ISABELLA SASSO GENOVA

ANALYSIS OF THE STATE OF THE DIFFUSION OF SMART WORKING PRACTICES IN EUROPE AND BRAZIL

Graduation Work presented to *Escola Politécnica da Universidade de São Paulo* for obtaining the diploma of Production Engineer

São Paulo

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To the exchanges I have lived during university

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University has been an incredibly enriching, challenging, transforming and intense experience, throughout which I can proudly say I have exchanged as much and as well as I could.

‘Everything passes.’

ABSTRACT

Smart Working consists in an important organisational phenomenon defined by the Smart Working Observatory from *Politecnico di Milano* as 'a new management philosophy founded on people having the flexibility and autonomy in choosing their spaces, their working hours and the tools they use, in return for being more accountable for the results'. Among the similar concepts to Smart Working, which vary between countries and perspectives and present different definitions and terminologies, 'Work Smart', 'New Ways of Working' or 'New World of Work' and 'Flexible Working' can be cited. The present work consists in identifying and analysing the state of the diffusion of Smart Working practices, at a first moment, in the European panorama and, at a second moment, in Brazil. The work proposes a referential of analysis for Smart Working capable of gathering practices and features which, when qualified and quantified, demonstrate the development of flexibility at work in the context assessed, thus representing an instrument of comparison between realities as well. Stemming from the academic literature, four drivers of analysis have been determined: Time flexibility, Place flexibility, Regulation and Technology. The secondary research has provided the data needed to fulfill the framework and create a classification of countries for each driver, followed by the primary research, which validated and complemented the framework. Regarding the Brazilian reality, a large gap in terms of discussions, regulation, research and actual practice on the topic has been identified, as well as the increasing movement of startups and technology companies, which represent a sign of change. The work is concluded by proposing an agenda of improvements both in research and in initiatives in order to spread the Smart Working concept and its practices across the country.

Keywords: Smart Working, Flexible Working, Flexible Working Arrangements, flexible organisational practices, telework, flextime

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ABBREVIATIONS AND ACRONYMS LIST

ABRH	Brazilian Association of Human Resources
CNI	National Confederation of Industry
DESI	Digital Economy and Society Index
DIEESE	Department of Statistics and Socioeconomic Studies
EWCS	European Working Conditions Survey
IBOPE	Brazilian Institute of Public Opinion and Statistic
ILO	International Labour Office
Poli-USP	Polytechnic School of University of São Paulo
PoliMi	*Politecnico di Milano*
SEBRAE	Brazilian Micro and Small Business Support Service
SOBRATT	Brazilian Society for Telework and Teleactivities
T/ICTM	Telework and ICT-mobile

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1 INTRODUCTION

1.1 Context

Stemming from an agreement between *Escola Politécnica da Universidade de São Paulo* (Polytechnic School of University of São Paulo, POLI-USP) and *Politecnico di Milano* (PoliMi) I have had the opportunity to participate on a Double Degree program in Management Engineering, which has been a privilege and honour. During two years, I was able to experience the university in Italy, learning not only the academic content taught, but also how their educational system works, what methods are used and what is taught. Studying in *Politecnico di Milano* was not easy and not always pleasant.

On the third semester of the exchange program I learned that PoliMi's School of Management counts with 40 Digital Innovation Observatories which were created to raise cultural awareness in the main areas of digital innovation. The Observatories provide an expert point of reference for digital innovation, integrating work in research, knowledge and communication. Their purpose, according to the website is 'both to produce and spread knowledge about possible opportunities and the impact of digital technology in companies, public authorities and the public. Our approach consists of interpretive models based upon sound empirical evidence together with centres for independent ongoing and pre-competitive discussion to bring together the demand-and offer-side for digital innovation.'.

The Observatories are divided into three categories: Digital Transformation, which explore the digital innovation processes transforming the way of doing business; Digital Solution, which explore the impact of new digital technologies in specific application domains, and Verticals, which analyse the impact of Digital Innovation in specific sectors or processes. When I got in contact with the Smart Working Observatory, which belongs to the Digital Solution category, its concept caught my attention, since it is so actual and dynamic. Smart Working consists in 'a new management philosophy founded on people having the flexibility and autonomy in choosing their spaces, their working hours and the tools they use, in return for being more accountable for the results' (OBSERVATORY, 2018). The Observatory, according to the website, proposes to 'be a point of reference for the development of a culture of innovation in work models within a smart working perspective and for developing methodologies based upon a multi-disciplinary approach that can support decision-makers (information technology

managers/CIOs, human resource managers and facility managers) in public and private companies'(OBSERVATORY, 2019).

When I learned that I could participate in its research and write my graduation work about it, I felt very excited both for the thematic and for the opportunity to work directly with the School of Management Department. In an era of quick and constant changes, to which everything and everybody is struggling to adapt, studying a phenomenon like Smart Working is of great importance. Technology development and the new ways of living directly affect the way of working and there is the urgent necessity to find balance between work and private life, re-establishing boundaries and reencountering ways to keep workers satisfied and productive. Studying Smart Working contributes to the required revision of values, culture, policies, rules, limits and habits at work. It consists in a complex topic both due to the current dynamicity of things in general and to the correlation to several contextual aspects such as culture, history, workers' age and gender. Therefore, deeper comprehension of the subject is crucial and affects both the society, the environment, companies and individuals.

The Observatory was interested in deepening its studies and knowledge on Smart Working in the private sector across the European continent, as part of the research activities planned for 2018. The agreement was that my study would be on that topic. My role and experience, however, went far beyond, as I took part in two workshops organised with large companies to discuss Smart Working and in interviews conducted for the Smart Working Award assessment. This opportunity completely changed my experience in PoliMi, since the Department had always remained distant from my reality and I barely had access to its building before, differently from The Production Engineering Department in Poli-USP, which is much more open to students.

When going through the literature and doing research, there was a great amount of content available, which made it even hard to select and prioritize. On the other hand, it was difficult to find reliable data that would allow for a structured comparison between the European Union countries and some other relevant ones on the topic. Subsequently, when moving to the primary research by looking for interesting case studies that would be available for an interview, it got even harder. Most of the emails were not answered, leading to the decision to call several companies in multiple countries in an attempt to get an answer. Additionally, there have been hard times adapting to the Italian way of conducting their work, which is sometimes not very linear or structured. In spite of all these barriers, the whole experience has been very interesting

and enriching. However, it has become even more challenging and interesting when it got to the point of applying the same methods back in Brazil and learning more from its context and reality, which is different to the European one is most aspects.

Back in Brazil there has been a meeting with the supervisor to align how the work would be further developed in order to comprehend the country's scenario. We both knew Brazil diverges from most European countries in several factors such as history, economy, size and culture, which incited our curiosity and excitement to find out what the research would bring as results and conclusions.

This time the academic literature as well as the secondary one demonstrated to be much more limited, hampering the classification of Brazil according to the drivers proposed, especially Time and Place flexibility. Nonetheless, both the data collected and the lack of more data have been valuable to describe the country's stage in the discussion on the topic 'flexibility at work', its benefits and risks in the Brazilian context, the desire for it on the part of employees and its actual application by companies and employers. Finally, when moving to the primary research, it has been easier to identify companies with interesting applications of Smart Working willing to share their experience, both because of the easiness to find contacts within our network and because the country's culture is more open than in most European countries.

In conclusion, the present work is composed by two different moments: the first in Italy, constructing a method and applying it to the European context, and the second in Brazil, adapting the method to the country's context and applying it. It has been a very enriching experience, especially when learning my country's reality and opportunities for the future.

1.2 Problem

The problem when working with the Smart Working Observatory from *Politecnico di Milano* was the lack of a consistent and reliable comparison of the European scenario in terms of diffusion and characteristics of Smart Working. Although several surveys and studies have been published, most of them offer data on Smart Working policies individually - for example time flexibility and place flexibility - instead of combining them and proposing a broad perspective of the phenomenon. Moreover, there is the difficulty to encounter studies that encompass all the European Union members. Given that working practices and policies consist in such an important topic that involves and affects individuals, companies, the society and the environment and is in constant and accelerated change, there was the need for the construction

of a structured framework to compare countries concerning Smart Working policies and practices. More specifically, for the Observatory this comparison should be among European countries, allowing also the identification of Italy's positioning and particularities.

At the second moment, when working with Production Engineering Department of Poli-USP, the problem has become the absence of consistent and reliable data regarding the diffusion and features of Smart Working in the Brazilian scenario. In this case, there is a limited availability both of a broad and complete picture of Smart Working and of data on its policies specifically.

Since working practices and policies vary according to several aspects, it is extremely important to study the Brazilian reality in order to identify its particularities and determine which elements identified in the European countries are applicable to the American country and which are not. Specially in a country where few data on the topic is encountered, this work goes beyond a means of compiling information on a relevant, present and quite unknown subject, as it proposes and encourages the discussion on balanced working practices, which shows to be at a very early stage.

1.3 Objective

At the first moment, the objective consisted in identifying and analysing the dissemination of the state of the diffusion of Smart Working practices in the European panorama. It was, on the one hand, to provide a description of the European scenario in terms of the adoption of Smart Working practices in the private sector and, on the other hand, to identify the main differences between the Italian context and that of the most relevant European countries on this topic, which represent the best practices and trends. By doing so, the country and the Observatory would be able to learn from the best practices and use them as inspiration to boost the spread of flexible policies by adapting them to the its context and culture.

The target was to construct, stemming from the literature, a referential capable of gathering practices and features which, when qualified and quantified, demonstrate the development of flexibility at work in the context assessed. The referential represents a great progress in addressing the Smart Working topic and formalising its assessment according to the context, through the combination of data which is mostly available separately, which provides a more complete and structured picture of the phenomenon. This way, it enables a better understanding of a specific reality and offers a standardised means of comparison between realities.

Subsequently, at the second moment, the objective has become to comprehend the Brazilian scenario as well, analysing and understanding the national context and the diffusion of Smart Working. By conducting such study and figuring out how the framework previously built can be adapted to Brazil's context, it has been possible to compare the country to other realities and figure out which next steps should be taken in order to both to improve the country's availability of comparable data and to boost the discussion and development of flexible organisational practices in the Brazilian working context.

The work was focused on the study of the different Smart Working aspects, specifically referring to time and place flexibility, regulation and technology availability. The study has been enriched through qualitative interviews. Focusing on the national system level by consulting international experts, and on significant case studies in companies that have implemented structured and well developed initiatives across the continent by talking to leaders of these programmes.

1.4 Justification

Even though Europe presents an enormous amount of studies and data on Smart Working policies and practices, it was still not possible to properly compare the European Union countries regarding the topic. Most of the studies either address each type of flexibility specifically, lacking a broad and complete perspective of flexible practices, or encompass only one or a few countries in the analysis, hampering the comparison between all of them. Given this scenario and the Smart Working Observatory's need to build a reliable comparison between the European Union countries and some other which are considered relevant to the topic, the present work has proportioned the creation of a method of comparison between countries on the topic 'Smart Working'. The contribution actually goes way beyond the Observatory's interests and needs, since companies, individuals and the society as a whole benefit from deepening and structuring the study of such a relevant, complex and dynamic phenomenon, which involves a large amount of variables and affects all three parties. The construction, refinement and validation of a reference framework of analysis of the Smart Working phenomenon according to different contexts, therefore, represents an important progress, functioning as an instrument of assessment and comparison between realities and bringing insights on the subject.

At the second moment of the work, the framework created has been adapted in order to fit Brazil's differences and limitations compared to Europe's indexes, amount of information and stage of diffusion of Smart Working. This process has been important in order to bring together the information available, which is limited and unstructured, as well as to acknowledge what is the country's situation in terms of law, technology and practices among the private sector, both in large traditional companies and in smaller and technology ones, such as startups. Stemming from this analysis, it was finally possible to identify positive and negative aspects of Brazil's position towards flexible working practices and policies and propose an agenda of improvement in terms of research and initiatives.

1.5 Structure

In order to pursue the objectives described, the work has been developed in three main chapters, divided into a first moment, centred on the Italian and European scenario, and a second moment, focused on the transposition and adaptation to the Brazilian context:

1. Literature review
2. Countries classification
3. Primary research

Regarding the first chapter, a literature review has been conducted in order to collect information in general on Smart Working and to sustain the definition of the drivers that would compose a referential of analysis proposed by the work. Also, the research has provided information, at the first moment, on the European context and, at the second moment, on the Brazilian one.

Subsequently, there was the construction of a framework of analysis and comparison of different contexts regarding their Smart Working features, based on the literature review, which encompassed four drivers of analysis. Information provided by secondary research was applied to this referential, allowing the classification of countries into categories for each driver proposed. Finally, the primary research has refined, validated and complemented the framework.

2 LITERATURE REVIEW

At the first moment, when working with the Smart Working Observatory, a literature review has been conducted in order to identify the main works, articles and news on topics related to Smart Working currently available. Stemming from them, it has been possible to get a good notion of the thematic nowadays, extracting definitions, concepts, frameworks, case studies, key findings from studies and surveys, facts and discussions on the matter. Besides, the literature has provided this work with inputs to determine the drivers according to which the study would be guided, as well as data to fundament the parameters that would compose the drivers' analysis.

Academic literature has been provided by websites such as Scopus, Google Scholar, Web of Science and Research Gate. Other sources like the Smart Working Observatory from *Politecnico di Milano*, Eurofound, European Commission and Eurostat have been fundamental to this study, providing it with consistent and reliable information on the Smart Working phenomenon, especially in terms of European scenario and of its effects both for employers and employees. Moreover, more secondary literature sources have been consulted, in particular to learn about interesting case studies, discussions and regulation determinations.

Subsequently, at a second moment, during the research focused on the Brazilian scenario, other definitions and pieces information have been found on the literature and the law (CLT). Moreover, other institutions have emerged as important sources of information, such as IBOPE, SOBRATT and ABRH.

2.1 Smart Working definition

The European Parliament's resolution on creating labour market conditions favourable for work-life balance voted in 2016 defines Smart Working as an 'approach to organising work through a combination of flexibility, autonomy and collaboration, which does not necessarily require the worker to be present in the workplace or in any pre-defined place and enables them to manage their own working hours, while nevertheless ensuring consistency with the maximum daily and weekly working hours laid down by law and collective agreements' (EUROPEAN PARLIAMENT, 2016).

Smart Working is also defined in the Italian Law 81 as ‘a method for the provision of subordinated work, to be arranged through an agreement between the parties. Smart work can be organised in phases, cycles and according to objectives, without specific schedule or workplace requirements, and may be pursued through the use of technological means’ (OBSERVATORY, 2017).

Furthermore, Smart Working is defined by the Smart Working Observatory from *Politecnico di Milano* as ‘a new management philosophy founded on people having the flexibility and autonomy in choosing their spaces, their working hours and the tools they use, in return for being more accountable for the results’ (OBSERVATORY, 2018).

Smart Working consists in a new concept of work that is an implication not only of the technological development, which has provided new digital tools that allow processes to be digitalised, but also of influences of economic, social and environmental nature (OBSERVATORY, 2016a). In order to retain competitivity in a quickly changing market, companies must adapt to the dynamic environment, thus creating a whole new working culture based on new behaviours, processes and organisational structure. In fact, Smart Working popularity is reported to have increased at the beginning of the 21st century, aligned with, on the one hand, the rise of urbanisation, climate change and innovation topics discussion, and, on the other hand, the knowledge workers’ claim for better work-life balance and more flexibility at work (CHA; CHA, 2014).

2.2 Smart Working theoretical models

Since Smart Working is a whole new concept of work, its implementation involves structural changes and adaptations across different dimensions. This means that putting Smart Working into practice is a complex process that can be divided into phases. Having acknowledged it, the specialist in the implementation of smart and flexible working Andy Lake has published the ‘Smart Working Maturity Model’, which splits the process into four main stages that progress towards more flexibility and structural change (LAKE, 2015), presented in Figure 1.

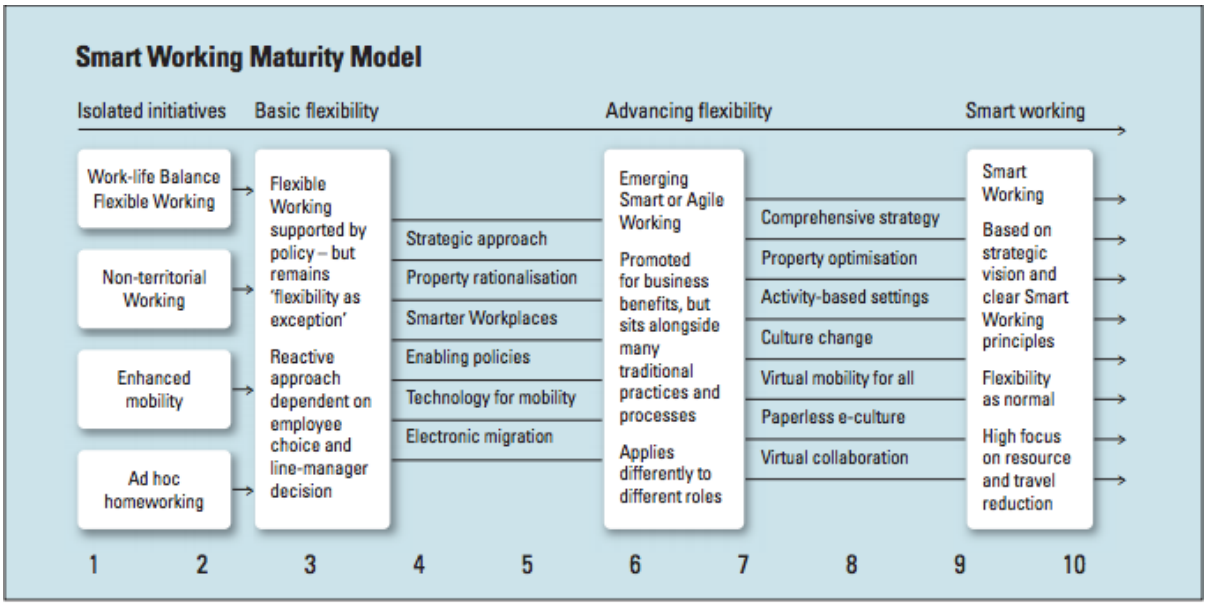

Figure 1 - Smart Working Maturity Model (LAKE, 2015)

Thus, the phases proposed by Lake are (LAKE, 2015):

1. Isolated initiatives: implementation of initiatives with the aim to enhance mobility and employees' work-life;
2. Basic flexibility: aside from the isolated initiatives, this phase encompasses policies to support flexibility, however it is still an exception and there is no strategic approach or proper technology availability;
3. Advancing flexibility: this stage is characterised by the insertion of various new aspects, such as the strategic approach to smart working, provision of proper technology for mobility and stronger and broader enabling policies. Thus, an actual platform for Smart Working is created, however flexible practices still coexist with many traditional ones and the initiative application varies according to roles and activities;
4. Smart working: once more, several aspects separate this phase from the previous one, as represented in the scheme. The Smart Working principles are well defined and there is a comprehensive strategic vision related to them. Flexibility becomes standard and is based on resource and commuting reduction, virtual collaboration and mobility and activity-based layout (LAKE, 2015).

The author suggests that the model is a useful instrument to assess a company's position on the path towards more flexible ways of working and to help define the next steps (LAKE, 2015)..

Still exploring the idea that Smart Working is developed over time and that this process can be divided into phases, Work Smart Initiative together with the University of Applied Sciences and Arts Northwestern Switzerland, specifically the School of Applied Psychology, have created a framework that sets five stages and their characteristics according to each of the four dimensions over which 'Work Smart' acts, nominated the FlexWork Phase Model 2.0 (WEICHBRODT, 2017). The model, as highlighted by the name, is derived from a first version that has been revised in 2016 to be applied in the '*FlexWork Survey 2016: Survey of employed persons and companies in Switzerland for the dissemination of mobile work'*.

The model 1.0 was developed at Microsoft Switzerland, also incentivised by the event 'Home Office Day' in Switzerland, which involved other companies as well, such as Swisscom, Witzig The Office Company, Swiss Bundesbahnen SBB (WEICHBRODT et al., 2014). The model's aim is to measure the development of spatial and temporal work flexibility in companies and organisations, as a way of becoming an orientation for these changes. The first draft of the model was based on insights and experience gained in previous projects in applied research as well as student research in the field of applied research. Moreover, two expert interviews were conducted: one with a consultant for Change Management in the context of mobile-flexible work and one with a leadership development expert. In accordance with the socio-technical system approach, five dimensions were stated, assigned into two subsystems. The technical subsystem was composed by two of them: infrastructure / architecture and technology, whereas the social subsystem consisted in the other three: regulations and HR measures related to mobile-flexible work; leadership and culture; values and norms (WEICHBRODT et al., 2014). When the draft model was revised and originated the second version, however, the three dimensions corresponding to the social subsystem have been replaced by two new ones: working model and organisational structures (WEICHBRODT et al., 2016).

Furthermore, the phase model original version had already determined five stages of development. This division provided two extreme states, one of stationary work (phase 1) versus one of location-independent work (phase 5), while the third phase can be considered a dedicated break characterised by heterogeneity. Since the development is progressive and dynamic, two more phases fit between the edges and the break, representing intermediate stages in which either flexible work, despite existent, is still an exception (phase 2), or is extensively established (phase 4) (WEICHBRODT et al., 2014).

An important remark is that the phases are not considered or called levels for a reason. To get to phase 4, an organisation not necessarily has to go through phases 1, 2 and 3, however, they still compose rough lines of development, thus cannot be considered totally independent. While the phases are aimed to roughly illustrate the last decades' development in industrialised countries, it is possible that more than one phase coexists within the same company, especially in large and heterogeneous ones. Due to this, the model application functions better if performed separately for each department. Another relevant reservation is that the model does not state that every organisation should aim at the fifth phase and reaching does not necessarily mean that the company is superior to others. The level of flexibility according to each dimension should be aligned with the specific company context, its employees and culture, which may in some cases imply the need for less flexibility. In IT companies, however, work flexibility is intrinsic in the business model and should be applied (WEICHBRODT et al., 2014).

Based on the model 2.0, it is possible to determine a company's degree of development in the path towards an organisation that works flexibly along the four dimensions (WEICHBRODT, 2017):

- Infrastructure / architecture (e.g. fixed or flexible workstations)
- Technology (e.g. stationary desktop computers, mobile devices, or cloud solutions)
- Working model (e.g. working from home only as an exception, or a broad acceptance of mobile-flexible working in the corporate culture)
- Organisational structures (e.g. strongly hierarchical, or project-based)

The phases, which go from a rather inflexible organisation until a very flexible organisation are the following: Phase 1 (on-site-bound & strictly hierarchical); Phase 2 (flexible as an exception); Phase 3 (inconsistent & evolving); Phase 4 (flexible & project-based); Phase 5 (location-independent & networked) (WEICHBRODT, 2017).

	PHASE 1: on-site-bound & strictly hierarchical	PHASE 2: flexible as an exception	PHASE 3: inconsistent & evolving	PHASE 4: flexible & project-based	PHASE 5: location-independent & networked
Infrastructure / Architecture	• assigned work stations • work station reflects status (e.g. individual offices for senior management) • meeting rooms mainly used for formal meetings • lots of space needed for file storage	• mainly assigned work stations • experiments with work in other places (e.g. meetings in break room) • lots of space needed for file storage	• fixed or flexible workstations • infrastructure changes actively used as opportunity for new, flexible structures • places for individuals to retreats to for undisturbed work, telephone calls, or informal meetings • less separation between informal and formal spaces	• fixed or flexible workstations • space reconfigured to include everything from individual workplaces to meeting rooms (for formal as well as informal meetings) • different zones for different activities in an open office landscape • places to retreat for undisturbed work and/or to take a quiet break • individual project or creative spaces	• a wide range of zones & retreat spaces available • project and/or creative spaces available • actual place of work and assigned location do not have to match • decentralization of company locations • use of hubs and co-working venues
Technology	• no or almost no mobile devices (laptops/smartphones) • no remote access to company servers • no special collaboration tools apart from email and calendars • if intranet available, only used for one- way communication (top-down) • lots of paper-based processes (requiring on-site presence)	• mobile devices generally not available • only limited remote access • hardly any collaboration tools • intranet used for one-way communication (top-down) • private devices individually used on an experimental basis, although not official company policy • pilot projects to introduce next- generation technology (hardware, software, collaboration tools)	• mobile devices available for many employees • lots of diversity among employees in terms of how technology is used • "anarchic IT" (lots of private/external tools and solutions used) • isolated, non-centralized use of simple cloud-based collaboration tools (insular solutions) • better/newer equipment provided to senior executives and/or those who make a strong demand for it • intranet also used for multi-directional communication (e.g. discussion forums or internal blogs for employees)	• laptop, smartphone & remote access service standard for all • unified communications & collaboration (UCC) solution has been introduced and is largely being used • use of cloud-based collaboration tools that allow simultaneous editing of documents • experiments with company-internal social networks or messaging, but not across the board • intranet used for multi-directional communication: employees allowed to communicate content themselves • "Bring your Own Device," i.e. an explicit option to integrate and use private devices; or employees can choose from a range of devices	• laptop, smartphone & remote access service standard for all, also UCC • uncomplicated sharing of all types of media (documents, photos, videos) • extensive use of internal social networks ("social enterprise") or messaging apps • collaboration tools implemented to allow collaboration with documents; new tools constantly being tested and may be used if necessary. • hybrid models for using cloud-based collaboration and management tools • experiments with context-based support, recommendation systems, or bots to improve internal information and communication
Working Model	• work off-premises not permitted • absolute separation between work and private lives • fears: loss of control, disturbance of information flow, inefficiency, idleness	• mobile-flexible work only as an exception with lots of controls and constraints • home office as a favor or reward • generally strong separation between work and private lives • employees working from home perceived as absent; lack of trust	• mobile-flexible work is practiced, but not sufficiently regulated • growing demand for mobile-flexible work and employees are frequently conducting their own experiments • private and work lives are more intermingled; experiments with redrawing new boundaries • pros and cons discussed intensively; lots of negotiations on the subject • fear: loss of informal exchange and social environment	• mobile-flexible work is clearly regulated and supported by the company • happens at the team level and constantly adjusted • boundaries between work and private life are individually redrawn • wide consensus on the advantages of mobile-flexible work (e.g. making an employer more attractive) • social exchange must be organized for its own sake • fear: overwork	• mobile-flexible work is the norm, so joint presence on site must be organized • lots of experience and a common understanding of how collaboration works within the company; hardly any formal regulations necessary • high levels of employee competence boundaries between work and private lives • risks/problems (e.g. availability, overwork) actively addressed
Organizational Structure	• organization and cooperation based on assembly line model • steep hierarchies, little leeway for employees • the organizational chart determines who works with whom • thick walls, therefore little exchange between departments and teams	• in addition to working together in teams and departments, an increasing number of interdisciplinary project teams • a little more leeway for employees	• organization and cooperation based on matrix model • somewhat flatter hierarchies • projects determine who works with whom • experiments with the inclusion of external employees (e.g. freelancers)	• lots of cooperation on interdisciplinary and interdepartmental project teams • increased inclusion of external workers (e.g. freelancers) on project teams • experiments with agile teamwork (e.g. Scrum) or other new forms of cooperation • experience with "collaboration overload" (because communication/meetings don't leave enough time for real work)	• organization and cooperation shifting to network model • flat hierarchies • Interdisciplinary, often changing project teams are the norm • regular inclusion of external workers (e.g. freelancers) • agile forms of collaboration (e.g. Scrum) are introduced in a targeted way and are used along other existing types of teams

Figure 2 - FlexWork Phase Model 2.0 (WEICHBRODT, 2017)

The dimension ‘Infrastructure / architecture’ regards flexible aspects of the physical workplace, thus of its layout. A company in the first phase, for instance, is characterised by fixed workstations destined for a single person, while one in phase four or five probably offers flexible workstations and different environments in the office which provide different tools and atmospheres of working, providing the worker with the possibility to choose where to work according to their current activities. In addition, organisations in the more advanced phases tend to make use of hubs and co-working venues (WEICHBRODT, 2017).

