Novafert

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D4.4 – Exploitation plan – Interim version

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Table of Contents

Abbreviations 3
Executive Summary 4
1. Introduction 5
2. Methodology 7
3. Identification of exploitable results 8
3.1 The Innovation Radar 9
3.2 The NOVAFERT Exploitable Results Identification Questionnaire 9
3.3 Data Collection and building the Exploitation plans 10
3.3.1 Questionnaires 10
3.3.2 Bilateral meetings / Exploitation Workshops 11
4. NOVAFERT's exploitable results 11
4.1 Overview of exploitable results 11
4.2 Conclusion 15
5. Exploitation plans for selected business cases 16
5.1 Pre-selected lighthouse demos 16
5.2 Penetration strategies for selected lighthouse demonstrators 17
Annex 1. Exploitable Results Identification Questionnaire - Template 19
Annex 2 Lighthouse Demonstrators – Exploitable results identification Template 23

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Abbreviations

D: Deliverable

EC: European Commission

H2020: Horizon 2020

HE: Horizon Europe

TRL: Technology Readiness Level.

WP: Work Package

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Executive Summary

Deliverable 4.4 *Exploitation plan – Interim version* (D4.4) is the first out of two iterations of the exploitation plans for the NOVAFERT project. This document provides an overview of the status of the exploitable results. The Work Package 4 (WP4), related to *Accelerate market uptake and Exploitation* is in its early stages, and many of the results we base future exploitation plans on are currently not available.

D4.4 contains a set of protocols to ensure that knowledge coming out of NOVAFERT is carefully managed, hence the project outcomes will be presented to end-users for exploitation. The protocols are set up for:

- KNOWLEDGE MANAGEMENT – to ensure the timely identification and collection of knowledge outputs generated by NOVAFERT partners as part of the project activities, as well as the selection of business cases within the lighthouse demonstration network in the different regions (up to seven business cases in total) to foster the adoption of innovative solutions. Knowledge Management protocols will be used as a first step to inform knowledge transfer and exploitation activities.
- KNOWLEDGE TRANSFER, EXPLOITATION and IMPACT – to transfer knowledge effectively and pro-actively, both from internal project as well as lighthouse demonstration network outcomes, resulting in uptake and exploitation by different end-users which will provide measurable impacts for NOVAFERT.

This document is a first draft in which the exploitation plan is designed based on available and expected results; therefore, D4.4 still provides a valuable overview of the significant commercial potential the NOVAFERT project represents. In future iterations, details will be added, and the potential will be substantiated. A final version is envisaged in month 34 as Deliverable 4.5 *Exploitation plan – final version* (D4.5). More detailed review on knowledge transfer activities is envisaged in month 30, as Deliverable 4.3 - *Report on knowledge transfer activities* (D4.3), which will focus on the transfer of knowledge and skills between the research community and the different end-user types.

This *D4.4 Exploitation Plan – interim version* has been developed by EIT FOOD SOUTH, which is also responsible for its implementation and coordination. However, all beneficiaries are involved in knowledge management and exploitation to foster awareness and transfer results for impact, especially in their countries and among their own communities.

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1. Introduction

The main goal of WP4 (*Accelerate market uptake and Exploitation of Lighthouse network results*) is to ensure that the innovations identified and the results achieved in NOVAFERT are used and exploited after the end of the project. This is, preparing the transition from projects and research financed from the EC to self-sustaining business cases that can be replicated easily in a variety of locations and contexts. While this statement may seem self-evident, previous European framework programmes have shown that it can be difficult to realize this in practice, and good project results have been left unused at the end of many projects. Therefore, there is increased focus on exploitation in Horizon Europe (HE), compared to previous framework programmes.

This focus can be seen in the structure of the HE calls, and in initiatives such as the European Commission's (EC´s) "Innovation Radar" which aims at supporting the most promising results coming out of the EC-funded projects. In fact, several HE (or its previous H2020 programme) projects have been created to follow up on potential results, extract key knowledge and offer support to result owners. Exploitation can be understood in several ways, but NOVAFERT uses the EC's definition by focusing on innovation or R&D results. There are several ways to exploit innovation or R&D results, but for EU projects it can often be divided into either a dissemination route or a commercial route (Fig. 1).

