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DE-RISK Project

D5.2: Identification and assessment of exploitable results

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Abbreviations and Acronyms

BM	Business Model
BMC	Business Model Canvas
D	Deliverable
DoA	Description of the Action
DSO	Distribution System Operator
DR	Demand Response
EC	European Commission
ER	Exploitable Result
ESCO	Energy Service Company
EU	European Union
FAIR	Findable, Accessible, Interoperable and Re-usable
GA	Grant Agreement
IP	Intellectual Property
IPR	Intellectual Property Rights
LFM	Local Flexibility Market
M	Month
T	Task
TRL	Technology Readiness Level
WP	Work Package

EXECUTIVE SUMMARY

This present report contains the deliverable **D5.2: DE-RISK identification and assessment of exploitable results** (M12) of the Horizon Europe project DE-RISK — *DE-RISK the adoption of Local Flexibility Markets to unlock the safe and reliable mass deployment of Renewable Energy Systems* (funded under Grant Agreement No. 101075515), showing the first results obtained from task *T5.2: Competence analysis, identification and management of exploitable results* (M1-M18). All the partners of the project are participating in this task.

The aim of this deliverable is to provide a first overview of the results that can potentially be achieved during the duration of the DE-RISK project, and consequently be exploited after the completion of the project. D5.2 reports the Exploitable Results (ER) that have been identified during the first project period, and it mainly includes technical know-how, methodologies and technological products/services. Therefore, Intellectual Property Rights (IPR) have to be carefully considered in subsequent phases of the analysis.

A total number of 8 ERs have been identified and analysed with the help of the responsible partners (ER owners/managers). This was done thanks to a dedicated methodology to assess the expected results from the DE-RISK project, and a form sent to be filled in by the partners for understanding the current level of development of each ER, their management's interest for exploitation and the potential strategies to apply in the next future to reach their goals.

This report sets the basis for DE-RISK's exploitation roadmapping and will serve as input for the upcoming tasks that will be performed within WP5, in particular for the definition of the business models, which will have a relevant impact on the potential scalability & replicability of the results to be obtained in the DE-RISK project.

1. INTRODUCTION

1.1. Overview of the DE-RISK project

DE-RISK, whose acronym stands for “*DE-RISK the adoption of Local Flexibility Markets to unlock the safe and reliable mass deployment of Renewable Energy Systems*” is a project funded by the EU’s Horizon Europe programme under the Grant Agreement n° 101075515.

DE-RISK aims to support the market uptake of Renewable Energy Systems (RES) by fostering the adoption of Local Flexibility Markets (LFMs) and unlocking up to 100 GW of flexibility in 2030 which will allow a safe and reliable integration of RES in the grid. DE-RISK will achieve this ambitious objective by minimising the investments and implementation risk through an innovative consumer behaviour change journey that will increase end-users' trust and willingness to participate in the LFMs.

1.2. Description of the deliverable content, objectives and purpose

The objective of this deliverable is to identify and initiate the management of the Exploitable Results (ERs) emerging from the execution of the DE-RISK project and to create a framework for the post-project market uptake of these results. This document contains a list of the ERs identified so far, the description of the methodology that will be used to manage them in a structured and synchronised way throughout the DE-RISK project, as well as the conceptual framework in which the methodology is supported. These theory-methodologic tools will be useful for gathering further potential ERs along the project execution, so that all available opportunities are identified and planned for their exploitation. Besides, from now on, the project partners can start to work on defining the business models and replication plans for their ERs (Task 5.3 of DoA).

This report presents the exploitable results that will emerge from the DE-RISK project, as currently being developed by the project’s partners. For each of the ERs, the exploitation vision is provided. With the help of the responsible partners, 8 ERs have been identified and analysed in order to understand the current level of development of each result and its possible exploitation strategy. This was done thanks to a dedicated methodology and a form (prepared by R2M) sent to the partners to assess the wanted results from the project. This initial analysis serves as a first contact point between R2M and the different results’ owners, and for determining their management’s interest for post-project exploitation as well as the potential strategies to be applied in the near future to achieve their ambitions.

The target audience of this sensitive deliverable includes:

- DE-RISK’s partners, especially those who are owners or developers of one or more ERs.
- The European Commission, to provide them with an early insight into the expected ERs and the potential economic, social and environmental impact of the project.

The results presented in this deliverable are related to the objectives presented in the DoA, specifically to the preliminarily identified ERs (*Table 1*). Nevertheless, as an outcome of the tasks developed so far, this report provides (for each ER) a more detailed analysis of the type of result, the internal or external partners involved, its market niche, or the Technology Readiness Level (TRL) before and after the completion of the DE-RISK project, as described in the methodology (*Section 2*); besides a few adjustments with respect to the preliminary list of ERs. This is fully in line with the methodology presented for Task 5.2, and in general with the WP5 strategy, in order to identify and conduct an efficient planning and management of the DE-RISK project’s foreground.

The mentioned results are still being developed at the time of submission of this deliverable. Due to this fact, the description of the exploitable results may suffer modifications in the course of the project execution, especially in relation to technical achievements. Therefore, the information presented in this report will be reviewed, updated and fine-tuned according to the project’s developments in the periodic reports (M18, M36).

Table 1: Overview of DE-RISK’s exploitable results (preliminary version from DoA).

#	Exploitable Result	ER Manager(s)	Exploitation vision	Target customer(s)
ER01	DE-RISK overall solution	All partners	Commercial use subject to joint agreements	Energy cooperatives, aggregators, ESCOs, Local Energy Communities, building/facility managers
ER02	Platform for LFMs management	QUE	Licensing; direct industrial use	Aggregators, ESCOs
ER03	DR services	MIW, UE	Consultancy	DSOs, ESCOs, Energy Communities
ER04	DE-RISK Training Toolbox	WG	Consultancy	Governments, ESCOs, energy cooperatives, Energy Communities
ER05	Consumer Journey	UNL, WG	Open Access	Energy agencies, ESCOs
ER06	Policy advice	SEA, WG	Consultancy	Authorities, policymakers, lobbyists
ER07	Financial schemes	Ecrowd	Service	Energy cooperatives, ESCOs, Local Energy Communities
ER08	Multi-sided Business Models	R2M	Service	ESCOs, utilities, aggregators

1.3. Relation to other activities

The identification and management of the exploitable results (Task 5.2) is related to other tasks in the DE-RISK project. These relations are illustrated in *Figure 1* below. The project's foreground is mainly being developed in the work packages WP2, WP3 & WP4, and forms the input for the selection of the ERs as described in *Section 3*. The Consortium Agreement and the Grant Agreement provide information about each of the partner's background and Intellectual Property (IP) arrangements. The financial schemes being developed in T3.4 will set the path to financing the consumer's journey to participate in LFM and democratising investments in clean & renewable energy technologies through crowdfunding. The results of the testing activities in WP4 will provide evidence about the viability of the ERs. The multi-sided Business Models and value propositions as developed in T5.3 will form the basis for exploitation plans, which will be validated with external stakeholders, including the project's Advisory Board, as part of T6.3. Their feedback will be fed back into the project and captured in the final version of DE-RISK's Scalability and Replicability report (D5.4, M36).