The dimension ‘Technology’ concerns the availability of technical tools, softwares and devices which function as enablers to the flexible work, such as tools that support the collaboration between teams and workers regardless of the location, external access to files or cloud-based systems. The first phase on this topic is characterised by a relevant amount of paper-based processes, practically no mobile devices such as laptops and smartphones and no possibility to access the company servers remotely, thus restricting a lot the work to the office. In the third phase, many changes can already be identified, however not all the workers are encompassed and the tools that allow flexible practices are still isolated. Finally, in phase five mobile devices are available to all workers and tools are integrated, making activities such as sharing of information, collaboration and communication much easier, regardless of the people involved location (WEICHBRODT, 2017).

The dimension ‘Working model’ encompasses the organisation’s rules, norms and values regarding mobile-flexible work, therefore it differentiates companies where mobile-flexible working is not allowed and suffers a lot of prejudice (Phase 1), from others where, even though such practices do exist, they are not yet properly regulated and private and work lives are more intermingled (Phase 3), from others where the standard is shifted to mobile-flexible work, meaning that both the organisation and its employees are used to such practices and have found clear and efficient ways of working, making formal regulations hardly necessary (WEICHBRODT, 2017).

The fourth and last dimension, ‘Organisational Structures’, is related to the level of hierarchy and rigidity of the company’s processes. While in the first phase the organisation presents deep hierarchies accompanied by sequential processes and rigid structures, in the third phase these hierarchies become flatter, processes’ sequence gives place to a matrix model and projects determine who works with whom instead of the organisational chart. In the fifth phase, the

organisation and cooperation shift to a network model, so the hierarchies become even flatter, projects are interdisciplinary and moved by agile forms of collaboration such as Scrum, also with the regular inclusion of external workers (WEICHBRODT, 2017).

The Smart Working Observatory from *Politecnico di Milano*, has also created a model that illustrates the phenomenon, which is focused on its elements and implications rather than the phases along which the initiatives reach a higher flexibility level (OBSERVATORY, 2016a).

2.3 Smart Working reference framework

The Smart Working Observatory has developed a model to represent the phenomenon in a way that encompasses and highlights its complexity and breadth. Since it consists in a deep transformational process that involves the company as a whole, the Observatory aims to spread the acknowledgement that Smart Working is far beyond a type of corporate welfare or a 'more flexible' telework, ideas which are often reproduced. Smart Working can be considered a new managerial philosophy based on conceding greater flexibility and autonomy to workers in various aspects such as working time and place, environments inside the office and tools utilized, in return to accountability for the results and deliveries, making employees assessment more objective. Given this scenario and the frequent trivialisation of the phenomenon and its implications, as a way of studying and designing initiatives in a systemic way, the Observatory proposes a framework that takes into consideration three different aspects (OBSERVATORY, 2016a):

- Organisational principles, that must inspire a proper corporate and managerial culture geared towards Smart Working;
- Project levers, concerning the dimensions of policies' application to concretise Smart Working initiatives;
- Benefits, that affect the organisation, people and society, including the environment

The organisational principles proportionate a culture and context that entail the interest in creating initiatives by developing policies across the four dimensions of project levers, which will then incur in benefits to the company, employees and society. This flow is represented in the framework below (OBSERVATORY, 2016a).

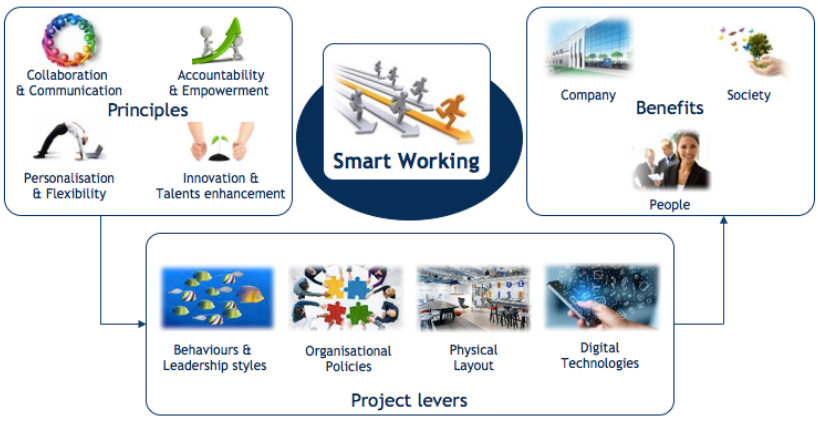

Figure 3 - Smart Working reference framework (OBSERVATORY, 2016a)

2.3.1 Organisational Principles

According to the Observatory's reference framework of Smart Working, the concept is based on four principles (OBSERVATORY, 2016a):

- Collaboration and communication
- Accountability and empowerment
- Personalisation and flexibility
- Innovation and talents enhancement

The 'collaboration and communication' principle emerge in a context of new individuals' and organisations' needs, which cannot be met while maintaining traditional working organisation structures. The rigid hierarchy, which consists in one of these traditional structures, often stands in the way of continuous flows of activities, making the interaction and coordination between people more difficult. This principle aims to boost the creation of valuable cross-relationships, which are supported by the several flows of information allowed by new technologies and tools (OBSERVATORY, 2016a).

The second principle, 'accountability and empowerment' directly relates to the Smart Working Observatory's definition for the term. On the one hand, the worker is empowered by 'being given flexibility and autonomy in choosing their spaces, their working times and the tools they use', while on the other hand they are made accountable for the results and deliveries, as stated in 'against a backdrop of taking more responsibility for the outcome' (OBSERVATORY, 2016a). With regard to the so-called 'knowledge-workers' in particular, the worker creates value by properly managing the information to create knowledge and solve problems, thus they

should have autonomy to take decisions and respond to their consequences. This means that in the current work context, their performance should be encouraged by a culture of trust (CLAPPERTON; VANHOUTTE, 2014).

In a context where knowledge workers efficiently collaborate ones with the others and have autonomy to complete their tasks however they believe is best, leaders switch behaviour as well and concentrate on assessing their results instead of micromanaging each of their steps. Standardisation of processes no longer makes sense and gives place to each person's decisions and preferences, following a 'personalisation and flexibility' principle (OBSERVATORY, 2016a).

Furthermore, the employer should invest in recognising the workers' talents and coaching them towards a development path, as well as boost innovation, which is crucial in a dynamic context. Employees should feel motivated and valorised for exploiting their potential both in professional and human skills. These aspects are encompassed by the fourth principle: 'innovation and talents enhancement' (OBSERVATORY, 2016a).

The organisational principles inspire a proper culture of Smart Working in the whole company, boosting the creation and implementation of initiatives that encompass the four levers (OBSERVATORY, 2016a).

2.3.2 Project Levers

As already explained, Smart Working involves the transformation of the company as a whole. Given this, several different initiatives can be chosen and implemented, impacting four main dimensions named 'Project Levers' (OBSERVATORY, 2016a):

- **Behaviours and leadership styles**, inspired by the principles of sense of community, empowerment, flexibility and virtuality
- **Organisational policies**, which provide flexibility of time and space
- **Physical layout**, rethinking the workspace through Activity-based Working
- **Digital technologies**, which support the different ways of working and people's needs

The Work Smart Initiative, together with the University of Applied Sciences and Arts Northwestern Switzerland, proposes four dimensions which are conceptually aligned with the Observatory's (WEICHBRODT, 2017): working model, infrastructure/architecture,

technology and working model. Furthermore, De Leede divides the concept of New Ways of Working into four components (DE LEEDE; HEUVER, 2016): flexible working hours, teleworking, flexible workplaces at work and IT, being the first two both encompassed by the dimensions ‘organisational policies’ and ‘working model’ presented.

2.3.2.1 Behaviours and leadership styles

Retrieving the explanations of the principles ‘personalisation and flexibility’ and ‘innovation and talents enhancement’, Smart Working encompasses and, more than this, demands a deep cultural transformation as to how employees work and are assessed by the managers, as well as to the way these latter lead their teams. Therefore, the proper implementation of such practices implies a change of behaviour and styles of leadership (OBSERVATORY, 2016a). Indeed, *‘The Smarter Working Manifesto’* affirms that leadership from the top is crucial and that the top management should promote the new working ethic (CLAPPERTON; VANHOUTTE, 2014). Also, a study that has compared successful cases to unsuccessful ones found that, concerning the preparation and implementation process of an activity-based office, ‘it is striking that both successful cases had a committed management team that participated in the concept of flexible working, whereas the management teams in the worst cases were much less supportive to the new housing concept and sometimes even claimed enclosed workspaces on the long term’(BRUNIA et al., 2016).

Since it consists in a highly relevant topic for the success of the initiatives implementation, it may also represent a great danger to it. The traditional thought that workers and their activities must be closely supervised by managers has been reported to be the most frequent cause of project failure (CHA; CHA, 2014)..

In order to adapt to modern organisations, both workers and leaders have to internalise the shift from an autocratic leadership style to a shared leadership one, based on the trust culture, which is not an easy process. Shared leadership is defined as a ‘dynamic, interactive influence process among individuals in groups for which the objective is to lead one another to the achievement of group or organizational goals or both. This influence process often involves peer, or lateral, influence and at other times involves upward or downward hierarchical influence’(PEARCE; CONGER, 2003).

With the aim to support and encourage managers in developing behaviours and leadership styles, four principles should serve as an inspiration. These principles, which are denoted in the

Smart Working Leadership Journey, have been defined through interviews and discussions with managers who have actively participated in such transformational process in their companies (OBSERVATORY, 2016a). The principles correspond to:

- Sense of community: it corresponds to, based on shared goals, vision and cultural values, the establishment of a culture of trust and sense of belonging, which reflects in the formation of networks internally and externally that facilitate collaboration, instead of a traditional hierarchical and functional culture

- Empowerment: this principle is based on the increased autonomy granted to the worker, who becomes more accountable for their results, being evaluated by the manager for them instead of for how they conduct each task

- Flexibility: it corresponds to the capability to find balance between work and personal needs by organising working activities in a flexible way

- Virtuality: it makes reference to the capability to select the best composition of digital technologies available for each task (OBSERVATORY, 2016a)

While behaviours and leadership styles represent strong influences to the successful implementation of Smart Working initiatives, organisational policies regard the actual rules and permissions established for such initiatives (OBSERVATORY, 2016a).

2.3.2.2 Organisational policies

The application of the Smart Working concept in the company context mostly takes place by implementing initiatives based on the revision of organisational policies related to flexibility of time and place. There a is rupture of the traditional culture and concept of work following a strict time schedule and being performed at a specific spot inside the company's premises, which is determined by reducing or eliminating limitations of time and place and often faces resistance and difficulties. Both time and place flexibility can be present a great range of varieties. Among the types of time flexibility, the most diffused in the literature consist in (PERETZ et al., 2018) (LAKE, 2015):

- Flexitime: employees can determine start and finish times, however usually limited by a 'core hours' requirement (LAKE, 2015).

- Annualised hours: there is a fixed total amount of hours to be worked over the year, but there is flexibility over the employee's daily and weekly working patterns. This is useful for coping with seasonal fluctuations of demand, as well as for meeting personal requirements (LAKE, 2015).
- Compressed workweek: a standard number of hours is compressed into a reduced number of days per week (PERETZ et al., 2018).
- Part-time work: the employees works for a reduced amount of hours (LAKE, 2015).
- Job sharing: this is a particular form of part-time working in which the tasks of one job are covered by two or more employees, sharing the salary and benefit proportionally to their respective hours of work (PERETZ et al., 2018).
- Career breaks: the option to have a career break or sabbatical period to pursue professional or personal development (LAKE, 2015).

While the first three varieties (flexitime, annualised hours and compressed workweek) offer flexibility in the scheduling of hours, the following two (part-time work and job sharing) provide flexibility in number of hours worked and the last one presents an actual break from the work routine (LAKE, 2015).

Flexibility of place is about providing workers with the possibility to choose to work away from the workplace, while being electronically linked to it (PERETZ et al., 2018). The most common policies are (LAKE, 2015):

- Mobile working / Teleworking / Homeworking: employees are properly equipped to work remotely in several places (when travelling, in public settings, or at home) (LAKE, 2015). In particular, ICTM work (ICT-mobile work) is defined as the 'use of information and communications technologies (ICT), such as smartphones, tablets, laptops and/or desktop computers, for work that is performed outside the employer's premises' (EUROFOUND, 2017a).
- Working from other offices: employees may choose to work from other offices belonging to the same organisation, from co-working spaces, third party or partner/client offices (LAKE, 2015).
- Sharing space in the office: instead of having a permanent and individual work desk, employees can choose a proper work setting among several options, which facilitates communication and collaboration (LAKE, 2015).

- Working as virtual teams: employees may use online communication and collaboration technologies to work in virtual teams, in order to avoid relocation or frequent travel (LAKE, 2015).

The literature actually presents several definitions and delimitations to what telework refers to. An interesting study proposes an evolutionary perspective of telework since 1970 divided in three generations and based on three main elements - organisation, location and technology – as presented in the framework below (MESSENGER; GSCHWIND, 2016).

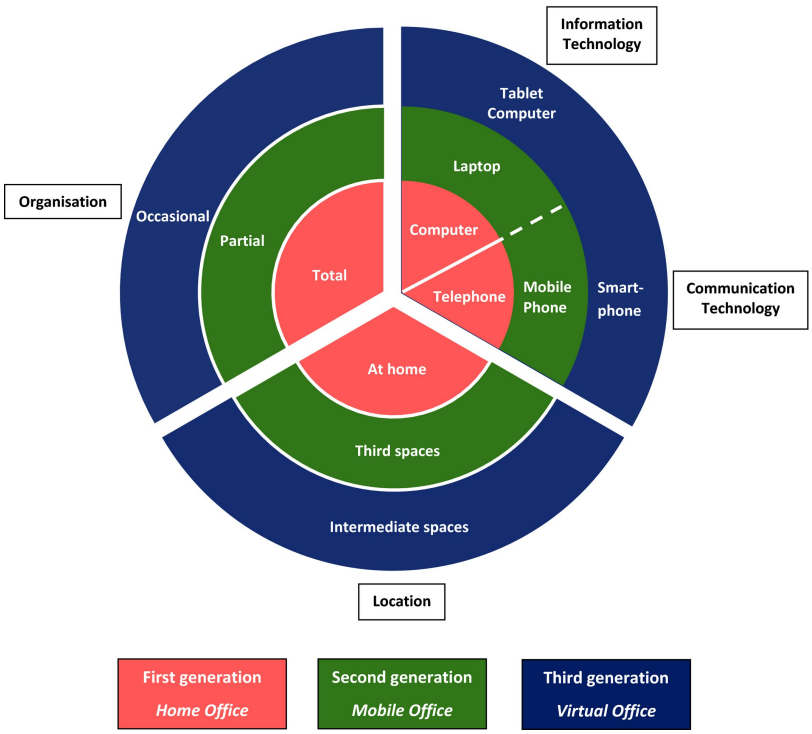

Figure 4 - Conceptual Framework of the Evolution of Telework (MESSENGER; GSCHWIND, 2016)

The first generation is named ‘Home Office’, representing the ‘model’ of Telework as proposed by Jack Nilles in the 1970s: ‘use of fixed computers and telephones, thus stationary Old ICTs, at or close to the employee’s home as a total substitute to traditional office work’. Since working from home is not usually used as a complete substitute to working at the office, studies rarely use this perspective exclusively. However, this form of telework sometimes it is considered to be the main form of work instead of a full replacement of office work (MESSENGER; GSCHWIND, 2016).

The second generation is denominated ‘Mobile Office’, meaning that telework is performed partially, making use of old mobile ICTs such as laptops and mobile phones, in third spaces. Thus, a share of the working hours at the office is substituted by telework and work can be

arranged more flexibly, allowing working hours to include weekends and evenings (MESSENGER; GSCHWIND, 2016).

Finally, the third generation, called ‘Virtual Office’, new ICTs such as smartphones and tablet computers permit occasional telework in intermediate spaces, which are in between the employer’s premises, third spaces and employees’ homes, encompassing for example elevators, parking lots and even the sidewalk, thus basically anywhere. This is only possible due to the combination of information technology and communications technology. Also, occasional telework, which refers to not only to the time spent performing telework. It is a less formal and less regulated work arrangement than the others, including answering phone calls or emails for example and are also less of a voluntary arrangement set up by employees themselves (MESSENGER; GSCHWIND, 2016).

According to the publication, this framework functions as the conceptual ‘backbone’ to the categorisation and comparison of the many forms of telework currently existent, however it is important to acknowledge the blurred boundaries between the segments of technology, mixing old and new ICTs. Old ICTs, especially stationary computers, now encompass several features of the latest generation, for example the combination of information and communications technology and internet connection, whereas new ICTs are capable of performing complex tasks, which were previously exclusive to stationary computers. Therefore, there is an overlap between the types of technology, signalised in the framework. Since technology has become hybrid, nowadays there is an array of possible combinations across the key elements and generations of telework (MESSENGER; GSCHWIND, 2016).

Additionally, the Global Dialogue Forum on the Challenges and Opportunities of Teleworking for Workers and Employers in the ICTS and Financial Services Sectors in 26 October 2016 established the definition of telework as ‘a growing form of working arrangement enabled by information and communication technologies (ICT) whose potential benefits are increasingly recognized and promoted by governments, employers and workers alike. For the purposes of these points of consensus, telework is normally understood as regular work performed by a worker within an employment relationship, away from the employer’s generally recognized work premises. Telework also has to be understood in the context of other trends in the world of work, such as changing employment relationships, cross-border work, ICT-enabled remote working, and the place of work at different points in a worker’s employment lifecycle.’ (ILO, 2017).

2.3.2.3 Physical layout

Smart Working practical application does not only rely on the restructuring of policies and rules as to how, when and where work should be performed, but also by actually offering the worker more options and flexibility inside the company's premises (OBSERVATORY, 2016a). The new context is characterised by increasingly knowledge and team-based work, moved by collaboration and more agile structures in detriment of hierarchical ones, as well as the ability to quickly adapt to changes in a way to retain or achieve competitive advantage and the availability of new tools to support work (CHAN; BECKMAN; LAWRENCE, 2007). The physical layout of the office should, thus, be restructured in order to accompany this context and better support workers.

Physical work environment features have a strong influence in processes, attitudes, behaviours and also employee performance and well-being. Among Smart Working's objectives, there is the proportioning of inspiring and attractive environments that enhance the space adaptability and business performance and support new ways of work, besides obtaining efficiency gains and savings (LAKE, 2015).

The Smart Working environment should be designed taking into consideration four different aspects (OBSERVATORY, 2015):

- *Differentiation*: spaces offer a diversity of dimensions, environments, furniture typologies and technologies, allowing employees to decide on an adequate spot to conduct a specific activity.

The differentiation of the physical layout is driven by the application of Activity-based Working (ABW), one of the latest phenomena in office design, usage and management, which was created by the Dutch consulting company Veldhoen & Co. and first practically implemented in a Dutch insurance company. Activity-based Working can be defined as a 'workplace strategy that provides people with a choice of settings for a variety of workplace activities' (WYLLIE et al., 2012), thus work is considered as an activity performed by workers, not a place they go to. Activity-based Working involves a redesigned office layout which eliminates permanently allocated private offices, desks, seating and desktop computers for individual employees in favour of shared floor sections tailored to suit different activities (PARKER, 2016). In practical terms, ABW requires workers to find the best location for each task by them performed, thus stimulating them to change their location frequently during their workday (CANDIDO et al.,

2019). Activity-based working's key principles behind encompass unassigned and shared desks, space designed for supporting tasks, centralised storage, inclusion of zoning and/or neighbourhoods and finally supporting technology that enables mobility and remote work.

Based on the principle of Activity Based Working, the model proposed in the book *'New Demographics, New Workspace: Office Design for the Changing Workforce'* (MYERSON et al., 2010) states that working activities are characterised by four factors, which correspond to different types of physical layouts: collaboration, communication, concentration and contemplation. In particular, collaboration and communication areas are meant to support group activities such as discussions, presentations, audio/video conferences, brainstorming, face-to-face and virtual communication. Thus, such environments should offer adequate technology devices for the physical and virtual communication, enough space for sharing documents, movable and flexible furniture. Besides, the acoustic isolation is important to the discussion of private issues. Concentration areas, on the other hand, should support the individual work by providing silent and closed rooms, however maintaining the visual contact, whereas contemplation environments should be relaxing, comfortable, reenergising, inspirational and creative, composed by silent and remote rooms with the presence of natural elements (MYERSON et al., 2010).

Based on a study's comparison between successful and unsuccessful implementations of activity-based working, it was found that the most critical issue regarding the physical environment corresponds to finding balance between communication and concentration (BRUNIA et al., 2016). There should be the alternation between open spaces and enclosed rooms dedicated to concentration work or telephone calls, which provide some privacy, as well as sufficient acoustic measures to avoid distraction. Due to concentration and privacy matters, large open spaces should be avoided by subdividing their area in smaller ones. The best location for meeting spaces is near work areas, in particular the ones destined to facilitate gatherings or sessions, which are smaller. Among the success factors, there are also a high daylight incidence and a comfortable indoor climate, which contribute to employees satisfaction.

Retrieving the aspects according to which Smart Working environments should be designed, apart from differentiation, there are reconfigurability, habitability and intelligence (OBSERVATORY, 2015):

- *Reconfigurability:* spaces should be easily rearranged incurring in low costs, in order to adapt to the quick and constant changes of the modern organisation, which reflect in its spatial needs related to size and purpose
- *Habitability*: spaces, apart from supporting the execution of working activities in an efficient way, should allow employees to feel comfortable at the workplace, directly reflecting on their satisfaction and well-being
- *Intelligence*: spaces should be properly integrated with the digital technologies available so that synergies among the two dimensions are established, increasing the spaces usability and supporting internal mobility

A study by Oksanen and Minister has also made reference to such characteristics of the flexible environment and its physical layout (OKSANEN; MINISTER, 2013). According to it, the innovative space features encompass communicativeness, modifiability, smartness, attractiveness and value reflection. Also, 'new concepts of learning and working spaces such as collaborative workspaces or community spaces resemble the idea of space as a service. Spaces include a variety of services, from basic office infrastructure, such as an internet connection, to unique co-creation experiences'. The 'space-as-a-service' approach, therefore, highlights that space planning should be human-centred and needs a flexible mindset.

Additionally, an article on the risks of transparency (BERNSTEIN, 2014) affirms that different zone typologies are necessary to enhance workers' productivity and creativity, allowing for a balance to be found. Excessive transparency can lead employees to feel too exposed and constantly assessed by managers, while the allowance to freely work on ideas increases their productivity. Given that, a dynamic environment for people is composed by different types of area, which vary from attention, judgements, slack and times zones, depending on the activities to be performed. Privacy is considered to be essential to performance as well.

Nonetheless, the need for privacy at work is reported to be quite recent, following a period in which it was not an issue. While in the 80s this need was strongly present, leading to the introduction of high-walled cubicles, in the next decade workers missed interaction opportunities at work, incurring in the allocation of open spaces to support collaboration. Recently, however, employees took a step back by realising that excessive transparency in work environments can become an issue. In the current workplace, 'we're always connected, always reachable, and to some extent always findable, in both the physical and the virtual sense. That accessibility can enhance our interactions but can also leave us feeling overexposed'. Therefore,

work environments function better when they provide a variety of spaces with different characteristics, allowing employees to choose how and where to conduct their activities (CONGDON; FLYNN; REDMAN, 2014).

