TURNKEY RETROFIT

D4.3: Lessons learnt to inform future large-scale uptake

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FOREWORD

The work presented is part of an ongoing European Horizon 2020 project TURNKEY RETROFIT. The project seeks to create a burden-free renovation experience for the homeowner by providing a web platform where the user is offered tailor-made solutions based on his/her specific needs and preferences.

The Turnkey Retrofit project aims at developing and replicating an integrated home renovation platform, operated in France, Ireland and Spain. The service is developed as a homeowner-oriented renovation journey. SOLUTIONS4RENOVATION is the core of TURNKEY RETROFIT project. It's the platform that host some services dedicated to the customers, in the address: http://www.solutions4renovation.eu/. Everything is in free and open access.

To cover the whole process of retrofit, it is crucial to lead the user to a call with an advisor or a contractor to really engage the retrofit. This has been planned at the end of the user journey in each version. As Turnkey Retrofit does not provide advisors, it has been decided to link S4R to national platforms, which provides such services:

- Heero.fr in France which is already existing
- ReformANERR.com in Spain already existing but is in evolution during the project
- Renovationhub.ie in Ireland which is in development

Having a similar service for 3 different national contexts was very complex, but very instructive as well. Some differences in the 3 contexts help to cross different perspectives and rethink some elements, and other differences were too deep to be solved and led us to build three versions.

1 INTRODUCTION

1.1 Aims and objective

This report provides a comparison of the evaluation results in France, Spain, and Ireland of the implementation of the TURNKEY RETROFIT bricks. From this evaluation, lessons learned, and guidelines have been elaborated for future large-scale uptake of the TURNKEY RETROFIT (referred as TR in the rest of this document) service beyond the project lifetime.

1.2 Relation to other activities in the project

The evaluation methodology has been defined in the report *D4.1- Process and impact evaluation strategy* lead by NUIG. The evaluation of each countries France, Spain, Ireland was summarized in the report D4.2- *Evaluation report.*
The work from this report will inform business models, sustainable exploitation, and replication plan in WP2.

1.3 Contributions of partners

NUIG is leader of this WP4 and has led the evaluation of the Irish local implementation. CSTB has led the evaluation of the French service and TEC has led the evaluation of the Spanish local implementation. EP, OPER, ANERR and IGBC have gathered necessary input data from the service implementations and coordinate necessary interactions with LIG members. R2M with support from BPIE has led the overall benchmarking and comparison of obtained results.

2 COMPARISON METHODOLOGY OF THE NATIONAL EVALUATION

2.1 Template and interview's structure

In order to compare the evaluation of the TURNKEY RETROFIT service a similar methodology to collect data in each country has been used. Indeed, key requirements are that homeowners in France, Spain, and Ireland complete a common survey (translated to the local language where appropriate), and researchers use a common framework for conducting and reporting expert interviews. The steps and questions outlined in the local data collection plan are designed to streamline the local evaluation process and make it as similar, feasible, and comparable as possible.
The full templates and interview's structure are available in the public report D4.1- *Process and impact evaluation strategy*. The full result of this evaluation is available in the public report D4.2 - *Evaluation report.*

2.2 Comparison methodology

In this report only the points of comparison which are instructive will be exposed. The points of comparison that we have deemed instructive are those that allow to:

- report on common difficulties
- identify success factors
- draw lessons for replication.

For this, local reports have been carefully analysed by experts from R2M and BPIE.
BPIE was in charge of the OSS benchmarking activity at the start of the project. They therefore have a good knowledge of the characteristics of these platforms.

R2M Solution oversees the exploitation and replication activities. They therefore have a good knowledge of the development of these platforms.

After analysis and comparison of the three national evaluation reports, only the Punch Diag and Roadmap bricks satisfy the above comparison methodology. So, this report focuses only on these two bricks.

2.3 Comparison criteria

To compare the national assessments, they have been categorised according to different criteria:

- Country: France, Spain, Ireland
- Tool: Punch Diag, Roadmap
- Domain of the evaluation: Concept, Technical, Financial, User experience (Ux)
- The evaluation: Positive aspects, Missing aspects / aspects to improve

These criteria made it possible to tag feedback on the Punch Diag and Roadmap tools in the national assessments.

3 COMPARISON RESULTS OF THE NATIONAL EVALUATION

All the comments in the national evaluation reports have been assessed, compiled, and analysed. A synthesis of these comments was carried out, resulting in 57 unique feedbacks, 19 for each country, which describe the situation in each country. These feedbacks were tagged according to the criteria set out in chapter 2.3.

The Roadmap tool was the most commented on, receiving more than 60% of the comments (Figure 1). This is because this is a more in-depth tool and comes after the Punch Diag tool within the customer route. Roadmap is used during the decision making while Punch Diag is used during the incentive and the first assessment.

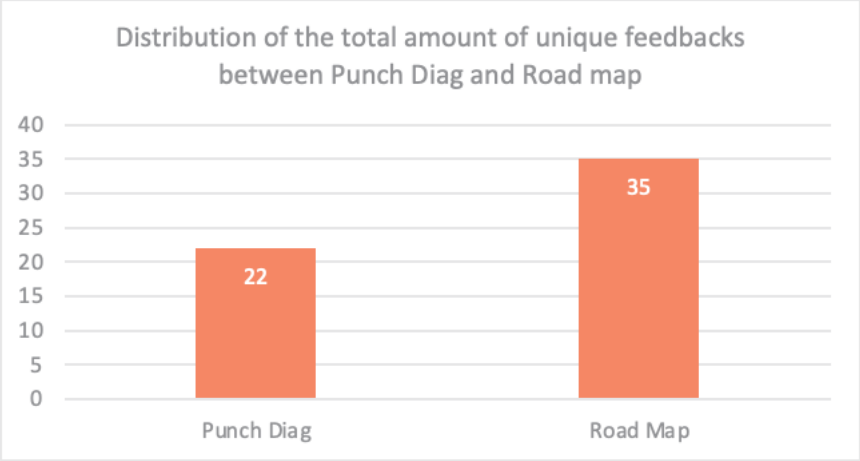


Figure 1 - Distribution of the feedbacks for each TR bricks

As the report D4.2 shows, user and expert evaluation of the Punch Diag and Roadmap tools is positive overall. However, when we quantify and characterise the feedback, we realise that there are more negative comments than positive ones (Figure 2).
This is normal when users give their opinions they always tend to expand more on their complementary wishes and needs rather than on their general positive feelings.

