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Smart Working: Innovative & Flexible Training for SME
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Mapping the Smart Working phenomenon

Intellectual Output 2

PART B: European and National Reports

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EUROPE

Introduction

Immediately after the outbreak of the pandemic, the European governments implemented unprecedented strategies to preserve the operational capacity of their national healthcare systems; contain the infection's curve and safeguard the health of their citizens. The lockdown measures that followed had a dramatic impact on the overall economic system of each country with serious consequences for workers and enterprises across Europe.

In the first months of 2020, as COVID-19 infections were rising all over the world, entrepreneurs and employers have been asked to close their activities and, if possible, to transfer all of their work online, forcing them to implement telecommuting solutions that, in many cases, have never been experienced before.

A comprehensive sample of results emerging from EU sources¹, confirm that EU SMEs and their internal workforce lack a strong and reliable digital/ICT culture (specifically those located in the Mediterranean and Balkan area); a skill-lag that throughout the post-crisis exacerbated pre-existing gaps in terms of opportunities for long-term financial sustainability.

From a broader perspective, these disruptions are not only technology-centred, but they can be reconducted also to an overall EU-spread lag of regulatory frameworks upon smart working – the existing solutions are highly fragmented and heterogeneous, depending on the specific national context, and with no EU vision implemented.

This great diversity is an indirect outcome of the European Framework Agreement on Teleworking (2002)² – the main reference document for regulating teleworking formulas between the employer and the employee. The document stands as a formal agreement between the European Trade Union Confederation (ETUC), the Union of Industrial and Employers' Confederations of Europe / the European Union of Crafts and Small and Medium-Sized Enterprises (UNICE/UEAPME), and the Centre of Enterprises with Public Participation (ECPE); as originally intended, the framework aimed at ensuring greater security for teleworkers employed in Europe, but no formal definition of smart / teleworking is actually provided.

The framework itself focuses on nine key areas that regulates the specific nature of telework, ensuring high degrees of autonomy to contractors and employers. In fact, looking at the operational context, throughout the years and until the pre-pandemic, smart and teleworking formulas relied mostly on informal agreements between the two groups of interest rather than a structured and written accordance.

The high level of flexibility assured by the framework to employers left behind the need to understand and conceive smart working as a new reliable way to manage people and organisation and not as just a potential alternative to consolidated models.

Consequently, in order to guarantee the continuity of business activities, when the entire EU SMEs ecosystem has been called to re-design its internal organisational structure exploiting and

¹ Eurostat, Individuals' level of Digital Skills; Available at: https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=isoc_sk_dskl_i&lang=en

² EurLex, Teleworking, last update available: 2005. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM%3Ac10131>

leveraging on digital and “smart” solutions, most economic actors found themselves overwhelmed and disoriented – experiencing serious negative impacts on their revenue flows.

EU SMEs are the most affected by the negative effects of the COVID-19 pandemic: Europe is “closed for business”, and while large companies have systems in place to implement telecommuting and smart work, SMEs (especially microenterprises) do not have ICT systems in place nor policies for their staff to work remotely.

The mutual strengthening and interaction of these factors (i.e. lack of cultural understanding of smart working as a reliable model for people management, ICT and digital lags) prevented throughout the years the emergence of an SME’s ecosystem that is flexible and resilient to external disruptions – so big, large and threatening to impose in a matter of days a radical rethinking of a consolidated status-quo remained unperturbed for decades.

Digital readiness, in fact, proved to be the safety net for many organisations; the ones who were technically ready to fully embrace the new digital paradigms not only proved themselves as highly resilient, but they found great opportunities even in the aftermath when worldwide societies moved online.

Back in May 2020³, the European Commission highlighted the central role of tele- and smart work as a fundamental means to preserve and safeguard the sustainability of EU SMEs’ operational capacity and the creation of new jobs; despite the formal recognition of its strategic role, at the moment the training dimension related to the smart working phenomenon is still highly fragmented with no unified framework and with no specific reference to SMEs’ needs.

It is to notice that before the pandemic outbreak, EU sources previous to 2020 addressing the benefits of smart working and / or teleworking in general, are quite rare to be found – a major symptom that such a kind focus on smart working is “new” rather than “renewed”.

For instance, the major EU source on “creating labour market conditions favourable for work-life balance” is represented by the European Parliament resolution of 2016⁴, but once again the resolution appears to be more of a generic framework for the social well-being of workers rather and still no specific reference to smart working or teleworking can be found.

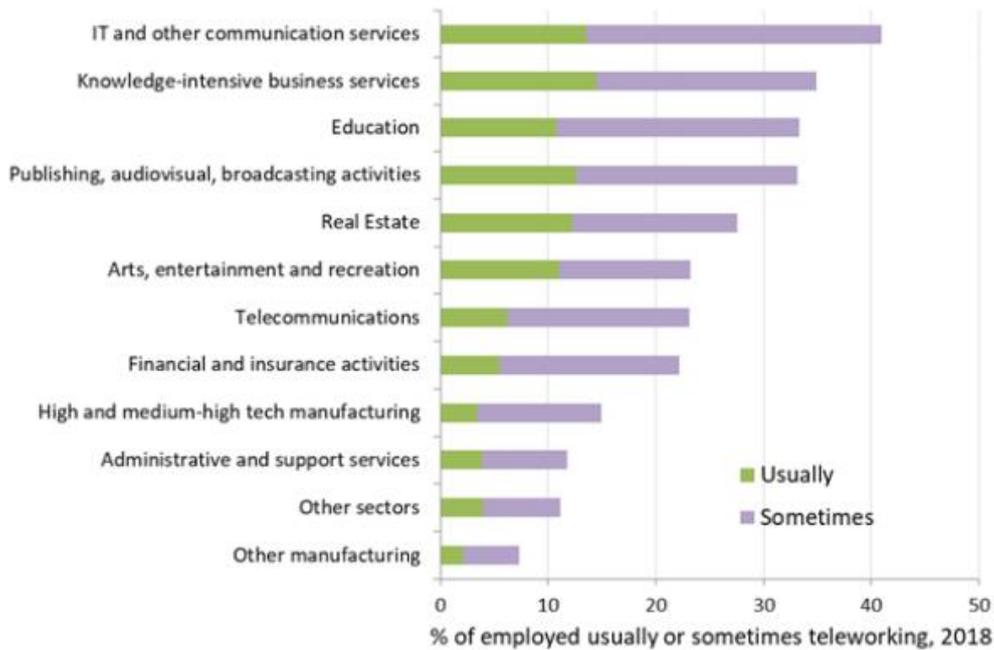
In that sense, the contributions from Academia, researchers in the field of management studies and private large consultancy companies have been much more frequent, creative and challenging of the current practices to manage people and processes.

³ EU Commission – 2020 European Semester: Country-specific recommendations. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0500&from=EN>

⁴ European Parliament resolution of 13 September 2016 on creating labour market conditions favourable for work-life balance (2016/2017(INI). Available at: <https://op.europa.eu/it/publication-detail/-/publication/dddf9b10-6ecd-11e8-9483-01aa75ed71a1/language-en>

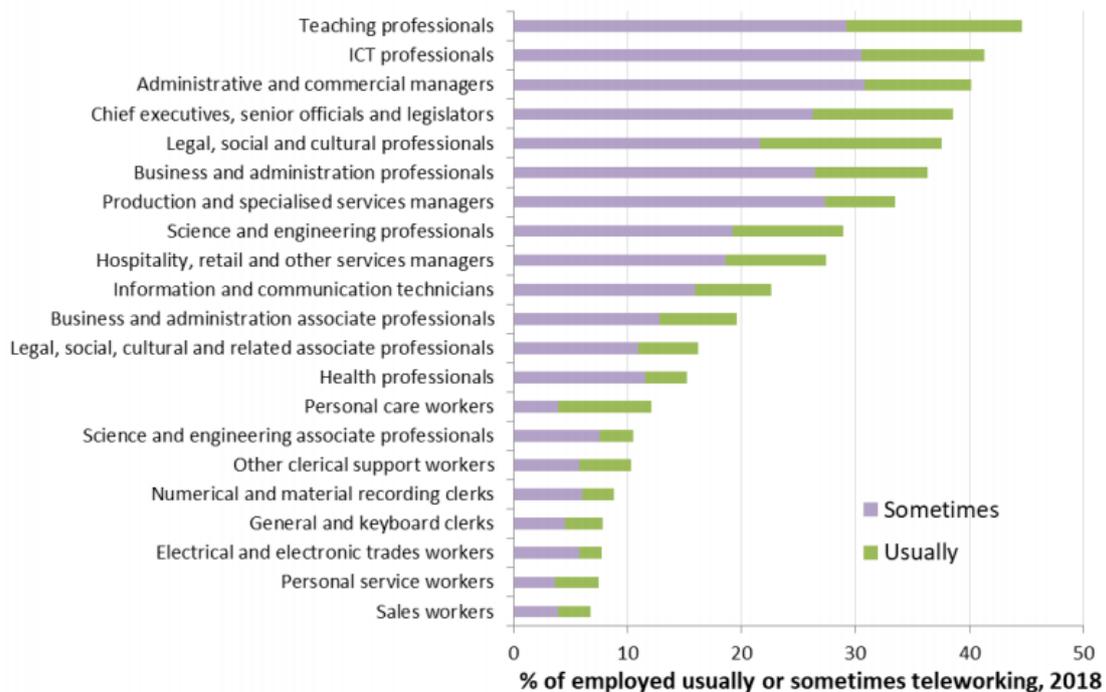
Not by chance, from 2018 data, it is possible to observe a major concentration of smart working routines within the IT sectors (Exhibit 2) and among ICT professionals (Exhibit 3).

Exhibit 2: Prevalence of telework by sector, EU27



Source: JRC calculations from ad-hoc extractions of EU-LFS data provided by Eurostat

Exhibit 3: Prevalence of telework by occupation, EU27

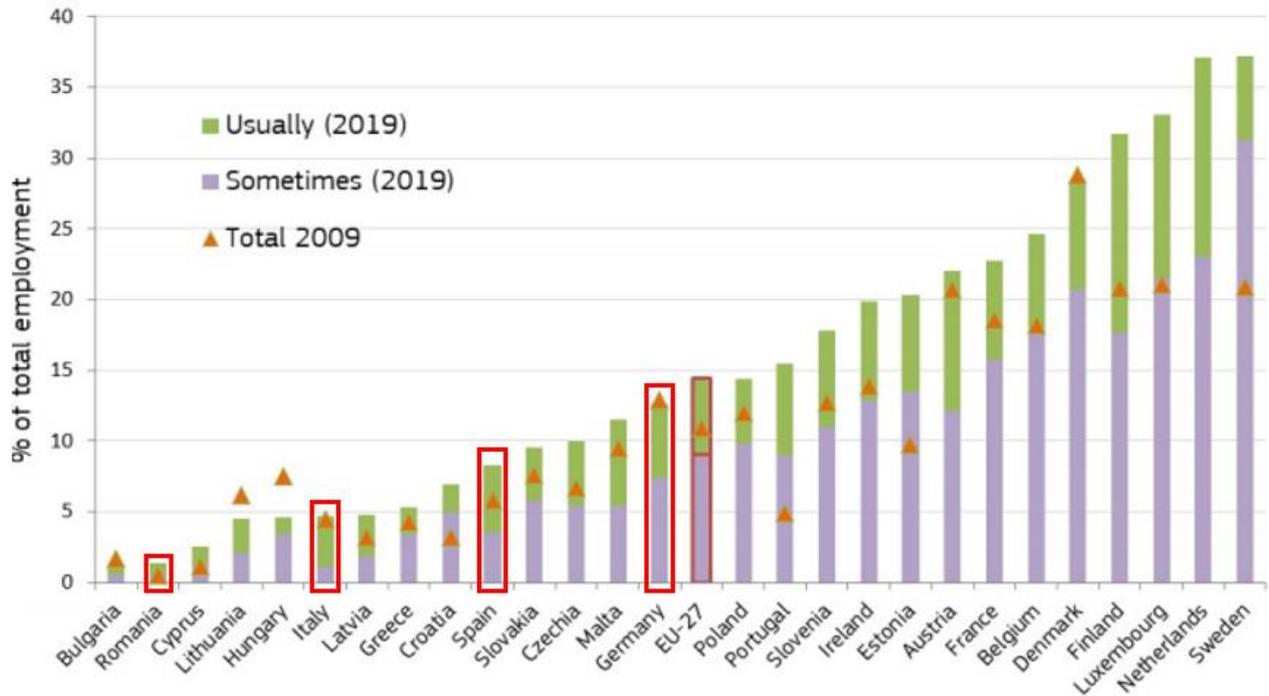


Source: JRC calculations from ad-hoc extractions of EU-LFS data provided by Eurostat

It has to be considered that these discrepancies apply also at national level, country by country, adding significant degrees of complexity to the phenomenon.

The spectrum in 2019 was the following (Exhibit 4):

Exhibit 4: Prevalence of telework across EU Member States



Source: Eurostat, LFS. Variable code: lfsa ehomp.

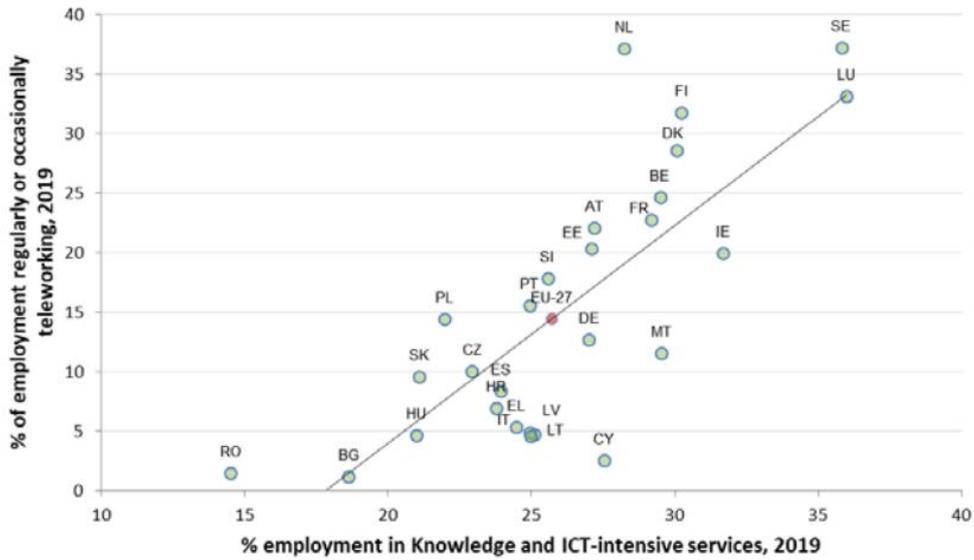
From 2009, the entrepreneurial system of numerous EU countries gave considerable trust to smart working as a new way to manage people and processes.

This is particularly visible for northern countries (Finland and Sweden) with major positive changes even in other Member States such as Portugal, Croatia and Estonia – which, by absolute terms, present the lower rates of “smart” employees. In the timespan of 10 years, the overall EU ecosystem (despite few selected cases such as Hungary and Lithuania) seems to be more and more receptive of smart working as a consolidated model for businesses (Annex 1).

Not surprisingly, before COVID-19, the EU countries with the highest percentage of “smart workers” are the same relying the most on knowledge-intensive services and capitals.

