebook, Twitter, newsletter, YouTube channel and TV broadcast, social media run by partners, sister projects, other EU project networks) a possible call for property owners could sound like:

" Wanting to renovate your house but do not know where to start? Join our TripleA Reno community for free! We will guide you through your project from A to Z.!". (Landlords/owner-occupier/condos)

"Your bills kill you at the end of the month and you are thinking about renovating your property? TripleA Reno has your back. Check us out!" (owner-occupier/condos)

"Your bills too high you're thinking about renovating your house? TripleA-reno platform will make your project easier! Join the community for free" (owner-occupier/condos)

"Your bills too high you're thinking about renovating your house? Join the TripleA-reno community and get in touch with professionals from the sector!" (owner-occupier/condos)

"Want to find out who can help you to renovate your house? Check out the TripleA-reno platform to see who other people in your area worked with!" (owner-occupier/condos)

"You pay a lot for utility bills? See how your neighbours managed to reduce their energy bills and save XYZ euro/year!" (owner-occupier/condos)

"Are you an architect specialised in residential renovation? Join our platform to meet your future clients!" (professionals)

"Is your city aiming to reach ambitious climate and energy targets? Embrace TripleA-reno platform as a buildings renovation support tool." (municipalities)

As communication and dissemination activities are designed as a living document, the next step will be to formulate keywords and sentences addressing the specific target group in the most effective way. This activity could be shared and discussed in the next project meeting with the relevant partners representing

the stakeholder groups (umbrella associations UIPI, ACE, HE, ICLEI, REHVA, FEDERCASA) and the partners of the TripleA-reno consortium.

4 Communications between the modules and the levels

This section provides a first outlook on the communication processes between the various system components.

As planned from the proposal phase, the TAR (TripleA-reno) platform has been designed into 3 levels, with the following functionalities (see Fig. 1):

- Level 1 - planning of the energy renovation project;
- Level 2 - executive planning and implementation of the renovation;
- Level 3 - monitoring and validation of the performed interventions.

These 3 levels are connected to each other in a circular way; the output of the processes performed at level 3 will be used to validate the operations performed at the various levels, processed and reported in the showcase of the realized projects.

This showcase is a transversal workspace, accessible to all, in which all the implemented projects through the TAR platform will be displayed. This space was designed as an entry point to the system and by which the user is driven to level 1 in order to trigger the renovation process; it is also a point for gathering information from level 3 to update the evaluation of the on going renovation projects.

Furthermore, it would be advisable to provide an unstructured space, transversal at all levels and accessible for all, to provide a free communication and information exchange between users and stakeholders of a wider community (TAR community). In this space could be displayed and stored, for example, the best practices used for the realized energy renovation projects, the incentives provided by the public bodies, any financial channels activated by the credit institutions, the connection to educational and training programs on energy efficiency and renovation, etc.. This unstructured space could be realized with a different tool than those used for the other levels (for example Wordpress), in order to provide user management with an author-editor mechanism, by which to feed the TAR community to further stimulate users in using the TAR platform.

