



D5.2 Extended Stakeholder Mapping of the Implementing Organisations

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ABSTRACT: This report includes an overview of each of the six implementing organisations' stakeholder mapping process as well as their stakeholder engagement plan, providing insight into the plans for engaging Quadruple Helix stakeholders in the implementation, testing, and improvement of the ETHNA System. The engagement of Quadruple Helix stakeholders is key in the co-creative development process of the ETHNA System, ensuring its usefulness, relevance as well as its sensitivity to different societal values and concerns.

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Abbreviation	
ARC Fund	Applied Research and Communications Fund
DPRS	Department of Philosophy and Religious Studies
Españtec	Parc Científic Tecnològic i Empresarial
ETHNA	E thical G overnance of RRI in Innovation and Research Performing Organisations and Research Funding Organisations
Harno	Education and Youth Board of Estonia
ISSE	Information Systems and Software Engineering
NTNU	Norwegian University of Science and Technology
QH	Quadruple helix
RFO	Research Funding Organisation
R&I	Research and Innovation
RRI	Responsible Research and Innovation
SME	Small and medium-sized enterprises
UJI	University Jaume I
UNINOVA	Instituto de Desenvolvimento de Novas Tecnologias

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EXECUTIVE SUMMARY

The ethical governance system *The ETHNA System* is, through the ETHNA Lab process implemented and tested in six different organisations from four different research and innovation contexts. The ETHNA Lab takes a point of departure in the co-creative, experimental, iterative Living Lab approach. The purpose of the implementation is to experiment with, co-create, and provide feedback for the further development of the ETHNA System itself.

Engaging different stakeholders are key in the co-creative process of the ETHNA Lab, which operates with three types of stakeholders – *internal* and *external stakeholders* as well as *expert groups*. The external stakeholders are the focus of this report and takes a point of departure in the Quadruple Helix (QH) Model, with the aim of engaging stakeholders from academia, business/industry, policymakers, and civil society. The purpose of engaging external QH stakeholders in the ETHNA Lab is to include different perspectives, and social interests and concerns in the further development of the ETHNA System.

One of the first tasks of the ETHNA Lab is hereby to conduct a QH stakeholder mapping and an engagement plan for how to engage these stakeholders in the lab process. Each of the six implementing organisations have done so with a point of departure in their individual organisational reality. This report provides insight into this process and exemplifies types of QH stakeholders that can be engaged in co-creative ethical governance development processes.

Each organisation has taken different approaches to the mapping and engaging of stakeholders. The number of stakeholders selected by the organisations varies from five to 68, reflecting the different implementing organisations' realities and needs.

One organisation made use of internal knowledge to identify stakeholders, through meetings with different internal stakeholders. Another organisation made use of its existing network. Different approaches were also used in analysing the stakeholder lists – power relations, willingness and expertise were here taken into consideration. One organisation also considered the stakeholders' role in and influence on the organisation's activities. Gender balance, including different voices, area of activity, as well as how they are influenced by the implementation of the ETHNA System were some of the different factors considered when prioritising and selecting stakeholders. The next step in the process is recruiting of stakeholders. At the time of reporting, only a few organisations had initiated this step and reached out to the stakeholders by official e-mails and phone calls.

Preliminary engagement plans have moreover been drafted and different approaches are also present here. One organisation is for instance planning two workshops – one with stakeholders from business/industry and from civil society as well as one with academia and policymakers. Whereas another organisation plans to invite one prominent stakeholder to join their Research Ethics Board.

Thus, with the implementing organisations completing the QH stakeholder mapping, the foundation for engaging and interacting with external QH stakeholders in the further ETHNA Lab process has been made.

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1 Introduction

The ETHNA System is an ethical governance system that aims at helping research and innovation (R&I) performing organisations and research funding organisations (RFO) in practically applying responsible research and innovation (RRI) through their ethical governance procedures. The ETHNA System is developed through a co-creative process, in which the final step is the ETHNA Lab, through which six R&I performing organisations and RFOs implement and test the ETHNA System within their organisation. The lessons learned throughout the implementation will feedback into the further development and improvement of the ETHNA System itself.

The ETHNA Lab takes the six implementing organisations through a co-creative, experimental, and iterative process of developing, testing, and refining the ETHNA System. It is a process of six consecutive steps engaging internal and external stakeholders, who are key in the co-creation of the ETHNA System. Internal stakeholders are engaged to provide internal knowledge as well as to ensure uptake of the ETHNA System within the organisation. The engagement of external stakeholders takes a point of departure in the Quadruple Helix (QH) Model and the aim is to engage stakeholders from academia, business/industry, policy, and civil society. The purpose of engaging external QH stakeholders is to ensure the inclusion of diverse perspectives and external knowledge that are not biased by internal procedures, as well as improving the ETHNA System by co-creating new solutions that are sustainable and take a point of departure in different societal interests and concerns.

As an initial task of the ETHNA Lab and to prepare for this engagement of external QH stakeholders each of the six implementing organisations have gone through an stakeholders mapping following the six steps: 1) Identify, 2) Analyse, 3) Map, 4) Prioritise, 5) Select, and 6) Recruit. They have moreover developed an engagement plan for how these stakeholders will be engaged in their onward ETHNA Lab process. This report provides insight to how the implementors have approach this task differently with a point of departure in their organisational reality. The aim is moreover to exemplify types of QH stakeholders that can be engaged in co-creative ethical governance development processes, such as the ETHNA Lab.

In the following pages an overview of the ETHNA System, The ETHNA Lab as well as the stakeholder approach herein is provided. Afterwards, an overview of each of the implementing organisations' stakeholder mapping process as well as an overview of their engagement plan is provided, both focusing on external QH stakeholders. The report ends with a recapitulation of the different approaches to the stakeholder mapping and engagement plan. The appendix includes an overview of each of the implementing organisations' stakeholder mapping.

2 Engaging Stakeholders in the ETHNA System Implementation

The ETHNA System is an ethical governance system supporting R&I performing organisations and RFOs in practically implementing ethical governance tools that takes a point of departure in RRI. The ETHNA System is a construction that consists of a foundation on which three different columns can be built – a *Code of Ethics and Good Practices*, an *Ethics Committee on R&I*, and an *Ethics Line*. For each of the three columns four building blocks, that takes a point of departure in different aspects of RRI, can be chosen. When implementing the ETHNA System three different levels of commitment to the ETHNA System can also be chosen (Figure 1) (González-Esteban et al., 2022).

