



**TURNKEY
RETROFIT**



D4.2 - Evaluation report



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Project Coordinator	Dominique CACCAVELLI (CSTB) +33 (0)4.93.95.64.01 / dominique.caccavelli@cstb.fr
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Author(s)	Caroline BOUTELOUP (CSTB)
Co-author(s)	TECNALIA: Jorge TORRES, ANERR: Maria Concetta Cocchiara and Raul Redondo, NUIG: Paul MORAN and Orlaith MC GINLEY, IGBC: Johanna VARGHESE, EP: Floriane GUEGUEN, OPERENE: Hugo VIGNERON, CSTB: Madeleine DEVYS and Tania ABI MOUSSA
Reviewed by	Dominique CACCAVELLI (CSTB)
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INTRODUCTION

Gathering nine partners from research, consultancy, engineering companies, non-profit organisations, and technology centres), TURNKEY RETROFIT will develop and replicate an integrated home renovation service which will be initially operated in 3 EU countries - France, Ireland, and Spain.

The main objective is to develop a user-friendly digital platform – One-Stop-Shop - which will transform the complex and fragmented renovation process into a simple, straightforward and attractive process.

The TURNKEY RETROFIT service, embodied by the web platform Solutions4renoavtion, is therefore developed as a home-owner-centric renovation journey, which includes general information, the initial technical and behavioural diagnosis, a roadmap towards a global energy retrofit, a technical and financial offer that can lead to a contract development and agreement, and information about financial subsidies and grants. It is a service-oriented model where the homeowner is offered tailor-made solutions through the whole customer journey.

The service is accessible through a user-friendly digital platform and it addresses drivers of building renovation that go beyond a desire to reduce energy bills and increase asset value, such as home improvement, increased comfort, enhanced health & quality of life.

The central objective of the process and evaluation impact strategy is to demonstrate and promote that the developed TURNKEY RETROFIT service offers a burden-free experience for householders and a quality refurbishment process that goes beyond replacing building components and which offers additional home improvement services.

EXECUTIVE SUMMARY

This document provides the results of the data collection that have been carried out to evaluate and validate the TURNKEY RETROFIT service.

Among the three countries that participated to the project (France, Ireland and Spain), the contexts are very different regarding the One Stop Shops: existing offer, business models, regulations. And to maximize the added value of TURNKEY RETROFIT project, the platform and the services that have been developed are specific to each country. See D1.4 Review for the details about the services.

Therefore, the evaluation method have been adapted as well, in order to provide an accurate evaluation of the results, for each version of the platform. As an example, Solutions4Renovation is directly connected to heero in France (and OPERENE's service), which is an improved version of existing services developed by EP and OPERENE, so it was possible to draw a baseline of these existing services to which the new service developed in TURNKET RETROFIT will be compared. In Ireland, several OSS already exist but are not part of the consortium of TURNKEY and the Irish platform that was developed by TURNKEY can be considered as "brand new". In Spain, ANERR already operated an energy retrofit service for the homeowners, but it was not online. So, for Ireland and Spain, it was not possible to have a baseline.

The types of homeowners are different as well from one country to another (mostly single-family houses or multi-family buildings).

In the end what's common for the three countries is the fact that the timeline of a whole renovation process is very long (from the first contact with the homeowner to the end of the retrofit works) and, combined with the COVID impacts on the planning and fact that the development phase took more time than expected, the results are based on a qualitative evaluation of the service, evaluation of the quality of the services (Heero and OPERENE service) in terms of the quality of the technical refurbishment as well as the quality of the customer relationship all along the renovation process but not on actual retrofit works technical results.

Part 1 presents the methodology that have been followed in each country to evaluate the service.

The approach adopted integrates an. It also includes a calculation and evaluation of Key Performance Indicators (KPIs) including uptake of home renovation at local level, corresponding investments in energy improvements, and primary energy savings triggered.

The strategy and instruments that have been used (i.e., surveys for homeowners, semi-structured interviews for Local Implementation Group members) have been detailed in D4.1.

1. EVALUATION APPROACHES IN EACH OF THE 3 COUNTRIES

The following table synthesizes the evaluation method in each of the three countries.