Another factor to be considered when designing the workplace physical layout is the level of noise, which is has a strong impact in its operation. By following the 'ABC of acoustics', one can understand this topic's relevance within the office. According to it, a balanced acoustic design should guarantee the absorption of the noise near the source, by implementing specific items such as insulating panels; the noise path should be 'blocked' by vertical barriers between the source and the listener and undesired noises should be 'covered' by sound masking technologies (CLAPPERTON; VANHOUTTE, 2014).

The features of the new physical layout previously described are also necessary in order to ensure the offering of proper workplaces to the new generation of workers. In particular, considering the different activities conducted by this generation and their degree of mobility both inside and outside of the office, a distinction between workers can be proposed, dividing them into 'resident' and 'mobile' workers (OBSERVATORY, 2015). The 'resident' workers encompass three types of workers:

- Knowledge workers, whose activities are mostly of concentration;
- Collaborators, whose activities involve a high level of collaboration, for example team work and web conferences;
- Multitaskers, whose activities vary and consist in different typologies.

Aside from these three types of workers described, the 'mobile' workers group also encompasses two other categories (OBSERVATORY, 2015):

- Communicators, whose activities are of communication type;
- Contemplators, whose activities are of the contemplation type.

The following and last project lever regards digital technologies, which consist in a crucial enabling element for the successful implementation of smart working initiatives, by supporting the different ways of working and people's needs (OBSERVATORY, 2016a).

2.3.2.4 Digital technologies

Digital technologies are crucial to Smart Working initiatives, functioning as enablers of their implementation and success. They consist in tools and services that support the new ways of working and people's needs, at the same time as contributing to improving the use of internal spaces of the company . They allow efficient and safe communication and collaboration among employees regardless of time and place limitations, diminishing time and costs of commuting and reducing the feeling of isolation. Technologies for flexible practices include a broad range of communication media and devices that link people and information systems, for example e-mail, voice conferencing, video conferencing, groupware and collaboration tools, social media, corporate intranets and personal digital assistants. Among all the advantages offered, the most important ones consist in real-time availability and accessibility of information for all, easy adaptation to the user, implementation of web 2.0 software and use of smartphones and laptops to empower employees to work together virtually (DE LEEDE; HEUVER, 2016).

Smart Working technologies can have different purposes, according to which they can be classified as follows (OBSERVATORY, 2015) (OBSERVATORY, 2016b):

- *Social Collaboration*: tools that support communication, collaboration and sharing of the information by integrating and changing communication flows, for example tools that help documents' sharing and archiving, tools for real-time collaboration such as instant messaging and web-conferences and social tools like forums/blogs and enterprise social networks.
- *Mobility*: devices that allow working activities to be performed anytime and anywhere, such as notebooks, smartphones, tablets and Mobile Business Apps related to personal productivity (e.g. emails) and business productivity (e.g. monitoring dashboards).
- *Accessibility and Security*: services that guarantee the data and information security, making them accessible in a flexible, simple and fast way, whenever needed and from any device. This category encompasses traditional solutions such as the access through Virtual Private Network, along with more advanced tools such as smart cards, cryptography systems and cloud solutions. The introduction of BYOD (Bring Your Own Device) policies allows employees to use personal devices to access to the company's applications while ensuring the security.
- *Workspace Technology*: technologies that facilitate a more efficient and flexible use of physical spaces, enabling mobility also inside the company's premises. They encompass

Wi-Fi connection, booking systems for rooms and systems for the reduction of noise pollution, shared printing areas.

It is fundamental that digital technologies are not only implemented but also integrated in a way that facilitates the working activities and communication and collaboration flows, enhancing agility and efficiency. Furthermore, employees must be aware of and comfortable with the tools and services provided, so that the digital technologies' benefits are extracted to the fullest (OBSERVATORY, 2016b).

Retrieving the flow suggested by the Smart Working reference framework, by combining the four principles with the four project levers, benefits can be achieved in three dimensions: company, people and environment/society. These advantages as well as possible limits and criticalities of Smart Working are discussed in the following section (OBSERVATORY, 2016a).

2.4 Implications of Smart Working

Smart Working figures as an important phenomenon of the workspace revolution currently in progress. As denoted in the reference framework presented before, Smart Working practices offer valuable benefits both for the employer and the employees and even for the environment. Also, its limits and barriers should be studied in order to distinguish the real risks from the false ones and ensure a successful implementation (OBSERVATORY, 2016b).

2.4.1 Benefits of Smart Working

As a result of the benefits obtained from a successful implementation of Smart Working initiatives, the reference framework has been increasing its relevance. With the intention to achieve the level of commitment needed to proportionate a transformation of culture and behaviours and permit their continuous development, the benefits should be constantly monitored and disseminated across the organisation (OBSERVATORY, 2016a). As stated in the framework, there are benefits identified both for the organisation, the people and the environment.

Benefits for the organisation

According to information gathered by the Observatory via surveys and pilot studies, people working in 'mature' Smart Working models are approximately 15% more productive

(OBSERVATORY, 2017) and present a 20% lower absenteeism rate (OBSERVATORY, 2018). Plus, when involving managers of Smart Workers in the Observatory's 2018 survey, more than half of them has expressed a positive or very positive judgement on all the aspects related to employees' performance. More specifically, they have recognised as positive effects of the smart working project the accountability on reaching results (37%), coordination effectiveness (33%), sharing of information (32%) and work effectiveness (31%), related to the quality of delivery. Smart Working also contributes to attract and retain personnel, since more and more workers search for flexible practices. Besides all these factors and due to them, the company is still benefited from costs reduction and a better financial performance.

Indeed, other sources have reported that Smart Working practices entail several benefits to the organisation, such as attraction of a new workers' generation, reduction of absenteeism rates, promotion of an environment which incentivises collaboration and innovation, which also facilitates knowledge, skills and information sharing through the formation of networks. All these aspects contribute to the boosting of efficiency and effectiveness of the company as a whole, which is combined with the reduction of operational expenses and workplace related costs stemming from the optimisation of resources and office spaces (BOORSMA; MITCHELL, 2011).

Aligned with this, a study stated that 'results obtained from 377 independent companies revealed that internal labour flexibility practices are positively related to objective labour productivity and its growth in the year following' (PREENEN et al., 2017). Regarding new product development processes in particular, the performance is enhanced by the enabling knowledge sharing, cross-functional cooperation and inter-organisational involvement, although presential contact should not be completely replaced (COENEN; KOK, 2014).

Additionally, a study that compared clusters of organisations according to flexible working arrangements offered found that a cluster with a high uptake of flexi-time presented a significantly stronger association with above average productivity than another with a low level of such practice (BERKERY et al., 2017). The publication then explains the reasons for such result, by affirming that flexi-time can 'create an environment and/or a schedule that is conducive to personal productivity, thus improving on the job performance and productivity. Perhaps the autonomy afforded to employees availing of flexitime increases overall job satisfaction and employee motivation in addition to reducing stress and the interference of work and home, thus increasing overall productivity. Furthermore, Barker (1995) highlighted that

when employees are given discretion over when and where work is completed, they will generally work during their most productive hours. The principle of social exchange theory can be used to explain this result. Employees would feel as though they personally benefited from the actions of the employer offering FWAs which give them control over their working day feel a moral obligation to recompense their employer, in this case employees recompense employers in the form of increased effort' (BERKERY et al., 2017).

The same study reported a significantly higher employee turnover in the cluster characterized by more traditional working practices, aligned with 'studies to date that have shown that the levels of organisational turnover have decreased after the implementation of flexi-time programs. More recent studies highlight a negative correlation between the availability of flexi-time and turnover intentions. Moreover, it was found that offering family-friendly policies were successful at retaining employees, even if individuals did not use the policies themselves' (BERKERY et al., 2017). Thus, companies with the intention to reduce attrition rates and retain talents should take into account the benefits of providing flexible working arrangements.

Benefits for the people

From the workers' perspective, there are important benefits as well, such as reduction of travel costs and time, improved work-life balance, increased motivation and satisfaction. Indeed, the survey with managers showed that 32% of them agree that their employees have enhanced their job motivation and satisfaction and the companies that measured the effect on work-life balance reported a better balance between professional and private life for at least 80% of employees. Besides, when compared to other workers, smart workers have presented positive satisfaction responses related to relationships, work organisation, physical environment and work-life balance, as shown in Figure 5 (OBSERVATORY, 2018).

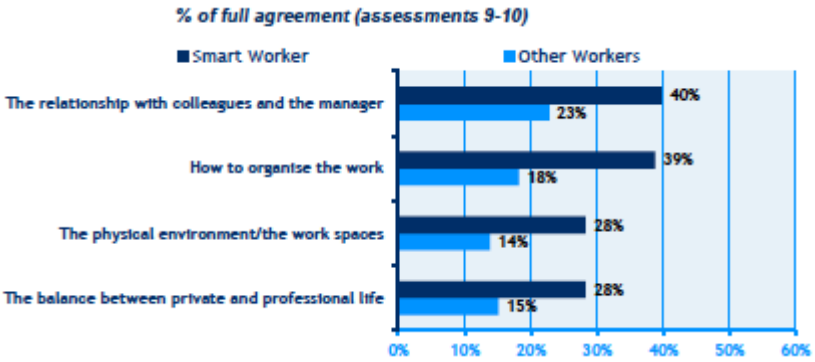

Figure 5 - Impacts of Smart Working on Satisfaction (OBSERVATORY, 2018)

Deepening the study on satisfaction, especially women are reported to be more satisfied with regard to work volume and quality and their learning capacity in the team, when compared to the average. Such benefits emerge as a direct consequence of the enhancement of engagement and work-life balance. The additional flexibility and autonomy conceded to workers reflect in lower fatigue, boredom, stress and work-life conflict, leading to more job satisfaction and commitment (COENEN; KOK, 2014). Such statements are reinforced by the claim that Smart Working reduces stress by lowering commuting time and incur in greater organisational commitment from the workers (CHA; CHA, 2014).. Furthermore, work becomes a healthier experience by considering wellbeing when approaching the working ergonomics of new working environments (LAKE, 2015).

A study has identified significant correlations between some factors and the satisfaction with activity-based working (HOENDERVANGER et al., 2018). According to it, the aspects that present a positive correlation with satisfaction are: need for relatedness and job characterised by autonomy, social interaction, internal mobility. On the other hand, need for privacy and age were reported to be negatively related to satisfaction with ABW environments. Therefore, the level of satisfaction depends on psychological and demographic factors, as well as job type.

Apart from such aspects, another study has reported satisfaction to strongly be affected by physical factors of the office, such as the interior design, level of openness, subdivision of space, number and diversity of work places and accessibility of the building (BRUNIA et al., 2016).

Still with regard to the perspective of the worker, the main reasons to choose Smart Working are related to personal matters, followed by the professional ones and at last by the environmental sustainability, as presented in Figure 6 (OBSERVATORY, 2018).

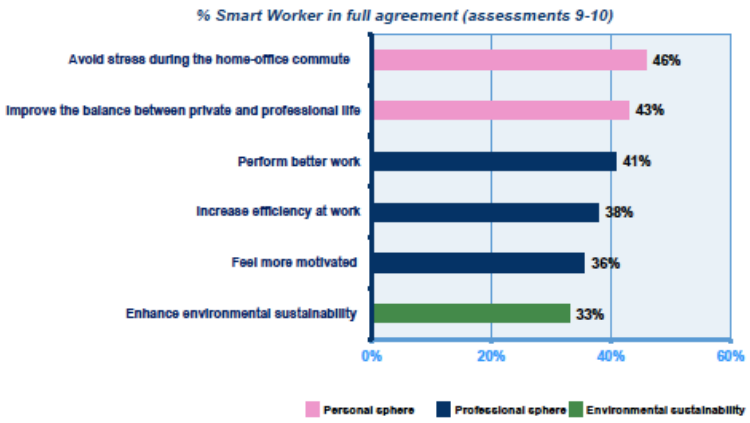

Figure 6 - Reasons for Smart Working (OBSERVATORY, 2018)

Specifically concerning 'Improve the balance between private and professional life', the second most voted reason for Smart Working, Eurofound's publication has provided this work with some clarifications (EUROFOUND, 2017b). The increased importance of the work-life balance is a result of at least three major societal transformations: the increasingly blurred limits between work and other activities in individual, familiar or social dimensions, related to technological advancements; the tendency of growing work intensity and frequency of anomalous working hours; the feminisation of the workforce, which influences the rules and attitudes regarding the gender division of labour and female work.

Moreover, the 2018 research conducted by the Observatory tried to understand whether organisations with structured Smart Working projects also present consistent smart leadership styles, which represent one of the four project levers defined in the Smart Working reference framework: 'Behaviours and leadership styles'. As previously mentioned, this lever is inspired by four principles (sense of community, virtuality, flexibility and empowerment) (OBSERVATORY, 2016a), so the company performance according to each of them can be used as way of comparing companies that present structured initiatives to others that do not. The result of the comparison across these dimensions is presented in Figure 7 (OBSERVATORY, 2018).

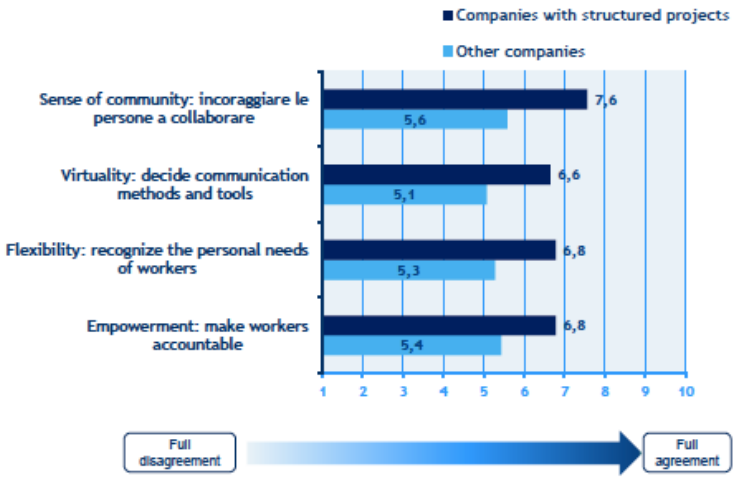

Figure 7 - Manager's leadership styles with and without smart working (OBSERVATORY, 2018)

Based on the results, one can affirm that managers are more capable across all the four aspects in companies that work smart. The biggest advantage encountered was for the factor 'sense of community', meaning Smart Working practices and policies facilitate the leader's job to encourage collaboration among workers (OBSERVATORY, 2018).

Regarding the office layout, Haynes has identified some drivers to its influence on workers' perceived productivity: 'the physical layout of the office space was important to productivity and captured the provision of formal meeting space, quiet areas and storage, suggesting that a range of different spaces are key to perceived productivity rather than one large open plan environment. By having a range of different spaces office occupiers can choose the most appropriate space to best undertake that particular work task. Secondly, interaction was vital to perceived productivity, requiring the overall office layout to not only facilitate and enable interaction with managers and colleagues, but to also allow occupiers to withdraw from this interaction and undertake private and concentrated work. Office environments need to be sufficiently flexible to provide the balance of interaction and privacy that is required by its occupiers' (HAYNES et al., 2017).

Benefits for the environment and the society

Finally, Smart Working can also bring measurable benefits for the environment, such as the reduction of CO_2 emissions and of traffic congestion and the improved use of public transport, as well as reduction of resources consumption and office space needed (OBSERVATORY, 2018).

The benefits to the society, on the other hand, encompass the broadening of work opportunities both geographically and demographically, reaching disadvantaged and disabled people, besides people with caring responsibilities (LAKE, 2015).

Smart Working practices have, thus, a great potential to yield substantial benefits for businesses, workers and the society. However, the phenomenon does present risks, which should be carefully analysed in order not to become an issue (OBSERVATORY, 2018).

2.4.2 Limits and barriers of Smart Working

Although the limits and barriers of Smart Working are not explicitly represented in the reference framework, they are totally connected to it. In order to obtain the expected and desired benefits, the company and the people involved must guarantee the proper internalisation of the organisational principles and the adequate implementation of the initiatives across all four levers, otherwise unwanted consequences may emerge (OBSERVATORY, 2018).

Sustainable results of Smart Working are highly dependent on a successful implementation of the policies. The greatest risk consists in trivialising the phenomenon and introducing only superficial change, ignoring the opportunity to rethink the culture and organisational models in a more incisive way. Additionally, there is no recipe to be followed, since the phenomenon is not well established yet and there is still a lot to be learned and tested before some questions are answered. Plus, the best practices depend on several aspects such as the context, culture, age, gender, making its implementation very complex. It is possible and necessary, nonetheless, to study successful experiences, as well as failures in order to anticipate potential critical issues and points of attention. Apart from all the difficulties related to Smart Working complexity and dynamism, there are practical barriers related both to real criticalities and false myths, so it is crucial to differentiate them (OBSERVATORY, 2018).

Some people might think employees tend to take advantage of their autonomy, however practical experience shows that actually, once involved in a Smart Working project, people feel more empowered and want to demonstrate their contribution regardless of physical presence, working harder and better. Also, the leaders are able to switch their attention from micro-management to the planning and control of results (OBSERVATORY, 2018).

Another common though is that Smart Working is only for those who have the opportunity to work from home, while in reality it provides people with the possibility of choosing with

autonomy and responsibility among multiple levers of flexibility, of which "remote" work is only one. Plus, remote work could be performed in various places besides the person's home. Similarly, one might think Smart Working is applicable only to certain jobs. In industrial and manufacturing sectors, there are already large areas of flexibility that can be returned to workers in the face of better accountability on the objectives to be achieved. Moreover, technological development is impacting profoundly and increasingly on the manufacturing sector, turning traditional jobs linked to "assembly line" production organisations into activities with a high professional and informative content. GM Power Train in Turin, where technicians working on new diesel engines already remotely manage some phases of the production process, is a good example (OBSERVATORY, 2016a).

Regarding the real difficulties faced when implementing Smart Working, the Observatory's workers survey has found that 18% of respondents experience a sense of isolation, 16% have difficulties planning their activities, 14% report external distractions, 13% miss personal interaction and 11% claim that virtual communication and collaboration is limited. Although these critical issues are all valid, the percentage of people reporting them is still low (OBSERVATORY, 2016a).

Therefore, the greatest difficulties are related to the effort that individuals, groups and especially managers make to change routines and habits sedimented in years of traditional organisational models. These changes will only function properly when accompanied by a change of mindset, however the good news is that it tends to become easier and more natural with time (OBSERVATORY, 2016a).

2.5 Concepts related to Smart Working

Smart Working and the concepts related to it present different definitions and terminologies that vary between countries and perspectives. Specifically referring to the European context, different names, characteristics and levels of maturity for the concept can be found. The lack of an univocal definition of the concept has to do with the flexibility intrinsic in it, which makes it possible for it to be applied differently in each company and for each person. 'Smart Working', the denomination used in Italy, is very similar to 'Work Smart' present in Switzerland (DE LEEDE; HEUVER, 2016). In Belgium and the Netherlands, the most common expressions are 'New Ways of Working' and 'New World of Work' (DE LEEDE; HEUVER, 2016). The UK, on the other hand, adopts the term 'Flexible Working' (CHUNG, 2018).

Retrieving the Observatory's definition, Smart Working consists in 'a new management philosophy founded on people having the flexibility and autonomy in choosing their spaces, their working hours and the tools they use, in return for being more accountable for the results' (OBSERVATORY, 2018).

Similarly, Work Smart Initiative from Switzerland defines Work Smart as 'a concept for mobile, flexible jobs where company employees can flexibly decide when and where to do their work'. It resembles the Observatory's concept of Smart Working both in its definition and in the differentiation along four dimensions previously mentioned (WEICHBRODT, 2017):

- Infrastructure/architecture (e.g. fixed or flexible workstations)
- Technology (e.g. stationary desktop computers, mobile devices, or cloud solutions)
- Working model (e.g. working from home only as an exception, or a broad acceptance of mobile-flexible working in the corporate culture)
- Organisational structures (e.g. strongly hierarchical, or project-based)

New Ways of Working (NWW) are 'practices in which employees are able to work independent of time, place and organisation, supported by a flexible work environment which is facilitated by information technologies' (DE LEEDE; HEUVER, 2016). The concept of NWW is divided into four components, namely (1) Teleworking, (2) Flexible Workplaces at Work, (3) Flexible Working Hours, and (4) IT, being the last one an enabler for the others flexible.

Flexible Working, on the other hand, is a broader concept that encompasses a whole range of arrangements which provide alternate options as to when, where, and how much one works (CHUNG, 2018). The most of researchers agree on two broad groups in terms of flexibility: temporal flexibility and place flexibility. Some examples of flexible working arrangements (FWAs) are flexitime, part-time work, teleworking and parental leave. Another definition of flexible working arrangements is 'mutually beneficial agreements between employees and employers which provide alternate options as to when, where, and how much one works. As both the demographics of the workforce and the nature of work are changing, FWAs provide a low cost solution to help employees balance their work and family needs' (STROUP; YOON, 2016). Also, such arrangements may vary in level of formality, degree of flexibility provided and type of solution.

Furthermore, the United Nations states that 'Flexible working arrangements are designed, inter alia, to enable flexibility in hours of work and place of work so as to promote a better work-life

balance for staff. They are a measure that may be approved if the selected arrangement is mutually convenient for both the organization and the staff member, and if the work demands of the relevant office can accommodate the selected arrangement.' (UNITED NATIONS, 2012). The Society for Human Resource Management (SHRM) defines FWAs in the study 'Workplace Flexibility in the 21st Century' as 'greater flexibility in the place of work, the scheduling of hours worked and the amount of hours worked. Such arrangements give employees greater control over where and when work gets done and over how much time they choose to work, leading to greater opportunities for employees to be able to enjoy an optimal balance between work and life responsibilities' (SHRM, 2009).

2.6 Smart Working in Europe

When conducting a research concerning flexible working practices in Europe, some institutions arise as crucial sources of reliable information on the continent panorama.

The European Foundation for the Improvement of Living and Working Conditions (Eurofound), according to its website (EUROFOUND, 2019), 'a tripartite European Union Agency, whose role is to provide knowledge to assist in the development of better social, employment and work-related policies. Eurofound was established in 1975 by Council Regulation (EEC) No. 1365/75 to contribute to the planning and design of better living and working conditions in Europe.'. The foundation conducts a regularly repeated pan-European survey, which collects original and fully comparable data covering all EU Member States and a range of other countries: the European Working Conditions Survey (EWCS).

The European Commission, on the other hand, is the executive of the European Union and promotes its general interest. The Commission's priorities include the 'Digital Single Market', aiming to 'open up digital opportunities for people and business and enhance Europe's position as a world leader in the digital economy', as reported by its website (EUROPEAN COMMISSION, 2019). One of its policies is the Digital Scoreboard, which measures the performance of Europe and its Member States in a wide range of parameters, from connectivity and digital skills to the digitisation of businesses and public services. Part of the data of the Digital Scoreboard is provided by the Digital Economy and Society Index (DESI) (EUROPEAN COMMISSION, 2019). A similar index is calculated for seventeen countries other than the 28 European Union members, including Norway, Switzerland and Brazil, composing then the so-called International Digital Economy and Society Index (I-DESI).

In order to define, implement and analyse community policies, the European Commission is provided with data and statistics by Eurostat, the statistical office of the European Union, located in Luxembourg. Eurostat promotes the following values: respect and trust, fostering excellence, promoting innovation, service orientation, professional independence. Its mission is to provide high quality statistics for other Directorate-Generals and for European institutions so that they can define, implement and analyse community policies. The mission proves to be fulfilled since in 2016 the Eurostat obtained the European Foundation for Quality Management "Committed to Excellence" recognition (EUROSTAT, 2019). The publications and surveys mentioned have been important sources of information on the European panorama and countries' particularities.

2.7 Smart Working in Brazil

The Brazilian Consolidation of Labour Laws (CLT) - in Portuguese, '*Consolidação das Leis do Trabalho*' – defines telework in Article 75-B as 'the provision of services preponderantly outside the employer's premises, with the use of information and communication technology that, by its nature, does not constitute external work'(GALO; TENO, 2017). Thus, it considers teleworking only if practiced in the majority of the employee's time and not as a possibility of choice. Additionally, there is no other law regarding working flexibility in terms of time or place. This suggests that the country still presents little debate and discussion on the topic 'flexibility at work'.

Aligned with such assumption, when going through the academic literature, the availability of content concerning flexibility at work is highly limited. Despite having conducted an extensive research, most of the information found is related to working flexibility in different meanings and applications. For instance, a study by two social science teachers refers to flexibility as an opportunity for the employer to adapt to the market and the company's context: 'Flexibility for the employer translates into: flexible hours; multifunctionality; increase and reduction of the number of employees according to demand; and various forms of contract - subcontracting, half shift, fixed time and home work.' (ROSENFIELD; ALVES, 2011). Additionally, the website 'Getting the deal through' affirms that the Labour Overhaul of 2017 'deeply changed the labour system by increasing the power of negotiation between employees and employers, and between employees' unions and employers for more flexible working conditions, especially related to hiring and termination processes, as well as exempting taxation and labour impacts over some

compensation elements and allowing free and full process of outsourcing.' (BARBOSA; LAZA, 2018).

In other cases, flexibility is tackled by studying independent and self-employed workers. An example is a research in which the interviewees are 'formal professionals who migrate to flexible work use various terms to describe themselves, whether consultant, businessman, independent, franchised, outsourcer, or adviser.', since the 'previous research's focus argued the flexible work solely in terms of firms and markets' (KIM; TONELLI; SILVA, 2017). This study also reaffirms that the Brazilian literature available is focused on firms and markets, rather than the workers' ability to choose when, where and how to work in exchange for accountability for their results and deliveries.