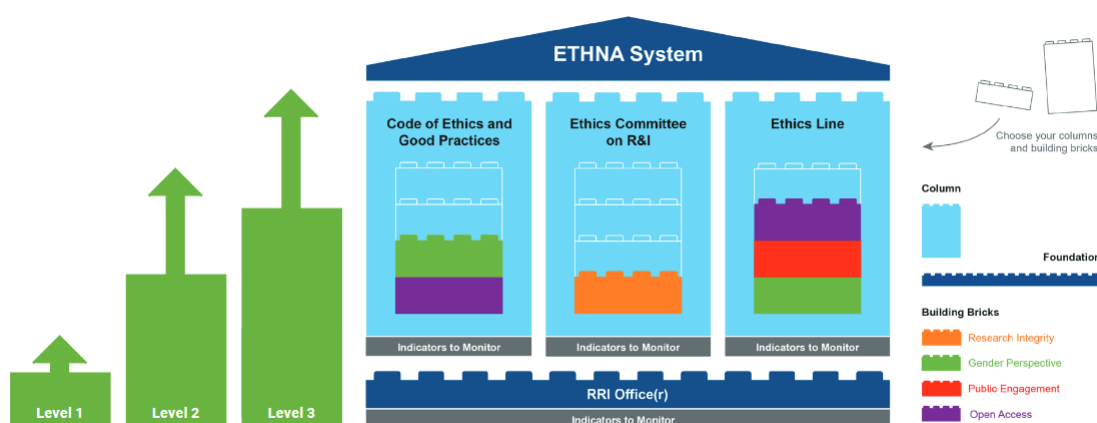


Figure 1: The ETHNA System

The ETHNA system is developed through an engaging and co-creative process of multiple steps. It builds upon an initial review of state of the art within ethical governance, a needs assessment, and multi-stakeholder consultation. The final step of this co-creative process of developing the ETHNA System is the ETHNA Lab.

The ETHNA Lab is an experimental, co-creative, and iterative process where six organisations from four different R&I context, in five countries (table 1) develops, tests, and refines the ETHNA System within their organisation. It takes a point of departure in the Living Lab approach and the goal is to provide input and feedback for the further development of the ETHNA System based on practical experiences and stakeholder input. The ETHNA Lab is a process of six consecutive steps – *Planning, Construction, Consultation, Refinement, Testing and Review* (figure 2), in which different stakeholders are engaged to ensure a bottom-up approach within the organisation. The aim is moreover to gather different perspectives, exchange experiences, and come up with new and better solutions that are socially responsible (Neuhaus et al. 2022).

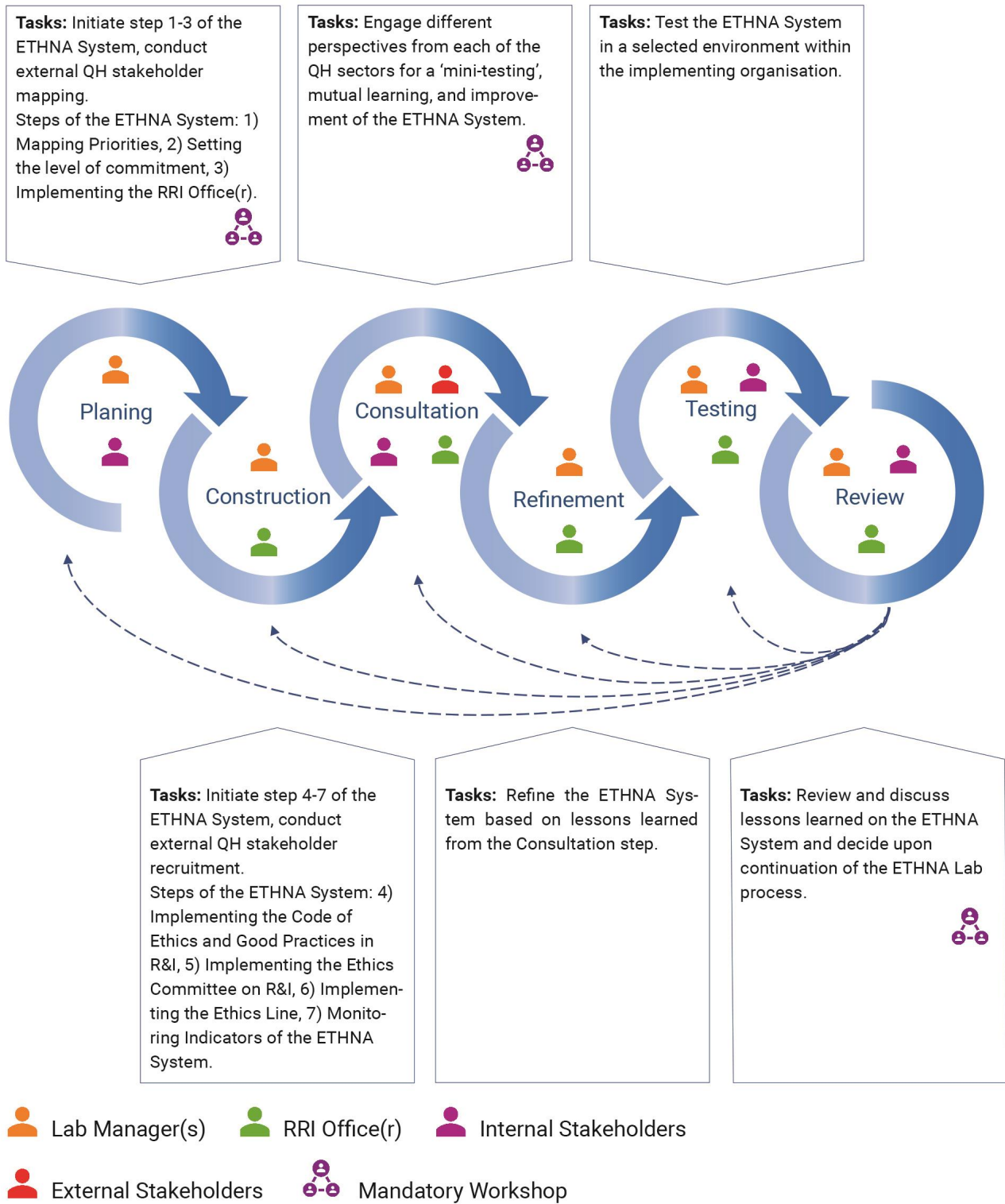


Figure 2: ETHNA Lab Infographic

The ETHNA Lab operates with three types of stakeholders:

Internal stakeholders are employees from the implementing organisation who are directly influenced by the implementation of the ETHNA System in the organisation. Internal stakeholders can provide internal knowledge of existing ethical governance procedures, or the lack thereof, as well as ensure uptake within the organisation, as they are the ones who will make use of the system.