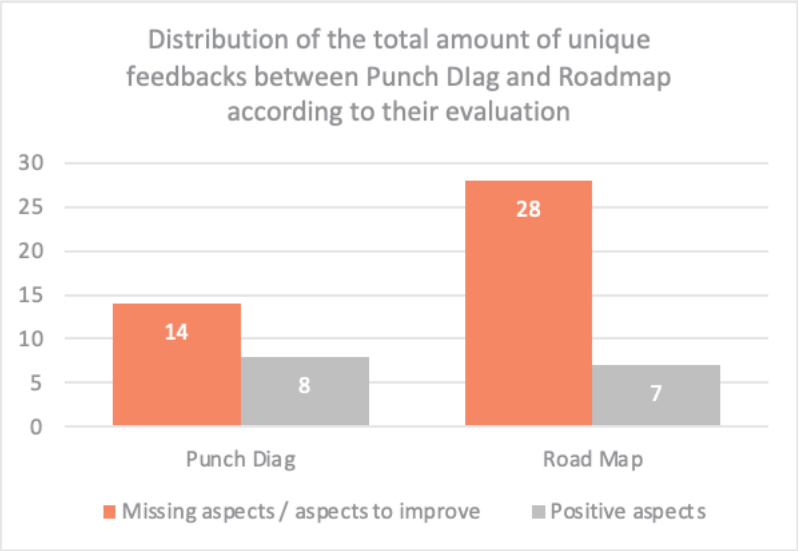


Figure 2 - Distribution of feedbacks for each TR bricks according to the evaluation

However, in proportion the Roadmap tool received more comments under the label "missing aspect / aspects to improve" than the Punch Diag tool. Indeed, the Roadmap tool received 80% of its comments under this category while the Punch Diag tool received 64%. Once again it could come from the completeness of the Roadmap tool and its role in the decision-making process while the Punch Diag tool is a fun and didactic tool to increase awareness of the need for renovation. The roadmap tool is here to guide the renovation operations in terms of budget, technique employed and scheduling. Therefore, people are eager to get a more precise information.

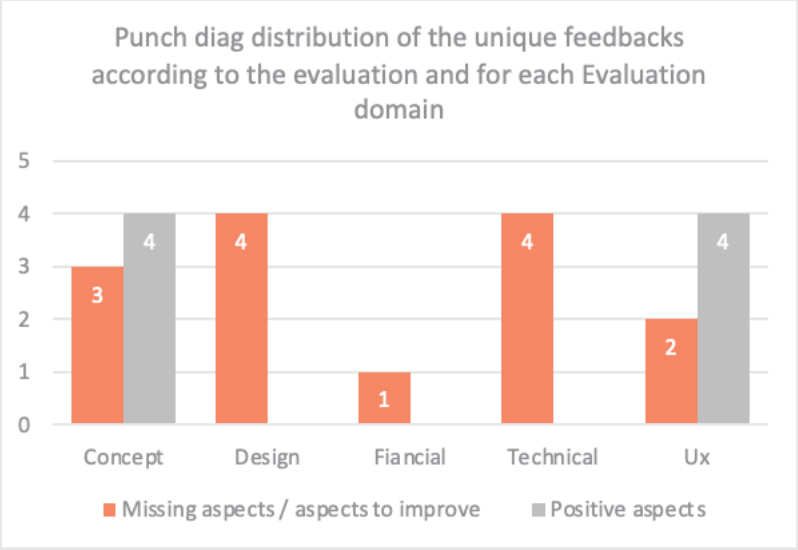


Figure 3 - Distribution of the Punch Diag feedback according to each domain of evaluation

The two areas in which the Punch diag tool has received positive feedback are the concept of the tool and the customer experience it offers (Figure 3). This is very positive because it is in this philosophy that the Turnkey Retrofit team thought about the development of this tool. Indeed, user-friendliness and simplicity were the two words framing the development strategy of the Punch Diag tool.

According to the interviewees there are some missing aspects regarding technical solutions and financial incentives that could be included in the tool.
Although the tool is already easy to use and the user experience is good, interviewees suggested some improvements regarding the design of the tool.

- "It should state clearly that the user must click on all 10 questions if they want an answer and to proceed to the next stage"
- Many interviewees suggested instead of saying 'high potential' and 'medium potential' – state 'good' or 'very good / 'improved' or 'much improved'.
- For the Irish platform, the customer experience would be improved significantly if there were fewer stock images and ones that were bespoke to the Irish market as it would help the Irish user feel more connected
- "Replace the term 'Diagnostic tool' with a 'Quiz' as it's easier for people to understand"

Although the tool is praised for its simplicity, one respondent still found some of the questions too technical. In the future, this point will have to be explored further in order to determine whether or not the questions should be further simplified.

The attention of the interviewees was mainly focused on the concept of the Roadmap tool and especially on the technical aspects (Figure 4).

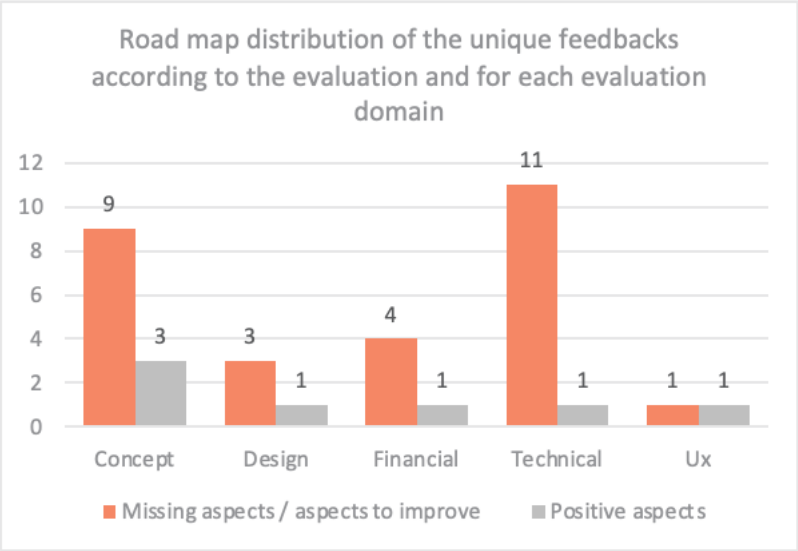


Figure 4 - Distribution of Roadmap feedback for each domain of evaluation

Below are the major feedbacks upon the concept & technical aspects of the Roadmap tool:

- It should not only provide information on subsidies but also "on their management".
- Promote a retrofit process "action by action" and not a global and deep retrofit.
- Maintenance and technical issues (potential disorders, details of execution) should be specified.
- More options need to be opened for customers on wall type and heating type for example
- It should offer other types of renovation works such as accessibility.
- There is an insufficient discrepancy of savings between the intermediate and advanced packages.
- The wording in the packages section should be changed from 'year' to 'phase' as it may just be the next phase for the customer.