A monography on Law and Labour Procedure even refers to telework as a means of contemporary enslavement of the workers, stating that there is the 'carrying out of extensive working hours by the removal of the rules of duration of work; by the inherent absence of supervision by protection agencies in the residential environment, which may be degrading; by the distancing of the worker from union organizations, by the lack of contact in the work environment and reach by the organs and, even socially, with preponderance the appearance of diseases on the obsession to work.' (BUENO, 2018).

Therefore, considering the perspective proposed by the Smart Working Observatory, which views Smart Working as the concession of autonomy and flexibility in return for accountability, there is a gap in the national academic literature. This gap is also identified in researches, studies, reports, articles and news published by institutions and associations related to work and human resources. On the website of Labour Observatory of São Paulo, a partnership between the Municipal Economic Development Secretariat (SMDE) and the Department of Statistics and Socioeconomic Studies (DIEESE), the searches of the words 'flexibility', 'flexible', 'telework' return no results (DIEESE, 2019). Moreover, an article published by SEBRAE (Brazilian Micro and Small Business Support Service) affirms that the 'main attraction of home office is the realization of the dream, cherished by many, of being your own boss'(SEBRAE, 2019). Once more, there is the idea of home office corresponds to mostly working away from the office instead of the idea of an option to be chosen when found interesting.

The lack of focus and discussion on the 'flexibility at work' topic seems to be a reflex of the Brazilian society and the national context, in which the employee is frequently exploited and

not listened to. Although some institutions did not provide useful content for this work, some others have emerged as fundamental sources of data. IBOPE is the acronym for Brazilian Institute of Public Opinion and Statistic - in Portuguese, *Instituto Brasileiro de Opinião Pública e Estatística*. IBOPE Inteligência consists in a company aware of the behaviour of people in politics, consumption and the use of services and a specialist in geotechnical, data mining and off and online research solutions. Its mission is to 'generate relevant and reliable knowledge, producing and integrating information into solutions that support the strategies and decision-making of our clients' (IBOPE, 2019a). The company is certified by ABEP – Brazilian Association of Research Companies. IBOPE has conducted twice a survey on the topic 'Flexibility in the Labour Market', which were published in CNI (National Confederation of Industry)'s report '*Retratos da Sociedade Brasileira*' (Pictures of the Brazilian Society). Both editions of the survey and their comparison have enriched the present work .

Additionally, IBOPE Conecta is the online research unit of IBOPE Inteligência, a reference in Brazil and Latin America in the knowledge of the behaviour of people and all their relationships: family, social, political, consumer and service use. The unit was born in 2011 to reinvent online research in Brazil. It collects data, ideas, opinions, habits, behaviours and tastes of Brazilian web surfers, in order to discover opportunities, generate knowledge to our clients and facilitate decision making (IBOPE, 2019b). Microsoft has requested IBOPE Conecta to perform a study called 'The Technology in the Modern Working Environment' in 2018, which has provided the study with interesting information.

Other relevant Brazilian institutions when tackling Smart Working. SOBRATT (Brazilian Society for Telework and Teleactivities) is a non-profit civil society founded in 1999 that has become the only accredited source on the topics of teleworking and on the various flexible ways of doing work in Brazil (SOBRATT, 2019). SOBRATT's mission consists in promoting remote work in all its forms and applications, supporting its development through a strong presence and performance in the technological, political and economic scenarios, with the objective of contributing to the improvement of workers' quality of life and productivity increase, reduction of costs and greater flexibility of companies, in order to establish a better balance between the contemporary world, technology, the environment, quality of life and social inclusion. SAP – Consultancy in Human Resources - has conducted the Home Office Survey 2018 in partnership with SOBRATT and supported by several important institutions on the topic, such as ABRH (Brazilian Association of Human Resources) (SAP, 2018).

ABRH (Brazilian Association of Human Resources), a non-governmental and non-profit entity, was born from the union of professionals involved with the cause of promoting the Human Resources area as a transformation agent, which contributes to the formation of organisations that are more productive, better and more aware of their role in the socioeconomic context of the country (ABRH, 2018). ABRH brings together 22 legally separated and independent sections, integrated in the mission to promote the development of HR professionals and people managers through events, research and exchange of experiences, and to collaborate with public authorities and other entities in matters referring to its area of activity. ABRH-Brasil is a member of the WFPMA - World Federation of People Management Associations - and the FIDAGH - *Federación Interamericana de Asociaciones de Gestión Humana -,* as well as a co-founder of CRHLP - Confederation of Human Resource Professionals of the Portuguese-Speaking Countries (ABRH, 2018).

Finally, the European Comission's International Digital Economy and Society Index (I-DESI) is calculated for seventeen countries other than the 28 European Union members, including Brazil, so it has been a source of information on the country's positioning regarding technology (TECH4I2, 2018).

3 METHODS

Retrieving the objective of constructing a framework of analysis and comparison of Smart Working practices in different realities, this chapter exposes the referential and explains how it has been filled. Thus, it offers explanations on how the drivers have been, how countries have been assessed according to them and how the primary research has been planned, validated and conducted, complementing the framework with relevant practical information.

3.1 Referential of analysis

When going through the literature about Smart Working, four main dimensions arise, of which the first three concern actual types of flexibility that the employees can experience, while the last one functions as an enabler to the other ones. As stated by the Smart Working Observatory, Work Smart Initiative and De Leede, flexible working practices can take place in three dimensions, consisting in three types of flexibility - time flexibility, place flexibility and physical layout - and are enabled by digital technologies.

Regarding time flexibility, Taking the Smart Working concept into consideration, the idea is that workers have more autonomy as to how and when they conduct their activities and, in return, are assessed in a more objective way according to their deliveries and not to the time spent, thus this work is focused on practices related to time scheduling, such as flexitime, annualised hours and compressed workweek.

Flexibility of space is about providing workers with the possibility to choose to work away from the workplace, while being electronically linked to it (PERETZ et al., 2018). Some denominations of flexible place policies are teleworking/homeworking, remote work and ICTM work (ICT-mobile work). According to Eurofound, 'T/ICTM can be defined as the use of information and communications technologies (ICT), such as smartphones, tablets, laptops and/or desktop computers, for work that is performed outside the employer's premises' (EUROFOUND, 2017a). Place flexibility in this work's perspective implies that, when chosen to, work can be performed in several different spots, which vary according to the agreement established, for example the worker's home, company hubs, co-working spaces, libraries or the multiple public and private spaces. In practice, it is a work arrangement that allows an employee to perform work, during any part of regular, paid hours, at an approved alternative worksite.

Physical layout, on the other hand, is about providing workers with multiple environment options they can alternate between inside the office. This dimension is based on rethinking the workspace through Activity-based Working (OBSERVATORY, 2017), implying a redesigned office layout which eliminates permanently allocated private offices, desks, seating and desktop computers for individual employees in favour of shared floor sections tailored to suit different activities (PARKER, 2016). Although very relevant, this aspect presents limited reliable quantitative information regarding its reach and practices, especially in the European level, hampering the classification and comparison between countries aimed by this work.

Finally, technology – also referred to as digital technology or informational technology - is responsible for supporting the different ways of working and people's needs. It embraces a broad array of communication media and devices which link information systems and people including e-mail, voice/video conferencing, collaboration tools, social media, corporate intranets, personal digital assistants, cloud solutions, mobile devices and so on (OBSERVATORY, 2017).

Moreover, another factor to be taken into consideration is the regulation regarding flexible working practices and policies in each country. It is important to mention that the existence or not of formal legislation on this topic does not necessarily imply its level of dissemination and development in a country, however it still provides the work with valuable information.

Therefore, the secondary research has been shaped around four drivers: **Time flexibility**; **Place flexibility**; **Regulation** and **Technology.** The first three drivers represent means of measuring the range achieved and the level of development of flexible working policies and practices in each country, with the remark before mentioned concerning regulation, while the latter depicts how well prepared and equipped the countries are to actually put flexible policies into practice.

Stemming from the drivers, the following referential of analysis, which is detailed in the subsequent sessions, has been built by the author as part of the present work.

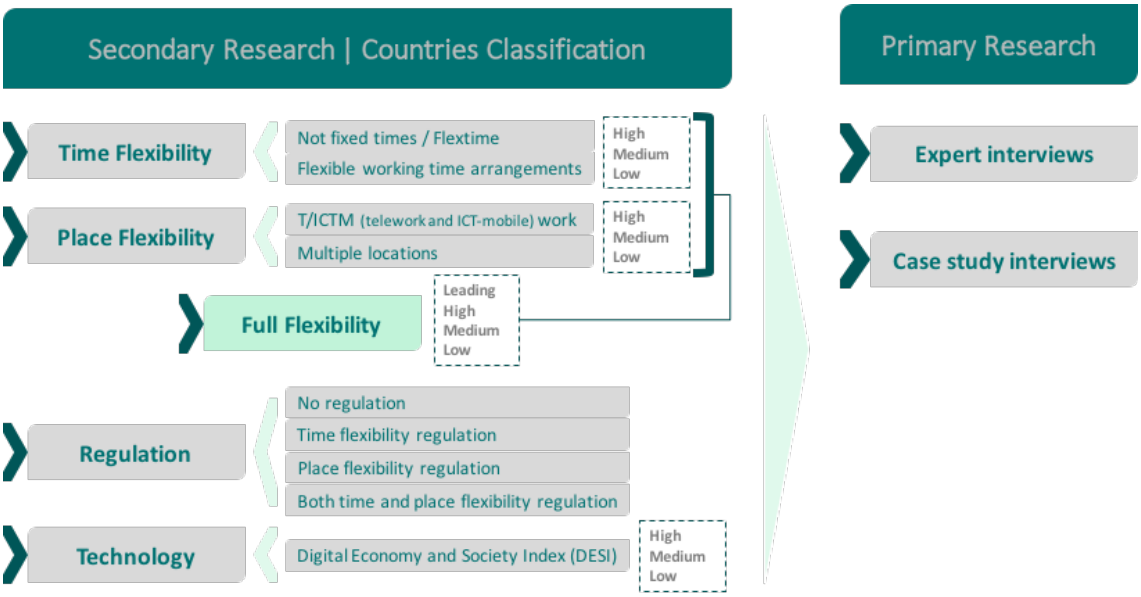

Figure 8 - Referential of analysis

Having determined the drivers of analysis, the following step was to define how they would be assessed, based on a secondary research. For 'time flexibility', two parameters have been encountered: 'Not fixed times / Flextime' and 'Flexible working time arrangements', both derived from Eurofound's European Working Conditions Survey (EWCS). For 'place flexibility', another two parameters have been chosen: 'T/ICTM (telework and ICT-mobile) work' and 'Multiple locations', stemming from Eurofound's publication '*Working anytime, anywhere: The effects on the world of work*' and EWCS, respectively. For each parameter of each driver, there was the division into three categories (high, medium and low), which were then combined to compose the four categories of 'full flexibility', a mix of time and place flexibility classification (leading, high, medium and low). Regarding 'regulation', it was determined that the assessment would be qualitative according to its existence or not and the type of flexibility referred to. Finally, 'technology' would be evaluated based on European Commission's Digital Economy and Society Index (DESI), split into three categories (high, medium and low).

The framework based on the drivers and the secondary research was then tested, refined and complemented by the primary search, which brought empirical information on different national and company contexts, by interviewing experts and people engaged in the structuring and implementation of flexibility projects in companies.

3.2 Secondary research

3.2.1 Time flexibility in Europe

Before referring to working time flexibility, it is important to clearly define what is encompassed by the concept 'working time'. According to the Directive 2003/88/EC, by the European Parliament and Council, working time consists in 'Any period during which the worker is working, at the employer's disposal and carrying out his activities or duties, in accordance with national laws and/or practice' (EUROPEAN PARLIAMENT, 2003).

Regarding the first driver, two parameters have been established: **Not fixed times / Flextime** and **Flexible working time arrangements**, represented by questions from the European Working Conditions Survey (EWCS) of 2015 (EUROFOUND, 2015):

i. **Not fixed times / Flextime**: '*Do you have fixed starting and finishing times in your work?'* (EUROFOUND, 2015). The parameter value has been defined as the percentage of negative answers to the question.
ii. **Flexible working time arrangements**: *'How are your working time arrangements set?'* (EUROFOUND, 2015). The parameter has been calculated as a sum of the three options of answer considered flexible: 'You can adapt with certain limits (e.g. flextime)'; 'You can choose between several fixed working schedules determined by the company/organisation'; 'Your working hours are entirely determined by yourself'. The other alternative, considered not flexible, was 'They are set by the company / organisation with no possibility for changes'.

3.2.2 Place flexibility in Europe

Concerning the second driver, two parameters have been established: **T/ICTM (telework and ICT-mobile) work** and **Multiple locations**, represented by a question from '*Working anytime, anywhere: The effects on the world of work*' (EUROFOUND, 2017a) and the European Working Conditions Survey (EWCS) of 2015 (EUROFOUND, 2015), respectively:

i. **T/ICTM (telework and ICT-mobile) work**: *'Percentage of employees doing T/ICTM in the EU28, by category and country'* (EUROFOUND, 2017a). The parameter value has been defined as the percentage of answers corresponding to the sum of all three alternatives: 'Occasional T/ICTM', 'High mobile T/ICTM' and 'Regular home-based telework'.

ii. **Multiple locations**: '*Number of work locations'* (EUROFOUND, 2015). The parameter value has been defined as the percentage correspondent to the alternative 'More than one'.

3.2.3 Time flexibility and Place flexibility in Brazil

The main source of data on time flexibility in Brazil was IBOPE (Brazilian Institute of Public Opinion and Statistic)'s survey on the topic 'Flexibility in the Labour Market' referring to 2016, which is published in the 37th edition of CNI (National Confederation of Industry)'s report '*Retratos da Sociedade Brasileira*' (Pictures of the Brazilian Society) (CNI, 2017). The survey presents indexes of Brazilians who would like to have and who have time flexibility, meaning that they could adequate the beginning and finishing hours according to their needs, as well as for those who would like to and who have flexibility of place of work, meaning that they are able to work from home or alternative places when needed. Both the answers 'Totally agree' and 'Partly agree' to the questions have been considered. In order to complement the data provided by CNI and IBOPE, other studies have been consulted and compared, providing a deeper and better supported knowledge on the Brazilian scenario and allowing for more conclusions to be made.

3.2.4 Regulation

The sources of information about the existence of regulation related to flexible working practices were mostly news, articles, official government publications and academic works. Afterwards, this has been complemented by information collected during the interviews.

3.2.5 Technology

The European Commission defines the Digital Economy and Society Index (DESI) as 'a composite index that summarises some 30 relevant indicators on Europe's digital performance and tracks the evolution of EU Member States, across five main dimensions: Connectivity, Human Capital, Use of Internet, Integration of Digital Technology, Digital Public Services' (EUROPEAN COMMISSION, 2018a). The index is calculated as the weighted average of five dimensions: Connectivity (25%), Human Capital (25%), Use of Internet (15%), Integration of Digital Technology (20%), Digital Public Services (15%).

The data regarding this driver has been extracted from the DESI published by the European Commission in 2018. Moreover, the International Digital Economy and Society Index (I-DESI)

2018, a study carried by Tech4i2 - an applied research consultancy in the fields of Technology, Innovation and Inclusion - for the European Commission, was the source that enabled Switzerland's and Brazil's inclusion in the classification.

3.3 Determination of each driver's categories

3.3.1 Time flexibility categories

The classification of countries in terms of time flexibility has followed two steps. Firstly, for each parameter, the range between the minimum and the maximum value found has been divided linearly into 3 categories, in which the countries have been distributed. Then, the two parameters of the driver have been combined, creating new categories (high, medium and low flexibility) according to the logic presented in Table 1.

Table 1 - Logic for combination of the Time flexibility parameters' categories

Time Flexibility	
High	· **High** 'Not fixed times / Flextime' value and **high** 'Flexible working time arrangements' value · **High** 'Not fixed times / Flextime' value and **medium** 'Flexible working time arrangements' value · **Medium** 'Not fixed times / Flextime' value and **high** 'Flexible working time arrangements' value
Medium	· **Medium** 'Not fixed times / Flextime' value and **medium** 'Flexible working time arrangements' value
Low	· **Medium** 'Not fixed times / Flextime' value and **low** 'Flexible working time arrangements' value · **Low** 'Not fixed times / Flextime' value and **medium** 'Flexible working time arrangements' value · **Low** 'Not fixed times / Flextime' value and **low** 'Flexible working time arrangements' value

3.3.2 Place flexibility categories

The classification of countries in terms of place flexibility has followed the same steps described for time flexibility: three categories have been created for each parameter and then they have been combined according to the logic displayed in Table 2.

Table 2 - Logic for combination of the Place flexibility parameters' categories

Place flexibility	
High	· **High** 'T/ICTM (telework and ICT-mobile) work' value and **high** 'Multiple locations' value · **High** 'T/ICTM (telework and ICT-mobile) work' value and **medium** 'Multiple locations' value · **Medium** 'T/ICTM (telework and ICT-mobile) work' value and **high** 'Multiple locations' value
Medium	· **Medium** 'T/ICTM (telework and ICT-mobile) work' value and **medium** 'Multiple locations' value
Low	· **Medium** 'T/ICTM (telework and ICT-mobile) work' value and **low** 'Multiple locations' value · **Low** 'T/ICTM (telework and ICT-mobile) work' value and **medium** 'Multiple locations' value · **Low** 'T/ICTM (telework and ICT-mobile) work' value and **low** 'Multiple locations' value

3.3.3 Full flexibility categories

The final classification, referred to as Full Flexibility, has derived from the categories high, medium and low flexibility in terms of time and place flexibility, thus representing organisational policies, following the logic presented in Table 3. The idea behind this classification is to determine which are the countries considered to have more developed and spread flexible organisational practices – from the categories leading and high – in order to learn from them and to compare them to Italy. In particular, the category 'leading' has been created to encompass the countries considered to be highly flexible both in terms of time and place, thus presenting a very mature and established culture than sustains and boosts flexibility, differently from the category 'high', in which one of the two types of flexibility is not yet in such level of maturity - in most cases spatial flexibility, since it is less diffused.

Table 3 - Logic for combination of the drivers' categories

Full Flexibility	
Leading	· **High** 'Time flexibility' and **high** 'Place flexibility'
High	· **High** 'Time flexibility' and **medium** 'Place flexibility' · **Medium** 'Time flexibility' and **high** 'Place flexibility'
Medium	· **Medium** 'Time flexibility' and **medium** 'Place flexibility'
Low	· **Medium** 'Time flexibility' and **low** 'Place flexibility' · **Low** 'Time flexibility' and **medium** 'Place flexibility' · **Low** 'Time flexibility' and **low** 'Place flexibility'

3.3.4 Regulation

The regulation driver comes across as being a qualitative component of the countries analysis, and so were the categories established:

- No regulation/no data
- Time flexibility regulation
- Place flexibility regulation, which has a stronger connection to Smart Working than only time flexibility regulation
- Both time and place flexibility regulation, representing an approach similar to Smart Working

As highlighted before, the existence or not of formal legislation on flexible organisational practices does not necessarily imply its level of dissemination and development in a country. When studying and analysing this topic, it has been fundamental to understand each rule in

detail in order not to label them as flexible while, in this work's perspective, they were not. For example, a law that gives the right to time flexibility only for parents of young children does not follow the concept of flexibility here pursued. Also, it has been very important to get more information from the interviews and even people's opinion regarding this topic, since the necessity and wish to build laws for it is a cultural and historical factor.

3.3.5 Technology

As previously explained, data regarding the technology driver has been extracted from the DESI published by the European Commission in 2018. The range between the minimum and the maximum value found has been divided linearly into three categories (high, medium and low flexibility), in which the countries have been distributed. Moreover, Switzerland and Brazil have been included in the classification by comparing their position in the International Digital Economy and Society Index (I-DESI) 2018 ranking to EU members' positions.

3.4 Primary research

The theoretical and quantitative phase has been followed and supplemented by an empirical and qualitative one, composed by interviews, in order to assess and validate the drivers proposed by the study and understand how flexibility features manifest themselves in practice according to different contexts. The interviews were, thus, entitled to refine the instrument of analysis built and provide information on case studies to understand them in details and allow the practical application of frameworks regarding the phases of implementation of Smart Working, presented in the chapter Literature Review. It is important to acknowledge that since only a few interviews have been conducted, the conclusions on the countries' realities stemming from them are subject to mistakes and bias.

The first step when preparing for the interviews was the construction and validation of the questionnaire. Two different interview scripts have been produced: for experts and for case studies. These perspectives are complementary, since experts present a better notion of the country's discussions, policies, rules, trends, changes concerning smart working, while case studies provide the study with more practical details that demonstrate how the policies are applied and the difficulties encountered.

Both scripts present a brief introduction explaining the Observatory's research and its definition of Smart Working. The script intended for experts focuses in the country's context, tackling

topics such as practices in the private sector, investments, regulation, culture, benefits, disadvantages and examples of companies that adopt smart working practices. The script designed for case studies, on the other hand, encompasses all the dimensions involved in the companies' project. It discusses the company's context, practices, values, regulation, project's features, technology, physical layout, change management, costs, benefits, results. Finally, the last section of questions concerns the country context, however less detailed than the expert one. The full scripts are displayed in the Appendix.

The search for contacts has been conducted in various ways. Studies, university departments and national initiatives have been looked for in order to find experts, while case studies have been found by talking to acquaintances who work or have worked in European countries, reading articles and news about smart working experiences, checking on companies related to national flexible working initiatives, asking experts for interesting initiatives' contacts, etc.

In the first moment, studying This whole search was focused on some key countries considered relevant according to the classification previously created (Leading and High categories of Full Flexibility), as well as on establishing contact with experts, who would provide interesting information from their studies and experience in general. Hundreds of emails have been sent, dozens of calls have been made and a few answers have been received, some of them agreeing to participate. Unfortunately, there were some cases in which the company would not allow their employees to share any specific information or be interviewed.

For the affirmative answers, there would be an agreement on time and on means of communication for the interview (Skype or regular call) and a detailed email with the corresponding script would be sent to the person so that they could prepare for the interview. During the interview, which was recorded, the script would function as a guideline, however more focus was given to interesting aspects that would eventually emerge. At the end, the interviewee would be requested to provide any relevant material they could think of and, in the case of experts, to nominate interesting case studies from their countries and even contacts if they had any, in order to enrich the study.

4 RESULTS

This chapter is destined to present the information collected both through secondary and primary research and its application to the referential of analysis proposed, leading to conclusions on the European, at a first moment, and the Brazilian scenario, at a second moment.

4.1 Secondary research

Having defined the four drivers according to which the European scenario by country would be assessed, there was the subsequent need to gather information for such evaluation. In this context, two European institutions have played a fundamental role by providing reliable and comparable data across the continent: Eurofound and European Commission. There was a different approach to collecting information on regulation, the only qualitative driver, by consulting mostly secondary literature such as news, articles, official government publications, as well as academic works. Later on, this topic has also been tackled by the interviews.

4.1.1 Time flexibility in Europe

As previously mentioned, regarding the first driver, two parameters have been established: Not fixed times / Flextime and Flexible working time arrangements, represented by questions from the European Working Conditions Survey (EWCS) of 2015 (EUROFOUND, 2015). The statistics by country are presented below:

i. **Not fixed times / Flextime**: '*Do you have fixed starting and finishing times in your work?'* (EUROFOUND, 2015). The parameter value has been defined as the percentage of negative answers to the question and is shown in Figure 9.

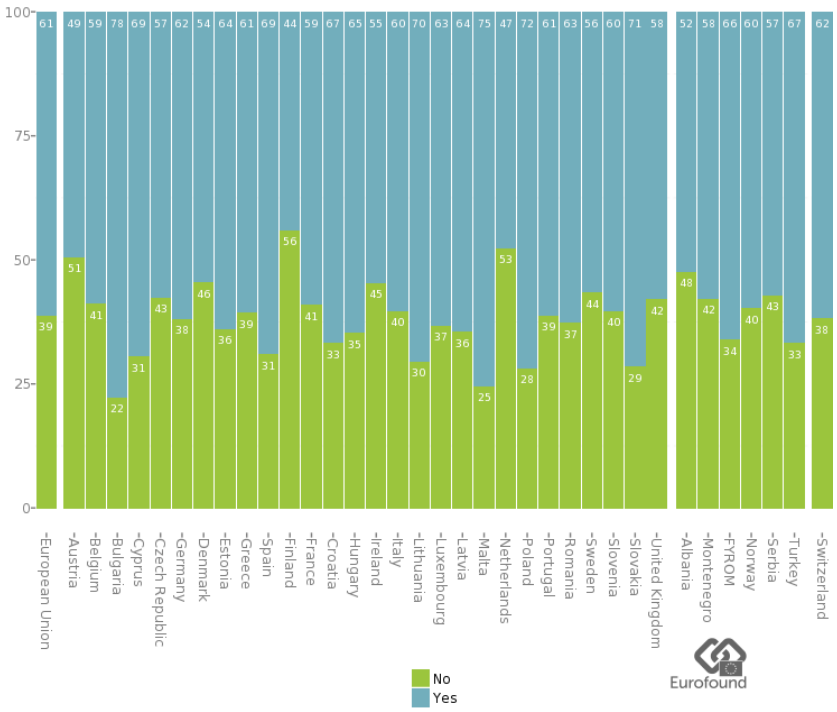

Figure 9 - '*Do you have fixed starting and finishing times in your work?'* (EUROFOUND, 2015)

The top three countries according to this topic are Finland, Netherlands and Austria, with 56%, 53% and 51% respectively. Italy, however, appears with 40% of not fixed times, together with Slovenia and Norway, a little above the EU average of 39%.

ii. **Flexible working time arrangements**: *'How are your working time arrangements set?'* (EUROFOUND, 2015). The parameter has been calculated as a sum of the three options of answer considered flexible: 'You can adapt with certain limits (e.g. flextime)'; 'You can choose between several fixed working schedules determined by the company/organisation'; 'Your working hours are entirely determined by yourself'. The other alternative, considered not flexible, was 'They are set by the company / organisation with no possibility for changes'.

