

# IIT Deliverable

## D2.2 Interview guidelines and web survey content



Grant Agreement number	649351
Action Acronym	IIT
Action Title	Industrial Innovation in Transition
Funding Scheme	H2020 RIS / EURO-2-2014
Version date of the Annex I against which the assessment will be made	22 <sup>nd</sup> December 2014
Start date of the project	1 <sup>st</sup> February 2015
Due date of the deliverable	30 <sup>th</sup> June 2015
Actual date of submission	30 <sup>th</sup> June 2015
Lead beneficiary for the deliverable	AALTO
Dissemination level of the deliverable	Public (to be published M24)

### Action coordinator's scientific representative

Prof. Erkki Ormala  
AALTO –KORKEAKOULUSÄÄTIÖ,  
Aalto University School of Business, Department of Management Studies  
erkki.ormala@aalto.fi

This document has been produced in context of IIT project which is part of European Community's Horizon 2020 Programme. For avoidance of all doubts, the European Commission has no liability in respect of this document which is merely representing the authors' view.



This project has received funding from *the European Union's Horizon 2020 research and innovation programme* under grant agreement No 649351

Authors in alphabetical order		
Name	Beneficiary	e-mail
Dale-Clough, Lisa	UNIMAN	lisa.dale-clough@mbs.ac.uk
de la Parte, José Alberto	ZABALA	jdelaparte@zabala.es
Georghiou, Luke	UNIMAN	luke.georghiou@mbs.ac.uk
Hahn, Katrin	TWENTE	k.hahn@twente.nl
Iriarte, Javier	ZABALA	jiriarte@zabala.es
Konrad, Kornelia	TWENTE	k.konrad@utwente.nl
Li, Yanchao	UNIMAN	yanchao.li@mbs.ac.uk
Ormala, Erkki	AALTO	erkki.ormala@aalto.fi
Ploder, Michael	JOANNEUM	michael.ploder@joanneum.at
Sauer, Angelika	JOANNEUM	angelika.sauer@joanneum.at
Schaffers, Hans	AALTO	hans.schaffers@aalto.fi
Tukiainen, Sampo	AALTO	sampo.tukiainen@aalto.fi

## Abstract

This deliverable describes the research methodology of the Industrial Innovation in Transition –project (IIT). In line with the traditions of social science, the main purpose of this deliverable is to distinguish and make explicit the *methodology* (theoretical choices underpinning the research design) and *methods* of the research (the actual tools and techniques of the research, drawing on the methodology).

Industrial innovation has changed fundamentally over the past ten years. The science, technology or corporate-driven innovation paradigm has been challenged by a new open, human and eco-system-based collaborative innovation paradigm since the 1990's. Companies have widely adopted new tools such as open innovation, innovation networks and ecosystems, systemic innovations, public/private partnerships, crowd sourcing, social media, and demand based innovations. Building on these premises, the principal purpose of IIT is a) to create a holistic understanding of what are the current best practices in the most innovative companies in order to produce an updated best practice documentation for European CTOs in the changed industrial innovation environment, b) to determine the current level of adoption of the identified new innovation models in European companies, and c) to examine how well the current innovation policy tools are able to respond to the changing industrial innovation.

For these purposes, a multi-method approach is adopted in the IIT –project. In the data collection both exploratory, theory building qualitative methods, and theory testing and generalizing quantitative methods are utilized in IIT. Therefore, as data collection methods, interviews and case studies are used for exploratory, theory building purposes, and a web-survey for theory testing and generalizing purposes. This deliverable describes in detail the sample selection guideline for the interviews as well as the interview guideline. The deliverable also briefly summarizes the basic principles of the case studies and the web survey used in IIT.

## Contents

1	Introduction .....	4
1.1	Research premises and targets .....	4
2	IIT Methodology .....	6
2.1	Overview of the methodology .....	6
2.2	Interviews.....	6
2.3	Case studies.....	7
2.4	Web survey .....	8
3	Sample selection guideline for interviews .....	9
3.1	Sample selection principles.....	9
3.2	Sector definitions .....	10
4	Interview guideline .....	14
4.1	Interview questionnaire .....	14
5	Web survey .....	18
5.1	Sampling strategy and sources .....	18
5.2	Key stakeholders .....	20
5.3	The logic of the survey concept (choreography) .....	22
6	References.....	23
	Appendix 1: Interview questionnaire translations .....	25
6.1	Spanish .....	25
6.2	Portuguese .....	29
6.3	Italian.....	33
6.4	Dutch.....	37
6.5	German.....	41
6.6	Czech .....	44
6.7	Estonian.....	47
6.8	Finnish .....	51

# 1 Introduction

**This deliverable describes the research methodology of the Industrial Innovation in Transition –project (IIT).** In line with the traditions of social science, the main purpose of this deliverable is to distinguish and make explicit the *methodology* (theoretical choices underpinning the research design) and *methods* of the research (the actual tools and techniques of the research, drawing on the methodology) (Denzin & Lincoln, 1994; Silverman, 2001).

This brief introduction provides a short summary of the IIT research premises and targets. They create the methodological foundations of the project.

## 1.1 Research premises and targets

Industrial innovation has changed fundamentally over the past ten years. The science, technology or corporate-driven innovation paradigm has been challenged by a new open, human and eco-system-based collaborative innovation paradigm since the 1990's. Companies have widely adopted new tools such as open innovation, innovation networks and ecosystems, systemic innovations, public/private partnerships, crowd sourcing, social media, and demand based innovations.

However, while the existing innovation research has recognized these changes, it often provides a fragmented description of the innovation management process in the changed environment (cf. Crossan & Apaydin, 2010; Tidd, 2001). Also, the existing research does not fully reflect the extent to which companies have adopted new innovation tools. Consequently, the innovation research often concentrates on sophisticated details, which however, provides limited understanding and tools for CTOs to operate effectively in contemporary innovation environment.

The changed innovation environment also challenges the existing innovation policy instruments. Innovation policies still in many respects reflect the realities of the industrial age. However, contemporary innovation processes are more and more Internet-based, systemic and global, whereas innovation policy instruments remain linear and national or regional. Therefore, the study also aims to provide a significant, up-to-date knowledge base and methodology for the renewal of innovation policies.

Building on these premises, **the principal purposes of IIT are:**

- a) **To create a holistic understanding of what are the current best practices in the most innovative companies in order to produce an updated best practice documentation for European CTOs in the changed industrial innovation environment.**
- b) **To determine the current level of adoption of the identified new innovation models in European companies.**
- c) **To examine how well the current innovation policy tools are able to respond to the changing industrial innovation.** IIT will produce a number of recommendations how the innovation systems in Europe should be developed to bridge the gap between Europe and its main competitors.

These broad targets, then, set the following requirements to IIT:

- a) The IIT -project assesses current innovation practices both of frontrunner companies and of followers. Both kinds of companies are needed in order to minimize sample biases and the typical over-/undersampling tendencies in organizational research (Denrell, 2003).
- b) The IIT project adopts a sectoral approach, recognizing that innovation processes are often contingent of the industrial sector, which leads to sectoral systems of innovation (e.g. Castellacci, 2008; Malerba and Orsenigo, 1997; Marsili, 2001; Pavitt, 1984; Van de Poel, 2003). Consequently, the project builds on a cross-industry analysis of innovations processes.
- c) IIT acknowledges that innovation processes are more and more spread over cross-industry innovation networks, that is, innovation “ecosystems” (cf. Moore, 1993). The project also needs to acknowledge that in these ecosystems, new forms of innovation practices (open innovation, crowdsourcing, PPPs, living labs etc.) are made possible as well as taken into use (e.g. Dahlander & Gann, 2010).
- d) IIT develops an understanding of existing and emerging innovation policy instruments on both national and EU level of analysis. This is needed in order to assess the degree to which the instruments reflect and support changes in industrial innovation environment and processes.

## 2 IIT Methodology

### 2.1 Overview of the methodology

The above outlined research premises and targets mean that the methodological basis of IIT lies in the need and aim to establish explanations of regularities of innovation behavior and practices as well as statistical generalizations in contemporary innovation environment and processes (cf. Guba & Lincoln, 1994).

Furthermore, building on the research premises outlined in the previous section, the IIT –project examines partly phenomena that are previously only little studied, or examined with small number of cases or from perspectives focusing on scientific, disciplinary ‘fragments’ instead of overviewed as a whole. Also, IIT recognizes that many of the new innovation practices still await real-life validation and generalization.

Taken together, a multi-method approach (Jick, 1979) is adopted in the IIT –project. That is, in the data collection both exploratory, theory building qualitative methods and theory testing and generalizing quantitative methods are utilized in IIT (Denzin & Lincoln, 1994; Miles & Huberman, 1994; cf. Glaser & Strauss, 1967). Therefore, as data collection methods, interviews and case studies are used for exploratory, theory building purposes, and a web-survey for theory testing and generalizing purposes. This ensures *data triangulation* in the positivist sense (Jick, 1979). That is, the three different methods enable comparing and authenticating data collected from different sources in order to increase the reliability and validity of the research results. This is illustrated in Figure 1., and the three methods are briefly summarized below.

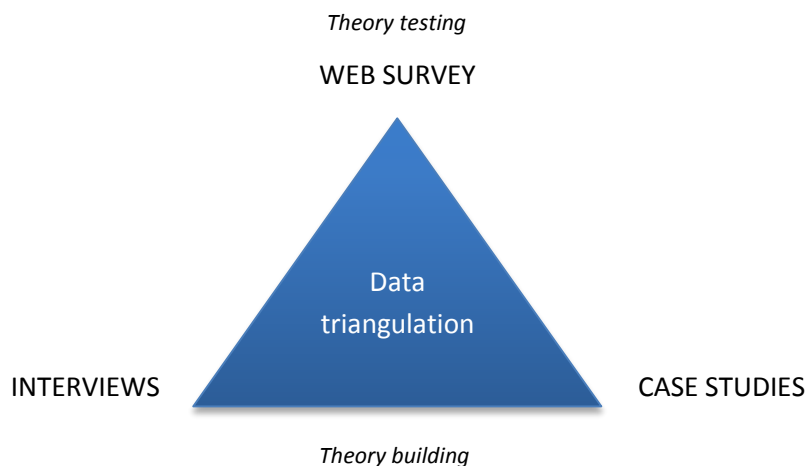


Figure 1. IIT data collection methods.

### 2.2 Interviews

For exploratory, theory building purposes, the data collection in IIT will begin by semi-structured interviews. To ensure the *homogeneous sampling* principle of qualitative research (Polkinghorne, 2005), the

interviews will be conducted among Chief Technology Officers, or managers in equivalent position, of the target companies. Also to ensure the trustworthiness of the data (Guba & Lincoln, 1994), the IIT target is to carry out 800 interviews. Therefore, as the basis of IIT is covering and comparing of five industrial sectors, the ideal is to try and achieve a balanced sample size between sectors. The purpose of the overall sample size is also to enable different kinds of comparisons (e.g. innovation practices between countries, company sizes, high/low innovation performers, etc.) and ensure fulfilling the data richness demands of qualitative research as well as the saturation of understanding in each comparison (Polkinghorne, 2005). Also, in order to ensure the inclusion of relevant companies (i.e. to ensure that all relevant 'voices' are heard), and that way ensure the saturation of understanding, this sample size will lead to conducting one interview per company (cf. *ibid.*).

Each partner will conduct 150 interviews, mainly in two target member states per partner (AT, CZ, DE, EE, ES, FI, IE, IT, NL, PT, UK). As an exception, ZABALA will conduct interviews in three countries (ES, PT and IT). In combination with the planned number of interviews, this will allow for comparisons made between countries. In addition, to minimize sample biases (related to the common tendencies of over-/undersampling high/low performing companies) (Denrell, 2003) by ensuring that the best innovation performers are reached, 10 additional interviews per partner are assigned as result of the collaboration with the European Round Table of Industrialists (ERT). Finally, and also to minimize the same over-/undersampling biases (*ibid.*), of the 11 EU member states where interviews are carried out, two are innovation leaders, five innovation followers and four moderate innovators.

### 2.3 Case studies

**As in the interview survey one interview per company will be carried out, due to the aforementioned reasons, to deepen the understanding on the different innovation practices and their alignment with innovation policies, 10-15 companies are selected for case studies.** The purpose of the case studies, therefore, is to build towards enriching the findings and emerging understanding (and to fill the 'gaps' in understanding) achieved with the interviews, as well as to contribute to exploratory theory building (Eisenhardt, 1989; Yin, 2009). According to Eisenhardt (1989), case studies are especially suited for inductive theory building when the phenomenon under examination is novel or otherwise understudied. From this perspective, case studies are particularly useful for developing testable hypotheses and propositions for wider generalization with other research methods (*ibid.*). In IIT, therefore, the case studies will serve the purpose of generating hypotheses and propositions to be tested with the web survey method (briefly summarized in the next section).

**The IIT case study approach will be developed in more detail based on the interviews described in the previous section. However, two key principles are outlined here: Firstly**, in line with Eisenhardt (1989), the case studies will build on the interviews and prior theoretical understanding for developing an understanding of the key variables and constructs examined in IIT, and for outlining a rudimentary understanding of their relationships. However, flexibility will be retained in following and adjusting to emerging constructs and their relations, research foci, and research questions during the case study data collection process. Therefore, this builds towards more inductive theory building process, which is taken as a benefit as IIT partly examines novel and little studied phenomena.

**Secondly**, and in line with the *theoretical sampling* principle (Eisenhardt, 1989), contrasting cases will be selected in different sectors and countries. Therefore, the selected cases will differ according to their innovation practices and the extent to which these companies are supported or constrained by national



innovation policies. The benefit here is that this selection principle increases the possibilities for extending the findings and understanding from the interview and the likelihood of making the processes and practices of interest to IIT more ‘transparently observable’ (Eisenhardt, 1989: 537). To increase the data richness and the depth of understanding (cf. Polkinghorne, 2005), additional interviews with key figures other than the CTOs, in the organization and at government level, will be conducted. Also data from annual reports, policy documents, and other written sources will be collected.

## 2.4 Web survey

**In IIT, the interviews and the case studies provide the basis for deductive, hypotheses testing quantitative data collection. This will be carried out by a web survey.** Here the primary motive of the web survey is to validate the findings and hypotheses from the interviews and case studies, therefore, contributing to developing *statistical generalizations*. The web survey will also further widen the respondent base to take into examination the perspectives of key stakeholders (e.g. HEI, policy and industry experts). The survey will cover the same topics as the interview guideline with the possibility of additions e.g. in the form of tables usable in web based surveys.

However, the web survey will not be used in an explorative way. Instead, it will draw on the interview findings with adjustments from the case studies. Those findings and hypotheses will be transferred into future oriented questions, which can be tested within a broader respondent base. Survey participants will be asked to share their opinion on the findings/hypotheses. Thus the online survey will add the perspective of a mini-delphi and policy review.

The web surveys will be translated into the national languages of IIT in order to cater to the needs of SMEs especially.

Companies (not involved in the case study analysis)	HEIs	PROs	Other Stakeholders
15000	300	100	200

### 3 Sample selection guideline for interviews

This section describes the guiding principles for developing the sample of companies targeted for interviews.

