

NEEDS AND OPPORTUNITIES FOR VISIONARY RESEARCHER

An overview on FET Innovation Launchpad
Projects



POLITECNICO
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An overview on FET Innovation Launchpad
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1

EXECUTIVE SUMMARY

Visionary researchers in Europe and their impact on society and economy

The European Commission with the Future and Emerging Technologies (FET) programme aims to turn Europe's excellent science base into a competitive advantage uncovering radically new technological possibilities.

FET research is expected to carve out radically new lines of technology by the resourceful merging of advanced science and cutting-edge engineering ranging from biotech and green technologies to quantum physics, robotics and new materials. When FET visionary thinking fleshes out the way to fresh powerful applications and scientific excellence, it has to be grounded on defined technology and tangible impacts for society¹.

The FET programme is helping Europe to renew the basis for its competitiveness and growth, and it is contributing a long-term societal vision for a better future.

In the last five years the European Commission has supported research focuses beyond what is known with this programme, supporting novel and visionary thinking to open promising paths towards powerful new technologies. It has supported interdisciplinary collaboration with the aim of boosting cross-fertilisation and deep synergies between the broadest range of advanced sciences and cutting-edge engineering disciplines. The vision behind the programme is to turn new knowledge and high-risk ideas into a viable basis for radical innovation.

Excellent individual researchers are the engine of this programme and FET funds have supported them in performing collaborative research projects able to open up new and promising fields of research, technology and innovation. FET researchers are working in the most complex areas of research: they are combining high risk and long-term vision with technological concreteness. They are combining blue-sky scientific research with the research driven by societal and industrial challenges. They are encouraged to explore high risk frontiers to accelerate the transition to technology development and industrial impact. They are the seeds for future industrial leadership

¹ Alessandra Barbieri (youris.com EEIG), European visionary thinking and scientific excellence: how will FET research impact on society? <https://cordis.europa.eu/article/rcn/132255/en>

and for tackling society's great challenges in new ways ². Even if visionary researchers in Europe are at the centre of the “innovation ecosystem” they are often underestimate the value of their results. Some of them do not see the need to find a practical application; they are in first line driven by the motivation to develop high level research output that can be turned into scientific publication. In the exploitation phase, which is often conducted at the end of a long process, there is rarely a reward for the researcher. This also applies to FET researchers, who too often fail to better explore the results of their research, sometimes stopping at theoretical hypotheses or scientific publications. This is why it is important for the European Commission to finance research as well as to support the establishment of an ecosystem of players and services around the researcher able to favour their visionary research. Within this general scenario research was done (included in the BRIEFING project funded by the European Commission under the Horizon 2020 programme) to acquire a better knowledge of the “nature” and the characteristics of FET projects. In particular a specific focus on FET Innovation Launchpad Projects (FET ILP) has helped to gain an understanding of the relationship between high-risk research and its impact on industrial leadership and the societal challenges.

The main research objective has been:

- understanding FET ILP needs (being able to design useful services from these);
- understanding possible areas of improvement in future FET ILP calls for proposals.

Why the focus on FET ILP?

- FET ILP projects have a **higher level of maturity and readiness to discuss tech-potential related topics**;
- FET ILP projects represent a category of projects **closer to the market than average FET projects** and therefore more appropriate to contribute to our research and gain value out it;
- FET ILP **world is under-analysed**, so little material is available and our investigation can bring value to the EU Community

² Future and Emerging Technologies, Work Programme 2014-2015, https://ec.europa.eu/research/participants/portal/doc/call/h2020/common/1617602-part_2_fet_v2.0_en.pdf

(report);

- it is a **small and focused community** with similar characteristics hence easier to address with a focused approach.

This focus has made it possible to get closer to researchers and really talk to them.

To do this the **user centred design (UCD) approach** has been adopted. UCD is a multidisciplinary design approach **based on the active involvement of users**:

- it suggests **first of all talking with the protagonists of technological development (the researchers)** to understand their needs and those of research in order to propose a range of services that supports their needs;
- the collection of needs and expectations can support the **development of specific insights useful for improving services for researchers and making them aware of the factors that are fundamental in the development of their research.**

The 52 FET Innovation Launchpad projects (FET ILP) funded in the first three calls for proposals of the Horizon 2020 programme were investigated and involved directly in the research.



2

GLOSSARY

FET Future and Emerging Technologies (FET) go beyond what is known! Visionary thinking can open up promising avenues towards powerful new technologies.

Under Horizon 2020, FET actions have been allocated a provisional budget of 2 696 million euro.

FET OPEN supports early-stage joint science and technology research around new ideas for radically new future technologies. It will build up a diverse portfolio of targeted projects to explore a wide range of new technological possibilities, inspired by cutting-edge science, unconventional collaborations or new research and innovation practices. Early detection of promising new areas, developments and trends, along with attracting new bold-visioned and high-potential research and innovation players will be key. FET-Open represents 40% of the overall FET budget in Horizon 2020.

FET PROACTIVE nurtures emerging themes and communities by addressing a number of promising exploratory research themes with the potential to generate a critical mass of inter-related projects that, together, make up a broad and multifaceted exploration of the themes and build a European pool of knowledge and excellence. Through this line of activity FET engages in the coordinated exploration of a new theme, as well as in the consolidation of promising future technologies to be taken up by industry and society. Under its proactive calls the present work programme supports three themes (H2020-FETPROACT) selected from a wide bottom-up consultation (see 'FET Observatory'1) and a fourth one (H2020-FETHPC) implementing part of the HPC strategy elaborated in the context of the HPC Public-Private Partnership by ETP4HPC2.

FET FLAGSHIP support ambitious large-scale, science-driven research aimed at grand interdisciplinary S&T challenges. Such activities require and will benefit from the alignment of European and national agendas, and provide a strong and broad basis for future technological innovation and economic application in a variety of areas, as well as novel benefits for society. The present work programme continues to support and to further develop two FET flagships (call H2020-FETFLAG).

FET ILP FET Innovation Launchpad program selects projects with the possibility to continue to work for 18 months and to get a contribution from the EU of up to EUR 0.1 million each. It is required to have a value proposition connected with social or economic impact, where it is necessary to explore the feasibility of the project.

USER CENTRED DESIGN APPROACH (UCD) In the user-centered design process, we are focused on the thing being designed looking for ways to ensure that it meets the needs of the user. The social scientist/researcher serves as the interface between the user and the designer. The researcher collects primary data or uses secondary sources to learn about the needs of the user. The researcher interprets this information, often in the form of design criteria. The designer interprets these criteria, typically through concept sketches or scenarios. The focus continues then on the design development of the thing. The researcher and user may or may not come back into the process for usability testing (Sanders, 2002).



3

WHAT IS
FET?

FET projects are highly innovative and explore unknown technological territories. These projects represent a unique mix of high-risk, long-term, multidisciplinary and collaborative frontiers of collaboration and research.

Under Horizon 2020, from 2014 through 2020, the purpose of the FET programme is to transform advanced scientific ideas into radically new technologies for the future, thanks to the allocation of a provisional budget of 2696 million euro.

FET is exceptional in the way that it stimulates fresh synergies, cross-fertilisation and convergence between different scientific disciplines (for instance, biology, chemistry, nano- and molecular science, computer science, neuro- and cognitive science, ethology, social science, economics) and with the arts and humanities.

The FET programme is set to become Europe's open science-tech campus, where the best teams meet and work together in order to realize new ideas. The aim is to help Europe in creating a competitive advantage in those promising future technology areas, laying the foundations for European growth.

In order to support FET projects, the European Commission has created three different programme lines, characterized on the basis of the duration of funding and on the grade of specificity of the topic to be explored: FET Open, FET Proactive and FET Flagships.

- FET- Open is related to projects to explore novel and visionary ideas that produce radically new technologies. These projects use a bottom-up approach;

- FET – Proactive is related to the creation of new technologies coming from specific proactive themes. Topics developed in this programme have the purpose of establishing a solid baseline of knowledge and skills;

- FET Flagships is related to projects that can bring benefits for European competitiveness and society. This aim is reached through visionary, science-driven and long-term multidisciplinary research. Regardless of which programme is chosen, FET projects involve mainly researchers. FET technologies tend to be developed within university contexts, where researchers from various fields decide

to deepen research on their ideas, taking advantage of the support provided by the European community. Over the years, however, both the research community and the European commission realized that too often researchers are more oriented towards just exploring their research. It seems that there is low consideration or interest in the practical solutions that these researches may have. It seems that the academic research and output (at the level of knowledge production) gives second place to the potential that the developed technologies could have in reference to the market.

Considering the great value that is present within FET research, it is therefore necessary for researchers to understand the technological potential of their research, supporting them in the development, communication and commercialization of possible concrete applications.



4

WHAT IS
FET ILP?

Starting from the generation of new and sometimes unexpected opportunities for commercial or societal application coming from FET projects, a programme has been developed to further explore these opportunities: FET Innovation Launchpad. The FET Innovation Launchpad Call aims to turn results from FET-funded projects into genuine societal or economic innovations.

The programme has been developed in order to enable FET Open projects to continue work on their innovation, for the purpose of verifying and substantiating the innovation potential of the work already started in the previous programme.

During the FET Innovation Launchpad programme, the selected projects can continue for 18 months and can also obtain a contribution from the EU of up to EUR 0.1 million each. A value proposition connected with social or economic impact is required, in which case it is necessary to explore the feasibility of the project.

The action will aid the transformation of that specific research result into a credible offer for economic or social impact, by exploring the feasibility of exploitation. This will involve coordinating and supporting a process of assembling the right knowledge, skills and resources and thus serves as a launch pad for exploitation.

Projects applying to FET Innovation Launchpad calls are required to use the funds for several possible actions, such as:

- planning of a commercialisation process to be followed;
- market and competitiveness analysis;
- technology assessment;
- consolidation of intellectual property rights and strategy;
- scenario and business case development;
- developing contacts and supporting relevant activities with, by way of example, industrial transfer partners, potential license-takers, investors, societal organisations or potential end users.

Different kinds of impacts can be generated from FET ILP projects such as:

- Increased innovation potential from FET projects continuing to develop promising new ideas;
- Creation of concrete innovation that can move closer to the market by continuing the originating project. It may be possible to arrive at the creation of a new start-up;
- Stimulating entrepreneurial mindset in the FET research world going beyond the European research world and providing competitiveness projects;
- Seeding future growth and the creation of jobs starting from promising results obtained from the FET ILP projects.



5

THE CONTEXT
OF THE
RESEARCH ON
FET ILP

The goal of the research conducted is to understand what the needs of the FET Researchers are when it comes to commercializing their results. The FET researcher is inserted in a wider context we can refer to as an ecosystem which is uncertain and rapidly changing. Nevertheless, there are also some stable elements the FET researcher could rely on. All these elements composing the ecosystem can be considered active players of the whole ecosystem and can be summarised as follows:

- the FET Researcher;
- the FET project/s;
- the Organisation/s the researcher belongs to;
- the European Commission;
- the Market and society
- the industrial environment and corporate stakeholders.

While Researchers come with specific skills and needs related to their research activity, they are also part of a research project in which other researchers and institutions are involved.

Each researcher can be identified by particular skills which will be considered as his core activity for innovation as they will be responsible for the innovation. Researchers are part of complex projects that work in unexplored technological territories with a high-risk, long-term, multidisciplinary and collaborative perspective.

On the other side the organisation to which the researcher belongs could also provide certain skills and facilities among other things. In this sense the variables of organization skills and facilities will have a primary role in the determination of internal assets for the innovation. Organisations also have certain characteristics. First of all, they may be: private institutions such as companies or business consulting agency, or public one such as Universities and research institutes. The skills and facilities provided could be multiple, let's think about the structures offered by the organisation such as the TTPO office offering tutoring for technical transfer issues, or the IPR strategy; or the economic consultancy in case of a private business accelerator. At the top of this ecosystem there is the European Commission which offers support and validation of the innovation project proposals.

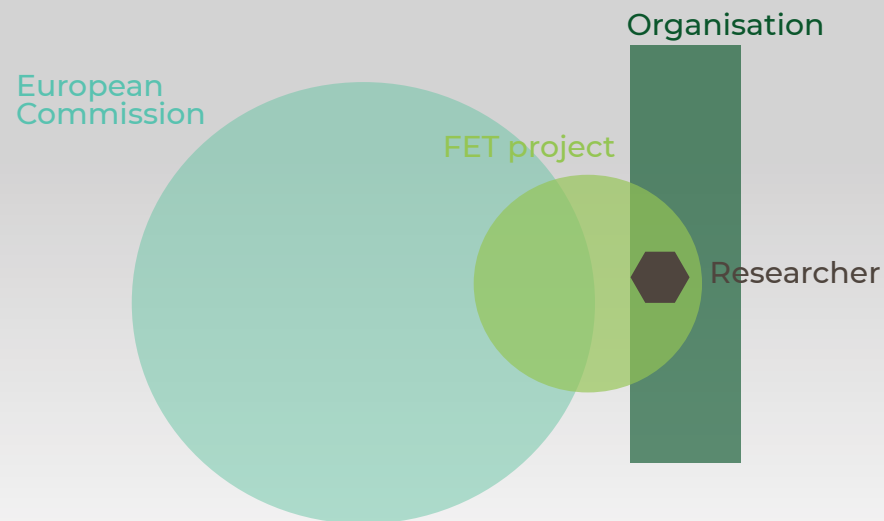


Fig. 01
The context

Thanks to this specific stream of funds and calls the EU is trying to make Europe a fertile ground for responsible and dynamic multi-disciplinary collaboration on future technologies and visionary research.

Eventually the market is the last player in the ecosystem and the most dynamic, setting trends, filtering the potential and processing the innovation proposals of the researchers.

Indeed, the commercialization of innovation is the process through which the value of an innovation is fused with the business development necessary to build a market revenue entity. It plays a critical role in economic development as it effectively transfers ideas from the researcher's laboratory to the marketplace.

All these players are immersed in a complex socio-economic scenario where economic, technological and social trends run independently from the researchers will and respond to their own internal trends making the commercialization of innovations more difficult to predict. The goal of the research study conducted is to focus and define what the FET Researcher's condition and needs are and then progressively zoom out on his condition in order to introduce the other players of the ecosystem so as to give a clear view of the complexity of the whole FET ILP ecosystem.

Nevertheless, as this ecosystem is in continuously transforming, the picture the research would be able to present is a sort of photographic frame in evolution. FET ILP projects also run very fast, lasting only one year. The method developed allows us to get a first picture of the phenomenon but it will allow us to monitor the whole situation periodically (each year) and get an overall picture. In doing so the European Commission would be able to collect interesting data in the coming years which will become a useful database of information that helps to determine possible hidden trends worthy of consideration, to spot problems to solve, develop ad hoc support policies in order to make the research activity more disruptive.