<u>Context / criteria</u>	<u>FRANCE</u>	<u>IRELAND</u>	<u>SPAIN</u>
Baseline Existing service and sources of information for the baseline	Existing services Mon Carnet and Izigloo for the single houses (OSS by EP). Baseline based on feedbacks automatically collected by EP 3 years ago. Service provided by OPERENE for the multi-family buildings (9 homeowners and 5 experts) Baseline based on feedbacks from OPERENE clients on their last project Les Balmes.	No baseline	No baseline
New service New service and sources of information for the evaluation	Solutions4Renovation and heero experts' feedbacks from the webinar (3) surveys of homeowners (13) interviews with property managers (1) interviews with experts (5)	Solutions4Renovation experts from the LIG (13) surveys of homeowners (2)	Solutions4Renovation experts from the LIG (8) surveys of homeowners (7) interviews with property managers (3)

In each country, the questionnaires from D4.1 have been adapted to fit the new evaluation process and the national contexts. But attention was paid to the consistency of the evaluation between the 3 countries: evaluate the quality of the functionalities and tools that have been developed in the new service.

To ensure compliance with data protection (General Data Protection Regulation EU-GDPR), all experts and homeowners have been informed about how the information collected in the evaluation and validation process of the Solutions4Renovation service will be treated. They have been asked to sign a consent form to ensure that the processing of personal data by the partner organizations is lawful and appropriate. Once



they have signed the Information and Consent Form, they have proceeded to fill in the form designed to conduct the expert interview.

1.1. In Spain

The evaluation process included interviews with experts (8), interviews with homeowners (7) and interviews with property managers who manage dozens of multifamily buildings (3).

As no tools have been developed to cover all the phases of the renovation process, the evaluation of the TURNKEY RETROFIT service has been made on the tools and functionalities that would have been developed up to the date of the interviews, and not on completed retrofit projects.

The experts selected for the interviews have been chosen from among the experts who are part of the LIG in Spain. In the case of Spain, the LIG has collaborated throughout the development of the project. Several working meetings and workshops have been held with the members of the LIG in which they have been informed of all the progress and developments of the project. As a result, it has been possible to select and recruit participants for these interviews.

To solve this problem, forms have been created to collect the questions to be asked to the experts. In addition, a workshop was held on January 13th with the members of the LIG, during which, in addition to presenting and explaining the results of the TURNKEY RETROFIT project, different work dynamics were carried out to complete the information gathered with the questionnaires.

To evaluate the TR system and its respective tools, **not only property administrators have been interviewed, but the interviews have also been carried out with homeowners** who are thinking of renovating their homes, or are in the execution phase of the renovation, or have already completed the renovation works. In order to carry out the evaluation and before the interviews, access to the S4R platform and the use of the different tools was facilitated. The interview was conducted by an ANERR technician who explained the questions to the owner and the technician wrote down the answers.

In addition to the owners, the evaluation of the service was also carried out by surveying several property managers who manage dozens of multifamily buildings.

The selection of the participants was made through ANERR member construction companies that are carrying out the renovation of buildings, and the property managers who manage these buildings were contacted. The methodology was the same as for the homeowners.

Interviewees / Service evaluated	Baseline	New service
	Both single houses and multi-family buildings	Both single houses and multi-family buildings
Experts	No baseline	Interviews of experts among the LIG

Homeowners	No baseline	Interviews of homeowners carried out by ANERR
Property managers	No baseline	Interviews of property managers carried out by ANERR

Table 1 – Synthetic view of the evaluation in Spain

1.2. In Ireland

Two households were surveyed, and 13 professionals interviewed to gather their insights and perspectives on the website and tools developed as part of the TR project

As the Irish platform was not live at the time of the evaluation, no householders embarking on their retrofit journey were able to engage with the platform. Instead, the evaluation focused on householders who had completed their retrofit journey through other retrofit services in Ireland. These participants had a unique perspective as using the knowledge and experience they gained from their retrofit journey, they could assess whether the website and tools developed as part of TR were useful for householders beginning their retrofit journey.

NUI Galway carried out surveys with the householders. IGBC carried out interviews with the experts of the LIG.