The TR team understands those comments, decisions will have to be made to determine whether or not the concept of the Roadmap tool will evolve with a view to its replication.

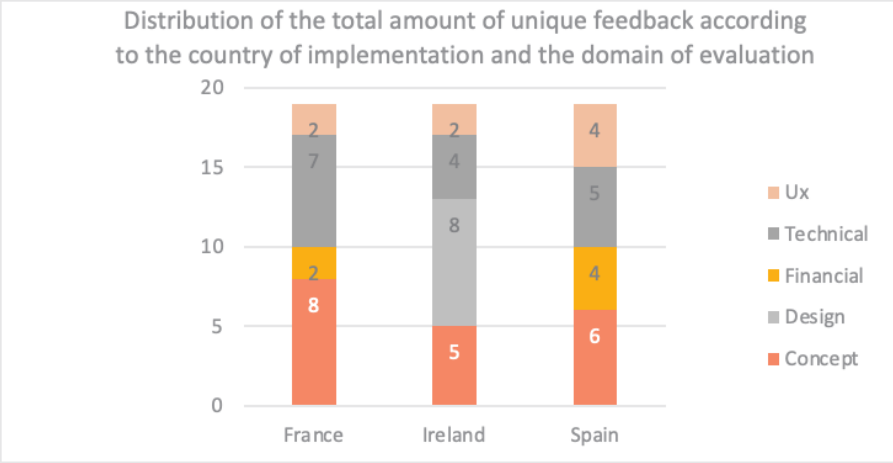


Figure 5 - Distribution of feedback according to their country of origin and the domain of evaluation

As we can see, each country does not focus its assessment on the same areas (Figure 5). As we have seen several times during the project, although very close geographically each country has its specific expectations, its regulatory context, its technical constraints, ways of renovating and communication specificities.
The concept and the user experience can remain the same in each country, this constitutes the core of the TR bricks. But the technical, financial, and even the design aspects must be adapted in each country to match the local context.

Only the Irish representatives have been extremely focused on the graphic design of the tool.
This could be explained by the fact that currently the central platform has not yet been created in Ireland (while it is in France with HEERO and in Spain with Reform'ANERR). The Irish stakeholders are therefore more largely based on the work of Turnkey Retrofit, which is perhaps why they have been more vigilant on these aspects of graphic design.
Co-design workshops with local actors will have to be conducted to adjust and refine the turnkey retrofit bricks to local contexts during replication.

As shown in Figure 6, the feedback from the different countries of establishment is different in terms of the area of evaluation.
It will therefore be necessary that the co-design workshops set up not only focus on one aspect but allow participants to express themselves in each of these areas: concept, technique, finance, user experience, design.

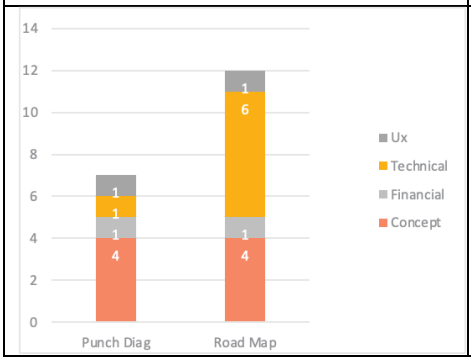
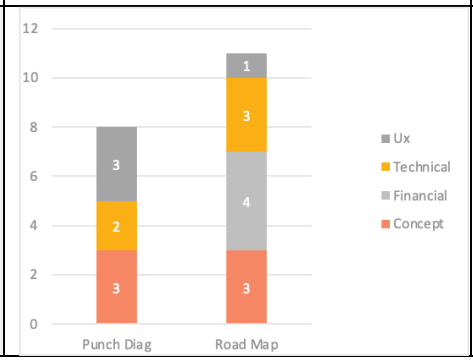
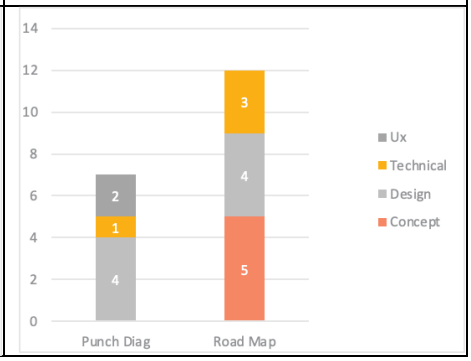
FRANCE	SPAIN	IRELAND
		

Figure 6 - Distribution of unique feedback for each country according to the tool and the domain of evaluation

4 LESSONS LEARNT AND GUIDELINES FOR LARGE SCALE UPTAKE

Key lessons have been learned throughout the Turnkey Retrofit project and have already been partially documented in the following deliverables:

- D2.6 – Sustainable exploitation and replication plan (m33)
- D3.4 – Lessons learnt from the local implementation (m33)
- D4.2 – Evaluation report (m33)
- D4.4 – First lessons learned from the Turnkey Retrofit service (m27)

This Part 4 - Lessons learnt and guidelines for large scale uptake of the report on the one hand synthesises, organises and simplifies these lessons learned and on the other hand puts them into perspective with the comparison of the national assessments above.

4.1 Readiness for the implementation of Turnkey renovation services

Two factors come into play to determine if an actor is ready to implement Turnkey Retrofit services in a country: his Team Alignment and his knowledge of the Environmental approach of the country in which he wishes to settle.

Team Alignment

The first point to check and align before implementing the Turnkey Retrofit service is the motivation and shared vision of the management team of the stakeholder wishing to set up the TR services.

Indeed, according to Behnam Tabrizi, (Harvard Business Review, 2015) 75% of dysfunctions come from cross-functional teams. Today, to implement innovative solutions like OSS, you need a large team with many different specialties and interests. But the fundamental skills must be shared by all the main partners, or at least a general background knowledge on them (for example informatic development skill), to avoid misunderstandings.

The team must be clear on certain problems and objectives.

In the Figure 7Figure 7 a series of questions to answer before beginning the process of creating and implementing the TR service:

TEAM ALIGNMENT

MOTIVATION
- What are your motivations and expectations for setting up a turnkey renovation service?