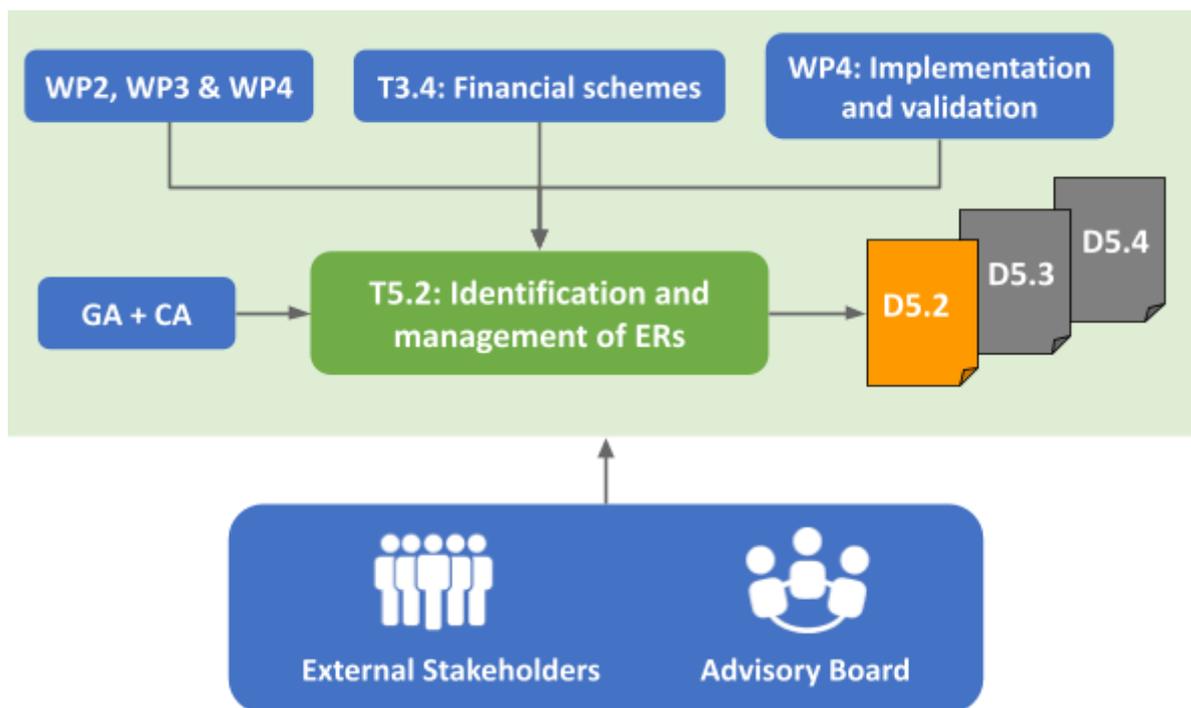


Figure 1: Relationship between T5.2 & D5.2 and other project activities.

2. METHODOLOGY

This section details the methodology used for the exploitation management, an activity that covers the whole lifespan of the DE-RISK project. It clarifies the different steps that will lead to the definition of the exploitable results (presented in this report), as well as exploitation strategies and exploitation plans. In doing so, it explains how the outcomes of this work will drive future activities and contribute to the expected impact of the DE-RISK project.

2.1. Exploitable Results

As a base definition, **Exploitable Results (ERs)** are the achieved and/or expected results coming from the project that **will have an impact on the economy, environment and/or society** as a whole. These results have commercial or social significance and can be exploited as stand-alone products, services, processes, etc. In principle, these ERs might need further R&D, prototyping, engineering or validation after the project ends and before they become commercially exploitable.

Exploitable results can be categorised into the following areas:

- **Products & equipment** – items for sale (e.g., hardware or software).
- **Processes** – ways to make or do something.
- **Know-how/IP** – valuation of “how to” (e.g., methodology, model, etc.).
- **Services** – by offering the above products, equipment, processes, or knowledge.
- **Other** – platforms, publications, patents, standards, data, etc.

According to the European Commission¹, a result is defined as:

“Any tangible or intangible output of the action, such as data, knowledge and information whatever their form or nature, whether or not they can be protected, which are generated in the action as well as any attached rights, including intellectual property rights”.

A **Key Exploitable Result (KER)** is *“an identified main interesting result (as defined above) which has been selected and prioritised due to its high potential to be ‘exploited’ – meaning to make use and derive benefits downstream the value chain of a product, process or solution, or act as an important input to policy, further research, or education”.*

¹ ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/glossary

The following two criteria will be used to select and prioritise results:

- **Innovation risk:** degree of innovation and exploitability.
- **Impact:** economic, scientific, environmental and/or societal impact.

The goal of this ER assessment will be to identify the Key Exploitable Results of the project, which are those with the highest expected return and the lowest innovation risk. This will enable the DE-RISK project to define targeted and focused exploitation activities and spend the resources in the most efficient way.

2.2. Technology Readiness Level

In the exploitation management process, it is helpful to provide reference points and benchmarks in the identification and development of ERs related to their technical maturity, as this will determine the scope of the exploitation strategy to be proposed. The **Technology Readiness Level (TRL)** scale, as depicted in *Figure 2*, was included in the H2020 Annex G² and is widely used. The TRL scale may not be directly applicable to each type of ER. However, it provides a measure of the progress beyond the state of the art, the current readiness of the ER in question, and how far it is from commercialization/market entry.

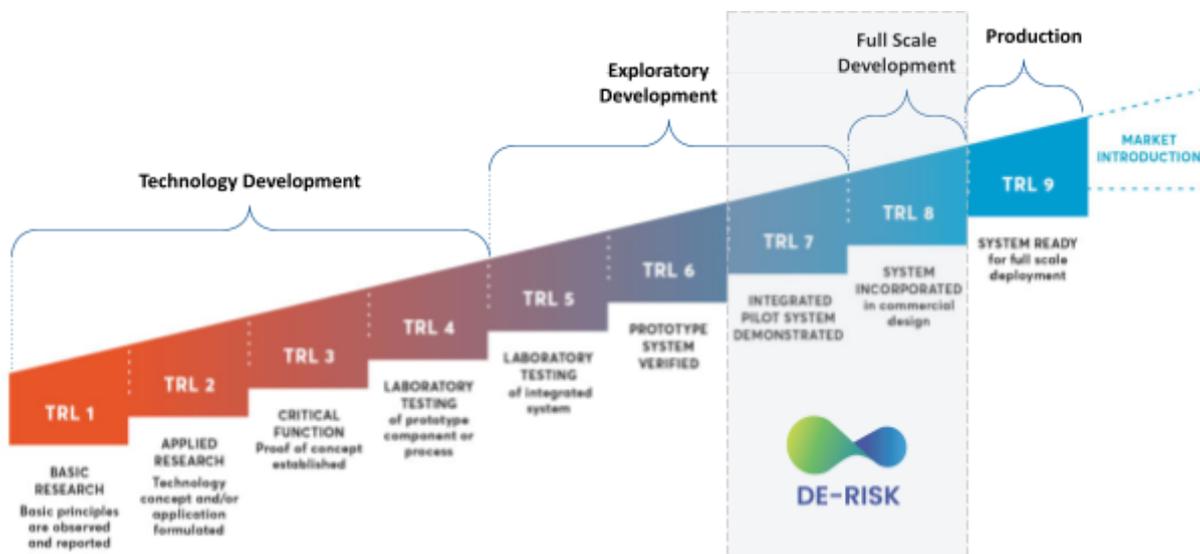


Figure 2: Technology Readiness Level (TRL).

² ec.europa.eu/research/participants/data/ref/h2020/other/wp/2018-2020/annexes/h2020-wp1820-annex-ga_en.pdf

2.3. Overall strategy for the management of exploitable results

The exploitation of a project's results means “to make use of the results produced in further activities, other than those already covered by the project (e.g., in other research activities; in developing, creating and marketing a product, process or service; in standardisation activities)”.³

The overall strategy for the management of DE-RISK's exploitable results can be broadly divided into three phases as shown in *Figure 3* below.

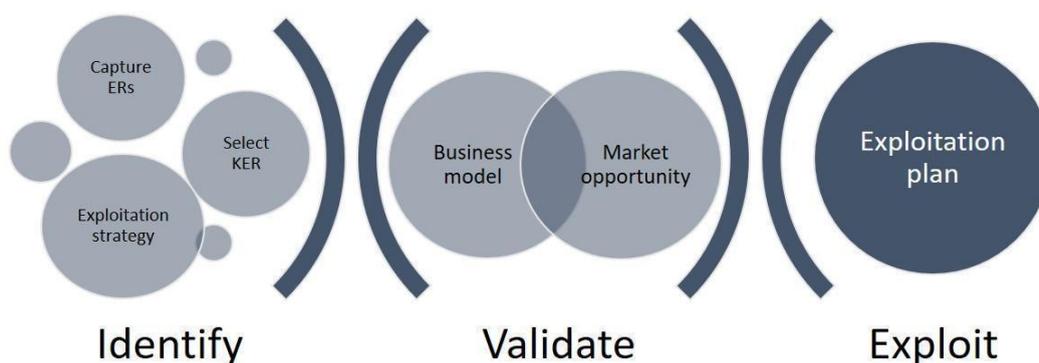


Figure 3: Overall strategy for exploitation management.