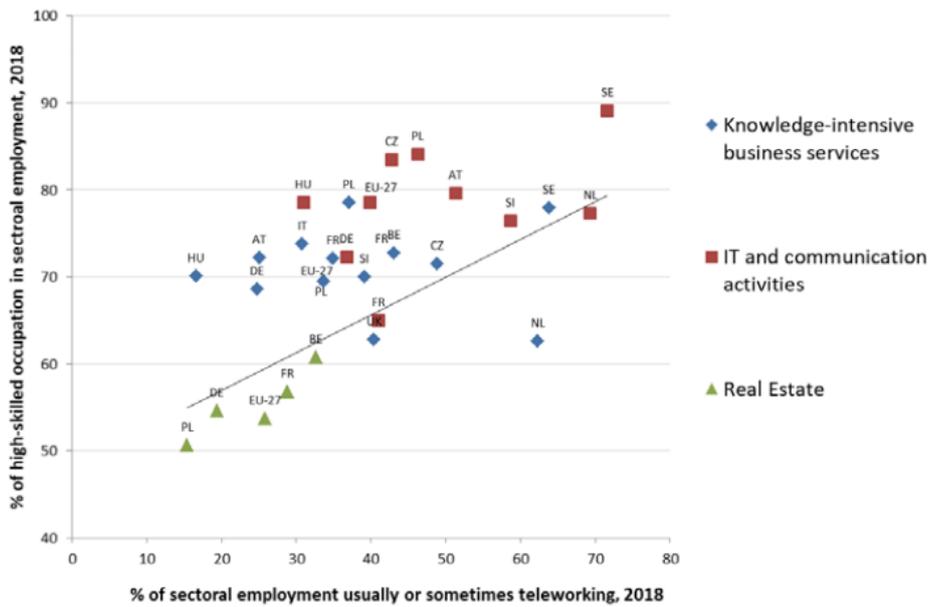
The result indicates a direct correlation between prevalence of telework and industrial structure of the country (Exhibit 5); that is exactly why, even within the same professional occupation, the number of employees on smart working varied a lot depending on the national context – with specific reference to existing regulatory frameworks less or more friendly to smart working, and the overall cultural perception upon the phenomenon by both employers and employees (Exhibit 6).

Exhibit 5: Industrial structure of employment and telework, EU-27



Source: Source: JRC calculations from Eurostat, LFS. Variables codes: lfsa_ehomp (y-axis); lfsa_egan22d (xaxis).

Exhibit 6: Occupational mix and telework by sector



Source: JRC calculations from Eurostat, and ad-hoc extractions of EU-LFS data

Concerning sector and industrial related factors, large firms were much more prone to implement long-term plans for the embracement of “smart” models; they can rely on robust people management models, finances and capitals to sustain the implementation of IT infrastructures that facilitates the management of people from remote.

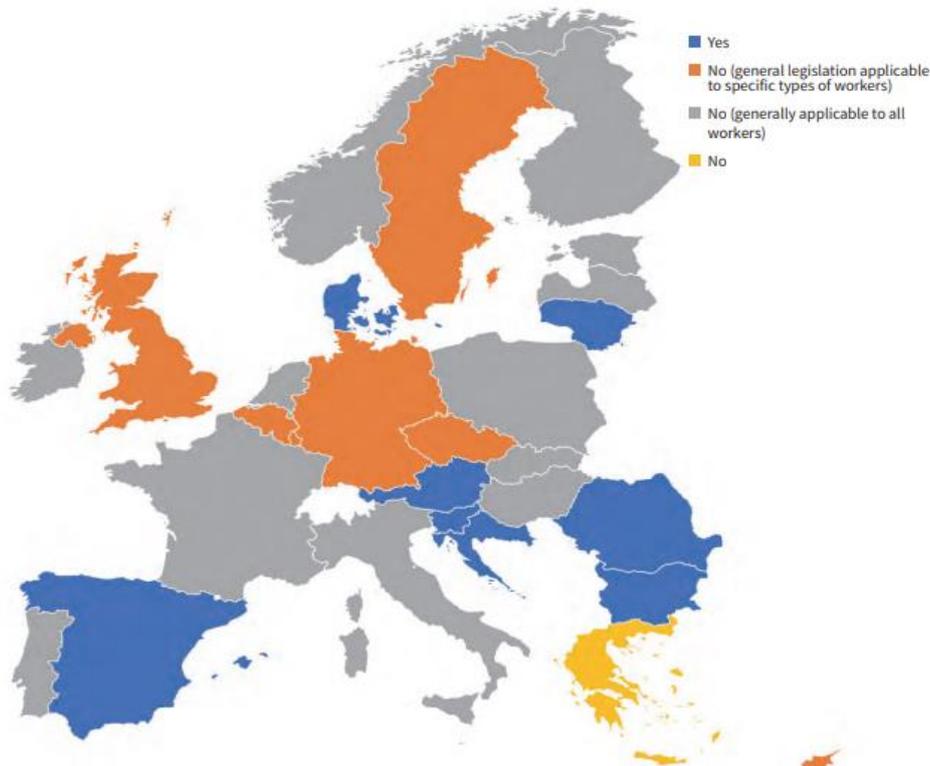
For instance, back in 2016, 96% of the EU large firms were used to provide to their employee remote access to work documents, software and email; this same percentage drops to 56% in the case of microenterprises and SMEs – where there is also a much higher percentage of jobs at risk, quoting:

“[...] at least two of three jobs at risk are in an SME, and more than 30 percent of all jobs at risk are found within microenterprises consisting of nine employees or fewer”⁶.

This is mostly related to a trust issue: SMEs cannot rely on the same IT, human and knowledge assets, and as a direct consequence, employers preferred to share their premises and facilities with employees – in order to manage them closely and keep track of their performance.

In most EU countries, in fact, there was not a comprehensive and detailed legislation providing guidance on how to record and monitor the work time and overall performance of remote workers (Exhibit 7).

Exhibit 7: Presence of legislation to record and monitor the working time of remote workers, 2019



Source: Eurofound, 2020 – own elaboration of authors

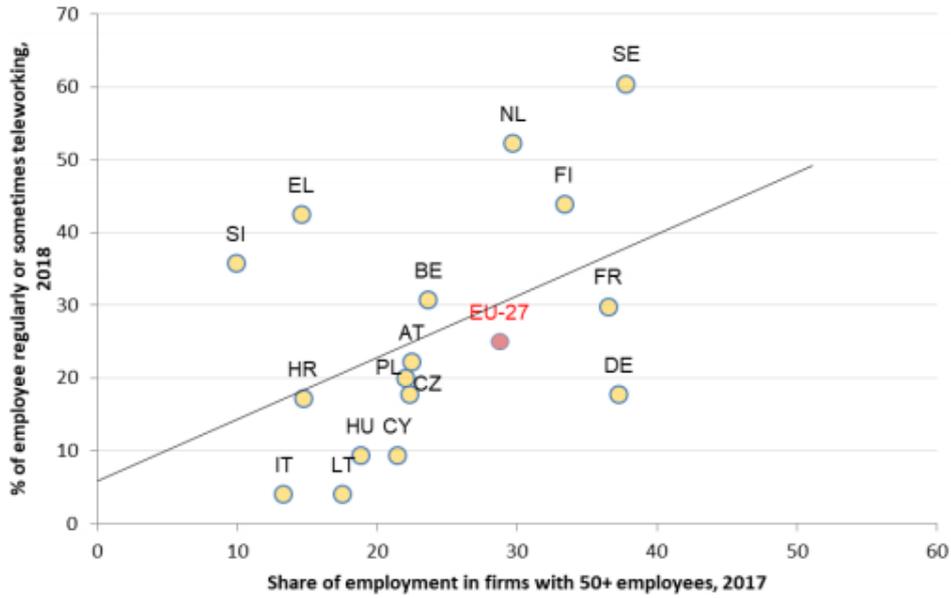
But trust is not the only discriminatory factor: the distribution of employment by firms’ size (Exhibit 8), the rate of self-employment (Exhibit 9) and workers’ digital skills (Exhibit 10) each observed at national level, are the three remaining variables that caused such divergences.

In countries like Finland, Sweden and the Netherlands, organisations with more than 50 employees – mostly concentrated in knowledge-intensive sectors – account for a very large part of the overall national productivity system.

On the other hand, countries like Italy, Hungary and Lithuania reflect the opposite phenomenon, being their entrepreneurial system largely composed by SMEs and microenterprises.

⁶ McKinsey, Safeguarding Europe’s livelihoods: Mitigating the employment impact of COVID-19, 2020. Available at: <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/safeguarding-europes-livelihoods-mitigating-the-employment-impact-of-covid-19>

Exhibit 8: Telework and employment by firm size, knowledge-intensive business services

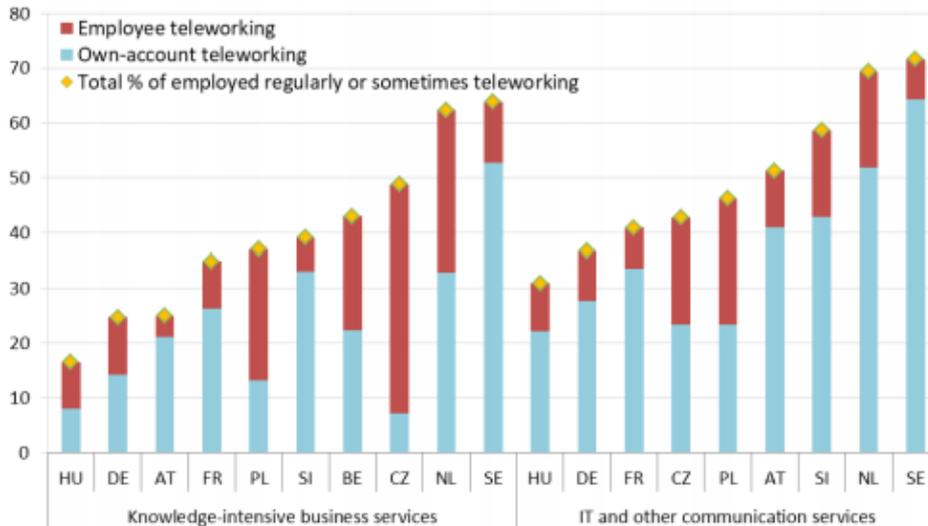


Source: JRC calculations from ad-hoc extractions of EU-LFS data provided by Eurostat

It is worth mentioning that the vast majority of EU teleworkers in pre-COVID times were not even “employees on teleworking” but rather own-account teleworkers and self-employed workers mainly operating in the domain of ICT and knowledge-intensive businesses (web and graphic-designers, software engineers, etc.).

The trend was considerably consistent in all EU countries with rare exceptions such as in Poland and Czech Republic (Exhibit 8).

Exhibit 9: Distribution of teleworkers by professional status, across EU countries in selected sectors

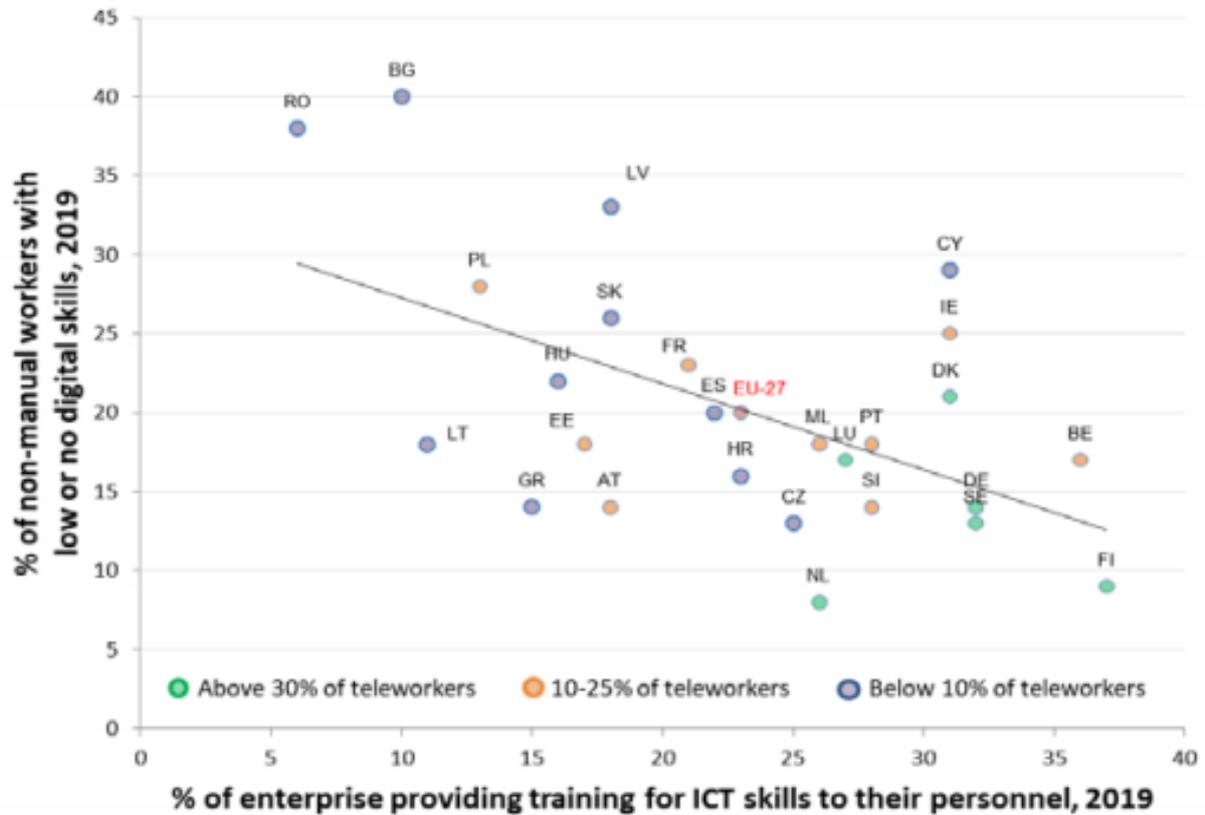


Source: JRC calculations from ad-hoc extractions of EU-LFS data provided by Eurostat.

Finally, the rate of “smart employees” among all EU Countries is significantly consistent with the efforts and resources that national firms invest to train and educate their workforce on digital literacy and ICT culture.

Countries with higher digital culture are much more inclusive of telecommuting compared to other Member States suffering of historical digital lags (notably: Bulgaria, Romania, Italy, Greece, etc.).

Exhibit 10: Digital skills, ICT training and telework



Source: JRC based on Eurostat. Variable codes: isoc_ske_ittn2 (x-axis); isoc_sk_dskl_i (y-axis).

According to a survey conducted and published by the Eurofound in July 2020⁷; out of over 91.000 respondents, nearly the 50% of them claimed to work remotely at least some time during the outbreak months, and of these, more than a third affirmed to work exclusively from home.

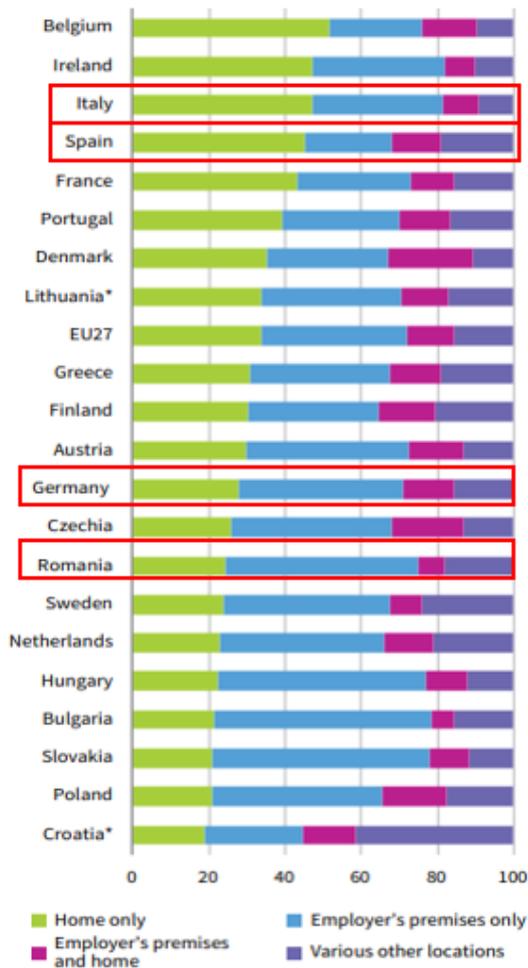
Based on the same dataset, now that the vast majority of sectors and industries are still “closed for business” – which means that smart working is no more a prerogative, but an imperative necessity – the discriminant variable between smart workers and traditional workers are no longer influenced solely by the factors previously described (i.e. industrial sector, infrastructures, level of digital literacy, etc.).