RESSOURCES
- Do you have the human and financial resources needed to manage and develop the service?

NETWORK
- Do you already have good partnerships and stakeholders with complementary skills to meet the needs that the service will provide?

REALISTIC
- Is your organization focused and mentalized in the idea and the work necessary to develop and create a turnkey service?

Strategyzer has designed a tool - The Team Alignment Map[1] - to align management and project teams for better teamwork, leading to more innovation and impact. This mapping can be done during one or more interactive workshops with the main axis of study: *Turnkey Retrofit services implementation* (Figure 8Figure 8). It seems important that the central question of this workshop, very early in the process, does not focus only on the digital bricks of TR but also on the question of integrated/turnkey services.
Indeed, this allows everyone to share their doubts and expectations regarding the Turnkey Retrofit services (digital and non-digital).

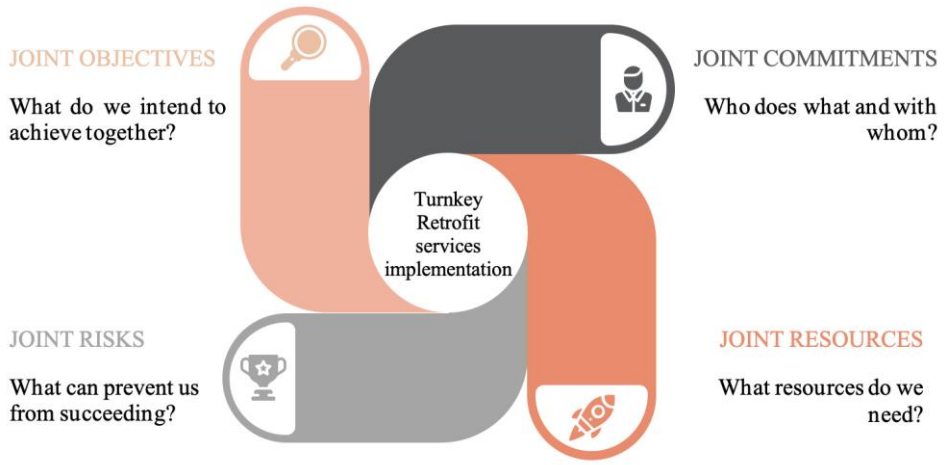


Figure 8 - Team alignment mapping exercise for the implementation of TR services

Environmental approach
The second point to check in order to assess a stakeholder's readiness to set up the Turnkey Retrofit service is their knowledge and good understanding of the environmental approach of the country in which they wish to set up (Figure 9Figure 9). This environmental approach of the country and the local context does not depend on the actor wishing to implement TR services, but he must have a good knowledge of it.

[1] https://www.teamalignment.co/

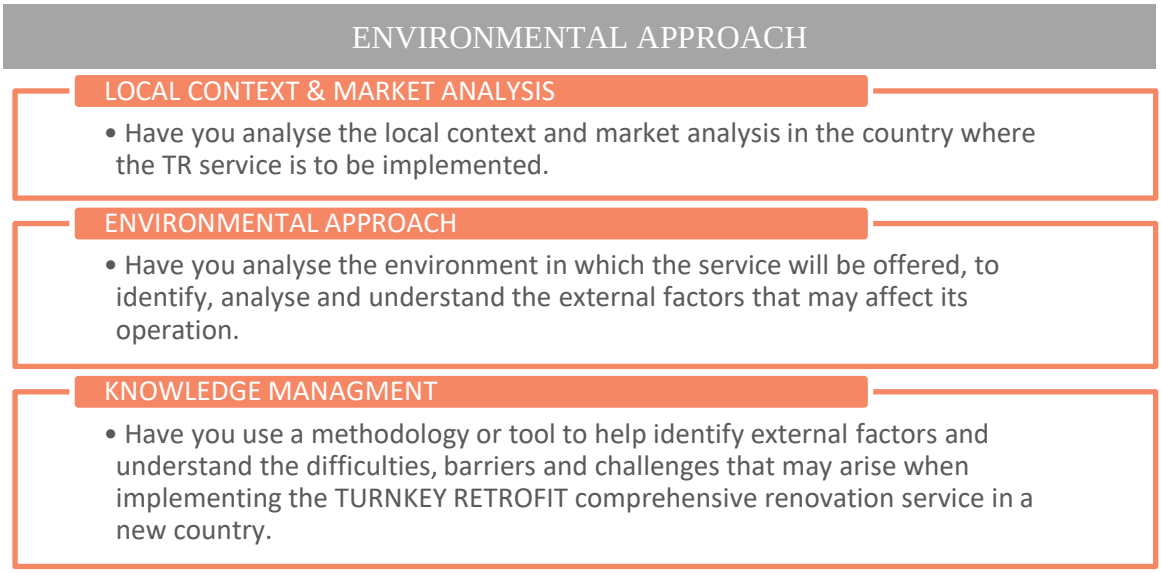


Figure 9 - Insightful question about environmental approach readiness to size the readiness to TR replication

Setting up the working team

It is recommended to set up teams with people who know how to speak "software code" and "software development" on both sides (TR developers AND clients for replication).

In addition, it is advisable not to separate methodology AND implementation (or else the same person takes charge of both), otherwise you end up with methodologies that can weigh down the development process.

4.2 Targeted countries

The Turnkey Retrofit project has learned key lessons about the local context favoring the replication of its services outside the consortium. The lessons on the context have been classified using the same format as the PESTEL tool (Figure 10Figure 10). The PESTEL acronym refers to the factors that are analysed: Political, Economic, Social, Technological, Environmental and Legal.