The phases consist of a range of activities and are supported by a set of tools. Each phase is explained briefly hereinafter:

- **Identify:** In this phase, ERs are identified, collected, and analysed. The starting point is the list of project results as defined in the GA (DoA). For each identified result, key information is collected (i.e., the manager of the ER, the type of ER, used background, IP ownership, IPR measures, current & expected TRL, development status, as well as initial exploitation vision). An ER-form has been distributed to the corresponding ER managers (*Section 2.3.1*) for the collection of this information (T5.2). An assessment is performed to identify the KERs from the project. This assessment will be described in more detail in future updates of D5.2.
- **Validate:** This phase will explore what kind of value propositions are enabled by the ER. The focus shifts from the technical capabilities of the ER to the Customer Value and its accompanying Business Model. After conducting a Market & Stakeholder Analysis (T5.1), potential target customers, end-users and other stakeholders are engaged in order to

³ European Commission. H2020 Online Manual: Dissemination & Exploitation of results. ec.europa.eu/research/participants/docs/h2020-funding-guide/grants/grant-management/dissemination-of-results_en.htm

check whether the ER addresses a real need or problem. The goal is to generate, for each of the ERs, a validated viable, feasible and desirable Business Model that is supported by the ER owner(s) (T5.3). Tools typically used in this phase are the Business Model Canvas (BMC), the Value Network model, or the Value Proposition Canvas.

- **Exploit:** In this phase, the exploitation plan is detailed out. After having developed the Business Models in the previous phase, arrangements need to be made to secure post-project exploitation of the ERs. This usually involves setting up partner agreements, IPR agreements, and securing funding for further commercialisation or development of the ERs. DE-RISK will evaluate the Scalability & Replicability potential (T5.4) of energy- and ICT-driven technological solutions for the development of LFM across EU countries, to understand the impacts that may be expected from the market roll-out of them.

This three-phase strategy is a continuous process where, at any time during the DE-RISK project, new project results can be identified as ERs. To ensure a timely identification of ERs, meetings with project partners will be organised on a regular basis to review the list of ERs.

2.3.1. Identification of DE-RISK exploitable results

At the current stage of the project, the first phase of the exploitation management strategy has been carried out. Thus, DE-RISK's ERs have been identified, collected, and analysed by means of the ER-form shown in the [Table 2](#) below. This template was created by R2M and distributed to all the Consortium partners at the beginning of M8. Subsequently, an iterative process of feedback and revision of the inputs provided in each of the ER-forms took place during several months through discussions with the managers/owners and co-developers of the project's exploitable results.

Table 2: DE-RISK ER-form (template).

EXPLOITABLE RESULT DESCRIPTION			
ER NUMBER	ER##	LAST UPDATE	dd-mm-yyyy
ER NAME		<i>Descriptive name of the result.</i>	
Developer(s) / Owner(s)		<i>List all partners involved in this exploitable result. Will an individual (one partner) or joint (multiple partners) exploitation strategy be followed?</i>	
ER leader		<i>Report leading partner and responsible person (ER manager).</i>	

EXPLOITABLE RESULT DESCRIPTION	
External partners	<i>Do any other partners need to be involved/engaged in the development of the result? This will clarify the consortium's capability to develop this ER.</i>
Output type	<ul style="list-style-type: none"> ● <i>Product or equipment</i> ● <i>Process</i> ● <i>Know-how & IP</i> ● <i>Service</i> ● <i>Other (please specify).</i>
Description of the result	<i>This section includes a detailed description of the result. It also explains the exploitation objectives of the result during the first years after the end of the project. As this is a template for the preliminary definition of ERs, this description will be based on estimations and tentative data.</i>
Used background	<i>Describe what background IP will be needed in order to develop this ER. Has this background been declared in the Consortium Agreement?</i>
IPR	<i>The owner/s and scope of the Intellectual Property Rights associated with the ER will be identified here: Internal Know-how / Patent / Licence agreement / Registered design / Exclusive rights / Trademark , copyright, etc. / Other (please specify).</i>
Use of the result by the DE-RISK partners	<i>Indicate if & how will the DE-RISK project partners be allowed to use this result during and after the project.</i>
Current development status	<i>This section includes a brief summary of the status of development and ER-related activities as up to the current date (last update).</i>
Performed trials and achieved results at present date	<i>This section includes examples of tests or trials conducted to validate the ideas mentioned above. It also includes a summary of the results obtained in these trials.</i>
Activities required for exploitation	<i>Describe briefly the activities that need to be performed during the DE-RISK project in order to achieve this expected result by the end of the project.</i>
Current TRL	<i>TRL 1-9</i>
Expected TRL at project end	<i>TRL 1-9</i>
Preliminary exploitation vision	<i>The way in which the exploitation result could be commercially valorised in the future will be specified here. How could the partner monetize the development?</i>

EXPLOITABLE RESULT DESCRIPTION	
	<i>Direct sales / Open distribution / Licences / IP sale / Operation fees / Joined investment/revenues with clients / Turn-key / Enabling technology (for subsequent products, services, etc.) / Training / Follow-up research / Policy use / Education / Other (please specify)</i>
Target market	<i>Describe the typical customer profile/segment for the ER.</i>
Value proposition	<i>What value does the ER deliver to the customers? What are the customers trying to get done (in their work or in their lives) and how does your result make it easier for them (creating gains/benefits or relieving pains/obstacles)?</i>
Unique selling point	<i>In this section a description of the 'Innovation' introduced compared to already existing Ideas/Products/Services is included. This section includes early ideas on what is the Unique Selling Point/Competitive Advantage of the ER, and how the partner will make the exploitable result attractive to potential customers.</i>
Pitch	<i>The Ad-Lib tool (Figure 4) is used to help ER managers to start defining a value proposition in the form of "pitchable" sentences. It allows to identify the strengths and the possible customers, and quickly shape potential value proposition directions.</i>
Expected time for marketability	<i>This section answers the question: When is the Time to Market (TTM)? Try to estimate a realistic readiness timeline of the exploitable result after project closing.</i>
Is further investment required after the project?	<i>Brief description (estimation) of how much further funding will be required to bring the ER to TRL 9 and the market, and where will this funding come from.</i>

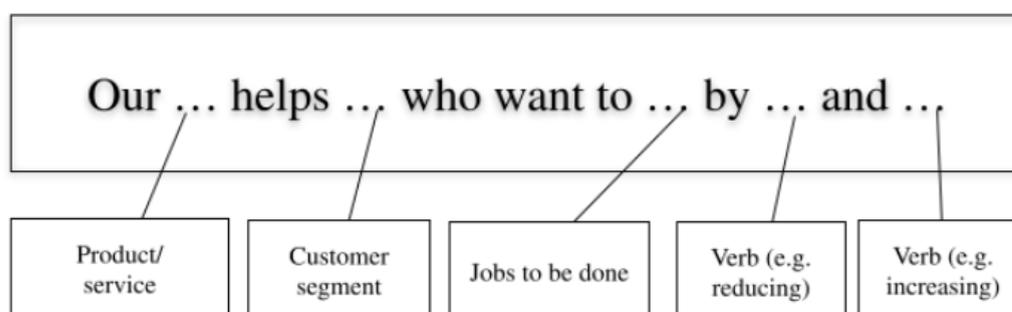


Figure 4: Ad-Lib value proposition tool.

3. EXPLOITABLE RESULTS OF THE DE-RISK PROJECT

In this section, the identified Exploitable Results of the DE-RISK project are presented in two ways. Firstly, the consolidated ER Table (*Table 3* in *Section 3.1* below) gives an overview of the results, identifying the partner(s) responsible for the management of each ER, as well as which WP is connected to each ER. Secondly, the expanded view (in *Section 3.2*) shows the detailed description and status of each ER.

The following ERs are an expansion of the preliminary list of innovative solutions and results proposed in the Grant Agreement (DoA), which are currently being developed and/or are the vision of the partners. Each ER is assigned to a manager who is responsible for providing information and updates on the result throughout the whole project duration, defining the steps needed to reach full exploitation and eventually, if applicable, launching it into the market. This process is managed and supported by R2M.

It should be noted that, from the preliminary list of ERs (*Table 1*) that was prepared at the proposal stage of the project, two of the foreseen ERs were merged (i.e., it was decided to combine the ‘DE-RISK overall solution’ and the ‘Multi-sided Business Models’ into the current ER01: ‘DE-RISK service package for LFM’s’) and a new ER was added (i.e., ER08: ‘Dashboard for improved UX’), thus maintaining the total number of 8 ERs identified.