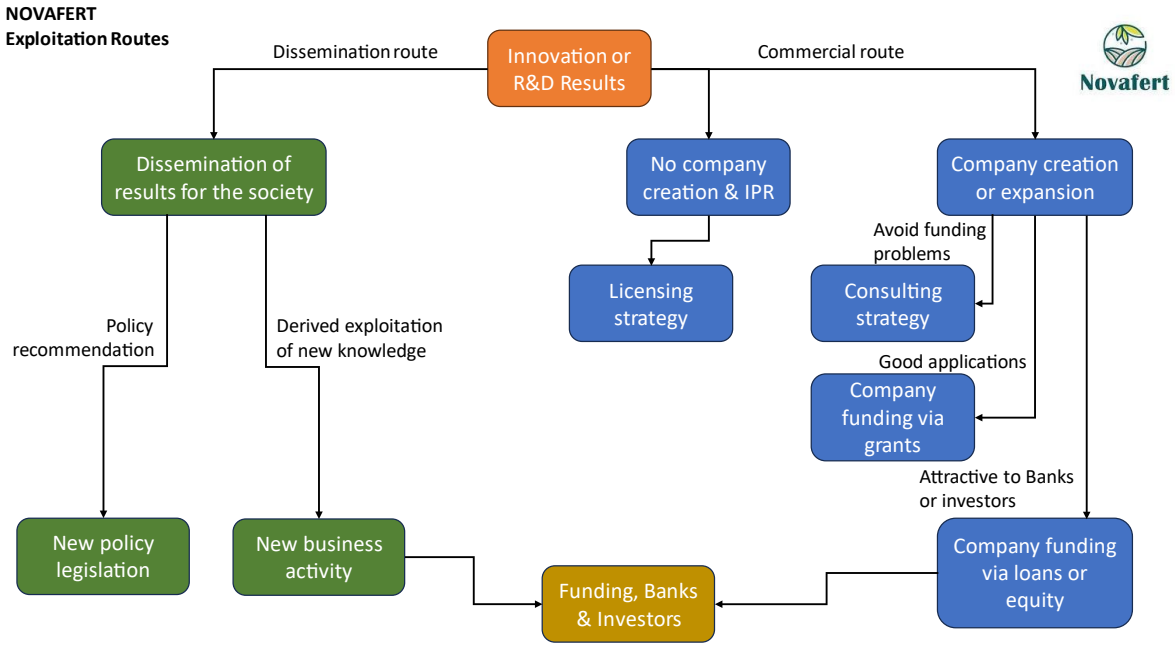

Figure 1. – Main exploitation routes for a R&D result.

When we talk about exploitation in this document, it mainly refers to commercial exploitation. This includes all partners in the value chain involved in getting the project outcomes as well as

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innovative alternative fertilising products to the market. The exploitation manager (EIT Food South) will create an overview of expected exploitable results to be disseminated.

For exploitation in NOVAFERT, this has a few significant implications for how this subject is being handled. As we see it, some of the key issues of why project results and innovations are not being exploited are:

- No clear owner of the project results.
- No clear plan for use/exploitation/commercialization after the end of the project funding.
- Lack of knowledge on market potential and market understanding for the solutions.

The two first issues are addressed by how NOVAFERT consortium is structured. Project partners are complementary and producing its own results. In the case there is a common ownership, the involved partners are already working together (i.e. WP2). The work started in this Deliverable will also identify and support the potential use/exploitation of the generated results once NOVAFERT will finish.

The third point is addressed in NOVAFERT through a combined effort of task 4.1 -*Industry analysis of the fertilising market*, task 4.3 – *Knowledge Management and transfer*, and task 4.4 - *Validation of green and circular business cases for alternative fertilising products and market penetration strategies.*

The overarching objective of the NOVAFERT Exploitation Plan is to provide partners and project beneficiaries with a set of protocols and processes that ensure the principles relating to Knowledge Transfer, and Exploitation are followed by all beneficiaries for increased success.

Task 4.5 – *Exploitation plan* aims to develop an exploitation strategy for the results coming out of the NOVAFERT project. The characterization of results, identification of result owners and the initial plans for the exploitation of the results after the end of the project, are the main objectives of this deliverable.

The NOVAFERT consortium uses several methods to collect the required information, and the level of information increases as the project matures. In the following section we provide an overview of the methodology used.

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2. Methodology

Task 4.5 aims to develop an exploitation strategy for the results coming out of the NOVAFERT project. It is an iterative process, in which each of the iterations of the business cases will add details and levels of planning. It collects the information for the rest of WP4, including information from Task 4.3 (*Knowledge management and transfer*), T4.4 (*Validation of green and circular business cases for alternative fertilising products and market penetration strategies)* and Task 4.5 (*Exploitation plan*). Also, it will coordinate with the results of WP6 (Communication and Dissemination).

The very comprehensive goal for the Exploitation plan is to cover:

- An exploitation strategy for all project results will be developed, pursuing 2 key objectives:
    - Mapping, characterising, and elaborating individual strategies for the market, scientific and policy uptake of all exploitable project results after the end of the action.
    - Preparing the transition of demos/lighthouses financed by the EC to self-sustaining business cases that can be replicated easily in a variety of locations and contexts.
- More specifically, the Exploitation Plan will include:
    - A map of key exploitable results and a corresponding (Intellectual Property Rights) IPR strategy.
    - Joint business models and plans for key results and business cases with market uptake potential, when relevant (i.e., Methodology in WP2 and the Lighthouses business model when more than one partner is involved).
    - An analysis of exploitation risks and key market and regulatory barriers as well as recommendations to overcome these barriers.
    - Recommendations for policy and scientific uptake of the results, related with D3.5 (Initial policy brief) and D3.6 (Three policy briefs).
    - A plan for further dissemination of results after the project's completion, aligned with WP6.

This is a lot of information to cover and requires extensive work from the side of each project partner, supported by the exploitation manager from EIT Food. Due to the nature of EU projects, most of the required information will be developed during the project, as the technical results are generated, and the business and financial planning may be based on progress.

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3. Identification of exploitable results

The initial step is to identify all the potential and expected exploitable results coming out of the project. The 1st task is to create an overview of potentially exploitable results per partner (result owner), market potential of the innovation and gaps in knowledge. We use the EC definitions to define what project results are (Fig. 2).