The evaluation focuses on the online platform (S4R) and tools (Punch Diag and Roadmap) developed as part of the TURNKEY RETROFIT project as a service for homeowners beginning their retrofit journey.

Interviewees / Service evaluated	Baseline	New service
	Single houses only	Single houses only
Experts	No baseline	Interviews of experts through the LIG carried out by IGBC
Homeowners	No baseline	Interviews of homeowners carried out by NUIG

Table 2 – Synthetic view of the evaluation in Ireland

1.3. In France

As explained in the executive summary, France was the only country where it was possible to have a baseline evaluation.

This baseline allowed us measuring the qualitative impacts of the improvements and adaptations resulting from the integrated service specification (customer journey definition) delivered in WP1, when applied to the existing service being operated under the Operene and heero brands.

This baseline was drawn from EP’s existing evaluation process for Mon carnet and Izigloo, and interviews from OPERENE former clients.

For the new service evaluation, we have worked mainly from personal interviews and surveys. In addition, a French webinar was organized on the 17th of February to show the results of the project and collect the professionals’ feedbacks. 17 professionals (contractors, architects, designers and engineers, and public entities) attended this webinar and gave their feedbacks.

Interviewees / Service evaluated	Baseline		New service	
	Single houses (Izigloo / Mon Carnet)	Multi-family buildings (former OPERENE project)	Single houses (S4R and heero)	Multi-family buildings (S4R only)
Experts		Feedbacks from experts who have worked with OPERENE on a former project	Interviews of experts among our networks + French webinar on the 17 th of February	Experts who have worked with OPERENE on a former project + main contractor
Homeowners	No interviews but existing feedback process from EP exiting services Izigloo and Mon Carnet.		Surveys of users from heero client accounts	Surveys of users among our networks

Table 3 – Synthetic view of the evaluation in France

The interviews and surveys have been conducted to get qualitative results on the platform but also to complete the evaluation with analytics data.

2. RESULTS OF THE EVALUATION

Here are summarize the main conclusions of the evaluation for each country. See the 3 National Reports in annexes for the details.

2.1. In Spain

Conclusions from LIG interviews

The quality of the service: the experts interviewed stated that the service offers a much higher quality compared to other services on the market. However, the service does not yet cover all phases of the renovation process to be able to call it a one-stop-shop.

It was also recommended that the platform be further developed to improve the service through new developments to fill the gaps that now exist.

Although the interface of the platform and its tools, and the user experience have been well received, they felt that the service would need further design, greater accuracy, and terminology closer to the non-technical end-user.

Questions going forward several questions arise about the platform and its future:

- Is the TR service going to be linked to technical control documents ITE and IEE?
- Is the service going to be implemented or connected with official websites of the ministry, official schools, etc?
- Will the project be disseminated among professionals, administrations, companies, financial institutions, property managers, etc. to attract agents to offer their services within the TR service?
- Will the TR service have in the future a White Certificates homologation/management?

Conclusions from Household interviews

The homeowners interviewed indicated that the tools have allowed them to increase their knowledge of what interventions to carry out in their homes to improve energy efficiency and reduce both their energy consumption and the bills associated with it.

Homeowners have indicated the need for more information on financing or financial aid, as this is the main reason that pushes them to carry out a renovation. Even though the users are aware of energy savings, the respondents indicated that they would not renovate their homes if they did not have access to financial aid.

This coincides with the main barriers identified to carry out an energy renovation of their home, which were the high cost of the necessary investment, and the lack of support and financial aid to carry out the renovation works.

The users, because of the lack of knowledge about energy renovations, have indicated that they usually get information on websites or companies in the sector and all of them have agreed that the information

provided by the S4R tools has helped them and they believe that the information and data presented is useful and valuable.

Conclusions from Property Manager

The property managers that participated in the evaluation of the TR service agreed that the information and data provided by the S4R platform will allow them to promote energy renovation in the buildings they manage. Thanks to the ease of use of the punch and the roadmap tools, it allows them to have information to share with owners to demonstrate the benefits of energy renovation in their buildings.