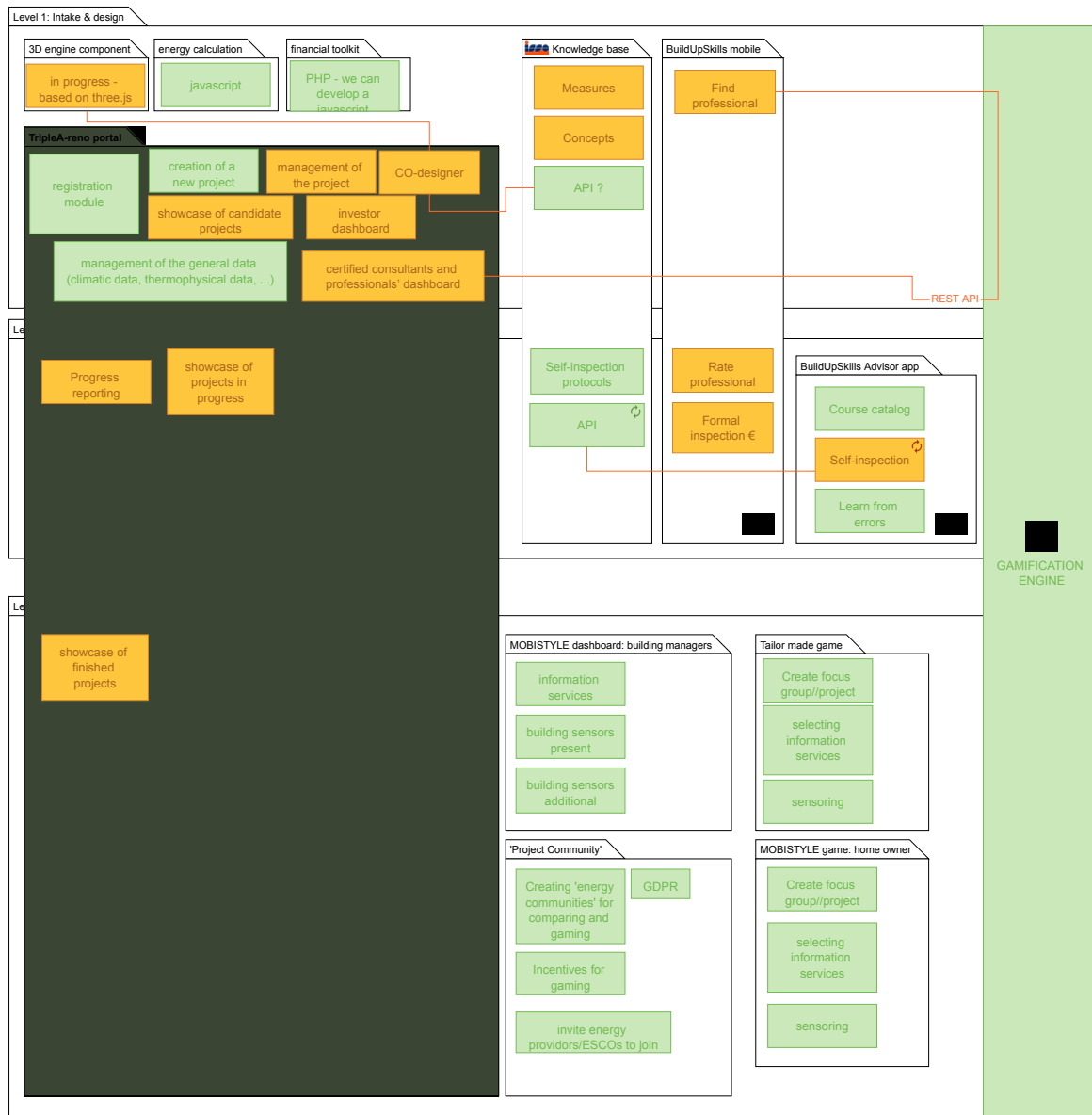


Fig 1: The overall TAR platform architecture

Each level will interface with various modules, some of which have already been developed in previous European projects, possibly adapted to the current project, and others developed within the TAR project. This is the list of the adopted modules:

- energy tool: to calculate the energy performance of a building;
- financial tool: to calculate the financial performance of the renovation project;
- 3D tool: to draw and visualize the building interactively, in order to calculate its energy performance

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- and the profitability of the intervention;
- co-creation designer: support tool for choosing the interventions to be done for energy renovation;
 - gamification engine: to develop user engagement strategies that refer to gamification principles;
 - BUS (Build Up Skills): developed for training and management of interventions for the evaluation of the execution of the works;
 - Mobistyle (or similar): to monitor the post-intervention building performance and for providing an evaluation of the realization, to be displayed in the dashboard.

This description summarizes the connection and communication between the various levels and the various modules of the TAR platform that will be developed in detail in the document D4.1 - Overall design and architecture of the open gamified platform.