3.1 Exploitable Results Table - Consolidated view

Table 3: DE-RISK Exploitable Results Table - Consolidated view.

#	Exploitable Result	ER Manager	Type of result / Exploitation vision	Target customer(s) or audience
ER01	DE-RISK service package for LFM’s	R2M (All)	Service / Commercial use subject to joint agreements	LFM’s initiators, such as aggregators, ESCOs, energy cooperatives etc.
ER02	Platform for residential flexibility management	QUE	Platform-based service / Operation fees; direct industrial use; licensing	Aggregators, ESCOs, facility managers, energy retailers, DSOs, etc.
ER03	a) DR services in ES b) DR services in TR	MIW UE	Service / Operation fees	Residential consumers/prosumers
ER04	DE-RISK Interaction & Training Toolbox	WG	OA toolbox & training service / Education and Capacity Building	End-users and Professionals

#	Exploitable Result	ER Manager	Type of result / Exploitation vision	Target customer(s) or audience
ER05	Consumer Journey framework	UNL	Know-how / OA publications	User engagement practitioners and LFM initiators
ER06	Policy Roadmap for the adoption of LFMs	SEA	OA knowledge / Policy advice & use	Policy-makers, advisors, local & national public authorities and agencies
ER07	Financial Schemes: Crowdlending campaign	Ecrowd	Know-know, Process / Assessment service	ESCOs, Local Energy Communities, energy cooperatives, etc.
ER08	Dashboard for improved UX and acceptability	R2M	Platform / Subscription to use the platform (as a service)	LFMs initiators, such as aggregators, ESCOs, energy cooperatives etc.

A few changes can be observed when comparing the preliminary list of ERs (*Table 1*) and the updated DE-RISK ER Table above (*Table 3*). For instance, the name and the type of result have been redefined for some of the ERs in order to be more representative of the actual outcome that is intended/expected to be achieved by the end of the project, as described in the ER-forms in the next section, according to the latest project developments and the vision of the Consortium partners.

3.2. Exploitable Results Table - Expanded view

This section includes an in depth analysis of the different Exploitable Results of the DE-RISK project, and their main highlights to support each potential exploitation path. Most of the ERs are still under development, and therefore they still need to be tested and validated on the field (at the pilot sites) to provide valuable information related to their functionalities, market viability and sustainability.

In this public version of D5.2, some sensitive details (i.e., preliminary exploitation & business vision of industrial partners) have been omitted in the description of those ERs for which the owners are foreseeing a commercial exploitation path after the end of the project.

3.2.1. ER01: DE-RISK service package for LFM (R2M)

Table 4: Description of Exploitable Result #1.

EXPLOITABLE RESULT DESCRIPTION			
ER NUMBER	ER01	LAST UPDATE	04-09-2023
ER NAME	DE-RISK service package for LFM		
Developer(s) / Owner(s)	All the Consortium partners are co-developers.		
ER leader	R2M		
External partners	External stakeholders & market actors for feedback.		
Output type	Service package, integrating the tools and services developed within the DE-RISK project.		
Description of the result	<p>Local Flexibility Markets (LFMs) are a relatively new concept on the energy market, with the applicable regulations still under development. Setting up an LFM can be a long and complex process with multiple tasks that are rarely offered by one single entity. Usually, the initiators have to deal with many different actors and processes in order to successfully conceptualise, plan, implement and operate an LFM.</p> <p>Therefore, this ER aims to group all the innovative tools and services developed within the DE-RISK project and offer them a full service package (as-a-Service business model) for the development and management of LFMs, covering the whole lifecycle and providing support to the initiators (customers) at all the required phases: initiation, planning, implementation and operation (including technical, financial, regulatory/legal and user engagement processes).</p> <p>In brief, this aaS model aims to combine and integrate most of the work that will be carried out during the DE-RISK project, bringing together the outcomes, information, best-practices and lessons learned generated and derived from all the WPs. Thus, although it is thought of as a full service package, it can be offered on a modular basis (see individual ERs presented in the following sections).</p>		
Used background	Background declared by the Consortium partners in the CA.		
IPR	Each of the individual tools and services integrating the DE-RISK service package are under IP protection by each ER responsible, as explained in the following sections. The responsibility of this ER (overall solution) has been preliminarily assigned to R2M, but further IPR discussions will be needed throughout the project's execution in order		

EXPLOITABLE RESULT DESCRIPTION	
	to functionally decide who will take the lead of its exploitation once the project ends, and under what terms and conditions IP can be used.
Use of the result by the DE-RISK partners	To be discussed among the Consortium partners.
Current development status	Individual tools and services are being developed. The integrated service package (aaS model) will be further explored in T5.3 ' <i>DE-RISK Business Models</i> ' during the second half of the project.
Performed trials and achieved results at present date	R2M will leverage the experience gained during the execution of previous EU-funded projects such as CREATORS , LIGHTNESS , HESTIA or NEON , in which innovative business models (e.g., Community Energy Systems-as-a-Service) were explored and validated.
Activities required for exploitation	As a Coordination and Support Action, DE-RISK does not require a high level of technology development; however, the proposed service package must be tested and validated in an operational environment to ensure its marketability.
Current TRL	N/A
Expected TRL at project end	N/A
Preliminary exploitation vision	<p>The Consortium will evaluate different types of exploitation of each of the stand-alone tools/services (e.g., consultancy services, platform operation fees, turnkey LFM projects, joint investments/revenues with clients, training, follow-up demonstration projects, etc.), but the exploitation of this ER will mainly depend on how these modules can be integrated in an all-inclusive service package.</p> <p>The most challenging aspect related to the development of this ER is that it must seamlessly integrate different features/services developed by different partners, in various countries with different legislation and with a diverse perspective. To reduce these innovation risks, R2M will help the developers to facilitate communication and make collaboration easier by dedicated innovation/exploitation management activities, as part of WP5.</p> <p>As an innovation company and an ESCO, R2M aims to use DE-RISK's overall solution and service package to promote the adoption/uptake of new LFM projects around Spain, France, Italy, and across Europe.</p>

EXPLOITABLE RESULT DESCRIPTION

<p>Target market</p>	<p>The customer segments will be LFMs initiators, such as local flexibility aggregators, energy cooperatives, local Energy Communities, prosumers, RES developers, utilities and/or ESCOs. The early adopters might be municipalities (residential areas) and industrial areas who want to participate in the energy transition.</p> <p>The target market to promote the development of LFMs are mainly Spain and Italy, where R2M is constituted as an ESCO. Nevertheless, the DE-RISK Consortium is interested in creating LFMs, to unlock the safe and reliable mass deployment of RES, also in other EU & associated countries where the partners are based. The ownership and responsibility for exploitation of this ER still needs to be discussed and agreed among the partners.</p>
<p>Value proposition</p>	<p>DE-RISK will offer a toolset and a full service package that will provide the LFMs initiators with a turnkey project and accompany the end-users during the whole lifecycle of the LFM, providing support at any required step of the process (like in a One Stop Shop), removing the burden of having to deal with many different actors and service providers (saving the consumers a lot of time and effort).</p>
<p>Unique selling point</p>	<p>The top benefit is in the simplification of an increasingly multi-faceted service offering. All aspects of planning, implementation, operation & maintenance of LFMs are kept and well-managed by one single service provider. With the service package, somehow tailored to the customers' specific needs but at the same time based on adaptable and replicable service blocks, customers can avoid the need to contact different service providers, benchmarking different options and prices and dealing with contracts, maintenance, performance, etc. The responsibility therefore is shifted to the service provider.</p>
<p>Pitch</p>	<p>Our DE-RISK Service Package helps LFMs initiators who want to deploy LFMs for flexibility trading by providing a full set of tools and services that will support them in the initiation, planning, implementation and operation of LFMS (including all the technical, financial, regulatory/legal and user engagement processes).</p>
<p>Expected time for marketability</p>	<p>After the end of the project.</p>
<p>Is further investment required after the project?</p>	<p>No.</p>

3.2.2. ER02: Platform for residential flexibility management (QUE)

Table 5: Description of Exploitable Result #2.