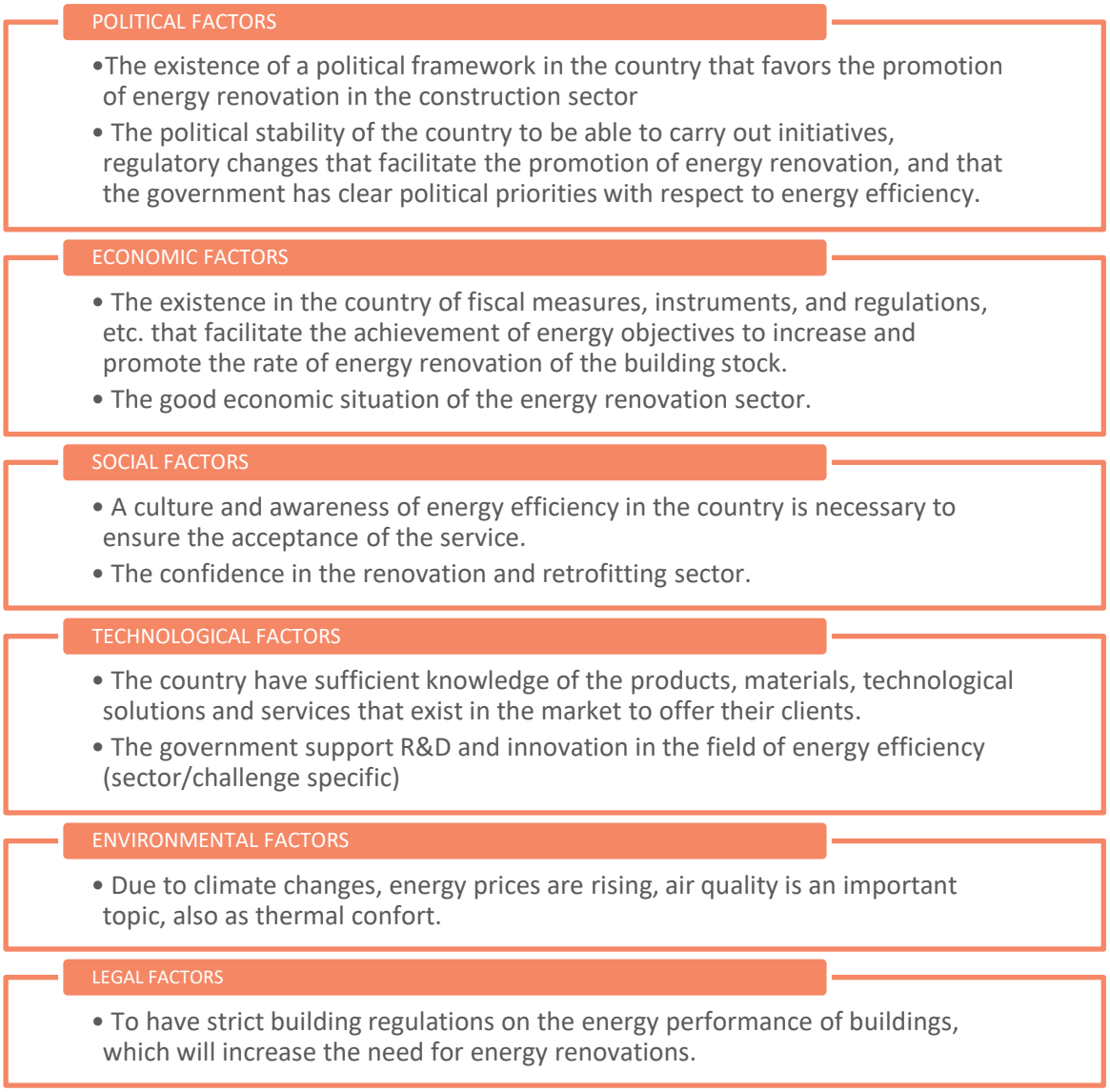
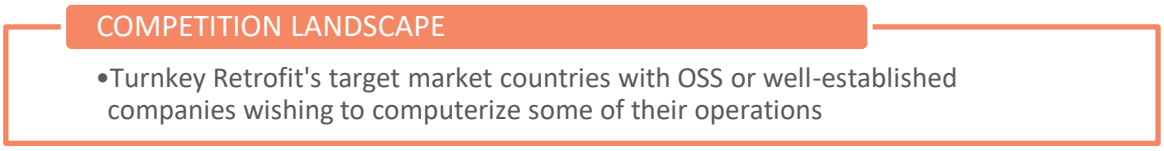


Figure 10 - PESTEL context which favors the launch of an integrated renovation services

In addition to these PESTEL elements favouring the replication of Turnkey services, it is also necessary to take an interest in current services that meet the demand for energy renovation of housing (benchmarking).



4.3 Key recommendation for the design phase

In the design phase of the renovation service, the elements of the business model and the customer journey are interdependent.

Indeed, customer journeys (Figure 11) are one of the most important aspects to adapt the platform, because they depend on the economic model chosen, but also on customer needs and the feasibility of technical development.