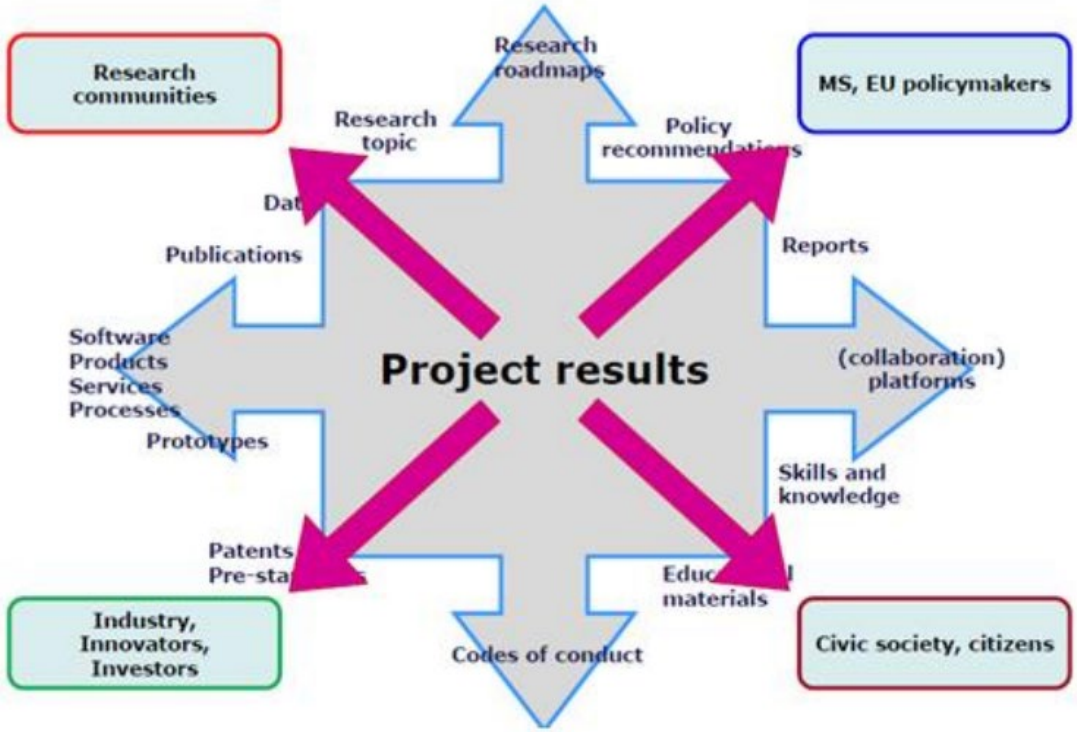

Figure 2. – Project results as defined by the EC.

Due to the nature of the project (Coordination & Support Action), NOVAFERT is **mainly focusing on not-commercially exploitable results** in this deliverable but will keep a list of other results to be included in future deliverables. A similar methodology will be used to identify exploitable results in the selected lighthouse demonstrators, looking mainly at the most innovative business cases.

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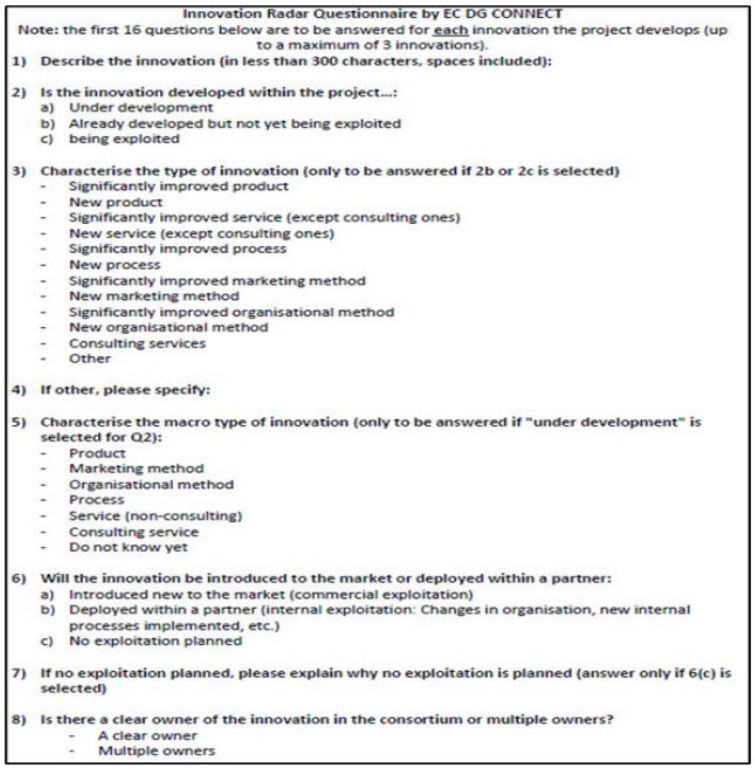
3.1 The Innovation Radar

To further encourage exploitation, keep track of exploitable results and offer support to the most promising project outcomes, the EC's DG Connect created the Innovation Radar. This is a structure where the exploitation and project managers report on the exploitation potential of a project usually 2-3 times during a project's lifetime, using a questionnaire format.

The Innovation Radar consists of 16 specific questions for each innovation and 11 general questions for the consortium. Examples of the questions can be seen in figure 3.



Innovation Radar Questionnaire by EC DG CONNECT

Note: the first 16 questions below are to be answered for each innovation the project develops (up to a maximum of 3 innovations).