EXPLOITABLE RESULT DESCRIPTION			
ER NUMBER	ER02	LAST UPDATE	30-08-2023
ER NAME	Platform for residential flexibility management		
Developer(s) / Owner(s)	<p>Owner: QUE (The tools have already been developed by QUE, and will be used and adapted specifically for the purpose of the DE-RISK project).</p> <p>Contributors: TRO, UE, NUI, MIW, R2M (Pilot partners are involved exclusively in the context of data provision).</p>		
ER leader	QUE		
External partners	N/A		
Output type	<p>Service: QUE aims to apply their solution in various field studies towards accumulating know-how and increasing the TRL of the platform in order to enable its commercialization in the form of a service in the upcoming years.</p>		
Description of the result	<p>QUE's platform will be able to:</p> <ul style="list-style-type: none"> • Accurately forecast consumption and generation at DSO level (LV and MV). • Optimise energy demand, generation and flexibility within an LFM or an Energy Community to maximise the prosumers' cost-savings. • Offer DR services within the LFM. 		
Used background	Background IP declared in the Consortium Agreement.		
IPR	Internal know-how (blackbox for the Consortium); Licensing; Direct industrial use.		
Use of the result by the DE-RISK partners	Outputs of the applied (software and hardware) solutions will be delivered to the involved partners for the execution of their activities.		
Current development status	<p>DE-RISK, as a Coordination & Support Action project, utilises an holistic solution for data acquisition, storage & processing already developed by QUE. As of M12 of the DE-RISK project, the current development status concerns the IoT installations in the DE-RISK pilot sites (ES, IE, TR), which have already been finalised in a portion of the sites, while it is still ongoing in the rest.</p>		

EXPLOITABLE RESULT DESCRIPTION	
Performed trials and achieved results at present date	QUE will leverage the knowledge gained from the trials performed on their platform during the previous EU-funded projects ACCEPT and SENDER .
Activities required for exploitation	<ul style="list-style-type: none"> • Test and validate QUE’s solution at DE-RISK’s case studies (pilot sites), including various building typologies and consumer cultures in different climatic regions. • Gather the appropriate feedback, and validate the results towards narrowing the gap to future commercialisation.
Current TRL	TRL7
Expected TRL at project end	Towards narrowing the gap between TRL7-TRL8.
Preliminary exploitation vision	<p>QUE aims to enhance energy management to provide decision-support and deliver data-driven solutions that will power the Digital and Green Transition forward.</p> <p>Therefore, QUE focuses on improving its holistic solution towards delivering an end-to-end service for the extraction, storage and processing of energy and indoor ambient conditions data.</p> <p>To achieve this, QUE participates in various R&D-funded projects to test its solution in more use cases and field studies and follow-up its research.</p>
Target market	Building owners/tenants, facility managers, aggregators, ESCOs, retailers, DSOs.
Value proposition	<ul style="list-style-type: none"> • Energy and indoor ambient conditions monitoring. • Control remotely the existing building systems (i.e., Heating/Cooling, DHW etc.) and apply automations. • Increase energy efficiency and energy savings as well as improve indoor conditions. • Enable participation in Local Flexibility Markets.
Unique selling point	Efficiently and securely gather, store, and analyse data from numerous readily available IoT devices installed in the building using a versatile and affordable tool that offers various integrated features such as data management, processing, and visualisation. Continuously monitor the functioning of the building's IoT equipment and ensure the accuracy and reliability of the collected data. This validated information will enable stakeholders to participate in LFM.

EXPLOITABLE RESULT DESCRIPTION	
Pitch	Our flexibility management service aims to help energy market stakeholders who want to assess, validate and unlock the flexibility potential of (residential) buildings by utilising Digital Twins technology and applying other state-of-the-art optimization tools.
Expected time for marketability	5 years to reach TRL9.
Is further investment required after the project?	Further funding, (e.g. EU funding), is most likely required in order to expand and test QUE's solution and gather more feedback by applying QUE's solution in various field studies towards expanding its scope and validating its application to different business scenarios and case studies.

3.2.3. ER03: Demand Response services (MIW / UE)

Table 6: Description of Exploitable Result #3-a.

EXPLOITABLE RESULT DESCRIPTION			
ER NUMBER	ER03-a	LAST UPDATE	30-08-2023
ER NAME	Implicit Demand Response (DR) services in Spain		
Developer(s) / Owner(s)	MIW (owners), QUE (co-developers)		
ER leader	MIW		
External partners	Manufacturers of monitoring and controlling equipment.		
Output type	<ul style="list-style-type: none"> • Software / Web app tool • Service 		
Description of the result	<p>This service will be focused on the Spanish case study in Murcia. Unlike in other EU markets, in Spain, dynamic tariffs are allowed for residential customers.</p> <p>MIW will exploit a tool for implicit DR. Implicit DR is based on market prices. The users in the Spanish pilot site have dynamic tariffs. Most of MIW's residential customers have dynamic tariffs at this moment. In addition to market prices, for those consumers that have PV for self-consumption (individual or collective), the self-generation will be used for sending the ToU tips to the user or for the automatic control of loads.</p> <p>On the other hand, explicit DR, which is based on explicit signals sent to the consumer, is not an accessible market for residential users in Spain, so far. Therefore, MIW will exploit the web app.</p> <p>The basic ER (Minimum Viable Product) is an app that can be used for the consumers to select their Time of Use (ToU) of electricity based on market prices. It provides recommendations for ToU and makes calculations of the energy consumed, time of use, cost and evolution. This is the 'Basic' version of the ER.</p> <p>The advanced ER will be a Software (complemented with an off-the-shelf hardware system based on an IoT) automatic system that controls dispatchable loads (DHW, HVAC,...) regarding market prices (and self-consumption energy production) at any hour without affecting the comfort parameters for the users in the house. This is the advanced or 'Premium' version of ER.</p>		

EXPLOITABLE RESULT DESCRIPTION	
Used background	The IP background used consists of the technologies, previous experience and assets of MIW and QUE, as declared in the CA.
IPR	Internal know-how.
Use of the result by the DE-RISK partners	Not only MIW, but other DE-RISK partners can add this digital service to their portfolio. In the case of MIW, it will be offered to approx. 3000 residential consumers. However, it is not necessary to be a utility to exploit this result.
Current development status	The full-scope system and service (Premium version) is being deployed in the Spanish pilot site. It will be fully operative and under assessment from M13 (October 2023). This ER will be integrated with QUE's holistic platform (ER02).
Performed trials and achieved results at present date	MIW will leverage the experience gained from the piloting activities carried out in their pilots sites with many actual customers. Learnings from 6 previous or on-going projects with related topics (DRIMPAC , PHOENIX , UtilitEE , ACCEPT , FlexCHESSE , PRECEPT ,...), will be applied in DE-RISK. The lessons learned are varied and fruitful, in areas such as consumer acceptance and priorities, installation, operation and maintenance of control systems in residential, business or commercial spaces.
Activities required for exploitation	<ul style="list-style-type: none"> • Assessment of the ER in a real environment for 6 months. • Development of security, login, etc. layers • Marketing campaigns for those residential customers with dynamic tariffs. • API with Spanish Wholesale hourly prices.
Current TRL	TRL7
Expected TRL at project end	TRL8
Preliminary exploitation vision	<p>In the case of MIW, the Basic web app will be provided for free to users that are only using the limited version (without monitoring and automatic control of loads). In this case, it will be used for increasing customer loyalty.</p> <p>The advanced version (Premium) with automatic monitoring and control of loads will be exploited as follows:</p> <ul style="list-style-type: none"> • Initial fee: Costs for acquisition and installation of monitoring devices. • Monthly fee: Cost for hardware/IoT monitoring devices maintenance and access to flexibility platform (web app).

EXPLOITABLE RESULT DESCRIPTION	
Target market	Residential consumers are the main target market, but also medium consumers (10-50 kW) such as shops, pubs, offices, drugstores, gyms, etc. are targeted customers, since they have load profiles similar to households (being main dispatchable consumption thermal loads).
Value proposition	<ul style="list-style-type: none"> ● Reduction of the electricity bill. ● Simplicity. ● Low cost and interoperable IoT devices (wifi and Zwave). ● Basic version for free. No devices needed. ● Premium version is affordable and profitable.
Unique selling point	MIW offers a specific web app tool / platform for residential users that is affordable and simple to use, offering automatic implicit DR services (based on market prices), which still do not exist in Spain for small-medium consumers (homes, shops, offices, etc.).
Pitch	<i>Our web app tool for DR services will help residential consumers (in Spain) who want to reduce their electricity bills and play an active role in the energy transition by providing them with recommendations for the time of use of their domestic appliances and/or automatically controlling the (dispatchable) loads of their home devices without affecting their comfort.</i>
Expected time for marketability	1 st semester of 2026
Is further investment required after the project?	Yes. The investment needed is for IoT monitoring and control devices at homes in the Premium version. The free version does not need further investment. In addition, it will be necessary to adapt to the profiles of loads of small business, retail, offices, shops, drugstores, etc.