A key element is also the educational level of the individual employee: workers with tertiary qualifications accounted for the 74% of smart workers; secondary qualifications for the 34% and primary level educations only for the 14%⁸.

⁷ Eurofound, Living, working and COVID-19, 2020. Available at :

https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef20059en.pdf

⁸ There are some notable exceptions: for instance, for obvious reasons the incidence of frontline and healthcare workers on telecommuting is very low, even lower if compared in relative terms to teachers and educators – the category that contributed the most to the increase of smart working across Europe and worldwide. Nevertheless, even in these cases about 25% of respondents claimed to work remotely at some extent during the crisis.

Exhibit 11: Employees' place of work during the pandemic by country, EU27 (%)

Source: Eurofound, 2020

The proportion of employees working exclusively from home changes considerably from country to country (Exhibit 11).

There are some notable mentions; Italy and Spain represent in fact two interesting cases.

Back in 2019 (Exhibit 4 for further reference), while still a growing phenomenon, smart working was just another marginal alternative to traditional work-from-office – rarely considered by entrepreneurs and employers.

With the outbreak of the pandemic, those same countries saw an exponential increase of smart workers, mainly due to the severity of the infections and the strictness of lockdown measures imposed by both governments.

Others, namely Poland and Bulgaria, confirmed a substantial lag in the embracement of smart working and with employees still relying for the major part on employers' premises.

Overall, the results indicate that smart workers are concentrated in urban areas, their level of education is medium-high, they mainly come from the service-sector / industries and are typically younger than senior workers.

Data from the World Bank suggest that in 2020, on a worldwide scale, only one in five jobs could be performed from home. The differences between developed countries and low-income countries are enormous: in high-income countries, the average is one out of every three jobs, for the latter the ratio drops to one every 26 jobs⁹.

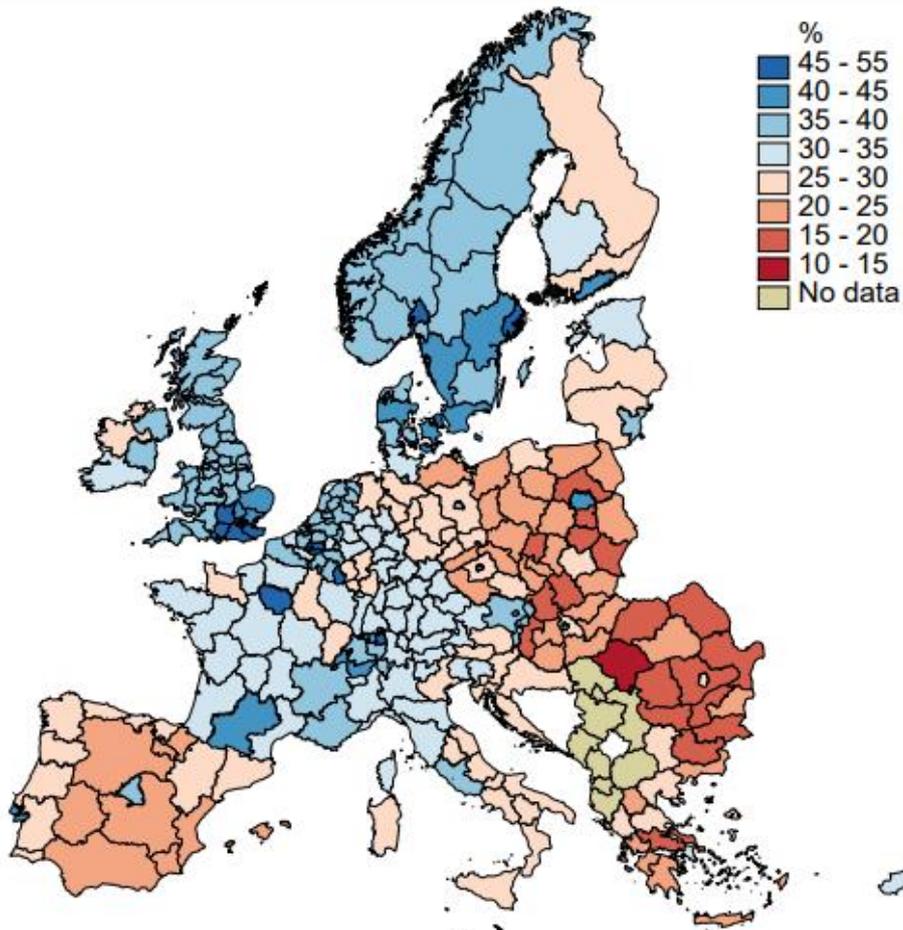
Smart working-friendly jobs are disproportionately distributed between developed economies and lagging industries. COVID-19 exacerbated pre-existing difficulties for many productivity systems that even before the pandemic struggled to rely on robust IT infrastructures. Tasks and characteristics of the predominant occupations within the national industry cannot be ignored as they proved to be one of the most impactful discriminatory factor between a teleworking-responsive ecosystem and not.

These countries were also the same in which telecommutable jobs are rare and dedicated to specific niche of the economy; as an outcome, the full switch to smart working created numerous inconveniences, confusion, and disruptions for the vast majority of the working population.

⁹ Source: Garrote Sanchez, Daniel; Gomez Parra, Nicolas; Ozden, Caglar; Rijkers, Bob; Viollaz, Mariana; Winkler, Hernan. 2020. Who on Earth Can Work from Home?. Policy Research Working Paper; No. 9347. World Bank, Washington, DC. © World Bank. Available at: <https://openknowledge.worldbank.org/handle/10986/34277> License: CC BY 3.0 IGO.

In regards of Europe, such heterogeneity exists even within the same national context (Exhibit 12):

Exhibit 12: The spatial distribution of home-based work across countries – EU, Norway, Switzerland



Source: World Bank, 2020

It is to be considered that the major discriminatory variable remained the composition of the industrial sector, that might vary even within the same country.

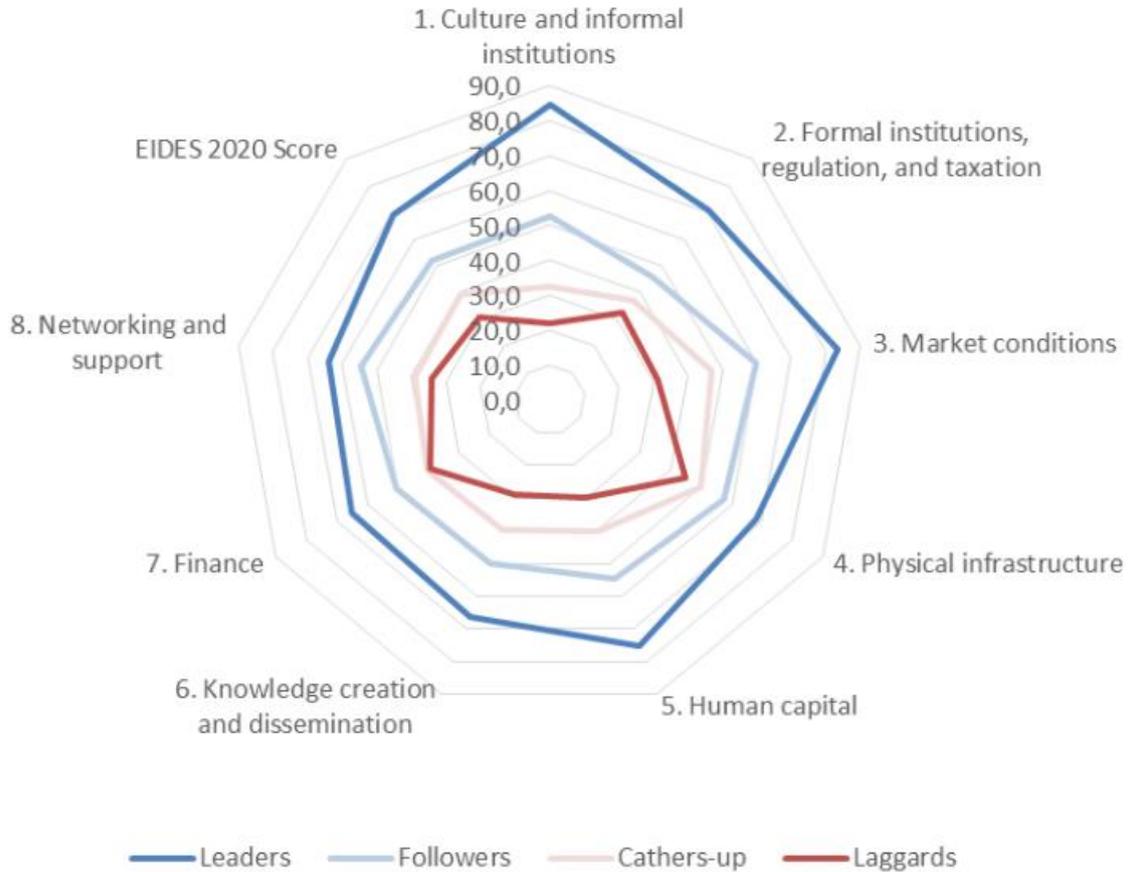
The regions of Europe at higher percentage of labour-intensive capital have been (and still are) greatly penalised by the impacts of COVID pandemic, the most vulnerable segment of the working population remains represented by SMEs' employees with low digital skills, operating in sectors not-easily teleworkable (i.e. manufacturing and construction), and more in general not at high leverage of digital technologies.

Interestingly, the red shaped regions in Exhibit 12 fall under two specific labels used by the European Index of Digital Entrepreneurship Systems (EIDES) to refer countries at low / very low digitalisation. Results from 2020 indicates Mediterranean and eastern Europe countries among the so called "Catchers-Up" and "Laggers"; in other words, countries that to some extents are not able to keep up with the digitalisation processes driven and sustained by "Leaders" countries¹⁰ – the same appearing significantly "blue" in the exhibit above.

¹⁰ EIDES 2020, with specific reference to Table n.3, p. 31. Available at: https://publications.irc.ec.europa.eu/repository/bitstream/JRC120727/eides_2020.pdf

More specifically, compared to “Leaders”, other countries suffer from very evident lag from the Culture, Human Capital and Knowledge perspectives – three of the very business fundamentals of “smart” driven organisation.

Exhibit 13: EIDES 2020 Profiles of the Four Country Groups



Source: EIDES 2020

Qualitative phenomenon on Smart Working in Europe

The outbreak of the pandemic brought under the light numerous fragilities of modern societies, pointing out how despite the current technological progress, economies and productivity systems have not achieved yet a satisfactory and reassuring level of resilience.

Having noticed how healthcare systems can be easily disrupted by external agents, the main challenge for policy makers and Governments is the reestablishment of new national crisis and emergency national plans that are able to safeguard the health of citizens without major negative countereffects on Economy and businesses.

From the same theoretical assumption, similar actions and reactions are to be implemented by entrepreneurs and employers; their call to action consists in refiguring and redesigning risk management models for both business continuity and people well-being.

The global business environment tried to react as quickly as possible by transferring their activities into the online domain and managing their employees from remote. As seen from the previous chapter, large-sized companies have been able to implement such drastic changes in a relatively smooth way – being in the position to rely on robust financial, HR and IT assets – but micro and small enterprises faced challenges way more big, threatening and disruptive.

EU SMEs are the most exposed to the risk of not being able to ensure business continuity and be resilient in times of crisis. Most importantly, they are less prone to reaping the benefits that smart working can bring due to the lack of guidelines on the most suitable ICT solutions and practices, and most importantly the digital culture, to implement smart working and managing telecommuting.

On a broader perspective, the evidences¹¹ from senior economists of the EU Commission and Eurofound, recall the urgency to mitigate the risk of a new digital divide potentially able to further distance European societies and economies from each other in terms of (digital) competitiveness.

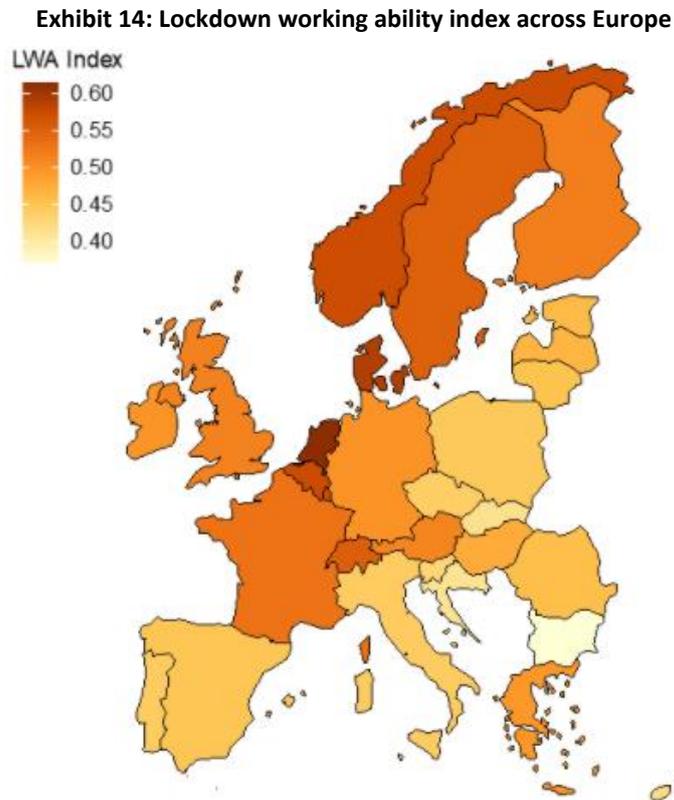
On a EU scale, it is possible to state that the reorganisation of work forces and work processes during the post pandemic has been effective: smart working helped EU economies in preserving and safeguarding many jobs that otherwise might have been lost – with much serious consequences for the welfare system of each member country.

Teleworking was the only alternative solution to what might be concretely described as a never-seen-before scenario; worldwide economies witnessed in real time the development of an “new normality” experiment that in different conditions would have required years and much longer preparation at National level (i.e. cultural readiness to work from remote).

But for the last-mentioned reason, it is also true that the process has been equally efficient: the wide variations among and within countries are expressions of pre-existing factors that ultimately lead to considerable discrepancies widely expected and later confirmed by reality. The competitive divide among EU businesses and workers is now more than ever tangible.

¹¹ Milasi, S., Bisello, M., Hurley, J., Sostero, M., Fernández-Macías, E. “The potential for teleworking in Europe and the risk of a new digital divide”. Vox EU CEPR, August 14, 2020. Available at : <https://ec.europa.eu/jrc/sites/jrcsh/files/jrc121193.pdf>

The Lockdown Work Ability Index across EU (Exhibit 14) shows clearly how the resilience of EU economies is profoundly consistent with the argumentations elaborated in the first part of this report¹².



Source: Palomino, J C, J G Rodríguez and R Sebastian (2020), “Wage inequality and poverty effects of lockdown and social distancing in Europe”, Covid Economics 25: 186–229

For years, the South and East of Europe are struggling to contain the lag that separates them from leading countries; a gap that is particularly evident on the human capital side (DESI 2018; 2019; 2020), one of the very essential factors for the cultural and technical embracement of smart working. The limited potentials for teleworking operability suffered by many SMEs operating in Southern and Eastern regions of Europe poses a significant threat for their future competitiveness and financial sustainability, not only in regard to their business but also for their internal workforce.

In the context of this report, we underline the fact that, not surprisingly, industries at higher rates of capital-intensive knowledge dispose of better trained workforce and highly prepared to face the future business challenges not necessarily related solely to COVID: i.e. the so called Digital Revolution of the new millennia.