1) Describe the innovation (in less than 300 characters, spaces included):

2) Is the innovation developed within the project...:
   a) Under development
   b) Already developed but not yet being exploited
   c) being exploited

3) Characterise the type of innovation (only to be answered if 2b or 2c is selected)
   - Significantly improved product
   - New product
   - Significantly improved service (except consulting ones)
   - New service (except consulting ones)
   - Significantly improved process
   - New process
   - Significantly improved marketing method
   - New marketing method
   - Significantly improved organisational method
   - New organisational method
   - Consulting services
   - Other

4) If other, please specify:

5) Characterise the macro type of innovation (only to be answered if "under development" is selected for Q2):
   - Product
   - Marketing method
   - Organisational method
   - Process
   - Service (non-consulting)
   - Consulting service
   - Do not know yet

6) Will the innovation be introduced to the market or deployed within a partner:
   a) Introduced new to the market (commercial exploitation)
   b) Deployed within a partner (internal exploitation: Changes in organisation, new internal processes implemented, etc.)
   c) No exploitation planned

7) If no exploitation planned, please explain why no exploitation is planned (answer only if 6(c) is selected)

8) Is there a clear owner of the innovation in the consortium or multiple owners?
   - A clear owner
   - Multiple owners

Figure 3. – Extract of the Innovation Radar (EC).

The Innovation Radar is a very useful structure and methodology to create an overview of a project's results. By using the characterizations and definitions as described in the Innovation Radar we ensure consistency in the reporting. For that reason, based in the Innovation Radar **the consortium has created a modified questionnaire** we call the "**Exploitable Result Identification Questionnaire**".

3.2 The NOVAFERT Exploitable Results Identification Questionnaire

NOVAFERT's Exploitable Result Identification Questionnaire is built on the structure of the Innovation Radar, but we have adapted it and included additional information that is required to create proper exploitation strategies, business plans, and business cases. The questionnaire is used as a first method to collect information about exploitable results and is also used to create an overview during the project.

Three iterations of the questionnaire are planned during the project to identify and work on the project's exploitable outcomes, with a summary of the results of the 1st one being included in this report (see section 3). The first is done by M14, the next iteration will be done by M23 and the final iteration by M32. In the case of the study to be performed together with the lighthouse demonstrators, 2 iterations are envisaged – tentatively in M21 and M32, to be

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agreed with T4.2 leader and each of the regional coordinators– considering that they have just been selected at the moment of preparing the current deliverable.

The questionnaire consists of several questions that covers the following areas (please refer to Annex 1 for the details of the questionnaire):

- General information
- Innovation description
- Market description
- Financial information
- IPR & Standards

In the first iteration, there is usually a large gap of information, and many questions will be left unanswered. This provides the exploitation manager with a valuable overview of the level of exploitation knowledge and planning each partner has for their results, and on which areas to focus their effort on.

3.3 Data Collection and building the Exploitation plans

The knowledge management strategy within NOVAFERT will be based on "Knowledge Outputs" described as a unit of knowledge that has been generated out of a scientific project and will consists of the following phases:

a) Collect;
b) Analyse (including assessing knowledge and profiling Target User);
c) Transfer (including developing a plan and measuring impact).

The overall objective is to facilitate the fastest route for new knowledge to reach the market.

Knowledge Transfer task (T4.3) will encompass both commercial and non-commercial activities such as research collaborations, consultancy, licensing, spinoff/spinout creation, researcher mobility and publications. NOVAFERT aims to support mutually beneficial collaborations between universities, businesses and the public sector. It is about the transfer of tangible and intellectual property, expertise, learning and skills between the research community and the non- academic community, in this case the farmers as end users of the alternative fertilising products.

With this aim, the exploitation manager will use a range of different tools and methods to collect data and create the NOVAFERT results' exploitation plans.

3.3.1 Questionnaires

As described previously the Exploitable Result Identification Questionnaire (Annex 1) is used to collect information about exploitable results and to keep an updated overview of these. Three

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iterations will be sent out and analysed by M14, M23 and M32; two iterations will be used for collecting results from the lighthouse demonstrators (tentatively foreseen in M21 and M32).

3.3.2 Bilateral meetings / Exploitation Workshops

Based in the Questionnaires already indicated, EIT Food will organize bilateral meetings with each partner of NOVAFERT with interest in the exploitation of results and will co-design with them the potential exploitation route and/or the IPR protection. EIT Food will support the accorded process of protection of IP and will provide guidance to the partner through all the process. This work will be linked to the D4.3: *Report on knowledge transfer activities*. A similar approach will be used for advising the lighthouse demonstration networks, coordinated in this case with Task 4.2. and Task 4.4.

A dedicated exploitation workshop can be held in a future consortium meeting, so the partners can better discuss on the potential use of its results / innovations.

EIT Food will count with its internal experts in entrepreneurship. In case there is no partner inside the consortium able or willing to exploit further the results EIT Food will use its network to scout for external stakeholders and will manage the transfer of knowledge with the best interest for the NOVAFERT consortium. This transfer may consist mainly of licensing the knowledge for others to exploit.

4. NOVAFERT's exploitable results

4.1 Overview of exploitable results

An initial overview of exploitable results has been identified in WP4 in NOVAFERT. The results will be further matured in subsequent individual follow-up meetings and exploitation workshops, until the end of the project.

Based on the preliminary information, all project partners are working on the assumption that they will use and exploit the knowledge created in NOVAFERT, during and after the end of the project, in a very direct and concrete manner.