Table 7: Description of Exploitable Result #3-b.

EXPLOITABLE RESULT DESCRIPTION			
ER NUMBER	ER03-b	LAST UPDATE	30-08-2023
ER NAME	Explicit Demand Response (DR) services in Turkey		
Developer(s) / Owner(s)	<p>UEDAS (DSO) provides the infrastructure to implement the system and software (installing metering system & cabling). TRO (environmental NGO) is the leader of the Turkish pilot site, coordinating the user groups. QUE creates the software needed for the DR models.</p>		
ER leader	UEDAS		
External partners	N/A		
Output type	<ul style="list-style-type: none"> ● Software / Web app tool ● Service 		
Description of the result	<p>This ER consists of DR models for the provision of services to the end-users at the Turkish pilot site in Kepez.</p> <p>Leveraging the knowledge and expertise gained from the DE-RISK project, UEDAS (as DSO) will be well-equipped to offer tailored DR service models to their customers (end-users). However, the realisation of these services hinges on forthcoming regulatory allowances and, thus, there are no specific DR programs planned yet. Embracing future DR services holds the potential to deliver substantial benefits like incentives to UEDAS' valued customers. For instance, by participating in DR programs, the end-users can reduce their electricity costs by adjusting their energy consumption during peak demand times. DSOs can generate revenue by offering DR services, which may improve grid reliability by reducing the likelihood of blackouts or brownouts during high-demand periods. DR programs provide a flexible resource that can be used to address unexpected fluctuations in supply or demand.</p>		
Used background	The IP background used consists of the technologies, previous experience and assets of UE, TRO and QUE, as declared in the CA.		
IPR	UEDAS will not claim IP (since no product or software will be created by them, but they will use QUE's platform). UEDAS will generate and keep their internal know-how, while protecting the personal data of their customer (GDPR).		
Use of the result by the DE-RISK partners	All partners will have access to outcomes related to this ER.		

EXPLOITABLE RESULT DESCRIPTION	
Current development status	In the scope of the project, a total of 20 smart meters will be installed. Discussions are currently underway with households interested in participating in the project by having these smart meters installed in their homes. So far, agreements have been reached and information has been obtained from 17 customers. Discussions are ongoing for the remaining 3 customers.
Performed trials and achieved results at present date	UE and TRO participated in the VPP4ISLANDS EU project, where they performed trials in the same region as the DE-RISK's Turkish pilot site. They created an Energy Community, installed smart meters, flexible loads and storage units, and developed a software to estimate the customers' energy profile.
Activities required for exploitation	<ul style="list-style-type: none"> ● Engagement of the participating residential customers. ● Assessment of the effectiveness of the DR services in the Turkish pilot site for 6 months. ● Exploring different potential business models. ● Monitoring policies and regulations to be able to provide DR services in the near future. ● Assessment of customer participation willingness.
Current TRL	TRL7
Expected TRL at project end	TRL8
Preliminary exploitation vision	UEDAS aims to apply the DR model and replicate the DR services in other residential areas in the same region and also in other provinces in Turkey.
Target market	Residential consumers
Value proposition	Reduction of the energy bill for the residential consumers.
Unique selling point	<ul style="list-style-type: none"> ● Simplicity and affordability of the service. ● Energy cost savings and revenue opportunities.
Pitch	Our DR services will help residential consumers (in Turkey) who want to reduce their electricity bills by unlocking the flexibility potential of their home appliances.
Expected time for marketability	The DR services are expected to be on the market in the 2025 -2030 period. However, this may change with the advancements in technology and enabling regulations.
Is further investment required after the project?	Further investment needed to expand the service from the pilot site to other residential areas across Turkey.

3.2.4. ER04: DE-RISK Interaction & Training Toolbox (WG)

Table 8: Description of Exploitable Result #4.

EXPLOITABLE RESULT DESCRIPTION			
ER NUMBER	ER04	LAST UPDATE	30-08-2023
ER NAME	DE-RISK Interaction & Training Toolbox		
Developer(s) / Owner(s)	WG (with contributions from all partners)		
ER leader	WG		
External partners	End-users and experts/professionals to support and provide feedback on the development of the toolbox.		
Output type	<ul style="list-style-type: none"> ● Other (Open Access toolbox) ● Service (some components might be offered as a service, e.g., trainings) 		
Description of the result	<p>This ER consists of a practical toolbox that will provide guidelines for interaction with end-users (consumers & prosumers) and professionals (energy market actors that are part of the LFM's value chain). DE-RISK partners and LFM initiators will be able to use this toolbox to engage with the relevant stakeholders. In addition, the toolbox will include training / capacity building materials for professionals to improve their skills for developing & operating LFMs.</p> <p>A series of materials, methods & tools will be developed and tested during the DE-RISK project. These will be integrated in the Open Access toolbox, facilitating the understanding of the benefits and different ways that local flexibility can be unlocked in different contexts, so that it can be used to promote the adoption of LFMs across Europe. Some of the foreseen materials are the following:</p> <ul style="list-style-type: none"> ● Awareness raising materials about the importance of energy efficiency and the benefits of LFMs ● 3 brochures for consumers + 1 brochure for professionals ● 2 videos for consumers ● Presentation + script for events, fairs and seminars ● 2 infographics on LFMs benefits ● Social media campaign ● 5 specialised articles for professional media ● Presentation (with examples) for professional trainings ● 1 video tutorial for professionals about DE-RISK platform <p>The toolbox will be integrated in DE-RISK's website, enabling</p>		

EXPLOITABLE RESULT DESCRIPTION	
	users to access and download the available materials ensuring the dissemination of project outputs to a wider audience.
Used background	WG's internal know-how and experience on implementing Technical Assistance projects, as well as the Consortium partners' prior knowledge and expertise on LFM.
IPR	Internal know-how gathered during the project's execution. Open Access: the deliverable D6.4 'Consumers and Professional interaction toolbox' is planned to be a public report, and all the materials will be OA in the website.
Use of the result by the DE-RISK partners	All the DE-RISK partners will be able and encouraged to use and promote the DE-RISK Interaction & Training Toolbox within their own networks, e.g. publishing the materials (articles, news, videos, etc.) through their websites, disseminating the visibility materials in related events, and benefiting from the training materials during the project lifespan and beyond.
Current development status	The creation of the toolbox is still in progress and will be continuously updated until the end of the project. Currently, WG is in the process of gathering information from related partners to develop/finalise project materials before creating the dedicated section in the DE-RISK website. WG has already started the communication campaign (through the DE-RISK website, LinkedIn, Instagram, Facebook accounts of the project) and designed some visibility materials for the DE-RISK project. Also, UNL has drafted an article on the Consumer Journey for LFM, which is in the process of publication, and has also developed a short video on LFM (with translations to 7 different languages). D6.4 (M12) of DE-RISK will be the guiding document for this toolbox.
Performed trials and achieved results at present date	The similar experience of WG and other partners of DE-RISK regarding awareness raising and capacity building projects including wide scope of communication campaigns, trainings will be an added value and lessons learnt for DE-RISK.
Activities required for exploitation	<ul style="list-style-type: none"> • Developing the materials needed for the toolbox. • Disseminating / promoting the DE-RISK Toolbox. • Engaging stakeholders (Market Actors Community) in order to trigger a multiplier effect.
Current TRL	N/A

EXPLOITABLE RESULT DESCRIPTION	
Expected TRL at project end	N/A
Preliminary exploitation vision	<ul style="list-style-type: none"> • Education & Capacity Building (OA materials). • Training can be offered as a service for professionals.
Target market	Governments, local authorities, energy agencies, ESCOs, energy cooperatives, professionals in the field and interested wider audience for subject trainings
Value proposition	<ul style="list-style-type: none"> • For consumers - awareness, education & empowerment. • For public authorities, citizen organisations, etc. - a tool for raising awareness and empowering their citizens. • For professionals - training for improving their skills.
Unique selling point	The DE-RISK Toolbox is innovative because it will facilitate the effective and accessible communication of technical and complex concepts (i.e. LFMs).
Pitch	Our DE-RISK Interaction & Training Toolbox will help LFM initiators who want to deploy LFMs for flexibility trading at the local level by providing a set of materials, methods & tools that will facilitate the engagement process of relevant stakeholders, both professionals and end-users, and improve the skills/capacities of the key actors across the LFM's value chain (planning, development, operation & maintenance).
Expected time for marketability	End of the project (September 2025).
Is further investment required after the project?	N/A

3.2.5. ER05: Consumer Journey framework (UNL)

Table 9: Description of Exploitable Result #5.