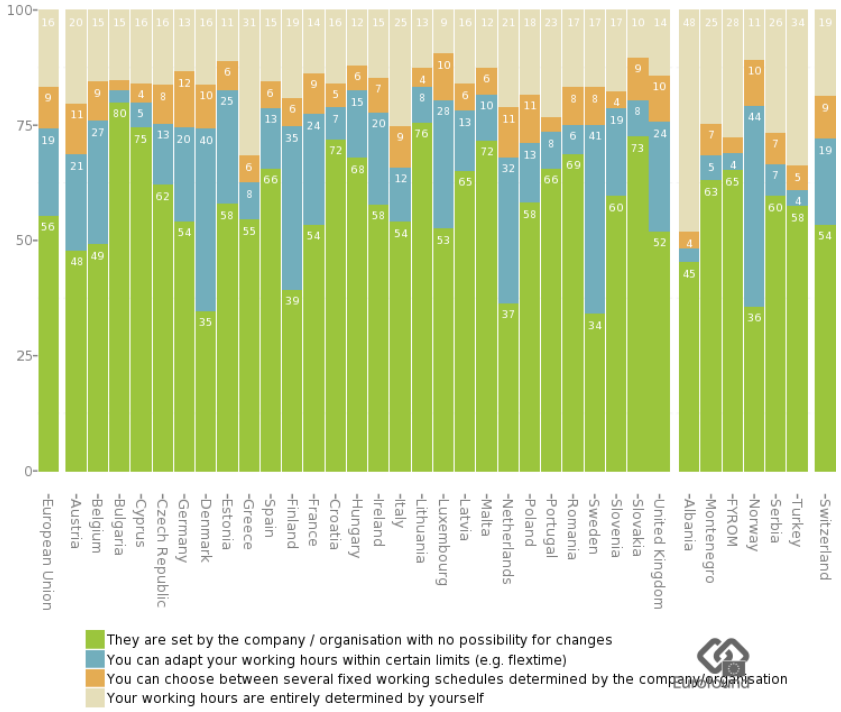

Figure 10 - *'How are your working time arrangements set?'* (EUROFOUND, 2015)

The countries that present the lowest percentage of time arrangements set by the company with no possibility for changes are Sweden, Denmark and Norway, with 66%, 65% and 64% of flexible time arrangements, while Italy presents 46%, 2 percentage points above the EU average of 44%.

4.1.2 Time flexibility in Brazil

In Brazil, IBOPE (Brazilian Institute of Public Opinion and Statistic) has conducted twice a survey on the topic 'Flexibility in the Labour Market'. The 37th edition of CNI (National Confederation of Industry)'s report '*Retratos da Sociedade Brasileira*' (Pictures of the Brazilian Society) has shared the findings of the survey referring to 2016, which encompasses 2,002 interviews in 143 cities (CNI, 2017).

According to Figure 11, in 2016, 73% of Brazilians would like to have flexibility of working time, while 59% of the working population actually had it. When separating Brazilian workers by type of employment relationship (Figure 12), the desired flexibility is achieved in greater part by those who are self-employed (79%) or employers (72%), while for employees, subject to the limitations of legislation, the percentage is much lower (41%). All these numbers consider the answers 'Totally agree' and 'Partly agree' to the questions (CNI, 2017).

Compared to the survey with data from 2015, published in the 29th edition of CNI's report, the percentage of Brazilian workers who agree totally or partially with having flexibility of working hours fluctuated within the margin of error: it increased from 56% to 59%. Over the same period, the percentage of those who agree fully or partly to desiring flexibility in working hours also remained within the margin of error, ranging from 71% to 73% (CNI, 2017).

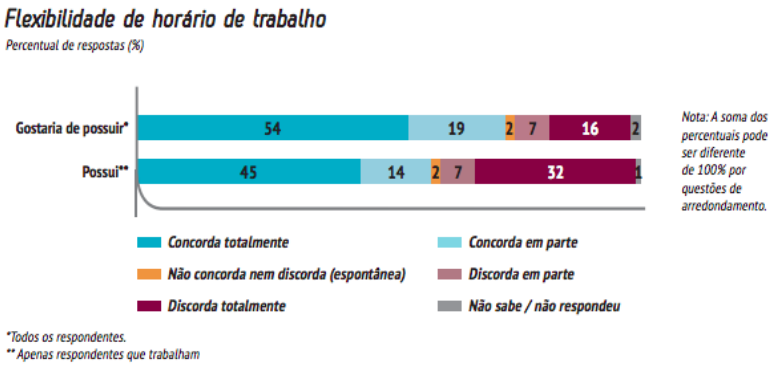

Figure 11 – Time flexibility in Brazil in 2016 (CNI, 2017)

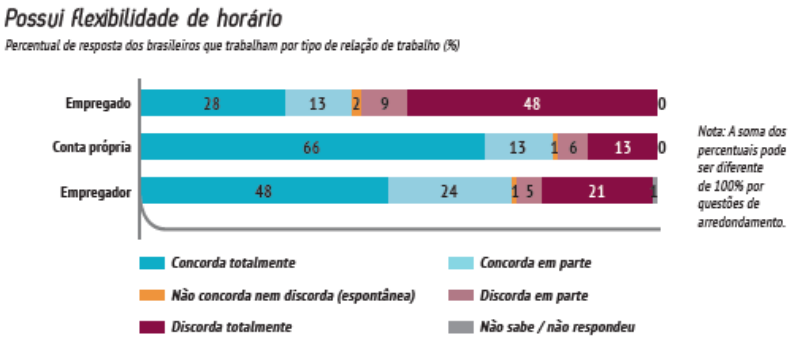

Figure 12 - Time flexibility in Brazil according to work relation type (CNI, 2017)

4.1.3 Place flexibility in Europe

Concerning the second driver, two parameters have been established: T/ICTM (telework and ICT-mobile) work and Multiple locations, represented by a question from '*Working anytime, anywhere: The effects on the world of work*' (EUROFOUND, 2017a) and the European Working Conditions Survey (EWCS) of 2015 (EUROFOUND, 2015), respectively. The numbers provided by Eurofound are disposed below:

i. **T/ICTM (telework and ICT-mobile) work**: *'Percentage of employees doing T/ICTM in the EU28, by category and country'* (EUROFOUND, 2017a). The parameter value has been defined as the percentage of answers corresponding to the sum of all three

alternatives: ‘Occasional T/ICTM’, ‘High mobile T/ICTM’ and ‘Regular home-based telework’.

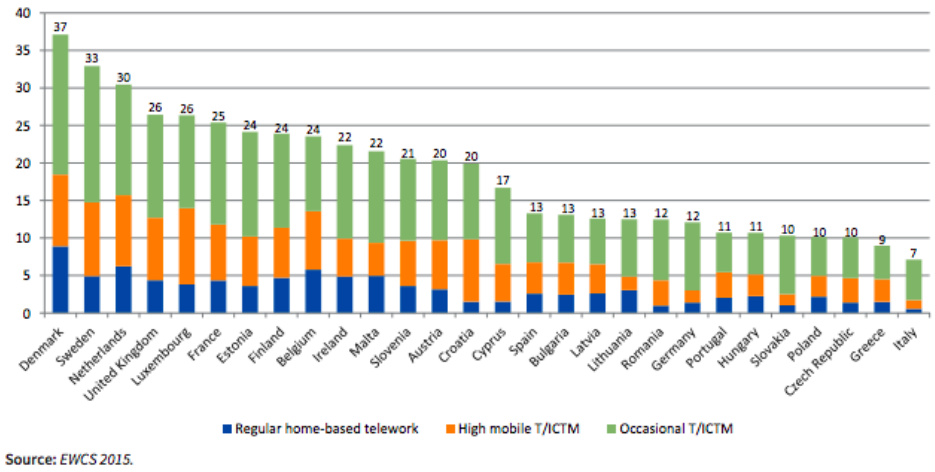

Figure 13 - Percentage of employees doing T/ICTM in the EU28 (EUROFOUND, 2017a)

The leaders are Denmark (37%), Sweden (33%) and the Netherlands (30%), while Italy appears at the bottom with only 7%, way below the EU 28 average of 18%.

ii. **Multiple locations**: ‘*Number of work locations’* (EUROFOUND, 2015). The parameter value has been defined as the percentage correspondent to the alternative ‘More than one’.

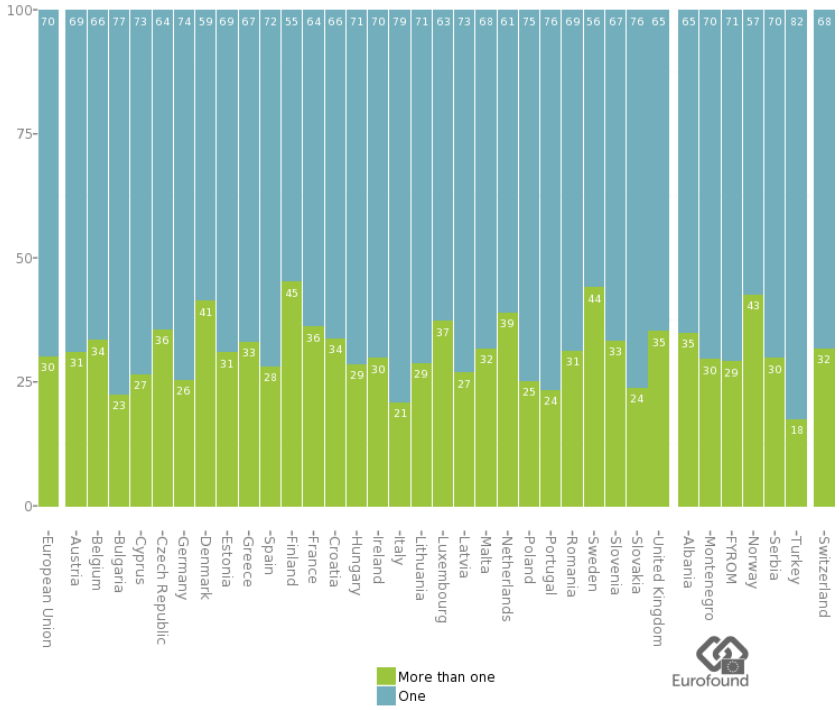

Figure 14 - '*Number of work locations'* results chart (EUROFOUND, 2015)

The Nordic countries all present an index of 41% or more, way above Italy's statistic of 21%, figuring as the worst in the EU, which's average is 30%, and second worst of the survey, only overcoming Turkey.

4.1.4 Place flexibility in Brazil

Based on data from IBOPE's survey previously cited and published by CNI, in 2016, 81% of Brazilians would like to have flexibility of place of work, while 65% of the working population actually had this flexibility (Figure 15) (CNI, 2017).

The type of employment relationship has an impact on the possibility of working from home or from alternative locations when needed. While 81% of those who are self-employed and 78% of employers fully or in part agree that they have flexibility in the workplace, that percentage is only 51% among those who are employed (Figure 16) (CNI, 2017).

Among working Brazilians, the percentage of those who agree totally or partially that they have flexibility of working place increased from 57% in 2015 to 65% in 2016. In the same period, there was a change in the composition of the work, with retraction in the percentage of employed workers from 55% to 49% and increase of self-employed or employers from 45% to

50%. In turn, Brazilians who agree wholly or in part that they want flexibility of working place increased from 73% in 2015 to 81% in 2016 (CNI, 2017).

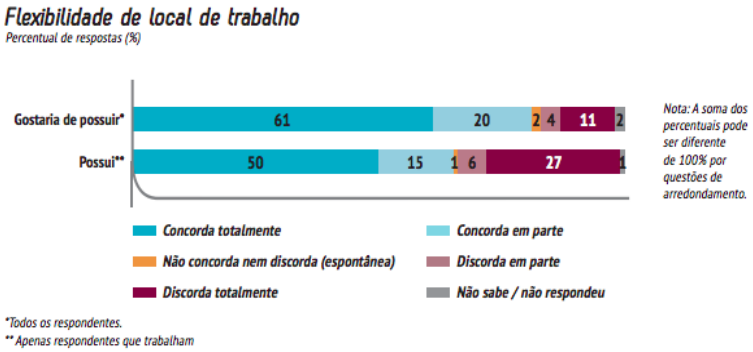

Figure 15 – Place flexibility in Brazil in 2016 (CNI, 2017)

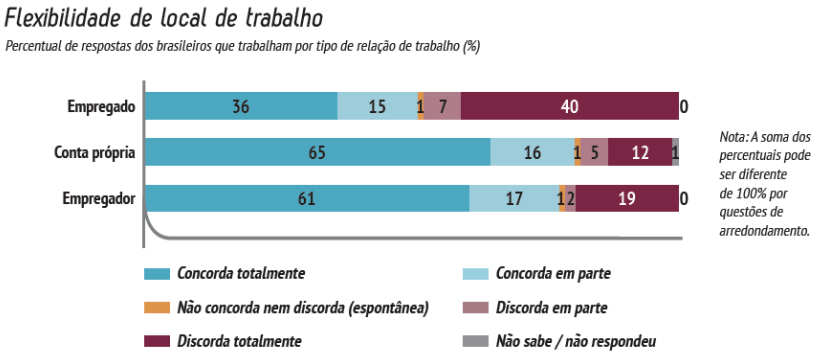

Figure 16 – Place flexibility in Brazil according to work relation type (CNI, 2017)

4.1.5 Regulation

Resuming the reservation related to the present topic, the existence of a proper regulation about Smart Working aspects does not necessarily mean that the country presents more flexible policies. Still, when existent, the regulation is an important means for understanding practices and rights in a country. The laws encountered during research have been carefully examined in order to guarantee the proper classification as flexible in terms of time, place or both.

4.1.5.1 Regulation in Europe

Time Flexibility regulation

Several European countries present legal determinations regarding time flexibility, which vary in level of flexibility when the concept of Smart Working is considered.

In 2017 Belgium approved the so-called Law on Feasible and Flexible Work, also known as Peeters' Law, aiming at providing a more flexible legal framework in terms of working time, whilst ensuring a balanced work environment for the employees. Working time can now be set on an annual basis, the use of overtime has been relaxed, the formalities for part-time work have been simplified and a legal framework for occasional telework has also been created (EUROPEAN COMMISSION, 2018b), although it can only be requested in case of *force majeure* or for personal reasons that prevent them from carrying out their work in the employer's premises, also depending on the worker's function (PARTENA, 2017). Belgium's approach to time flexibility is different if compared to other countries and can be considered less flexible. The act has abolished the previous strict 38 hours' week – it is possible to increase or reduce the working time by a maximum of two hours per day and five hours per week during certain periods (high or low workload), so long as, on an annual basis, the total number of hours performed is not exceeded (PLASSCHAERT; JAMAELS, 2018). The flexibility is, therefore, more related to adapting to the workload variation along the year.

Czech Republic has presented amendments in Act No. 262/2006 Coll. Labour Code, valid from 2015, determining more flexibility of working arrangements, in particular working hours (EPSCO COUNCIL, 2017). Finland published the '*Working Hours Act*' in 2017. According to the provision, the flexible working times have to be specified by mutual agreement in the employment contract so that the daily regular working hours can only be extended or reduced by a maximum period of three hours and the maximum amount of working hours remains at 40 hours per week (MEAE, 2017). Germany, in turn, published a namesake act in 2016 and developed a deep discussion regarding time flexibility at work in the so-called Green and White Paper Work 4.0, in 2015 and 2016 respectively. There is no proper definition of how flexible working hours should be implemented, however, determining only that within 6 months, the balance has to be an average of 8 hours per day (KRAEMER, 2017).

In 2017, Lithuania underwent a broad reform to its Labour Code reform that concerned flexible working hours, among other topics (EUROPEAN COMMISSION, 2018b). It has stated that an employee may agree with an employer to work on a flexible work schedule, whereby an employee must be at the employment place during the core hours of the working day (shift) and may work the rest of the working day (shift) before or after those core hours, or to work on a different individual working time regime. The reform also tackles teleworking, although its request is only permitted for specific groups of employees, mostly related to having a child to take care of (BAGDONAITĖ, 2018). Luxembourg, also in 2017, changed the scheme of

flexible working hours by salaried workers individually to organise their daily working hours and time to meet their personal needs, as long as they respect operational needs, co-workers' reasonable needs, and the maximum work time thresholds of 10 hours a day and 48 hours a week (TURLAN, 2017). In February 2018, Norway had an update to the Working Environment Act, stating that all employees are entitled to flexible working hours if this can be arranged without major inconvenience to the employer (FURUSTØL; SANDNES, 2018).

Place Flexibility regulation

Place flexibility is less widespread if compared to time flexibility and so is the regulation regarding this topic.

In France, there was a code reform in 2017 concerning several subjects, among which homeworking/teleworking. The new Ordinance has determined that employees may homework from time to time without any condition of having to do so on a regular basis, as it was determined before. Thus, homeworking on an irregular basis does not need to be inserted in the contract, although it must be formalized in writing before occurring (e.g. exchange of email) (GRANGIER; GUILLON, 2017). Permanent telework arrangements, however, must now be instituted through a collective agreement or, in the absence of such agreement, through a specific company/group policy, after having obtained the opinion of the social and economic committee (DUCORPS-PROUVOST, 2017). They must include at least: (i) the conditions for the implementation of a telework arrangement and the conditions in which the employee may return to a non-telework position; (ii) the conditions in which the employee shall accept the terms and conditions of the telework arrangement; (iii) the conditions in which the teleworking employee's working hours will be monitored and his/her workload regulated; (iv) the determination of the timeslots within which the employer may usually contact the teleworking employee. Furthermore, they should also specify how the costs of telework will be handled.

Romania, on the other hand, has presented a different approach to the subject. The Ministry of Labour has carried out a public consultation regarding teleworking, aiming to make working arrangements more flexible and to regulate a previously not used form of work (European Commission, 2018). Afterwards, in 2018, the Teleworking Law was passed by the Parliament. The law defines telework as a form of organising work, using information and communication technology, by which the employee – voluntary and on a regular basis – carries out their work away from their employer's premises at least one day per month (ALLEN & OVERY, 2018).

According to it, for employees performing telework, the individual employment agreement must include specific clauses such as (i) the period in which the employee works in a workplace organised by the employer; (ii) the places where telework is going to be performed; (iii) the timekeeping manner; (iv) the schedule for and the way the employer will perform the inspection; (v) responsibilities of the parties, including in relation to labour health and safety; (vi) how the employer will act in order to avoid the isolation of the employee; (vii) the obligation of the employer to transport the materials used by the employee; (viii) the obligation of the employer to inform the employee in relation to data protection matters; and (ix) conditions in which the employer covers the costs related to the telework. The law has been promoted in the country as providing benefits for both the employer - mainly modernizing work organisation and helping in cost reductions - and the employee - improving the overall balance between work and family life (PREOTESCU, 2018).

Both Time and Place Flexibility regulation

The presence of both time and place flexibility in the country's regulation represents an which is more similar to the concept of Smart Working, being an important sign of interest in the diffusion of Smart Working practices.

In the United Kingdom, the Flexible Working Regulation of 2014 has extended the right to request flexible working to all employees with at least 26 weeks' service, which was previously limited to employees responsible for caring for a child or adult (PYPER, 2018). There is the possibility of rejection of the request though, which can happen on various grounds. Additionally, although the employees can resort to the employment tribunal when they feel that their request has been denied unfairly, the fees have increased quite a lot, which might inhibit them.

Similarly, in the Netherlands, the *Flexible Working Act* entered into force in 2016, providing employees with the right to request a permanent or temporary change in working hours, a change in the scheduling of working hours, and a change in place of work (EUROPEAN COMMISSION, 2018b). Regarding changes related to working hours, employers must agree with the worker request, unless there are substantial business reasons for not doing so. For place of work, however, an employer must take the employee's application into consideration but has the possibility to discuss it with them in case of disagreement (GOVAERT; BEERS, 2015). The Dutch right to flexible working is, therefore, more protective of workers if compared to the

United Kingdom's regulation, although derogations are quite frequent as well, which leaves to collective agreements the responsibility for the decisions. Another change included in the act is that employees can request any of the above after 26 weeks of service instead of after one year of service, as before.

In Italy, Law N.81/2017 contains measures both for the protection of non-entrepreneurial autonomous work and for the encouragement of flexible adaptation as to times and places of subordinate work. Smart Work's definition by the law is 'a method for the provision of subordinated work, to be arranged through an agreement between the parties. Smart work can be organized in phases, cycles and according to objectives, without specific schedule or workplace requirements, and may be pursued through the use of technological means' (OBSERVATORY, 2017). The law regulates elements such as the voluntary principle and the need for a written agreement between employer and employee defining the performance of service outside of company premises, the period of the agreement, compliance with rest times and the right to disconnect, and even the procedures for withdrawal from the agreement. Other important topics include equal treatment of workers, both financial and regulatory, the right to continuous learning and factors related to health and safety. Smart workers should be protected in the event of work-related accident or illness when they decide to perform their work outside of company premises or when commuting to or from work.

4.1.5.2 Regulation in Brazil

In Brazil, although there is no specific law regarding working flexibility, important changes have taken place in the recent years. The Consolidation of Labour Laws - in Portuguese, '*Consolidação das Leis do Trabalho'* (CLT) - has been heavily amended by the Labour Reform of 2017, consolidated in Laws 13429 and 13467/2017. In force since 1943, in addition to the Federal Constitution, CLT governs most aspects of labour relations and procedures. There had been several requests for updating its provisions to meet the reality of working environment, yielding a wide debate on the Legislative Branch and finally reaching the approval of changes in July, 2017, which would then come into force in November of the same year. The Labour Overhaul brought several changes in an attempt to modernize and simplify the complex and frequently unintelligible legislative, administrative and judicial structure, reduce intervention of the State in labour relations and give more autonomy to the trade unions and to certain categories of employees, considered 'hypersufficient'. These latter correspond to workers with an university degree and whose monthly salary is equal or higher than twice the maximum limit

of benefits under the Social Welfare General Regulations, who are entitled to the free stipulation of contractual conditions (SWISSCAM, 2019).

Referring to flexible working hours, it has become easier to negotiate a so-called ‘hour bank’ agreement - meaning the compensation of working hours - by allowing the deal to be discussed on an individual basis, provided that compensation for overtime occurs within a period of 6 months. Previously, it was only possible to establish working hours offsetting regime through a collective bargaining agreement with the labour unions. Thus, there has been a great improvement to the matter, which has brought benefits both to companies and to their employees. It is crucial to clarify, however, that the Labour Overhaul has not changed the legal limits of working hours - usually, 8 hours a day and 44 hours a week -, but only formalized mechanisms that could make it more flexible (GALO; TENO, 2017). Nonetheless, this flexibility can be and is mostly explored by employers in order to adapt to working demand, instead of offering workers more autonomy to choose their schedules. Additionally, the so-called ‘right to disconnect’ issue is tackled by determining the employees’ right to be paid one third of their regular hourly wage when they are required by employers to be available outside normal business hours, in ‘standby mode’ (EUROFOUND, 2017a).

The Labour Overhaul in Brazil has also tackled topics related to remote work (or home office or telework), which is defined in Article 75-B of CLT as ‘the provision of services preponderantly outside the employer's premises, with the use of information and communication technology that, by its nature, does not constitute external work’ (GALO; TENO, 2017). Thus, the national law refers to remote work as a practice performed in the majority of working days, thus lacking a specific determination on teleworking as a means of labour flexibility. The main discussion of the Reform was whether employees who work remotely would or would not be exempt from the control of working hours. The final decision was not to control the working time outside of the employer’s premises, thus eliminating the concept of overtime for teleworkers. Other home office details were also regulated, including the company’s responsibility to reimburse employees for reasonable expenses with home office and ensure the provision of all the structure and means necessary for the working activities performance (GALO; TENO, 2017).

It is important to acknowledge, however, that the Labour Reform has brought more flexibility for employers to the detriment of employees, as the website ‘Getting the deal through’ affirms that such reform ‘deeply changed the labour system by increasing the power of negotiation

between employees and employers, and between employees' unions and employers for more flexible working conditions, especially related to hiring and termination processes, as well as exempting taxation and labour impacts over some compensation elements and allowing free and full process of outsourcing.'(BARBOSA; LAZA, 2018).

4.1.6 Technology in Europe

The DESI (Digital Economy and Society Index) results published by the European Commission in 2018 (EUROPEAN COMMISSION, 2018a) is displayed in Figure 17.