As well as the owners, property managers have expressed the need for the S4R platform to help them apply for or manage financial aid or funding programs for the renovation of energy renovation works. If the platform had a tool that would allow the application and management of financial aid, it would be the necessary impulse to guarantee the use and success of the service.

2.2. In Ireland

Summary of key findings from homeowner surveys

Overall, the survey participants gave the TR website and tools an average rating of 6.8 out of 10. The participants acknowledged that the website and tools are moving in the right direction in terms of what householders need when embarking on their retrofit journey but felt improvements could be made in terms of the:

- Structure and functionality of the website and tools.
- The provision of additional information on the technical options available for retrofitting a home.
- Transparent and clear information on the grant schemes homeowners can avail of.
- Experiences of previous homeowners who had retrofitted their home.
- Evidence of the wider benefits of retrofitting outside of energy and thermal comfort

They also raised concerns if the website and tools are planning on recommending/steering people towards professionals, as this will need oversight to ensure the professionals are suitably qualified to ensure their work meets a minimum standard.

Furthermore, based on the experiences of the homeowners surveyed using OSS retrofit services in Ireland, they had different reasons/needs for beginning their retrofit journeys (replacement of boiler and door, level of grants available and home to accommodate multi-generational living). It is important to incorporate information that addresses all these inflection/touch points to keep homeowners engaged with the renovation process. In addition, ensuring effective and transparent communication between professionals and homeowners is essential to ensure people do not lose trust in the process to keep homeowners engaged in the process and entice other homeowners to embark on their own retrofit journey.

As the Irish platform (Renovation Hub) is aiming to establish itself as an independent information hub for homeowners where they can find information on building renovation and professionals to carry out the renovation work, these recommendations will need to be taken on board. For other organisations seeking to fulfil a similar role in other retrofit markets outside of Ireland, these lessons are important when establishing themselves in the marketplace.

Summary of key findings from expert interviews

Members of the LIG interviewed believed there is definite value in an independent platform, acting as an information hub that provides up-to-date information on all things to do with retrofit including signposting to finance, grants and a comprehensive question and answer section tailored to the early customer. The interview participants noted the platform should be simple as possible for the new customer, as they are often overwhelmed by the complexity, number of decisions, and lack of familiarity.

The interactive tools - Punch [does my home need a retrofit?] and Road map [what do I need to do and how much might it cost?] were good concepts that were praised. Punch was described as a novel approach and Roadmap as good broad-brush stroke for the customer who is new to retrofit. However, they require further development including layout and phraseology to suit the Irish context and Roadmap in providing options and more accuracy of costs and savings, for a better user experience [UX].

While it was unanimously recommended that the platform should continue to develop as an independent information and knowledge hub, the experts felt improvements could be made to improve user experience and promote retrofitting in terms of:

- Structure and functionality of the website and tools.
- The provision of additional information on the technical options and costing information for retrofitting a home.
- Transparent and clear information on the grant schemes homeowners can avail of.
- An increased marketing campaign to promote retrofit

All agreed that information on finance would be vital and improve the customer experience. For both grants and finance interviewees stated that if the platform would rate, qualify them and explain why one might be more suitable than another, it would be useful for customers and increase the trustworthiness of the site.

After providing information and estimates, the goal of Roadmap on the Irish platform is to nudge the customer to connect to a renovation advisor. This was seen as a pleasant customer journey, although many interviewees wondered where the supply of renovation advisors would come from and how would they be qualified and accredited. This raises the question digitised system fit for retrofit actors would encourage more retrofits to be done and help hit ambitious national targets.

Summary of implications for policy and practice and future (research) directions

A key takeaway from the evaluation process is that customers need an information hub that is independent and trustworthy that targets the early customer. Customers need more guidance on the retrofit process and how to measure that against their home. The information hub would be used by both the customer and the renovation advisor to help the customer understand more about why they should retrofit and what the process is. Information would be provided in different levels that unfold from the basic level [for e.g. what is the difference between triple and double glazing] to a more in depth level [u-values and how they affect performance].

In addition, one particular service that the platform should provide following engagement with stakeholders is the aggregation of projects. This will allow the grouping of retrofit projects which will aid scaling the level

of retrofit activity and allow professionals to offer homeowners more attractive pricing offers. Further directions on how the service and retrofit industry should move forward are expanded upon further in the report.