A summary of the information gathered follows for each of the identified exploitable results in Table 1 below.

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Partner	Outcome Characterisation	Outcome name	Outcome Short Description	Desired application / use
1. Ugent	Reports (excl. Purely reporting deliverables)	Policy briefs	The practical implementation of alternative fertilisers into local/national settings and the actual adoption and implementation in the field remain open for further multi-actor discussion. A policy framework is considered to be one of the driving forces behind the sustainable adoption of alternative fertilisers. This progress towards practical policy implementation is a significant supporting role that NOVAFERT will play through mediated policy interaction and providing science-based technical assistance for suggested implementation through specialized policy briefs.	The policy briefs are based on several identified bottlenecks in regulatory frameworks, including the Nitrate Directive and the INMAPs. Through these policy briefs, NOVAFERT urges the EC to make necessary legislative proposals to allow and facilitate the safe use of RENURE and other alternative fertiliser products and t to provide guidelines for their use in addition to the compositional criteria proposed by the European Commission previously.
1. Ugent	Database	Novafert database - Online Inventory	A comprehensive examination of available information on alternative fertilisers at the EU level is required in order to achieve synchronisation among the existing datasets. This database includes data from 76 value chains derived from six secondary raw materials: treated manure, digestate, sewage sludge, wastewater, bio waste, and biological byproduct	This database provides an extensive portrayal of the current state of the art for several alternative fertiliser products while revealing knowledge gaps that require attention for the advancement of their utilisation. The overview will be available for all stakeholders to assess.
2. IPS Konzalting	Consulting services	Expanding the stakeholders database and promoting the use of subsidies for non-conventional agricultural production	Expanding the stakeholder database will facilitate meeting their needs more efficiently. Our main focus is building a database of potential users (farmers) of alternative fertilisers. We will provide consulting services to introduce subsidies that promote organic agriculture and the transition from conventional to organic farming.	Provide consultancy service to support farmers in the transition from conventional to organic farming, offering guidance on best practices, potential challenges, and how to maximize the benefits of alternative fertilizers.

3.EIT Food South	Consulting services	Knowledge transfer and exploitation plans	Exploitation plans for project beneficiaries (mainly lighthouse demonstrators) as well as for Novafert project outcomes.	This project outcome is meant to be used by Novafert partners and beneficiaries to ensure knowledge transfer and market penetration of new alternative fertilising products.
4. UVIC	Database	ILCD compliant dataset	PEF-wise methodology to assess the environmental performance of the BBFs in Europe.	LCA database for LCA practitioners with different expertise
4. UVIC	New methodology	PEF-Wise methodology	PEF-wise methodology to assess the environmental performance of the BBFs in Europe	Implementation in the Normative PEF framework by TAB and EC
5. BIOAZUL	Consulting services	Lighthouse in La Axarquia (Spain)- living lab	Service focused on the creation of living labs replicating the Lighthouse in La Axarquia. The service includes several aspects touched within NOVAFERT as the SWOT preparation, stakeholder engagement, trying and dissemination activities, etc. On top, also engineering services regarding water reclamation projects will be offered by BIOAZUL	Consulting services to replicate, create and manage water-oriented living labs around the use of reclaimed water in agriculture, including technological and engineering services if requested.
6. LUKE	Significantly improved methodology	PEF vice method for LCA of bio-based fertilizers	PEF-wise methodology to assess the environmental performance of the BBFs in Europe	Proposed PEF vice method later could be shared in the EU Platform on LCA (EPLCA) towards the generation and validation of a PEFCR for alternative fertilising products.

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7. TEAGASC	Database	Novafert Dataset of nutrient recovery technologies and products across Europe	A comprehensive examination of available information on alternative fertilisers at the EU level is required in order to achieve synchronisation among the existing datasets. This database includes data from 76 value chains derived from six secondary raw materials: treated manure, digestate, sewage sludge, wastewater, bio waste, and biological by product	This database provides an extensive portrayal of the current state of the art for several alternative fertiliser products while revealing knowledge gaps that require attention for the advancement of their utilisation. The overview will be available for all stakeholders to assess.
7. TEAGASC	Report	Atlas of EU nutrient orientated labs across Europe	A methodology is required to identify 50+ suitable nutrient orientated living labs across the EU which are real place-based operations in the space of nutrient recovery from waste streams and provides or uses a product in a field base situation to displace a proportion of chemical fertiliser.	The atlas provides infographic and description of all information collected and is publicly available on the Novafert website as an information source for operations within the nutrient recovery and use space.
7. TEAGASC	Report	Methodology for selecting lighthouse demonstrations	A methodology is required to select 7 candidates (one per region) from the atlas of nutrient orientated living labs to serve as a lighthouse demonstration for the region.	Lighthouse demonstration within each region will serve as a front runner for the best use of alternative fertiliser use. The lighthouse demo will serve as the basis for WP4 activities and other WP's for knowledge transfer to a wider audience. The lighthouse demo will host five groups of farmers over the duration of the remainder of the project to showcase good performance for using alternative products with the aim to inspire their peers to adopt new technologies.
8. IMPACT	Scientific Publications	NOVAFERT Website and Publications	The website is the major repository of the NOVAFERT projects where are stored all the publications related to the activities of the project and the results achieved.	Consultation and downloading of non-confidential results produced by the project also after its end.