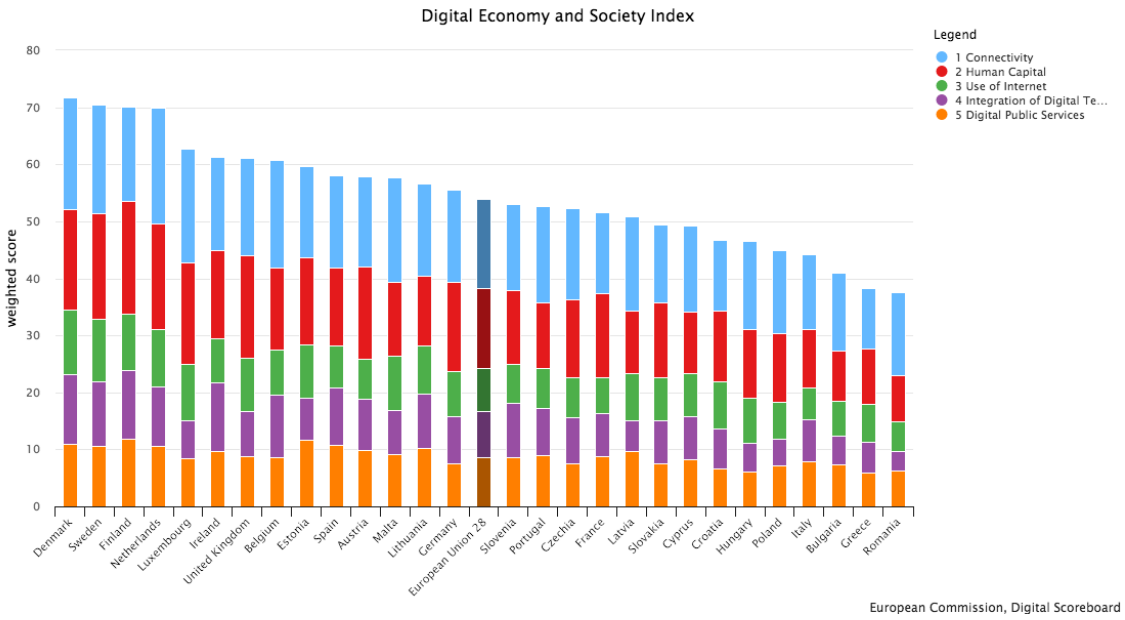

Figure 17 - Digital Economy and Society Index 2018 (EUROPEAN COMMISSION, 2018a)

Italy appears among the last four countries, with 44.24%, while the EU 28 average is 53.91% and the leaders present indexes above 70%. Compared to the previous index, all Member States have improved their results. Ireland, Cyprus and Spain progressed the most (by more than 15 percentage points) over the four years since the first DESI published, while the lowest increase in digital performance was recorded in Greece (below 10 points).

Data regarding Norway has been found as an extension to the 28 European Union countries. The country's index corresponds to 69.6% (European Commission, 2018), fitting between the Netherlands and Luxembourg. Additionally, by consulting the International Digital Economy and Society Index (I-DESI), with data from 2016, it has been possible to compare Switzerland to the other countries (TECH4I2, 2018). The country's score was 70.8%, a little behind the EU top 4 average (74.0%) and Norway (73.0%), appearing right between Luxembourg and Sweden.

4.1.7 Technology in Brazil

Brazil appears at the bottom of I-DESI from 2016, with 39.7%, after the EU Bottom 4, China, Chile, Mexico and Turkey, as presented in Figure 18 (TECH4I2, 2018).

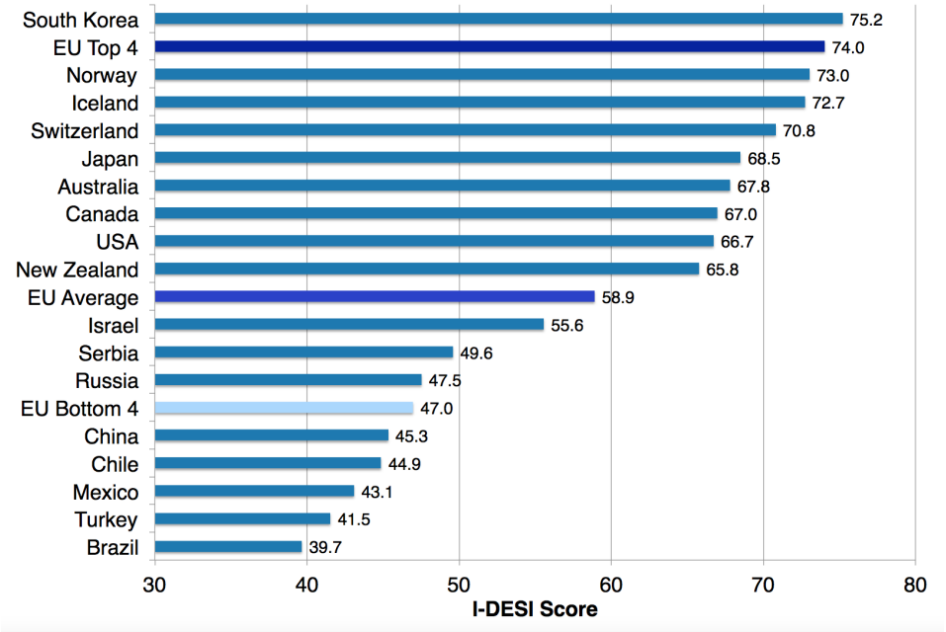

Figure 18 - International Digital Economy and Society Index (I-DESI) 2018 (TECH4I2, 2018)

4.2 Countries classification

4.2.1 Time flexibility in Europe

The final levels of flexibility are obtained by combining the two parameters, following the explanation in the section Methods. The results are presented below in two different shapes.

Table 4 - Classification of countries for Time flexibility

	Not fixed times / Flextime	Flexible working arrangements	Time Flexibility
	High (45% - 56%)	**High (51% - 66%)**	High
Austria	51%	52%	
Denmark	46%	65%	
Finland	56%	61%	
Netherlands	53%	63%	
	High (45% - 56%)	**Medium (36% - 50%)**	
Ireland	45%	42%	
	Medium (34% - 44%)	**High (51% - 66%)**	
Belgium	41%	51%	
Norway	40%	64%	
Sweden	44%	66%	
	Medium (34% - 44%)	**Medium (36% - 50%)**	Medium
Czech Republic	43%	38%	
Estonia	36%	42%	
France	41%	46%	
Germany	38%	46%	
Greece	39%	45%	
Italy	40%	46%	
Luxembourg	37%	47%	
Slovenia	40%	40%	
Switzerland	38%	46%	
UK	42%	48%	
	Medium (34% - 44%)	**Low (20% - 35%)**	Low
Hungary	35%	32%	
Latvia	36%	35%	
Portugal	39%	34%	
Romania	37%	31%	
	Low (22% - 33%)	**Medium (36% - 50%)**	
Poland	28%	42%	
	Low (22% - 33%)	**Low (20% - 35%)**	
Bulgaria	22%	20%	
Croatia	33%	28%	
Cyprus	31%	25%	
Lithuania	30%	24%	
Malta	25%	28%	
Slovakia	29%	27%	
Spain	31%	34%	

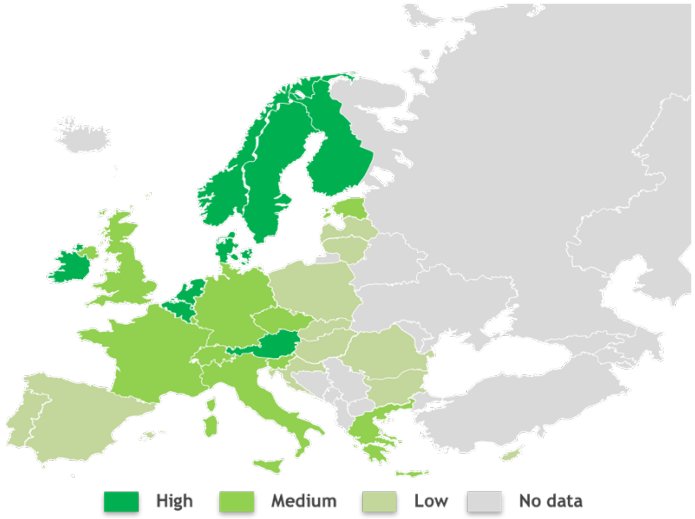

Figure 19 - Time flexibility level map

The countries that present high time flexibility correspond to Austria, Belgium, Denmark, Finland, Ireland, the Netherlands, Norway and Sweden, while Italy is classified at the medium level, appearing above the EU average in both parameters. While flexibility of time is still far from proper Smart Working, it represents a first step in the long and arduous path towards a big change of practices, culture and mindset, especially in such a traditional country.

4.2.2 Time flexibility in Brazil

In Brazil, based on IBOPE's survey for CNI, 59% of workers had flexibility of working hours in 2016. Both the indexes of desire for and of possession of flexible working hours have risen from 2015 to 2016, however within the margin of error. Therefore, no relevant tendency conclusions can be made out of the surveys presented in editions 29 and 37 of '*Retratos da Sociedade Brasileira'* (Pictures of the Brazilian Society).

The Home Office Survey 2018 conducted by SAP – Consultancy in Human Resources – with 315 Brazilian companies has found that in around 66% of them the working journey is partly flexible and in 22% it is completely flexible (SAP, 2018).

MetLife's Brazil Employee Benefit Trends Study 2018 named 'Creating a better workplace' presents interesting data concerning the country and comparing it to Chile and Mexico. When asked about flexible working, that is, allowing employees to choose their hours and days to suit personal commitments, employers in Brazil offered flexible hours and work-life focused wellness at a very reduced frequency when compared to their regional peers, with an index of 42% against 84% from Chile and 70% from Mexico. This discrepancy evidences that Brazil,

when compared to other Latin American countries, is still in an initial phase in the movement towards flexibility. Additionally, according to the study, work-life wellness initiatives in Brazil are more common in large companies (59%) than in small businesses (35%). That is probably due to the fact that, in companies with more than 1,000 employees, employers are nearly three times more likely to say the key reason for absenteeism is lack of flexibility or excessive pressure than those in smaller companies.

The global candidate preferences study 'Work, For Me' was conducted in 2016 by ManpowerGroup with 14,000 workers aged 18 to 65 years old in 19 influential employment countries across the globe. According to the study, regardless of the type of schedule flexibility desired in their countries, candidates are seeking a wider variety of flexible workplace options to help them find a better work-life balance. Also, flexible arrival and departure times has been reported to be the most important factor for schedule flexibility, with 26% of the answers, however Brazil is the country where such practice is valued the most and way more than the average, with 41% (MANPOWERGROUP, 2016).

Therefore, data on how frequent is time flexibility in Brazil presents a high variation between surveys, while both studies on how much Brazilians desire time flexibility suggest that such index is very high, especially when compared to other countries.

4.2.3 Place flexibility in Europe

The combination of T/ICTM work and multiple locations categories has resulted in the following levels composition:

Table 5 - Classification of countries for Place flexibility

	T/ICTM work	Multiple locations	Place Flexibility
	High (27% - 37%)	**High (37% - 45%)**	High
Denmark	37%	41%	
Netherlands	30%	39%	
Sweden	33%	44%	
	Medium (17% - 26%)	**High (37% - 45%)**	
Luxembourg	26%	37%	
Finland	24%	45%	
	--	**High (37% - 45%)**	
Norway	--	43%	
	Medium (17% - 26%)	**Medium (29% - 36%)**	Medium
Austria	20%	31%	
Belgium	24%	34%	
Croatia	20%	34%	
Estonia	24%	31%	
France	25%	36%	
Ireland	22%	30%	
Malta	22%	32%	
Slovenia	21%	33%	
UK	26%	35%	
	--	**Medium (29% - 36%)**	
Switzerland	--	32%	
	Medium (17% - 26%)	**Low (21% - 28%)**	Low
Cyprus	17%	27%	
	Low (7% - 16%)	**Medium (29% - 36%)**	
Czech Republic	10%	36%	
Greece	9%	33%	
Hungary	11%	29%	
Lithuania	13%	29%	
Romania	12%	31%	
	Low (7% - 16%)	**Low (21% - 28%)**	
Bulgaria	13%	23%	
Germany	12%	26%	
Italy	7%	21%	
Latvia	13%	27%	
Poland	10%	25%	
Portugal	11%	24%	
Slovakia	10%	24%	
Spain	13%	28%	

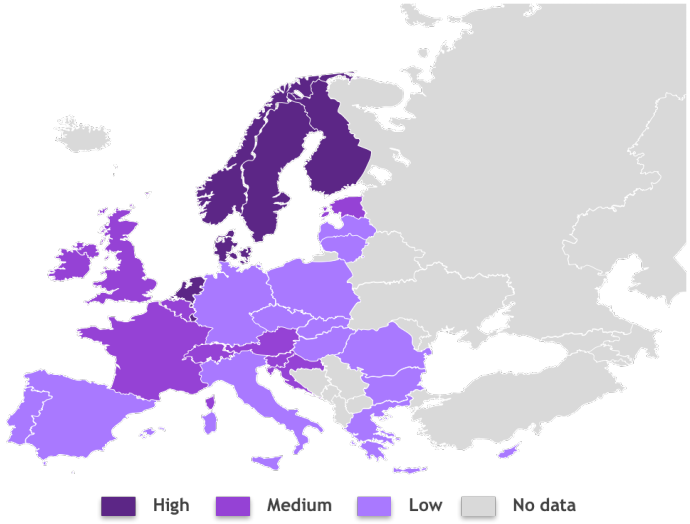

Figure 20 - Place flexibility level map

Place flexibility is less diffused and more difficult to be applied than time flexibility, which is confirmed by the numbers in Eurofound's research. According to Eurofound's publication, the reach of teleworking into the workplace varies markedly across EU member states due to technology factors (extent of ICT spread and internet connectivity) as well as national work culture and economic structure. Moreover, teleworking, on the one hand, is restricted by the nature of one's work – there is a greater prevalence among knowledge workers – and, on the other hand, is less common in manufacturing and retail and more common in ICT, financial services and services in general. Spatial flexibility also entails several issues related to insurance, taxes, costs, isolation, communication, informational security, blurred limits between work and personal life and even prejudice (EUROFOUND, 2018). Despite all barriers, telecommuting appears as the most desired type of flexible work, as pointed by FlexJobs' seventh annual survey, and of those who performed this type of work in 2017, 22% affirmed that they practiced it more in 2018 (REYNOLDS, 2018). Thus, there is a tendency of expansion of spatial flexibility practices in Europe.

Based on the indexes, the Scandinavian countries and the Netherlands are considered to present high place flexibility, as well as time flexibility, previously mentioned. Apart from them, Luxembourg also appears among the ones with high spatial flexibility, due to its large amount of cross-border commuters. Unlike these countries, in Italy teleworking is mainly considered as working from a place other than the office for most part of the working time, thus not corresponding to a flexible practice. Besides, it is highly regulated and uncommon, usually conceded due to personal needs such taking care of children. Indeed, the statistics by Eurostat are in line with Italy's extremely low positions in Eurofound's rankings, reported with 3.5% of

workers who usually work from home and 1.1% who sometimes do, against the EU averages of 5.0% and 9.6%, respectively (EUROSTAT, 2018).

4.2.4 Place flexibility in Brazil

Retrieving the findings from IBOPE's survey for CNI, in 2016, 81% of Brazilians would like to have working place flexibility, while 65% of the working population actually had it. The indexes have risen if compared to the previous year, however such changes are probably more related to the increase in the proportion of self-employed or employers, who present higher indexes of place flexibility.

Eurofound and ILO's publication *'Working anytime, anywhere: The effects on the world of work'* (EUROFOUND, 2017a) has also brought information from a Brazilian national study from 2015. The study revealed that 'the average commuting time between home and work in the São Paulo metropolitan area is approximately one hour and 40 minutes, due to massive traffic congestion. In addition, commuters in São Paulo are exposed to concentrations of pollutants (such as fine particulate matter and ozone) that far exceed World Health Organisation (WHO) standards. In this context, an expansion of T/ICTM would not only provide health benefits to those individuals who telecommute, but would also have a broader positive impact on traffic congestion and on the healthiness of the environment.'. Although the report offers no index on the incidence of T/ICTM for the country, it draws attention to the fact that telemediated services in Brazil more than doubled during the past decade, reaching 1.0% of formal wage employment before stalling during the recent economic downturn.

The study also states that several company case examples discussed in the country's national study show how improved individual performance through regular T/ICTM can be aggregated into enhanced organisational performance. Moreover, evaluations of a T/ICTM pilot project for the company SERPRO, the Brazilian federal data processing company, showed that introducing working-from-home (homebased telework) policies resulted in net benefits for the company, due to a combination of improved productivity, reduced costs and improved quality of life for employees (EUROFOUND, 2017a).

It is important to highlight that the publication offered information on only a few non-European countries: India, Japan, Argentina, United States and Brazil. While this shows that Eurofound

was interested in studying Brazil, it is unfortunate to realise that the country was the only one unable to provide quantitative data for the study.

SAP – Consultancy in Human Resources - has conducted the Home Office Survey 2018 in partnership with SOBRATT (Brazilian Society for Telework and Teleactivities) and supported by several important institutions on the topic, such as ABRH (Brazilian Association of Human Resources). The survey has encompassed 315 companies of different sizes, geographic regions and areas of activity. The findings revealed that 45% of the companies adopts telework/home office practices and 15% are assessing the viability or planning the implementation. If compared to the same study in 2016, there was a 22% growth in the number of companies that adopt telework practices. Also, in general, they subsidize employees' expenses with hardware and softwares, so the technology necessary to work away from the office (SAP, 2018).

The main objectives of implementing such practices, shown in Figure 21 are reported to be a better life quality for employees (70%), urban mobility (63%), offering of benefits to employees (47%) and attraction and retention of talents (47%). Additionally, the eligible areas for such practices are mostly Information Technology (36%), Human Resources (23%), Marketing (23%) and Controller/Finances (23%) (SAP, 2018).

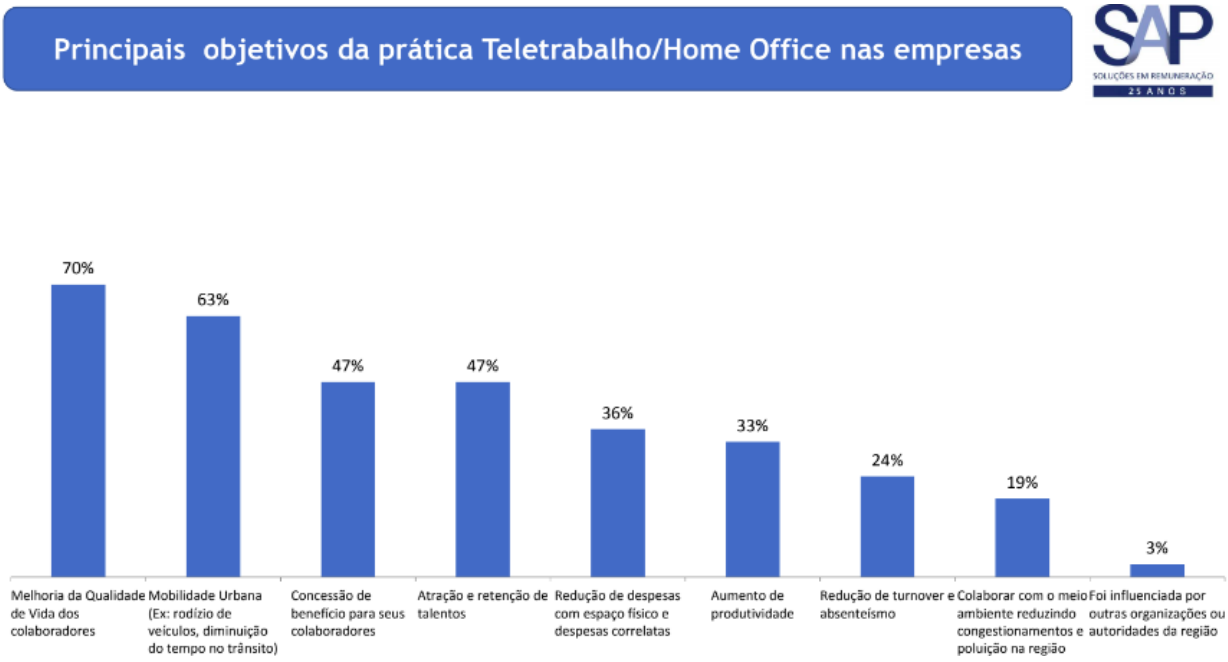

Figure 21 - Main objectives of the practice of telework/home office in companies (SAP, 2018)

Microsoft has requested IBOPE Conecta to perform a study called 'The Technology in the Modern Working Environment'(MICROSOFT, 2018). In order to understand how Brazilians

notice the transformation of the working environment with the use of new technologies, IBOPE interviewed 1,500 professionals of different hierarchic levels, markets and professions. It was reported that 47% of the interviewees work from home at least once a week (Figure 22). Additionally, of the 47% of professionals who participate in remote meetings, 85% already feel comfortable doing so, showing that they are adapted to remote team working.

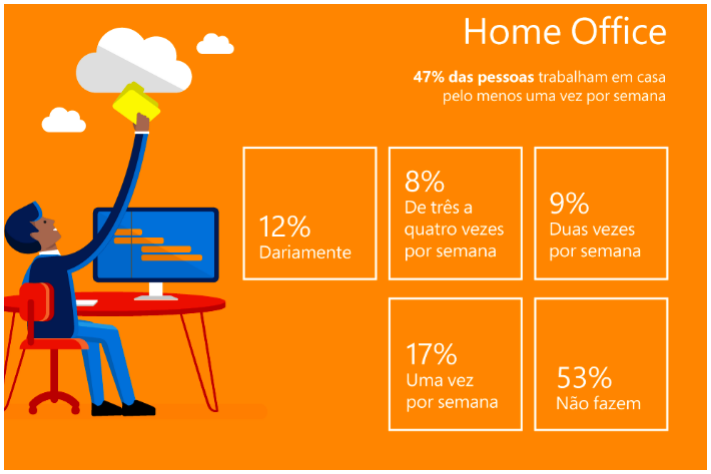

Figure 22 - Home office frequency in Brazil (MICROSOFT, 2018)

Steelcase's survey 'Engagement and the Global Workplace' from 2016, which originally encompassed 17 countries and subsequently was complemented with data from Brazil, Australia and Japan, has revealed interesting findings. It has revealed that remote work in Brazil is less common than in general, since the country presented a 61% rate of workers who never work away from the office, against the global average of 55%. Additionally, the majority of Brazilians reported to use fixed technology, such as desktop computer (88%), against 80% global average (STEELCASE, 2016).

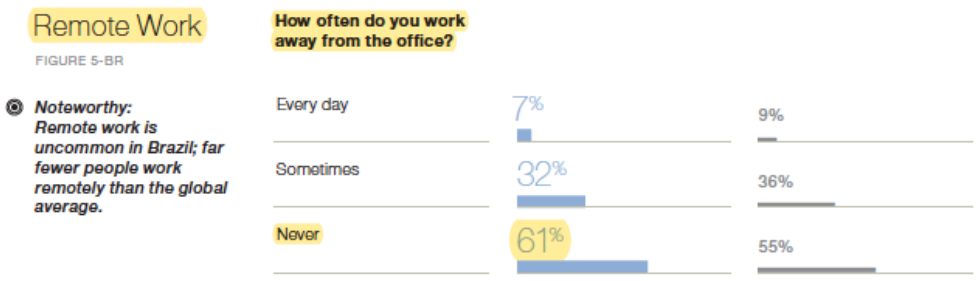

Figure 23 - Remote work in Brazil (STEELCASE, 2016)

Similarly to time flexibility indexes, the place flexibility ones also present a high fluctuation between studies. IBOPE's index on the desire of Brazilians for such flexibility, on the other hand, reveals to be even higher than the one regarding the desire for time flexibility. This is

probably due to the extremely high commuting times in the country, which are pointed out as important drivers for place flexibility by Eurofound and SAP's study.

Having analysed the European and Brazilian panoramas according to time flexibility and place flexibility separately, the following step consists in combining these perspectives in order to build a more representative picture of Smart Working development and spread.

4.2.5 Full flexibility in Europe

The final classification of countries regarding both time and place flexibility has grouped them in 4 levels: Leading countries, High flexibility, Medium flexibility and Low flexibility, as presented in the table and figure below. The focus of this study is on the first two groups, which denote the trends of Smart Working policies and practices in the private sector.

Table 6 - Classification of countries for Full flexibility

	Time Flexibility	Place Flexibility	Full Flexibility
	High	**High**	Leading
Denmark	46% | 65%	37% | 41%	
Finland	56% | 61%	24% | 45%	
Netherlands	53% | 63%	30% | 39%	
Norway	40% | 64%	- | 43%	
Sweden	44% | 66%	33% | 44%	
	High	**Medium**	High
Austria	51% | 52%	20% | 31%	
Belgium	41% | 51%	24% | 24%	
Ireland	45% | 42%	22% | 30%	
	Medium	**High**	
Luxembourg	37% | 47%	26% | 37%	
	Medium	**Medium**	Medium
Estonia	36% | 42%	24% | 31%	
France	41% | 46%	25% | 36%	
Slovenia	40% | 40%	21% | 33%	
Switzerland	38% | 46%	- | 32%	
UK	42% | 48%	26% | 35%	
	Medium	**Low**	Low
Czech Republic	43% | 38%	10% | 36%	
Germany	38% | 46%	12% | 26%	
Greece	39% | 45%	9% | 33%	
Italy	40% | 46%	7% | 21%	
	Low	**Medium**	
Croatia	33% | 28%	20% | 34%	
Malta	25% | 28%	22% | 32%	
	Low	**Low**	
Bulgaria	22% | 20%	13% | 23%	
Cyprus	31% | 25%	17% | 27%	
Hungary	35% | 32%	11% | 29%	
Latvia	36% | 35%	13% | 27%	
Lithuania	30% | 24%	13% | 29%	
Poland	28% | 42%	10% | 25%	
Portugal	39% | 34%	11% | 24%	
Romania	37% | 31%	12% | 31%	
Slovakia	29% | 27%	10% | 24%	
Spain	31% | 34%	13% | 28%	

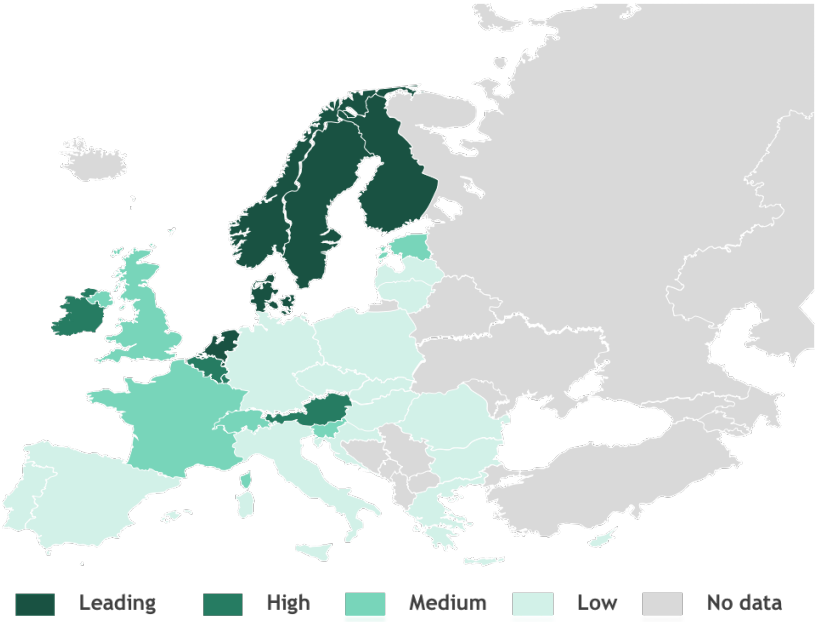

Figure 24 - Full flexibility level map

The leaders on full flexibility correspond to the countries that present high indexes both for time and place flexibility: the Scandinavian countries and the Netherlands. Indeed, the publication *'Working anytime, anywhere: The effects on the world of work'* (EUROFOUND, 2017a), affirms that **'**T/ICTM is often reported to be associated with increased employee-oriented working time flexibility' in countries such as Finland, the Netherlands and Sweden, classified as leading countries in this work.