#### 3.1 Sample selection principles

**For selecting the companies contacted for the interviews, the principle of purposive sampling is followed in IIT (cf. Polkinghorne, 2005).** Therefore, in contrast with the random sampling typically used for statistical generalizations, the aim underlying purposive sampling is to deliberately construct a sample ensuring the obtaining of sufficiently rich data (ibid.). That is, here the basic idea is to purposefully set up a sample, which provides as information-rich an understanding as possible, and that way, increases as much as possible the depth of understanding of the processes and practices salient to IIT. Therefore, as outlined in the previous sections, in order to minimize sample biases (Denrell, 2003) companies known for their innovativeness as well as more static companies will be included in the sample. Also large corporations/MNCs as well as SMEs will be selected for the interviews.

**Furthermore, as one of the premises of IIT is to be able to capture different sectoral innovation patterns, a cross-sectoral sample, ideally with a balanced sample size between sectors, will be set up.** This is based on the notions according to which innovation processes have been found to differ between industrial sectors. For example, the industrial economic literature has highlighted the role of structural features of industrial sectors such as the degree of concentration and vertical integration in innovation processes. More recently, scholars working with an evolutionary economics perspective have characterized differences between sectors via technological trajectories and regimes or sectoral systems of innovation. (Castellacci, 2008; Edquist, 1997; Malerba 2002; Marsili, 2001; Pavitt, 1984; Van de Poel, 2003). The relevance of a sectoral perspective on innovation in a European context is also illustrated by a study conducted by the Europe INNOVA consortium (Montalvo and Van der Giessen, 2011). The study shows that there are great differences among sectors in terms of, for example, R&D expenditures and propensity to innovate. It also highlights that sectors differ in terms of their distribution of innovation labour. Consequently, in IIT a sample, reflecting areas of innovation rather than traditional sectoral boundaries, will be set up. Therefore, novel sectors (e.g. clean technology), which arguably might not be as clearly established as more traditional sectors (e.g. finance or manufacturing), are also included in IIT.

**From this perspective, the five main sectors to be covered in IIT are 1) ICT and ICT services, 2) Manufacturing, 3) Biopharma, 4) Agro-food, and 5) Clean technologies.** These sectors, respectively certain subcategories of them, can be expected to cover the variety of innovation patterns shown in the literature so far, and at the same time cover a major part of the industry, which is important for the overall goal of IIT to deliver results which are broadly based. In each country, the distribution of the target companies among the different industrial sectors will be adapted to the specific weight of each industrial sector in the national economy, in order to obtain an adequate and balanced sample of the national industry. Also for analytic and comparative purposes, a balanced sample of companies in each sector is aimed at on aggregate, cross-national level. That is, approximately the same amount of companies in each sector is targeted for the sample.

However, in terms of volume, some sectors can be considered larger than others. Therefore, if there are vast numbers of companies to choose from in a particular sector, a representative sample of these companies is selected, and the sample size will be balanced according to the smaller sectors. Yet, the target is to ensure meaningful sample sizes that allow for developing a rich understanding of innovation practices and processes respective of the sectors (cf. Denzin & Lincoln, 1994). **Taken together, ideally at least 10 companies per sector in each country will be the target sample.**

Existing research emphasizes also that **in order to understand particular processes and their implications to organizational competitiveness, studies should be designed so that they avoid as much as possible any over-/undersampling biases (Denrell, 2003).** In IIT these would occur, if the sample of companies targeted for interviews would consist of disproportionately large numbers of either high or low innovation performers. This would lead to a situation with decreased possibilities for comparisons between high and low innovation performers, although it is well known that such comparisons increase the likelihood of accurate and reliable findings (cf. *ibid.*). **Therefore, for enabling examinations of the kinds of processes and practices that lead to increased profit, growth, and employment, it is crucial to include both high and low innovation performing companies in the sample. For the same reason, it is also necessary to maintain a balance in including both large corporations and SMEs to the sample.**

**Below, the definitions of each of the aforementioned five sectors are summarized.** These definitions serve as a guideline describing the industries that a particular sector is thought to consist of in IIT. This provides, then, the basis for selecting companies targeted for interviews. It is noteworthy, that for data collection purposes, the definitions below are kept broad in order to avoid excluding, right from the outset, industries that might have relevant companies in light of the IIT research targets. Bearing this in mind, the below definitions and industry listings are not presented so as to mean that IIT would cover each and every one of the listed industries.

## **3.2 Sector definitions**

**In the sector definitions, the IIT research follows standard categorizations and classifications as far as possible.** However, as IIT focuses partly on novel sectors (i.e. Biopharma and Clean technologies), different classifications for defining these sectors are used. More specifically, as the two aforementioned sectors are less established and less clearly demarcated in their definitions as the more traditional sectors (i.e. ICT, Manufacturing, and Agro-food), IIT will develop inductively the definitions for these sectors by using the most up-to-date information available.

**In the sector definitions below, the lists of industries appearing are not exhaustive in the sense that the IIT research would cover each and every one of them in the data collection. Instead, when constructing the samples, they are understood as broad guidelines enabling to include companies from the listed industries as representatives of a particular sector.** Also for research purposes, flexibility is retained during the course of the research in the sense that if a certain company is found highly interesting in its innovation capabilities, that company may be included in the sample even if it is in an industry not listed below.

### **3.2.1 ICT and ICT Services Sector:**

According to OECD (2007), industries constituting the ICT and ICT services sector can be defined in the following way: “The production (goods and services) of a candidate industry must primarily be intended to

fulfil or enable the function of information processing and communication by electronic means, including transmission and display”.

Therefore in IIT, drawing on the NACE standard, the following industries are considered to constitute the ICT and ICT services sector:

#### ***ICT manufacturing industries***

- Manufacture of electronic components and boards
- Manufacture of computers and peripheral equipment
- Manufacture of communication equipment
- Manufacture of consumer electronics
- Manufacture of magnetic and optical media

#### ***ICT trade industries***

- Wholesale of computers, computer peripheral equipment and software
- Wholesale of electronic and telecommunications equipment and parts

#### ***ICT services industries***

- Software publishing
- Telecommunications
  - Wired telecommunications activities
  - Wireless telecommunications activities
  - Satellite telecommunications activities
  - Other telecommunications activities
- Computer programming, consultancy and related activities
  - Computer programming activities
  - Computer consultancy and computer facilities management activities
  - Other information technology and computer service activities
- Data processing, hosting and related activities; web portals
  - Data processing, hosting and related activities
  - Web portals
- Repair of computers and communication equipment
  - Repair of computers and peripheral equipment
  - Repair of communication equipment

### **3.2.2 Manufacturing sector:**

The manufacturing sector is a highly established sector. Consequently, definitions of this sector exist in large numbers. Common to many a definition is the concept of *transformation*. Therefore, in IIT the manufacturing sector is considered as the agglomeration of industries engaged in chemical, mechanical, or physical *transformation* of materials, substances, or components into consumer or industrial goods.

Building on the NACE standard, this sector then comprises of the following industries:

- Manufacture of textiles
- Manufacture of wearing apparel
- Manufacture of leather and related products

- Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
- Manufacture of paper and paper products
- Manufacture of coke and refined petroleum products
- Manufacture of chemicals and chemical products
- Manufacture of rubber and plastic products
- Manufacture of other non-metallic mineral products
- Manufacture of basic metals
- Manufacture of fabricated metal products, except machinery and equipment
- Manufacture of computer, electronic and optical products
- Manufacture of electrical equipment
- Manufacture of machinery and equipment n.e.c.
- Manufacture of motor vehicles, trailers and semi-trailers
- Manufacture of other transport equipment
- Manufacture of furniture
- Other manufacturing

### 3.2.3 Biopharmaceutical sector:

The IIT understanding of the biopharmaceutical sector draws on the following definition of Xia (2013): “[B]iopharmaceutical Sector [is] a subsector of the broader biotechnology sector... Biotechnology is defined in a single definition recommended by OECD (2003) as the manufacture of products by or from living organisms usually involving bioprocessing. We differentiate biopharmaceutical from this broader view of biotechnology as a sector with a specific focus on pharmaceuticals inherently biological in nature and manufactured by biotechnology methods (Rader, 2007).”

Also in a report by the Danish Technological Institute (2009: 1), the biopharmaceutical sector is defined as follows: “The biopharmaceutical sector is defined as *enterprises focused on discovery and development of biopharmaceutical products for human healthcare, based on tools and approaches from modern biotechnology*. This also includes firms specialized in the development of research tools for this objective (“platform firms”), but excludes bio-manufacturing enterprises, biotechnology enterprises providing services to biopharmaceutical and pharmaceutical enterprises, and enterprises involved in the production of biosimilars.”

Taken together, building on the NACE standard, the Biopharmaceutical sector can be considered to comprise of the following industries:

- Manufacture of basic pharmaceutical products
- Manufacture of pharmaceutical preparations
- Biotechnological research and development

### 3.2.4 Agro-food sector:

In IIT, the agro-food sector is understood to comprise of industries that operate in the large-scale production, processing, and packaging of food using modern equipment and methods.

Therefore, building on NACE, the Agro-food sector is constituted of the following industries:

- Growing of non-perennial crops

- Growing of perennial crops
- Plant propagation
- Mixed farming
- Support activities to agriculture and post-harvest crop activities
- Manufacture of food products
- Manufacture of beverages
- Wholesale of agricultural raw materials and live animals

### **3.2.5 Clean technologies sector:**

Clean technologies can be considered as a vast sector, constituted of a wide variety of highly divergent industries. Drawing on PricewaterhouseCoopers, Tierney (2011: 64), describes cleantech as: “not one tidy group, but rather an array of distinct sub-sectors: solar, wind, and geothermal energy generation, biofuels, energy storage (power supplies such as batteries and uninterruptible power supplies), nuclear, new pollution-abatement, recycling, clean coal, and water technologies [...] The common thread is that all of these sub-sectors represent technologies, services, or products aimed at reducing greenhouse gas emissions and other pollutants and promoting energy efficiency and the conservation of natural resources.”

Drawing on this definition, in IIT the cleantech sector is considered to consist of the following industries (cf. Kachan & Co, 2012):

- Clean energy
  - Wind, solar, renewable fuels, marine, biomass, geothermal, fuel cells, waste-to-energy
- Energy storage
  - Batteries, thermal storage, mechanical storage, super/ultracapacitors, hydrogen storage
- Efficiency
  - Smart grid, green building, cogeneration, semiconductors, collaborative consumption systems
- Air and environment
  - Carbon sequestration, carbon trading/offsets, emissions control, bioremediation, recycling and waste
- Water
  - Production, treatment, transmission, efficiency

## 4 Interview guideline

**This section is the guide for interviewers of company CTOs (or managers in equivalent position) in the target sample within the sectors described above.** The interviews especially seek to elicit information on company innovation practices with a particular focus on what is novel and on the core issue of how a firm mediates its innovation processes to map, respond to and influence the innovation ecosystem. The guide is structured around five main issues. Interviewees will be asked for two-hour slots and it is essential that all of these main issues are covered. *Under each main heading there are a number of more detailed prompts that can be followed up in more or less detail according to their relevance for the company and the availability of time.*

The initial preparation for the interviews contains contacting companies by letter or email (this could follow a phone call or personal contact). This should contain:

- a) the project objectives and indications of the areas in which questions will be asked (this can be a summary of the main questions set out as issues).
- b) The motivations and hence potential benefits to companies in participating will also be made explicit at this stage.
- c) The ethical issues are addressed. This includes explaining that the interviews will be recorded and transcribed, but that the transcript will be used only for coding and is confidential only to the team. Companies will be assured that the results will be used statistically only, and any attribution of answers will require their specific clearance.

**The IIT research needs background information of the companies targeted for interviews.** The responsible teams will prepare data sheets concerning this information on the companies. The data sheet can be given to the interviewee at the end of the interview for fact-checking. For larger entities it will be particularly important to establish whether the interview responses refer only the business unit interviewed (in which case the data may need modification to refer to that) or whether they are valid for the entire corporation.

**The background information on companies targeted for interviews concern the following:**

- a) Industry
- b) Growth over the last five years measured by turnover
- c) Profitability over the last five years measured by EBITDA
- d) Employment creation during last five years measured by personnel
- e) Market share at the group/company level
- f) Share of turnover of those new products/services that have been brought to the market during the past two years
- g) R&D investment and its approximate location (domestic, within EU, outside EU)

### 4.1 Interview questionnaire

This section describes the actual questionnaire that is used in each interview. The guide is structured around five main issues in line with the overall IIT research premises and targets, which are summarized in the Introduction section of this deliverable. The five main issues are 1) business environment and company

strategy, 2) innovation ecosystems, 3) innovation management and practice, 4) mapping the environment, 5) public policy. The questionnaire below describes each issue and the respective interview questions.

### ***Business environment and company strategy***

This section seeks to establish the context and factors, which drive innovation strategy.

- What is the competitive structure of your main markets? And your firm's position within this?
- What position do you occupy in your value chain?
- How important is innovation in your business strategy?
  - How much do you emphasise each of the following in your innovation strategy? With what relative effort?:
    - supporting current processes and markets
    - developing next generation products and processes
    - establishing new businesses (in new value domains)
  - What is your firm's time horizon for products (product life cycle) on the market and innovation processes (time to market)? Have these changed in the past 5-10 years?
  - What would you describe as your firm's key innovations in the past five years?
  - By what mechanisms is innovation integrated in your business strategy?
  - Who are the main actors involved in making decisions about innovation within the company? (organizational and individual e.g. business units, corporate or business unit R&D, CTO, planners..)
- How would you describe your innovation strategy (scope and concept)?
  - organized around technologies, functionality, product areas/markets, affiliations/locations, customer needs
  - What are your firm's core technological competences?
  - Has the balance between technical and non-technical innovation changed over the last few years?
- Is open innovation a part of this strategy? How is it used? What are the experiences?
  - To what extent do you rely on outside organizations to provide/augment core technological knowledge?
  - Apart from your core technologies what innovation-related knowledge would you seek to source from outside the company?
  - Do you have start-up or entrepreneurship activities within your company? If so, how are these integrated in the innovation strategy?
  - Does your firm engage in mergers and acquisitions explicitly to enhance innovation or innovation assets?
  - What is the role of IPR and how do you manage your IPR portfolio?
  - Do you provide R&D and services for and share knowledge with other partners as part of your business strategy?

### ***Innovation ecosystems***

This section seeks to establish what innovation ecosystem(s) the company perceives itself to be working in and how important this is for the firm's innovative activities.

- Analysts today regularly refer to the concept of an 'innovation ecosystem' to describe the interdependencies firms have with collaborators, suppliers, customers, public research bodies, other infrastructure, finance and regulators. These typically involve flows of knowledge, people, finance and services. These may be international, national, sectoral or specific to a market. We have some questions about our interactions with this extended network:
  - How important for your innovative activities are: business collaborators (large firms/ SMEs/ start-ups), suppliers, customers, public research bodies (including universities), other infrastructure, finance, regulators, any other players?