External stakeholders are external resources and are therefore not members of staff in the implementing organisation. External stakeholders can provide input for improvement of the ETHNA System without being biased by internal procedures. Also, they can represent different societal interest and concerns relevant for the ethical governance of R&I. The external stakeholders follow the QH Model (figure 3). The ETHNA Lab sets out to engaged stakeholders from all four helixes – namely academia (research/innovation/funder community), business/industry, policy, and civil society.

Finally, forming *expert groups* to support the implementation of the ETHNA System is recommended to ensure the quality of the system developed within the implementing organisation. Internal stakeholders and expert groups are engaged in several steps of the ETHNA Lab, whereas the external QH stakeholders are mainly engaged in a mini testing of the ETHNA System in the Consultation step. The Consultation step being a vitally important step for the co-creative process, ensuring the societal responsibility, relevance, and usefulness of the ETHNA System (Neuhaus et al. 2022).

The external QH stakeholders are the focus of this report. The purpose is to provide insight into the QH stakeholder mapping conducted by each of the implementing organisations, including the initial work and planning that has been conducted to engage QH stakeholders in the ETHNA System implementation process. Furthermore, the purpose is to exemplify types of QH stakeholders that can be engaged in such co-creative ethical governance development processes. The external QH stakeholder mapping has been carried out by the implementing organisations as part of the first step of the ETHNA Lab. Here, the implementors create an Implementation Plan for the further implementation process (Holstener et al. 2022) and conduct an external QH stakeholder mapping in collaboration with internal stakeholders. The external QH stakeholder mapping has been conducted with a point of departure in QH stakeholder mapping exercises developed as part of the needs assessment carried out previously in the co-creative development process of the ETHNA System. This guide takes the implementors through six steps to map and scope the involvement of stakeholders: 1) Identify, 2) Analyse, 3) Map, 4) Prioritise, 5) Select, and 6) Recruit. The six steps have provided a framework for the stakeholder mapping, reflected in the section below (Häberlein et al. 2021).

On the following pages, each of the implementing organisations' (table 1) stakeholder mapping process and engagement plan, are presented. To see the full external QH stakeholder mapping for each of the implementing organisations, please visit the appendix.

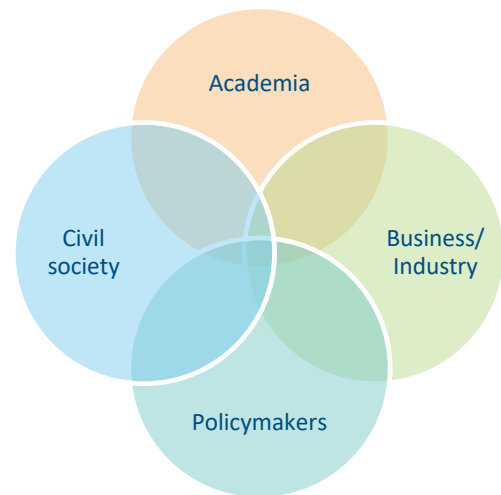


Figure 3: Quadruple Helix Model

Organisation	Context
University Jaume I (UJI)	Higher Education
Norwegian University of Science and Technology (NTNU)	Higher Education
Education and Youth Board of Estonia (Harno)	Research Funding
Instituto de Desenvolvimento de Novas Tecnologias (UNINOVA)	Innovation Ecosystem
Parc Científic Tecnològic i Empresarial (Espaitec)	Innovation Ecosystem
Applied Research and Communications Fund (ARC Fund)	Research Centre

Table 1: Implementing Organisations

3 Stakeholder Mapping

This section outlines how each implementing organisation plans to engage external stakeholders in their testing of the ETHNA System. Based on reporting templates provided by each organisation, the process of mapping and engaging external stakeholders is presented.

The stakeholder mapping conducted by the implementing organisations takes a point of departure in the guide *Mapping stakeholders and scoping involvement* (Häberlein et al. 2021).

3.1 Higher Education Context

3.1.1 University Jaume I (UJI)

3.1.1.1 Stakeholder Mapping Process

The extended stakeholder mapping has run from May 2021 to January 2022 and has been conducted with contributions from a wide range of experts or heads of sections inside the organisation (heads of research groups working on the different aspects related to RRI and units that work with aspects of RRI). Three meetings were held in the identification process. First, the ETHNA System Team made an initial identification. Secondly, a meeting was held with the Vice-Rector of Research and Transfer, and key internal stakeholder were identified according to their expertise and knowledge on aspects of RRI. Thirdly, the key stakeholders identified were consulted, and the internal and external stakeholder identification was further elaborated. The Gender Unit, the Public Engagement Unit, the Research and Innovation Office, and the library played a decisive role in the process.

After the preliminary stakeholder identification, an analysis was conducted on internal power relations, willingness, and expertise of the stakeholders. Following the analysis, the prioritisation and selection of stakeholders was initiated, including thoughts on duplicities, gender balance, and the relevance of including different voices.

3.1.1.2 Overview of Stakeholder Engagement Plan

A total of 68 stakeholders from the four helixes will be engaged in the ETHNA Lab:

1. Research, Innovation, Funder: 5 (4 representatives from association and research networks, and 1 expert on integrity governance).
2. Business and Industry: 20 (6 representatives from SME's, 5 multinational companies, and 9 business and industry associations).

3. Policymakers: 20 (3 international policymakers, 4 national policymakers, 4 local or regional policymakers, and 9 sponsors).
4. Civil Society: 23 (3 representatives from associations with research agreements, 5 professional associations, 1 Unión Trade, 14 from Educational Community).