For instance, a very concerning trend emerged throughout the post-pandemic was the exponential growth of cyberattacks and cyber threats. With the outbreak of the pandemic, and the following transfer of worldwide economies and societies into the digital domain, cybercriminals saw a unique opportunity to exploit the situation in their favour.

¹² i.e. northern countries were much more prepared to welcome smart working solutions than southern economies, both from a cultural and industrial perspective. The full switch to smart working did not stress their productivity systems and the business continuity of their businesses as much as for labour-intensive economies, namely the Mediterranean and Balkan areas.

According to Europol¹³ “cybercriminals are developing and boosting attacks at an alarming pace, exploiting fear and uncertainty caused by unstable social and economic situation created by COVID-19”. The pandemic is widening the exposure to cyber threats, as Europeans now socialize, study, work and shop online and any digital interaction provides an opportunity for a cyber-attack.

The situation is very alarming. The ECHO Network (European Network for Cybersecurity centres and competence Hub for innovation and operation) states: “regardless of the motive behind the hack, there are now ample opportunities and methods to leverage the COVID-19 pandemic to more successfully engage in criminal cyber activities¹⁴”, a reality that is confirmed by official ESCO Barometer data¹⁵.

Throughout this very short period, SMEs represented a high value targets for cybercriminals: remote working imposes to organisations a way to facilitate the remote access to information for their storage, management and availability. This same need comes with major threats in case organisations underestimate the risk of exposing their sensitive data to the online domain.

Structured telecommuting models in fact foreseen and demand adequate measures (and human knowledge) to allow staff members in exchanging information via web in total safety and confidentiality – resources that EU SMEs desperately need.

In 2019, with nearly 90% of EU citizens perceiving cybercrimes as a top challenge for their societies¹⁶, official reports¹⁷ from the EU Commission confirmed “cybersecurity awareness” among the ultimate priorities for SMEs competitiveness in view of the future challenges foreseen to thrive in “The 4th Industrial Revolution”. An update¹⁸ from December 2019, just few months before the EU outbreak, confirmed a dramatic shortage of cybersecurity experts and cybersecurity competences within non-ITC specialised SMEs.

Although global data gathered from IBM confirm that the most affect industries by cybercrimes¹⁹ are typically occupied by big players and large firms, such organisations can rely on specialised IT departments and highly trained personnel – a set of resources in dramatic shortage for non-IT SMEs. Because of that, SMEs faced a disproportional number of challenges coming from a new sudden wave of threats they were not fully prepared for²⁰.

¹³ INTERPOL, Cybercrime: COVID 19 impact, August 2020. Available at:

<https://www.interpol.int/en/content/download/15526/file/COVID-19%20Cybercrime%20Analysis%20Report-%20August%202020.pdf>

¹⁴ ECHO Network, The COVID-19 Hackers Mind-set: White Paper of the ECHO Network of cybersecurity centres, White Paper, May 2020. Available at: <https://ec.europa.eu/digital-single-market/en/news/covid-19-hackers-mind-set-white-paper-echo-network-cybersecurity-centres>

¹⁵ European Cyber Security Organisation (ESCO) Barometer 2020: CYBERSECURITY IN LIGHT OF COVID-19. Available at: <https://www.ecs-org.eu/documents/uploads/report-on-the-ecso-members-and-the-community-survey.pdf>

¹⁶ European Parliament, Cyber: How big is the threat?, 2019. Available at: [https://www.europarl.europa.eu/RegData/etudes/ATAG/2019/637980/EPRS_ATA\(2019\)637980_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/ATAG/2019/637980/EPRS_ATA(2019)637980_EN.pdf)

¹⁷ EU Commission, Supporting specialised skills development: Big Data, Internet of Things and Cybersecurity for SMEs, Interim Report, March 2019. Available at: https://www.digitalsme.eu/digital/uploads/March-2019_Skills-for-SMEs_Interim_Report_final-version.pdf

¹⁸ EU Commission, Skills for SMEs: Supporting specialised skills development: Big Data, Internet of Things and Cybersecurity for SMEs, Final Report, December 2019. Available at: <https://op.europa.eu/en/publication-detail/-/publication/bb5c6c09-6285-11ea-b735-01aa75ed71a1/language-en>

¹⁹ Industry data breach costs have changed since the beginning of the last decade; but over the years, data confirmed a worldwide common trend: Healthcare, Finance and Energy industries are the targets of cybercriminals more than any other sector. For a full breakdown of data, please refer to: Cost of Data Breach Report 2020 – IBM Security. Available at: <https://www.ibm.com/security/digital-assets/cost-data-breach-report/#/>

²⁰ International Chamber of Commerce (ICC), COVID-19 Cyber Security Threats to MSMEs, 2020. Available at: <https://iccwbo.org/content/uploads/sites/3/2020/05/2020-icc-sos-cybersecurity.pdf>

If nothing else, the pandemic and the following exposure to cyberthreats generated greater awareness²¹ among SMEs and entrepreneurs about their digital readiness and the resiliency coefficient of their IT infrastructures (and related processes).

Top hints for combining cybersecurity readiness and remote working have been a topic of great interest by ENISA (European Union Agency for Cybersecurity) since the very beginning of the lockdown measures²²; these set of tips come in the form of guidelines and checklists for the benefit of small entrepreneurs to sustain them in the self-assessment process of their “cyber hygiene” and general compliance with the minimum cybersecurity standards²³ (for further references please consult the “Challenges” section).

Overall, the unpreparedness of SMEs is a phenomenon that results from complex dynamics; numerous elements intervened as disrupting factors preventing small enterprises from a smooth and easy transition. In the previous section, industrial sector and firms’ size have been both recalled as major systemic discriminatory agents between traditional workers and smart employees.

In reality, there are many other dysfunctions operating at organisational level that are much more specific to intangible organisational dimensions. A great number of articles²⁴ on teleworking during COVID-19 pandemic gives a deeper insight on the reasons why SMEs went through such a troubled transition.

These analyses detected that many small organisations struggling with their digital transformation were also the ones most inclined to boycott “smart” solutions for work continuity not only because technically unprepared, but also because telecommuting triggered among senior and directive staff a general perception of “loss of control” upon their employees and concerns for the overall performance.

The ability of small organisations to navigate, explore and exploit the new smart working paradigms largely depends on organisational culture. Digitalisation in fact represents a necessary condition for the upgrade of SMEs towards more sustainable business models, but is not sufficient. Trust and management willingness to delegate power play also a pivotal role for the definition and validation of new organisational models complying with the needs and opportunities brought to light by such unprecedented scenario.

Finally, it is notable to mention the gender connotation of the phenomenon. Even way before the pandemic, the participation of women in the global labour force was declining at higher rates than men²⁵.

²¹ Fortinet, Enterprises Must Adapt to Address Telework Security Challenges – REPORT 2020 Remote Workforce Cybersecurity Report. Available at: https://www.fortinet.com/content/dam/maindam/PUBLIC/02_MARKETING/08_Report/report-teleworker-security.pdf

²² ENISA, Top Tips for Cybersecurity when Working Remotely, March 2020. Available at: <https://www.enisa.europa.eu/news/executive-news/top-tips-for-cybersecurity-when-working-remotely>

²³ ENISA, Top ten cyber hygiene tips for SMEs during COVID-19 pandemic, June 2020. Available at: <https://www.enisa.europa.eu/news/enisa-news/top-ten-cyber-hygiene-tips-for-smes-during-covid-19-pandemic>

²⁴ HBR, Remote Managers Are Having Trust Issues, 2020. Available at: <https://hbr.org/2020/07/remote-managers-are-having-trust-issues>; HBR, WFH [working from home] Is Corroding Our Trust in Each Other, 2020. Available at: <https://hbr.org/2021/02/wfh-is-corroding-our-trust-in-each-other>; Deloitte, Future of work(ing) from home) – trust, teamwork and technology, 2020. Available at: <https://www2.deloitte.com/uk/en/pages/consulting/articles/future-of-working-from-home-trust-teamwork-and-technology.html>; Forbes, Trust: The Hidden Dividend Of Working From Home, 2020. Available at: <https://www.forbes.com/sites/forbestechcouncil/2020/04/06/trust-the-hidden-dividend-of-working-from-home/?sh=6a9acae12d92>

²⁵ ILO, Policy brief: A gender-responsive employment recovery: Building back fairer, 2020. Available at: https://www.ilo.org/emppolicy/pubs/WCMS_751785/lang--en/index.htm; ILO, World employment and social outlook: Trends 2020. Available at: https://www.ilo.org/global/research/global-reports/weso/2020/WCMS_734455/lang--en/index.htm

From 1991 to 2019, the participation rate of female labour force dropped from 51% to 47%²⁶ and in 2020 they accounted for the 38%²⁷ of the global workforce.

Despite so, alongside part-time workers and young employees, the female category has been the most vulnerable to COVID impacts and lockdown measures. In contrast to previous economic crisis, the industrial sector worst affected was the Service and “Third” industry (travel and tourism, food and hospitality, retail and wholesale, etc.) – an entire series of occupations that primarily employ women (Exhibit 15a; 15b) and are known for being less teleworkable than other jobs in which the male figure is more predominant.

Exhibit 15a: Economic sectors in EU, categorised according to the risk level of COVID-19-related exposure

Economic sector	Risk of Covid-19-related exposure
Accommodation and food services	Very high risk
Wholesale and retail trade, sales, shop work	Very high risk
Social and personal services	Very high risk
Education or health services	Some, high risk
Agriculture, horticulture, forestry or fishing	Some, high risk
Cultural industries (arts, entertainment)	Some, high risk
Transportation or storage	Some, high risk
Financial, insurance or real estate services	Some, low risk
Supply, management or treatment of water	Some, low risk
Public administration and support services	Some, low risk
Construction	Some, low risk
Manufacturing	Some, low risk
Supply of gas or electricity, mining	Very low risk
Professional and scientific services	Very low risk
Information and communication technology	Very low risk

Source: CEDEFOP, EU jobs at highest risk: Is the pandemic exacerbating the labour market divide? p.18

Exhibit 15b: Men and women employed in very high-risk sectors in the EU based on the classification by CEDEFOP



Source: Joint Research Centre, 2020, calculations based on EU-LFS Q42019 and CEDEFOP classification

²⁶ The World Bank. Labor force participation rate, female (% of female population ages 15+) (modeled ILO estimate), World Bank Databank, 2020. Available at: <https://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS>

²⁷ The World Bank. Labor force, female (% of total labor force) (modeled ILO estimate), World Bank Databank, 2020. Available at: <https://data.worldbank.org/indicator/SL.TLF.TOTL.FE.ZS>

On top of that, teleworkable occupations remains also the highest paid jobs on the market compared to non-teleworkable occupations (Exhibit 16).

Exhibit 16: Low and High income workers distributed per degree of teleworkability



Source: PIAAC Survey; Dingel and Neiman (2020); IMF calculation.
IMF Blog, Teleworking is Not Working for the Poor, the Young, and the Women, 2020

The female participation in the “smart” labour market is also challenged by a dramatic digital skills lag, much more pronounced in the women population than in the male one – a factor that per se represented the discriminatory factor between resilient and SMEs and enterprises in “survival” mode.

In 2019, according to UNESCO²⁸, women are much less likely to have an elementary proficiency in basic ICT-related operations such as using a smartphone, navigating the internet and social media – competences that cannot be ignored for today’s career aspirations and professional development. The gap remains consistent for all considered expertise levels (i.e. from fundamentals of digital literacy to advanced coding knowledge) and the situation in Europe is not more reassuring.

According to last available data provided by the Women Digital Scoreboard 2020²⁹, the female population is dramatically underrepresented in the ICT sectors and perform worse than their counterpart in all 12 control parameters³⁰. Considering all of the above, it is intuitive to understand the gender imbalances intrinsic to the phenomenon of smart working. The fragility of their employment situation (because of the difficulties they face to access and benefit from labour and social protections) is also exacerbated by the specific role typically detained by women in worldwide societies as caregivers and pillars of the domestic dynamics³¹.

²⁸ UNESCO, EQUALS Skills Coalition. “I’d blush if I could: closing gender divides in digital skills through education”, 2019. Available at: <https://unesdoc.unesco.org/ark:/48223/pf0000367416.pdf>

²⁹ European Commission, Women in Digital Scoreboard, December 2020. Available at: <https://ec.europa.eu/digital-single-market/en/news/women-digital-scoreboard-2020>

³⁰ For an exhaustive list, please consult: European Commission, Women in Digital Scoreboard – methodological note, December 2020. Available at: <file:///C:/Users/richd/Downloads/WomeninDigitalIndex2020-methodology.pdf>

³¹ European Commission, 2021 report on gender equality in the EU. Available at: https://ec.europa.eu/info/sites/info/files/aid_development_cooperation_fundamental_rights/annual_report_ge_2021_en.pdf

According to OECD data, in 2019 women undertake 75% of unpaid and domestic work³²; for the working population of females this means that they are expected to fulfil a series of duties that seems in contrast as hindering factors to new opportunities for professional development and workability.

The pre-existing lack of family and gender-friendly labour policies combined with highly fragmented regulations of smart working failing to provide for a sustainable model of its large-scale implementation at national level, question the efficacy of smart working in assuring and guaranteeing for women better work life balance conditions in a period when schools and childcare institutions were (and remain) closed due to COVID restrictions³³.

Now like never before, data indicates the female workforce as the pivotal “glue” for the average EU household, sustaining on their shoulders and by themselves the exponential increase of unpaid care and domestic duties (i.e. overseeing their children in online schooling)³⁴.

As a conclusive remark, it is impossible not to mention the role played by women during the outbreak of the pandemic. In the EU, women account for the 76% of the total healthcare workforce; and the gender connotation of this sector needs to be recognised and valorised³⁵.

These same considerations extend to other essential sectors such as social and domestic care, childcare, elderly care in which women represent the vast majority of workers, respectively: 93%, 93% and 83%³⁶.

³² OECD, The Case for Gender-Smart Work Policies: Key to Equality, Good for Business, 2019. Available at: https://oecd-development-matters.org/2019/07/23/the-case-for-gender-smart-work-policies-key-to-equality-good-for-business/#_ftn9

³³ EIGE, Gender equality and long-term care at home, Luxembourg: Publications Office of the European Union, 2020. Available at: <https://eige.europa.eu/publications/gender-equality-and-long-term-care-home>; Del Boca D. et al.; Women’s work, housework, and childcare before and during COVID-19, 2020. Available at: <https://voxeu.org/article/women-s-work-housework-and-childcare-and-during-covid-19>

³⁴ Papadimitriou, E. and Cseres-Gergelyne Blasko, Z., Economic sectors at risk due to COVID-19 disruptions: will men and women in the EU be affected similarly, Publications Office of the European Union, Luxembourg, 2020. Available at: <https://ec.europa.eu/jrc/en/publication/thematic-reports/economic-sectors-risk-due-covid-19-disruptions-will-men-and-women-eu-be-affected-similarly>; Blasko, Z., Working from Home when Teachers Do the Same – Teleworking and Work-Family Conflicts during COVID-19 Lockdowns, SSRN, 2020. Available at: <https://ssrn.com/abstract=3729301>; Wenham, C. The gendered impact of the COVID-19 crisis and post-crisis period, Report commissioned by the European Parliament, 2020. Available at: <http://www.europarl.europa.eu/supporting-analyses>

³⁵ European Parliament, The gendered impact of the COVID-19 crisis and post-crisis period. Study requested by the FEMM Committee, 2021. Available at: [https://www.europarl.europa.eu/RegData/etudes/STUD/2020/658227/IPOL_STU\(2020\)658227_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2020/658227/IPOL_STU(2020)658227_EN.pdf)

³⁶ EIGE. 2020. COVID-19 and Gender Equality. Available at: <https://eige.europa.eu/topics/health/covid-19-and-gender-equality>; European Commission. 2020. Coronavirus Pandemic: Impact on Gender Equality. Available at: https://ec.europa.eu/info/sites/info/files/research_and_innovation/research_by_area/documents/ec_rtd_covid19-genderequality_factsheet.pdf

Opportunities: training available and operational tools

Numerous industry reports now refer to smart, flexible, and agile working models as the “new normality” for business operativity, employee’s wellbeing and strategic competitiveness. Since the beginning of the outbreak, “smart working” has been a hot topic of discussion: it gathered great interest from many different sources and generated opinions from academics, practitioners, and policy makers.