- Which of the above have the greatest influence on the form and direction of the ecosystem?
- Has this changed in the past five years? If so what were the main drivers of that change? (competition, technological progress, regulation etc.?)
- What is your firm's position/role within this ecosystem?
- How do you maintain/strengthen your position within the ecosystem?
- How relevant is this concept for your firm's innovation activities?
- Has the relevance/importance changed in the past five years?
- Could you describe the most important elements of the innovation ecosystem(s) in which your firm operates?
- Do you seek to influence the ecosystem as a part of your firm's strategy?
  - Do you have an explicit strategy for influencing other parts of the ecosystem?
  - How do you respond to the efforts of other players to alter or influence the ecosystem?
  - What are the main levers available for you to do this?

### ***Innovation management and practice***

This section seeks to establish the processes and routines by which the firm manages innovations internally with a particular emphasis on what is new.

- Please outline the main stages of an innovation project within your firm from conception to market?
  - What are the main factors involved in beginning an innovation project? What are the main points of handover between the main stages you have identified?
  - How do you manage the progression of a project (e.g. stage-gate, agile, customer-driven, other...)?
  - Do you use any other 'formal' methods (e.g. innovation management standards) to manage your innovation process?
  - Which parts/functions of the company are involved? If cross-functional teams are involved how are these coordinated?
  - Do you differentiate between incremental and radical innovations in your management structure or processes?
  - How important are web-enabled innovation tools for your innovation process? What are the experiences?
- Do you seek to expand the market prospects for innovations after initial introduction to the market?
  - What actions are taken to do this?
  - What are the roles of partnerships, platforms, standards, regulations, social media, crowd-sourcing etc.?
- How do you report on and assess the overall innovation progress in your company?
  - What are the reporting lines?
  - What are the main performance criteria? Any formal processes?
  - Are stock market expectations taken into account when innovation strategy is formulated
- Has your firm's approach to innovation management (organisation, processes and tools) changed in the last 5 or 10 years?
  - If so how?
  - What has the effect of these changes been?
  - What were the drivers of these changes?

### ***Mapping the environment***

This section seeks to establish the processes and routines by which the firm maps its future environment, again with emphasis on what is new.

- Do you 'map' the innovation environment for your firm? If so, which aspects? (meaning, for example, systematic identification and analysis of trends and opportunities)

- If so what methods do you use? What is the value of these to your mapping?
  - o quantitative: patent analysis, bibliometrics, analysis of social media, crowd-sourcing of ideas...?
  - o qualitative: scenarios, horizon scanning, roadmaps, surveys, analysis of media, consultants...?
  - o informal approaches such as tracking conferences, public information...?
- What about big data? How do you use 'big data' in your innovation activities?
- How do you apply the results of these analyses? E.g. at which stage of innovation planning and execution, for which type of innovation (radical/incremental etc.)?
- Has your approach to or use of mapping changed in the past 5-10 years?

### **Public policy**

This section seeks to assess the relevance of policy interventions for innovation in the firm. This section distinguishes between **domestic** and **EU level** policies.

- Do you consider any of the following to be major barriers to successful innovation for your company at the *domestic/EU level*?
  - access to finance
  - access to knowledge
  - access to markets
  - lack of capabilities or skills
  - regulation
  - establishing partnerships
  - establishing standards
  - IP system
  - Any other (please specify)
- Which *domestic/EU level* public policy initiatives have been the most important for your firm in addressing these barriers (grants/loans/fiscal incentives/public procurement/ education and training/ consultancy support/ public research organizations/other?
  - Have these changed from the previous five years?
- What are main gaps in *domestic/EU level* public policy you would like to see addressed?

### **Any other issues**

Are there any other issues you would like to raise about any of the topics we have discussed today, or is there anything we haven't discussed that you would like to raise about changes in the innovation practices of firms and / or the policy environment?

## 5 Web survey

This section describes in more detail the principles of the web survey used for data collection in IIT. The actual contents of the web survey will be created based on the interviews and case studies outlined in the previous sections of this deliverable.

### 5.1 Sampling strategy and sources

Key objective of the sample selection and analysis strategy is to ensure a representative and statistically reliable view of companies and their stakeholders in the 11 member states considered here with respect to industrial innovation in transition. **Since the web survey represents a testing tool of the findings and hypotheses of the qualitative interviews and the case studies, the sampling is based on the following sampling criteria of the qualitative interviews:**

- Setting up representative samples of the following industrial sectors: 1) ICT and ICT services, 2) Manufacturing, 3) Biopharma, 4) Agro-food and 5) Clean technologies.
- Maintaining a balance between high and low innovation performers
- Maintaining a balance between large cooperations and SMEs

**Additional to the sampling criteria of the qualitative interviews, the sampling of the web survey has to fulfil another criterion:**

- Counterproofing the findings/hypotheses drawn from the companies' perspective by including the companies' key stakeholders into the web survey. In terms of the sample sizes, the aim can then be described as follows:

Companies (not involved in the case study analysis)	Higher educational institutes	Public research organizations	Other stakeholders
15000	300	100	200

To achieve this, a tailored approach for companies and their stakeholders is required. It can be described in the following way:

#### **Companies**

The European firm population in the business economy except activities of holding companies comprised almost 24 Mio firms in 2009. More than 70 % of firms are based in Italy, Spain, Germany, France, the UK and Poland. More than half of the European firms have no employees and only 6.4 % of firms have 10 employees or more (Eurostat 2013).

The distribution of the target companies will be - similar to the sampling of the qualitative interviews - proportional to the specific weight of each industrial sector in the national economy of the 11

member countries considered here. This will lead to an adequate and balanced sample of the national industry.

**For the companies' sampling, the following sources will be used:**

- Information from the sampling of the qualitative interviews
- Business demography statistics by EUROSTAT to create layers for the randomized representative sample
- PATSTAT in combination with OECD Regpat provides a reference for the regional dimension of patent activities and therefore innovation activities.
- Firm level data from Orbis by Bureau Van Dijk (considering patenting and non patenting firms)

The sampling of the qualitative interviews can be regarded as a small representative amount of the companies' sampling for the web survey. It reflects already all the necessary criteria, which should be applied for the sampling of the web survey as well. Therefore, information gathered on the target population, its size and sectoral specification in the national economies under consideration will build the base for the sampling building of the web survey. However, in order to minimize respondents' burden, all firms (to be identified via email address and URL), which will have participated in the qualitative interviews and in the case studies will not be included in the sample of the web survey.

This information will be supported by the business demography statistics by EUROSTAT. They include information on the number of firms differentiated by country, size class, and sector, and are available up to 2009 for the European Union. The Community Innovation survey provides a complementary reference concerning the population of innovating firms (from 10 to 250 employees).

Business demography statistics by EUROSTAT do however not include information on single firms. Therefore the sample of firms for the survey will be drawn from the Orbis database that includes information on more than 100 million firms globally. As an outcome of a recent cooperation between the OECD and Bureau Van Dijk, the Orbis (and Amadeus) database significantly gained in relevance. OECD tried to match its HAN-reference database (Harmonised Applicants' Names) with Bureau Van Dijk Amadeus/Orbis database. It was not possible to match a sufficient share of the whole patenting firm population on that basis. However, since then Bureau Van Dijk provides the patent information (based on the PATSTAT) for all firms identified in the HAN-Database. This database provides a complementary source to guarantee a representative coverage of patenting firms in the sample. The database includes information on:

- company name
- contact details (address, phone number, email address and URL)
- sector of activity (primary and secondary)
- patent activities and
- employees

**For IIT, it is neither possible nor meaningful to perform a total population survey. Therefore, for firms a randomized, representative sample will be surveyed based on the total population of firms in the 11 member states under consideration.**

The characteristics considered for the stratification of the firm database are as already mentioned:

- country

- size class
- innovation performer class and
- sector

Given the actual return in the different layers of the firm sample, projections will be made based on the total population of firms. This ensures that differences in the response rate do not affect the representativeness of the results of the survey.

The combination of information of the total firm population in Europe by EUROSTAT and firm level data by Orbis hence allows:

- to design a representative, stratified sample
- given actual response to make projections for the different layers and hence
- to provide a representative picture of European firms.

Hence, the tailored approach presented above for the sample selection and analysis is chosen

- to ensure a representative and statistically reliable picture of open innovation and knowledge transfer in Europe
- to create a rich set of micro data for the analysis phase that by far exceeds the 500 respondents, 100 institutions specified in the call for tender, and
- to be able to do so given the tight budget (reminders are foreseen by email and not by telephone)

## 5.2 Key stakeholders

**In the qualitative interviews and in the case studies only the view on the transition of industrial innovation of the companies is highlighted. Therefore, to avoid a strong bias regarding findings and hypotheses, it is crucial in comparison to examine the view of important company's stakeholder.** The web survey will, therefore, widen the respondent base to take into examination the perspectives of key stakeholders. Based on the literature review and IIT test interviews, the following key stakeholders are identified to be important for companies:

- Higher educational institutes (HEIs) and other public research organisations
- Funding bodies
- Regulatory authorities
- Other policy experts
- Industry experts

### ***Higher Educational Institutions (HEIs)***

The European landscape of HEIs is characterised by a high degree of diversity and a large number of institutions with big national differences. Therefore, it is assumed, that HEIs are influencing companies in the 11 member countries under consideration in their industrial innovation processes in different nature, extent and manner. In order to represent this diversity for universities, the full set of European HEIs in the 11 member countries under consideration will be consulted on the basis of the census of European Higher Education institutions that was established in the Feasibility Study for Creating a European University Data Collection (EUMIDA) [Contract No. RTD/C/C4/2009/0233402].

In the table below the number of universities (legal status public and private) and universities of applied sciences (legal status “private government dependent”) are depicted for the 11 member countries in consideration. Universities below the threshold of 200 students and 30 academic employees (FTE) are excluded.

	University	Private University	University of Applied Sciences	Total
AT	33	14	21	68
CZ	29	42		71
DE	107	91	188	386
EE	6	2	21	29
ES	80			80
FI	17		27	44
IT	96	80		176
NL	18		37	55
UK	130	21		151
IE	7	6	14	27
PT	46	4	56	106

To ensure representativeness of the results for HEIs, a stratification of the population of HEIs will be undertaken. The characteristics considered for the stratification are

- research activeness (yes/ no)
- legal status (private/ public)
- university hospital (yes/ no)
- distance education institution (yes/ no)
- educational fields covered
- size by number of students ISCED5

### **Public Research Organizations (PROs)**

The landscape of PROs in Europe is even more diversified in Europe than the one of HEIs. In some European countries PROs are (still) the major public research institutions (whereas HEIs play a minor role only) (e.g. Bulgaria, France) while in others PROs only play a small and distinctive role in the national research system (e.g. UK, Denmark).

For PROs no full census of institutions in Europe exists. Therefore a database on PROs in Europe will be created based on existing sources such as:

- Research and Technology Organizations in the European Area (EARTO),
- ERAWATCH country reports,
- the SCImago Institutions Rankings,
- Ranking Web of World Research Centers etc.

The resulting PRO database will therefore not be a full census. However, the most important PROs for each of the 11 member states will be identified and included in the survey.

### **5.3 The logic of the survey concept (choreography)**

As already mentioned, **the web survey serves as a testing tool for the findings and hypotheses from the qualitative interviews and case studies.** Therefore, it contributes to developing statistical generalizations. The survey will cover the same topics as the interview guideline with the possibility of additions e.g. in the form of tables usable in web based surveys. Most likely there will be more than one web survey questionnaire tailored for different respondent groups (companies and their stakeholders). To ensure that this will not lead to information loss regarding specific perspectives of key stakeholders, filter questions will also be implemented.

## 6 References

- Castellacci, F. (2008). "Technological paradigms, regimes and trajectories: Manufacturing and service industries in a new taxonomy of sectoral patterns of innovation." Research Policy **37**: 978-994.
- Crossan, M., Apaydin, M. (2010). "A multi-dimensional framework of organizational innovation: A systematic review of the literature." Journal of Management Studies **37**: 1154-1191.
- Dahlander, L., and Gann, D.M. (2010). "How open is innovation?" Research Policy **39**: 699–709.
- Denrell, J. (2003). "Vicarious learning, undersampling of failure, and the myths of management." Organization Science **14**: 227-243.
- Denzin, N. K., & Lincoln, Y. S. Eds. (1994). Handbook of qualitative research. Thousand Oaks: Sage Publications.
- Edquist, C. Ed. (1997). Systems of Innovation: Technologies, Institutions and Organizations. London: Pinter Publishers.
- Eisenhardt, K. (1989). "Building theories from case study research". The Academy of Management Review **14**: 532-550.
- Glaser, B. G. and Strauss, A. M. (1967). The Discovery of Grounded Theory. Strategies for Qualitative Research. New York: Aldine De Gruyter.
- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin, & Y. S. Lincoln Eds., Handbook of qualitative research (pp. 105-117). Thousand Oaks: Sage Publications.
- Jick, T. D. (1979). "Mixing qualitative and quantitative methods: Triangulation in action." Administrative Science Quarterly **24**: 602–611.
- Malerba, F. (2002). "Sectoral systems of innovation and production." Research Policy **31**: 247-264.
- Malerba, F. and L. Orsenigo (1997). "Technological regimes and sectoral patterns of innovative activities." Industrial and Corporate Change **31**: 83-117.
- Marsili, O. (2001). The anatomy and evolution of industries: Technological change and industrial dynamics. Cheltenham: Edward Elgar.
- Miles, M. B. and Huberman, A. M. (1994). Qualitative data analysis, Second Edition. Thousand Oaks: Sage.
- Montalvo, C. and Van der Giessen, A. (2011). Sectoral innovation watch 2008-2011. Europe Innova.
- Moore, J. F. (1993) "Predators and prey, a new ecology of competition." Harvard Business Review, May-June.
- Pavitt, K. (1984). "Sectoral patterns of technical change: Towards a taxonomy and a theory." Research Policy **13**: 343-373.



Polkinghorne, D. (2005). "Language and meaning: Data collection in qualitative research." Journal of Counseling Psychology **52**: 137-145.

Silverman, D. (2001). Interpreting qualitative data. Methods for analysing talk, text and interaction, 2nd edition. London: Sage Publications.

Tidd, J. (2001). Innovation management in context: environment, organization and performance. International Journal of Management Reviews **3**: 169-183.

Tierney, S. (2011). "Venture capital and cleantech symbiosis." The Industrial Geographer **8**: 63-85.

Van de Poel, I. (2003). "The transformation of technological regimes." Research Policy **32**: 49-68.

Xia, T. (2013). "Absorptive capacity and openness of small biopharmaceutical firms – a European Union–United States comparison." R&D Management **43**: 333–351.

Yin, R. K. (2009). Case study research: Design and methods, Fourth Edition. Thousand Oaks: Sage.

***Internet sources:***

Kachan & Co (2012). <http://www.kachan.com/about/cleaner-technology-definition-cleantech>

***Other sources:***

Danish Technological Institute (2009). Study on the competitiveness of the European biotechnology industry – The financing of biopharmaceutical product development in Europe. ISBN 978-92-79-14055-6, doi: 10.2769/33524.

OECD (2007). DSTI/ICCP/IIS(2006)2/FINAL, unclassified ICT sector definition document.