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9. MEERI	Reports (excl. Purely reporting deliverables)	Results of Social LCA (report)	Determining the social and sociological aspects of selected bio-fertilisers, their actual and potential positive as well as negative impacts along the life cycle using the social life cycle assessment (S-LCA) method.	Integrating key components of sustainable development to support achieving the Green Deal goals.

Table 1. Summary of the main Exploitable outcomes obtained from the Questionnaires.

4.2 Conclusion

The exploitation plan has started on M13, but it is progressing positively and according to plan. At the current, relatively, early stage the exploitation potential of the NOVAFERT project is promising but will need extensive further work in the next 24 months, as results materialize.

A detailed work, at individual level with each partner will be done, in order to align all the outcomes and define next steps for knowledge exploitation.

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5. Exploitation plans for selected business cases

NOVAFERT's main goal is to foster the adoption of alternative fertilising products attain from secondary raw materials within the EU. For that purpose, in addition to shaping of exploitation plan to guarantee that scientific and technical knowledge produced as project outcomes is transferred to the relevant beneficiaries, NOVAFERT will also support the most innovative business cases implemented by the shortlisted nutrient-oriented living labs.

For that purpose, 7 lighthouse demonstrators have already been selected as the most relevant business cases for each region. Out of these, the most innovative business cases will be provided with tailored support in order to accelerate the development of their products and services. This will be implemented as part of Task 4.4 - *Validation of green and circular business cases for alternative fertilising products and market penetration strategies*, starting from Month 18 (originally planned from M12, and changed following an amendment process).

D4.4 *Exploitation plan – Interim version* reflects the process to be followed for the selection of these business cases, led by the different lighthouse demonstrators, and the creation of a market penetration strategy, as at this point the relevant task has not yet started. D4.5 *Exploitation plan – Final version* (due in month 34) will reflect the final exploitation plan proposed for the selected cases.

5.1 Pre-selected lighthouse demos

In a preliminary work, Teagasc with the support of all the partners, has created a pull of over 50 nutrient-oriented living labs across the selected countries and regions. This has been implemented as part of WP1 – *Mapping nutrient recycling technologies and products*, and an Atlas of the EU nutrient-oriented living labs has been created (submitted as D1.3 in Month 15).

In a second stage, NOVAFERT partners coordinated by Teagasc, have selected 7 lighthouse demonstrators, one per each of the regions involved in the initiative, working with different secondary raw materials relevant to the specific regions. Table 2 below summarises the list of selected lighthouse demonstrators.

ADemo title	TRL	Agro-typology	Country, Scale
Teagasc, grassland trial	6	A range of manure and dairy processing residues applied at field scale to assess agronomic performance.	Ireland, National
Municipal water and sewerage company	9	Converting sewage sludge into a high DM fertiliser product which contains N, P & K for plant growth.	Poland, National
Pirtea porsas	9	Digesting pig slurry through AD and separating it into a liquid and solid fraction before applying to land.	Finland, Regional
Inagro	9	Farm-scale anaerobic digestion of agro-residues/pig manure to increase local nutrient cycling & improve nutrient use efficiency.	Belgium (Flanders), Regional
Axarquía Sostensible	9	Wastewater treatment from agriculture using a water reclamation system, integrated with an irrigation system with software for the management of nutrients in reclaimed water.	Spain (Andalusia), Regional
Fertinagro	9	Design, production and marketing of organic fertilisers using recovered nutrients from organic materials of animal and plant origin (animal manure, animal by-products, plant waste etc.). Offer	Spain (Aragon), National

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		personalised nutrient management plans for the farmers using their products	
OPG Dario Cenger	9	Treatment of plant materials and manure from livestock production in AD for biogas production.	Croatia, Regional

Table 2 Outline of lighthouse demonstrations – Extract from D1.4 Selection of lighthouse demos

For the purpose of selecting the lighthouses that will receive tailored support (up to 7), EIT Food South will hold individualised meetings with representatives of each of the lighthouse demonstrator as well as NOVAFERT's regional partner in charge of the coordination of each of the lighthouses. Each lighthouse demonstrator will be evaluated against the following criteria:

- Type of secondary raw material used.
- Expected outcomes and performance as fertilising product.
- Current TRL and expected time to market.
- Level of innovation.
- Market potential.
- IPR issues.
- Existing network and infrastructure in the region (especially relevant for the reuse of wastewater).
- Potential risks.

For that purpose, a questionnaire similar to the one included in Annex 1 and complemented with additional questions regarding their supply chain / value chain (please refer to Annex 2 for additional questions) will be used. At the time of preparation of the present deliverable, the questionnaire has not yet been shared with the selected lighthouses, as they have been recently selected, and T4.4 will not start until M18.

5.2 Penetration strategies for selected lighthouse demonstrators

Based on the responses gathered in the questionnaires, up to 7 business cases will be selected for further *Validation of green and circular business cases for alternative fertilising products and market penetration strategies* (T4.4), based on the innovativeness level and market potential.

EIT Food South, on the one hand, will work together with the different lighthouse demonstrators and the regional coordinators to accelerate the development of potentially marketable products and services. On the one hand, a traditional business canvas will be used to work on the most relevant business channels, customer relationship approach and required partnerships and resources. Advice will be given to each of the business cases, taking into consideration the outcomes of Task 4.1 - *Industry analysis of the fertiliser market* (led by IPS Konzalting and to be submitted in Month 18) for areas such as product management, marketing or additional R&D and stakeholder engagement needs.