Positive outcomes for business productivity have been proved and documented. However this productivity is function of delicate trade-offs³⁷. Smart work benefits productivity as long as it does not compromise work-life balances (inducing stress and “remote work fatigue”³⁸), does not affect the knowledge flow between peers and hierarchies, does not puts further barriers to communication – in other words, three very typical risks of working from home.

If entrepreneurs expect a rise in firm’s productivity by implementing smart working models, it is crucial for them to monitor the last three dimensions (i.e. assessing in time the potential occurrence of undesired countereffects).

The benefit curve of smart working is U-shaped, meaning that if remote working models are allowed with no tailor-designed frameworks, it is most likely that one out of communication, knowledge flow or work-life balances will erode in a way that none between employers and employees will find positive benefits from working from home. The training currently available for “aspiring” smart workers focuses in fact on these specific dimensions.

However, for the sake of clarity, it is to mention that the term “training” does not seems properly adequate: although the web is flooded with articles addressing opportunities and solutions to be a better smart worker (or to enhance employees’ productivity and wellbeing while working form home, if ones consider the employer’s perspective), these resources come in the form of informal recommendations, hints and tips, rather than structures training programmes with well-defined expected learning outcomes³⁹.

There are some notable exceptions of course, mostly deriving from big consultancy firms. But even in those cases the concept of training is blurred and replaced more than anything by conceptual frameworks for people / process management from remote.

In the following paragraphs, readers can consult a core sample of resources that, at the same time: fit the users’ expectations as structured training programmes, are developed and published by reliable and trustworthy international organisations, are consistent with the need of a “smart” business responses to COVID-19 pandemic⁴⁰.

³⁷ OECD, Productivity gains from teleworking in the post COVID-19 era: How can public policies make it happen?, 2020. Available at: https://read.oecd-ilibrary.org/view/?ref=135_135250-u15liwp4jd&title=Productivity-gains-from-teleworking-in-the-post-COVID-19-era

³⁸ McKinsey, Overcoming pandemic fatigue: How to reenergize organizations for the long run, 2020. Available at: <https://www.mckinsey.com/business-functions/organization/our-insights/overcoming-pandemic-fatigue-how-to-reenergize-organizations-for-the-long-run#>

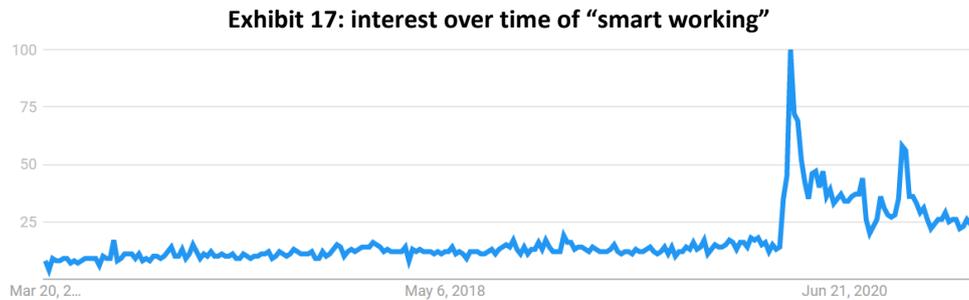
³⁹ Another minor inconvenience is to be considered: many resources had to be filtered between “training opportunities for smart working” and “training opportunities on smart working”. A simple grammatical preposition that in fact added another layer of complexity to the current analysis.

⁴⁰ The full documents are available via the references shared in note in the title.

Telework in the 21st century: an evolutionary perspective⁴¹

If entrepreneurs and business owners want to capitalise on smart working as a mean for efficiency, competitiveness, flexibility and resilience, their first training opportunity lies on a comprehensive understanding of the theoretical assumptions based on smart working.

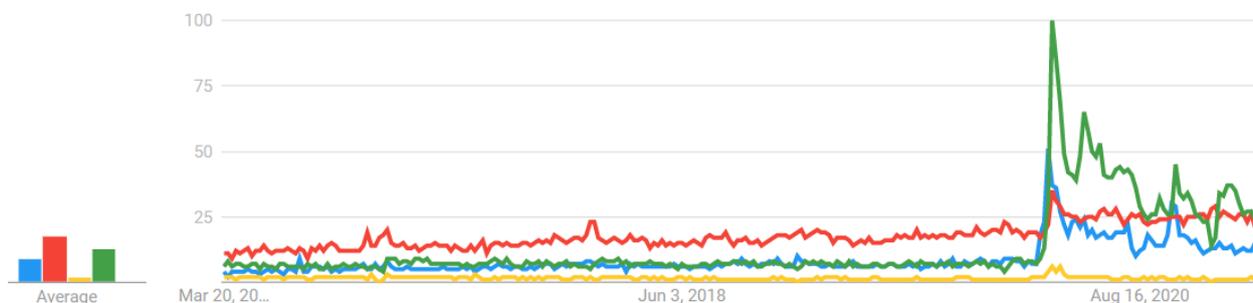
In spring 2020, the search engine of Google has been flooded with research related to “smart working” (Exhibit 17)⁴²:



Source: Google Trends

By comparing the interest over time to other terms formally conceivable as synonymous (“working from home”, “remote working” and “telecommuting”), the visualisation of data indicates the following (Exhibit 18):

Exhibit 18: Google Search, interest over time of “smart working” compared to “working from home”, “remote working” and “telecommuting”



Source: Google trend

Note: smart working in blue, remote working in red, telecommuting in yellow, working from home in green

The comparative analysis highlights three interesting factors:

- Remote working seems to follow constant trends of notoriety: in the last years smart working has been associated more to the terminology of remote working than to smart working itself.
- Despite being formally conceived as a synonym for smart working, the term of telecommuting did not gain considerable traction – at least, not as much as its counterpart.
- On the other hand, its most colloquial and informal expression (i.e. working from home) attracted much more considerable interest⁴³.

⁴¹ Jon C. Messenger, ILO Future of Work Series, “Telework in the 21st century: an evolutionary perspective”, 2019.

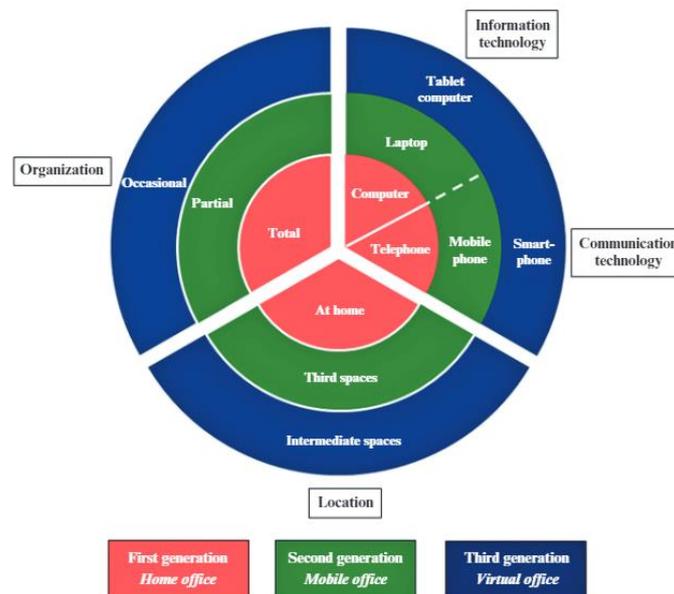
⁴² The research considers the worldwide search interest of “smart working” in the last 5 years. A value of 100, as registered between Mar 8 – 14 2020, is indicative of a peak popularity. Before the last week of February 2020, the search interest of the term stood on an average of 15 points. As of now, the media value settles down to a range between 30 and 45 points. There is also a second small peak near the last period of September, according to our deductions it might be associated to the experience of the “second wave” of infections.

⁴³ During the peaking time (i.e. March 2020), between the two there were around 70 points of difference.

How can one give meaning to such discrepancies in the common terminology used to refer to the same phenomenon? According to several sources⁴⁴, the intrinsic concept of smart working is for the most highly misinterpreted / misunderstood by the general public, and the same happens with its close references (remote working, telecommuting, etc.). The resource reported below is promoted by the International Labour Organisation as part of its “Future of Work series” and provides for a clear theoretical framework of smart working as a new evolutionary business models to conjugate people and process management, ICT and performance. Readers can extrapolate interesting findings and conceptual takeaways that surely will enrich their knowledge on the matter.

A section of particular interest is “The Three generation of Telework” in which the author proposes an historical development of common practices and references to smart working concluding with the highlighting of the “evolutionary” theoretical framework itself as foreseen by the title (Exhibit 19)⁴⁵.

Exhibit 19: an evolutionary perspective of smart working



Telework in the 21st Century, An Evolutionary Perspective, The ILO Future of Work series, Jon C. Messenger – p. 13
Readapted from: Messenger & Gschwind (2016)

Key means for effective teleworking during the COVID pandemic⁴⁶

Due to COVID-19 and the need to contain the spread of the virus, many workers are now teleworking full-time. The International Labour Organization (ILO) has set out some practical tips that can make teleworking as effective as possible.

⁴⁴ The Adecco Group – Morning FUTURE, Smart working: a misconception in pandemic times, 2020. Available at: <https://www.morningfuture.com/en/article/2020/11/23/smart-working-telework-pandemic-covid/1077/>; ELaN (European Law and Gender), Working at home is not that smart, 2020. Available at: <https://elan.jus.unipi.it/blog/working-at-home-is-not-that-smart/>

⁴⁵ In other words, a transition from “working from home as it is your office” to “being your own office”.

⁴⁶ ILO (International Labour Organization), “Keys for effective teleworking during the COVID - 19 pandemic”, 2020

- Management Support – from top management to frontline supervisors

It is necessary to establish a result - based management approach that takes into account modern needs: identification of objectives, tasks and milestones, monitoring and discussion are the most appropriate ways to manage the team effectively.

- Appropriate Tools and Training

Staying in touch during the isolation period is crucial for an effective work management and organisation: to ensure effective teleworking, it is essential to have access to appropriate equipment and adequate technical and training support.

- Clear Expectations

Precise rules must be established in order to monitor the progress and results of teleworking, making clear to all parties the conditions of employment and the hours to be available.

- Time Sovereignty

Teleworking allows people to reconcile their professional and private lives: the flexibility to carry out their work at the times and places that are most convenient for them allows them to plan their working day better and to carry out their work activities effectively.

- A Boundary Management Strategy

Effective management of their teleworking time ensures the creation of moments in which they can work undisturbed and moments in which they can disconnect from work, thus ensuring a healthy balance between paid work and personal life.

- Trust

An essential condition for an effective teleworking is trust between employer and employee.

Ergonomic tips when teleworking⁴⁷

Because of COVID-19, it is necessary to promote teleworking to stay safe and away from possible risks and follow a few tips in order to continue working efficiently and safely.

Staying at home means having to balance your professional and personal life: you need to reserve a quiet working space for yourself, improvising an office where you can carry out your work activities.

Improving the ergonomics of your working space is essential.

- Feet flat on the floor
- Back against the backrest or forearms horizontal and parallel to the ground

These are just some of the tips to follow that will allow you to continue doing your job without running any risks to your health. It is advisable to take regular breaks to exercise, to rest your eyes regularly and to stay hydrated; carry yourself in an environment with good air and sufficient natural light.

⁴⁷ ILO (International Labour Organization), "Ergonomic tips when teleworking", 2020

An employers' guide on managing your workplace during COVID-19⁴⁸

In response to the outbreak, the World Health Organization and all the public health authorities around the world are taking appropriate action to contain the infection rates and effects of this global and unprecedented health situation.

Each national government has developed a series of policies and measures to safeguard the population and contain the effects of the pandemic: border closures, mandatory quarantines, and movement restrictions are just some of the measures being implemented that are disrupting people's lives.

The coronavirus has also had an impact on working life, forcing companies to develop plans to manage work and avoid downsizing operations or business closures.

This guide, developed by the International Labour Organization (ILO), aims to help employers manage their workplaces during the COVID-19 pandemic, addressing the main concerns about issues related to employment and security. As the situation is changing quickly, it is crucial that employers are kept up to date with the latest information and developments published by WHO and national health authorities, and that they are aware of their legal obligations under relevant laws and regulations, contracts and collective agreements.

To address COVID-19, employers should:

- Monitor advice provided by national and local authorities.
- Assess potential business interruption risks.
- Review or draw up a business continuity plan in line with guidance from national and local authorities, with a view to supporting workers and their families.
- Identify and mitigate risks due to the coronavirus for workers and others connected to the workplace.
- Promote hygiene in the workplace and apply the principles of social distancing.
- Seek advice and support from EBMOs, which can be used to report to national governments and support the creation of policies and measures that are more appropriate to the situation.

Family-friendly policies and other good workplace practices in the context of COVID-19: key steps employers can take⁴⁹

This document offers recommendations for employers to mitigate the negative consequences of COVID-19, giving guidance on flexible working arrangements (which give workers more freedom), supporting working parents with childcare options and providing guidance and training on health and safety measures.

The effects of COVID-19 can be seen in every area of our lives: firstly, in the labour markets and in the economies of countries. Many companies are struggling to avoid dismissal or even closure, that can create a damage for many workers who are already disadvantaged by the absence of an adequate social protection systems. The pandemic also affects many children and their families, as the interruption of education and childcare can lead to illness and potential loss of family income.

⁴⁸ ILO (International Labour Organization), "An employers' guide on managing your workplace during COVID-19", 2020

⁴⁹ ILO (International Labour Organization), "Family-friendly policies and other good workplace practices in the context of COVID - 19: key steps employers can take", 2020

With the closure of schools and kindergartens, domestic responsibilities for working parents have increased, as they have to find ways to balance work activities with private life. Parents need resources, information and, above all, family-friendly policies to ensure greater social protection. Job and income protection, paid leave to care for family members, flexible working arrangements are just some of the measures that enable workers to protect and care for themselves, their children and their relatives.

Employers have a key role to play, as they will be able to support the activities of policy makers by providing key data to improve policies.

An employers' guide on working from home in response to the outbreak of COVID-19⁵⁰

The Coronavirus pandemic (COVID-19) continues to create serious damage to public health, economy and labour markets in all countries. Many measures have been taken around the world to contain the spread of the virus, including support and guidance from the World Health Organisation (WHO).

Governments have applied measures that evolve with the spread of the virus: from social distancing and restrictions on freedom of movement to the closure of non-essential companies and businesses. Undoubtedly, social distancing and reducing contact between people are among the most effective measures to combat the spread of COVID-19.

According to the International Labour Organisation (ILO), approximately 68% of the world's total workforce, including 81% of employers, is currently established in countries where job closure is recommended or required.

With this new and unexpected situation, employers are expected to design appropriate actions in response to the measures applied in individual states, in order to make workers safe and ensure the continuation of work activities. In this context, work from home, create as a temporary or alternative work arrangement, is the only way to ensure business continuity, productivity, and job preservation.

Guidance for action: gender-sensitive private sector response to COVID - 19 for accelerated and inclusive economic recovery⁵¹

Coronavirus (COVID-19) has affected almost every country in the world: this has forced the WHO to declare a global pandemic. Countries around the world have developed often strict measures to contain the negative impact and spread of the virus.

The global economy has been disrupted and companies have been forced to develop policies and interventions that provide security for their employees while maintaining business continuity. What is most alarming is how the pandemic is affecting social segments that were already experiencing inequalities: existing social and economic gender inequalities and challenges for women are made worse by the current crisis.