6

RESEARCH
METHODOLOGY

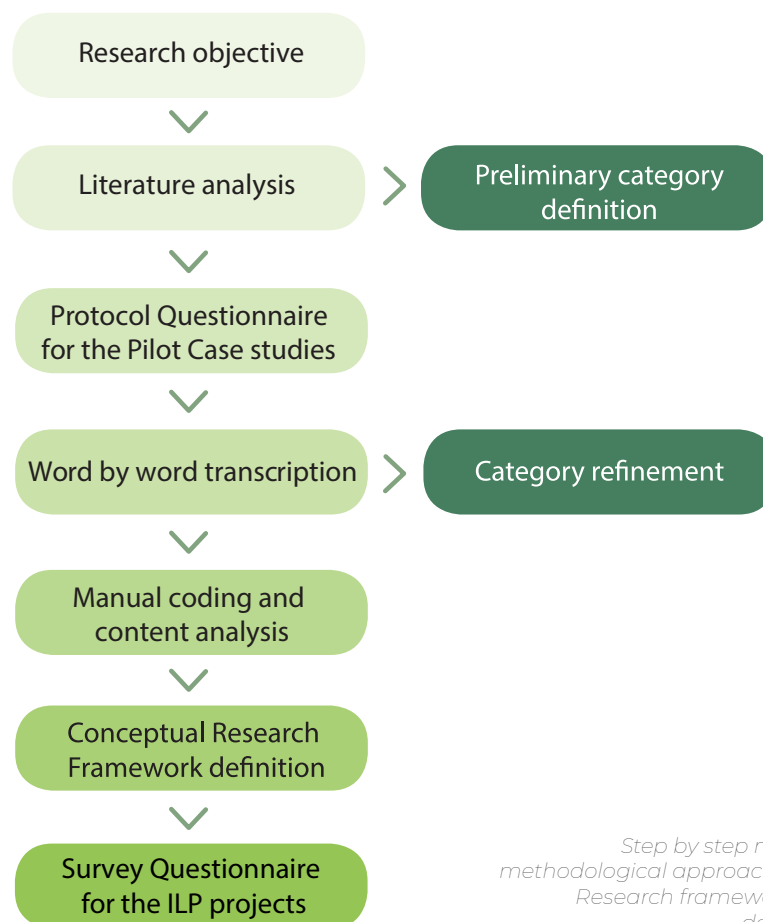


Fig. 02
Step by step model describing the methodological approach for the Conceptual Research framework definition and its deriving questionnaire

A specific methodological approach has been followed to reach the Research objectives.

The following scheme summarises step by step and in a summary way the methodological approach followed in building the Conceptual Research Framework and, starting from this the Survey Questionnaire for the ILP projects can be prepared.

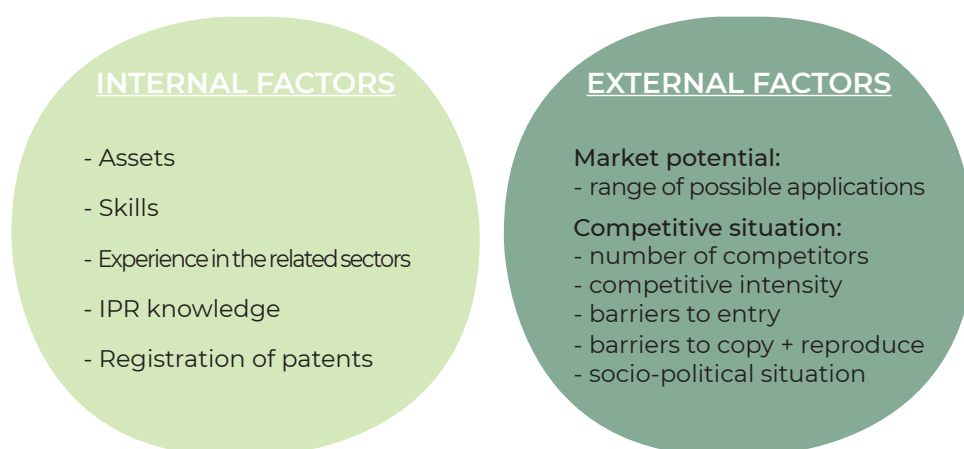
Indeed, in order to determine at the needs and opportunities of FET commercialisation process as well as their open challenges (problems and/or opportunities), we decided to create a questionnaire to investigate this information directly from the researchers who are working in FET projects and who are facing these issues in first person.

On addition of this we decided to develop a Conceptual Research Framework to which the questionnaire should refer. This process has been followed in order to assure a high standard of coherence with the academic research and to maintain the integrity of all the information to be gathered. Indeed, a literature analysis has been conducted and this made it possible to define an initial set of preliminary variables which were refined later thanks to the insights collected from a first Protocol questionnaire for Pilot use cases. The interviewees' answers were manually transcribed, coded and studied through content analysis. The result of this analysis enabled us to build the Conceptual Research Framework and starting from this tool we finally created the ILP Survey Questionnaire.

Step 1: Analysis of the literature

From a preliminary research in literature the characteristics of the main FET projects based on primary and secondary sources were determined. Papers from the academic world, reports from the EU commission on FET projects and websites on the topic have been analysed. The whole research leads to the definition of a set of variables to be taken into account and to focus on when evaluating FET commercialization potential.

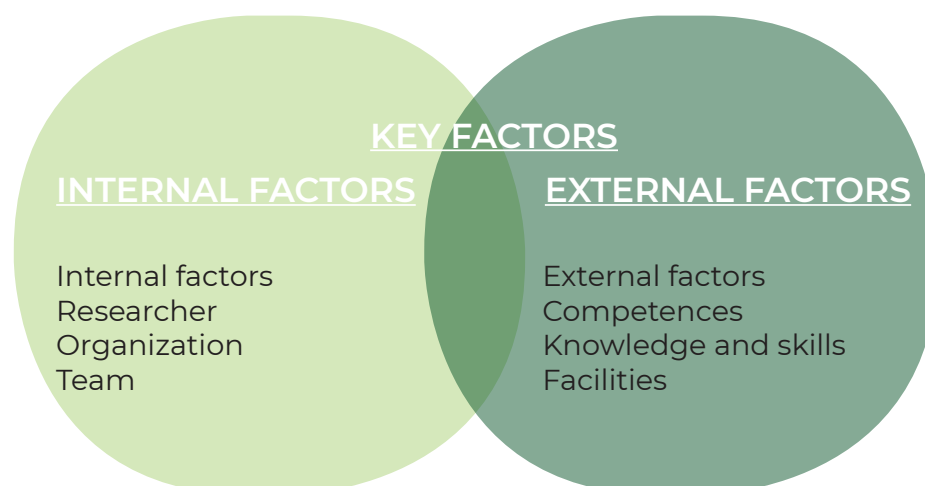
These variables have been initially defined and can be listed as follows:



Tab. 01
Internal and external factors to consider in
measuring the technological potential

Step 2: Preliminary category definition from Literature analysis

The set of variables identified during the research enabled us to draw up a list of key factors which we decided to investigate further through the Protocol questionnaire.



Tab. 02
Preliminary key factors

Step 3: Protocol Questionnaire for the Pilot Case studies

In reference to the previous key factors, elements and areas of interest, we drafted a Protocol Questionnaire for the Pilot Case studies in order to understand the needs and the insights of researchers involved in FET projects who applied for an ILP. The aim was to identify both the gain & pain of researchers and the success factors as well as the negative issues and open challenges related to FET researchers involved in ILP projects.

The Protocol Questionnaire was used on 4 Pilot Case Studies. The case studies were selected by direct contact among the ILP projects. These cases were considered sensitive to the research as they were already taking part in an ILP (3 case studies were ILP projects, one case was an external player, i.e. a member of the jury of the FET2RIN project).

The Protocol Questionnaire used during dedicated skype calls in order to interview the selected projects is shown below:

| KEY FACTORS | |
|---|--|
| INTERNAL FACTORS | EXTERNAL FACTORS |
| Researcher Which role have you got in the FET Launchpad activities? Which challenges have you faced? Which challenges are you addressing now that the project is over? | Competences What helped you more in obtaining those results? What prevented you from obtaining the results you expected in the way you expected? |
| Organization From which institution the ILP has been originated and which was the link with the FET OPEN? | Knowledge and skills Are you satisfied by the project results? Were those the results you were expecting? |
| Team Who have you collaborated with and how? | Facilities Have you been supported by your organization? Have you been encouraged to continue the research and to communicate the results? |

Tab. 03
Key factors analysed inside the Protocol Questionnaire

Questions associated with each key factor aimed to investigate the following aspects:

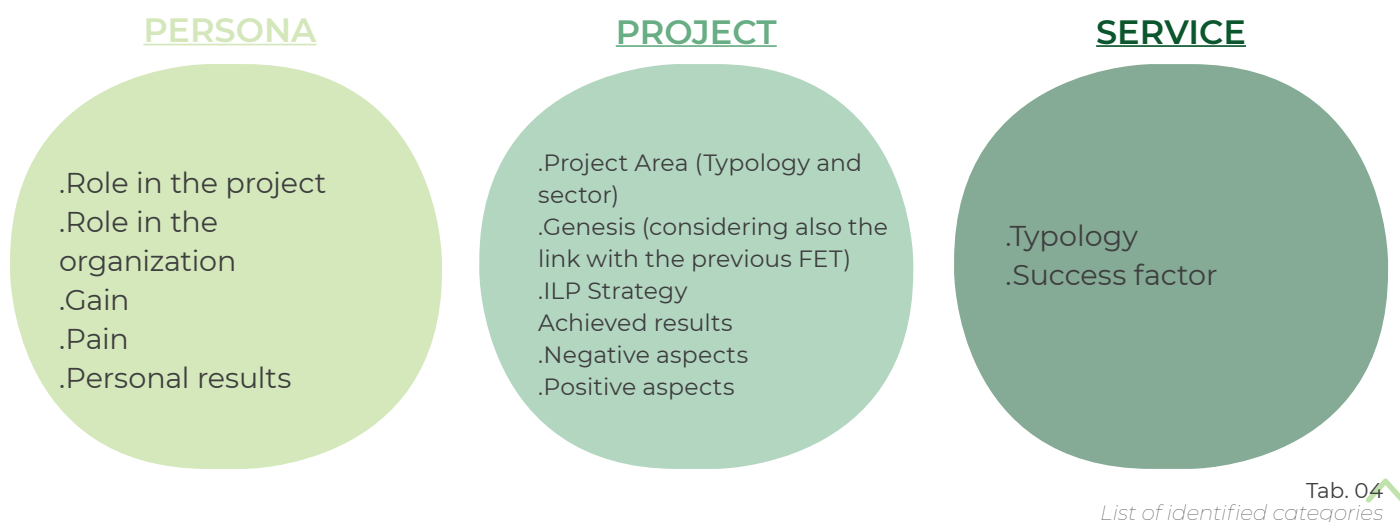
- Researcher: the aim was to understand the perception and the role of the person involved in the project, understanding the main challenges faced in the ILP project;
- Organization: the aim was to understand if the ILP project was generated from a part of the previous FET Open project or if they were continuing with exactly the same FET Open;
- Team: the aim was to understand the different actors involved in the project, in order to understand the variety of institutions and companies in the consortium;
- Competences: the aim was to understand which competences can be considered fundamental to have in order to face the challenges that an ILP project can encounter;
- Knowledge and skills: the aim was to understand whether the knowledge and skills available in the consortium were sufficient to reach the expected results and if so whether there are some skills that can be considered fundamental;
- Facilities: the aim was to understand whether organizations, to which researchers belong, provide support in developing and communicating results, or if it would be necessary in the future call to call for external facilities for researchers.

Step 4: Word by word transcription of the Protocol Questionnaire

The four answers of the Protocol Questionnaire were recorded during dedicated skype call sessions and manually transcribed word by word in order to allow a later scientific and coherent content analysis.

Step 5: Category refinement

During step 5, answers were analysed. In this process, some interesting facts emerged from the researchers own words. These facts were grouped to obtain categories that were used for the aggregation of information obtained by researchers.



The grouped elements were divided into three main area, described as follows:

- **PERSONA:** in this category the role of both the researcher and the organization within the FET project can be seen. The project related success and struggle factors for the researcher (i.e. "Gain &Pain") can be addressed as well as the personal impact the project had on a wide general basis on the researcher's approach. This category will be further explored in the future within the BRIEFING project as a basis on which to develop the service proposition starting from a Service Design approach. Indeed, within the Service Design concept, the creation of Personas is one of the initial phases of creating the service: following a user centred design approach, the needs of the final user are the basis on which the service offer is developed.
- **PROJECT:** in this category the variables connected with the project can be addressed as the genesis of the project idea, the project area (its type and sector), the project results achieved considering both the positive and the negative aspects and the reason why the project applied for an ILP, therefore, its ILP strategy.
- **SERVICES:** this category relies on the type of services the researchers can access. In particular success factors were considered in order to gather feedback on the future service proposal that the BRIEFING project will have to highlight.

Step 6: Manual coding and content analysis

In order to study the researchers' interviews and adopt an academic method, we decided to apply a structured content analysis to the results of the interviews.

First of all, all the component elements of the revised categories were identified by a numeric code.

All the interview content was then analysed through a Data coding analysis supervised by the predefined classes of interests. Thanks to the manual coding and the content analysis we classified the answers provided by researchers and grouped them according to the previously defined categories.

In the following table the codes assigned to the refined categories can be seen:

PERSONA

- .1A Role in the Project
- .1B Role in the Organization
- .1C Gain
- .1D Pain
- .1E Personal results

PROJECT

- .2A Project Area (Typology and sector)
- .2B Genesis (considering also the link with the previous FET)
- .2C ILP Strategy
- .2D Achieved results
- .2E Negative aspects
- .2F Positive aspects

SERVICE

- .3A Typology
- .3B Success factor

Tab. 05
Refined categories and Coding references

As already stated, the interviewees' answers were mapped with coding labels and, as a result of this, a recurring series of variables of interest, which were derived directly from the answers of the researchers' words, was obtained.

In the following tables the process adopted to map the interviewees' answers can be seen. After assigning a code to the written answers, these sentences were categorised and mapped into Excel in their relative category of belonging. After coding the complete answers of the three interviews and grouping them, we transformed these sentences into key variables in order to transform the researchers' exact words into a standardised element/ characteristic/ variable.

Fig. 03
From sentences to variables, a general overview

In the previous table a general overview of the process conducted to transform the sentences into variables can be observed through the whole Framework while, in the following one, the same process can be observed referred in particular to the Persona category section. In the subcategory section (for example "Role in the project") the exact words of the researchers were inserted while in the blue column their transformation into standard variables can be noticed.

| PERSONA | | | | | | | | | |
|--------------------------------|------------------|--------------------------|---------------|--|---|--|---|-----------------------------|----------------|
| 1A | Variables 1-A | 1B | Variables 1-B | 1C | Variables 1-C | 1D | Variables 1-D | 1E | Variables 1-E |
| Role in the Project | | Role in the Organization | | Gain | | Pain | | Personal results | |
| was leading the technical work | technical Leader | | | Research valorisation courses | Training courses on research valorisation | these people that are working in university they may like to bring something to the market but they have no idea about where they have to start | not knowledge on where to start to bring ideas to the market | at least we know more about | more knowledge |
| Plus the IP coordination | IP coordination | | | we had the opportunity to go to other training courses | Training courses to gain knowledge | because to start on your own it's really overwhelming | starting is overwhelming | you know where to look | awareness |
| | | | | | | you really do not know how to spend your time | lack of knowledge on deciding how to spend working time | | |
| | | | | | | You risk just to come to nothing, that's the feeling | results unsure | | |
| | | | | | | courses, ok can be interesting but until you can really see how to apply thing to your specific situation | lack of understanding on how to apply learning to specific situations | | |
| | | | | | | you can just go on the internet and look how to make a business plan and these kind of things but it is a lot of information and it's very difficult to understand where dedicate time | lack of knowledge on deciding how to spend working time | | |
| | | | | | | if you don't know that it's just overwhelming, because there are so many things that you could focus on do | overwhelmed by the amount of information | | |
| | | | | | | you know that inertia, that doesn't make you do anything | inertia/stacked work | | |
| | | | | | | I mean I do not know anything about this, I do not know even where to start, you are just collecting a lot of information from all the sides and you are not prepared. | overwhelmed by the amount of information / starting is overwhelming | | |
| | | | | | | you prepare yourself also mentally | mental effort needed | | |
| | | | | | | the spectrum is coming from minus infinity to plus infinity that like really long and really wide | very long time and wide space of project realization | | |

Fig. 04
From sentences to variables, Persona section

Step 7: Conceptual Research Framework definition

Thanks to the Data coding analysis, a Conceptual Research Framework was built as a consequence of the results achieved. A Conceptual Research framework is a reference tool consisting of several conceptual blocks describing the areas of interest to focus on regarding a particular topic, in this case the FET ILP Commercialization potential.