The external stakeholders from Business and Industry and Civil Society will be engaged through one deliberative workshop. At the workshop, the stakeholders will discuss what kind of research and innovation they expect from UJI. As the number of identified stakeholders in the two stakeholder groups is quite high (43), the possibility of organising two meetings is still open for discussion. However, with the pandemic still limiting these kinds of activities, it is most likely that only one workshop will be organised. The purpose of the workshop is twofold. Firstly, to check whether the relevance of the issues and themes identified by UJI are shared by the stakeholders. Secondly, to identify new social or ethical needs or issues. Because of the pandemic, the workshops will most likely be held online. The input provided by the stakeholders will be used in the further process of the ETHNA Lab.

A workshop with the other two stakeholder groups, Research, Innovation, and Funder and Policymakers is planned to take place later on in the ETHNA Lab process. The expectation is that these groups can provide information to refine the results that UJI has achieved on the Code of Ethics and Good Practices and on the Ethics Committee.

The recruitment of the internal and external stakeholders is coordinated with the Vice-Rector of Research and Transfer. The RRI Officer and the Lab Manager will lead the contact process. In the case of the internal stakeholders, the contact process has been started with a personalised e-mail and will be supported by telephone calls. The e-mail has been sent jointly by the Vice-Rector Office and the ETHNA System team. The recruitment of the Internal stakeholders has started in December 2022 and will be finished in the middle of January 2022. The workshops with internal stakeholder are scheduled in January and February 2022.

The contact with external stakeholders is expected to be carried out by the Lab Manager of external stakeholders and a representative from the Project of Scientific Culture and Citizen Science at UJI. An e-mail will be sent to external stakeholders from the Vice rector Office and the ETHNA System team jointly and different phone calls will follow up the recruitment process. This recruitment is expected to take place in January 2022. The first workshop with Business and Industry and Civil Society will take place in February 2022. The second workshop with Research, Innovation, and Funder and with Policymakers is scheduled for May/June 2022.

For a detailed overview of the stakeholder mapping, please see the appendix p. 21.

3.1.2 Norwegian University of Science and Technology (NTNU)

3.1.2.1 Stakeholder Mapping Process

So far, the process has only been very tentative, since NTNU still has not managed to get a commitment to run the ETHNA Lab from the units they have tried to engage. Nevertheless, the Lab Manager has tried to begin mapping the external stakeholders, especially while engaging with internal stakeholders. Two departments have been asked to contribute to the mapping: The Department of Philosophy and Religious Studies (DPRS) and the Information Systems and Software Engineering (ISSE) research unit.

With the DPRS, the Lab Manager has engaged with some internal stakeholders and in some interviews has asked who the relevant external stakeholders could be. Given that the department's main outputs are teaching and academic publications, the range of stakeholders is not very broad.

An obvious one, and probably the most important, are clearly students. Given that several department members, especially those working in ethics and applied ethics, participate in transdisciplinary projects involving other academic fields and non-academic partners, like companies and local governments, those projects and the kind of actors participating in them have also been identified as possible stakeholders.

Furthermore, The Research Council of Norway has been pointed out as a relevant stakeholder, since it is the funding agency for several research projects involving the department. Lastly, it has been suggested that since some department members are active in public debates or are actively engaged

in running series of talks for broader audiences in local venues and organisations, some representatives of this broader public could be relevant stakeholders, although they may be more difficult to identify and reach.

With the ISSE research unit, the talk about external stakeholders has been much more limited, in fact it was only discussed in one personal meeting with an ISSE staff member. The stakeholders that have been mentioned in that occasion are students, companies/industry, and other departments/units at NTNU. This is still a very provisional charting.

3.1.2.2 Overview of Stakeholder Engagement Plan

The stakeholders will most likely be engaged at the Construction step. The format and content will very much depend on the kind and number of stakeholders, on the level of commitment of the NTNU unit, and on the keys that will have been given priority.

It is impossible to say now, how the responsibilities for recruiting will be allocated. The expectation of the Lab Manager is that the RRI Officer and the Lab Manager will have to collaborate, but exactly how it is too early to say. Hopefully, if NTNU manages to get a commitment to run the ETHNA Lab, the recruitment should begin as early as the list of relevant stakeholders has been finalised, hopefully in February and March 2022.

Given the current slow progress and uncertainty about whether and which unit would agree to run the ETHNA Lab, it is hard to make an accurate estimate on when the ETHNA Lab will be conducted. The hope is that either a workshop or some other forms of engagement (like individual interviews or questionnaires) could be carried out in March or April 2022.

3.2 Research Funding Context

3.2.1 Education and Youth Board of Estonia (Harno)

3.2.1.1 Stakeholder Mapping Process

The stakeholder mapping was based on two principles. The first principle was the mapping of stakeholders with expertise and experience to help initiate and develop an implementation plan for ETHNA's ethical governance system in Harnos. These stakeholders include foreign partner organisations and networking (ENRIO, EU Framework Contact Point Networks, EURAXESS network, RRI project partners in different countries, etc.), as well as organisations similar to Harno's profile in Estonia (Estonian Research Agency), Ministries managing RRI activities (Ministry of Education and Research, Ministry of Social Affairs), and expert groups with competence in advising on RRI activities (University of Tartu Ethics Centre, OpenAir).

The second principle was mapping of stakeholders who do not have a direct excellence on RRI issues, but for whom Harno works and who have a say in the evaluation of Harno's activities. These will be involved in the second phase of the implementation of ETHNA's ethical management system (Universities Estonia, Estonian Rectors Conference of Universities of Applied Sciences, Estonian Association of Academic Women, Estonian Students' Union, Estonian Teachers' Union, Estonian Society of Scientific Journalists).

3.2.1.2 Overview of Stakeholder Engagement Plan

The following stakeholders from the four helixes will be engaged in the ETHNA Lab:

1. Research, Innovation, Funder: University of Tartu Centre of Ethics, and Estonian Research Council, Universities Estonia, Estonian Rectors Conference of Universities of Applied Sciences.
2. Business and Industry: N/A.
3. Policymakers: Committee on Culture of the Riigikogu (Parliament).
4. Civil Society: Estonian Association of Academic Women, Estonian Students' Union, Estonian Teachers' Union, Estonian Society of Scientific Journalists, and Science Centre AHHA.

Stakeholders have been contacted and recruited by the Lab Manager/RRI Officer. Stakeholders have been involved during the planning and will be also be involved during the implementation.

In the first and second phases of the implementation of the ETHNA System, consultations will take place within the target groups. At the end of the implementation process, Harno will organise a seminar to which they will invite both internal and external stakeholders. This is expected to happen in the third quarter of 2022.