## Appendix 1: Interview questionnaire translations

### 6.1 Spanish

#### Entorno de Negocio y Estrategia de la Empresa

Esta sección busca establecer el contexto y los factores que guían la innovación de la empresa y que deben ser gestionados eficientemente

- ¿Cuál es la estructura competitiva de sus principales mercados? ¿Y la posición de su compañía en los mismos?
- ¿Qué posición ocupa en la cadena de valor de su sector?
- ¿Cómo es de importante la innovación en su estrategia de negocio?
  - ¿Qué importancia da a los siguientes temas en su estrategia de innovación? ¿Qué esfuerzo está dispuesto a dedicarles?:
    - Desarrollo de Procesos y Mercados
    - Desarrollo de productos de nueva generación
    - Establecimiento de nuevos negocios (en nuevos campos)
  - ¿Cuál es el horizonte temporal para sus productos: ciclo de vida del producto y ciclo de desarrollo de producto? ¿Han cambiado en los últimos 5-10 años?
  - ¿Cuál diría que es la innovación clave en su negocio en los últimos años?
  - ¿A través de qué mecanismos se integra la innovación en su estrategia de negocio?
  - ¿Cuáles son los principales actores que toman decisiones en innovación en su compañía: organizaciones o individuos a nivel de unidad de negocio, de unidad de I+D, CTO, planificación, etc.
- ¿Cómo describiría su estrategia de negocio (alcance y concepto)?
  - ¿Organizada alrededor de tecnologías, funcionalidades, áreas de producto/mercado, afiliaciones/localizaciones, necesidades de los clientes?
  - ¿Cuáles son las competencias esenciales de su compañía?
  - ¿Ha cambiado el balance entre innovación técnica y no técnica en los últimos años?
- ¿La Innovación Abierta, forma parte de su estrategia? ¿Cómo se usa? ¿Cuáles son las experiencias?
  - ¿Hasta qué punto confía en organizaciones externas para proveerse/aumentar su know-how tecnológico?
  - A parte de sus competencias esenciales, ¿Qué know-how externo de innovación necesita?
  - ¿Tiene en su compañía actividades de start-up o emprendimiento? Si es así ¿cómo se integran en la estrategia de innovación de la compañía?
  - ¿Enfoca su innovación a través de joint-ventures o compras de empresas?
  - ¿Cuál es el papel del IPR y cómo lo gestiona?
  - ¿Provee y comparte I+D y servicios tecnológicos a socios como parte de su estrategia de negocio?

#### Ecosistema de Innovación

**Esta sección busca establecer en qué ecosistema(s) de innovación percibe la compañía que hay que trabajar y cómo son de importantes para la actividades de innovación de la empresa.**

- Los analistas se refieren actualmente al concepto de “ecosistema innovador” para describir las interdependencias que tienen las empresas con colaboradores, proveedores, clientes, organismos de I+D, otras infraestructuras, financiadores y reguladores. Ello conlleva flujos de conocimiento, personas, finanzas y servicios. Puede ser internacional, nacional, sectorial o específico para un mercado. Preguntas relativas a estas interacciones:
  - ¿Cómo es de importante para las actividades de su empresa: colaboraciones empresariales (empresas grandes, PYMEs o start-ups), otras infraestructuras, financiadores, reguladores u otros agentes?
  - ¿Cuáles de ellas tienen una mayor influencia en la conformación del ecosistema?
  - ¿Ha cambiado esto en los últimos 5 años? Si es así ¿cuáles son los principales factores de dicho cambio (competencia, avance tecnológico, regulación, etc.)?
  - ¿Cuál es la posición de su empresa dentro del ecosistema?
  - ¿Cómo mantiene o refuerza su posición en el ecosistema?
  - ¿Cómo es de relevante este concepto para su empresa?
  - ¿Ha cambiado esta relevancia en los últimos 5 años?
  - ¿Podría describir los elementos más importantes del sistema de innovación en los cuales se mueve su empresa?
- ¿Busca influir en el ecosistema como una parte de su estrategia?
  - ¿Tiene alguna estrategia específica de influencia en las otras partes del ecosistema?
  - ¿Cómo responde a los esfuerzos de los otros actores para alterar o influir en el ecosistema?
  - ¿Cuáles son los principales medios con que cuenta para hacerlo?

### **Gestión y Práctica de la Innovación**

**En esta sección se busca cómo establecer los procedimientos y rutinas con los que la empresa gestiona internamente la innovación y con particular énfasis con los más recientemente implantados**

- Describir las principales etapas de un proyecto de innovación en su empresa, desde la idea hasta el mercado.
  - ¿Cuáles son los principales factores a la hora de lanzar un proyecto de innovación?
  - ¿Cómo se produce el paso de una etapa a otra?
  - ¿Cómo se toman las decisiones que permiten avanzar al proyecto (aprobación de una etapa y paso a la siguiente, ágil, ligado al cliente, otras formas)?
  - ¿Utiliza otros métodos formales para gestionar sus procesos de innovación (p.ej. normas)?
  - ¿Qué partes / funciones de la empresa se ven implicadas? Si se conforman equipos transversales, ¿cómo se coordinan?
  - ¿Diferencia entre innovación incremental y radical en su estructura o procesos de innovación?
  - ¿Utiliza herramientas web en su proceso de innovación? ¿Cuál es la experiencia?

- ¿Busca expandir el mercado a través de acciones innovadoras, una vez que se ha introducido inicialmente?
  - ¿Qué acciones se llevan a cabo para ello?
  - ¿Cuáles son los papeles de los partenariados, plataformas, normas, regulaciones, medios sociales, crowd-sourcing, etc.?
- ¿Cómo evalúa el progreso de la innovación en su empresa?
  - ¿Cuáles son las acciones de reporting?
  - ¿Cuáles son los principales criterios de evaluación del progreso? ¿Se usan procedimientos formales?
  - ¿Se tiene en consideración la posible evolución de los mercados (bolsa) en el momento de la formulación de la estrategia de penetración en el mercado?
- ¿Ha cambiado el modelo de gestión de la innovación de su compañía (organización, procesos y herramientas) en los últimos 5-10 años?
  - Si es así ¿cómo?
  - ¿Cuál ha sido el efecto de este cambio?
  - ¿Cuáles son los factores que guían este cambio?

### **Mapeando el Entorno**

**Esta sección busca establecer los procesos y rutinas con los cuales la empresa traza el mapa de su entorno futuro, haciendo énfasis en los que se utilizan más recientemente**

- ¿Cómo intenta ‘mapear’ el entorno de innovación de su compañía (por ejemplo, a través de un análisis e identificación sistemática de tendencias y oportunidades)?
  - Si es así ¿Qué métodos usa? ¿Cuál es el valor que aporta al mapeo?
    - Cuantitativos: análisis de patentes, métricas de artículos, métricas de redes sociales, crowd-sourcing de ideas...
    - Cualitativos: escenarios, horizon scanning, roadmaps, encuestas, análisis de medios, consultorías,...
    - Métodos informales como seguimiento de conferencias, publicaciones,...
  - ¿Big-data? ¿Cómo utiliza el big-data en sus actividades de innovación?
  - ¿Cómo aplica los resultados de estos análisis? en qué etapa del proyecto, para qué tipo de innovación (incremental/radical), etc.
  - ¿Ha cambiado su manera de “mapear” el entorno en los últimos 5-10 años?

### **Políticas públicas**

**Esta sección busca evaluar la relevancia de las políticas para la innovación en su empresa**

- ¿Considera cualquiera de las siguientes como una barrera para la innovación en su empresa?
  - Acceso a la financiación
  - Acceso al conocimiento
  - Acceso a los mercados
  - Falta de capacitación o habilidades
  - Regulación
  - Establecimiento de partenariados
  - Establecimiento de normas

- Sistema de IP
  - Cualquier otro
- Qué iniciativas de política pública han sido más importantes para su empresa de cara a encarar estas barreras (subvenciones/préstamos/incentivos fiscales/ compra pública/educación y formación/soporte de consultoría/I+D pública/Otras?
  - ¿Ha cambiado esto en los últimos 5 años?
- Cuáles son los mayores déficits en políticas públicas que se deberían corregir?

**Otros temas**

¿Hay otros aspectos que querría destacar sobre cualquiera de los temas discutidos previamente, o alguno que no haya aparecido y que se debería tener en cuenta en cuanto a cambios en las prácticas de innovación en las empresas o en las políticas de innovación?

## 6.2 Portuguese

### Ambiente de Negócios e Estratégia da Empresa

**Esta secção procura estabelecer o contexto e os fatores que orientam a inovação da empresa e que deve ser administrado de forma eficiente**

- Qual é a estrutura competitiva dos seus principais mercados ? E qual é a posição da sua empresa nesses mercados?
- Qual é a posição que ocupam na cadeia de valor do seu sector?
- Qual é a importância da inovação na sua estratégia de negócio?
  - Qual é a importância dada aos seguintes temas na sua estratégia de inovação? Que tipo de esforço estão dispostos a dedicar-lhes?:
    - Desenvolvimento de Processos e Mercados
    - Desenvolvimento de produtos de nova geração
    - Estabelecimento de novos negócios (em novas áreas)
  - Qual é o horizonte temporal para os seus produtos: ciclo de vida do produto e ciclo de desenvolvimento do produto? Têm mudado nos últimos 5-10 anos?
  - Indique a inovação chave do seu negócio nos últimos anos?
  - Através de que mecanismos se integra a inovação na sua estratégia de negócio?
  - Quais são os principais atores que tomam decisões acerca da inovação na sua empresa: organizações ou indivíduos a nível de unidade de negócios, da unidade de I & D, CTO, planeamento, etc.
- Como descreveria a sua estratégia de negócio (alcance e conceito)?
  - Organizado em torno das tecnologias , funcionalidades, áreas de produto/mercado, afiliações/locais, necessidades dos clientes ?
  - Quais são as competências essenciais da sua empresa?
  - Tem sido alterado o equilíbrio entre inovação técnica e não técnica nos últimos anos?
- A Inovação Aberta, faz parte da sua estratégia? Como é usado este conceito? De que experiências tem beneficiado?
  - Até que ponto tem confiança nas organizações externas como fonte que proporcione crescimento do seu know-how tecnológico?
  - Para além das suas competências essenciais, de que know-how externo de inovação necessita?
  - Existem atividades do tipo start-up ou empreendedorismo na empresa? Se sim, como são integradas na estratégia de Inovação da empresa?
  - Concentra a sua Inovação através de joint-ventures ou aquisições de empresas/ ativos?
  - Qual é o papel do IPR e como está a ser administrado?
  - É fornecedor de serviços tecnológicos ou I&D, a outras empresas, como parte da sua estratégia de negócios?

### Ecosistema de Inovação

**Esta secção procura estabelecer em que ecossistema(s) de Inovação da empresa, tem a percepção de que precisam ser trabalhados e qual a respetiva importância para as atividades de Inovação da empresa.**

- Os analistas referem-se atualmente ao conceito de "ecossistema de inovação" para descrever as interdependências que têm as empresas com os seus empregados, fornecedores, clientes, organizações de I&D, outras infraestruturas, financiadores e reguladores. Isto implica fluxos de conhecimento, pessoas, finanças e serviços. Pode ser internacional, nacional, sectorial ou específico para um mercado. Questões relacionadas com estas interações:
  - Qual é o grau de importância para as atividades da sua empresa: colaborações empresariais (grandes empresas, PMEs ou start-up), outras infraestruturas, financiadores, reguladores ou outros agentes?
  - Quais são as que têm tido maior influencia na configuração do ecossistema?
  - Há mudanças significativas nos últimos 5 anos? Se assim é, quais são os principais factores de mudança (concorrência, avanço tecnológico, regulação, etc.?)
  - Qual é o posicionamento da sua empresa dentro do ecossistema?
  - Qual é a relevância deste conceito no âmbito da sua empresa?
  - Existiram alterações desta relevância nos últimos 5 anos?
  - Pode descrever os elementos mais importantes do sistema de inovação no seio do qual se movimenta a sua empresa?
- Procura influir no ecossistema? Isso faz parte da sua estratégia?
  - Tem alguma estratégia específica de influencia noutras partes do ecossistema?
  - Como responde aos esforços dos outros atores para alterar ou influir no ecossistema?
  - Quais são os principais meios com que conta para o fazer?

### **Gestão e Prática da Inovação**

**Nesta secção procuramos como estabelecer procedimentos e rotinas, com que a empresa administra internamente a Inovação, com particular ênfase em tudo quanto tem sido implementado mais recentemente**

- Descrever as principais fases de um projeto de Inovação na sua empresa, desde a ideia até chegar ao mercado.
  - Quais são os principais fatores a ter em conta, na hora de lançar um projeto de inovação?
  - Como se produz a passagem de uma etapa a outra?
  - Como se tomam as decisões que permitem avançar no projeto (aprovação de uma etapa e passagem à fase seguinte; outras formas)?
  - Utiliza outros métodos formais para gerir os seus processos de inovação (p.ex. normas)?
  - Quais as áreas/funções da empresa que são envolvidas? Constituem-se equipas transversais? Como se formam e como trabalham?
- Procura expandir o mercado através de ações inovadoras, desde que realizou a sua introdução inicial?
  - Quais as ações que se levam a cabo para conseguir isso?

- Quais são os papéis desempenhados pelos parceiros, plataformas, normas, regulações, meios sociais, crowd-sourcing, etc.?
- Como avalia o progresso da inovação na sua empresa?
  - Quais são as ações usadas para obtenção de relatórios?
  - Quais são os principais critérios de avaliação do progresso obtido? Usam-se procedimentos formais?
  - São tidos em consideração possíveis evoluções dos mercados (bolsa) no momento da formulação da estratégia de penetração no mercado?
- Tem sido alterado o modelo de gestão da inovação da sua empresa (organização, processos e ferramentas) nos últimos 5-10 anos?
  - Se é assim; Como?
  - Qual tem sido o efeito desta mudança?
  - Quais são os fatores que orientam esta mudança?

### **Mapeando o Meio Ambiente**

**Esta secção procura estabelecer os processos e rotinas com as quais a empresa faz o mapeamento do ambiente futuro, enfatizando que foram usados mais recentemente**

- Como intenta ‘mapear’ o ambiente de inovação da sua empresa (por exemplo, através da realização de análises e identificação sistemática de tendências e oportunidades)?
  - Se é assim; Que métodos usa?
    - Quantitativos: análise de patentes, técnicas de bibliometria, pesquisa das redes sociais, crowd-sourcing de ideias...
    - Qualitativos: análise de cenários, exploração de horizontes, ‘roadmaps’, inquéritos, análises de meios de comunicação, consultorias,...
    - Métodos informais como seguimento de conferências, publicações,...
  - ‘Big-data’? Como utiliza as ações de ‘big-data’ nas suas atividades de inovação?
  - Como aplica os resultados destas análises? em que etapa do projeto, para que tipo de inovação (incremental/radical), etc.
  - Alterou a sua maneira de “mapear” o ambiente de inovação nos últimos 5-10 anos?

### **Políticas públicas**

**Esta secção pretende avaliar a relevância das políticas para a inovação na sua empresa**

- Considera algum dos seguintes temas, como uma barreira para a inovação na sua empresa?
  - Acesso ao financiamento
  - Acesso ao conhecimento
  - Acesso aos mercados
  - Falta de capacitação ou habilitações
  - Regulação
  - Estabelecimento de parceiros
  - Criação de normas
  - Sistema de IP



- Qualquer outro
- Que iniciativas de política pública foram mais importantes para a sua empresa de modo a ultrapassar estas barreiras (subvenções/empréstimos/incentivos fiscais/ compras públicas/educação e formação/suporte de consultoria/I&D pública/Outras?
  - Têm existido mudanças nos últimos 5 anos?
- Quais são os maiores deficits em políticas públicas que se deveriam corrigir?