Each area of interest consists of a category (i.e. Persona, Project, Service). Each category includes several subcategories and each subcategory implies some variables. This hierarchy can be seen in the following table:

| Variables 1-A Role in the Project | Variables 1-B Role in the Organization | Variables 1-C Gain | Variables 1-D Pain | Variables 1-E Personal results |
|--|---|---|---|---|
| 1. technical Leader 2. IP coordination 3. researcher 4. applied research/ contact with industry .. | 1. Researcher 2. Researcher at Applied research institute ... | 1. Training courses on research valorisation 2. Training courses to gain knowledge/expertise 3. Researcher + SME 4. Collaboration with actors working on innovative technologies 5. Mix of public and private researchers 6. Applied research/ contact with industry 7. Some Knowledge ... | 1. Not knowledge on where to start to bring ideas to the market 2. Starting is overwhelming 3. Overwhelmed by the amount of information 4. Lack of knowledge on deciding how to spend working time 5. Lack of understanding on how to apply learning to specific situations 6. Inertia/stacked work 7. Mental effort needed 8. Very long time and wide space of project realization 9. Results unsure 10. Find companies to whom propose the technology 11. Understanding the needs of industries 12. Understanding the benefits of our idea for industries 13. Communicate to industries the turnover that they can obtain adopting the technology 14. Find someone who can communicate with industries 15. Understanding how to value the results from the research 16. TTD is too small to support researcher of CNR 17. Scarce knowledge ... | 1. More knowledge 2. awareness 3. commercialisation awareness of all the research unit 4. exploitation awareness of all the research unit 5. Market oriented point of view ... |

Tab. 06
Category, sub-category and variables (referring to Persona)

Step 8: Final determination of the Survey Questionnaire for the ILP projects

To better explore the Conceptual Research Framework's categories and variables, these have been associated with questions to be posed to ILP project researchers. These questions are aimed to better explore the categories used in the Conceptual Research Framework. Following the methodological work provided in the development of this work, answers to each question were directly obtained from the results received within the Protocol Questionnaire answers and later interpreted to transform them into standard and summary variables. In this way, questions in most cases were formulated as closed-ended questions in order to use the mentioned variables. Moreover, this choice also facilitates the analysis of results later on.

The questions posed in the questionnaire were categorized into 4 main sections addressing all the categories, sub-categories and variables present in the Conceptual Framework.

The sections were structured as follows:

- Section 1: This section concerns general information regarding the researcher and the project as well as the sector and the area of the project.
- Section 2: This section concerns an overview regarding the role of the researcher in the project and the role of the organization within the project: people, experience, skills and facilities.
- Section 3: This is the main section of the questionnaire, investigating in depth the FET ILP projects from the idea to the deployment phase, addressing the achieved results, the negative and positive aspects, the ILP strategy, the funding as well as the training and mentoring courses.
- Section 4: This section concerns personal researcher development: his personal results, critical aspects, success factors etc.

The research tried to keep the Survey as brief as possible in order to submit it to as many ILP projects as possible on large scale.

The objective of the questionnaire is to map the researcher's experience and to gain useful insights to be later used for service offers and to outline in a specific way our services for FET researchers involved in ILP projects. Thanks to the questionnaire results we will also be able to understand some cyclic practice on how technology innovators commercialize their results. A set of best practices could be collected in order to demonstrate and propose the various ways researchers boost their innovation potential in the market.

The survey was launched through the Survey Monkey online platform (<https://www.surveymonkey.com/r/fetbrie ng>) and the aim was to reach out to as many respondents as possible within the FET ILP community. The overall panel of FET ILP includes 52 projects, 28 of these have answered to the survey (54%).

The collected results are presented in the next chapters of this report.

7

**FET ILP STUDY:
GENERAL
OVERVIEW
AND FOOD
FOR THOUGHT**

7.1 General overview

The Section 1 of the survey explores which types of organization are involved in FET ILP projects, and gives an overview on the field of innovation addressed.

The FET ILP projects funded during the first three calls of the Horizon 2020 programme involve multiple types of organization (i.e. research institutions, universities, governmental institutions, companies). The survey was spread through the entire population of FET ILP projects and a total of 31 respondents, belonging to 28 different projects, answered the entire questionnaire. Of the 31 respondents 36% belong to companies (both big enterprises and SMEs), 29% are part of research institutions, 29% are from universities and only 1 respondent belongs to a Governmental Institution. This shows the relevant role that companies play within the FET ILP programme, whose primary objective is to transform the results of innovative research in Europe into business opportunities.

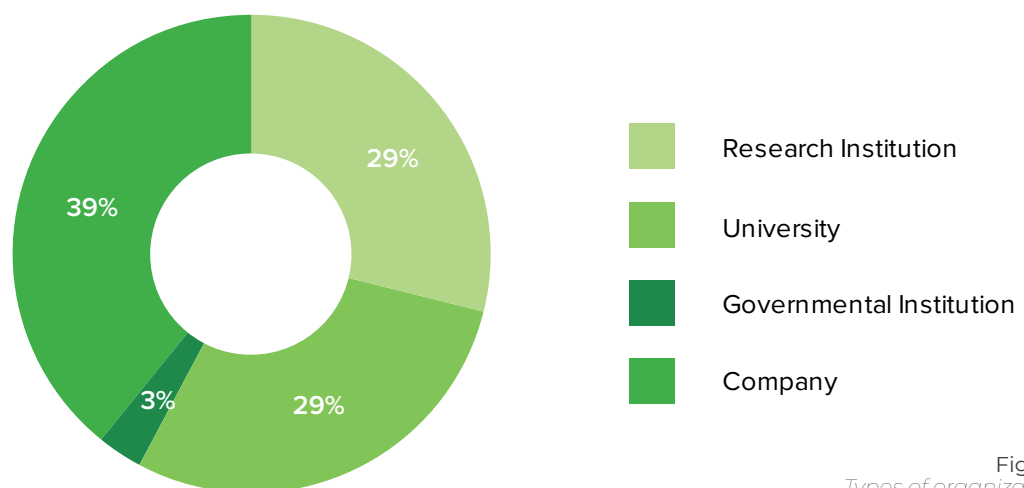
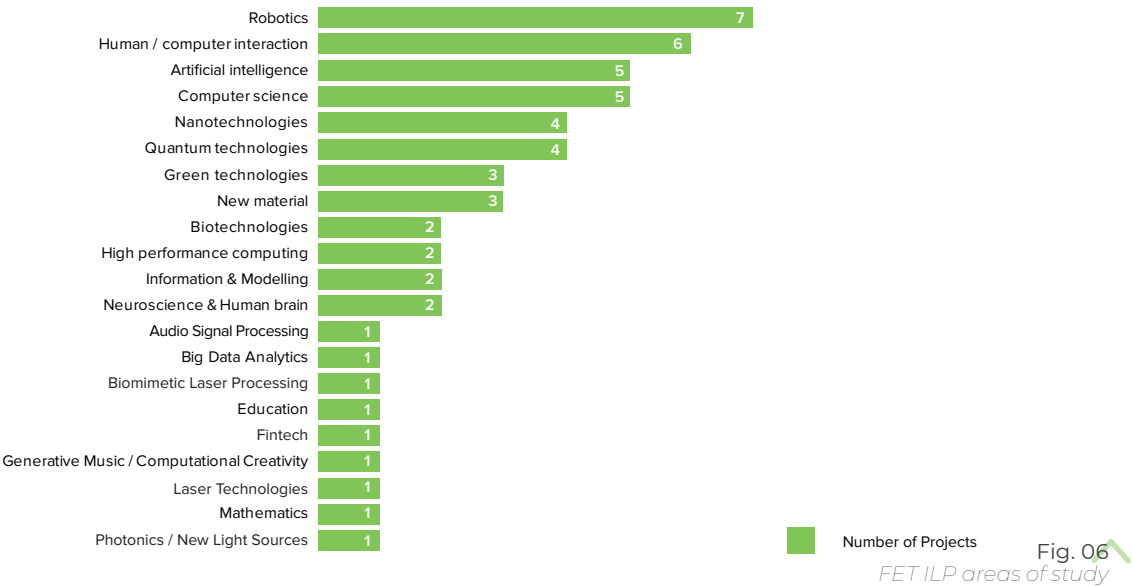


Fig. 05
Types of organization

The research subjects that the FET ILP projects focus on come from a combination of different areas of study. These subjects articulate mainly around 7 fields: medical technologies 26%, robotics 23%, human computer interaction 19%, computer science 16%, artificial intelligence 16%, nanotechnologies 13% and quantum technologies 13%. Following these, both green technologies and new materials concern 10% of the interviewed projects. The research reveals an intersection between the broader field of research with subfields,

introducing a set of innovative subjects of research such as information and modelling, biotechnologies, neuroscience, high performance computing, audio signal processing, education, fintech, photonics, Big Data analysis, privacy, biometric Laser Processing, Generative Music and computational Creativity, Laser technologies and Mathematics. Detailed distribution of topics across the interviewed projects is detailed in the corresponding table.

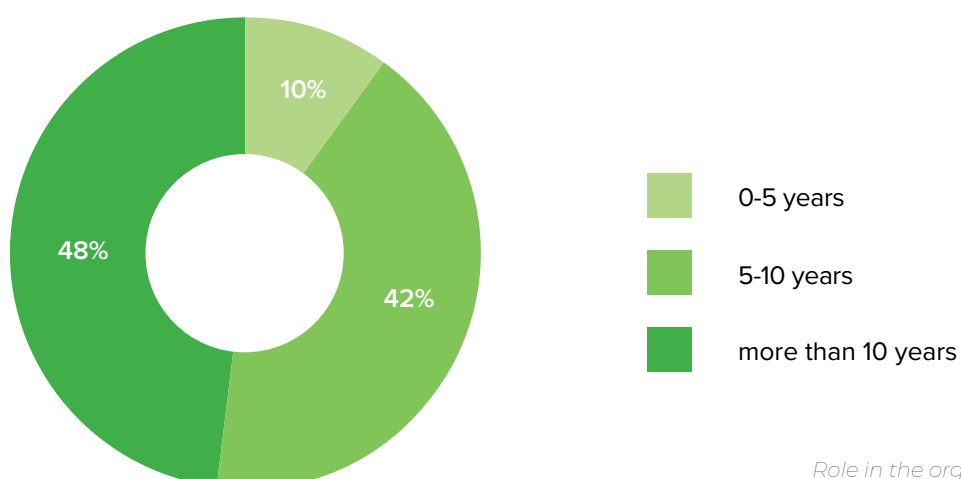
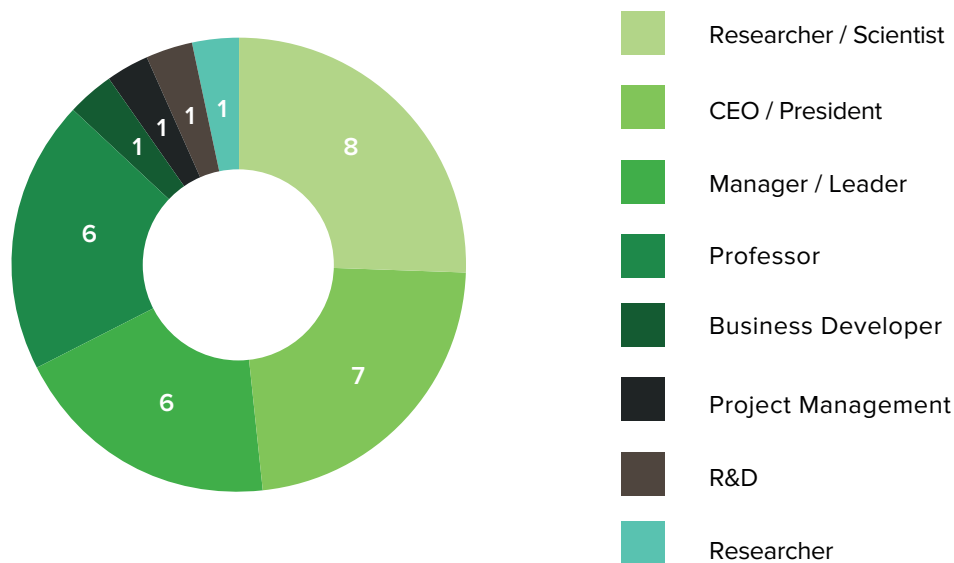


7.2 Researcher and organization overview

According to a human centred approach adopted along this entire research, in this part of the study specific questions were addressed to understand the profiles of the human resources involved in FET ILP Projects. With the ultimate aim of shaping ad hoc services able to answer to the real needs of the researchers involved in visionary research projects, this section leads to an understanding of the role, the experiences, the skills and the facilities used by the researchers within FET ILP projects.

Considering the role in the project of the 31 respondents, 58% have the role of Technical Leader within the project, 6 are IP coordinators and 3 are researchers.

The same respondents, within their organizations, assume roles of researcher in almost one third of the cases, while 43% have a responsibility in their organizations (CEO/President 23% and Manager/Leader 20%) and the remaining 29% have roles that go from academic to technical positions.



In terms of seniority and experience in the field of the project 90% of the respondents have more than 5 years of experience in subject of the project and 50% of them more than 10 years. This is a confirmation of the complexity of FET ILP Projects and the need to involve human resources with a solid background in the field of work. Additional interesting information from the survey concerns the number of people working in the project: on average a team consists of 8 people and this indicates quite an effort required to run such projects despite the available funds allocated to each project by the FET ILP programme.

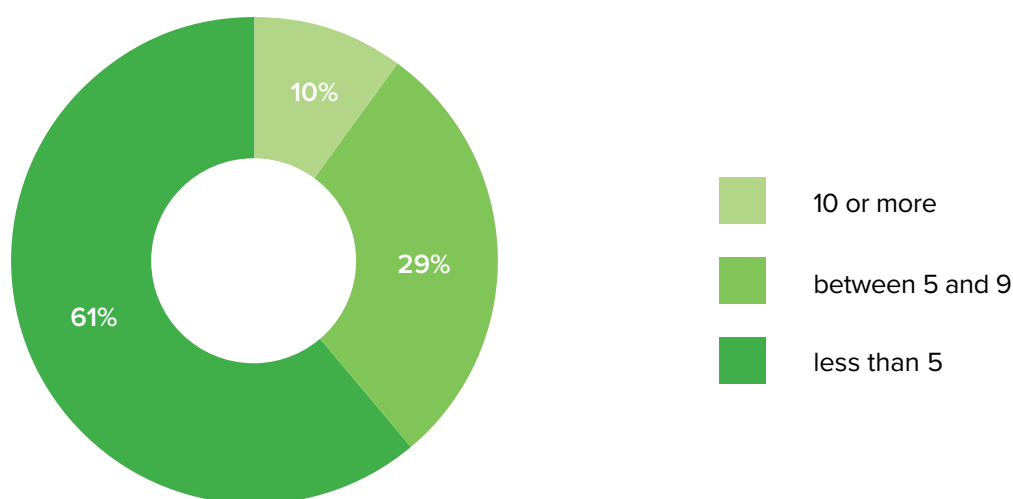


Fig. 09
Number of people involved in the project

People within FET ILP projects have a multiple-skills profile: 39% of them have a combination of technical skills with a specific focus in detailed area of investigation across disciplines in computer science and engineering, 35% of the respondents have skills in the science field (biology, biomedical engineering, research and development, materials science, mathematics). The remaining 26% have skills in the management and business field (project management, business development, spin off creation, IP protection).