For a detailed overview of the stakeholder mapping, please see the appendix p. 25.

3.3 Innovation Ecosystem Context

3.3.1 Instituto de Desenvolvimento de Novas Tecnologias (UNINOVA)

3.3.1.1 Stakeholder Mapping Process

The stakeholder mapping process is based on the 6-step guide to stakeholder mapping. In this context, the Identification step started with a brainstorm meeting with the people involved in the ETHNA project. After reaching the list of potential external stakeholders, several criteria such as their willingness to participate, expertise, potential engagement, and impact of RRI activity were taken into consideration and further analysed.

The following step consisted of mapping the stakeholders. Different aspects were taken into consideration, including stakeholders' potential influence on RRI key areas, skills, and willingness to participate. The aim was to understand which stakeholders would be most affected by the RRI activities to be implemented within the ETHNA system.

With the resulting map, it became clear which stakeholders would be prioritised considering that stakeholders with higher priority can be assigned to the level of their potential engagement and participation. Therefore, the final ranking is based on assumptions about which stakeholders would be most affected by the implementation of the ETHNA System and which stakeholders would be less likely to engage.

As a result of the mapping, five external stakeholders have been selected. Three of the stakeholders have already been contacted and have indicated that they are interested in participating in the project.

3.3.1.2 Overview of Stakeholder Engagement Plan

The following stakeholders from the four helixes will be engaged in the ETHNA Lab:

1. Research, Innovation, Funder: 2 (School of Technology, Robotics and Industrial Complex Systems)
2. Business and Industry: 2 (SMEs, associations/networks).
3. Policymakers: N/A.
4. Civil Society: 1 (Professors Association).

The RRI task force is planning to engage the selected stakeholders in a workshop where an overview of the ETHNA System is carried out along with a presentation of the ETHNA Lab process for implementing the ETHNA System. In this workshop, it will be explained why the stakeholders are important for the next phases of the implementation, and the level of commitment expected from the stakeholders will be addressed.

Recruitment of stakeholders will be conducted by the RRI task force. Preliminary contacts with stakeholders have already been made in preparatory activities. Further contacts will be established, once first draft of the main documents for the ETHNA System are prepared.

The workshop for engaging the stakeholders is planned for the end of March 2022.

For a detailed overview of the stakeholder mapping, please see the appendix p. 26.

3.3.2 Parc Científic Tecnològic i Empresarial (Espaitec)

3.3.2.1 Stakeholder Mapping Process

One of Espaitec's objectives with the implementation of the ETHNA System is to raise awareness among the companies in the park about the importance of incorporating a system of ethical governance in the entities that develop innovation. Therefore, as part of the implementation process, Espaitec has developed actions with the purpose of raising awareness to this issue. To make the awareness raising actions and the Code of Ethics and Good Practices developed by Espaitec most useful to stakeholders, their ideas and opinions are considered essential.

The stakeholder identification process has been carried out by the members of the RRI Office. The stakeholder identification process began in November 2021, the date on which the Fundació General de la Universitat Jaume I, the managing entity of Espaitec, signed the collaboration amendment as a third party in the project. In this sense, the people who form the RRI Office held a first meeting to identify potential external stakeholders through brainstorming. It was then concluded that the main agents that would be affected by the implementation of the ETHNA System in Espaitec would be the companies that form the park (46 firms) as well as the NGO SECOT Castellón.

Once the list of external stakeholders was obtained, an analysis was conducted. Here, it was taken into consideration that the companies of the park all have very different areas of expertise (e.g., health, energy, and Information and Communications Technologies). Furthermore, the stakeholders do not have experience in RRI. However, the participation of the stakeholders in the project is important, since they, as companies of the park, will be affected by the some of the actions planned for the implementation of the ETHNA System, including awareness raising activities.

The next step was to map the companies and distinguish between which companies would be more or less affected by the implementation of the ETHNA System. For this purpose, the composition of each company, the area of activity in which they operate, and their human resources were taken into account. For example, some companies in the park with a high number of staffs already have a person in charge of managing everything related to issues such as social responsibility or equality. However, there are companies with fewer human resources that are less familiar with RRI concepts.

Following the results of the mapping, Espaitec chose which companies should be given the highest priority. This ranking was based on considerations as to which companies were considered to have the greatest impact on the project and which companies were considered most likely to be committed. Once the list was compiled, Espaitec selected which companies they wanted to be part of the stakeholder group and invited the companies to join. 15 companies were selected. At the time of reporting, six companies have shown interest in the project. However, due to the workload that many of the companies have at the end of the year, more positive responses are expected in the future.

Different means were taken to engage the stakeholders, including virtual meeting, exchanges of emails, and phone calls. Explanations were given as to what the project consists of, what is expected from the participation of stakeholders, and why stakeholder contributions can generate a great impact on the development of Espaitec's activity in RRI.

3.3.2.2 Overview of Stakeholder Engagement Plan

The following stakeholders from the four helixes will be engaged in the ETHNA Lab:

1. Research, Innovation, Funder: N/A.
2. Business and Industry: 46 companies of Espaitec and Valencian Science Parks Network.
3. Policymakers: N/A.
4. Civil Society: SECOT Castellón.

The RRI Office has been in charge of recruiting external stakeholders. To this end, an initial contact has been made with the CEOs of the companies to explain what the project consists of and why their participation is considered important for the company. In addition, Espaitec explained in broad terms what level of involvement is expected from the companies.

The workshop with external stakeholders is scheduled for February 2022, following a workshop with internal stakeholders. The aim is to discuss the contents of the draft of the Code of Ethics and Good

Practices and to explain to the stakeholders which awareness-raising activities are planned. In this sense, the objective of the workshop will be to inform stakeholders about the project and their participation in it, and to obtain feedback from stakeholders to know if the actions proposed will meet their needs or if some changes need to be made.

For a detailed overview of the stakeholder mapping, please see the appendix p. 27.

3.4 Research Centre Context

3.4.1 Applied Research and Communications Fund (ARC Fund)

3.4.1.1 Stakeholder Mapping Process

Since 2015, ARC Fund has participated in several H2020-funded projects focused on responsible research and innovation: RRI-Practice, TeRRItoria, SUPER MoRRI, and RRI-LEADERS (ARC Fund is a coordinator of this project). Through the work on these projects, ARC Fund has established a very wide network of external stakeholders from all quadruple helix areas. Through discussions with the ARC Fund's staff (internal stakeholders), a list of relevant and appropriate external stakeholders was compiled. To identify additional external stakeholders, some of those with whom ARC Fund has fruitfully cooperated on other projects, were asked to nominate and propose other relevant names and/or organisations.