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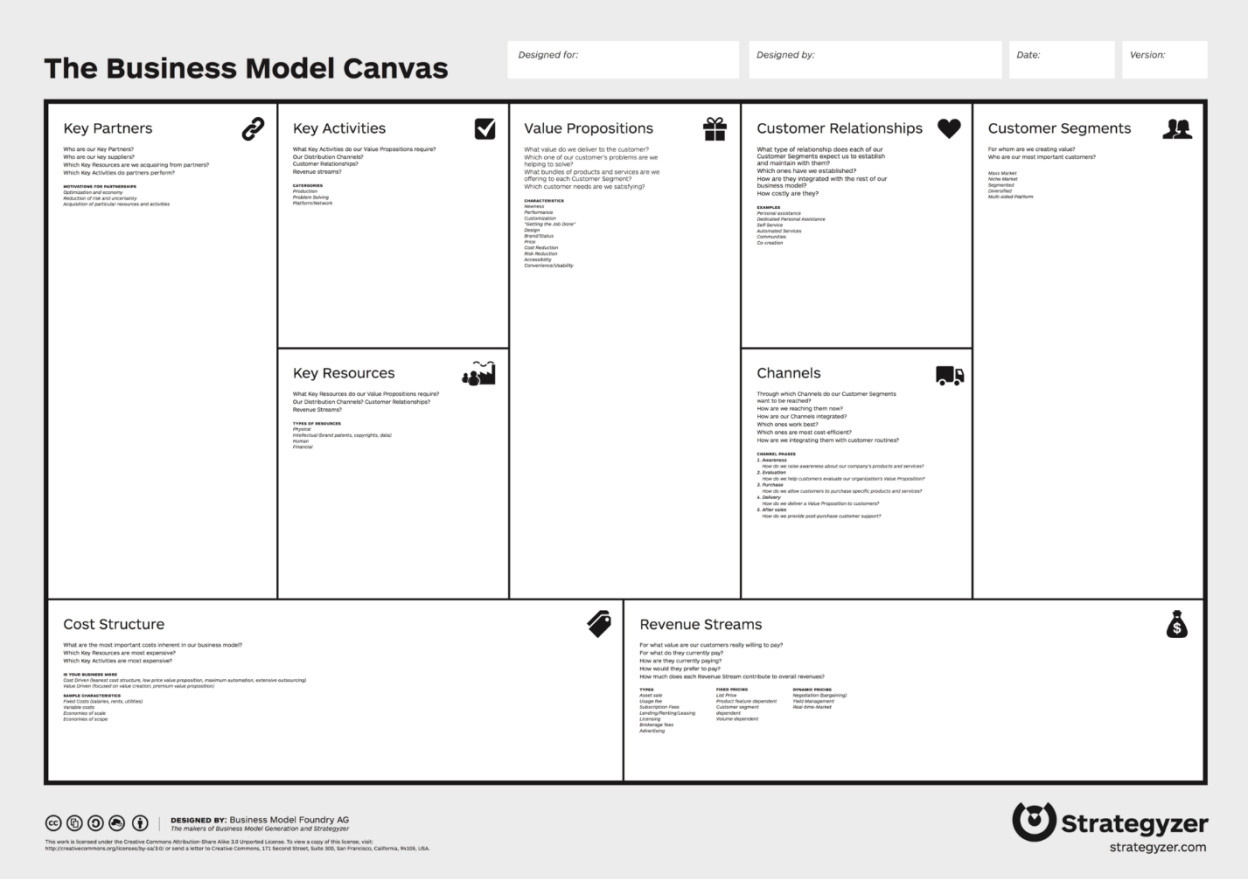

Figure 4. – Standard Business Model Canvas. Soure: Strategyzer

TEAGASC, on the other hand, will support the evaluation market penetration strategies, as well as IP strategies for potential novel products when relevant.

The results of this action will be included in D4.5 *Exploitation plan – Final version* (due in month 34), including the exploitation plan proposed for each of the selected cases.

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Annex 1. Exploitable Results Identification Questionnaire - Template

This Annex includes the template of the questionnaire that has been shared among partners in order to collect the main information related to the Results expected to be obtained by each partner and the related exploitation possibilities.

General Information			
Organization name			
Location			
Goal(s) in NOVAFERT			
Project Outcome Description			
Project outcome name			
Project outcome type (hardware, product, software, service, etc.)			
Short outcome description			
Outcome characterization	☐ Scientific Publications ☐Reports (excl. Purely reporting deliverables) ☐ Database ☐ Significantly improved product ☐ Significantly improved service (except consulting services) ☐ Significantly improved process ☐ Significantly improved marketing method ☐ Significantly improved methodology ☐ Significantly improved organisational method ☐ Consulting services ☐ New product ☐ New service (except consulting services) ☐ New process ☐ New marketing method ☐ New methodology ☐ New organisational method ☐ Other		
Desired application/use of the project outcome			
How will the innovation be exploited?	☐ Introduced as new to the market (commercial exploitation) ☐ Only deployed as new to the organization / company ☐ No exploitation planned		
Current TRL (1-9)	☐ TRL 1 ☐ TRL 2	**TRL end of project (1-9)**	☐ TRL 1 ☐ TRL 2