### **Outros temas**

Existem outros aspetos que se possam destacar de qualquer um dos tópicos discutidos anteriormente, ou que não tenham aparecido e que devemos considerar em termos de mudanças nas práticas de Inovação nas empresas ou políticas de Inovação ?

### 6.3 Italian

#### **Contesto imprenditoriale, scenario competitivo e strategia di impresa**

**Questa sezione cerca di stabilire il contesto ed i fattori che guidano la strategia di innovazione – tale informazione di contesto è importante, ma è necessario completare questa parte in modo efficiente, al fine di lasciare tempo ai temi principali dell'intervista.**

- Qual è lo scenario competitivo dei vostri mercati principali? Come si posiziona la vostra azienda?
- Che posizione occupa l'azienda nella vostra catena del valore?
- Quanto è importante l'innovazione nella vostra strategia aziendale?
  - Nella vostra strategia di innovazione, quanto sono determinanti le seguenti attività? Che impegno dedicate a ciascuna di queste?
    - mantenere i processi ed i mercati attuali
    - sviluppare prodotti di prossima generazione e nuovi processi
    - Aprire nuovi mercati (in nuovi settori)
  - Qual è l'orizzonte temporale dei vostri prodotti (ciclo di vita del prodotto) sul mercato e dei vostri processi di innovazione (tempo per arrivare al mercato)? Questo orizzonte temporale è cambiato negli ultimi 5-10 anni?
  - Quali sono le principali innovazioni compiute dalla vostra azienda negli ultimi 5 anni?
  - Quali sono i meccanismi tramite i quali l'innovazione viene integrata nella vostra strategia aziendale?
  - All'interno della vostra azienda, chi sono gli attori principali coinvolti nel processo decisionale riguardante l'innovazione? (sia attori individuali che settori organizzativi, es. business unit, Ricerca e Sviluppo, CTO – responsabile tecnico, pianificazione e marketing strategico ...)
- Come descriverebbe la vostra strategia d'innovazione (ambito e innovazione)?
  - Organizzata in base alle tecnologie, alla funzione, alle aree/ai mercati dei prodotti, alle affiliazioni/all'ubicazione
  - Quali sono le competenze tecnologiche principali della vostra azienda?
  - Secondo Lei, l'equilibrio tra innovazione tecnica e non tecnica è cambiato negli ultimi anni?
- La vostra strategia comprende pratiche di “open innovation”? Ad esempio:
  - In che misura fate affidamento su organizzazioni esterne per acquisire nuove conoscenze tecnologiche o per migliorare quelle già in vostro possesso?
  - Oltre alle vostre tecnologie principali, quali altre conoscenze legate all'innovazione cercate di acquisire da fonti esterne all'azienda?
  - Sono presenti attività di start-up o imprenditoriali all'interno della vostra azienda? In caso affermativo, sono queste integrate nella strategia di innovazione?
  - La vostra azienda mette in atto fusioni o acquisizioni al fine di accrescere l'innovazione o il proprio potenziale di innovazione?
  - Che ruolo hanno i diritti di proprietà intellettuale e come vengono gestiti all'interno della vostra azienda?
  - Come parte della strategia aziendale fornite servizi di ricerca e sviluppo ad altre aziende?

## **Innovation Ecosystems**

**Questa sezione cerca di stabilire in quali ecosistemi dell'innovazione l'azienda pensa di operare e come questi influenzano le attività di innovazione dell'azienda.**

- Al giorno d'oggi, gli Analisti fanno regolarmente riferimento al concetto di "innovation ecosystem", o ecosistema dell'innovazione, per descrivere il sistema di interdipendenze che le aziende sviluppano con i propri collaboratori, fornitori, clienti, enti di ricerca, altre infrastrutture, banche ed enti regolatori. Queste interdipendenze solitamente generano flussi di conoscenza, persone, capitali e servizi e possono essere internazionali, nazionali, settoriali o specifici di un mercato. Abbiamo qualche domanda riguardo alle vostre interazioni con questa "network allargato":
  - Quanto sono importanti i seguenti attori per le vostre attività di innovazione? Business partners (grandi imprese/ PMI/ start-up), fornitori, clienti, enti di ricerca (comprese le università), altre infrastrutture, settore finanziario, enti regolatori o altri attori.
  - Quale tra gli attori sopracitati esercita una maggiore influenza sulla struttura e sulla direzione dell'ecosistema?
  - L'ecosistema è stato oggetto di cambiamenti negli ultimi cinque anni? Se sì, quali sono stati i maggiori fattori che hanno portato al cambiamento? (Concorrenza, progresso tecnologico, regolamentazioni ecc.)
  - Qual è il ruolo della vostra azienda in questo ecosistema?
  - Che rilevanza ha questo concetto per le attività di innovazione della vostra azienda?
  - Tale rilevanza/importanza è cambiata negli ultimi cinque anni?
  - Potrebbe descrivere gli elementi più importanti nell'ecosistema (o negli ecosistemi) dell'innovazione in cui opera la vostra azienda?
- Influenzare l'ecosistema rientra nella vostra strategia aziendale?
  - Avete delle strategie volte specificatamente a influenzare altre parti dell'ecosistema?
  - -Come rispondete ai tentativi di alterare o influenzare l'ecosistema operati da altri attori?
  - Quali sono le leve principali a vostra disposizione per influenzare l'ecosistema?

## **Management dell'innovazione e pratiche**

**Questa sezione cerca di comprendere i processi e le routine dell'azienda nella gestione interna dell'innovazione con una particolare enfasi sulle novità**

- Potrebbe elencare le fasi principali di un progetto di innovazione all'interno della vostra azienda, dall'ideazione all'entrata sul mercato?
  - Quali sono i principali fattori coinvolti nell'avvio di un progetto innovativo? Quali sono i passaggi strategici tra le varie fasi del processo?
  - Come gestite il progresso di un progetto? (ad esempio, stage-gate, input dai clienti, altro...)
  - Usate altri metodi "formali" (come ad esempio standard di gestione dell'innovazione) per gestire il processo di innovazione?
  - Quali parti/funzioni dell'azienda sono coinvolte in un progetto di innovazione? Nel caso vengano coinvolti gruppi plurifunzionali, come vengono coordinati?

- Fate distinzioni tra innovazioni di tipo incrementale o radicale nella gestione della vostra struttura e dei vostri processi ?
- Che importanza hanno gli strumenti di innovazione legati al web per il vostro processo di innovazione? Quali sono le vostre esperienze?
- Dopo l'iniziale introduzione sul mercato, cercate di espandere le prospettive di mercato per l'innovazione?
  - Che tipo di azioni intraprendete in tal senso?
  - Quali ruoli ricoprono le partnership, le piattaforme, gli standard, le regolamentazioni, i social media, il crowdsourcing , ecc.?
- Nella vostra azienda, come fornite un resoconto e come valutate l'intero progresso dell'innovazione?
  - Come vengono riportate a livello manageriale le attività di innovazione?
  - Quali sono i principali criteri di rendimento analizzati? Vengono seguiti particolari processi formali?
  - La strategia di innovazione è sviluppata tenendo in conto le aspettative degli investitori e del mercato finanziario?
- L'approccio aziendale alla gestione dell'innovazione (organizzazione, processi e strumenti) è cambiato negli ultimi 5-10 anni?
  - Se sì, in che modo?
  - Che effetto hanno avuto questi cambiamenti?
  - Quali sono i fattori che hanno portato a questi cambiamenti?

### **Mappatura dell'ambiente competitivo**

**Questa sezione cerca di comprendere i processi e le routine dell'azienda nella mappatura e analisi dell'ambiente competitivo in cui opererà in futuro, sempre con particolare enfasi sulle novità.**

- Eseguite una "mappatura" / monitorate l'ambiente e contesto innovativo in cui opera la vostra azienda? Come cercate di "mappare" un possibile ambiente favorevole all'innovazione? (ad esempio tramite l'identificazione e l'analisi sistematica dei trend e delle opportunità)
  - Quali metodi utilizzate? Che rilevanza hanno per la vostra attività di mappatura?
    - es Quantitativo: analisi dei brevetti, bibliometria, analisi dei social media, crowdsourcing delle idee...;
    - Qualitativo: scenari, esame delle prospettive, roadmap, sondaggi, analisi dei media, consulenze, ...?
    - Approcci informali come il seguire conferenze, o informazione pubblica...?
  - Come vi comportate in caso di "big data"/grandi basi dati? Come vengono utilizzate nelle vostre attività di innovazione?
  - Come applicate i risultati di queste analisi? Ad esempio a che stadio della pianificazione e della messa in atto dell'innovazione, per che tipo di innovazione (radicale/incrementale ecc)?
  - Il vostro approccio alla mappatura dell'ambiente competitivo o il modo in cui questa viene utilizzata sono cambiati negli ultimi 5-10 anni?

## **Politiche pubbliche**

**Questa sezione cerca di valutare la rilevanza degli interventi politici per l'innovazione nell'azienda**

- Quali tra le seguenti opzioni ritiene che siano tra le maggiori barriere per il successo dell'innovazione della vostra azienda?
  - accesso ai finanziamenti
  - accesso alle conoscenze
  - accesso ai mercati
  - mancanza di capacità
  - regolamentazione e quadro normativa
  - sviluppo di partnership
  - sviluppo di standard
  - sistema di proprietà intellettuale
  - Altro (specificare)
- Quali iniziative di politica pubblica sono state più incisive nel permettere alla vostra azienda di affrontare queste barriere ( concession e di fondi/ prestiti / incentivi fiscali / acquisti della pubblica amministrazione / istruzione e formazione / supporto consulenziale / enti di ricerca pubblici / Altro?
  - Sono cambiate negli ultimi cinque anni?
- Quali sono le lacune più grandi delle politiche pubbliche che vorreste che fossero affrontate?

## **Altri aspetti**

Ci sono altri aspetti che vorrebbe sollevare riguardo agli argomenti discussi oggi, o c'è qualcosa che non è stato trattato e di cui vorrebbe discutere in riferimento ai cambiamenti delle pratiche di innovazione delle aziende o al quadro politico?

## 6.4 Dutch

### ***Bedrijfsomgeving en bedrijfsstrategie***

Deze sectie streeft ernaar de context en factoren te bepalen die de strategie op het gebied van innovatie beïnvloeden.

- Hoe ziet de competitie in uw markt eruit? En welke positie heeft uw bedrijf hierin?
- Op welke positie in de value chain opereert uw bedrijf?
- Hoe belangrijk is innovatie in de strategie van uw bedrijf?
  - Op welke van de volgende zaken ligt de nadruk in uw strategie op het gebied van innovatie? En hoe verhouden de inspanningen op deze gebieden zich gezien ten opzichte van elkaar?
    - het ondersteunen van bestaande processen en markten
    - het ontwikkelen van een nieuwe generatie producten en processen
    - het oprichten van nieuwe businesses (in nieuwe markten en technologiegebieden)
  - Met welke tijdshorizon voor producten (product levenscyclus) op de markt en in innovatie processen (time to market) werkt u? Is die veranderd in de afgelopen 5-10 jaar?
  - Wat ziet u als de belangrijkste innovaties van uw bedrijf in de laatste 5-10 jaar?
  - Via welke mechanismen wordt innovatie geïntegreerd in de strategie van uw bedrijf?
  - Wie zijn de belangrijkste actoren bij het nemen van beslissingen op het gebied van innovatie in uw bedrijf? ( organisationeel en individueel, bijvoorbeeld business units, corporate of business unit R&D, CTO, planners...)
- Hoe zou u uw innovatie strategie omschrijven (scope en concept)?
  - Georganiseerd rond technologieën, functionaliteit, productgebieden/markten, vestigingen/locaties, klantenwensen?
  - Wat zijn de belangrijkste technologische competenties (core competences) van uw bedrijf?
  - Is de balans tussen technische en niet-technische innovatie veranderd in de laatste vijf jaar?
- Is open innovatie onderdeel van deze strategie? Hoe wordt het toegepast? Wat zijn de ervaringen?
  - In welke mate vertrouwt u op externe organisaties om belangrijke technologische kennis te leveren/vergroten?
  - Naast uw eigen belangrijkste technologieën, welke kennis gerelateerd aan innovatie zou u zoeken buiten uw bedrijf?
  - Heeft u activiteiten gerelateerd aan start-ups of ondernemerschap binnen uw bedrijf? Zo ja, hoe zijn deze geïntegreerd in de innovatie strategie?
  - Houdt uw bedrijf zich bezig met aan fusies en acquisities die expliciet bedoeld zijn om innovatie of het vermogen om te innoveren te verbeteren?
  - Wat is de rol van intellectueel eigendom (IPR) en hoe managet u uw IPR portfolio?
  - Deelt u kennis met en levert u R&D en services voor andere partners als onderdeel van uw strategie?

### ***Innovatie ecosystemen***

Deze sectie streeft ernaar om te bepalen in welk innovatie ecosysteem het bedrijf zich denkt te bevinden en hoe belangrijk dit is voor de innovatieve activiteiten van het bedrijf.

- Vandaag de dag refereren analisten vaak naar het concept van een “innovatie ecosysteem” om de afhankelijkheden te beschrijven tussen bedrijven en partners, leveranciers, klanten, publieke onderzoeksinstellingen, andere infrastructuur, financiële instellingen en regelgevers. Deze ecosystemen hebben veelal betrekking op stromen van kennis, mensen, geld en services. Deze kunnen

internationaal, nationaal, sectorspecifiek of markt-specifiek zijn. We hebben een aantal vragen over de interacties die plaatsvinden met dit uitgebreide netwerk:

- Hoe belangrijk voor uw innovatie-activiteiten zijn: andere bedrijven (grote bedrijven/MKB/start-ups), leveranciers, klanten, publieke onderzoeksinstituten (inclusief universiteiten), andere infrastructuur, financiële instellingen, regelgevers en andere partijen?
- Welke van bovenstaande partijen heeft de grootste invloed op de vorm en richting van het ecosysteem?
- Is dit veranderd in de laatste vijf jaar? Zo ja, wat zijn de belangrijkste drivers voor deze verandering? (competitie, technologische vooruitgang, regelgeving etc.?)
- Wat is de positie van uw bedrijf in dit ecosysteem?
- Hoe handhaaft of versterkt u uw positie in het ecosysteem?
- Hoe relevant is dit concept voor de innovatie-activiteiten van uw bedrijf?
- Is de relevantie/mate van belang veranderd in de laatste vijf jaar?
- Kunt u de meest belangrijke elementen van het innovatie ecosysteem/de innovatie ecosystemen waarin uw bedrijf opereert beschrijven?
- Streeft u ernaar het ecosysteem te beïnvloeden als onderdeel van de strategie van uw bedrijf?
  - Heeft u een expliciete strategie om andere onderdelen van het ecosysteem te beïnvloeden?
  - Hoe reageert u op inspanningen van andere partijen om het ecosysteem te veranderen of te beïnvloeden?
  - Wat zijn de belangrijkste mogelijkheden die u heeft om dit te doen?