3.4.1.2 Overview of Stakeholder Engagement Plan

The following stakeholders from the four helixes will be engaged in the ETHNA Lab:

1. Research, Innovation, Funder: 14.
2. Business and Industry: 12.
3. Policymakers: 14.
4. Civil Society: 18.

External stakeholders will be involved in several ways. To begin with, one prominent external stakeholder will be invited to become a member of the ARC Fund's Research Ethics Board. In general, the relevant external stakeholders will take part in different activities, such as workshops, presentations, and other forms of mutually beneficial exchanges, especially during the Consultation step. During this step of the implementation process, a variety of stakeholders from the different helixes will attend the workshop in which the ETHNA System will be presented and promoted. The stakeholders will also be invited to present their own experience with similar or different arrangements for ensuring the high ethical standards of research and innovation practices. The input from external stakeholders will be used to revise and if necessary, adapt the components of the ETHNA System implemented at ARC Fund. This might include changes to the responsibilities and tasks of the RRI Officer, revision of the developed documents and the other relevant building blocks of the ETHNA System. The periodic meetings with external stakeholders will continue in the form of 'RRI dialogues', used to further promote the ethical governance of R&I in line with the ETHNA System. These interactions will not only be used to test and improve the ETHNA System and its implementation in ARC Fund but should also serve as an inspiration to involved stakeholders to introduce a similar system for ethical governance of R&I in their own organisations.

The workshop with external stakeholders to present and promote the ETHNA System is planned for April 2022. 'RRI dialogues' with relevant external stakeholders are planned for September 2022.

For a detailed overview of the stakeholder mapping, please see the appendix p. 30.

4 Recapitulation

Each of the six implementing organisations have conducted an extended stakeholder mapping to gain an overview of relevant leads within the science-industry-government-public interactions and construct

a plan for how and when a specific stakeholder can benefit from and contribute to the implementation of the ETHNA System. Six steps have provided the framework for the stakeholder mapping: 1) Identify, 2) Analyse, 3) Map, 4) Prioritise, 5) Select, and 6) Recruit. Furthermore, an engagement plan has been drafted.

Each organisation has taken different approaches to the mapping and engaging of stakeholders. In this concluding section, different aspects of the processes have been highlighted.

At the time of reporting, five of the six organisations have completed the stakeholder mapping and are making plans on how to best contact and engage the stakeholders. NTNU has not managed to obtain a commitment to run the ETHNA Lab, and therefore the mapping of stakeholders has only been tentative.

To identify the stakeholders at UJI, the organisation has held three meetings, gradually expanding the number of identified stakeholders. The first meeting was with the ETHNA System Team itself, the second meeting included the Vice-Rector of Research and Transfer, and at the third meeting, some of the key stakeholders identified were consulted to further elaborate the number of stakeholders. At Espatec, the identification process has been carried out by the RRI Office. In a meeting, the RRI Office reached the list of potential stakeholders through a brainstorming, focusing on the main agents affected by the implementation of the ETHNA System. At ARC Fund, the organisation's network from participation in other RRI-related projects was used to compile a list of stakeholders. Additional external stakeholders were identified by asking some of those with whom ARC Fund has fruitfully cooperated to nominate and propose other relevant names and/or organisations.

After identifying the stakeholders, the organisations analysed the stakeholder list. At UJI, an analysis was conducted on internal power relations, willingness, and expertise of the stakeholders. At Harno, the stakeholders were divided into two groups, based on the following principles: 1) Stakeholders with expertise and experience to help initiate and develop an implementation plan for ETHNA's ethical governance system in Harno, and 2) stakeholders who do not have a direct excellence on RRI issues, but for whom Harno works and who have a say in the evaluation of Harno's activities. At UNINOVA, several criteria such as the willingness of stakeholders to participate in the ETHNA Lab, expertise, and impact of RRI activities were considered and further analysed.

Different factors were taken into considerations in the next steps of mapping, prioritising, and selecting stakeholders. At UJI, duplicities, gender balance, and the relevance of including different voices were issues discussed in the process. At Espatec, the composition of each company, the area of activity in which they operate, and their human resources were taken into account. At UNINOVA, the process was guided by discussions on which stakeholders would be most affected by the implementation of the ETHNA System and which stakeholders would be less likely to engage. The number of stakeholders selected by the organisations vary from five to 68, reflecting the different implementing contexts of the organisations.

The recruitment of stakeholders has not been completed at the time of reporting. Some of the organisations have begun to contact stakeholders for consultations and drafted the workshop agendas. At UJI, personalised e-mails have been sent to stakeholders from the Vice rector Office and the ETHNA System team jointly and different phone calls will follow up the recruitment process. At Espatec, different means were taken to recruit the stakeholders, including virtual meetings, exchanges of emails, and phone calls. Explanations were given as to what the project consists of, what is expected from the participation of stakeholders, and why stakeholder contributions can generate a great impact on the development of Espatec's activity in RRI.

Finally, the preliminary engagement plans of the organisations were drafted. At UJI, two workshops with external stakeholders will be held. At the first workshop, stakeholders from business/industry and civil society will participate. At the second workshop, academia and policymakers will attend. The expectation is that these groups can provide information to refine the results that UJI has achieved on the Code of Ethics and Good Practices and on the Ethics Committee. At ARC Fund, one prominent external stakeholder will be invited to become a member of the ARC Fund's Research Ethics Board. In general, the relevant stakeholders will take part in different activities, including an invitation to present their own experience with similar or different arrangements for ensuring the high ethical standards of research and innovation practices. The input from external stakeholders will be used to revise and adapt the components of the ETHNA System implemented at ARC Fund. The periodic

meetings with external stakeholders will continue in the form of 'RRI dialogues', used to further promote the ethical governance of R&I in line with the ETHNA System.

Thus, with the implementing organisations completing the extended stakeholder mapping, the foundation for the Consultation step of the ETHNA Lab has been made.