Italy, however, stands far away from the leading countries, especially regarding place flexibility. Aligned with these low statistics, the Global Workspace Survey has found that 73% of business leaders in Italy still report that changing a long-standing non-flexible working culture is an obstacle to introducing flexible working, 13 percentage points above the global average (IWG, 2019).

4.2.6 Full flexibility in Brazil

According to the Global Workspace Survey published by the International Workplace Group (IWG) in March 2019, which has encompassed over 15,000 professionals from a range of different industries in 80 countries, Brazilian leaders, similarly to Italian ones, find the cultural transformation to be a strong barrier to flexible working, presenting an index of 69% against the average of 60% (Figure 25) (IWG, 2019).

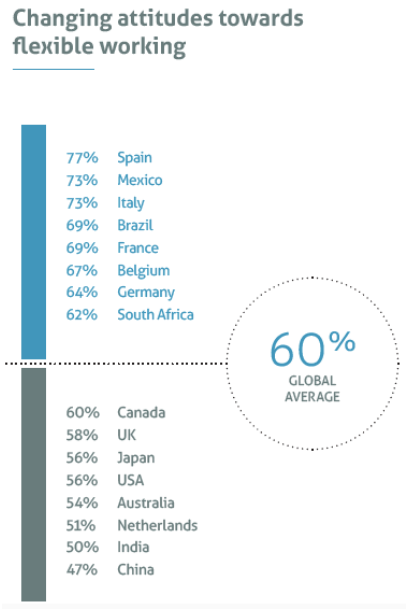

Figure 25 – *'Shifting the culture in a company with a long-standing, non-flexible working policy is a major obstacle'* answers (IWG, 2019)

However, 72% of them consider flexible working to be the new normal, still aligned with the Italians. Brazil is reported to have flexible workspace policies in 67% of the businesses, 8 percentage points above Italy and 5 above the global average (Figure 26).

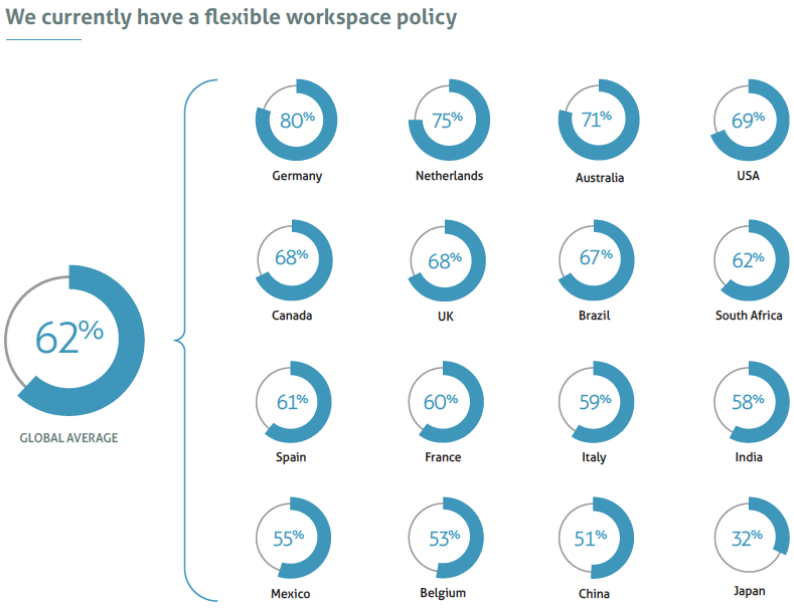

Figure 26 - Businesses currently with a flexible workspace policy (IWG, 2019)

The survey revealed that 72% of the businesses use such policies to attract and retain top talent and in 76% of the cases to reduce commuting, against the averages of 77% and 75%, respectively. Once again, commuting times are cited as a strong reason for providing workers with place flexibility. Moreover, Brazil presents the highest index (88%) of businesses that

believe their productivity has risen by 20% or more, against the average of 85%, while Italy is presented at the bottom with 47%. Finally, a point of attention in the Brazilian scenario is that 54% of the workers claim to carry on working whilst commuting from and to work .

The 'Randstad Workmonitor report', which currently encompasses 33 countries all over the world, is a quarterly report that identifies global as well as local workplace trends by surveying thousands of employees from all over the world, with a minimum of 400 respondents per country. The data for the first quarter of 2018 has revealed that the traditional way of working in an office, during the office hours, is still the most popular among global employees. As displayed in Figure 27, 68% of the respondents felt this way, while Brazil presented an even higher percentage: 75%. On the other hand, an average of 44% state that the way of working is shifting from traditional to agile (from multiple locations and outside standard opening hours), similar to the Brazilian index of 45% (RANDSTAD, 2018).

Figure 27 – People working in a traditional manner (RANDSTAD, 2018)

Regarding people's appreciations and preferences, Brazilians are generally more into flexible practices than the average, according to the study. While on average 65% of the respondents prefer to work from home or another location from time to time, in Brazil they represent 76%. Workers who would love to work from home or another location, but in their job there is no such possibility correspond to 64% on average and 70% in Brazil. Whereas the average indexes of people who like agile working because it allows them to maintain a good work-life balance is 82% and because it enhances their productivity, creativity and job satisfaction is 81%, in Brazil the numbers are even higher: 90% and 86%, respectively. Additionally, less Brazilians believe that agile working causes a lot of pressure on their private life as they never seem to be

'disconnected' from work, corresponding to 38% against 44% on average (RANDSTAD, 2018). Therefore, the survey suggests that even though Smart Working is still not well diffused in Brazil, the population urges for it for several reasons. Besides, according to Steelcase's global study, Brazil presents a high correlation between satisfaction and engagement, as shown in Figure 28, represented by 'BR' (STEELCASE, 2016).

Figure 28 - Satisfaction and engagement correlation (STEELCASE, 2016)

This means that Brazilian employees that are satisfied tend to give a good return to their employer by presenting an enhanced engagement, making it even more important for companies to meet the population's desire for flexibility.

4.2.7 Regulation in Europe

The present driver is qualitative, so the classification of countries has been according to the existence or not of regulation and, when existent, to the topics concerned. The allocation of European countries among the categories is presented in the following table and figure.

Table 7 - Classification of countries according to presence and type of regulation

Regulation	
Both time and place flexibility	Italy, Netherlands, UK
Place flexibility	France, Romania
Time flexibility	Belgium, Czech Republic, Finland, Germany, Lithuania, Luxembourg, Norway
No regulation / no data	Austria, Bulgaria, Croatia, Cyprus, Denmark, Estonia, Greece, Hungary, Ireland, Latvia, Malta, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland

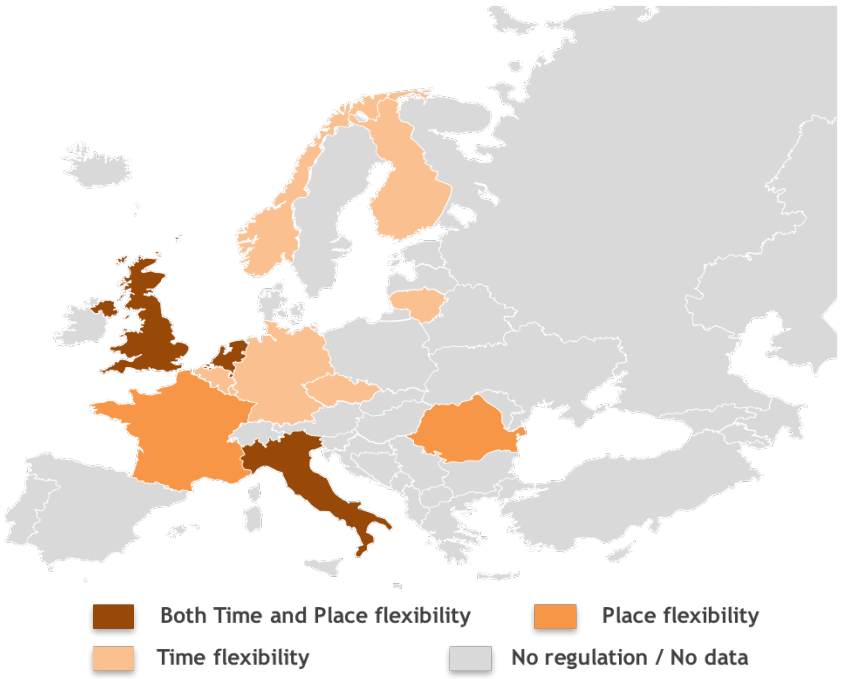

Figure 29 - Regulation presence map

Finally, the statement that the existence of a proper regulation on smart working practices is not directly related to the development and spread of those practices in a country can be visualised and proven right. Among the leading countries on time and place flexibility, only the Netherlands presents a formal regulation on flexible working, which can yet be deviated from in several situations. In contrast, Italy, which has to traverse a long path to reach their threshold of flexibility, has a specific law on Smart Working, although more on setting directives as to how flexible practices should be arranged. In this case, the law demonstrates the interest to encourage the development and spread of flexible practices that are still in an early stage.

According to the Smart Working Observatory, the law approved in 2017 has presented important effects on the launch of structured flexibility projects, removing alibis and uncertainties from organisations that deemed the regulatory framework immature for the launch of initiatives. Although the law has clearly become a stronger flexibility promoter in the public

sector, reported to have been an incentive for 60% of the projects, in the private sector it has boosted Smart Working as well, standing at 17% both for small and medium businesses and for large enterprises (OBSERVATORY, 2018). On the other hand, the procedures introduced by the new legislation retrieve the concern that legislation might make flexible working limited and bureaucratic.

4.2.8 Regulation in Brazil

Since the Brazilian law does not refer to flexible working practices either of time or of place, the country is classified in the 'No regulation / No data' category.

As stated by Barbosa and Laza, the Labour Reform of 2017 has brought more flexibility for employers to the detriment of employees (BARBOSA; LAZA, 2018). Even the flexibilisation of 'hour bank' negotiations, which at a first moment seems to be interesting for workers, can be easily used in favour of the employer, adapting to the workload and not to the employee's choice. Concerning telework, the law still holds an old definition for the practice and determines the extinction of working hours control outside of the employer's premises, which retrieves Bueno's reference to telework as a means of contemporary enslavement of workers (BUENO, 2018).

All these considerations converge in the sense that they highlight the Brazilian employers' frequent intention to exploit the worker and creativity in finding ways to do so. Thus, reforms and types of working arrangements that at a first sight seem to be a means of offering employees more autonomy and work-life balance, unfortunately end up turning into a new way of exploring and taking advantage for the company. Therefore, the Brazilian legislation not only does not make clear reference to or guarantee the concession of flexibility of time or place for workers, but unfortunately it also represents an instrument of employee exploitation by companies and employers.

4.2.9 Technology in Europe

The Digital Economy and Society Index (DESI) has been chosen as the parameter that represents the technological dimension, providing the study with information on how well-prepared and equipped each country is to support smart working policies and practices. Complementary data for Switzerland has been extracted from the International Digital Economy and Society Index (I-DESI).

According to the European Commission, in 2017 (represented by DESI 2018) all member states presented improvements in the index. Since Switzerland's index was above Luxembourg's and other countries classified in the first category (High), it has been included in that category. The classification as explained in the session Methods is displayed in the following table and figure.

Table 8 - Classification of countries according to technology level

	DESI	Technology level
Denmark	71.80%	High (60.38% - 71.80%)
Sweden	70.50%	
Finland	70.11%	
Netherlands	69.97%	
Norway	69.60%	
Luxembourg	62.74%	
Ireland	61.26%	
UK	61.19%	
Belgium	60.78%	
Switzerland	--	
Estonia	59.65%	Medium (48.95% - 60.37%)
Spain	58.07%	
Austria	57.94%	
Malta	57.66%	
Lithuania	56.52%	
Germany	55.62%	
Slovenia	53.01%	
Portugal	52.59%	
Czech republic	52.38%	
France	51.57%	
Latvia	50.91%	
Slovakia	49.54%	
Cyprus	49.42%	
Croatia	46.75%	Low (37.51% - 48.94%)
Hungary	46.53%	
Poland	45.05%	
Italy	44.24%	
Bulgaria	41.00%	
Greece	38.41%	
Romania	37.51%	

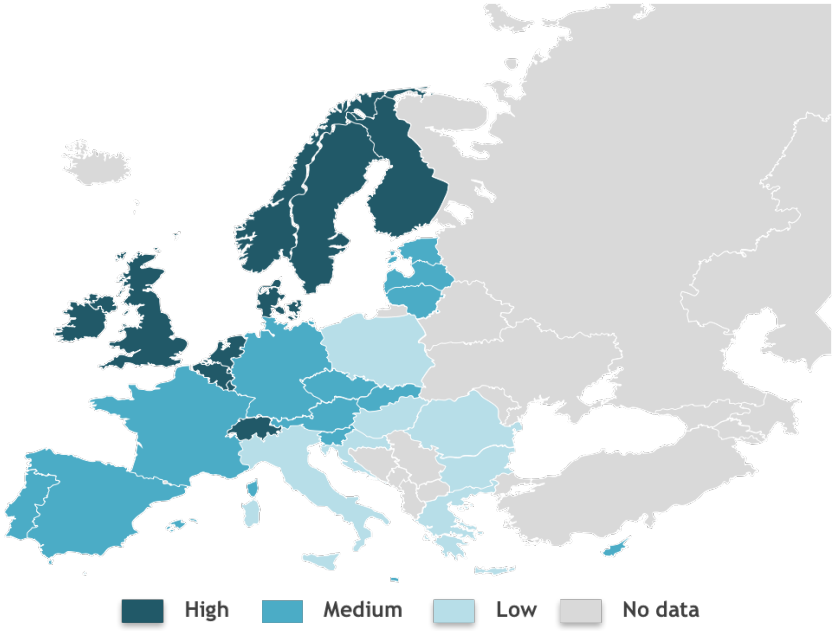

Figure 30 - Technology level map

Not by coincidence, the countries classified as leading ones in terms of full flexibility correspond exactly to the most advanced digital economies according to the DESI ranking. Denmark (71.80%), Sweden (70.50%), Finland (70.11%), the Netherlands (69.97%) and Norway (69.60%), thus, are well supported by digital technologies and have been exploring this condition to foster flexible organisational practices. The members considered to be highly flexible in terms of full flexibility come right behind, even though a clear threshold drop is observed when compared to the four leaders. Italy, on the other hand, presents the fourth lowest index (44.24%), almost ten percentage points below the average, so it has been placed in the last category. The low index is aligned with its classification as a low flexibility country in terms of both time and place.

4.2.10 Technology in Brazil

Brazil's normalised main I-DESI index in 2016 is the lowest between all EU countries and the sixteen other countries included in the study. When looking at each of the five dimensions that constitute the individually, however, the scenario changes and varies significantly. Whereas the main index corresponds to 39.7%, Brazil presents the following indexes for its dimensions:

- **Connectivity** dimension: 39.5%, above Russia (38.9%)
- **Human Capital** dimension: 39.2%, below all
- **Citizen Internet Use** dimension: 33.8%, above Chile (32.9%) and Mexico (30.0%)

- **Business Technology Integration** dimension: 27.8%, above Turkey (27.7%)
- **Digital Public Services** dimension: 62.4%, close to EU average (63.1%)

Regarding the first dimension, a common characteristic of most of the bottom five non-EU countries (Brazil, China, Russia) is their large size and relatively low population densities, making fixed and mobile infrastructure deployment more difficult and costly (TECH4I2, 2018). The fourth dimension (Business Technology Integration), which corresponds to the lowest of Brazil's indexes, encompasses business digitalisation (availability of the latest technology, technology absorption and business use of social media) and eCommerce (business-to-business Internet use and number of secure Internet servers). On the other hand, the fifth dimension (Digital Public Services) presents a much higher index than the others.

Therefore, Brazil would fit in the category 'Low' of the classification used for Europe, figuring at the very bottom of the list. This means that the country needs investments in technology in general in order to be prepared for supporting more flexible practices, especially regarding business technology integration.

To sum up, interesting disclosures have come up during the process of fulfiment of the proposed framework of analysis with information from secondary research. Place flexibility shows to be less diffused and mostly accompanied by time flexibility, with exceptions for example in countries where reducing commuting is a priority. The countries with elevated indexes of time and place flexibility - and, consequently, full flexibility – correspond to the top nationalities in the technology ranking, highlighting the importance and dependency on digital technologies as a booster and enabler to flexible practices. Moreover, the presence, kind and role of regulation on flexible working has presented a strong variation according to the context. The interpretation of the law and acknowledgement of how it is put into practice represents a valuable instrument to understanding a country's scenario more in details, even identifying particularities.

Since regulation consists in a qualitative driver which presents various nuances, the interviews depict a strong contribution to its study. The primary research is also crucial to assess how each driver manifests itself in practice in different countries and if such expression is aligned with the data obtained through secondary research and the classifications into categories stemming from them. Aside from enabling the validation of the framework of analysis constructed, the interviews will allow the study of Smart Working phases of implementation and physical layout, both topics that are not encompassed by the referential. Regarding the Brazilian

scenario, the primary research is even more relevant and enriching, since the secondary research has presented important gaps both on the national context specifically and on data comparable to other realities.

4.3 Primary research

During the first moment of work, when looking for case studies and experts, there have been numerous attempts of contact, most of which had no answer or a negative one. Despite the difficulties, is has been possible to enrich the study and complement the framework of analysis by interviewing two experts and three coordinators of Smart Working programmes in large European companies.

At the second moment, when studying the Brazilian context, companies were showed to be more open to sharing their experiences and our network of contacts made it easier as well. The profile of companies, however, switched to more recent and technological ones, which were already born flexible and less bureaucratic.

4.3.1 Expert interview: Austria - TU Wien

In order to learn more about Austria, an interview with the expert Martina Hartner-Tiefenthaler from Technical University of Vienna (TU Wien) has been conducted. According to the university's website, 'TU Wien is among the most successful technical universities in Europe and is Austria's largest scientific-technical research and educational institution' (TU WIEN, 2019). Martina is a senior scientist at the Institute of Management Science, Ergonomics and Organisation and deals with both the psychological and the organisational factors influencing flexible working in her research. According to the scientist's and TU Wien's perspective, the core concept related to smart working in her studies and country in general is autonomy, meaning it consists in an opportunity for workers.

The most common flexible practice in Austria, as reported, is part-time work, especially for women who take care of young children and compressed workweek for certain professions. In general, flexible time practices are much more widespread than flexible place ones, which matches the indexes provided by Eurofound. More specifically, a study from 2015 conducted by Martina and other researchers for TU Wien (FEUCHTL et al., 2015) has found that almost half of the workers had flexibility to choose their time of work and around 25% of them to choose their place of work.

Referring to regulation, there are no laws regarding smart working, except for one specifically about the parents of young children's right to part-time work. It is very important and positive that more and more people get the opportunity to work with more autonomy, although the scientist reports the concern that flexible organisational practices might become over regulated.

The main benefits of smart working policies and practices are related to the possibility to adjust working time to personal needs and preferences, implying more satisfaction. The biggest point of attention, on the other hand, is the relationship between workers, which may have more difficulties connecting with each other. All in all, communication is believed to be the key to make smart working policies actually function well both for the company and employees.

4.3.2 Expert interview: Switzerland - Work Smart Initiative

Switzerland's Work Smart Initiative has drawn the attention due to its approach to smart working, which is similar to the Smart Working Observatory's one, thus the initiative's CEO Alexandra Kühn has been contacted and interviewed.

Work Smart Initiative was founded by Swiss companies that united forces to encourage smart working practices. Smart Working was described as a bottom-up movement, stating that in Switzerland the economics and politics are quite liberal and the private sector takes initiative naturally. In this context, there is no point in regulating flexible practices, unlike Italy, where many companies hesitated to launch such policies while there was no legislation about it.

Interesting information regarding Swiss workers' impressions on smart working has been brought. A study from 2016 (WEICHBRODT et al., 2016) found that around 1 out of 4 people consider the possibility to work smart as very important when seeking for a job and 5% consider it a must criterion. However, the importance of flexibility depends on age. People between 15 and 24 years old appear as much less demanding on this topic than older ones, probably because they of their wish to be near a mentor, to socialize, learn by watching, affirms Alexandra. When comparing 2014 to 2016 statistics, a slight growth of people who work regularly in a mobile way was noticed, reaching 24% (against the previous 23% statistic) and a bigger increase of 3 percentage points was observed for people who do so rather seldomly, reaching 14%. Moreover, Deloitte's report (ZOBRIST; GRAMPP, 2016) has found that 28% of Swiss citizens of working age work from home at least half a day per week and one third of the ones who do not would like to do so.

Deepening the discussion on telework, Work Smart Initiative considers this practice as the use of information technology and telecommunications to replace work-related travel, allowing work to be performed at home or co-working spaces, for instance. The latter are a big tendency in Switzerland, being increasingly promoted and fostered by associations in the last couple of years. Even some large companies have a room or a whole floor destined for co-working, such as Swisscom and Microsoft.

Regarding the main benefits of smart working in Switzerland, enhancing motivation, productivity, well-being, lowering CO_2 emissions and economic and ecologic impact were the ones mentioned. Also, the disadvantages are seen more as challenges and the main ones reported consist in collaboration within and between teams, management of working and personal activities and change of mindset. In order to work smart the company needs a strategy and leadership change.

Particularly concerning events promoted by Work Smart Initiative, the Work Smart Week appears as a highlight. It was launched by Microsoft and Swisscom in 2010 as the Home Office Day and later expanded both in terms of time length and of conceptual broadness. The event is intended to offer various insights and assistance on the topic ‘flexible working’, allowing decision-makers to exchange ideas and experiences.

4.3.3 Case study interview: Finland - Elisa

Elisa is a Finnish telecom and digital services company that has around 5,000 employees. It was ranked among the best organisations to work in Finland by the Great Place to Work 2018 national survey, which places the most emphasis on how employees evaluate their place to work, appearing in third place in the list of large organisations. Elisa’s website briefly explains that they have a working model entitled Ideal Work, in which employees are mainly able to select the working methods and places that are ideal for them and their work. On average, Elisa employees work 77 days a year remotely. Merja Ranta-aho, Executive Vice President of Elisa’s Human Resources Department, has been contacted in order to learn more details about the company’s initiative.

The program called ‘Ideal Work’ allows employees to have a lot of autonomy regarding when, where and how they perform their activities, basing their assessment on their deliveries. The idea is to promote ‘smart and efficient work, in a way that suits us’. The initiative was launched back in 2006, thus it consists in a pioneer program that has been developed, improved and

deepened over the years, although still in constant change due to the dynamicity of working policies and practices and to discovery of new and better ways to work. Currently, around 3,000 out of the 5,000 employees work smart.

Elisa Ideal Work (EIW) development's main tasks are to improve personnel satisfaction and well-being, to support development of the company's productivity, functionality of processes and work productivity of employees and to protect Elisa's business and assure responsibilities of contracts. All this should be achieved by developing both digital and physical workplace to support work culture and way of working.

EIW is based on a list the following general principles: work practices and positional solutions in workplaces are process-led; Information is warehoused digitally; the digital environment's work-tools are maintained and mastered; working is possible flexibly, irrespective of place, work assignment or situation; work stations are shared, not personally owned; the work station is unoccupied and free for others' use when leaving work or working somewhere else for longer periods of time; group work areas are used (efficiently) for working with others.

Regarding the physical layout, there are several types of space modules such as workstation area, meeting room, project work room, group work room, phone booth, quiet room, meeting area, open meeting area, idea lab and spots for relaxation and interaction. Ideal Work sees the workplace as a business tool to put a strategic operations model into practice, which differentiates it from a 'traditional' multispace environment approach.

All the changes the company has gone through had to be accompanied by changes in management as well. Around 500 leaders have been trained so that they would remove obstacles for workers to achieve results, not control them. Also, the training happens five times per year, since there are always new managers and experts who need to lead people someway. Elisa counts with an external partner to conduct these activities, which has been applying the same training for four years now. The kind of management and leadership encouraged by the company involves team workshops, fast feedback, hearing and discussion, etc.

Every quarter the company makes a survey to measure the workers' satisfaction with tools, spaces and working habits. The indexes have reached a threshold of over 4 points out of 5 and present a growing tendency. Additionally, Elisa keeps track on how many days a year employees work away from the office, which is on average 77 days.