Customer journey

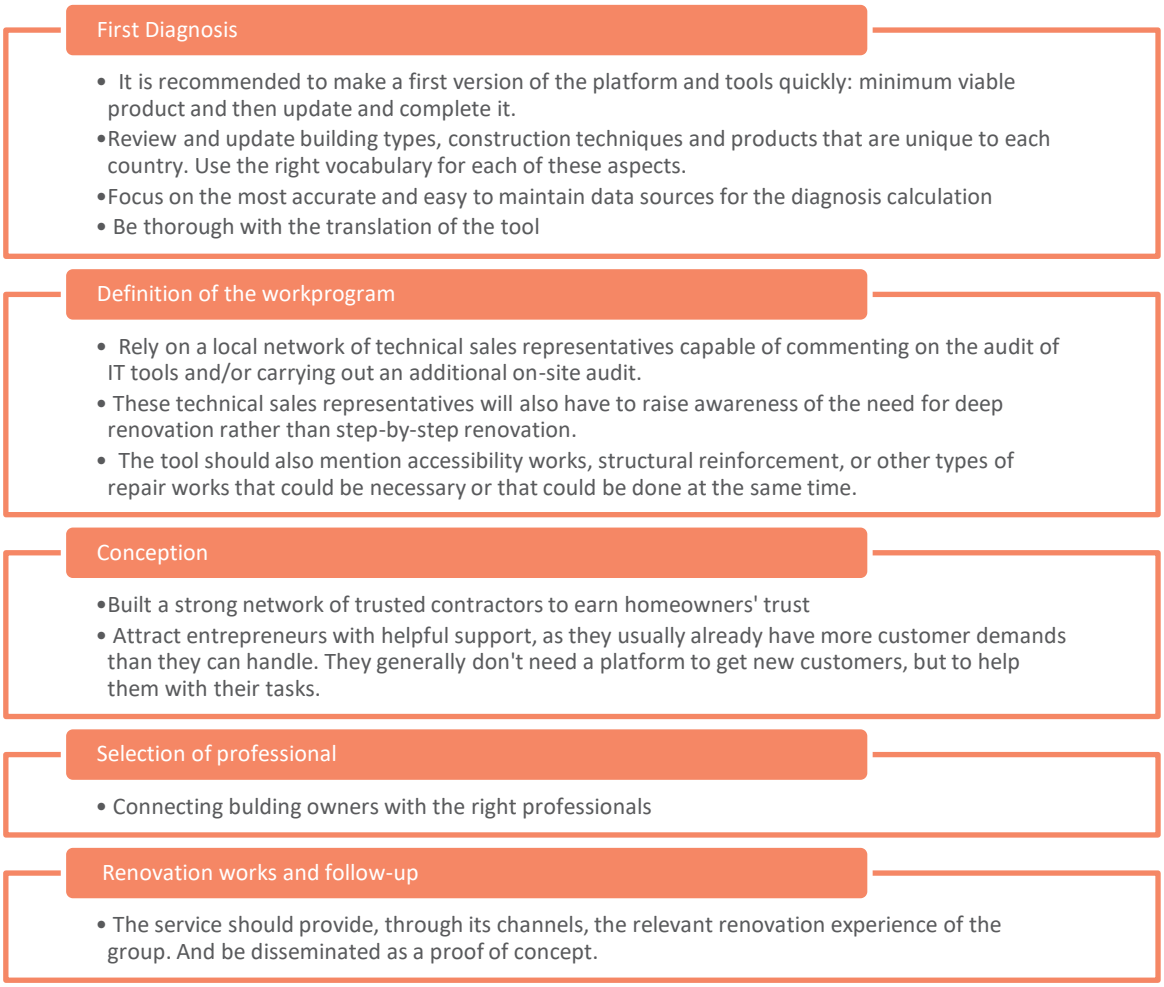


Figure 11 - Key recommendation at each steps of the customers journey

Business model

The main recommendation from TR partners regarding the business model canvas are synthetized below:

- Key partners: it is important to create strong partnerships with local entities to have a good network of contractors and to employ relevant people able to answer by phone to the homeowners' questions
- Revenue streams: if possible, find a way to impulse the business thanks to white certificate, public incentives.
- Cost structure: The key point of OSS is to attract enough owners to the platform. The cost of attracting these users to the platform can be substantial (communication, marketing), it is important to properly control this cost which varies from one country to another, and even from one region to another within from the same country.

- Value proposition: Turnkey Retrofit's value proposition should focus on the overall customer experience and the outcome of the renovation

4.4 Key recommendation for the exploitation phase

The two key points in operating turnkey retrofit services are customer attraction (Figure 12) and continuous improvement (Figure 13).

Attract customers

As shared several times in deliverables, webinars, and workshops of the Turnkey Retrofit project, it is essential to attract enough customers to OSS for the business model to be viable (i.e.: for craftsmen and homeowners to "meet" on the platforms) and in parallel it is essential to know the costs of attracting customers to the platform so that the business model is balanced. A rich content and a good SEA can be sufficient to attract people onto the platform.

Figure 12 - Interesting paths to attract TR customers

Continuous improvement

It is essential to put in place a process of continuous improvement because the sector is changing rapidly

- new construction products and renovation techniques appear which must be included in the TR tools
- new public tools/platforms appear with which TR tools must remain consistent
- new regulation and incentives

- new databases are created and will have to be integrated into the TR tools so that the evaluation is always more coherent while requiring always less manual input on the part of the user.

Evaluation methodology

- Before the evaluation, it is advisable to have a presentation of the tool (meeting or collective webinar) in which the tool is explained, its objectives, and access is given to the online tools.
- It is recommended that the evaluation be conducted face-to-face or by telephone interview, because some of the questions may generate rejection or lack of knowledge and not be answered.
- If the evaluation is carried out by an expert, he/she can resolve any doubts that may arise from the interviewee, thus obtaining more complete and valuable answers

Integration of the feedbacks

- The local team will have to determine if the suggestions for improvement from the users/testers should be taken into account.
- Suggestions for improvement should be carefully evaluated. Indeed, several comments collected during the national evaluations suggested that the PUnch Diag tool was too simple and could include additional criteria. Technically it is quite possible to integrate additional criteria, however by doing this the nature of the tool would be changed. Indeed this tool has been designed to be simple, fast and intuitive to use.

Figure 13 - TR continuous improvement lessons learned

For TR replication it is recommended to set up a PDCA approach, which is a methodical approach to quality management and improvement (Figure 14Figure 13). The objective of this approach is to sustainably improve the products of companies has been transposed graphically under the name of Deming wheel. Its initials stand for (Plan – Do – Check – Act).

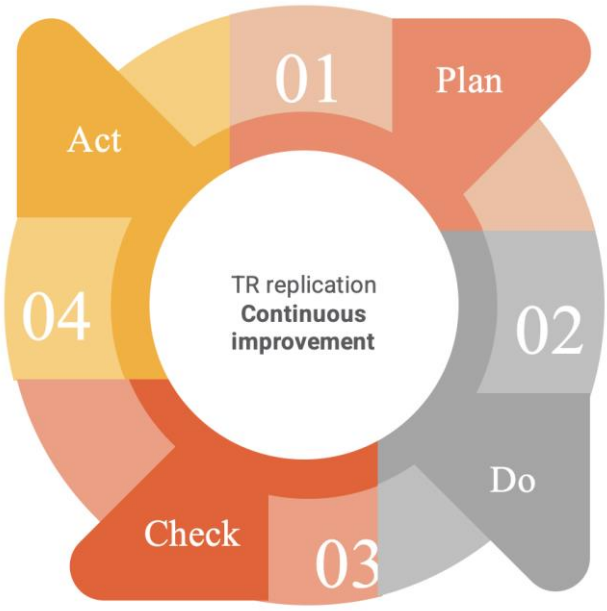


Figure 14 - Continuous improvement approach

Knowledge sharing platform

This continuous improvement approach can be supported by participation in a knowledge sharing group with actors replicating the TR bricks and/or with all the entities working in the field of OSS.

A knowledge sharing center has already been set up through a LinkedIn Group: One-stop-shops: a turnkey solution to scale up renovations in Europe (Figure 15) managed by BPIE (member of TURNKEY RETROFIT project).

The idea of this group is to grow a community of stakeholders **who work or have an interest in One stop shops** (OSS) for integrated deep renovation in one way or another. Group members can publish posts themselves and BPIE will review them. It can be any article / news related to OSS (Figure 16).