EXPLOITABLE RESULT DESCRIPTION			
ER NUMBER	ER05	LAST UPDATE	20-07-2023
ER NAME	Consumer Journey framework		
Developer(s) / Owner(s)	UNL (with contributions from all partners)		
ER leader	UNL		
External partners	Experts + Consumers interviews Subcontractor for data collection		
Output type	<ul style="list-style-type: none"> • Know-how (methodology) and publications 		
Description of the result	<p>Consumer behaviour model containing the main drivers and obstacles to the citizen implementation of LFM, overall and per country. A roadmap to deploy and uptake LMFs in the EU Member States supported not only by technology but also policy, regulatory and financial mechanisms. Based on this, scientific publications are created, with the main results and lessons learned.</p>		
Used background	<p>UNL (Nova IMS) has a long background in qualitative and quantitative data analysis, having used these techniques and creating similar methodologies in other projects such as: TwinAIR: about indoor air quality technologies; TwinERGY: about digital twins and sustainable technologies adoption; HARP: about efficient heating appliances adoption. UNL's researchers have a long experience in creating this type of behaviour models, having published in the last three years +50 articles on top ranking journals, using these methodologies (see Google Scholar citations).</p>		
IPR	Open Access (OA) scientific articles		
Use of the result by the DE-RISK partners	Results will be used on the engagement strategies at the pilot site countries, and in future consumer engagement strategies towards LFM.		
Current development status	The current status is the creation of the questionnaire (literature review and interviews are already finalised).		
Performed trials and achieved results at present date	<p>Other projects have benefited from UNL's implemented methodology. Some examples below:</p> <ul style="list-style-type: none"> • TwinERGY - a citizen behaviour model was developed in order to understand the main motivations for citizens to 		

EXPLOITABLE RESULT DESCRIPTION	
	<p>adopt sustainable technologies. A set of recommendations, analysed per country, were developed both in terms of financial/regulatory issues as well as engagement strategies. Check some publications:</p> <ul style="list-style-type: none"> ○ https://aisel.aisnet.org/ecis2023_rip/76/ ○ https://doi.org/10.1080/10447318.2023.2202549 ● HARP - a consumer behaviour change model was developed, identifying the main factor relevant for households to replace old inefficient heating appliances by more efficient ones. The model identified several factors per country, as well as the most effective communication channels to be used on the national action plans. Check some publications: <ul style="list-style-type: none"> ○ https://doi.org/10.1016/j.apenergy.2021.117165 ○ https://doi.org/10.1016/j.energy.2021.120169
Activities required for exploitation	<ul style="list-style-type: none"> ● Literature review ● Interviews ● Collection of data through questionnaires ● Statistical analysis ● Submission of scientific articles
Current TRL	N/A
Expected TRL at project end	N/A
Preliminary exploitation vision	<ul style="list-style-type: none"> ● Education & follow-up research ● Dissemination via publications
Target market	Practitioners (consumer engagement)
Value proposition	The consumer model delivers the identification in a direct and quantified way of the main drivers and barriers to consumer engagement in LFM, helping in the development of easier and customised engagement/awareness strategies for different consumers.
Unique selling point	The consumer behaviour methodology allows to deeply and quantifiably understand the consumer choices and motivations to undertake a decision/behaviour. Contrary to usual techniques, based on experience or theories (traditional management), this methodology is tested with real data from consumers in a holistic way, simulating how consumers make decisions, i.e., taking into consideration several factors at the same time (modern management).

EXPLOITABLE RESULT DESCRIPTION	
	Specifically to LFMs, most methodologies used are very technical and based on implementation problems, instead of considering the consumer perspective. Therefore, by creating a consumer model, grounded on both prior investigations and stakeholders interviews, it will be possible to deeply comprehend the consumers needs, concerns, and motivations, and thus guaranteeing that LFMs and other similar initiatives are actually accepted and adopted by the consumers.
Pitch	Our Consumer Journey framework (consumer behaviour model/methodology) helps practitioners who want to increase consumer engagement of LFMs by identifying and quantifying the main drivers, obstacles and current needs of the citizens.
Expected time for marketability	At the end of the project.
Is further investment required after the project?	No.

3.2.6. ER06: Policy Roadmap for the adoption of LFM (SEA)

Table 10: Description of Exploitable Result #6.

EXPLOITABLE RESULT DESCRIPTION			
ER NUMBER	ER06	LAST UPDATE	05-09-2023
ER NAME	Policy Roadmap for the adoption of LFM		
Developer(s) / Owner(s)	SEA (with contributions from all partners)		
ER leader	SEA		
External partners	Feedback from external stakeholders which are part of the Advisory Board and/or the Market Actors Community.		
Output type	<ul style="list-style-type: none"> ● Know-how/IP: A regulation package on the roadmap for fast adoption of LFM (reports, booklets and handbooks under WP3). ● Service: Policy advice might be provided as a service. 		
Description of the result	<p>The knowledge obtained during DE-RISK will be used to provide policy recommendations in the form of roadmaps to local authorities and to different stakeholders on setting up the market for local flexibility services and their exploitation in 9 different EU countries and Turkey.</p> <p>SEA aims to support local/national public authorities and energy agencies in the development of LFM from a legal, political and bureaucratic point of view with the creation of and policy roadmaps to enable better regulatory framework conditions for the uptake of LFM at the local level within their regions.</p>		
Used background	SEA is an energy agency that assists the Municipality of Sofia in developing sustainable energy policies, promoting an holistic approach for energy efficient renovation of buildings, implementation of energy management and monitoring, training, and promotion of programmes for energy efficient measures and RES development at the regional and local level. SEA possesses over 20 years of experience in this field and has successfully participated in a multitude of international & EU projects.		
IPR	Internal know-how gathered during the project's execution. Open Access: the deliverables D3.2 'Regulatory Impact Analysis for LFM and Services' and D3.6 'DE-RISK LFM Policy and Regulatory roadmap for 10 EU countries' are planned to be public reports, and all the materials will be OA		

EXPLOITABLE RESULT DESCRIPTION	
	in the website.
Use of the result by the DE-RISK partners	Yes, all the DE-RISK partners will be able and encouraged to use and promote the DE-RISK Policy Roadmap (handbook of policy recommendations for facilitating the deployment of LFMs) within their own networks.
Current development status	The PESTLE Analysis (D3.1) and the Regulatory Impact Analysis (D3.2) are ready. These evaluate the current regulations, policy requirements and challenges for the development/implementation of LFMs and flexibility services in each of the partners' countries and across the EU. The booklets and handbooks with recommendations are still under development.
Performed trials and achieved results at present date	SEA has already prepared policy documents under previous EU projects, such as LIGHTNESS and LIFE BECKON .
Activities required for exploitation	Organisation of Legal/Regulatory seminars; publication of articles (white papers); dissemination of the generated materials (handbooks).
Current TRL	N/A
Expected TRL at project end	N/A
Preliminary exploitation vision	<ul style="list-style-type: none"> ● Policy use: as a public agency, SEA's mission includes providing support to public authorities at different levels. In this regard, the results of DE-RISK in terms of policy roadmaps & regulatory frameworks will be used to support local communities, regional and national administrations to provide the correct environment for the development of LFMs. ● Training service (policy advice) ● Follow-up research
Target market	The target market/audience consists of local & national authorities, policy advisors, legal consultants, as well as all stakeholders interested in creating LMFs (e.g., local flexibility aggregators, ESCOs, utilities, energy cooperatives, energy communities, prosumers, etc.). The early adopters will be those based in countries that have already created (or are planning to create) favourable regulatory and financial environments.
Value proposition	Advice/Recommendations for policy-makers on how to improve the current regulatory framework/procedures to