The company has gained several benefits from smart working practices and policies, such as better work-life balance, attraction of people who live in farther places, more efficient meetings through video conference (average duration reduced from one hour to 41 minutes) and better use of spaces, which has resulted in the decrease of facilities costs by half. The most important benefit reported, however, is the atmosphere of trust. Furthermore, the environmental gains are expressive. Due to remote working and virtual conferences, in 2018 Elisa's CO_2 emissions were 43% lower than Finland's average and 48% lower than the company's emissions in 2003, besides having spent 93% less in office supplies than the country's average.

In conclusion, Elisa's 'Ideal Work' is an example of pioneerism and evolution over the years, having achieved a high maturity level. The programme presents clear principles, current points of development and indicators' monitoring, which reports substantial benefits for the company, the society and employees, as well as a high index of work remotely performed. Moreover, the environments' placement is set in order to create synergies and make activity-based working more efficient, retrieving the concept of 'space-as-a-service' presented by Oksanen and Minister (OKSANEN; MINISTER, 2013) and Brunia's findings which state that each type of environment should be placed in a proper location in relation to the others (BRUNIA et al., 2016).

4.3.4 Case study interview: Switzerland - Swiss Re

Swiss Re is a large insurance and reinsurance company that has around 12,000 employees around the world and is one of the Work Smart Initiative charter signatories. We have contacted and interviewed Conny Scharfe - expert on Business Transformation, Change & Culture -, who is responsible for the company's smart working initiative, named 'Own The Way You Work'.

In 2012 there was the creation of a project to implement flexible working models such as flexible hours in all Swiss Re locations worldwide. Later on, the initiative 'Own The Way You Work' was introduced in order to combine the already existing component of flexibility, i.e. people, with two other ones: workplace and technology.

It consists in a 'comprehensive programme to promote agile working. In alignment with the needs of clients and colleagues, our people appreciate being largely free to organise their day, whether it's choosing where to work or how to manage their time' (Swiss Re, 2017). The company intends to shape an ambitious and creative culture, where everyone performs at their best, individually and collectively.

Swiss Re has been investing so much in the programme that in 2017 a brand new fully agile building was opened in Zurich, one of the most modern office buildings in Switzerland, to be its headquarters. Swiss Re Next, as it is called, no longer has assigned work stations and significantly improves the use of available office space. Energy consumption per workplace has been cut by 80% compared to the previous building. Lake water is used to heat and cool the building with heat pumps. Its very central location, furthermore, generates synergies.

Moreover, the company has launched two apps to promote a better use of the building, one for employees and one for visitors. 'Me at Swiss Re' app provides workers with information such as where their team members are located at that moment and which is the nearest collaboration space where they can meet, allowing them to book it. The app has been implemented in offices in India and Japan as well. Because of data or personal security, the person can decide if they want to switch the app on so people can see where they are. 'Welcome at Swiss Re' app is for visitors to, once registered, find information online on where to go and how to get there.

Swiss Re's initiative already encompasses every worker, as long as their role is not damaged. The company has not set specific rules or guidelines for the flexible practices, leaving the decision to the teams and line managers and encouraging self responsibility. Moreover, change management and leadership programmes have been conducted, counting with external consultants who would play scenarios on agile working and talk about how to behave and also a team responsible for the change management when adjusting to the new building.

The reported difficulties are especially related to change management and to the cultural differences among offices around the world. For instance, in Slovakia and India the workforce is very young, since they are service centres, making it easier to work smart. In the UK and Switzerland, however, it is more difficult because workers are older. In Asian offices, the barriers are even bigger due to the local culture. In Hong Kong, a person who works away from the office is traditionally considered a bad worker, although more and more young workers look for flexibility at work. Given the different contexts, the company has opted for a global approach to smart working, but local implementation.

To monitor the effects of Own The Way You Work, Swiss Re conducts a yearly employment engagement survey. There are reported benefits on satisfaction, motivation, work-life balance, sickness rates, perceived productivity and attraction of new employees, especially in Asia.

To sum up, Swiss Re's 'Own The Way You Work' represents a structured initiative that encompasses all four project levers of Smart Working. In particular, physical layout and digital technologies can be highlighted as a differential due to the construction of a whole new building and office layout to provide the best work environment and to the development of apps as instruments to extract its benefits to the fullest. Not satisfied with just adapting spaces and tools to the flexibility aimed, the company has decided to build new ones to better fulfil their needs. Also, Swiss Re's case reinforces the cultural and contextual differences and the importance of adapting policies and initiatives to them.

4.3.5 Case study interview: Italy - Maire Tecnimont Group

The interview of Maire Tecnimont has happened in a different context to the other interviews presented in this work. The company has participated in the 'Smart Working Award' organised by the Smart Working Observatory, which recognises organisations that have implemented structured Smart Working initiatives in Italy. Maire Tecnimont has won the 2018 award, so it can be considered a great example of project implementation. The company's contact for the interview was Sara Frassine, who is responsible for the Training and Change Management activities in the company's initiative.

Maire Tecnimont is an 'echnology-driven multinational Group working for the transformation of natural resources into innovative products at the crossroad between the energy and the manufacturing industries'(MAIRE TECNIMONT, 2019), which has around 1,800 employees in Milan, where the initiative takes place. The company's project, denominated 'Be Adaptive!', was launched in December 2016, aligned with one of the eight principles that represent the new strategic approach since 2015: 'Agility is the key'. According to it, Smart Working is the key to more efficiency and effectiveness, encompassing flexibility, accountability, collaboration, advanced technological tools and new work environment, which promotes motivation and expression of employees' skills. The ultimate goal consists in enhancing corporate value and the strategic priorities are: increase employees' individual productivity and company's profitability; enhance employee engagement as a lever for retention and orientation towards company results; establish a new culture based employees' accountability for results particularly focused on their personal and professional growth, in detriment of a culture of control; stimulate individual performance by guaranteeing greater flexibility and autonomy in the choice of working hours and places; generate a positive impact on company sustainability and the involvement of its employees.

Maire Tecnimont's approach focuses in particular on the engagement of all stakeholders involved, in order to support change and ensure that the transformation in progress will be internalised in a new corporate culture. When the interview took place, in the first semester of 2018, the programme was still in its experimentation phase, which should last 18 months in total and was divided into three implementation phases:

1. Pilot 1 (September 2017): beginning of the program, including about 200 people;

2. Pilot 2 (February 2018): consolidation of the program, encompassing 300 more employees;

3. Deployment (mid-2018): broadening of the program, reaching the remaining employees (approximately 1,300 people).

The adherence to the program is completely voluntary and the applications among the eligible population of employees have accounted for 89% in Pilot 1 and 82% in Pilot 2.

Specifically regarding Change Management, the Group considers the investment in training and in the development of the manager-employee relationship as crucial elements to overcoming the challenge of transforming the way of work. Maire Tecnimont has hired an external qualified consultancy to support the construction of a structured and detailed Change Management plan, which would help renew the corporate culture. The plan has encompassed training and development of leaders, training of employees, IT training with the contribution of an external provider, communication and motivation, monitoring and listening.

Concerning organisational policies, the program is meant for all the company's employees in Milan, who are allowed to work in outside the office, for example at their homes or affiliated co-working spaces, being required to be at the office only once a week. Also, they are conceded the right to be disconnected during lunch and from 9pm until 8am. Regarding digital technologies, the company is investing in cloud-based solutions to guarantee the offering of proper tools and their integration. Besides, the physical layout of the company's premises has been changed in order to offer more flexibility and different environments. Among the common areas transformed are the BE ADAPTIVE! Canteen, which has become a meeting spot for employees, and 'MEETing', the company's new hub situated in the building's hall, an open facility to promote exchange, business and culture. For the future phases, the company plans to reconfigure the working stations in order to offer different environment suitable for carrying out various types of tasks.

Despite being in Pilot 2 phase when the interview was conducted, benefits had already been reported, mostly regarding the first stage. The perceived productivity increased for 24% those involved in Pilot 1 and presented perspective of increase for 34% of them. Additionally, in order to measure the inclination to recommend the programme to others and, consequently, participant employees' engagement in the initiative, the indicator Smart Working Net Promoter Score was created. Pilot 1 recorded a 78 score, indicating a high level of appreciation and commitment by employees towards the initiative. Moreover, qualitative benefits have emerged from the follow ups with Smart Workers, such as increased concentration and comfort, incremented accountability, proactivity and autonomy, enhanced effectiveness and efficiency due to time savings (from reduced commuting) and better focus and more flexibility in managing the working day, balancing private and work life.

The criticalities, on the other hand, can be divided into planning and practical issues. In the planning activities, the main difficulties reported were in setting objectives for the medium and long term and in identifying proper planning instruments. When implementing the initiative, however, the issues were the 'overwork' by Smart Workers due to difficulties in setting times to be disconnected and the distrust on the new way of work on the part of workers not yet encompassed by the initiative.

In conclusion, Maire Tecnimont's 'Be Adaptive!' consists in a structured initiative that still presents a good potential of development. Regarding the project lever 'Physical layout', for instance, the company has not reconfigured the working stations yet and concerning 'Behaviours and leadership styles', the cultural transformation process is still in its initial stage. The company shows to be aware of the necessity of a strong training programme related both to change management and to technology, putting leaders and employees in contact with the new mindset and tools.

4.3.6 Case study interview: Brazil - 99

Founded in 2012, 99 is a Brazilian technology company that connects passengers and drivers through its application and it is part of the global company Didi Chuxing. The application connects more than 600 thousand drivers to 18 million passengers in more than one thousand cities in Brazil. As one of the largest mobility providers in the country, the startup offers three types of services on its platform: 99Pop, private car category present in more than 40

metropolitan regions and major cities; 99Taxi, a category that covers all of Brazil; and 99Top, a premium taxi service offered in São Paulo.

Marcel Hwa works as General Manager at 99 since 2017 and has agreed to share the company's flexible policies and practices. According to him, the company believes in working with passion and fun, and so it is committed to offering employees a good environment and flexibility. 99, which has almost one thousand employees now, was born with such mentality and this reflects on the office physically and on the way of working in general, however there are no formal rules on flexibility yet.

In general, employees align the best way to work for them with their leaders, both in terms of time and place, and their assessment is based on deliveries and results. Most workers are allowed to bring their laptops and work from home or other places that they judge to be adequate. To contribute to that, 99 offers a VPN to enable the access to files when connected to other internet networks. Moreover, inside the office every worker has their own workstation but can also choose to work from a balcony, hammock, sofas or different sized rooms. The office also offers leisure options from beer to ping pong tables and well-being options like rooms for meditation, massage and breast-feeding. The operations team, however, is allowed less flexibility due to its activities.

Currently discussions on formalising 99's flexible policies are taking place, encompassing topics such as technology infrastructure, for example how to avoid data leak while encouraging workers to work away from the office when they believe it is best, and how to be fair to all employees, since not all of the position's activities are possible to be performed in different times and places.

The risks reported are connected to this latter, since it is difficult to be fair and uniform to employees when there is no clear rule, and another risk is related to data confidentiality. On the other hand, flexible policies in 99 boost people's engagement, generating a greater commitment and productivity, and attract talents since the new generations want to have more autonomy and flexibility.

In conclusion, 99 is a young company that has quickly reached a large size and, since it belongs to the technology segment and was born as a startup, it has always been less bureaucratic and more flexible than most large companies. The flexibility has always been in the company, as it consists in a component of the culture sustained by 99 and modern technology businesses in

general. Additionally, 99 offers a wide range of rooms and environments both for working, relaxing and performing private activities.

4.3.7 Case study interview: Brazil - Guiabolso

Founded in 2012, Guiabolso was born with the purpose of leading the transformation of the financial system to improve the lives of Brazilians. The startup holds the first automatic financial control app in Brazil, which the most downloaded currently, with more than 4.5 million users. The interviewee Débora Felix's background is on Psychology and she works in the so-called 'Employee Happiness' department of the company, which takes care of the organisational health, climate, culture, engagement and employee experience.

In a collaborative environment, the company cherishes excellence in deliveries in order to get ahead in everything they do. Employees are encouraged to make decisions with determination and a sense of ownership, so that they can learn quickly from our successes and mistakes. Guiabolso values the diversity and well-being of all, since people are their focus, and intends for everybody in the company to act transparently, building trust.

In Guiabolso, the type of time flexibility offered varies according to the position. In the operations team, due to its activities, employees are allowed to vary the time of work as long as they guarantee within the team that the number of attendants designated is always followed. The other employees, on the other hand, have more flexibility to vary their schedule under the conditions of not hampering their activities and working a total of 8 hours per day plus 1 hour for lunch. However, the time worked is not controlled and it becomes more difficult to sense how long somebody has worked due to this flexibility.

Regarding place flexibility, each employee has the autonomy to decide to work somewhere else and with which frequency to do so, as long as they remain aligned with their leaders. Some people work from home on a fixed day of the week, while others choose to work away from the office depending on the activities of the day, for example. The employee is also free to choose any place they prefer to work at. One option, since Guiabolso's office is in a coworking called WeWork, is to work at a space in another WeWork building in São Paulo.

Workers are equipped with a notebook and allowed to take them home whenever they want to. If they work from home, it is considered a choice and the company does not pay for their internet, for example. Additionally, in order to avoid confidential data exposure, there is a

training module for using the notebook outside the office's premises and some types of data can only be accessed when connected to the office's network.

When working inside the office, despite having their own position, employees can choose to work in any spot: balcony, puffs, sofas, individual rooms for calls, etc. Guiabolso offers a large space which is meant to be a cool and comfortable environment with no formalities or bureaucracy. This way, the company manages to attract and retain young people who desire more and more flexibility and informality.

The risks cited are related with the lack of awareness and control of how much people actually work when they choose to work in different times and places, leaving room both for people to work more or less than they should and are expected to. Among the benefits, however, are the satisfaction, motivation and productivity of workers when they have the autonomy to choose when, where and how to work.

To sum up, Guiabolso is a startup that, similarly to 99, belongs to the technology sector and was born flexible. The company's office is located in a coworking space, there are several environments to work at and employees are used to a more autonomous and informal way of working, since it is part of the company's culture and values and even consists in a reason for choosing to work there.

4.3.8 Considerations on the case studies

By analysing and comparing the interviews conducted during the work, it has been possible to better understand the countries' contexts as well as to assess the drivers of analysis proposed, refining the referential of analysis built. Additionally, the case studies enabled the practical application of frameworks regarding the phases of implementation of Smart Working and the approach to the 'physical layout' topic, which consists in another type of flexibility. Since the study encompassed only a few interviews, it is important to highlight that conclusions on countries' specificities are subject to mistakes and bias.

Regarding the expert interviews, they have contributed to better understand Austria's and Switzerland's point of view related to the lack of regulation on flexible working practices, in both cases in agreement that it is better like that. Addditionally, it was possible to validate the choice of drivers made for the construction of the referential of analysis, confirming that they

are adequate to the assessment of Smart Working in different contexts. The interviewees also shared the most frequent practices, benefits and risks according to their experience.

Comparing the European case studies, there is a clear difference concerning the launch year of each initiative, confirming Finland's (2006) and the Nordics' pioneerism, followed by Switzerland (2012) and Italy (2016), classified in medium and low categories of full flexibility, respectively.

Based on the Smart Working Maturity Model (LAKE, 2015) , all three programs have overcome the initial phases (isolated initiatives and basic flexibility), involving a strategic approach, the provision of proper technology for mobility and stronger and broader enabling policies, which characterise the 'advancing flexibility' phase. In Elisa and Swiss Re, however, the initiatives' maturity has reached the 'Smart Working' phase, since flexibility is a standard, activity-based work is practice and the culture is embedded. Maire Tecnimont's initiative, due to its more recent launch and to the country's context and culture, still has to evolve in many aspects to get there. According to the FlexWork Phase Model 2.0 (WEICHBRODT, 2017), the Italian initiative would be in phase 3 – inconsistent & evolving -, while the other two would be situated somewhere between phases 4 and 5 - flexible & project-based; location-independent & networked. Maire Tecnimont reported to have plans for the further development of program, however the actual cultural change should be a point of attention, since it does not only depend on the organisation's commitment but also on people and cultural aspects.

Additionally, all three case studies reinforce the importance of aligning Smart Working with the company's strategy and the top management. A strong effort in change management has been reported: Elisa, Swiss Re and Maire Tecnimont have built structured training programmes for their leaders and employees and even hired external partners to ensure the high quality of the trainings. In particular, Maire Tecnimont has offered training sessions combined with coaching sessions to ensure the alignment of the leaders with the new way of work.

Moving to the two Brazilian case studies, the context is completely different. Both companies were born in 2012 as startups already characterised by a mindset and culture aligned with Smart Working. Thus, the evolution process since the first phases, proposed in the theoretical frameworks, does not apply. Indeed, according to Weichbrodt, the phases are not considered levels because it is not necessary to go through each of them to get to a more advanced phase (WEICHBRODT, 2017). 99 and Guiabolso can be classified between the phases 4 and 5

proposed by the Swiss model in terms of infrastructure/architecture, technology and organisational structure. Concerning working model, on the other hand, there are some divergences related to the fact that both the companies, their structures and the Smart Working phenomenon are quite new, so the best way to work in this context is not yet clear. Although employees who look for technology companies mostly pursue flexibility and autonomy, that does not mean that they have learned to set boundaries between work and private life or to collaborate with their teams in the best way. Moreover, there has never been a structured regulation, initiative or training for flexible pratices, which have been constructed organically.

The Brazilian case studies have introduced a completely new perspective if compared to the secondary research, as the latter had presented an outdated culture expressed both by the law and the indexes of flexibility on the industry in general, whereas the primary research has demonstrated that startups and technology companies are already born more flexible and less bureaucratic, based on a totally different mindset. Given that this sector is booming and more and more people of working age are attracted by its values, it can be concluded that flexibility at work presents a tendency of growth in the next years. While this is great news for the country, once again the research gap is in evidence, since the surveys and studies found did not make reference to this new movement.

5 CONCLUSION

The present work has constructed a referential of analysis for Smart Working in order to assess different contexts and enable the comparison between them, by combining data regarding four drivers which are mostly available separately, thus creating a more complete and structured picture of the phenomenon. The framework, which was fulfilled with information provided by secondary research, was then validated and complemented by the primary research. Given that Smart Working consists in a relevant, complex and dynamic phenomenon that involves a large amount of variables and affects individuals, companies and the society at the same time, the progress on its studies is of great significance.

At a first moment, the European panorama has been assessed, resulting in the creation of a broad and structured picture of Smart Working features in the continent, stemming from the gathering of dispersed data available.

At a second moment, the research on the Brazilian scenario regarding flexible working pratices has evidenced a large gap in terms of discussions, regulation, research and actual practice on the topic. On the other hand, the increasing movement of startups and technology companies emerges as a sign that this reality can change, bringing a whole new mentality and way of working, less bureaucratic and hierarchical.

Given this, it is fundamental to establish a structured research agenda on Smart Working in Brazil, in order to better understand the country's context and to be able to compare it to other countries through the application of the framework proposed by this work. To do so, it would be interesting to promote partnerships with international research institutions in order to learn from their studies and experiences, and to use similar methods to raise data, making the comparison between countries more reliable. Since there is a clear divergence between traditional companies and technology ones, the research should investigate the manifestation and evolution of Smart Working separately, identifying their features and tendencies. Regarding technology companies particularly, the research should also focus on understanding and measuring the policies in practice and their effects, since the sector is quite advanced in the application of policies but not in structuring and monitoring the initiatives. This way, these companies will have a more solid foundation to guide them.

Moreover, institutions related to working relations and human resources should foment the spread of the Smart Working concept, raising the social consciousness on the topic and bosting the discussions on it. Initiatives such as the Smart Working Observatory (Italy) and Work Smart Initiative (Switzerland) can be used as inspiration, especially the first one, since the Italian context is more similar to the Brazilian one. For instance, events on the thematic could be organised, involving both technology and traditional companies so that they could exchange experiences.

Furthermore, as repeatedly affirmed along this document, the existence, type and role of regulation concerning the topic strongly depends on the context. An interesting reflection to be performed by the authorities and institutions would be rather in Brazil a law would have similar effects to the Italian one, which has proven to be an incentive to the implementation of initiatives in the public and private sectors. Also, special attention should be given to digital technologies, due to the very low index of the country compared to others.

The present work has faced some limitations related to the lack of reliable and comparable data concerning the Brazilian scenario, which has hampered the proper classification of the country according to the framework proposed. As future developments, it would be interesting to enrich the collection of case studies and expert interviews in order to deepen the learning on cultural factors, experiences, policies and best practices, leading to more embased conclusions.

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APPENDIX A – INTERVIEW SCRIPT FOR EXPERTS

As **Smart Working Observatory** from *Politecnico di Milano*, we are carrying out a research project regarding the diffusion of this practice in Europe.

We define Smart Working (also called agile working or flexible working) as a new organisational approach characterised by greater flexibility and autonomy in choosing working space, time and tools, in return for more accountability on results.

In Italy, Smart Working projects are growing fast, mostly in large private companies. Given this context, we are looking for international experiences and for experts in this topic to understand what are the best practices in Europe and encourage the diffusion of Smart Working.

Description of the country context

iii. What does smart working (flexible working/New Way of Working) mean to you?
iv. How widespread are **smart working practices** (or flexible working practices) in your country? Is there any difference between private and public companies?
v. How widespread is **telework** in your country? What does telework mean for you? Only homeworking?
vi. What type of **flexible working arrangements** (e.g. part-time, compressed work week, telework) are mostly adopted?
vii. Is there any public funding that helps and encourages the development of smart working practices among private and public companies?
viii. Italy has recently approved a law that describes what Smart Working is, in order to promote the diffusion of its practices. Are there any specific regulations that facilitate the adoption of smart working practices in your country?
ix. *(If there isn't a law)* Do you think that a law regarding these practices could be useful to promote the spread of Smart Working in your country?
x. Do you think that your compatriots would appreciate this kind of initiative or do you believe that they would prefer working in a more traditional way?
xi. What do you think are the main benefits related to smart working in your country?
xii. What do you think are the main disadvantages related to smart working in your country?
xiii. Could you mention some companies which adopt smart working practices in your country

APPENDIX B - INTERVIEW SCRIPT FOR CASE STUDIES

As **Smart Working Observatory** from *Politecnico di Milano*, we are carrying out a research project regarding the diffusion of this practice in Europe.

We define Smart Working (also called agile working or flexible working) as a new organisational approach characterised by greater flexibility and autonomy in choosing working space, time and tools, in return for more accountability on results.

In Italy, Smart Working projects are growing fast, mostly in large private companies. Given this context, we are looking for international experiences and for experts in this topic to understand what are the best practices in Europe and encourage the diffusion of Smart Working.

Description of the company context

- What kind of industry does your company belong to?
- How many employees are there in your company?

Flexibility practices in the company

PRACTICES

- What does smart working mean to your company?
- What kind of flexible practices are there in your company (e.g. telework, homeworking, part-time, …)?
- Are employees free to choose to work in the office or elsewhere with their manager consent?
- Where do they usually work when they aren't in the office (e.g. in co-working spaces, at home, in the park)? Can they work like this anytime or only some days per week?
- Are employees free to choose the working time according to their needs with their manager consent?

REASONS AND VALUES

- What reasons have made your company decide to introduce smart working practices (e.g. employee request/need for more flexibility/cost savings)?

- How important are these reasons according to the strategical priorities and core values of the organisation?

REGULATION

- Are there any written arrangements about smart working/flexible working practices in your company? Which elements are defined inside the policies and the directives?
- Is there a defined procedure of candidacy, selection and subscription at the project or everyone is allowed to work smart?
- *(If there is a procedure)* Which kind of employees can be involved?

Smart Working features

- When did the project start (month/year)?
- Does the smart working practice/project have a name or a title?
- Which Organisational Departments have mostly encouraged the development of the project? And what kind of commitment has been obtained between managers and employees?
- What kind of governance does the project present? Which kind of stakeholders have been involved in the making?
- How diffused is the project currently? How many people are working smart?
- How would you define the maturity of the project? Is the project in the initial phase, in a testing phase, in expansion, or in a full speed?
- *(If not in full speed)* When do you expect the project to be completed?

Technology

- What kind of technology equipment do your employees use to work and to collaborate remotely (e.g. device, software, UCC tools, …)?
- Does your company fully provide equipment for employees, or can they use personal devices and tools to work?
- Have you developed any initiative for security and data protection related to Smart Working?

Spaces and Physical Layout

- What kind of working spaces does your company have? (e.g. open space, activity based setting such as concentration room, meeting room, phone booth, spaces for informal meeting and relax, …)
- Are there desk sharing initiatives among the same office or different company's offices?
- Are employees allowed to use external co-working spaces to work?

Change Management initiatives

- Which are the organisational changes introduced? (e.g. processes, competences…)
- Which change management initiative has your company adopted? (e.g. training plans, workshop with managers and employees, communication plans, involvement in worktables or working groups…)

Costs, benefits and results

- Which kind of costs have you sustained during the development of the project? Did you receive any kind of financing or public funding?
- Which are the results obtained from smart working and which KPI's have been considered? (e.g. frequency of Smart Working adoption, number of Smart Workers…)
- Which benefits has your company gained from smart working practices (e.g people are more satisfied at work, more motivated, more engaged, higher productivity, better customer service, less commuting and better environmental sustainability, …)?

Description of the country context

- What does **smart working** mean in your country?
- How widespread are **smart working** (or flexible working) practices in your country? Is there any difference between private and public companies?
- How widespread is **telework** in your country? What does telework mean for you? Only homeworking?
- What type of **flexible working arrangements** are mostly adopted (part-time, compressed work week, telework)?
- Is there any public funding that helps and encourages the development of smart working practices among private and public companies?

- Italy has recently approved a law that describes what Smart Working is, in order to promote the diffusion of its practices. Are there any specific regulations that facilitate the adoption of smart working practices in your country?
- Do you think that your compatriots would appreciate this kind of initiative or do you believe that they would prefer working in a more traditional way?