5 References

González-Esteban, E., Feenstra, R., Calvo, P., Sanahuja, R., Fernández-Beltrán, F. & García-Marzá, D. (2022) *Final concept of the ETHNA System*, ETHNA System D4.2. Available at: https://ethnasystem.eu/wp-content/uploads/2022/02/D4.2_ETHNA_final-concept.pdf (13 April 2022).

Holstener, S., Neuhaus, S. V., Bidstrup, M. V., González-Esteban, E., Calvo, P., De Grandis, G., Must, Ü., Camarinha-Matos, L. M., Ferrada, F., Oliveira, A. I., Bertolín, J. A., Gil, E. P., Hajdinjak, M. and Damianova, Z (To be published) *Extended Stakeholder Mapping of the Implementing Organisations*, The ETHNA System D5.2. Will be available here: <https://ethnasystem.eu/results/>

Häberlein, Lisa; Mönig, Julia Maria and Hövel, Philipp (2021). *Mapping stakeholders and scoping involvement – A guide for HEFRCs*, ETHNA System D3.1. Available at: https://ETHNAsystem.eu/wp-content/uploads/2021/10/ETHNA_2021_d3.1-stakeholdermapping_2110011.pdf

Neuhaus, S. V., Holstener, S., Bidstrup, M. V., Kotnis, S. R., Coronel, M. R., Aguirrebengoa, I. L., Eekhout, X. (To be published): *ETHNA System Implementation co-design requirements guiding paper – The ETHNA Lab*, ETHNA System D5.3. Will be available here: <https://ethnasystem.eu/results/>

6 Appendix																	
6.1 Higher Education Context																	
6.1.1 QH stakeholder mapping – University Jaume I (UJI)																	
Who enables ethical governance?	Position	Organisation	Directly or indirectly affected?	Relation to RRI key areas						Relation to the dimension of the R&I process				Engagement			
				Research Integrity	Governance	Gender	Public Engagement	Science Education	Open Access	Anticipation	Inclusion	Reflexivity	Responsiveness	Have been engaged in previous parts of the project (please specify)	Plan to engaged in ETHNA Lab stage (please specify)	Why is this particular stakeholder relevant?	
RESEARCH, INNOVATION, FUNDER COMMUNITY																	
Associations and research networks	RUViD (Network of Valencian Universities for the promotion of Research, Development and Innovation)		Indirectly		X											Consultation Lab Stage	
Associations and research networks	FECYT [https://www.fecyt.es]		Indirectly		X	X		X	X					FECYT is partner of the project and other researchers from the organization have take part at the Integrity Workshop held in March 2021.		Consultation Lab Stage	
Associations and research networks	CRUE (H+H+ CRUE: Divulgación y Cultura Científica; Red de Oficinas de Transferencia de Resultados de Investigación (OTRI); Red de Unidades de Gestión de la Investigación (UGI); Red de Oficinas Europeas)		Indirectly	X	X											Consultation Lab Stage	
Networks in the field of R&I	Network of ethics committees of universities and public research bodies (RCE), https://redcomitesetica.es		Indirectly	X	X	X	X	X	X	X	X	X	X			Consultation Lab Stage	
BUSINESS AND INDUSTRY																	
SMEs	ILERIMPLANT		Directly - research colaboration				X			X	X		X			Construction Lab Stage	
SMEs	INVESTIGACION Y PROYECTOS MEDIOAMBIENTE		Directly - research colaboration				X			X	X		X			Construction Lab Stage	
SMEs	POLYPEPTIDE THERAPEUTIC SOLUTIONS		Directly - research colaboration				X			X	X		X			Construction Lab Stage	
SMEs	SIEMENS GAMESA		Directly - research colaboration				X			X	X		X			Construction Lab Stage	
SMEs	MICROBIOTECH		Indirectly				X			X	X		X			Construction Lab Stage	
SMEs	REALONDA		Indirectly				X			X	X		X			Construction Lab Stage	
Multinational companies	Exploraciones Radiológicas Especiales SL		Directly / Research colaboration				X			X	X		X			Construction Lab Stage	
Multinational companies	SOCIEDAD FOMENTO AGRICOLA CASTELLONENSE		Directly / Research colaboration				X			X	X		X			Construction Lab Stage	
Multinational companies	PORCELANOSA CORPORACIÓN		Directly / contract				X			X	X		X			Construction Lab Stage	
Multinational companies	UBE		Directly / contract				X			X	X		X			Construction Lab Stage	
Multinational companies	ESMALGLASS		Directly / contract				X			X	X		X			Construction Lab Stage	