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	☐ TRL 3 ☐ TRL 4 ☐ TRL 5 ☐ TRL 6 ☐ TRL 7 ☐ TRL 8 ☒ TRL 9		☐ TRL 3 ☐ TRL 4 ☐ TRL 5 ☐ TRL 6 ☐ TRL 7 ☐ TRL 8 ☐ TRL 9
Level of innovation	☐ No innovation – other factors contribute to viability ☐ Some distinct, probably minor, improvements over existing products ☐ Innovative but could be difficult to convert customers ☐ Obviously innovative and easily appreciated advantages to customer ☐ Very innovative, satisfies a well-known market need	**Time to market (if applicable). Years after project end.**	☐ <1 year ☐ 1-2 years ☐ 2-3 ☐ 3-4 ☐ 4-5 ☐ >5 ☐ Not known ☐ Not applicable
Will you keep working on your project outcome after the conclusion of the action?			
Market Description (if relevant)			
Market size	☐ <25M€ ☐ 25-100M€ ☐ 100-250M€ ☐ 250-500 M€ ☐ >500 M€ ☐ Not known	**Market trends**	☐ Growth, high ☐ Growth, low ☐ Stagnant ☐ Decline, low ☐ Decline, high ☐ Not known
Targeted geography (country, region etc.)			
Targeted customer segments			
Distribution channels			
Target price (if relevant)			
Market maturity	☐ Not yet existing: customers are not buying such products	**Market competition**	☐ Patchy, no major players

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	(or are not yet ready to buy) ☐ Emerging: there is a growing demand and few available offerings ☐ Mature: the market is already supplied with many products of the type proposed.		☐ Established competition but none with a proposition like the one under development ☐ Several major players with strong competencies, infrastructure and offerings
Unique selling points (USPs), compared to existing solutions. (in short bullets)			
Financial Information (if relevant)			
Additional funding needed to bring your project outcome to market.	☐ 0 ☐ <0.5 M€ ☐ 0.5 – 1.0 M€ ☐ 1 – 2 M€ ☐ 2 - 5 M€ ☐ 5 - 10 M€ ☐ >10 M€ ☐ Not known	**Founding sources (choose as many as relevant)**	☐ Internal sales ☐ Loans Private Equity: ☐ Business Angels ☐ Venture Capital ☐ Industrial Investors Public funds: ☐ EU funding programs ☐ National funding programs ☐ Follow-up/parallel projects ☐ Other ☐ Not known
Expected revenue from project outcome at end of project	☐ 0 ☐ <0.5 M€ ☐ 0.5 – 1.0 M€ ☐ 1 – 2 M€ ☐ 2 - 5 M€ ☐ 5 - 10 M€ ☐ >10 M€ ☐ Not known	**Expected revenue from project outcome 5 years after end of project**	☐ 0 ☐ <0.5 M€ ☐ 0.5 – 1.0 M€ ☐ 1 – 2 M€ ☐ 2 - 5 M€ ☐ 5 - 10 M€ ☐ >10 M€ ☐ Not known
Expected employment growth from project outcome at end of project (FTE‡: full-time equivalent)	☐ 0 ☐ 1-5 ☐ 6-10 ☐ 11-20 ☐ 21-50 ☐ >50 ☐ Not known	**Expected employment growth from project outcome, 5 years after end of project**	☐ 0 ☐ 1-5 ☐ 6-10 ☐ 11-20 ☐ 21-50 ☐ >50 ☐ Not known
IPR (Intellectual Property Rights) & Standards (if relevant)			
Is there any other project partner involved in the development of	☐ Yes ☐ No	**Is there a clear "owner" of the**	☐ One clear owner ☐ Multiple owners ☐ Not yet discussed

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this project outcome?		**innovation in the consortium or multiple owners?**	
Status of IPR: Background (type and partner owner)			
Status of IPR: Results/Foreground (type and partner owner)			
Are there any IPR/Patents issues to be resolved with the consortium?	☐ Yes ☐ No	**If yes, please elaborate**	
Do you expect to be able to apply for patents during/after the project?	☐ Yes ☐ No	**If yes, please elaborate**	
Do you expect to be able to apply for trademarks or other IPR during/after the project?	☐ Yes ☐ No	**If yes, please elaborate**	
Standardisation: Describe whether there are any legal, normative or ethical requirements connected to the development of your product/Early requirements?	☐ Yes ☐ No	**If yes, please elaborate**	

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Annex 2 Lighthouse Demonstrators – Exploitable results identification Template

The template to be shared and worked out together with the different lighthouse demonstrators (up to 7 in total) will be similar to the one used to identify direct project outcomes (see Annex 1), complemented with additional information regarding the supply chain / value chain relevant to each business case. This will be done by adding the questions listed below:

Supply Chain/value chain (if relevant)			
Biomass (Input): Have you identified how you will get enough raw materials for your production?	Yes ☐ No ☐	**If yes, please elaborate**	
Biomass (Input): Do have indication of the price of the raw materials?	Yes ☐ No ☐	**If yes, please elaborate**	
Product (Output): Have you identified and/or been in contact with potential customers?	Yes ☐ No ☐	**If yes, please elaborate**	
Product (Output): (If yes above) are the customers willing to pay a premium for the new product (if needed)?	Yes ☐ No ☐ N/A ☐	**If yes, please elaborate**	
Waste stream (Output): Do you know what to do with the waste grass after production?	Yes ☐ No ☐	**If yes, please elaborate**	

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