2.3. In France

Conclusions from household interviews

The conclusions are consistent and positive as the homeowners interviewed indicated that S4R is an easy-to-use platform, and that the tools have allowed them to increase their knowledge of what interventions to carry out in their homes to improve energy efficiency and reduce their energy consumption.

All of them have agreed that the information provided by the S4R has helped them and they believe that the information and data presented is useful and valuable. And that they will come back onto the platform if/when they want to start their retrofit project.

We can clearly see a need for more information on financing or financial aids. As it's a key element to trigger the works. And for more technical information as well. Which shows that people are eager to know more about energy retrofit, and it's a very positive sign.

In addition, we can see a reluctance to carry out global retrofit, because of the cost it would mean, and the disturbance also.

Conclusions from expert's interviews

The conclusions are less uniform among the experts.

On one hand, the platform S4R and the tools that it (and heero) provides are seen as a good "proof of concepts" and the future developments through public partnerships or contractual agreements will allow to go further. On an operational level, we cannot forget that the tools need consistent maintenance in terms of changes in costs and grant schemes.

On the other hand, the strategic approach that was chosen in the TURNKEY project raises very essential questions:

- Promote public versus private entities as drivers of the energy retrofit?
- Promote only a global and deep retrofit versus allow users to go step by step with only one work at a time?
- Promote a fully digital service versus the support of a design team who will carry out an on-site diagnosis?

In the end there is a common understanding that all actors in the 'retrofit world' need to coordinate and collaborate and that all the approaches and initiatives stated above are complementary.

3. CONCLUSION

In the three countries, we can see very positive feedback from homeowners who have tested the service that was developed in TURNKEY project. The Solutions4renovation platform provides a first level of general information which is very much appreciated, and the tools offered allow individuals to project themselves into their renovation project. We see a real demand for more precise information (on both technical and financial fields), which is very encouraging.

An unexpected finding was that the hub should cater to customers coming to retrofit through the frame of sustainability, climate change, and healthy materials that were environmentally friendly.

Thus, even if we were unable to obtain actual figures on energy savings thanks to retrofit works, **Solutions4renovation obviously facilitates the "triggering" of the act of renovating, and therefore ultimately, participates to the massification of the renovation, which was the initial objective of the project. In this regard, the project is a success.**

The property managers that participated in the evaluation of the service agreed that the information and data provided by the S4R platform will allow them to promote energy renovation in the buildings they manage.

Concerning the Irish and Spanish versions, all the participants interviewed (users and experts) agreed on the wish to see the customer journey completed to allow to go through the whole renovation process online.

Regarding the French version, this is also the case for multi-family buildings. For single houses, on the other hand, heero allows the users to go as far as choosing a professional to carry out the works, and the monitoring of traffic on the website has made it possible to highlight two important points:

- Customers are still reluctant to carry out a global energy retrofit.
- The overall conversion rate of a One Stop Shop is still very low (number of quotes signed / number of connections), so it is extremely important to have an effective marketing strategy, and good referencing, to attract a very large number of people onto the website.

Among experts and professionals, there is also a real interest in the three countries. The experts interviewed stated that S4R offers a quality service and very useful tools. Several of them expressed their interest to connect with the team to adapt or replicate the tools, and even the whole concept. **In this aspect as well, TURNKEY RETROFIT project is a success.**

However, the feedback is slightly contrasted depending on the activity and the role of the people interviewed in the energy renovation value chain. The tools developed and offered on S4R are clearly seen a positive point, but some issues were raised:

- Be extremely transparent about the entity that operates the platform (public or private),
- As well as about the subsidies and grants that are available,
- Offer neutral and high-quality information,
- Promote, as much as possible, global energy retrofitting,
- Be connected to the other stakeholders (contractors, renovation advisors, public entities).

In the end, there is a common understanding that all actors in the 'retrofit world' need to coordinate and collaborate.

The challenge to meet the European Union's goals for the energy retrofit of housings in the next years is huge and every energy and expertise is needed.

ANNEXES

1. **Spanish National Report**
2. **Irish National Report**
3. **French National Report**