TECHNICAL

Technical (4)
 Software Development (3)
 Computer Engineering
 Computer science (6)
 Mathematics (2)
 Electrical Engineering
 3D printing
 Electronics (2)
 AI (2)
 Laser-processing (2)
 Robotics
 Modeling
 Programming
 Data mining, data science,
 Database
 Computational linguistics (2)
 Mechatronics engineering
 Mechanical design
 Signal Processing
 Education

SCIENCE

Material science (2)
 Material design
 Physics (2)
 Biology
 Ethology
 Neuroengineers
 Biomedical engineering
 Optics (Quantum, linear, micro)
 Cell adherence
 Electrochemistry
 Applied Research
 Material design
 Microscopy
 Biomimetic techniques

BUSINESS

Business (2)
 (Project) Management (6)
 Entrepreneurship
 Business Development (3)
 Marketing
 Intellectual Property Protection
 (2)
 Technology transfer
 Spin off creation
 Privacy
 (Project) leadership
 Collaboration with
 industry
 Patenting

Tab. 07
Skills of researchers

Researchers of FET ILP projects inside their organizations are able to perform their best in the project if they have access to specific services and facilities capable of filling the gap between their needs and the foreseen outcomes of the project. Looking at what the organization are offering to FET ILP researchers, they have access to multiple services: almost all (84%) have test labs, 58% have access to IPR support, 39% can access knowledge about how to reach the market and 16% receive business training. Additionally, 5 respondents stated they received office space, software development capabilities, access to specific networks, services for commercial testing and access to specific technical knowledge.

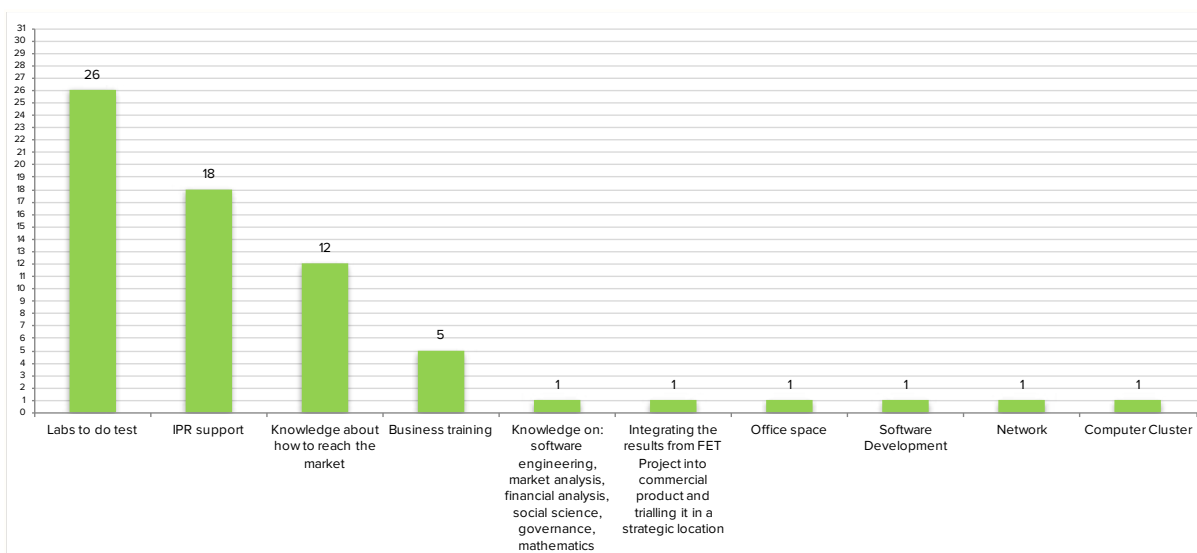


Fig. 10
Service and facilities

7.3 The FET ILP Project

This third section aims at going deeper in understanding the nature of the FET ILP projects: how they originated, which challenges they are facing and how they are using the economic resources provided by the European Commission.

The nature of FET ILP projects is closely related to the originating project. This survey investigated the type of originating projects and the connection the FET ILP projects have with them: 18 projects were a direct follow up of the entire originating projects (9 from FP7 Program¹, 7 FET-Open Project, 1 HPC project), only 1 was an indirect follow up of an FP7 Project; 12 projects were a direct follow up of part of the originating projects (7 from FP7 Program, 4 FET-Open Projects, 1 FET Proactive project), only 1 was an indirect follow up of part of a FET Open Project. Most of the FET ILP projects are hence a direct follow up of funded projects.

| | Follow up from FP7 Program | Follow up from FET-Open Project | Follow up from FET-HPC Project | Follow up from FET-Proactive Project |
|-----------------------|----------------------------|---------------------------------|--------------------------------|--------------------------------------|
| Number of Replies | 17 | 12 | 1 | 1 |
| Percentage of Replies | 55% | 39% | 3% | 3% |

Tab. 08
Origin of FET ILP

Based on this first study 55% of FET ILP projects are a follow up of FP7 projects, 39% from FET-Open, 3% from FET-HPC and 3% from FET Proactive.

Within the projects that originated the existing FET ILP project, researchers were exposed to a variety of challenges and opportunities that lead them to apply for the ILP program. Between those, opportunities for market development, commercialization, research development, prototyping, product development, TRL improvement are the most diffused motivations.

¹ The first call for FET ILP was exceptionally open to projects funded under the FP7 programme due to the low number of FET Open Project able to apply.



Fig. 11
Challenges and opportunities moodboard

It is possible to group the list of different open challenges given by the respondents into three main classes: technology search/validation, market and commercialization opportunities, and scientific impacts. 20 respondents agree on the market opportunity validation or search as the reason why they applied for an ILP programme after their FET project came to an end.

10 respondents agreed they were willing to consolidate or advance their technological findings. Only 1 respondent mentioned academic relevance as impetus to start an Innovation Launchpad Project.

In terms of consortiums, less than half of the sample retains the same partners of the consortium (or part of it). More specifically, 65% of the respondents are not working with partners of the previous project, while 35% are continuing to work with previous partners.

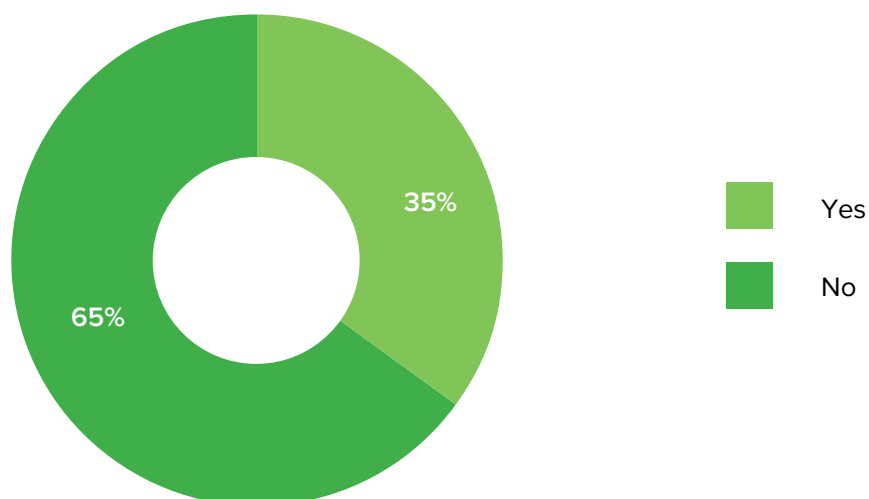


Fig. 12
Continuity in the partnership with the previous consortium



Fig. 13
Use of financial resources

The sample expressed some concern about the amount of money provided by the FET ILP programme. While for 35% of the respondents it is the right amount to perform some crucial activities, but they are already looking for additional funds. For 23% it is too little to accomplish any significant results and for 12% of the respondents the budget is enough to reach partial results and they need to be supported with additional funds. Only for 23% of the sample is the budget provided the right amount needed to perform the foreseen activities.

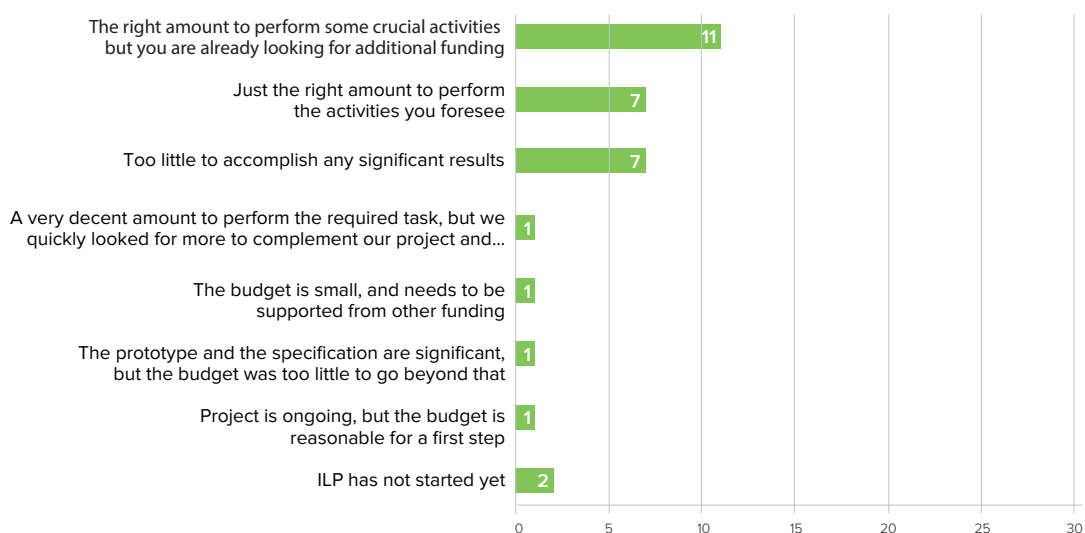


Fig. 14
Budget provided for the FET ILP

For a deeper understanding of the need for funds to reach the overall expected results for the FET ILP projects, 45% of the respondents confirm they need additional funds of between 50,000 and 200,000 Euro. This suggests that FET programmes could plan to have additional financial support which would increase the impacts of the results with a reasonable investment.

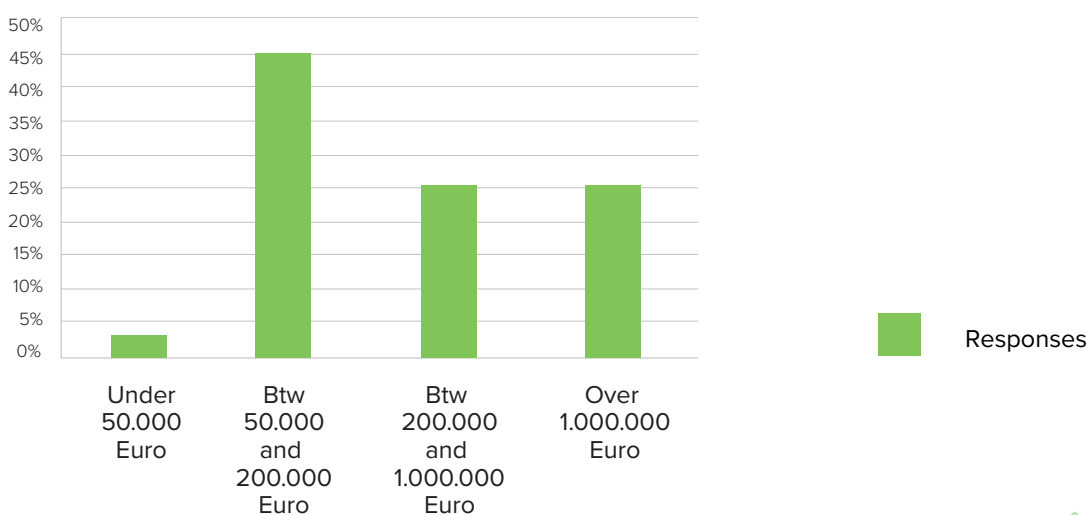


Fig. 15
Need of additional funds

A strong message arising from this study is that researchers would still need additional funding to progress with their innovation initiatives. Some of the interviewees express interesting concerns about the FET ILP funds and difficulties encountered during the projects grouped here in 5 main areas:

- **Time:** *“too much time to get the money for the amount we got. The market has another speed”, “time-consuming contract negotiations with industrial partners”, “Un realistic planning”, “Too long a process to manage”, “Not enough time available”*
- **Communication:** *“lack of communication training on how to present and promote your idea”, “none in our team able to deal with companies/customers to present our idea”, “not enough understanding on how to communicate with*

investors”,

- **Market:** “We need enough investment to develop an industry-grade platform”, “no support in understanding the target of our idea”, “False impression on being ready to bring our technology to the market”, “Lack of knowledge on the market/users”
- **Business:** “lack of business-oriented mindset within the project team”, “lack of business training”, “no direct connection with possible investors”
- **Management:** “Uncertainty on what to do”, “Too much to do”

Which are the main difficulties encountered during the ILP project?

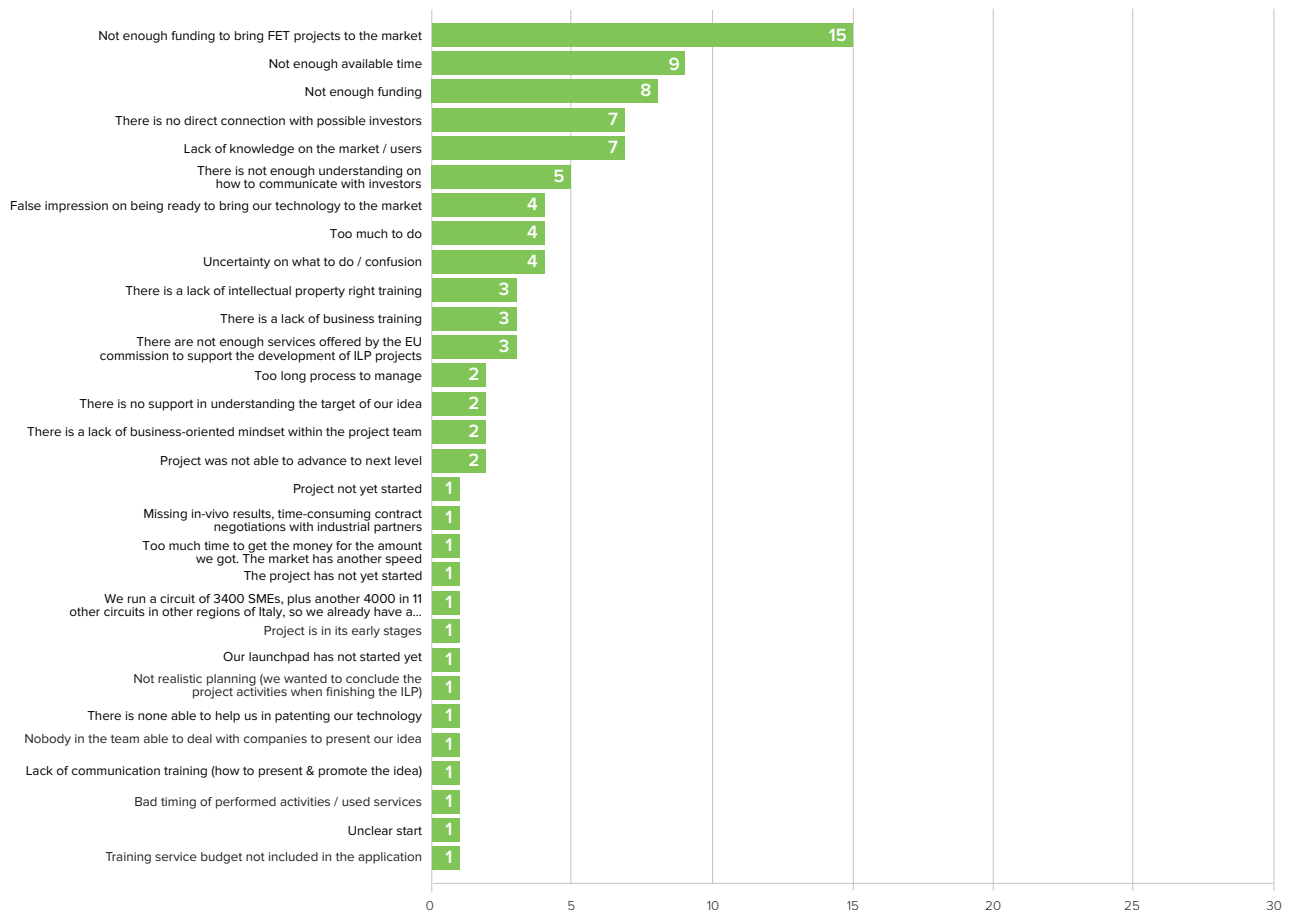


Fig. 16
Difficulties encountered

In terms of positive aspects FET ILP researchers say there are good initiatives in terms of possibility to promote and test their project ideas. Of those aspects that are positively influencing FET ILP initiatives it is possible to deduct best practices when dealing with FET ILP projects, as well as tools to be provided to FET ILP researchers to better meet their needs. For example, providing a chance to promote and test ideas, as well as providing training courses and enable collaboration between FET ILP projects and other researchers, universities and companies.