### ***Innovatie management en praktijken***

Deze sectie streeft ernaar de processen en routines te bepalen die het bedrijf gebruikt om innovatie intern te managen, waarbij de nadruk ligt op wat nieuw is.

- Zou u de belangrijkste fases van een innovatie project binnen uw bedrijf kunnen beschrijven: van eerste idee tot aan de markt?
  - Wat zijn de belangrijkste factoren die maken dat aan een innovatie project begonnen wordt? Wat zijn de belangrijkste punten van overdracht tussen de hoofdfases die u heeft beschreven?
  - Hoe managet u de voortgang van een project (bijvoorbeeld stage-gate, agile, klantgedreven, of anders...)?
  - Gebruikt u verdere "formele" methoden (bijvoorbeeld innovatie management standaarden) om uw innovatie proces te managen?
  - Welke onderdelen/functies van het bedrijf zijn betrokken? Als cross-functionele teams betrokken zijn: hoe worden deze gecoördineerd?
  - Maakt u onderscheid tussen incrementele en radicale innovaties in uw organisatiestructuur of processen?
  - Hoe belangrijk zijn web-gebaseerde innovatie tools voor uw innovatieproces? Wat zijn de ervaringen?
- Streeft u ernaar om na introductie op de markt de vooruitzichten van innovaties op de markt te vergroten?
  - Welke acties onderneemt u om dit te doen?
  - Welke rol spelen partnerships, platformen, standaarden, regelgeving, social media, crowd-sourcing etc. hierin?
- Hoe evalueert u en rapporteert u over de overall voortgang van een innovatie binnen uw bedrijf?
  - Wat zijn de rapportagelijnen?
  - Wat zijn de belangrijkste prestatie criteria? Zijn er formele processen?
  - Worden verwachtingen op de beurs meegenomen bij het formuleren van een innovatie strategie?
- Is de benadering van innovatie management (organisatie, processen en tools) in uw bedrijf veranderd in de laatste 5 tot 10 jaar?

- Zo ja, hoe?
- Wat is het effect van deze veranderingen geweest?
- Wat waren de drijfveren voor deze veranderingen?

### ***Het in kaart brengen van de omgeving***

Deze sectie streeft ernaar om de processen en routines te bepalen die het bedrijf gebruikt om haar toekomstige omgevingen in kaart te brengen, opnieuw met nadruk op wat nieuw is.

- Probeert u de innovatie omgeving van uw bedrijf in kaart te brengen? Zo ja, welke aspecten? (bijvoorbeeld door middel van systematische identificatie en analyse van trends en mogelijkheden)
  - Zo ja, welke methoden gebruikt u? Wat is de waarde hiervan voor het in kaart brengen?
    - o kwantitatief: patent analyse, bibliometrie, analyse van social media, crowd-sourcing van ideeën...?
    - o kwalitatief: scenario's, horizon scanning, roadmaps, enquêtes, analyse van media, consultants...?
    - o een informele aanpak zoals het volgen van conferenties, publieke informatie?
  - Wat denkt u van big data? Hoe gebruikt u "big data" in uw innovatie activiteiten?
  - Hoe past u de resultaten van deze analyses toe? Bijvoorbeeld, in welke fase van innovatie planning en uitvoering, voor welke type innovaties (radicaal/incrementeel etc.)?
  - Is uw aanpak om de omgeving in kaart te brengen veranderd in de laatste 5-10 jaar?

### ***Overheidsbeleid***

Deze sectie streeft ernaar om de relevantie van beleidsmatige interventies voor innovatie in het bedrijf te bepalen. Onderscheid wordt gemaakt in beleid op nationaal niveau en op EU niveau.

- Ziet u (sommige van) de volgende zaken als grote belemmeringen voor uw bedrijf op nationaal/EU niveau om succesvol te innoveren?
  - toegang tot financiën
  - toegang tot kennis
  - toegang tot markten
  - gebrek aan capaciteiten of vaardigheden
  - regelgeving
  - het opzetten van partnerships
  - het opzetten van standaarden
  - het octrooisysteem
  - een andere (geef aan welke)
- Welke initiatieven in overheidsbeleid op nationaal/EU niveau zijn voor uw bedrijf het meest belangrijk geweest voor het aanpakken deze belemmeringen (subsidies/leningen/fiscale stimuleringsmaatregelen/publieke aanbesteding/educatie en training/ondersteuning door consultants/publieke onderzoeksinstituten/anders)?
  - Zijn deze veranderd in de afgelopen vijf jaar?
- Wat zijn de belangrijkste aspecten die missen in het beleid op nationaal/EU niveau en volgens u aandacht zouden moeten krijgen?

### ***Andere aspecten***



Zijn er andere aspecten die u graag zou willen bespreken naast de onderwerpen die vandaag aan bod zijn gekomen? Of is er iets wat we niet besproken hebben, maar die u toch graag wilt benoemen over de veranderingen op het gebied van innovatiepraktijken in bedrijven en/of de beleidsomgeving?

## 6.5 German

### 1. Geschäftsumfeld und Strategie

- Beschreiben Sie bitte die Wettbewerbsstruktur in Ihren Hauptmärkten. Welche Position nimmt Ihr Unternehmen hier ein?
- Wo befinden Sie sich innerhalb der Wertschöpfungskette?
- Welche Bedeutung hat Innovation innerhalb Ihrer Geschäftsstrategie?
  - Wie wichtig sind die folgenden Strategien innerhalb Ihrer Innovationsstrategie?
    - Festigung gegenwärtiger Tätigkeiten und Märkte
    - Entwicklung von Produkten und Prozessen der nächsten Generation
    - Etablierung neuer Geschäftsfelder
  - Wie lange dauert ein Produktlebenszyklus Ihrer Produkte? Welche Zeit beanspruchen Innovationsprozesse (von der Ideenfindung bis zum Markteintritt des Produktes) in der Regel? Haben sich der Produktlebenszyklus und die Dauer der Innovationszyklen in den letzten 5-10 Jahren verändert?
  - Was waren die Schlüsselinnovationen des Unternehmens in den letzten fünf Jahren?
  - Auf welche Weise ist Innovation in Ihre Geschäftsstrategie verankert?
  - Wer sind die wichtigsten Personen und Geschäftsbereiche, die im Allgemeinen an Entscheidungsprozessen rund um Innovationen im Unternehmen beteiligt sind (z.B. unterschiedliche Geschäftsbereiche, bestimmte Personen: CTO, CEO, etc.)?
- Beschreiben Sie bitte Ihre Innovationsstrategie (Kernkonzept und was sie umfasst):
  - Orientierung an: z.B. Technologien, Funktionalitäten, Produktbereich/Märkte, räumliche Zugehörigkeit, Kundenbedürfnisse
  - Was sind die technologischen Kernkompetenzen Ihres Unternehmens?
  - Hat sich die Relation der Entwicklung von technischen und nicht-technischen Innovationen in Ihrem Unternehmen in den letzten Jahren verändert?
- Ist Open Innovation Teil Ihrer Innovationsstrategie? Wie wird es angewendet? Welche Erfahrungen haben Sie mit Open Innovationen gemacht?
  - In welchem Umfang benötigen Sie externe Organisationen, um Kerntechnologien/technologisches Kernwissen für Ihr Unternehmen bereit zustellen/ zu vergrößern?
  - Abgesehen von Ihren Kerntechnologien/-wissen, welches innovationsrelevante Wissen versuchen Sie von externen Informationsquellen zu beziehen (z.B. externen Partnern, Internet, etc.)?
  - Haben Sie Startup- oder Gründungsinitiativen? Wie sind diese in die Innovationsstrategie integriert?
  - Welche Rollen spielen Eigentumsrechte/Patente bei Ihnen und wie managen Sie Ihr Patentportfolio?
  - Bieten Sie anderen Unternehmen FuE-Dienstleistungen an oder teilen Sie Ihr Wissen gezielt mit externen Partnern als Teil Ihrer Unternehmensstrategie?
- Gehören Übernahmen und Fusionen zu ihrer Unternehmensstrategie, um Ihre Innovationsaktivitäten oder -kompetenzen zu verbessern?

### 2. Innovation Ecosystem (IES)

- (Innovations)analysten benutzen das Konzept eines Innovationsökosystems, um die Beziehungen zu beschreiben, die Unternehmen mit Kooperationspartnern, Kunden, Zulieferern, öffentliche Forschungseinrichtungen aber auch mit Finanzakteuren und Regulierungsbehörden haben. Diese Beziehungen schließen typischerweise den Austausch von Wissen, Personen, Geld- und Dienstleistungen ein. Sie können international, national,

sektorspezifisch oder spezifisch für einen bestimmten Markt sein. Wir haben einige Fragen zu Ihren Interaktionen mit diesem erweiterten Netzwerk von Innovationspartnern:

- Wie wichtig sind Kooperationspartner (KMU/große Unternehmen, Startups, Zulieferer, Kunden, öffentliche Forschungseinrichtungen/Universitäten, andere Infrastruktureinrichtungen, Kapitalgeber, Regulierungsbehörden, ...) für die Innovationsprozesse Ihres Unternehmens?
- Welche dieser Akteure haben hierbei den größten Einfluss auf die Entwicklung des IES (richtungsweisend, Form des IES)?
- Hat sich daran etwas geändert innerhalb der letzten 5 Jahre? Was waren die Haupttreiber dieses Wandels (Wettbewerb, technologischer Fortschritt, Regulierungen etc.)?
- Wo und wie verorten Sie Ihr Unternehmen innerhalb des Innovations(öko)systems?
- Wie versuchen Sie Ihre Position zu halten oder weiter auszubauen?
- Welche Bedeutung hat das IES in dem sich Ihr Unternehmen befindet für Ihre Innovationsaktivitäten?
- Hat sich das gewandelt in den letzten 5 Jahren?
- Was sind die zentralen Bestandteile des IES in dem sich Ihr Unternehmen bewegt?
- Versuchen Sie Einfluss auf das IES als Teil Ihrer Unternehmensstrategie zu nehmen?
  - Verfolgen Sie hierbei eine explizite Strategie andere Teile des IES zu beeinflussen?
  - Wie reagieren Sie auf die Anstrengungen anderer innerhalb des Innovationsökosystems Einfluss zu nehmen oder dieses zu verändern?
  - Welche effektiven Möglichkeiten haben Sie, um Einfluss zu nehmen?

### 3. Innovationsmanagement und -praktiken

- Bitte beschreiben Sie die Hauptschritte eines Innovationsprojekts, von der Konzeption zur Marktreife.
  - Was sind die wichtigsten Faktoren, um ein Innovationsprojekt zu initiieren? Was sind die wichtigsten „Übergabestellen“ zwischen den einzelnen Schritten/Phasen?
  - Wie managen Sie den Fortschritt eines Projekts? (folgt dies Stage-Gate, agilen, kundengetriebenen, oder anderen Prozessen...)
  - Nutzen Sie andere formale Methoden (z.B. Innovationsmanagementstandards), um ihren Innovationsprozess zu managen?
  - Welche Abteilungen oder Kollegen/Mitarbeiter sind in den Innovationsprozess involviert? Gibt es auch abteilungsübergreifende Teams? Wie werden diese koordiniert?
  - Unterscheiden Sie zwischen inkrementellen und radikalen Innovationen in ihren Managementprozessen und -strukturen?
  - Welche Bedeutung haben web-basierte-Tools in Ihrem Innovationsprozess/-projekten? Welche Erfahrungen haben Sie damit gemacht?
- Versuchen Sie die Marktaussichten für ein neu eingeführtes Produkt zu verbessern?
  - Wie bzw. womit/wodurch?
  - Welche Rolle nehmen hierbei Partner, Plattformen, Standards, Social Media, Crowd-Sourcing, Regulierungen etc. ?
- In welcher Form berichten Sie über Fortschritte in der Entwicklungen von Innovation innerhalb des Unternehmens?
  - Welche Berichtswege gibt es?
  - Was sind die wichtigsten Bewertungskriterien? Welche formalen Prozesse gibt es?
  - In welcher Form werden die Erwartungen der Shareholder oder des Aktienmarktes bei der Erstellung der Innovationsstrategie berücksichtigt?
- Hat sich die Vorgehensweise Ihres Unternehmens in den letzten 5-10 Jahren im Bereich des Innovationsmanagements (Organisation, Prozesse, Tools) verändert?

- Wenn ja, in welcher Form?
- Wie haben sich diese Veränderungen letztlich niedergeschlagen?
- Was waren die Auslöser/Treiber für diese Entwicklung?

#### 4. Mapping the future environment

- Versuchen Sie gezielt das Umfeld für zukünftige Entwicklungen und Innovationen zu identifizieren? Wenn ja, welche Aspekte/Teile des Umfelds berücksichtigen Sie (z.B. systematische Identifikation und Analyse von Trends und Möglichkeiten)
  - Welche Methoden benutzen Sie dafür? Welche Bedeutung haben diese Methoden für Ihr Mapping?
    - Quantitativ: Patentanalysen, Analysen Sozialer Medien, Crowd-sourcing von Ideen, bibliometrische Analysen?
    - Qualitativ: Szenarios, Horizon Scanning, Roadmaps, Medienanalysen, Consultingdienstleistungen, Studien und Umfragen
    - Informell: Konferenzen, öffentliche Informationen...
  - Wie verwenden Sie die Ergebnisse dieser Analysen? In welcher Phase der Innovationsplanung und -durchführung? Für welche Art von Innovationen?
  - Hat sich Ihr Vorgehen, das Innovationsumfeld und Zukunftschancen zu analysieren, in den letzten Jahren verändert?
- In welcher Form nutzen Sie Big Data für Ihre Innovationsaktivitäten?

#### 5. Öffentliche Förderung

- Wo sehen Sie Barrieren für die erfolgreiche Durchführung von Innovationsprojekten für Ihr Unternehmen bezogen auf nationale und europäische Bedingungen?
  - Zugang zu Kapital
  - Zugang zu Wissen
  - Marktzugang
  - Fehlende Kompetenzen und Fähigkeiten
  - Regulierung
  - Etablierung von Partnerschaften
  - Etablierung von Standards
  - Eigentumsrechte, Patentierungssystem
  - Gibt es andere Barrieren? (Bitte spezifizieren)
- Welche öffentlichen Maßnahmen und Mittel (national/EU) waren für Ihr Unternehmen am bedeutendsten, um diese Barrieren zu überwinden? (Forschungsprojekte, Kredite, steuerliche Anreize, öffentliche Vergabe, Bildung und Weiterbildung, Beratung, öffentliche Forschungsinstitute, weitere)
  - Hat sich das in den letzten fünf Jahren gewandelt?
- Was sind die zentralen Defizite, die Politik (national/EU) angehen sollte?

#### 6. Weiteres

Gibt es Dinge, die Sie gerne noch ansprechen möchten? Einen Nachtrag zu den besprochenen Themen oder etwas im Rahmen von Innovation/Innovationspolitik, das bisher noch nicht angesprochen wurde?