EXPLOITABLE RESULT DESCRIPTION	
	create a better environment for the development, implementation and operation of LFMs, reducing the administrative and bureaucratic burdens that hinder the broad uptake of LFMs and flexibility services in EU countries.
Unique selling point	<p>LFMs are only recently becoming feasible from a technical perspective and desirable because of their positive effect on social and environmental indicators towards the Green Energy Transition. As a result, there is still only limited knowledge and experience related to how to appropriately support the development of LFMs. DE-RISK will provide support by delivering up-to-date regulatory, legal and market information/knowledge available use and upgrade.</p> <p>It will be mainly based on the work and knowledge acquired from developing the Regulatory Impact Analysis, which examines the constraints that act as barriers for the uptake of the LFMs & flexibility services in 9 EU countries + Turkey.</p>
Pitch	<i>Our Policy Roadmap will help policy-makers and other interested stakeholders who want to foster a wide uptake of LFMs and flexibility services by drawing recommendations on how to improve the existing policies & regulations in order to establish better environment for the development and deployment of LFMs that eases the administrative and bureaucratic burdens for the LFM initiators and involved value chain actors.</i>
Expected time for marketability	By the end of the project.
Is further investment required after the project?	No.

3.2.7. ER07: Innovative Financial Schemes to democratise the access to sustainable energy investments: Crowdlending campaign (Ecrowd)

Table 11: Description of Exploitable Result #7.

EXPLOITABLE RESULT DESCRIPTION			
ER NUMBER	ER07	LAST UPDATE	30-08-2023
ER NAME	Innovative Financial Schemes to democratise the access to sustainable energy investments: Crowdlending campaign		
Developer(s) / Owner(s)	Ecrowd (with contributions/feedback from all partners). Special contribution from MIW related to the crowdlending campaign experience at the Spanish pilot site in Murcia.		
ER leader	Ecrowd		
External partners	Investors participating in the crowdlending campaign for the Spanish pilot site (focused on local investors). Legal entity (possibly MIW or a local Energy Community) acting as the borrower in the crowdlending campaign.		
Output type	<ul style="list-style-type: none"> ● Know-how/IP (future consultancy services) ● Process/Methodology (use of the platform) 		
Description of the result	This ER consists of a set of potential financing schemes for LFMs (and also for Energy Communities) depending on the type, socio-economic and policy context in order to reduce the barrier of raising the funds for the initial investment. Ecrowd will deliver a set of best practices focused on the use of crowdfunding for investments in LFMs and Energy Communities in order to prioritise the engagement of the local population as the investors for each project.		
Used background	Ecrowd's crowdlending platform (crowdfunding for loans), as declared in the CA; as well as their (financial & technical background) experience gained in previous successfully funded, local-oriented crowdlending campaigns in Spain.		
IPR	Internal know-how.		
Use of the result by the DE-RISK partners	Know-how of the process for launching local focused crowdlending campaigns in order to raise funds for LFMs or Energy Communities investments.		
Current development status	The task T3.4 is still ongoing. The draft deliverables D3.4 and D3.5 are in progress. Ecrowd and the DE-RISK Consortium are still learning about the process of launching a successful crowdlending campaign to democratise the investment in LFMs and make local flexibility available.		

EXPLOITABLE RESULT DESCRIPTION	
Performed trials and achieved results at present date	Crowdlending campaign for the LUCO Energy Community in Luco de Jiloca (Spain).
Activities required for exploitation	Complete implementation of a local-focused crowdlending campaign in order to raise the funds needed for LFM investments on the DE-RISK's Spanish pilot site in Murcia (Joven Futura).
Current TRL	N/A
Expected TRL at project end	N/A
Preliminary exploitation vision	<ul style="list-style-type: none"> • Joined investment/revenues with consumers. • Consultancy services for ESCOs who want to launch a funding/investment campaign to finance a LFM project, providing an assessment of its viability. • Follow-up research (new potential financing mechanisms)
Target market	The target market are any companies/entities in the energy field that will be able to develop LFM projects (i.e., ESCOs, utilities, Energy Communities, energy cooperatives, etc.). Only in Spain until now. In November 2023, the regulation is changing, opening the doors for Ecrowd and the rest of European licensed crowdfunding platforms (ECSPs) to also operate in other EU countries.
Value proposition	The value provided to the customers (mainly ESCOs) is the process for launching local-focused crowdlending campaigns in order to raise funds for LFMs or Energy Communities investments through Ecrowd's platform.
Unique selling point	Experienced assessment for launching local-focused crowdlending campaigns, which are an innovative financing scheme/mechanism that prioritise the engagement/empowerment of the local citizens & consumers as investors, thus democratising the access to sustainable energy investments and allowing them to participate in the energy transition.
Pitch	Our expert advice will help ESCOs and Energy Communities who want to locally raise funds for LFMs and other types of sustainable energy investments by launching locally-focused crowdlending campaigns.
Expected time for marketability	Immediately after the project.
Is further investment required after the project?	No.

3.2.8. ER08: Dashboard for improved UX and acceptability (R2M)

Table 12: Description of Exploitable Result #8.

EXPLOITABLE RESULT DESCRIPTION			
ER NUMBER	ER08	LAST UPDATE	07-09-2023
ER NAME	Dashboard for improved UX and acceptability		
Developer(s) / Owner(s)	R2M (with support and feedback from all the partners).		
ER leader	R2M		
External partners	SmartDataSystem (cloud IoT platform). Users at the pilot sites (feedback on the UI).		
Output type	Other (Platform).		
Description of the result	Database and dashboard-oriented energy platform with information about the performance of the LFM (or Energy Community) as a whole, as well as individual information for each of the involved users in that particular LFM. The dashboard will display energy costs & savings information, basic & advanced monitoring (real time or historic data, depending on the input), and will have the ability to adapt the information shown to the specific characteristics of the site. The users at the pilot sites will have a dedicated website or app to not only visualise the full LFM data, but also their own individual participation data.		
Used background	R2M's previous developments in H2020-funded projects (DRIVE , LIGHTNESS) and other developments performed in-house.		
IPR	Internal know-how / Exclusive rights		
Use of the result by the DE-RISK partners	The users at the pilot sites will be able to access their dashboard with information on the LFMs. The management of the platform itself will be reserved for R2M and will not be accessible to the rest of the DE-RISK partners beyond the visualisation of the dashboards.		
Current development status	Fully developed and ready to use, but further improvements are needed (e.g., implementing new features, enhancing the user interface, etc.).		
Performed trials and achieved results at present date	The platform is already being used by two commercial pilot sites (Energy Community projects) in Spain, under R2M's management.		

EXPLOITABLE RESULT DESCRIPTION	
Activities required for exploitation	<ul style="list-style-type: none"> ● Obtain consumption & generation data for all pilot sites. ● Set up connections with the platform to store and utilise the available data. ● Decide on specific dashboard (UI) requirements by each pilot site. ● Set up the platform to provide the required services.
Current TRL	TRL8
Expected TRL at project end	TRL8-TRL9
Expected time for marketability	By the end of the project.
Is further investment required after the project?	Yes, R2M will keep investing in improving and further developing the features of the visualisation dashboards.

4. CONCLUSIONS

This deliverable reports the methodology for the management and initial identification of DE-RISK exploitable results, and creates the framework for their post-project market uptake and exploitation. A total of 8 ERs have been identified in this first version of D5.2 (M12). It is important to note that, at this stage of the project, the presented ERs are preliminary and can change based on the project's development.

This report initiates the process of ER management, assigning a responsible manager and defining the exploitation vision for each ER, hence setting a baseline for further discussion. Therefore, D5.2 sets the course for the exploitation activities (WP5 tasks) during the rest of the project, as it represents a starting point for exploring and developing the exploitation potential of the DE-RISK's foreground, ensuring an effective and efficient management for optimal exploitation and protection of the results produced by the DE-RISK project.

R2M will keep track of DE-RISK's ERs throughout the project's execution, together with the ER managers. Any updates or changes to the ERs' description or exploitation strategy will be informed at each reporting period, providing updated versions of this deliverable.



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