63% of respondents were able to test their project ideas. Performing market research and promoting developed technology was also very well appreciated and deserves attention for the development of useful services targeting FET ILP researchers.

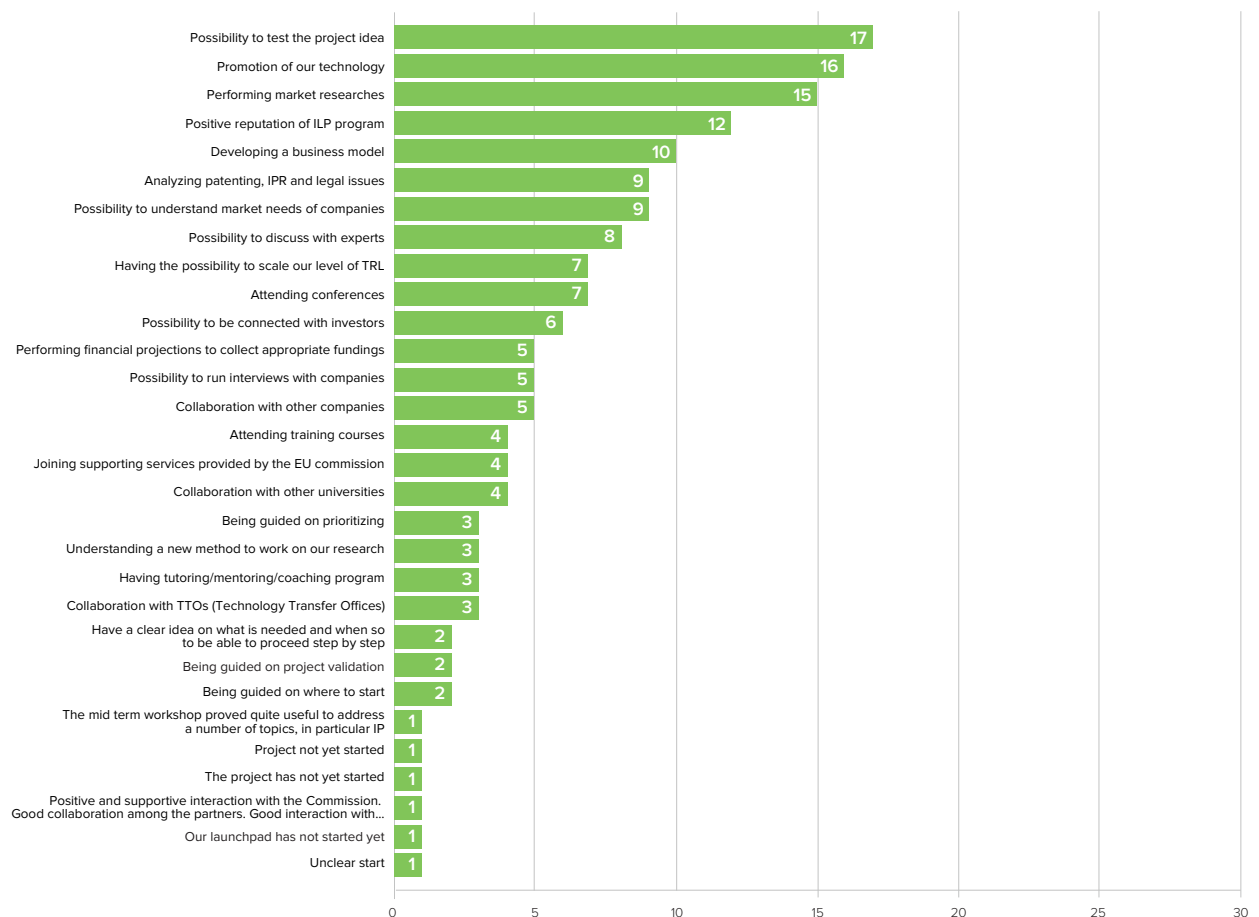


Fig. 17
Main positive aspects experienced

With regard to the training programmes offered to FET ILP projects, these have been provided on a series of different topics. For the most part courses and mentoring programmes attended by the FET ILP researchers were on business and business models.

This is in line with the main difficulties encountered during the project and still representing a critical area of intervention when supporting these kinds of projects.

IPR and patenting are also covered by the training and mentoring activities followed by the researchers, however this kind of investment is given a lower priority when it comes to considering how researchers invest their funding.

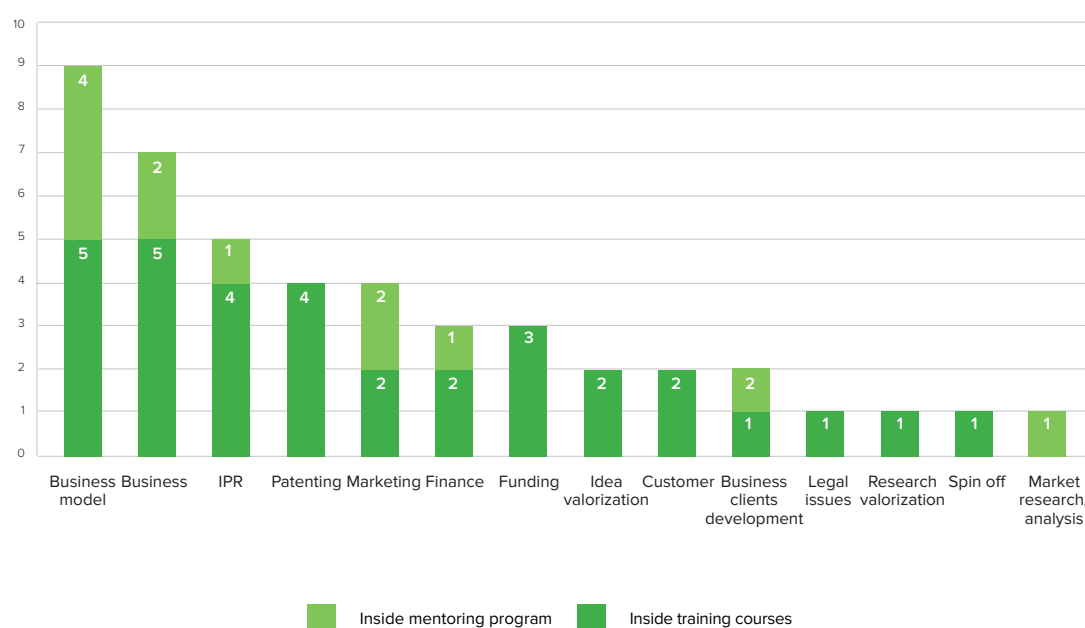


Fig. 18
Training and mentoring activities followed

A variety of different formats of training have been offered in the recent months to FET ILP researchers by different kinds of organizations. Workshops (including Interim Workshops), Face to Face training and Lectures obtained the highest appreciation. Also, online and individual training are considered quite useful.

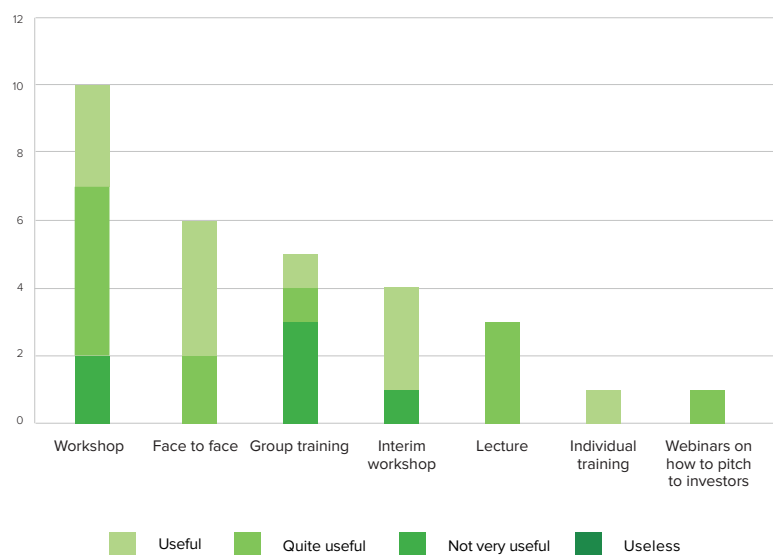


Fig. 19
Format of training activities

78% of FET ILP projects have followed training and mentoring programmes. Workshops were useful for 32% of the researchers, face to face was useful for 25%, Interim workshops were useful for 17%. Not very useful the Group training.

Mentoring activities were also provided with different formats: training groups, face to face, online, mentoring during mid-term review, individual training and coaching programmes.

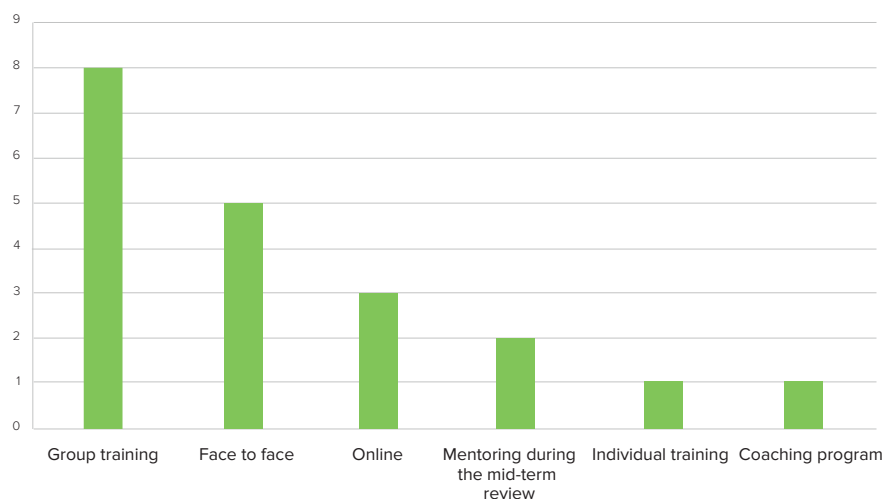


Fig. 20
Format of mentoring activities

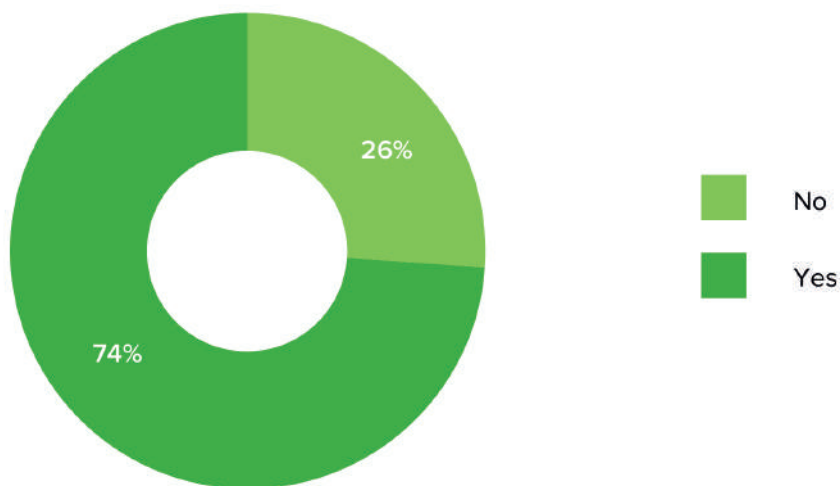
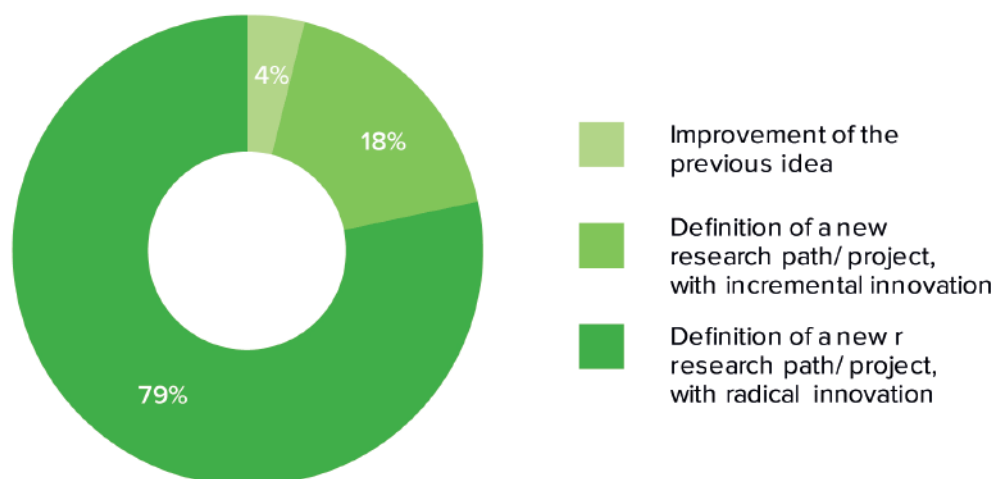


Fig. 21
Utility of training and mentoring activities

Considering the results and the impacts of the FET ILP projects, the respondents highlighted the innovation reached thanks to the ILP programme funds: 55% of respondents improved their previous idea, 16% mapped out a new research path with incremental innovation and 3% mapped out a new research path with radical innovation. 26% of projects reached specific and interesting results: a clearer idea of the target and the market, and additional focus in terms of commercialization of the results. In the specific, improvement of the previous idea was specified by 5 respondents as directly involving the further development of the previous idea towards the market by aiming at reaching the following:

- much better understanding of the previous idea through its application to a real-world problem;
- a better idea of the customer needs;
- technology advancement and market contacts;
- a further step towards the market, not long enough;
- additional focus (on commercialization related issues) in daily research work.

It is important to notice that the most widespread results achieved are in terms of new knowledge gained and progress on the business model of the proposed technological idea.