Despite considerable difficulties, the current crisis presents an opportunity for companies to develop policies to support women and provide a solution for gender-inclusive recovery.

⁵⁰ ILO (International Labour Organization), "An employers' guide on working from home in response to the outbreak of COVID - 19", 2020

⁵¹ UN Women (Regional Office for Asia and the Pacific), "Guidance for action: gender-sensitive private sector response to covid-19 for accelerated and inclusive economic recovery", 2020

Responding to the Coronavirus⁵²

Coronavirus (COVID-19) epidemic not only poses a major threat to people's health, but it also has a huge impact on the entire global economy. The UK government has developed an unprecedented policy to support workers and businesses, ensuring that money is made available to both of them to address financial difficulties as soon as possible.

Many companies find themselves forced to manage or reduce labour costs during the crisis, including dismissals. Thanks to the support of the government's job retention program and a collaboration with the employees, it will be possible to keep people at work: this will allow employers to maintain competent staff to recover once the crisis is over.

The virus is still a threat and we do not know for how long it will have an economic and social impact: therefore, it is essential to continue planning for months of interruptions, in full respect of the health, well-being of employees and business continuity. Communication and information will be essential to support the ongoing wellbeing of employees, who are at risk of damaging their mental health due to the stress caused by the current situation.

Companies have had to quickly adopt agile and flexible working practices, which need to be continually updated to ensure that the health of employees is protected, and the technology used is fit for purpose. In this regard, CIPD provides updates on measures to be taken and resources that can support the activity of employers in the elaboration of effective response to COVID-19.

Navigating COVID – 19⁵³

The Society for Human Resource Management (SHRM) offers information, tools and resources to analyse the current situation and propose suitable measures to combat the main social and economic problems due to COVID-19. The main areas of interest and research of the SHRM are:

- Next chapter of work

SHRM's biweekly COVID-19 Business Index aims to support employers in understanding the impact and changes caused by the virus.

- Returning to the workplace

It is necessary to develop a “back to work” policy, preparing employers and employees with the necessary resources to work in extreme safety.

- Rebuilding small businesses

SHRM is responsible for gathering a series of resources that allow small businesses to restart, following the serious damage caused by COVID-19.

- Top ways the future of work will change

COVID - 19 has changed the way we work today and will continue to affect the future of work environment.

⁵² CIPD (Chartered Institute of Personnel and Development), “Responding to the Coronavirus”, 2020

⁵³ SHRM (Society for Human Resource Management), “Navigating COVID – 19” toolbox, 2020

- How a crisis impacts workplace mental health

COVID - 19 is negatively impacting employees' mental health, forcing professionals to design interventions to support mental health and manage this “crisis within a crisis”.

- Working parents: balancing family & career

Working from home means balancing professional and private life.

Guide to prolonged, mass teleworking during a pandemic⁵⁴

In this guide, The WorkLife HUB summarizes the most important responsibilities and measures to implement that companies, their employees and team leaders must follow to organize telework in an emergency.

The current Coronavirus pandemic may have pushed your organization from using teleworking only occasionally and only for certain work teams, to having to use this mode regularly for the entire company: this without guidelines that can define the modalities of telework.

More and more companies are allowing workers to work from home to prevent the further spread of COVID-19 and ensure safety. At a time when governments are imposing social distancing, teleworking is the most effective way to reduce risk of infection and ensure business continuity. Teleworking can help the company carry out its main work activities, even favouring greater efficiency and satisfaction of employees who work from home. The production of guides on the issue is essential to support the action of companies that do not have the right know-how, the correct technology or teleworking policies suited to modern needs.

Les conseils de la CNIL pour mettre en place du télétravail⁵⁵

The CNIL (Commission Nationale de l'Informatique et des Libertés), provides for useful tools and measures at the disposal of organizations to safeguard the tele-business environment and for a correct management of data by:

- Creating or modifying a security policy in the context of teleworking containing minimum rules to be respected and communicate this document to your employees so that they can take a view.
- If necessary, modifying aspects of the information system to allow teleworking and take the necessary measures to maintain the level of security.
- Provide employees with at least a firewall, an antivirus and a tool to block access to malicious sites.
- Set up a VPN to prevent services from being exposed and accessible on the internet.
- Provide employees with a list of collaboration tools that can support communication in remote work. Employers should choose tools that are controllable and secure: for example, some software can transmit data about its users to third parties and are therefore particularly unsuitable for business use.

If the services are accessible from the Internet, a company should pay attention to the following topics:

- Use of protocols that guarantee the confidentiality and authentication of the recipient server.

⁵⁴ The WorkLife HUB, “Guide to prolonged, mass teleworking during a pandemic”, 2020

⁵⁵ CNIL (Commission Nationale de l'Informatique et des Libertés), “Les conseils de la CNIL pour mettre en place du télétravail”, 2020

- Use of security patches to the equipment and software used.
- Support and improve the use of two - factor authentication mechanisms on remotely accessible services to limit the risk of intrusions.
- Regularly check the access logs for remotely accessible services.
- Do not make unsecured server interfaces directly accessible.

Seven practical human factors and ergonomics (hf/e) tips for teleworking/home-learning using tablet/smartphone devices⁵⁶

This booklet describes several important issues commonly found in teleworking / home - learning environments that include interactions with digital devices. Digitisation has become part of our lives and the pros and cons of this diffusion have long been debated. The main discussion has been about the inseparable relationship between ICT tools and human beings: a relationship that has created many benefits, but also side effects.

The International Labour Organization (ILO) has launched its “Future of Work” initiative which aims to study and understand how ways of working are changing significantly as a result of new technologies. In addition to the many expected developments in markets and job opportunities, ILO predicts that remote working will become a dominant style of work, improving work-life balance for both men and women.

The document per se was conceived in a difficult time for humanity: COVID-19 is threatening human life, society and even the whole of civilisation, highlighting how people are totally unprepared for a pandemic state. We do not know how long this state of emergency will last: it is therefore essential to develop new ICT-based lifestyles, as distance working and distance learning are no longer just a trendy choice. Technologies, to be responsive to modern needs, must incorporate “Human Factor” and “Ergonomics” concepts at every stage of product design.

It is crucial to show people how to use digital tools correctly in order to improve their work performance and preserve their health and well-being.

IOE Guidance on teleworking in the times of COVID-19⁵⁷

The paper provides practical guidance to understand the main challenges of teleworking and solutions to be applied during emergency situations. Working from home during the COVID-19 pandemic is causing unexpected and uncommon challenges to traditional teleworking strategies. At this time, many companies many companies are struggling with the need to safeguard the creation of a healthy and safe working environment for their employees, and, on the other hand, it is essential to ensure corporate sustainability, preserve jobs and maintain the physical and mental well-being of employees.

In this case, employers must be prepared to adapt to the current and changing reality, developing collaborative teleworking strategies and taking into account the needs of employees: policies and regulations must be reviewed regularly to remain relevant and appropriate with the aim of responding to changing needs in the context of emergency situations. In addition, communication and understanding of employees’ family situation can help to build a more effective environment and a tailor-made teleworking policy.

⁵⁶ JES (Japan Human Factors and Ergonomics Society), “Seven practical human factors and ergonomics (hf/e) tips for teleworking/home-learning using tablet/smartphone devices”, 2020

⁵⁷ IOE (International Organisation of Employers), “IOE Guidance on teleworking in the times of COVID - 19”, 2020

Challenges, Skill Gaps and Needs Assessment

The following section starts with an important disclaimer:

The number of articles, reports and blogs addressing from a critical perspective the macro-topic of “smart working in a post-pandemic era” are largely available on the internet. Such abundance of knowledge and resources might lead to think that the navigation and the transition through the new future will be more sustainable, easy, and accessible for all small entrepreneurs.

Although this is certainly true, there are also few issues to be pointed out:

- After some point, the abundance of sources generates also a frustrating perception of content redundancy. In other words, the great number of resources / articles does not translate automatically in a greater (or equal) number of meaningful and ground-breaking inputs, ideas, and insights; being the fact that their conclusions are very similar in terms of outcomes and takeaways.
- SMEs are topic of discussion, but they are not under the limelight (at exception for notable mentions): while the mainstreamed literature focuses on no-better defined subjects such as “companies”, “organisations” and “entrepreneurs”, it is much easier to find SMEs-related information and insights scouting among other type of sources like scholars’ publications, independent blogs, webzine, etc. – which unfortunately do not have the same reaching potential of other (and more popular) references.
- Relevant findings emerge from sophisticated and highly elaborated reports. For sure they represent a very precious source for professionals like researchers and analysts disposing the pre-knowledge to process the information contained therein, to consult additional resources, and to move forward with their own elaborations; but ones might question if they are also of easy consultation for small businesses owners that might not have the time for such in-depth analysis (i.e. gathering and elaborating data) and would rather prefer quick snapshots and immediate takeaways.
- There is also a very subtle issue with the geographical perimeter of the analyses. SMEs from rural Romania, Spain or even Italy, face completely different challenges from their colleagues located in Belgium Luxemburg or Denmark. Many reports do not make clear the geographical extension of their analysis and give the perception that one conclusion fits all cases. This might lead to a biased evaluation from readers that are unfamiliar with the topic and ignorant of the many contextual factors (i.e. the national digitalisation index) that in fact differentiate the embracement of smart working from one national context to the others.

With that said, what follows is a comprehensive re-arrangement of the most notorious (and homogeneous) topics of discussions concerning challenges, skills gaps and necessities that needs to be overcome to further valorise smart working as a resilience model for the future competitiveness of EU SMEs⁵⁸.

⁵⁸ The reference material is available via the citations shared in note. For the sake of convenience, the notes will not represent an exhaustive list of all the material actually reviewed through the process but rather a sample of the most significant sources.

FLEXIBLE ORGANISATIONAL CULTURE⁵⁹

Every organisation breathes a different internal culture. Scholars and practitioners commonly define it as the strongbox of intangible value depicted in the way in which the business interface with its stakeholders, portrays its reliability and trustworthiness, and increase its self-awareness. In times of crisis, the values of an organisation are challenged as much as its task and processes.

The adoption and embracement of new technologies in response to a new “smart” demand, it could generate even counterproductive if employees and employers’ culture remains rooted to traditional models. The new call for flexibility upon processes, functions and tasks, remains just a sterile omen if people in the first place are not willing to rethink their frameworks of action.

Flexibility needs to be a mindset rather than mere business propaganda; strict control culture has no place into the behavioural paradigms of smart working.

(follows) TRUST, MUTUAL RELIABILITY and INTERNAL COMMUNICATION⁶⁰

A lack of perception of mutual trust and transparency between employers and employees prevented the emergence of reliable measures for work continuity that ultimately inclined the performance of SMEs throughout the pandemic period. In order to face such new “trust challenge”, many small organisations reacted by the introduction and implementation of so described intrusive methods to monitor from remote the productivity and the overall work efforts of the staff.

These means not only were not consistent with the new demand of higher flexibility – what would have been actually required by managers and senior staff members – but they proved to be highly counterproductive in terms of employees’ satisfaction and job quality perception.

Such major internal disruptions have weakened the collaboration dynamics among those participating in the organisation ecosystem and compromised one of the very fundamentals of business efficiency and efficacy: internal communication.

Per se, remote communication and collaboration does not facilitate the workflow and the interactions between parties, the main risk is related to the increasing of professional isolation, dispersion of information and greater difficulties in interpreting the incoming inputs for external sources (i.e. further occasions for misunderstandings).

If Teams cannot rely on robust digital facilities to foster collaboration; if the management misses the opportunity to build a sense of community engagement, reliability and mutual trust; if

⁵⁹ Deloitte, COVID-19 – Small Business Roadmap for Recovery & Beyond: Workbook, 2020. Available at: <https://www2.deloitte.com/content/dam/Deloitte/au/Documents/covid-19/au-deloitte-small-business-roadmap-for-recovery-and-beyond-workbook.pdf>; PwC, How the new normal is shaping the future of HR, 2020. Available at: <https://www.pwc.com/m1/en/publications/new-normal-shaping-future-hr/how-the-new-normal-shaping-future-hr.pdf>; PwC, Virtual working: moving from crisis response to normality, 2020. Available at: <https://www.pwc.co.uk/issues/crisis-and-resilience/covid-19/virtual-working-crisis-response-to-normality.html>; Mc Kinsey, Reimagining the office and work life after COVID-19, 2020. Available at: <https://www.mckinsey.com/business-functions/organization/our-insights/reimagining-the-office-and-work-life-after-covid-19>; Harvard Business Scholl, COVID-19 and the Workplace: Implications, Issues, and Insights for Future Research and Action, 2020. Available at: https://www.hbs.edu/ris/Publication%20Files/20-127_6164cbfd-37a2-489e-8bd2-c252cc7abb87.pdf; BCG, People Priorities in Response to COVID-19, 2020. Available at: <https://www.bcg.com/publications/2020/people-solutions-response-covid>

⁶⁰ ILO. "Tele-working during the COVID-19 pandemic and beyond. A practical guide". July 16, 2020. Available at: https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/--travail/documents/instructionalmaterial/wcms_751232.pdf; The Economist, Remote work is here to stay, 2020. Available at: <https://eiuerspectives.economist.com/technology-innovation/remote-work-here-stay>. For additional sources, please refer also to the note num.22

employees feel a greater pressure and an overall perception of suspicion towards their activities, the organisation fails to promote and empower a cultural substrate conducive to remote collaboration.

DESIGNING FOR RESILIENCE (and EFFICIENCY)⁶¹

If there is a business function that more than others gained substantial interest and a renewed focus, that is for sure Risk Management. In the face of COVID pandemic, the role of Risk Management has been greatly reconceived under a new strategic framework: from secondary activity⁶² to multidimensional priority.

In other words, Risk Management is the object of a paradigmatic shift that saw it moving from a structured business function to a fluid, transversal and integral approach for business and organisations as a whole. Its role has been elevated from “monitoring” the business performance to “being a driver” of excellence, consequently risk managers are called to comply with a broader spectrum of actions that overcome the traditional evaluation and assessment of internal-related risks and frames them as strategist, key players for value generations and influential voices for the reengineering of business models.

Practices and resources such as Stress Tests, Red Teams preparedness, Risk Simulations and Crisis Scenario Making, becomes all part of the new business dictionary and toolkit: consistently with their roles and responsibilities, all employees should reinterpret themselves as risk managers “on their own”, embracing the risk management mindset as part of their daily efforts.

DIGITALISATION and IT UPGRADE⁶³

This is a common ground of discussion for many sources. It is relatively easy to encounter the topic of digitalisation as a pivotal top priority for SMEs and microbusinesses as a mean to thrive in the post pandemic future⁶⁴.

For too many small organisations, digital technologies are still far from being exploited in their full potential. A large number of micro and small entrepreneurs are victim of a cultural bias that prevents them from understanding and valorising digital technologies from mere supporting systems for their managerial processes to ultimate drivers for efficiency, competitiveness, and performance.

⁶¹ McKinsey, The next normal arrives: Trends that will define 2021—and beyond, 2021. Available at: <https://www.mckinsey.com/featured-insights/leadership/the-next-normal-arrives-trends-that-will-define-2021-and-beyond>; WEF, Why succeeding in the post-COVID era means reassessing corporate risk, 2021. Available at: <https://www.weforum.org/agenda/2021/01/risk-management-post-covid-agile-business/>; PwC, COVID-19: What risk functions can do right now, 2020. Available at: <https://www.pwc.com/us/en/library/covid-19/risk-functions-response-strategy.html>; EY, How to reimagine nonfinancial risk management in a post-COVID-19 world, 2020. Available at: https://www.ey.com/en_gl/innovation-financial-services/how-to-reimagine-nonfinancial-risk-management-in-a-post-covid-19-world; KPM, Will COVID-19 change the role of Risk Management forever?, 2020. Available at: <https://home.kpmg/nl/nl/blogs/home/posts/2020/07/will-covid-19-change-the-role-of-risk-management-forever.html>

⁶² Recalling its formal classification in the Value Chain Model (M. Porter, 1985).