	Castellón Provincial Council https://www.uj.es/institucional/estrategia/plans/comunicacion/patrocinacion/proyectos/patrocina/proyectos#?2 , Técnica Gestión Investigación de la OCCTI. Programme to foster work placements in rural areas (LJI) and Castellón Provincial Council)	Directly			X											Consultation Lab Stage		
Local and regional organisations																		
Research sponsors - Jaume I University sponsored programmes: https://www.uj.es/institucional/estrategia/plans/comunicacion/patrocinacion/proyectos/patrocina/proyectos#?2	BP OIL ESPAÑA. Donación a los proyectos de investigación de la campaña #SomosJiContraCOVID.	Indirectly					X										Consultation Lab Stage	
Research sponsors - Jaume I University sponsored programmes: https://www.uj.es/institucional/estrategia/plans/comunicacion/patrocinacion/proyectos/patrocina/proyectos#?3	FACSA. Donación a los proyectos de investigación de la campaña #SomosJiContraCOVID.	Indirectly					X										Consultation Lab Stage	
Research sponsors - Jaume I University sponsored programmes: https://www.uj.es/institucional/estrategia/plans/comunicacion/patrocinacion/proyectos/patrocina/proyectos#?4	UBI Corporation Europe S.A. Donación a los proyectos de investigación de la campaña #SomosJiContraCOVID	Indirectly					X										Consultation Lab Stage	
Research sponsors - Jaume I University sponsored programmes: https://www.uj.es/institucional/estrategia/plans/comunicacion/patrocinacion/proyectos/patrocina/proyectos#?5	MADER, onación a los proyectos de investigación de la campaña #SomosJiContraCOVID	Indirectly					X										Consultation Lab Stage	
Research sponsors - Jaume I University sponsored programmes: https://www.uj.es/institucional/estrategia/plans/comunicacion/patrocinacion/proyectos/patrocina/proyectos#?6	CAIXALMASSORA. Donación a los proyectos de investigación de la campaña #SomosJiContraCOVID	Indirectly					X										Consultation Lab Stage	
Research sponsors - Jaume I University sponsored programmes: https://www.uj.es/institucional/estrategia/plans/comunicacion/patrocinacion/proyectos/patrocina/proyectos#?7	QIMECONS. Donación al Estudio para analizar y reducir los riesgos de contagio con COVID-19 en los quironfamos hospitalarios	Indirectly					X										Consultation Lab Stage	
Research sponsors - Jaume I University sponsored programmes: https://www.uj.es/institucional/estrategia/plans/comunicacion/patrocinacion/proyectos/patrocina/proyectos#?8	Ineco Composites Hispania. Donación al Proyecto de Investigación para el desarrollo de un fármaco antiviral contra la COVID-19. Inhibidores de ciclo de proteasas contra el SARS-CoV-2	Indirectly					X										Consultation Lab Stage	
Research sponsors - Jaume I University sponsored programmes: https://www.uj.es/institucional/estrategia/plans/comunicacion/patrocinacion/proyectos/patrocina/proyectos#?9	Modernas Iniciativas Empresariales S.L. Donación al Proyecto de Investigación para el desarrollo de un fármaco antiviral contra la COVID-19	Indirectly					X										Consultation Lab Stage	
Research sponsors - Jaume I University sponsored programmes: https://www.uj.es/institucional/estrategia/plans/comunicacion/patrocinacion/proyectos/patrocina/proyectos#?10	SCHARLAB. Donación en especie al Proyecto de Investigación para el desarrollo de un fármaco antiviral contra la COVID-19 y al Estudio para analizar y reducir los riesgos de contagio de la COVID-19 en los quironfamos hospitalarios	Indirectly					X										Consultation Lab Stage	
CIVIL SOCIETY																		
Non-governmental organisations (NGOs)	Spanish Association Against Cancer (AECC). (https://www.aecc.es/es/investigacion/proyectos/aecc)	Directly / Indirectly					X							X			Construction Lab Stage	
Non-governmental organisations (NGOs)	Fundación Le Cado. (https://www.fondevida.org)	Directly / Indirectly					X							X			Construction Lab Stage	
Non-governmental organisations (NGOs)	Caixa dels Colors Association (https://castello.associacions.org/castello/default/ver/3274)	Directly / Indirectly					X							X			Construction Lab Stage	
Non-governmental organisations (NGOs)	Ibercivis	Directly / Indirectly					X							X			Construction Lab Stage	
Non-governmental organisations (NGOs)	Fundación Davalos Flecher	Directly / Indirectly					X							X			Construction Lab Stage	
Trade unions	(Comité de Seguridad y salud laboral)	Indirectly					X							X			Construction Lab Stage	
Educational community (teachers, students)	CEFIRE (https://mestreacasa.gva.es/web/cefire/castello/home)	Directly / Indirectly					X	X						X			Construction Lab Stage	
Educational community (teachers, students)	Fundación FISABIO (Formación: http://fisabio.san.gva.es/actividades-certificadas)	Directly / Indirectly					X	X						X			Construction Lab Stage	

6.3.2 QH stakeholder mapping – Parc Científic Tecnològic i Empresarial (Espaltec)																	
Who enables ethical governance?	Position	Organisation	Directly or indirectly affected?	Relation to RRI key areas						Relation to the dimension of the R&I process				Engagement			
				Research Integrity	Governance	Gender	Public Engagement	Science Education	Open Access	Anticipation	Inclusion	Reflexivity	Responsiveness	Have been engaged in previous parts of the project (please specify)	Plan to engaged in ETHNA Lab stage (please specify)	Why is this particular stakeholder relevant?	
BUSINESS AND INDUSTRY																	
SMEs	À Punt		Directly												Espaltec Company		
	Abervian		Directly												Espaltec Company		
	Actualmed		Directly												Espaltec Company		
	Arker Labs		Directly												Espaltec Company		
	Aliscoft		Directly												Espaltec Company		
	Bidica		Directly												Espaltec Company		
	Blue Plasma Power		Directly												Espaltec Company		
	Braintec		Directly												Espaltec Company		
	Cloudappi		Directly												Espaltec Company		
	Cochinar emociones		Directly												Espaltec Company		
	CYE Energia		Directly												Espaltec Company		
	El telar		Directly												Espaltec Company		
	Gen72		Directly												Espaltec Company		
	Gestión de Ecosistemas Agrícolas		Directly												Espaltec Company		
	Heligràfica		Directly												Espaltec Company		

	i-care		Directly													Esplatec Company		
	Innoqubit		Directly													Esplatec Company		
	Infoware		Directly													Esplatec Company		
	Loopers		Directly													Esplatec Company		
	Micrea		Directly													Esplatec Company		
	Nob 166		Directly													Esplatec Company		
	Outcomes'10		Directly													Esplatec Company		
	Quantum Energia		Directly													Esplatec Company		
	Soluciones Cuatroochenta		Directly													Esplatec Company		
	The Logic Value		Directly															
	Walhallia		Directly													Esplatec Company		
	Amazing up		Directly													Esplatec Company		
	Arumani		Directly													Esplatec Company		
	Compark Mobility		Directly													Esplatec Company		
	Dualium Management		Directly													Esplatec Company		
	Econectia		Directly													Esplatec Company		
	Grupo Gimeno		Directly													Esplatec Company		
	Incopin		Directly													Esplatec Company		
	Innova Consulting		Directly													Esplatec Company		

	Innova Maquinaria		Directly													Esplatec Company		
	Inturisk		Directly													Esplatec Company		
	Nayer Systems		Directly													Esplatec Company		
	NRS Group		Directly													Esplatec Company		
	Orbel Grupo		Directly													Esplatec Company		
	Prades MT		Directly													Esplatec Company		
	Pisque System		Directly													Esplatec Company		
	Sacmi Iberica		Directly													Esplatec Company		
	Semanticbots		Directly													Esplatec Company		
	Trebol tree		Directly													Esplatec Company		
	UBE		Directly													Esplatec Company		
Multinational companies																		
Associations / Networks	Valencian Science Parks Network (https://www.repcv.net/)		Indirectly															
CIVIL SOCIETY																		
Non-governmental organisations (NGOs)	SECOT Castellón		Indirectly															
																NGO based in Esplatec		