Fig. 22
Innovation reached

Two main areas of attention in terms of services to develop in order to enhance the effectiveness of FET ILP projects are the identification of possible interested companies for the developed idea (68% of respondents) and a study on the best IPR strategy for the idea (83% of respondents). Indeed, such results were mentioned as desirable by such respondents, but not achieved during the FET ILP project. This suggests that relevant needs of FET ILP projects are to have more opportunities to contact and identify companies, as well as having support in the development of a strategy capable of protecting their idea once in the market (only training on IPR protection might be insufficient to guarantee this goal would be reached).

Fig. 23
Results obtained

7.4 Personal researcher development

This last section of this survey focuses on understanding the aspects of the personal development of researchers involved in FET ILP projects. Considering the relevance of the intellectual value of this specific type of project, the motivation of researchers, their wellbeing and the possibility of having own benefits from the ILP project represent an important area of investigation in terms of new services designed with a user centred approach. According to this general aim the first question of this section asks which factors enable researchers to be successful in their work. The possibility of doing applied research and having contacts with industry is important for 70% of the respondents and for 26% of them the knowledge gained through training courses was an contributed to success. The connection with companies and networking are then crucial values for the success of FET ILP projects as well as specific training programmes capable of transferring specific knowledge and expertise to the project members.

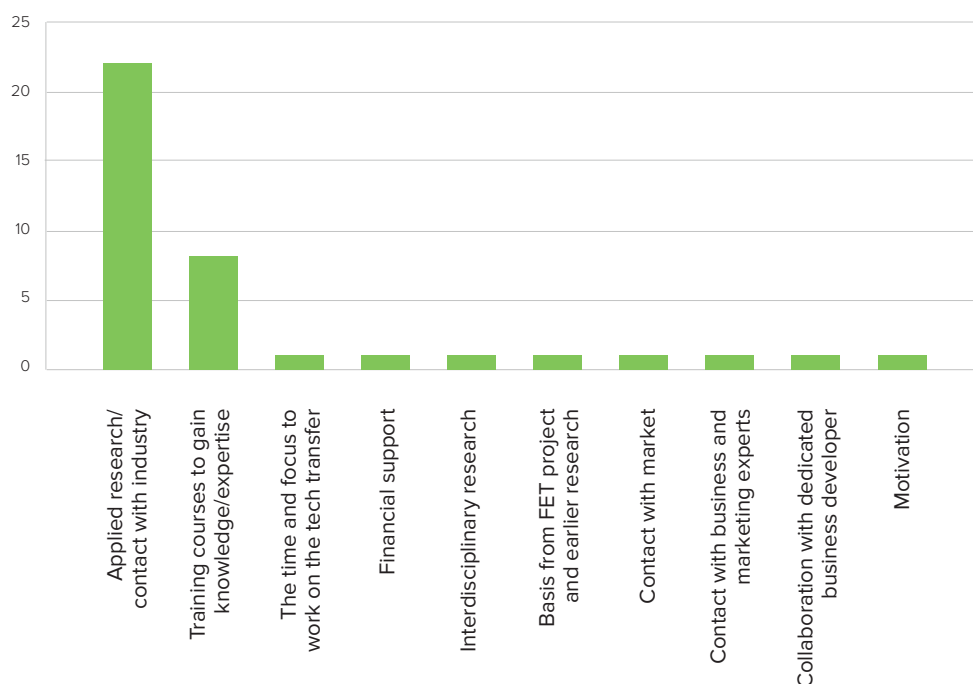


Fig. 24
Successful factors

The main critical aspects the researchers have been facing are related to the management of the project: for 23% of the interviewed people the starting (*starting is overwhelming*) and the time-schedule (*very long time and wide space of project realization*) are critical aspects. This opens the door to the **design of specific services able to adopt specific tools and methods in the application field of project management**. Additional critical issues are linked to the lack of knowledge (lack of understanding on how to apply specific learning to specific contexts, lack of knowledge on project management, for 16% and inertia for 13% of the respondents).

There is an interesting area of opportunity to develop specific services that can help researchers to overcome their critical issues, especially **from the very beginning of the project**, where researchers feel they would best take advantage of the various service portfolios provided to them, especially in terms of training.

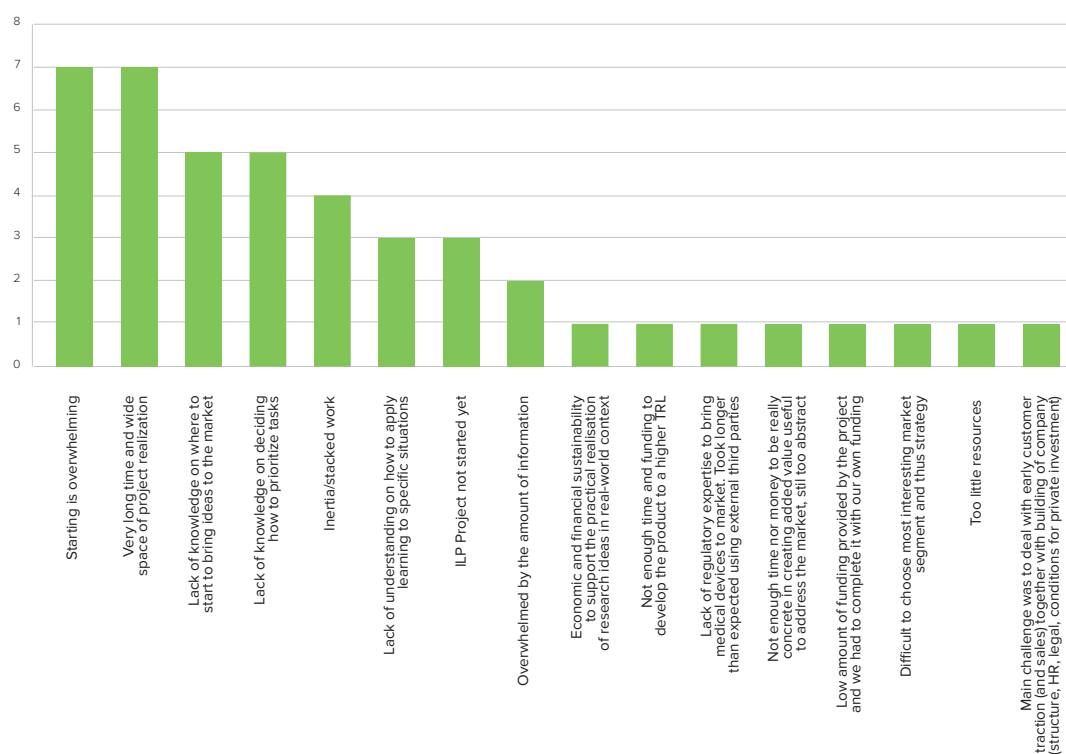


Fig. 25
Critical aspects faced

In terms of the personal results that each interviewed person was able to achieve, 74% of the sample share the increased knowledge gained along the project. 32% of the interviewed people declare an increase in awareness concerning the topic of commercialization, both individually and within the overall research unit. For 25% of the sample career development was an important result achieved as well as the research unit's awareness of exploitation. Some additional personal results interestingly arise: *"The project gave me the possibility of finding new direction for my research, the project gave me the possibility of obtaining a reward from my organization, the project gave me the possibility of earning some money by licensing it."*

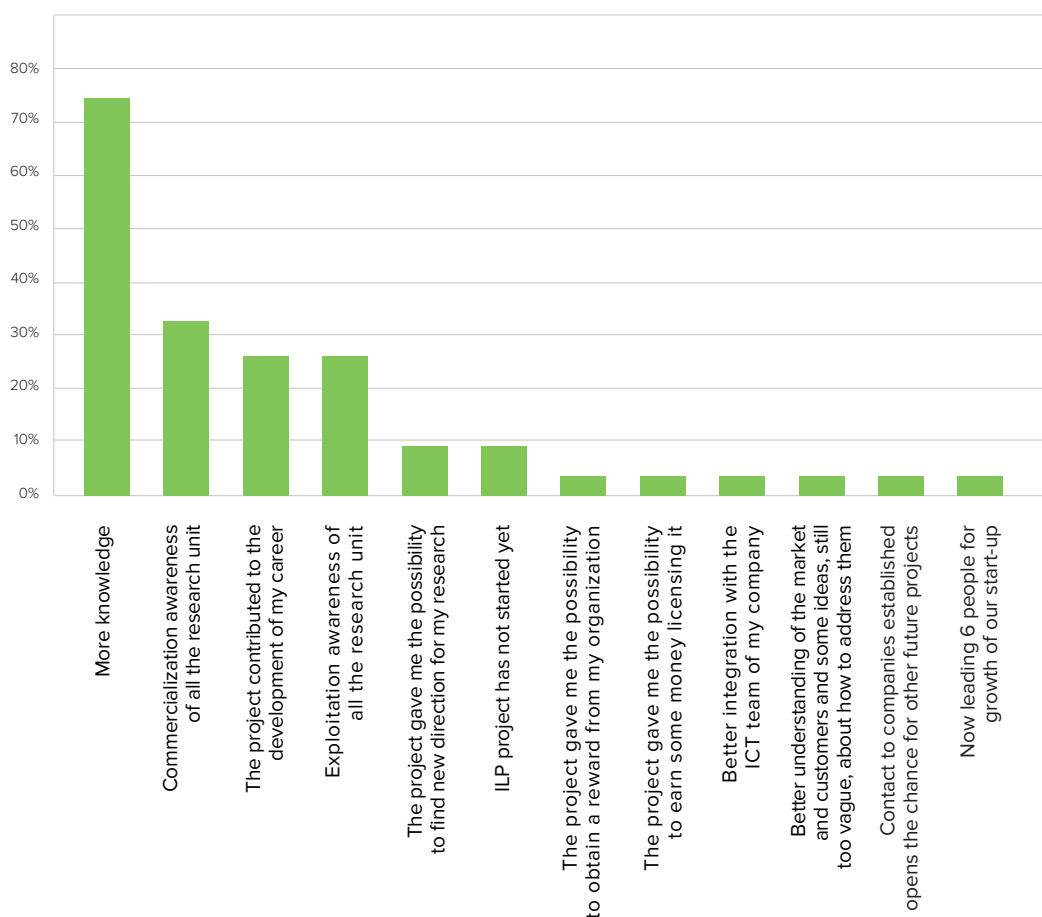


Fig. 26
Personal results achieved

Looking at the final additional comments added by the respondents there are some interesting key elements useful for the design of specific services for FET ILP projects:

- **IP protection:** *"the EU published the technical deliverables of the project, which resulted in us losing the possibility of patenting our invention".*
- **Funds:** *"more flexibility in how the money is spent, Meet the Investor, more funding should be available, funding opportunity to bring the results of FET to a higher TRL followed by an ILP/market search, that type of money should be increased considerably!"*
- **Services:** *"coaching was very helpful, the workshop had been scheduled earlier in the course of the project, more help on the specific steps to create a company, really understand the gap from the market and be clear on how far a project can be supported and in what, workshop at the start, more training sessions".*

7.5 Polarities and results for creating profiles of researchers

To better understand the relationship between the type of the organization, needs and gaps to be considered for a design of specific services the reading of data from the survey has been improved with three different polarization with the cross of question number 1 with other questions related to the facilities, the difficulties encountered and the positive aspects experienced.

Polarity 1: question 1 (Type of organization) with question 8 (Which are the facilities provided by your organization/consortium to perform your project?)

| | | Labs to do test | IPR Support | Business training | Knowledge about how to reach the market | Office Space | Network | Software Development | Other general knowledge |
|--------------------------|--------|-----------------|-------------|-------------------|---|--------------|---------|----------------------|-------------------------|
| ANSWERS | | 26 | 18 | 5 | 13 | 2 | 1 | 1 | 2 |
| | in tot | 84% | 58% | 16% | 42% | 3% | 6% | 6% | 3% |
| Company | 11 | 10 | 8 | 2 | 3 | 1 | 1 | 0 | 0 |
| Governmental Institution | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Research Institution | 9 | 6 | 3 | 1 | 5 | 0 | 1 | 1 | 0 |
| University | 10 | 9 | 6 | 2 | 5 | 0 | 0 | 1 | 1 |
| | | Labs to do test | IPR Support | Business training | Knowledge about how to reach the market | Office Space | Network | Software Development | Other general knowledge |
| Company | | 91% | 73% | 18% | 27% | 9% | 9% | 0% | 0% |
| Governmental Institution | | 100% | 100% | 0% | 0% | 0% | 0% | 0% | 0% |
| Research Institution | | 67% | 33% | 11% | 56% | 0% | 11% | 11% | 0% |
| University | | 90% | 60% | 20% | 50% | 0% | 0% | 10% | 10% |

More than 80% (84%) of participants receive labs for testing as facility given by the belonging organization.

In the specific over 90% of companies, universities and governmental institution has made use of labs to tests while research institutions state a little less 70% (67%).

A second typology of facility (intended in a broader meaning of support provided to project participants from their organizations) is IPR support, provided to about 60% of interviewed population (58%). Between those, the kind of organizations that are making higher use of such IPR support are companies (73% of the companies in the sample). Universities are provided with IPR support in the 60% of cases while Research Institutions only one third of the times (33%) use support from mother organizations on this matter.

While Research Institutions state between those kind of organizations that less require Labs and IPR support, they do receive support in terms of knowledge on how to reach the market in more than half of cases (56%), while not even 30% of companies acquire such knowledge support from own organizations.

Polarity 2: question 1 (Type of organization) with question 15 (Which are the main difficulties encountered during the ILP project?)

| | | Not enough funding to bring FET projects to the market | Not enough available time | Not enough funding | Lack of knowledge on the market/users | No direct connection with possible investors | Not enough understanding on how to communicate with investors | Uncertainty on what to do / confusion | Lack of business training |
|--------------------------|--------|--|---------------------------|--------------------|---------------------------------------|--|---|---------------------------------------|---------------------------|
| ANSWERS | | 15 | 9 | 8 | 7 | 5 | 4 | 4 | 3 |
| | in tot | 48% | 29% | 26% | 23% | 23% | 16% | 13% | 10% |
| Company | 11 | 5 | 1 | 3 | 2 | 6 | 3 | 3 | 3 |
| Governmental Institution | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Research Institution | 9 | 6 | 3 | 1 | 2 | 0 | 1 | 0 | 0 |
| University | 10 | 4 | 5 | 4 | 2 | 1 | 1 | 1 | 0 |
| | | Not enough funding to bring FET projects to the market | Not enough available time | Not enough funding | Lack of knowledge on the market/users | No direct connection with possible investors | Not enough understanding on how to communicate with investors | Uncertainty on what to do / confusion | Lack of business training |
| Company | | 45% | 9% | 27% | 18% | 55% | 27% | 27% | 27% |
| Governmental Institution | | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 0% |
| Research Institution | | 67% | 33% | 11% | 22% | 0% | 11% | 0% | 0% |
| University | | 40% | 50% | 40% | 20% | 10% | 10% | 10% | 0% |

(Data includes only the most answered options).

Despite the kind of organization, the most acknowledged criticality linked to ILP projects is the lack of funding. Indeed about 2/3 of the population from research institution is suffering lack of funding to bring their FET projects to the market. Similarly, companies (45%) and universities (40%) experience such lack of funding even though this is not the most diffused difficulties on running ILP projects within these kind of organizations. Indeed more than half of companies (55%) complain not to have the chance to directly connect with investors as well as lack in understanding on how to communicate with investors for around 1/3 of the companies (27%), uncertainty on what to do (27%) and lack of business training (27%). Research institutions and university does not have the same feeling and does not perceive such criticality. Interestingly, however, universities acknowledge as their main difficulty (shared by half of the sample) the lack of available time to perform ILP project activity as well as the lack of funding (40%).