⁶³ BCG, As the COVID-19 Crisis Reveals, Europe Urgently Needs to Digitize Its Industry, 2020. Available at: <https://www.bcg.com/it-it/publications/2020/covid-crisis-reveals-europe-urgently-needs-industry-digitization>; PwC, Virtual working: moving from crisis response to normality – The challenge of managing a virtual workforce, 2020. Available at: <https://www.pwc.co.uk/issues/crisis-and-resilience/covid-19/virtual-working-crisis-response-to-normality.html>; Juergensen, J., Guimón, J. & Narula, R. European SMEs amidst the COVID-19 crisis: assessing impact and policy responses. *J. Ind. Bus. Econ.* **47**, 499–510 (2020); Baldwin R., Covid, hysteresis, and the future of work, 2020. Available at: <https://voxeu.org/article/covid-hysteresis-and-future-work>

⁶⁴ As recommended by the latest reports from the European Commission on research, development, and innovation: European Commission. Annual report on European SMEs 2016/2017 Focus on self-employment, Luxembourg. 2017; European Commission. Annual report on European SMEs 2018/2019 Research and Development and Innovation by SMEs, Luxembourg, 2019.

The macro-perspective on digital empowerment for a “smart” business competitiveness can be further broke down into two additional needs assessments:

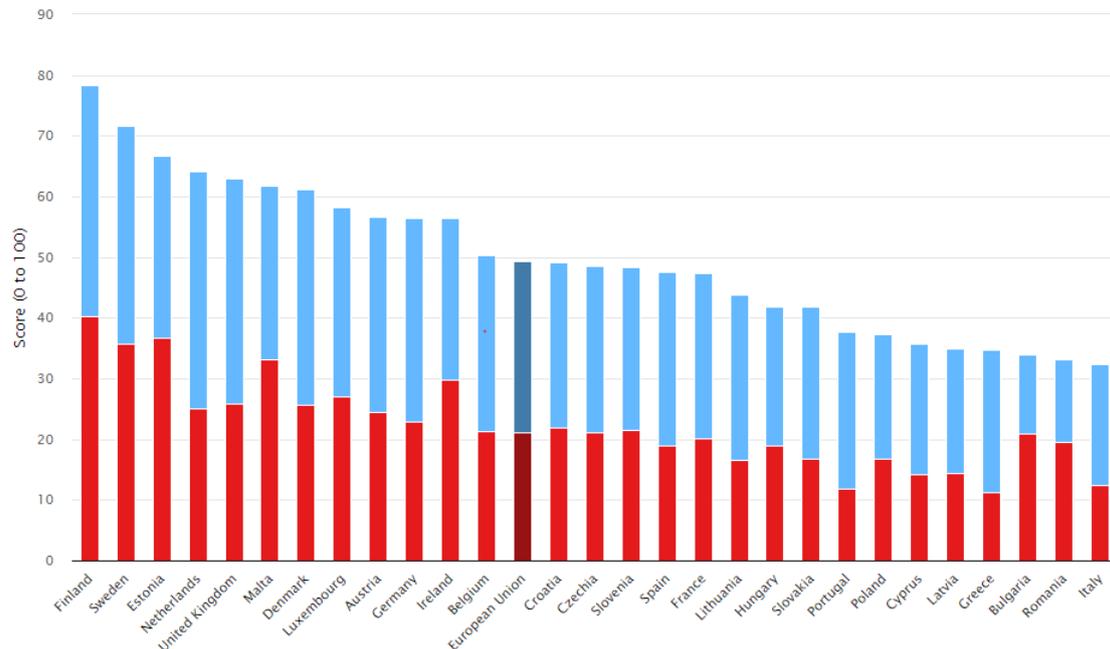
(a) DIGITAL SKILLS and IT LITERACY: HUMAN CAPITAL⁶⁵

Data from the previous section (i.e. Quantitative Phenomenon on Smart Working in Europe) shown a substantial correlation between the overall digitalisation index of societies and the familiarity of businesses with “smart” and “flexible” cultures. As a matter of facts, smart working did not represent such disruptive challenge for northers business as it did in fact for Mediterranean and Balkan business.

From the latest DESI report, it is possible to measure the performance of EU societies and economies from many different perspectives. A very valuable result demonstrating that such discrepancies pertain more to cultural factors, rather than technological one, lies on the fact that the difference in performance among EU countries in terms of “Connectivity” (Indicator 1) and “Use of Internet Services” (Indicator 3) is quite homogeneous compared to what results from “Human Capital” (Indicator 2) and “Integration of Digital Technologies” (Indicator 4)⁶⁶.

Not by chance, when it comes to Human Capital all Balkan and Mediterranean countries perform below the EU average with just very small improvements from one year to the next (Exhibit 20).

Exhibit 20: DESI 2020 – Human Capital (%)



Source: DESI 2020 by Components. European Commission, digital scoreboard

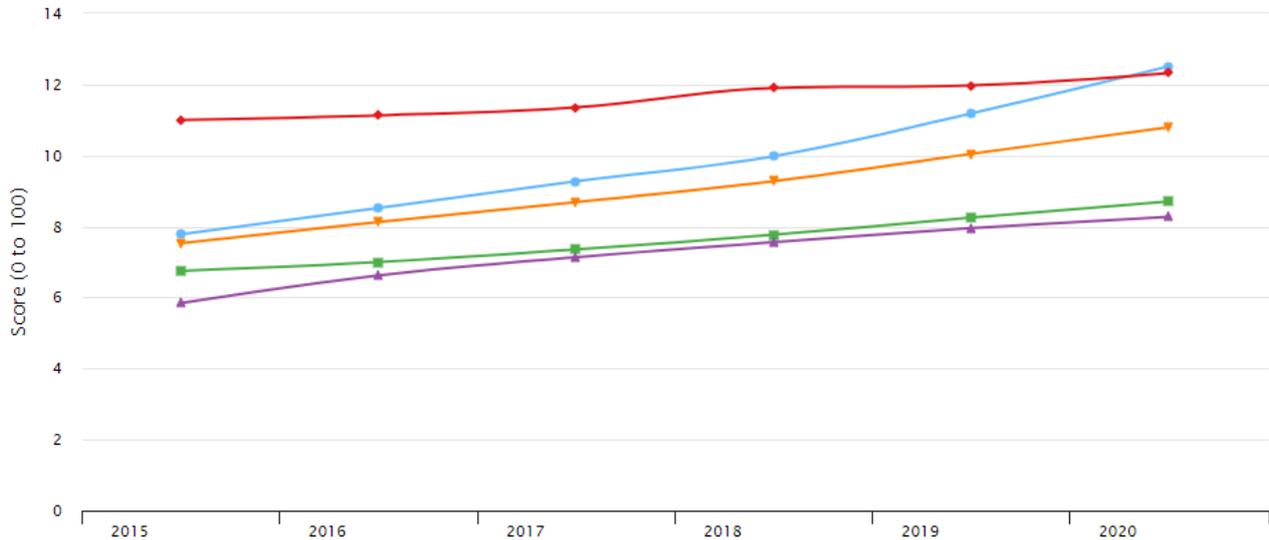
Note: In red, Advanced Digital Skills; in blue, Internet Users Skills

⁶⁵ OECD, Building digital workforce capacity and skills for data-intensive science, 2020. Available at: [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/STP/GSF\(2020\)6/FINAL&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/STP/GSF(2020)6/FINAL&docLanguage=En); OECD, Digital Transformation in the Age of COVID-19 – BUILDING RESILIENCE AND BRIDGING DIVIDES, 2020. Available at: <https://img.lair.co/cms/2020/11/27173400/digital-economy-outlook-covid.pdf>; ILO-OECD, The impact of the COVID-19 pandemic on jobs and incomes in G20 economies, 2020. Available at: https://www.ilo.org/wcmsp5/groups/public/---dgreports/---cabinet/documents/publication/wcms_756331.pdf

⁶⁶ On average, in the first two cases the median deviation from the worst to the best performing country is around 10 points; in the last two the gap widens from 30 points for Human Capital to 40 for Integration of Digital Technologies. Calculations from: [DESI – Compare Countries Progress](#)

In fact, since 2015 the curve for Human Capital remained way flatter than the ones referring to all other indicators, suggesting that people, cultures, digital education and IT training are not keeping up with technologies themselves (Exhibit 21).

Exhibit 21: The historical trend of DESI indicators from 2015 to 2020 (%)



Source: DESI 2020 by Components. European Commission, digital scoreboard

Note: Human Capital in red

(b) CYBERSECURITY⁶⁷

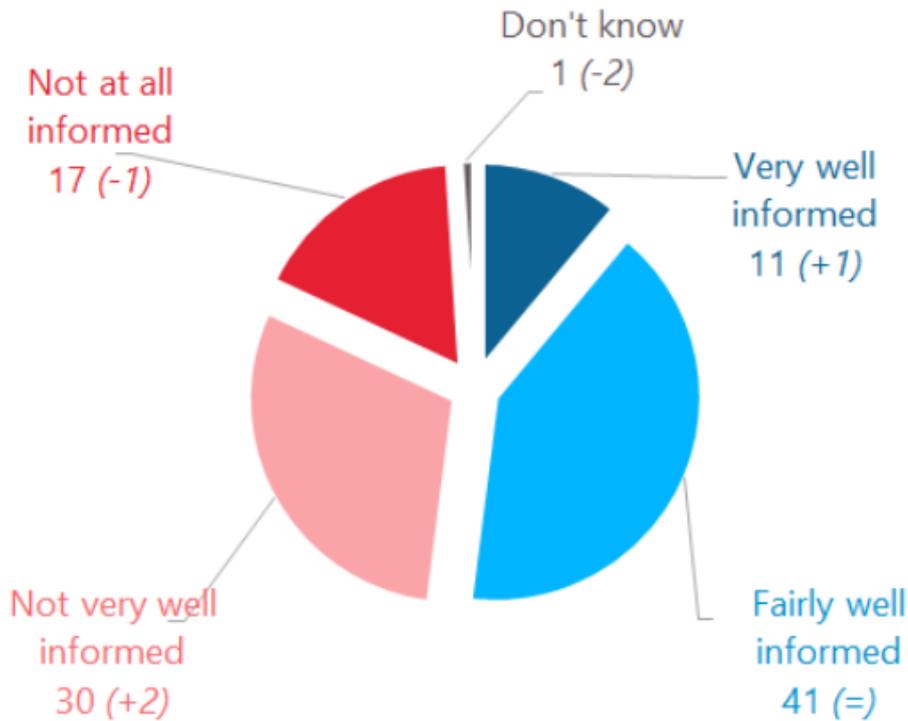
Since the beginning of the outbreak, micro and small enterprises have been the target of a rising number of data breach attacks that caused major disruptions and further compromised their operative efficiency.

The international sources here reviewed report that, with the outbreak of COVID pandemic and the full digitalisation of worldwide societies, cybercriminals had a unique opportunity to exploit the situation in their favour.

By looking at the distribution of cyber awareness among EU countries, the situation is even more concerning. The Europeans attitude towards cybersecurity is sharply divided in half (Exhibit 22):

⁶⁷ Accenture, Why you need to stay safe working from home, 2020. Available at: <https://www.accenture.com/us-en/blogs/cyber-defense/why-you-need-to-stay-safe-working-from-home>; ENISA, Threat Landscape Report (ETL), 2020. Available at: <https://www.enisa.europa.eu/news/enisa-news/enisa-threat-landscape-2020>; WEF, What the COVID-19 pandemic teaches us about cybersecurity – and how to prepare for the inevitable global cyberattack, 2020. Available at: <https://www.weforum.org/agenda/2020/06/covid-19-pandemic-teaches-us-about-cybersecurity-cyberattack-cyber-pandemic-risk-virus/>; OECD, Dealing with digital security risk during the Coronavirus (COVID-19) crisis, 2020. Available at: <http://www.oecd.org/coronavirus/policy-responses/dealing-with-digital-security-risk-during-the-coronavirus-covid-19-crisis-c9d3fe8e/>; Deloitte, Impact of COVID-19 on Cybersecurity, 2020. Available at: <https://www2.deloitte.com/ch/en/pages/risk/articles/impact-covid-cybersecurity.html>; KPMG, COVID-19: Protecting your business from cyber crime – How SMEs can protect their business from coronavirus-themed cyber attacks that are on the rise, 2020. Available at: <https://home.kpmg/au/en/home/insights/2020/03/covid-19-coronavirus-protecting-business-from-cyber-crime-sme.html>

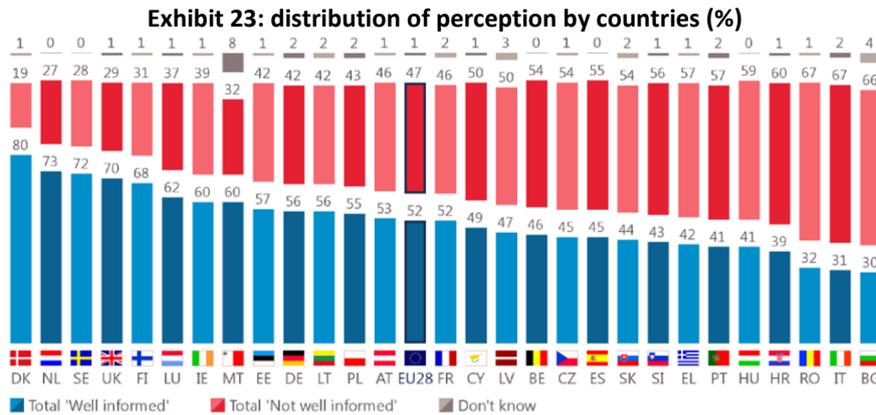
Exhibit 22: How well informed do you feel about the risk of cybercrime? (% EU)



Source: Special Eurobarometer 499.

Note: Fieldwork October 2019, updated January 2020 (N=27.609)

The portion of Very well / Fair well informed population is concentrated within those countries at higher percentages of digital awareness (Exhibit 23):



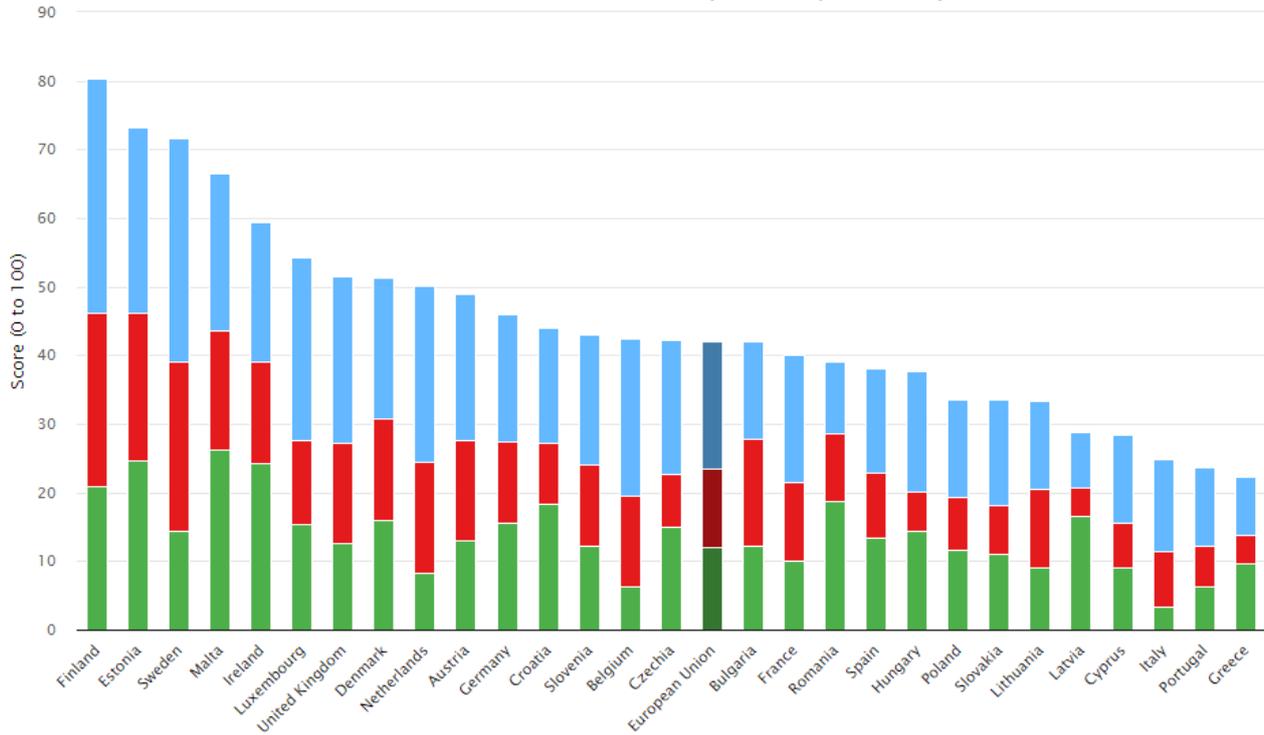
Source: ibem

As a matter of fact, the above chart is highly consistent with three additional dynamics:

- Countries at lower percentage of cyber awareness (i.e. below the EU average), are also the most cyber insecure countries – as corroborated by a large sample of independent sources⁶⁸.
- Countries at lower percentages of cyber awareness (i.e. below the EU average), are also the countries at higher shortage of ICT-specialised personnel and STEM graduates (Exhibit 24).