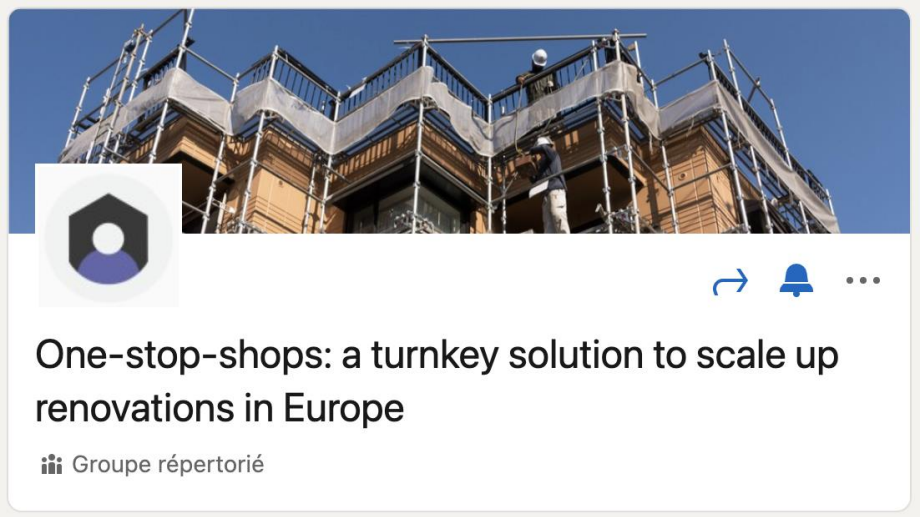


Figure 15 - OSS knowledge sharing platform created and managed by BPIE

Figure 16 - Communication for the recruitment of members for the OSS knowledge sharing platform

CONCLUSION

Based on the comparison of evaluation results in France, Spain and Ireland of the implementation of the TR bricks and the lessons and guidelines learned throughout the TURNKEY RETROFIT project it appears that there is not a unique roadmap to offer an integrated energy efficient renovation service.

To synthesize and highlight the key **lessons learned** for future large-scale uptake of the TURNKEY RETROFIT service presented in this report, below is what to remember.
According to the comparison of the national evaluation to launch an integrated energy renovation service, you may:

CONCEPT
- always support digital tools with human support
- always check the skills of the craftsmen who are part of the service network
- promote global renovation as much as possible rather than step-by-step renovation.

TECHNICAL
- be sure to integrate all the technical components of energy renovation specific to each country

FINANCIAL
- be clear on the contours of the budget evaluation of the renovation works provided by the TR tools
- integrate energy renovation incentives as much as possible and present them in a clear manner in order to make their proliferation and overlap understandable to the homeowner.

DESIGN
- choose the right names for building components based on the country where you are setting-up TR services

USER EXPERIENCE
- stimulate the renovation by having user friendly tools, attractive for homeowners
- provide added value to the contractors

To synthesize and highlight the key **guidelines** for future large-scale uptake of the TURNKEY RETROFIT service presented in this report, below is what to remember.
According to the comparison of the national evaluation and the overall TR project to launch an integrated energy renovation service, you should:

READINESS
- have a motivated and aligned team
- have a good understanding of the national and local environmental context

TARGETED COUNTRIES
- target countries with political, economic, and legal incentives, technical knowledge, and environmental needs
- target countries with OSS or well-established companies wishing to computerize some of their operations

DESIGN PHASE
- Develop the customer journey and business model in parallel
- Key partners, revenue stream, cost structure and value proposition are the 4 mains business model aspect to work on

EXPLOITATION PHASE

- Know the cost to attract customers and create content marketing
- Evaluate the effectiveness of the services provided with the users
- Integrate their feedbacks with discernment
- Practice knowledge sharing with partners installing TR services or any other actors using OSS

For more details regarding the origin of these lessons learned and guidelines, the reader can refer to the other deliverables of the turnkey retrofit project available at the following website address: https://www.turnkey-retrofit.eu/reports-findings/.

ANNEX – LIST OF UNIQUE FEEDBACKS

Feedback collected during the national evaluations and synthesized for this report as below:

Country	Tool	Domain	Evaluation	Comment
Spain	Punch Diag	Ux	Positive aspects	customer contact
Spain	Punch Diag	Ux	Positive aspects	user friendly
Spain	Punch Diag	Ux	Missing aspects / aspects to improve	some questions are a bit technical
Spain	Punch Diag	Concept	Missing aspects / aspects to improve	It does not provide other rehabilitation services, such as accessibility, structural repair works, etc.
Spain	Punch Diag	Technical	Missing aspects / aspects to improve	It should collect information about the ITE or IEE of the building, which would give a more real orientation of the situation of the building.
Spain	Punch Diag	Technical	Missing aspects / aspects to improve	It does not include the "possibility of photovoltaic energy".
Spain	Punch Diag	Concept	Missing aspects / aspects to improve	It could present an estimate of the cost.
Spain	Punch Diag	Concept	Missing aspects / aspects to improve	All the works are focused on the building as a complete block of apartments, it is not possible to renovate a single dwelling inside a residential building block.
Spain	Road Map	Concept	Positive aspects	"Interesting view of the three options" of energy renovation offered by the tool
Spain	Road Map	Financial	Positive aspects	Offers a "Realistic approach in terms of costs".
Spain	Road Map	Ux	Positive aspects	"It is super good, very easy to understand".
Spain	Road Map	Concept	Positive aspects	Interesting tool "As a first approach".
Spain	Road Map	Financial	Missing aspects / aspects to improve	It is not clear or defined what is included in the renovation cost (project drafting, material execution, taxes, industrial benefits, etc.).
Spain	Road Map	Technical	Missing aspects / aspects to improve	It should "Differentiate the works of individuals and community".
Spain	Road Map	Financial	Missing aspects / aspects to improve	In addition to the improvement of the energy rating, it should present a % of savings, because NEXT Aids are related to the % of savings achieved.
Spain	Road Map	Financial	Missing aspects / aspects to improve	Relate the tool with possible tax credits.
Spain	Road Map	Technical	Missing aspects / aspects to improve	It should collect information on the ITE or IEE of the building, which would give a more real orientation of the situation of the building.
Spain	Road Map	Technical	Missing aspects / aspects to improve	It should offer other types of renovation works such as accessibility.
Spain	Road Map	Concept	Missing aspects / aspects to improve	It should not only provide information on subsidies but also "on their management".