Polarity 3: question 1 (Type of organization) with question 16 (Which are the main positive aspects experienced during the ILP project?)

| | | Possibility to test the project idea | Promotion of our technology | Performing market researches | Positive reputation of ILP program | Developing a business model | Possibility to understand market needs of companies | Analyzing patenting, IPR and legal issues | Possibility to discuss with experts | Attending conferences | Having the possibility to scale our level of TRL | Possibility to be connected with investors | Possibility to run interviews with companies | Collaboration with other companies |
|--------------------------|--------|--------------------------------------|-----------------------------|------------------------------|------------------------------------|-----------------------------|---|---|-------------------------------------|-----------------------|--|--|--|------------------------------------|
| ANSWERS | | 17 | 16 | 15 | 12 | 10 | 9 | 9 | 8 | 7 | 7 | 6 | 5 | 5 |
| | in tot | 55% | 52% | 48% | 39% | 32% | 29% | 29% | 26% | 23% | 23% | 19% | 16% | 16% |
| Company | 10 | 7 | 9 | 7 | 4 | 7 | 2 | 5 | 2 | 3 | 3 | 2 | 3 | 1 |
| Governmental Institution | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| Research Institution | 8 | 5 | 4 | 3 | 4 | 2 | 4 | 1 | 2 | 2 | 2 | 1 | 2 | 4 |
| University | 9 | 5 | 3 | 4 | 4 | 1 | 2 | 2 | 3 | 2 | 2 | 2 | 0 | 0 |
| | | Possibility to test the project idea | Promotion of our technology | Performing market researches | Positive reputation of ILP program | Developing a business model | Possibility to understand market needs of companies | Analyzing patenting, IPR and legal issues | Possibility to discuss with experts | Attending conferences | Having the possibility to scale our level of TRL | Possibility to be connected with investors | Possibility to run interviews with companies | Collaboration with other companies |
| Company | | 64% | 82% | 64% | 36% | 64% | 18% | 45% | 18% | 27% | 27% | 18% | 27% | 9% |
| Governmental Institution | | 0% | 0% | 100% | 0% | 0% | 100% | 100% | 100% | 0% | 0% | 100% | 0% | 0% |
| Research Institution | | 56% | 44% | 33% | 44% | 22% | 44% | 11% | 22% | 22% | 22% | 11% | 22% | 44% |
| University | | 50% | 30% | 40% | 40% | 10% | 20% | 20% | 30% | 20% | 20% | 20% | 0% | 0% |

(Data includes only the most answered options).

The possibility to test project idea averagely represents the most diffused positive aspect acknowledged by the participants from either companies, research institutions and universities. Followed by promotion of technology and market research.

While confirming the overall trend of declared benefits from ILP program, companies main benefits out of the ILP program are in terms of promotion of their technology to more than 80% of the interviewed people (82%), while that acquire only medium weight for universities and research institutions.

Highly relevant for companies has been the possibility to develop a business model (64%), benefit not recognized by other kind of institutions. Differently from others also, almost half of companies (45%) have benefit from analyzing patenting, IPR and legal issues. Attending conferences, having the possibility to run interviews with companies and getting the chance to scale the TRL level of the developed innovation characterize around one third of the interviewed companies.

Besides the aforementioned benefits shared by the three kind of organizations, about half (44%) of interviewed research institutions have benefit from collaboration with other companies as well as possibility to understand market needs of companies.

Differently from others, universities benefit from the possibility to discuss with experts (30%).

Positive ILP program reputation is commonly perceived at a average level from the three kind of organizations.



8

ILP IN-DEPTH
INTERVIEWS:
MORE INSIGHTS
FROM THE
VOICE OF THE
RESEARCHERS

The purpose of the second step of the research was to gain a deeper understanding of the specific characteristics of each FET ILP in order to identify the framework of challenges, success factors and needs the researchers in visionary research in Europe have. 54% of the panel of FET ILP were covered by the survey (28 projects) and 50% of them (14 projects) were also involved in in-depth interviews¹.

The interviews focused on the four main fields of the survey but with questions aimed at gaining a better understanding of the variations that characterize each story of FET ILP and each story of researcher experience.

8.1 FET ILP: origin and motivation

Considering the structure of the interview, the first part was focused on a better understanding of the specific aims of the FET ILP. From the interviews 6 main specific objectives are the priorities that guide the FET ILP projects:

1. commercialization of a more complex product;
2. to make a specific technology more usable;
3. to develop a new generation of product;
4. to work on a prototype that is readier for the markets;
5. to bring a technology into the market;
6. to extend the field of action of a technology.

If we extract for the interviews the very specific field of work for the FET ILP, we have an overview of the main keyword that innovative research in Europe is exploring to make them available for companies and users.

¹ Quote from the interviews are anonymous as form of respect and privacy for the researchers involved

Preclinical trials acoustic
wave ablation tumors

Pacemakers implanted directly into the heart

Linear
solvers

Blockchain transactional
platform mutual credit

micrometric distance electrical
and thermal insulation

MRI pads

Content detecting photo detectors

Smart parking solution

Fig. 27
Field of innovation moodboard

But what is the origin of an FET ILP project? What is the spark at the beginning?

The survey investigated the connection between the FET ILP and previous projects (FET Open, FP7, etc.) but during the interviews more insights emerged on interesting aspects of motivation that induce researchers to apply for a FET ILP:

- **Study the market:** researchers need to have a clearer idea of the potential market and the users

"Study the market a bit for this product before we went for launching it. It was more an idea. The market size is quite small because it's for research, because there is no industrial market yet"

- **Build a spin off:** looking at the aim to commercialize a product or bring a technology onto the market, the need to build a company is in the sights of the researchers

"Our goal was to build the company. This idea has been around in my mind for like four or five years"

- **“Unexpected” or “natural” result:** sometimes at the origin of an FET ILP there are unexpected results reached in previous projects, in other cases researchers have been working for several years in the field and the ILP is a natural step

“It was an unexpected result of the FET Open. It was an unexpected result not a side effect. And we look a bit deeper into this unexpected results in the FET Launchpad”

*“It is basically a result of eight years of various horizon projects”
“It was connected to several projects”*

“The project is a continuation of a previous a FP7 project. We were contacted by the European Commission because we were not aware we could participate”

“We took only one part, one sub-technology, because in the FP7 we had a series of technologies”

- **Researcher at the centre:** in some cases, the researcher is the point of connection between the original project and the FET ILP

“The link came through me because I was a coordinator of the FET OPEN”

The interviews also aimed at gaining an understanding of the connection among the leader organizations of FET ILP and the consortium in the previous project. Most of the organization stopped working with previous partners (65%) because entering the market alone is better to reduce the risk:

“We take a specific partner just for this project. The market side generated two types of launchpad (from the same FET Open). And both of us went on independently. I actually worked on three calls, three applications and one did not win. It is hard, you have to take care of your business. You take already enough risk if you are alone”

"We are the only partner within this project, and we wanted to be like that because when you commercialize, if you go with a high TRL level there might be a dispute about licenses."

For 35% of the projects there is still a connection between partners and in some cases other partners or sub-contractors have been engaged according to specific needs of the project:

"We also took in the partner from the former FET open project and a new partner into the consortium"

"The original group started a spin-off company last February with an investor who is working in the field"

"As the ILP was focused on a sub-technology, we involved the partners who were directly involved and who also had a role in the intellectual property of the project"

"A partner helped us develop the business model and the business plan while at University we had a lot of discussions with them for the IPR"

Every researcher with his FET ILP is part of an ecosystem (inside its organization and looking at suppliers and partners outside) and thanks to the interviews it was possible to understand which facilities and what kind of support the researchers have:

- **Universities are providing lab and technical equipment** and also with TTO they are supporting IPR protection and business support:

"The university provides me with an office and some equipment. We actually have a lab with prototypes and reconfigurable hardware. We are not actually getting strong support for commercialization. It's something that everybody's interested about."

"We have a tech transfer office which is indeed helping, first of all, with IPR related issues. But they're also helping with strategy, the business plan etc."

"In the ILP we opened this company where we started to commercialize the vehicle and the university itself is the source and provider".

- **External partners of suppliers are crucial** when the organization has no in-house facilities:

"We got the product developed externally in a lab, but they were not part of the proposal because we didn't have all that equipment in house at the time."

8.2 Challenges faced by FET ILP Researchers

FET ILP researchers are pretty aware about the challenges and the barriers they have to face during the project. Most of them are related to two main fields: the market and the technology.

"Even when you're good if you don't have the customers to launch the technology developed then you don't have the market, you don't go anywhere."

"The barrier is usually having innovation, real innovation that you are having the first user pay for, you need to have some attraction. The hard part would go out to find."

In most of the interviewed researchers there is also awareness about the TRL level of their project and the expected scale up they would reach with the FET ILP.

"Originally, I would say we started from TRL3. And TRL3 means we had to test in the lab. And we wanted to go first and do the next step"

"now we have I think TRL six or seven"

"from level eight we went to level nine"

"a simulation module which we are creating with the ILP was at the TRL five or six"

"maybe TRL three"

"the idea was to reach a TRL seven or eight."

There is a very wide range of TRL stages in the FET ILP world. And it means a flexible, adapted approach in the design of ad hoc services for them is essential.

The interviews also helped to understand how FET researchers have used European funds to face these challenges.

From the survey most of the budget available was used to pay staff. But from the interviews there are other interesting areas of investments:

- **Develop a prototype:**

"To develop let's say the first prototype. It was at first prototype and surprisingly it worked quite well"

- **Perform professional market study:**

"The money is mainly used, firstly to pay me, then to do the market study, to look at the competitors, talk to some potential customers and so on, to make the basis of a first business plan basically. That accounts for a large part of the resource. And then there is some dedicated to development of the prototype itself and to make a first demonstrator kit that we can send out to some first people to try out. That's the other major part of the budget. So, it's really mostly personnel, in that sense, a little bit of hardware money, to be able to make a prototype and that's it."

- **Engage people or companies with specific competences or services:**

"Engage and retain some external experts to help us out with this area, especially with sales"

"subcontracts for clinical trials"

"we're outsourcing part of the tests."

- **Some researchers also express the need to have more opportunities to use money to attend trade and commercial events**

"It would be good if we managed to spend more resources on different events. That would be better because we realize that this kind of industry manages to sell their products almost entirely in various trade shows and commercial events."

Since some concern about the amount of money provided by the FET ILP programme emerged from the survey the interviews were aimed at getting a better understanding of which problems connected to the budget the researches had to face. Two main critical issues emerged from the interviews:

- **Time and amount**

"The budget was very low, but on the other it was very fast"

"The FET launchpad It's too short. It is very hard to fit in such a small amount of money and short amount of time in the overall strategy."

- **Restrictions**

"We need to spend the money and there are restrictions."

"We would need more other direct costs because we wanted to go to the trade shows. But in the end, I was talking to our group and I said, "okay, this is so complicated [...]let's not over complicate everything and we used our internal budget for that."

"The amount of money was very small. The money didn't allow for having many partners."

The interviews enabled us to identify the framework for a possible budget flexibility in FET ILP Projects. What emerged is a **wide range of needs for additional budget** (to look for new markets, new customers, etc.). In some cases, there is awareness of this need and

researchers started fundraising actions during the ILP; in other cases, there is a need, but the researcher prefers to be sure about results before starting to find additional financial resources (or investors asking for more updated products/technologies):

*"We are trying to find the money because to put it on the market we have to industrialize the system. The budget from ILP is just to do simple things
And did you look for some, any additional funding during the time of the project? No, not yet."*

"We need more funds to look for new customers."

*"We were at this pitch event and at this fair and we talked with investors, but at the moment we haven't got a positive feedback. The main problem is probably that we are too far from the market."
"We are looking for other funding, so we found it. We found additional funding in these local small EU grants and that's how we are sustaining the project and company for now, trying to fix the identified issues basically to improve the market fit."*

Looking at the amount of additional budget from the survey, 45% of the respondents confirm they need resources from 50,000 to 200,000 Euro and from the interviews we noticed the attention of researchers to European funds (other FET calls) also looking at other calls like SME Instruments.

"We need between 5,0000 - 200,000 additional funding. The European market is not the only market we target. Here the US market is very important for this product. So, for that we would need additional funds to get regulatory approval in the US and then start working in countries in Asia. We are looking both European funding and private funding from investors."

"We're thinking of resubmitting the SME instrument."

"We are continuing the development of technology thanks to another FET Open that we have won and that we are exploiting for a double

result."

In 26% of the cases the need of additional resources is more than millions of Euro and in these cases, there is probably a chance to orientate much more on specific investors or funds (European Bank of Investments for example).

"I think we will try to find additional funding to continue technological developments. Maybe one million."

"We need 2 or 3 million Euro."

"We are finding, we're talking to investors and we are asking for a secondary round. I just submitted an application for three million euros two days ago."

8.3 Critical aspects and Success Factors

FET ILP projects include a small and particular community of researchers exposed to specific critical issues and challenges. The interviews improved knowledge about the profile of FET ILP researchers and underlined three main keywords that better describe their job: flexibility, ready to understand and fail and adaptable.

"You have to be very flexible, serious and ready to understand, adapt to the market at the same time having enough flexibility to go where the market wants, and this is just what competitors have faced. The magic is to put them together and when you start you have no idea. Sometimes you fail, you learn in the process."

The interviews confirmed the three main areas of critical issues from the survey:

- **management of the project:** especially in terms of management of the opportunities, flexibility, time schedule

"The main difficulties were connected with the fact that technical development was quite slow."

"The problem is building the complete picture so, finding some other investor, finding some areas where our technology is more promising than others. So we are, we are trying to build the full picture. And I think that the project is not answering all the needs that we had."

- **lack of knowledge:** it's difficult to better identify the market and the demand

"And it's still a bit uncertain what the future is going to bring for this technology. How big the demand is going to be for this or not? It's hard to judge the potential. There is still a wide gap between research, prototype and final products and it's hard to bridge that gap"

"Even though initial market research indicated that, our only experience indicated that, there is room for such a product on the market, reality proved pretty different. So, it became evident that it's very hard to sell such a product given its small market niche. During the development, you understood that what you plan to do from a researcher organization point of view was not enough. So, you were missing and lacking the real meeting with the market"

- **reach and communicate to the customers:**

"I would like a link between the customers and the engineers, trying to explain to engineers and scientists that something has to be done even though they maybe do not find it necessary."

"The barriers are the procurement processes for public entities."

In FET ILP researchers are at the centre of change and innovation. They are fully engaged in the project and in some cases they have been working in the field of innovation for several years. It is then extremely important to understand the personal impact of the project in order to better identify the leverage for an effective support with benefits at the personal and organizational level.

The survey revealed that 74% of the sample had benefits in terms of **increased knowledge** gained during the course of the project. The interviews added important information connected with the relationship between the researcher and the ecosystem of the players around him/her (students, team members, etc.) and the relevance of training services attended:

"It's interesting to think about the next step that we do as a researcher, we usually don't. So if it's very interesting, it might have actually changed me to pursue, along with blue sky research, some more practical research because I'm not going to pursue commercialization personally, but my students may and actually it's very good for them because they need to work on something after they graduate. So, it actually made it clear to me that this is, you know, more possible and more practical than the theoretical things that were presented to me in a seminar."

"For me personally, it's also interesting to have some of this training. Again, I mean that it's important for me to be able to do my job of course properly. The more of these types of projects I can do the better. Basically, it tells me, my job tells me to grow. Um, yeah."