## 6.6 Czech

### 1. Podnikatelské prostředí a strategie firmy

- Jaká je struktura konkurence na Vašich hlavních trzích? A jaká je Vaše pozice v daném konkurenčním prostředí?
- Jakou pozici zastáváte v rámci Vašeho hodnotového řetězce?
- Nakolik důležité jsou inovace v rámci Vaší podnikatelské strategie?
  - Jaký je relativní význam následujících strategií ve Vaší inovační strategii?
    - Podpora stávajících procesů a trhů
    - Vývoj produktů a procesů příští generace
    - Etablování nových oblastí podnikání
  - Jak dlouho trvá životní cyklus Vašich výrobků? Jaký čas si zpravidla vyžadují inovační procesy (od vzniku myšlenky až po vstup na trh)? Změnila se délka životního cyklu produktů a inovačních cyklů za posledních 5 - 10 let?
  - Co považujete za klíčové inovace Vaší firmy za posledních 5 let?
  - Jaké mechanismy využíváte na integraci inovace do Vaší podnikatelské strategie?
  - Kdo jsou hlavní aktéři zapojeni do rozhodování o inovacích v rámci společnosti? (na organizační i individuální úrovni, např. podnikatelské jednotky, CTO, CEO, apod.)
- Jak byste popsali svou inovační strategii (klíčový koncept a jeho náplň)?
  - orientace např. na technologie, funkčnost, produktové oblasti/trhy, pobočky/lokality, potřeby zákazníka
  - jaké jsou klíčové technologické kompetence Vaší firmy?
  - změnil se balanc mezi technologickou a non-technologickou inovací během uplynulých pár let?
- Je Open Innovation součástí této strategie? Jakým způsobem se využívá? Jaké jsou Vaše zkušenosti s Open Innovation?
  - jak moc se spoléháte na externí organizace při zajišťování/rozšiřování klíčových technologických znalostí?
  - nehledě na Vaše klíčové technologie, jaké znalosti související s inovacemi byste se snažili získat ze zdrojů mimo společnost? (např. od externích partnerů, z internetu, atd.)
  - máte ve Vaší firmě interní start-up nebo podnikatelské aktivity? Pokud ano, jak jsou tyto integrované do inovační strategie?
  - jakou roli hrají práva duševního vlastnictví/patenty a jak řídíte Vaše patentové portfolio?
  - je součástí Vaší obchodní strategie poskytování služeb výzkumu a vývoje pro jiné firmy a sdílení znalostí s ostatními partnery?
- Zapojuje se Vaše firma do fúzí a akvizic, aby explicitně posílila inovace nebo inovativní aktiva?

### 2. Innovation Ecosystem (IES)

- V současnosti se analytici pravidelně odkazují na tzv. 'innovation ecosystem', aby popsali vzájemnou závislost firem se spolupracovníky, dodavateli, zákazníky, veřejnými výzkumnými institucemi, další infrastrukturou, financemi a regulátory. Tyto typicky zahrnují toky poznatků, osob, financí a služeb. Ty mohou být mezinárodní, národní, sektorové nebo specifické pro daný trh. Máme několik otázek týkajících se interakcí s touto rozšířenou sítí:
  - Jak důležité jsou pro Vaše inovační aktivity: obchodní spolupracovníci (velké podniky / malé a střední podniky / start-upy), dodavatelé, zákazníci, veřejné výzkumné instituce (včetně vysokých škol), další infrastruktury, finance, regulátoři, jiní aktéři?
  - Kteří z výše uvedených mají největší vliv na strukturu a směřování ekosystému?
  - Změnilo se to v posledních pěti letech? Pokud ano, co bylo hlavní hnací silou této změny? (hospodářská soutěž, technologický pokrok, regulace atd.?)
  - Jaká je pozice/role Vaší firmy v tomto ekosystému?
  - Jak si udržujete/posilujete své postavení v rámci ekosystému?
  - Nakolik důležitý je tento koncept pro inovační aktivity Vaší firmy?

- Změnila se jeho relevantnost/význam v posledních pěti letech?
- Mohli byste popsat nejdůležitější prvky inovačního ekosystému, ve kterém Vaše firma působí?
- Je součástí Vaší firemní strategie snaha o ovlivnění IES?
  - Máte explicitní strategii pro ovlivňování dalších součástí ekosystému?
  - Jak reagujete na snahy ostatních hráčů o změnu nebo ovlivňování ekosystému?
  - Jaké účinné prostředky máte na jejich ovlivnění?

### 3. Management inovací a praktiky

- Načrtněte prosím hlavní stupně inovačního projektu v rámci Vaší firmy od počátku až po vstup na trh.
  - Jaké jsou hlavní faktory podílející se na zahájení inovačního projektu? Jaké hlavní body přechodu mezi hlavními etapami jste identifikovali?
  - Jak řídíte vývoj projektu (např. state-gate, agilní, zákaznický orientované, jiné procesy, ...)?
  - Využíváte jiné "formální" metody (např. standardy řízení inovací) při řízení svého inovačního procesu?
  - Které součásti/funkční jednotky společnosti jsou zahrnuty? Pokud se jedná o cross-funkční týmy, jak jsou koordinovány?
  - Rozlišujete mezi inkrementálními a radikálními inovacemi v rámci manažerských struktur nebo procesů?
  - Nakolik důležité jsou inovativní nástroje webového rozhraní pro Váš inovační proces? Jaké máte zkušenosti?
- Snažíte se zlepšovat vyhlídky na trhu po prvotním uvedení produktu?
  - Jakým způsobem?
  - Jakou roli při tom hrají partnerství, platformy, normy, předpisy, social media, crowd-sourcing, atd.?
- Jakým způsobem hodnotíte a podáváte zprávy o progresu inovačního procesu ve Vaší společnosti?
  - Jaké máte zpravodajské linky?
  - Jaké jsou hlavní hodnotící kritéria? Existují nějaké formální procesy?
  - Berete v potaz očekávání vývoje na akciovém trhu při tvorbě inovační strategie?
- Změnil se přístup Vaší firmy k řízení inovací (organizace, procesy a nástroje) za posledních 5 až 10 let?
  - Pokud ano, jak?
  - Jaký byl účinek těchto změn?
  - Co bylo hnací silou tohoto vývoje?

### 4. Mapování okolí

- Snažíte se cíleně identifikovat okolí Vaší firmy pro budoucí vývoj a inovace? Pokud ano, které aspekty/součásti okolí zohledňujete? (tj. např. systematickou identifikaci a analýzu trendů a příležitostí)
  - Jaké metody používáte? Jaký význam mají tyto metody pro Vaše mapování okolí?
    - kvantitativní: patentová analýza, bibliometrie, analýza sociálních médií, crowd-sourcing nápadů, ...?
    - kvalitativní: scénáře, horizon scanning, roadmaps, průzkumy, analýza médií, konzultanti, ...?
    - informální přístupy, jako např. konference, veřejné informace
- Jak využíváte výsledky těchto analýz? Ve které fázi plánování a realizace inovací? Pro jaký druh inovací (radikální / inkrementální atd.)?
- Jak se změnil Váš přístup k analýze inovačního prostředí a potenciálních šancí na trhu za posledních 5-10 let?
- V jaké formě využíváte Big Data pro Vaše inovační aktivity?

### 5. Veřejná politika

- Představuje některý z uvedených faktorů hlavní bariéru pro úspěšnou realizaci inovačních projektů ve Vaší společnosti?
  - Přístup k financím

- Přístup k vědomostem
- Přístup k trhům
- Nedostatek schopností nebo dovedností
- Regulace
- Navazování partnerství
- Stanovení norem
- Vlastnická práva, patentový systém
- Jiné bariéry (prosím upřesněte)
- Jaká opatření veřejné politiky na domácí/EU úrovni byly nejdůležitější pro Vaši firmu při odstraňování těchto překážek (výzkumné granty / půjčky / fiskální stimuly / veřejné zakázky / vzdělávání a odborná příprava / poradenská podpora / veřejné výzkumné organizace / jiné)?
  - Změnily se za posledních 5 let?
- Jaké jsou hlavní deficity, které by měla veřejná politika řešit na domácí/EU úrovni.

## 6. Iné

Je ještě něco, k čemu byste se chtěli vyjádřit? Máte nějaký dodatek k tématům, která jsme probírali? Případně něco v oblasti inovací/inovační politiky, co bylo podle Vás opomenuto?

## 6.7 Estonian

### **Äri keskkond ja äriettevõtte strateegia**

- Selle sektsiooni eesmärk on tuvastada sisu ja faktorid, mis juhivad innovatsiooni strateegiat - tähtis kontekst, kuid oluline teostada tõhusalt, et jätta piisavalt aega peamistele teemadele
- Milline on konkurentsi struktuur teie peamistel turgudel? Ja teie firma positsioon neis?
- Millist positsiooni te omate oma väärtusahelas?
- Kui tähtis on innovatsioon teie äristrateegias?
  - Kui palju te tähtsustate igat järgnevat oma innovatsioonistrateegias? Koos millise suhtelise pingutusega?
    - Jooksvate protsesside ja turu toetamine
    - Järgmise põlvkonna toodete ja protsesside arendus
    - uute ettevõtete asutamine (uues väärtuslikus valdkonnas)
  - Milline on teie firma(de) prognoositav periood toodete (toote elutsükkel) turule ja innovatsiooni protsessile(turu kestvus)? Kas on olnud selles osas muutuseid viimase viie-kümne aasta jooksul?
  - Mida te kirjeldaksite oma firma innovatsiooni võtmeteguritena viimasel viiel aasta?
  - Milliste mehhanismidega on innovatsioon integreeritud teie äristrateegiasse?
  - Kes on põhilised osapooled, keda olete oma firma otsuste tegemisse kaasanud innovatsiooni töhustamise eesmärgil? (organisatsioonid, eraisikud, äriüksused, T&A juriidilised isikud või äriühingud, tehnoloogijuhid, arendusjuhid, strateegid ja planeerijaid, eksperdid, tootearendajad, uuringujuhid jne )
- Kuidas te kirjeldaksite oma innovatsioonistrateegiat ( ulatust ja kontseptsiooni)?
  - organiseeritud tehnoloogia, funktsionaalsus, toote piirkonnad (turud, kuuluvused, asukohad)?
  - Mis on teie firma põhiline tehnoloogiline pädevus?
  - Kas tasakaal tehniliste ja mittetehniliste uuenduste vahel on muutunud viimase paari aasta jooksul?
- Kas avatud innovatsioon on osa sellest strateegiast?:
  - Mil määral te toetute välistele organisatsioonidele, et kindlustada/suurendada tehnoloogiliste teadmiste tuumikut?
  - Peale oma põhitehnoloogia, milliseid innovaatilisi allikaid te püüate leida väljastpoolt enda ettevõtet?
  - Kas teil on start-up lahendusi või eraettevõtlust ettevõtte siseselt? Kui nii, siis kuidas on need integreeritud ettevõtte innovatsioonistrateegiasse?
  - Kas teie firma on seotud ühinemiste ja ülevõtmistega detailselt, et suurendada innovatsiooni ja innovatsiooni vara?
  - Milline on intellektuaalomandi õiguste roll ja kuidas on korraldatud intellektuaalomandi portfell?
  - Kas te pakute teadus- ja arendustegevusalaseid teenuseid teistele firmadele ja kas see on osa teie äristrateegiast?

### **Innovatsiooni ökosüsteem**

- Selle sektsiooni eesmärk on tuvastada , missuguseid innovatsiooni ökosüsteeme firma ise peab töötavaks ja kui tähtsad on need firma innovaatilistele tegevustele
- Tänapäeval analüütikud viitavad regulaarselt innovatsiooni ökosüsteemide kontseptsioonile, et kirjeldada firmade vastastikust sõltuvust koostööpartneritest, tarnijatest, klientidest, avalik-õiguslikest teadusasutustest, teistest infrastruktuuridest, rahastusest ja korraldajatest. See toob tüüpiliselt kaasa



teadmiste, inimressursi, finantside ja teenuste voolu. Need võivad olla rahvusvahelised, riiklikud, piikondlikud või spetsiifilised turule suunatud.

- Meil on mõned küsimused selle laiendatud võrgustiku vastastikuse toime kohta:
  - Kui tähtsad on teie innovatsioonialasele tegevusele: äripartnerid (suurfirmad/VKEd/start-up'id)tarnijad, kliendid, avalik-õiguslikud teadusasutused (k.a. ülikoolid), teised infrastruktuurid, rahastus, regulaatorid, kõik teised osapooled, kes mängivad mingitki rolli innovatsiooni protsessis?
  - Mis üllalloeletust omab suurimat mõju innovatsiooni ökosüsteemide vormidele ja suundadele?
  - Kas see on muutunud viimase viie aasta jooksul? Kui nii, siis mis oli selle muutuse põhiline liikumapaneev jõud ? (konkurents, tehnoloogiline areng, regulatsioonid või midagi muud?)
  - Milline on teie firma positsioon/roll selles innovatsiooni ökosüsteemis?
  - Kui asjakohane on see kontseptsioon teie firma innovatiivsele tegevusele?
  - Kas see asjakohasus /tähtsus on viimase viie aasta jooksul muutunud?
  - Kas te võiksite loetleda oma innovatsiooni ökosüsteemi(de) kõige tähtsamad elemendid, milles teie firma tegutseb?
- Kas te sooviksite, et innovatsiooni ökosüsteem oleks osa teie firma strateegiast?
  - Kas teil on detailne strateegia, mis mõjutab innovatsiooni ökosüsteemi teisi osi?
  - Kuidas te vastate teiste osapoolte pingutustele muuta või mõjutada innovatsiooni ökosüsteemi?
  - Millised on teie jaoks kõige kättesaadavamad hoovad selle teostuseks?

### ***Innovatsiooni juhtimine ja praktika***

- Selle sektsiooni eesmärk on tuvastada protsessid ja tavapärane tegevus, kuidas firma juhib sisemist innovatsiooni konkreetse rõhuasetusega sellele, mis on uus
- Palun kirjelda oma firma innovatsiooni projekti etappe turule suunatud kontseptsioonis?
  - Millised on peamised innovatsiooni projekti põhitegurid algstaadiumis?
  - Millised on peamised üleandmise punktid, mida olete identifitseerinud põhietappide vahel?
  - Milliseid protsesse kasutasid projekti edu saavutamiseks erinevatel etappidel? (nt etapi-värv, jt)?
  - Kas te kasutasite teisi ametlikke meetodeid (nagu innovatsiooni juhtimise standardeid) , et juhtida oma firma innovatsiooni protsessi?
  - Millised firma osad/talitused on kaasatud innovatsioonialasesse tegevusse? Juhul kui kaasatud on rist-funktsionaalsed meeskonnad, siis kuidas on need kokku õnnestunud viia?
  - Milliseid protsesse on kasutatud turule sisenemiseks?
- Kas te soovite laiendada turu väljavaateid innovatsiooni eesmärgil, pärast turu lähtepositsiooni tutvustamist?
  - Mis tegevusi te selleks rekendate?
  - Milline roll on siin partnerlusel, platvormil, standarditel, regulatsioonidel, sotsiaalmeedial, ühiskonna arvamusel jne?
- Kuidas te raporteeriksite ja hindaksite kogu oma ettevõtte innovatsiooni progressi?
  - Millised on teie aruandluse liinid?
  - Mis on teie põhitegevuse tulemuslikkuse kriteerium? Mistahes ametlik protsess?
  - Kas innovatsiooni strateegia formuleerimisel on arvesse võetud ka väärtpaberibörsi ootuseid?
- Kas teie ettevõtte meetodid innovatsiooni korraldamisele (organisatsioonis, protsessides ja töövahendites) on muutunud viimase 5-10 aasta vältel?
  - Kui nii, siis kuidas?
  - Milline on olnud nende muutuste efekt?
  - Mis on olnud nende muutuste liikumapaneevaks jõuks?