Ireland	Punch Diag	Ux	Positive aspects		very good because we all could live in the same house and have very different opinions on how it feels
Ireland	Punch Diag	Ux	Positive aspects		I like the simplicity of it,
Ireland	Punch Diag	Design	Missing aspects / aspects to improve	/	It should state clearly that the user must click on all 10 questions if they want an answer and to proceed to the next stage
Ireland	Punch Diag	Technical	Missing aspects / aspects to improve	/	In the 'Ventilation' section the sentences are wrong for Ireland. The ventilation systems are largely passive such as wall vents.
Ireland	Punch Diag	Design	Missing aspects / aspects to improve	/	Many interviewees suggested instead of saying 'high potential' and 'medium potential' – state 'good' or 'very good / 'improved' or 'much improved'.
Ireland	Punch Diag	Design	Missing aspects / aspects to improve	/	For the Irish platform, the customer experience would be improved significantly if there were fewer stock images and ones that were bespoke to the Irish market as it would help the Irish user feel more connected
Ireland	Punch Diag	Design	Missing aspects / aspects to improve	/	Replace the term 'Diagnostic tool' with a 'Quiz' as it's easier for people to understand
Ireland	Road Map	Design	Positive aspects		All interviewees found the BER rating bar on the side an excellent visual tool.
Ireland	Road Map	Concept	Positive aspects		The warning signs that come up in the 'create your own package' are very good including the text stating 'your strategy could improve'.
Ireland	Road Map	Design	Missing aspects / aspects to improve	/	If the customer clicked on heat pump before insulation, the tool should not allow them to choose heat pump first.
Ireland	Road Map	technical	Positive aspects		There was a consensus that the range of choices offered were
Ireland	Road Map	technical	Missing aspects / aspects to improve	/	More options need to be opened for customers on wall type and heating type for example
Ireland	Road Map	technical	Missing aspects / aspects to improve	/	Ideally this section should go up to 2011 as significant moments in insulation in Ireland
Ireland	Road Map	Design	Missing aspects / aspects to improve	/	The units should be clear that is in metre squared [not feet] and there should be a pop up for customers to know how to calculate the area.
Ireland	Road Map	Design	Missing aspects / aspects to improve	/	Instead of 'save my retrofit package' nudge the customer to understand what the benefit for them is. Replace it with 'create an account' and explain the benefit of how it will help them, for example will they show it to the renovation advisor? Explain why will logging in and saving the information be useful to them.

Ireland	Road Map	Concept	Missing aspects / aspects to improve		It was offered from an experienced contractor with over 10 years' experience in the home retrofit business, that the · 'Basic' savings would be over 5 years · 'Intermediate' savings would be over 10 years · 'Advanced' savings would be 15 years as the more they put in the longer it's going to take
Ireland	Road Map	Concept	Missing aspects / aspects to improve		There is an insufficient discrepancy of savings between the intermediate and advanced packages. The return on costs seems similar. It needs to be adjusted to encourage customers to choose the advanced package or there needs to be a note to say if you are doing the intermediate or advanced package there should be a pop up to say "Options for larger discounts between 25% - 35%" on the BEC or NHRS schemes.
Ireland	Road Map	Concept	Missing aspects / aspects to improve		"… from our experience the 'advanced' column is not enough – it should be a lot higher" [Interview No.5]
Ireland	Road Map	Concept	Missing aspects / aspects to improve		The wording in the packages section should be changed from 'year' to 'phase' as it may just be the next phase for the customer. It was noted by interviewees that the time period [in years] doesn't matter – it's more about what the customer can afford to do first.
France	Road Map	Concept	Missing aspects / aspects to improve		SME companies were satisfied by the possibility to work on such project (energy performance contract, deep retrofit) but it doesn't guarantee them a better margin rate, which can be a source of concern (new way of doing but not a better margin hence a learning curve),
France	Punch Diag	Concept	Positive aspects		Compared to existing platforms, the tools developed are more interactive and the answers are directly adapted to the current situation.
France	Punch Diag	Financial	Missing aspects / aspects to improve		One aspect that is missing and which have been noticed by the person interviewed is that the platform does not include local subsidies, which can be significant in some areas. Another important aspect is the lack of a real contact (phone call, meeting with a specialist), which can be decisive in the process of decision-making, especially in collective buildings.
France	Punch Diag	Concept	Positive aspects		Allows an easy and use-friendly orientation towards the different renovation needs
France	Punch Diag	Concept	Positive aspects		Provide dedicated results adapted to the user situation

France	Punch Diag	Technical	Missing aspects to improve	/	Adapt the complexity of the questionnaires (some questions are complex to answer or data are hard to find especially in multifamily building)
France	Road Map	Technical	Missing aspects to improve	/	Maybe start the roadmap with a budget view (it is often the main constraint in multifamily buildings)
France	Road Map	Concept	Missing aspects to improve	/	Include the possibility to contact or meet an expert
France	Road Map	UX	Missing aspects to improve	/	- Allow different profiles of users (co-owners, assembly, property managers, …)
France	Road Map	Concept	Missing aspects to improve	/	Professionals does not see the use for themselves but see the interests for non-professionals (level of information / possibilities of white certificate, …)
France	Punch Diag	Concept	Positive aspects		Punch Diag seems very useful, as it addresses the day-to-day issues of the homeowners. It could be used by public owners of multi-family buildings to run large campaigns to collect the feedbacks of their tenants.
France	Road Map	Financial	Missing aspects to improve	/	The information provided in the economic proposals presented could be more detailed and of higher quality and say clearly and precisely what's included in the cost.
France	Road Map	Technical	Missing aspects to improve	/	Legal aspects and French regulations could be addressed (thermal regulation, legal authorizations required before changing the façade of a building, …).
France	Road Map	Technical	Missing aspects to improve	/	Maintenance and technical issues (potential disorders, details of execution) should be specified.
France	Road Map	Technical	Missing aspects to improve	/	Testimonials and examples of successful global retrofits should be displayed on the homepage of the platform to "inspire" and "reassure" the homeowners.
France	Road Map	Technical	Missing aspects to improve	/	the essential step of an actual technical diagnosis on site.
France	Road Map	Concept	Missing aspects to improve	/	S4R and Heero promote a retrofit process "action by action" and not a global and deep retrofit.
France	Road Map	Technical	Missing aspects to improve	/	The service should offer not only address energy renovation solutions. It should also mention accessibility works, structural reinforcement, or other types of repairs works that could be necessary or that could be done at the same time.
France	Punch Diag	UX	Missing aspects to improve	/	The service should be integrated with other public actors and services (local website or France Rénov' for e.g).