For 32% of them there are also **benefits from the commercialization of the technology** in terms of awareness in the possibility to have an entrepreneurial perspective:

"Discussion with the innovation experts helped. At the beginning I was a little bit sceptic whether it would bring too much. As I said, I even got suggestions that I should resign my position as university professor to start a start-up by myself and similar

things. This, for personal reasons, I don't want to do, but to get into contact with these people helped quite a lot. So it was, at least for me, and I think I am the main driving force here, for me it was an interesting experience."

"ILP has served to extend my knowledge of possible markets, also understanding the order to which we dedicate ourselves. In my opinion there are many researchers who look at the possibility of becoming a startupper but clearly with caution. My vision is that in the future I could gradually move from researcher to startupper."

For some of the respondents there are also financial benefits from the **licensing**:

"If we are really successful. Then we're going to have some revenue because we have to find a way to actually get deployed and bring in some revenue. That says we're a research institution but it is not obvious."

"And in effect, the personal motivation and the personal values are driving researchers to continue their work, face the challenges and look for better results "to make our world a little bit more sustainable."

"I always had the ambition to try to make our world a little bit more sustainable. I always wanted to help us improving the environment impact and actually having an impact on someone's life. So, I wanted to make sure that my work could provide a better life in our urban areas by helping people to find a job."

8.4 Insights for better design of the services

The main objective of the research was to better understand the needs of FET ILP researchers and their projects in order to define guidelines useful for the design and planning of customized services capable of supporting FET projects in a more effective way.

The interviews gathered insights on the effectiveness of the training programmes followed by the respondents and offered by the European Commission and contents not included in the training but needed by the researchers. The main topics the researchers found useful are:

- **Business related topics:**

"Mostly the business side of things, attracting venture capital if there is a need, obtaining funding"

- **Project management and User Centred approach:**

"How do you actually focus your product on particular domain and make sure that it makes sense to pursue this? How to go about developing it."

- **Communication:**

"Training helps companies and research institutions to improve their communication capabilities, refining their pitch, making sure that they can more easily communicate what they are doing, which could be a little bit technical, but making sure that it makes sense for everyone before investors."

"Thanks to the European Community that has provided us with a mentor, it was very useful and free for us. Unfortunately, it was almost at the end of the project because we worked with him between month 13 and month 16 of project. However, this has in fact accelerated some of the objectives we had tried to achieve. We received this help to understand how to get to the promotion."

- **Accounting (profit meetings with right clients):**

"We had webinars and then we had to pitch the project to investors. However, we didn't pitch our project because we didn't need investors. I mean possibly a bit more about accounting. We wanted to look into pricing; however, like to have something which goes more into accounting or anything like that."

"The support that we need is more on contacts within the OEMs, on getting their attention. it's not easy and it's time consuming."

Also, in terms of format the interviews provided some important information on design services in line with the needs and the profile of FET ILP researchers:

- The training sessions should be organized in **synergy with other activities and events:**

"Combine other activities with the training and that's actually, you know, sort of ready to use"

- Training should **help with pitching the idea to final consumers and investors:**

"The pitch event was the most useful, because there was training on how to pitch and learn canvassing or something like this. And this really gave us some idea of what we would really need to go to commercialization."

"We needed to make a pitch and so on. This helped our researchers to understand what's needed and to get a better idea and how the pitch works, but also on what we still need to figure out. So, these are the open questions basically."

"I think the most important thing is certainly for researchers to get out of their cocoon and go to the pitching event and give a pitch and the need to do this preparation or talk to a customer or be forced to do that also."

"Pitching event to customers"

"Promotion! In other words, how to approach large industries in particular."

- **Customized training** thanks to the coaching and the personal interaction:

"Coaching with two coaches for six days."

"There are some specific parts of the strategy in terms of studying the market, analysing competition adapting the positioning of the solution or the company in terms of stand out, I think the coaching and the training that ILP has provided helps us on that because it's not the core of my activities."

"Events where coaching sessions for such things would be helpful. Workshops with the people coaching a smaller group of individuals for a specific activity."

"Coaching is like one on one and really focuses on your issue or problem if you have any specific thing."

"For a group I think the hands-on experience was very useful bringing in the personal experience of the expert. And then making sure that people can ask questions right there and see their reaction and actually have the opportunity of a concrete experience."

What FET ILP researchers really need is to improve their credibility in front of customers and investors and this is what the services should support to:

"What we really need are Contacts. Or credibility. Or even like the possibility to talk to the right person. Money is not even important, you are reading the first customer's need to really be able to have the one chance to go to the market to show that you can do it."

8.5 Comparison with Insights from other research activities

Some of the results of the interviews have a strong connection with insights emerged from other studies conducted from the Research Executive Agency on FET ILP projects. In particular the “Report of the Mid-Term Clustering Workshop for H2020 Future and Emerging Technology (FET) Innovation Launchpad (ILP) Projects”¹ includes important results in the same fields highlighted by the study:

- **Business related topics:**

"Going to the market and trying to commercialise a product is something completely different than doing excellent research and developing a disruptive technology."

"How to build a solid and effective innovation & intellectual property strategy."

"There is always a dynamic tension between the divergent process of innovation and the convergent process of entrepreneurship. This must be closely managed in order to make sure you will deliver something people want to buy, instead of always chasing the next pretty idea."

"Every participant will need tailor made guidance in order to progress successfully to a profitable and sustainable business model. Some participants have the experience but maybe not the appropriate methodology."

"How to approach potential customers successfully and how to beat the competition."

- **Project management and User Centred approach:**

"Elements discussed were the market including competition analysis, how to approach launching customers and potential partners and decision making including effective choices."

¹ Research Executive Agency FET Open Unit, “Report of the Mid-Term Clustering Workshop for H2020 Future and Emerging Technology (FET) Innovation Launchpad (ILP) Projects”

"Need to draft a realistic business case instead of being too optimistic."

"The time and cost reserved for industrialisation is most of the time relatively high and often underestimated in a business plan."

These insights confirm the need to design specific services with a stable perspective in order to get support to FET projects and orient them to a business perspective.

9

**LESSONS LEARNED
AND MOST IMPORTANT
INSIGHTS TO DESIGN
CUSTOMIZED
SERVICES AND
SUPPORT ACTIONS:
TOWARDS NEW
POLICY**

Considering the main difficulties that researchers encountered during the FET ILP projects, there are 5 main areas of investigation that should be considered for the development of ad hoc services:

- **Time:** *"too much time to get the money for the amount we got. The market has another speed", "time-consuming contract negotiations with industrial partners", "Unrealistic planning", "Processes too long to manage", "Not enough time available"*
- **Communication:** *"lack of communication training on how to present and promote your idea", "none in our team able to deal with companies/customers to present our idea", "not enough understanding on how to communicate with investors"*
- **Market:** *"We need enough investment to develop an industry-grade platform", "no support in understanding the target of our idea", "False impression on being ready to bring our technology to the market", "Lack of knowledge on the market / users"*
- **Business:** *"lack of business-oriented mindset within the project team", "lack of business training", "no direct connection with possible investors"*
- **Management:** *"Uncertainty on what to do", "Too much to do"*

Based on these 5 main areas, the research identified some recommendations to induce institutions that want to support FET researchers and meet their needs, in terms of contents for services and format, to provide this help aimed specifically at the real needs of FET researchers.

Aims of support activities and services:

- Time: how to manage time and money; time to market and project management;
- Communication: how to present the idea to customers and investors; how to promote the idea; storytelling, how to communicate scientific findings to a non-expert audience;
- Market: how to identify the market; how to profile the customers;

how to reach the target; how to bring technology/product to the market;

- Business: how to nurture an entrepreneurial mind-set; how to define a business model; how to assess what you have and what you need;
- Management: how to prioritize activities; how to monitor the process; how to adopt a risk management plan.

Contents and field of knowledge needed:

- Business training: nurturing an entrepreneurial mindset and validation with the market of the project results;
- Communication and Exploitation of the project results: communication training; raising awareness on technology transfer and IP strategies;
- Project management and User Centred approach;
- Accounting.

Format for providing service and support activities:

- the training sessions should be organized in synergy with other activities and events and scheduled earlier in the course of the project;
- training should help to pitch the idea to final consumers and investors;
- customized training thanks to coaching and personal interaction (hands on workshop).

Considering the results of the study we can also identify different pathways for the three typologies of organizations involved in FET projects.

Company

Key findings from the study:

MAIN DIFFICULTIES

.Lack of connection with investors
 .Little understanding of investors
 .Funding are little
 .Confusion on what to do
 .Lack of business training (broader areas of criticalities)

MAIN POSITIVE ASPECTS

.Promotion of technology
 .Business model development
 .Testing idea and market research
 .Networking
 .Patenting
 .Scaling

Tab. 12

Key findings from the study: Company

Prior type of services and support actions: IPR support, communication training, business training.

Research Institution*Key findings from the study:*MAIN DIFFICULTIESMAIN POSITIVE ASPECTS

Tab. 13

Key findings from the study: Research Institution

Prior type of services and support actions: project management and user centered approach, business training, communication training.

University*Key findings from the study:*MAIN DIFFICULTIESMAIN POSITIVE ASPECTS

Tab. 14

Key findings from the study: University

Prior type of services and support actions: project management, business training.

This research presents a first picture on how it's possible to put researcher at the centre of the Europe ecosystem that can drive the visionary research into real benefits for the social economic growth. Researchers before. Technology after. Passion, perseverance, insistence, high quality knowledge, excellence are the values that are driving FET researchers in their daily high-risk exploration of the visionary borders of the innovation. Believe in them means work to delete restrictions and to improve the growth of the ecosystem providing permanent facilities and services able to create the right conditions for fail and have success. Both of them are important for the visionary research. Both of them are the engine of FET researcher activities.

The background is a dark, textured surface with a large, light-colored, geometric shape (a triangle or trapezoid) that appears to be a piece of paper or a screen. The shape is divided into sections by a grid of small, light-colored dots. The number 10 is prominently displayed in the center, and the word BRIEFING is written below it in a bold, sans-serif font. A horizontal line of small, light-colored dots runs through the middle of the word BRIEFING.

10

BRIEFING

The research conducted has been part of the BRIEFING EU Project activities. “BRIEFING – Bridging the FET Innovation Gap “is a project funded under the FET Open Coordination and Support Action that facilitates the translation of European research excellence into tangible innovative potential.

BRIEFING leverages different ways of exploiting FET research by supporting researchers in their innovation exploration and fostering the connection between the worlds of researchers and different business stakeholder groups.

BRIEFING aims to create a need driven marketplace where technologies, ideas and people meet. Its goal is to enhance interaction and mutual understanding between various stakeholders - potential users, technology leaders, technology transfer organisations, entrepreneurs, investors - through professional facilitation and training. By doing so, the final scope is to leverage the market uptake of FET Open research results.

BRIEFING creates a genuine FET innovation ecosystem by matching FET researchers and entrepreneurial minds with stakeholders from various business fields such as individual entrepreneurs, representatives of SMEs, corporates, business angels and investors. This innovation ecosystem is realized in a two-fold approach as follows: firstly, a tailor-made support to the ongoing FET Open projects is provided covering different online and onsite services, each of them aiming at maximizing the exploitation potential of FET technologies. Secondly, BRIEFING engages in community building and marketplace activities to share the knowledge among the FET researchers and expose the research's results and technologies developed in FET projects to business stakeholders.

The BRIEFING services cover all phases from the early identification of commercialization opportunities until presenting their technology or business idea to business stakeholders and take also into account the different motivations of researchers (purely academic or also entrepreneurial).

The different services do not depend on each other. Each of them is accessible individually according to the specific need of the FET

researcher but could of course also be used in a continuous process. The BRIEFING portfolio of services has been further customized taking into consideration the needs identified within a study performed between April and September 2019 on FET Innovation Launchpad projects.

Here is an overview of the BRIEFING service portfolio:

- **BRIEFING Marketplace:** The BRIEFING marketplace is implemented as an online and onsite community. Through online and onsite matchmaking events, BRIEFING creates opportunities for the business community to discover new ground-breaking technologies from FET projects and, at the same time, it offers researchers the chance to discover potential business scenarios for their technologies
- **Innovation opportunity workshop:** This format help FET beneficiaries to identify the necessary skills and resources needed to successfully reach their FET project's objectives
- **Communication Training:** In this training researchers practice how to present their technology in a way that business stakeholders can understand and assess the potential the presented technology may have for their business.
- **Training for exploitation of research results:** This training program aims to support FET researchers in understanding the innovation and value creation opportunities connected to their research and to make early in the process the right decision regarding commercialization and related IP strategies. The exploitation training comprehends different modules that can be booked individually by FET researchers:
 - o Identifying Business Opportunities through a Lean approach
 - o Innovation and IP strategy
 - o Operational technology transfer and Collaboration with industry
- **Online and onsite pitches and matchmaking with business stakeholders:** BRIEFING offers a setting where commercialization opportunities discovered during the training can regularly be tested with business stakeholders, particularly representatives of SMEs but also corporates and investors. This happens through online and onsite pitches where researchers present their technology and potential use case to business stakeholders from the identified vertical.



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— CONSORTIUM —

The BRIEFING consortium provides the manifold expertise to respond to the diverse stakeholder needs, bringing together innovation service providers backed by large SME networks with a renowned research institution. The partners' experiences span the provision of innovation services and the dynamization of innovation ecosystems as well as the involvement of relevant stakeholders from the research and business world. The BRIEFING consortium is constituted by three partners with complementary expertise:

bwcon GmbH (Lead partner) is the commercial branch of bwcon e.V., a cluster organisation founded in 1997 in the South-West of Germany gathering today more than 600 members from the production, mobility, health and energy sector.

bwcon is Baden-Württemberg's leading facilitator for innovation in the technology sector. It coordinates the technology transfer from research to industry by starting with early stage concepts at universities such as the Opportunity Recognition Workshops for Ph.D candidates and researchers from the ICT sector. bwcon also organizes Summer Academies, Hackathons and Ideation Workshops for talents and researchers with various modules relevant for sensitization on entrepreneurship such as Design Thinking, Effectuation, Business Modelling, Prototyping or the Lean Startup Method.

As a next step in the innovation process, bwcon operates various international matchmaking events giving founders, start-ups and researchers the opportunity to present their business concepts to a European audience, to connect with strategic partners and to find a first investor to commercialise their idea.

innomine is a leading innovation management and innovation funding expert in Central and Eastern Europe with branch in Silicon Valley. The company focuses on international, highly complex startup, scaleup, SME, corporate innovation and ecosystem building projects and offers its funding and innovation expertise to best represent the interest of its clients. It is specialised in publicly and privately financed innovation programmes, primarily in the high-tech sector and has a cross-disciplinary and cross-national team of professionally qualified consultants, with research and consultancy expertise in management, technology and European funding.

The company has close working relationship with numerous technological companies and organisations that are interested in digital innovation (e.g. DIGITALEUROPE, Microsoft, Telefonica and several Silicon Valley players).

Politecnico di Milano is a scientific-technological university that trains engineers, architects and industrial designers. The University has long focused on the quality and innovation of its teaching and research, developing fruitful relationships with the economic and production sectors through experimental research and technology transfer. Politecnico di Milano's research activities enable it to attain top international results and constitute a parallel activity to that of cooperation and partnerships with the industrial system. Two departments of Politecnico are involved in the BRIEFING project:

- the Department of Design: this develops a range of research, training, consultation, and technology transfer services related to the manufacturing, management, service, and communication sectors
- the Department of Management, Economics and Industrial Engineering: its main objective is research, which is pursued through collaborations with leading Italian and international schools and institutions. Alongside research, the Department focuses on education.

Finally, subcontracting clusters rounds up the BRIEFING consortium's competences and append additional business expertise and involvement in key industries.

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