### ***Innovatsiooni keskkonna kaardistamine***

- Selle sektsiooni eesmärk on tuvastada protsesse ja tegevusi, mille alusel firma kaardistab oma tuleviku innovatsiooni keskkonda uuesti, rõhuasetusega, mis on uus
- Kuidas te olete kavandanud oma firma innovatsiooni keskkonda kaardistada? ( nt trendide ja võimaluste süstemaatiline kindlaksmääramine ja analüüs jmt)
  - Kui nii, siis milliseid meetodeid te selleks kasutate?
  - **Kvantitatiivseid** : patentide analüüs, bibliomeetriline analüüs, sotsiaalmeedia analüüs, kodanike uuringutest välja kooruvad ideed jne ,
  - **Kvalitatiivsed** : stsenaariumid, tulevikuuuringud, teekaardid, teadusuuringud, meedia analüüsid, konsultatsioonid, nõustamine, auditeerimine jmt .....
  - mitteametlikud pöördumised nagu konverentsidel osalemine, avalik informatsioon .... Kuidas on nn “suurandmetega”? Kuidas te neid suurandmeid kasutate oma innovaatilises tegevuses?
  - Kuidas te rakendate nende analüüside tulemusi? Kui rakendate, siis millistel innovatsiooni planeerimise ja täitmise etappidel ja mis tüüpi innovatsioonis (radikaalses/lisanduvast jmt)?
  - Kas teie lähenemine kaardistusse või selle kasutusse on muutunud viimase 5 kuni 10 aasta jooksul?

### ***Avalik poliitika***

- Selle sektsiooni eesmärk on hinnata poliitikate sekkumise relevantsust firmade innovatsiooni arengusse – Selles osas eristatakse siseriiklikke ja EL tasandi poliitikat.
- Kas te olete arvesse võtnud kõike järgnevaid põhilisi takistusi siseriiklikul tasemel, et tagada edukas innovatsiooni areng oma firmas?
  - juurdepääs finantsidele
  - juurdepääs teadmistele
  - juurdepääs turgudele
  - võimekuse ja oskuste puudumine
  - regulatsioonid
  - partnerlussuhete loomine
  - standardite kehtestamine
  - Intellektuaalomandi süsteem
  - Mõni teine (palun määratle)
- Kas te olete arvesse võtnud kõike järgnevaid põhilisi takistusi Euroopa Liidu tasemel, et tagada edukas innovatsiooni areng oma firmas?
  - juurdepääs finantsidele
  - juurdepääs teadmistele
  - juurdepääs turgudele
  - võimekuse ja oskuste puudumine
  - regulatsioonid
  - partnerlussuhete loomine
  - standardite kehtestamine
  - Intellektuaalomandi süsteem
  - Mõni teine (palun määratle)
- Millised siseriiklikud või EL tasemel tehtud avalike poliitikate algatused on olnud kõige tähtsamad teie firmale nende piirangute ületamisel (toetused, /laenud/maksusoodustused/avalikud riigihanked/haridus/koolitus/nõustamine/avalik-õiguslikud teadusasutused/ Muu
  - Kas need on muutunud viimase 5 aasta jooksul?

- Mis on põhilised puudused siseriiklikes või EL avalikes poliitikates, millele tuleks tähelepanu juhtida?

***Teised allikad***

- Kas on veel teisi küsimusi, mida sooviksite tõstatada teemadel, mida oleme täna arutanud või on veel midagi lisada innovatsiooni kontekstis, mida siin pole mainitud, kuid mida sooviksite tõstatada ettevõtete ja/või poliitikate keskkonnas innovatsiooni praktiseerimise muudatuste teemal?

## 6.8 Finnish

### ***Liiketoimintaympäristö ja strategia***

Tällä osiolla luodaan ymmärrys kontekstista, jossa yritys toimii ja joka vaikuttaa yrityksen innovaatiotoimintaan.

- Minkälainen kilpailuasetelma on päämarkkinoillanne? Mikä on yrityksenne asema tässä kilpailutilanteessa?
- Mikä on yrityksenne asema arvoketjussanne?
- Kuinka tärkeässä osassa innovaatiotoiminta on yrityksenne strategiassa?
  - Kuinka paljon painotatte seuraavia asioita innovaatiostراتيجiassanne? Mikä on näiden suhde toisiinsa?:
    - Nykyisten prosessien ja markkinoiden ylläpitäminen ja kehittäminen
    - Seuraavan sukupolven tuotteiden ja prosessien kehittäminen
    - Kokonaan uuden liiketoiminnan luominen (uusilla arvoalueilla)
  - Mikä on yrityksenne aikajänne markkinoilla olevilla tuotteilla (tuotteen elinkaari) sekä innovaatioprosesseilla (time to market)? Ovatko nämä muuttuneet viimeisen 5-10 vuoden aikana?
  - Minkä näkisit olevan yrityksenne merkittävimpiä innovaatioita viimeisen viiden vuoden aikana?
  - Miten innovaatiotoiminta integroituu yrityksenne strategiatoimintaan?
  - Ketkä ovat keskeisimmät päätöksentekijät, jotka tekevät innovaatiotoiminnan päätökset yrityksessänne? (organisaatiotasolla ja yksilöt, esim. liiketoimintayksiköt, koko organisaation tai liiketoimintakohtainen T&K yksikkö, CTO, suunnittelijat..)
- Miten kuvaisit innovaatiostراتيجiaanne (laajuus ja käsite itsessään)?
  - Organisoitu teknologioittain, funktioittain, tuotealueittain/markkinoittain, alueittain, asiakaskohtaisesti
  - Mitkä ovat yrityksenne teknologiset ydinosaamiset?
  - Onko teknologisten ja ei-teknologisten innovaatioiden välinen suhde muuttunut viimeisten vuosien aikana?
- Onko avoin innovaatio osa tätä strategiaa? Miten sitä käytetään? Minkälaisia kokemuksia teillä on tästä?
  - Missä määrin tukeudutte ulkopuolisiin organisaatioihin yrityksenne teknologisen ydinosaamisen tuottamisessa ja kehittämisessä?
  - Mitä innovaatioihin liittyvää tietoa ja osaamista teillä on tapana hakea yrityksenne ulkopuolelta?
  - Onko yrityksellänne start-up yrittäjyystoimintaa? Jos on, niin miten tämä on integroitu innovaatiostراتيجiaanne?
  - Onko yrityksenne hyödyntänyt fuusioita ja yritysostoja erityisesti innovaatioiden ja innovaatiopääoman kehittämisessä?
  - Minkälainen rooli IPR:llä on ja miten johdatte IPR portfoliotanne?
  - Ohjaako liiketoimintastrategiaanne tekemään T&K-toimintaa ja palveluja sekä jakamaan tietoa muiden yhteistyökumppaneiden kanssa?

### ***Innovaatioekosysteemit***

Tämä osio kartoittaa minkälaisissa innovaatioekosysteemeissä yritys näkee itsensä toimivan, ja kuinka tärkeää tämä on yrityksen innovaatiotoiminnalle.

- Analyttikot viittaavat nykyään usein innovaatio ekosysteemin käsitteeseen kuvatakseen yritysten välisiä riippuvuussuhteita yhteistyökumppaneiden, toimittajien, asiakkaiden, julkisten tutkimuslaitosten, muun infrastruktuurin, rahoittajien ja regulaattoreiden kanssa. Nämä useimmiten sisältävät ja koostuvat tieto-, ihmis-, rahoitus- ja palveluvirroista. Nämä voivat olla sekä kansainvälisiä, kansallisia,

sektoripohjaisia tai markkinakohtaisia. Meillä on muutamia kysymyksiä koskien tätä laajennettua verkostoa:

- Kuinka tärkeää innovaatiotoiminnallenne on: liiketoiminnan yhteistyökumppanit (suuret yritykset/PK-yritykset, start-upit), toimittajat, asiakkaat, julkiset tutkimuslaitokset (sisältäen yliopistot), muu infrastruktuuri, rahoittajat, regulaattorit, muut – mitkä?
- Millä yllämainituista on suurin vaikutus ekosysteemin muotoon ja suuntaan?
- Onko tämä muuttunut kuluneina viitenä vuotena? Jos on, niin mitkä ovat olleet muutoksen merkittävimpiä edistäjiä? (kilpailu, teknologinen edistyminen, regulaatio, jne. ?)
- Mikä on yrityksenne asema/rooli tässä ekosysteemissä?
- Miten ylläpidätte/vahvistatte asemaanne ekosysteemissä?
- Kuinka relevantti tämä käsite on yrityksenne innovaatiotoiminnalle?
- Onko tämä relevanssi/tärkeys muuttunut kuluneiden viiden vuoden aikana?
- Kuvaisitko innovaatioekosysteemien merkittävimmät elementit, joissa yrityksenne toimii?
- Onko yrityksenne strategian osana ekosysteemiin vaikuttaminen?
  - Onko teillä erityinen strategia ekosysteemin muihin osiin vaikuttamiseksi?
  - Miten vastaatte ekosysteemin muiden osien vaikutus- tai muutosyrityksiin?
  - Mitkä ovat merkittävimmät keinonne ja "vipuvarret" tämän aikaansaamiseksi?

### ***Innovaatiojohtaminen ja käytännöt***

Tässä osiossa pyritään selvittämään prosesseja ja toimintatapoja, joilla yritykset johtavat sisäisesti innovaatiotoimintaansa. Kohteena on erityisesti uudet toimintatavat.

- Kuvaisitko yrityksenne innovaatioprojektien päävaiheet alusta markkinoille vientiin?
  - Mitkä ovat tärkeimmät innovaatioprojektin aloittamiseen vaikuttavat tekijät? Mitkä ovat keskeisimmät äsken mainitsemiesi vaiheiden väliset siirtymät?
  - Miten johdatte projektin etenemistä (e.g. stage-gate, ketterät toimintamallit, asiakaslähtöinen toimintamalli, muita...)?
  - Käytättekö "formaaleja" toimintatapoja (esim. innovaatiojohtamisen standardit) innovaatioprosessin johtamisessa?
  - Mitkä yrityksenne osat/funktiot ovat tässä mukana? Jos poikkifunktionaalaisia tiimejä on mukana, niin miten nämä koordinoidaan?
  - Teettekö eroa inkrementaalisten ja radikaalien innovaatioiden välillä johtamisjärjestelmässänne tai prosesseissänne?
  - Kuinka tärkeitä ovat nettipohjaiset innovaatiotyökalut innovaatioprosesseissänne? Minkälaisia kokemuksia teillä on näistä?
- Pyrittekö laajentamaan innovaatioidenne markkinamahdollisuuksia alkuperäisen markkinoille tuonnin jälkeen?
  - Millä toimenpiteillä tämä tehdään?
  - Mikä on kumppanuuksien, platformien, standardien, regulaation, sosiaalisen median, crowd-sourcingin rooli jne.?
- Miten raportoitte ja arvioitte innovaatiotoiminnan kehitystä yrityksessänne?
  - Mitkä ovat raportointitavat ja -kanavat?
  - Mitkä ovat tärkeimmät suorituskykykriteerit? Onko joitain "formaaleja" prosesseja?
  - Otatteko sijoitusmarkkinoiden odotukset huomioon innovaatiostrategianne kehittämisessä?
- Onko yrityksenne innovaatiojohtaminen (organisaatio, prosessit ja metodit) muuttunut kuluneiden viiden tai kymmenen vuoden aikana?
  - Jos on, miten?
  - Mitkä ovat olleet näiden muutosten vaikutukset?
  - Mitkä olivat näiden muutosten aiheuttajia?

## ***Ympäristön kartoittaminen***

Tässä osiossa pyritään määrittämään prosessit ja toimintatavat, joilla yritys kartoittaa tulevaa ympäristöään, jälleen painotuksena mikä on uutta.

- “Kartoitatteko” yrityksenne innovaatioympäristöä? Jos kartoitatte, niin mitä elementtejä ja asioita? (tämä tarkoittaa esimerkiksi systemaattista trendien ja mahdollisuuksien tunnistamista ja analysointia)
  - Jos kartoitatte, niin mitä metodeja käytätte? Mikä on näiden arvo kartoittamisen kannalta?
    - Kvantitatiivisia: patenttianalyytit, bibliometriikat, sosiaalisen median analyysi, ideoiden crowd-sourcing...?
    - Kvalitatiivisia: skenaariotyöskentely, toimintanäkymien skannaus, roadmapit, kartoitukset, median analysointi, konsultit...?
    - Epäformaalit tavat kuten konferenssien seuraaminen, julkinen tieto...?
  - Entä “big data”? Kuinka käytätte “big dataa” innovaatiotoiminnassanne?
  - Kuinka sovellatte näiden analyysien tuloksia käytäntöön? Esim. missä innovaatioiden suunnittelu- ja toteutusvaiheissa, minkälaisia innovaatioita varten (radikaalit/inkrementaaliset jne.)?
  - Ovatko tapanne ympäristön kartoituksessa tai kartoittamisen käyttämisessä muuttuneet viimeisen 5-10 vuoden aikana?

## ***Julkiset toimet ja innovaatiopolitiikka***

Tässä osiossa pyritään arvioimaan innovaatiopolitiikan työkalujen ja toimenpiteiden merkitystä yritysten innovaatiotoiminnalle. Tässä osiossa tutkitaan erikseen **kotimaisia** ja **EU-tason** innovaatiopolitiikkoja.

- Onko sinun mielestä jotkin seuraavista merkittäviä esteitä *kotimaisella/EU-tasolla* yrityksenne innovaatiotoiminnalle?
  - rahoitusmahdollisuudet
  - tiedonsaantimahdollisuudet
  - pääsy markkinoille
  - osaamispääoman puute
  - regulaatio
  - yhteistyökumppanuuksien muodostaminen
  - standardien kehittäminen
  - IP järjestelmät
  - jokin muu (tarkenna, ole hyvä)
- Mitkä *kotimaiset/EU-tason* innovaatiopoliittiset toimenpiteet ovat olleet tärkeimpiä yrityksellenne näiden esteiden vähentämiseksi (apurahat/lainat/taloudelliset houkuttimet/julkiset ostot/koulutuspolitiikka/konsultointi/julkiset tutkimuslaitokset/jokin muu?)
  - Ovatko nämä muuttuneet viimeksi kuluneelta viiden vuoden jaksolta?
- Mitkä ovat innovaatiopolitiikan merkittävimmät puutteet *kotimaisella/EU-tasolla*, joissa haluaisit nähdä muutosta ja kehitystä parempaan?

## ***Jotain muuta...***

Onko vielä joitain muita asioita, mistä haluisit keskustella liittyen tähän mennessä läpikäymiimme asioihin, tai onko jotain, mistä emme ole keskustelleet, mutta haluaisit keskustella liittyen yritysten innovaatiokäytäntöjen muutoksiin ja/tai innovaatiopolitiikan toimiin?