⁶⁸ Specops, The European Countries Most at Risk of Cyber-Crime, 2020. Available at: <https://specopssoft.com/blog/european-countries-cyber-crime/>; InformationAge, European countries most at risk of cyber crime revealed, 2020. Available at: <https://www.information-age.com/european-countries-most-risk-cyber-crime-revealed-123487813/#:~:>; Share of cyber attacks in Central and Eastern Europe in 2020, by category, Available at: <https://www.statista.com/statistics/1120079/cyber-attacks-cee-region/>

Exhibit 24: Rate of advanced ICT specialists per country



Source: Source: DESI 2020 by Components. European Commission, digital scoreboard

Note: in blue, ICT specialists; in red, female ICT specialists; in green ICT graduates

As part of the renewed risk awareness, at the intersection with digital priorities, there is the need to reconsider the value detained by data scientist and cybersecurity experts.

Conclusions

In the context of this report, the topic of smart working has been analysed from four key perspectives. The readers can gain access to a comprehensive sample of datasets and resources highlighting in what measure the phenomenon of smart working changed in Europe over time: the analysis of the dynamics preventing the emergence of smart-friendly policies and practices within organisational ecosystems, lead to the conclusion that remote working paradigms depend first and foremost by contextual and cultural factors.

Digital technologies and reliable IT infrastructures represent in fact necessary conditions to enable the exploitations of new flexible remote working models, but they are not sufficient. What EU SMEs need is a true commitment to a renewed system of value capitalising on digital culture as a new driver for business competitiveness. But not only that.

Overall, the discussion of smart working as a new opportunity for small business needs to be addressed very carefully: smart working models are not an opportunity by a default principle, its potential to emerge as such is triggered by the systems of beliefs and cultures perceived within organisations. Pre-existing conditions of mutual reliability, trust and self-accountability are the *sine qua non* leading to a tangible impact of smart working.

If this network of values falters in being recognised as truly meaningful and empowering, entrepreneurs should work on those intangible dynamics building and giving sense to the interpersonal relations within the organisation.

Where many industrial actors are still navigating the post-pandemic in “survival mode”; others have been able to thrive and resists despite all the difficulties imposed by such unprecedented operational context. Although it is true that a lot of such effect depended on the intrinsic nature of the occupied sector (recalling the resilience of capital-intensive sectors compared to labour-intensive sectors), much of the intersectoral and cross-national gaps are justified by *a priori* awareness of key operational fields that allowed larger opportunities for business continuity.

In this same report, on the basis of the reviewed literature, such key fields have been reframed as future areas for education and training; representing the new pivotal priorities for small business not only to re-emerge from the abyss of the pandemic, but to gain new energies for competing in the new future markets – arguments that have been valorised as top-notch priorities for small businesses even way before COVID-19 became known to worldwide societies.

Being “risk aware” and being “designed for resiliency” envisions two different assumptions that are not necessarily equally reliable: in the first case, organisations are just complying with one of the many essential functions demanded by business practices; in the second, organisations are embracing a new strategic mindset that looks at the future and evolve consequently. The conceptual switch to which many organisations are called to is a structural reframing of their perception upon flexibility, trust, resilience and digitalisation.

IO2 – Country Snapshot Template

SWIFT SME - Smart Working: Innovative & Flexible Training for SME

2020-1-DE02-KA202-007601

ANNEX 1

ANNEX 1. Employed persons working from home as a percentage of the total employment, by sex, age and professional status (%)												
GEO/TIME	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Euro area - 19 countries (from 2015)	5,6	5,4	5,6	6,0	6,1	5,3	5,3	5,2	5,1	5,7	5,8	6,0
Belgium	8,8	9,4	9,7	9,9	9,2	8,8	8,7	8,1	7,2	6,9	6,6	6,9
Bulgaria	0,6	0,5	0,4	0,6	0,5	0,5	0,4	0,3	0,2	0,3	0,3	0,5
Czechia	2,6	2,7	3,2	3,2	3,4	3,3	3,4	3,5	3,8	3,9	4,0	4,6
Denmark	10,4	10,1	10,9	12,0	11,7	11,0	9,9	9,0	8,4	8,8	7,8	7,8
Germany	4,1	3,4	3,3	3,6	3,5	3,3	3,2	3,3	3,2	4,8	5,0	5,2
Estonia	2,6	3,6	4,8	4,8	5,7	6,2	5,5	5,6	6,0	5,9	7,6	6,8
Ireland	6,9	7,2	7,0	6,9	4,8	4,1	3,6	3,7	3,3	5,0	6,5	7,0
Greece	1,7	1,9	1,8	2,1	2,1	2,2	2,7	2,6	2,6	2,3	2,0	1,9
Spain	3,1	3,3	3,7	4,0	4,4	4,3	4,3	3,6	3,5	4,3	4,3	4,8
France	9,8	10,3	10,9	11,3	11,5	7,3	6,8	7,0	6,9	6,7	6,6	7,0
Croatia	0,9	0,9	0,9	1,0	0,9	1,0	1,4	1,2	1,4	1,4	1,4	1,9
Italy	4,0	3,2	3,1	3,0	3,3	3,1	3,2	3,4	3,3	3,5	3,6	3,6
Cyprus	0,8	0,7	1,0	0,9	1,0	1,6	1,7	1,5	1,6	1,2	1,2	1,3
Latvia	2,0	2,3	2,8	2,1	2,0	2,1	2,5	2,1	2,6	2,1	2,9	3,0
Lithuania	4,6	3,7	3,5	3,4	4,0	3,9	4,1	3,0	2,7	2,6	2,5	2,4
Luxembourg	8,9	10,7	12,3	12,0	11,4	12,4	14,1	13,2	12,0	12,7	11,0	11,6
Hungary	2,4	2,2	2,3	2,8	3,1	3,9	3,4	3,4	3,0	2,5	2,3	1,2
Malta	4,1	5,0	1,7	1,6	1,8	2,2	2,7	2,6	3,6	4,4	5,8	6,1
Netherlands	10,7	11,0	11,0	11,3	11,5	12,6	13,1	13,6	13,4	13,7	14,0	14,1
Austria	10,1	10,0	10,3	10,7	10,3	10,4	10,7	10,2	9,9	9,5	10,0	9,9
Poland	3,8	4,2	4,5	4,7	4,6	4,0	4,6	5,6	5,3	4,5	4,6	4,6
Portugal	1,1	1,0	0,9	5,6	6,3	6,7	6,6	6,2	6,3	5,9	6,1	6,5
Romania	0,4	0,3	0,2	0,5	0,4	0,3	0,4	0,5	0,5	0,4	0,4	0,8
Slovenia	4,8	5,9	6,7	6,7	6,6	7,1	7,7	7,9	7,5	7,2	6,9	6,8
Slovakia	3,7	3,6	3,0	3,6	3,5	3,5	3,5	3,2	3,2	3,5	3,6	3,7
Finland	9,3	8,9	9,1	9,7	9,8	10,6	10,6	12,0	11,9	12,3	13,3	14,1
Sweden	3,6	3,9	4,2	4,3	4,5	4,8	4,9	5,1	5,1	5,0	5,3	5,9
Iceland	8,3	7,8	8,7	8,5	7,2	7,4	7,1	7,9	7,6	7,2	6,5	5,7
Norway	4,2	4,9	4,6	4,2	4,7	5,1	4,4	4,1	4,9	5,1	5,5	5,0
Turkey	2,7	2,3	2,4	2,0	1,2	1,5	1,8	1,8	1,8	2,1	2,2	2,1

Source dataset: Eurostat [lfsa_ehomp](#), last update 11.11.2020

GERMANY

Introduction

In Germany, home office is not the same as mobile work. The terms are often mistakenly used as synonyms, although legal and actual differences are linked to the respective term. Both models have their advantages and disadvantages. Which model fits better also depends on the culture in the company, the implementation possibilities as well as the professional and - as far as possible - private requirements of the employee.

In the case of home office, the (partial) performance of work at a fixed workplace outside the company, typically "within one's own four walls", is given. The following applies: The employer must ensure that the home office workplace meets the same legal requirements as the company workplace. In the case of home office work, the employee is not free to choose his or her non-workplace, but must perform the work from a fixed, verified workplace.

Mobile work is to be understood as the possibility, granted by the provision of mobile terminals, to perform the work at typically changing locations outside the business (for example, when travelling by train, in a hotel or on the sofa at home). The employee does not necessarily have to work from home. He only has to ensure his availability.

Home office must basically be measured against the same occupational health and safety standards as the classic office workplace. If the workplace is set up by the employer, the comprehensive regulations of the Workplace Ordinance must also be observed. Even if the peculiarities of home office can be taken into account in part (for example, with regard to education about escape routes), the employer remains responsible - both for the implementation and for the assumption of costs.

In the discussion about appropriate interventions to combat the Corona pandemic, the introduction of an obligation to work from home became increasingly popular around the turn of the year. While the German government had so far relied on appeals to employers and employees, other countries such as France or Ireland had already introduced strict home office measures. In addition, figures from the Hans Böckler Foundation suggested that home office use in November 2020 was only half of what it was in the spring. Against this background and the only slowly falling incidence figures, the Federal-Land Conference decided on 19 January 2021 on a "home office obligation" for employers.

The corresponding ordinance came into force on 27 January 2021 and is initially valid until 15 March 2021. It stipulates that employer are obliged to offer their employees home office, provided there are no operational reasons to the contrary. Employees, on the other hand, remain free to make use of such an offer.

At the end of January 2021, 24 % and thus almost a quarter of the surveyed employed persons worked exclusively or predominantly in a home office. This does not quite correspond to the 27 % of the first lockdown in April 2020, but recommendations and the home office regulation on the part of medicine and politics have nevertheless had an effect. The survey shows that in the course of 2020, the use of the possibility to work from home decreased. Thus, in June 16 % and in November only 14 % of the respondents did their job from the home office. In December 2020, this figure rose again to 17 %. It can be seen that home office use has increased significantly overall since the beginning of the pandemic.

When it comes to the positive and negative experiences they discover during the corona pandemic, 62 % of the respondents said that their start to the day was definitely less stressful because the "normally" daily commutes to work were no longer necessary. For 54 % of workers, even better time management was possible and 46 % of respondents worked less than normal in their home office during the Corona crisis.

Almost all respondents are convinced that after the Corona pandemic, everyday life will no longer be the same as before. Looking deeper, half of the study participants expect that the advantages of working from home will be used more. Especially the flexible change between office and home office is expected by 44 % of the respondents and 41 % more home office than before the Corona pandemic. That the focus on the digitalisation of work processes will increase is expected by 39 % and 33 % believe that business trips will be permanently replaced by virtual meetings. 31 % also expect working hours to become more flexible. Only 15 % think that nothing will change in the long term.

The federal government is supporting technology-based innovations by SMEs with various initiatives, which will also make smart working easier. There is also potential in increased e-learning. Digital teaching and learning platforms, media-supported collaboration between schools, and work- and leisure-related online communities open up new opportunities. Since May 2019, the federal government has been providing financial assistance of EUR 5 billion through the digital pact for Schools for investments in the municipal digital education infrastructure that are important for the entire country. However, there are no training tools or continuing trainings free of charge provided by national government, business support institutions or other educational institutions.

Instead, numerous transcripts can be found on the Internet that also make smart working easier for SMEs. For example, like checklists, which serves as a guide for employees to make their home work environment safe and healthy. This can equally be used for assessing working conditions.

Digitization is permeating the world of work and changing it. It is significantly more difficult for SMEs than for large companies to approach the topic of Smart Work and Economy 4.0 in general. Current studies show that these companies are less digitized than large companies are and thus have a greater need to catch up when it comes to implementing Economy 4.0 activities. Digitization is also changing the content and processes of training. As mentioned above digital skills are becoming increasingly important.

Likewise, thinking in complex contexts and an understanding of the analysis and processing of large quantities of process data has to be promoted. Studies show, that for many German companies, the home office works much better technically than originally assumed and that it offers significant savings potentials. With regard to digitization, the Corona-crisis clearly showed that activities can be moved more quickly to the home office - contact with customers, business partners and colleagues is facilitated, and necessary VPN tunnels and corresponding security precautions are implemented.

Quantitative indicators on Smart Working in Germany

The infection incidence and the necessary distance regulations or the lack of spatial and the lack of space for this have prompted many companies to enable professional work from home to an unprecedented extent. Whereas home office was often a special matter of negotiation before it has quickly become the rule, if the task profiles allow it. For employees with an increased health risk, it brings additional security. Surveys show that many employees perceive working in a home office as more productive.

They feel less stressed, for example, because there is no commute to the workplace. The rapid exchange of information across the office desk has given way to virtual meetings. Unscheduled meetings and the associated exchange of ideas and inspiration have become much rarer⁶⁹.

In the discussion about appropriate interventions to combat the Corona pandemic, the introduction of an obligation to work from home became increasingly popular around the turn of the year. While the German government had so far relied on appeals to employers and employees, other countries such as France or Ireland had already introduced strict home office measures.

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Exhibit 1: Home office use in February 2021 by sector and company size

Homeoffice-Nutzung im Februar 2021 nach Sektoren und Unternehmensgröße			
Sektor	Gesamt	KMU	Großunternehmen
Gesamtwirtschaft	30,3	26,1	39,3
Verarbeitendes Gewerbe	21,5	15,3	31,1
Dienstleistungen gesamt	40,9	37,8	49,5
Handel gesamt	18,2	13,1	28,9
Großhandel inklusive Kfz	24,3	19,1	31,2
Einzelhandel inklusive Kfz	9,8	7,3	21,4
Bauhauptgewerbe insgesamt	10,1	6,1	19,4

Anmerkung: Homeoffice-Nutzung in Prozent der Beschäftigten.

Source: ifo Business Survey, February 2021

Exhibit 1 breaks down home office use in February 2021 by sector and company size. With a home office rate of 41 %, the service sector records the highest usage in a sector comparison. This is probably mainly due to the occupational structure and job profiles in this sector. High PC usage rates as well as more cognitive and less manual tasks facilitate the shift to the home office.

The comparison by company size makes it clear that small and medium-sized enterprises (SMEs) have switched to home office much less than large companies in the same sector. In the manufacturing sector, for example, almost a third of employees in large companies currently work

⁶⁹ Schattenberg, Marc: “Homeoffice – gekommen um zu bleiben”. Deutsche Bank Research. 17.12.2020

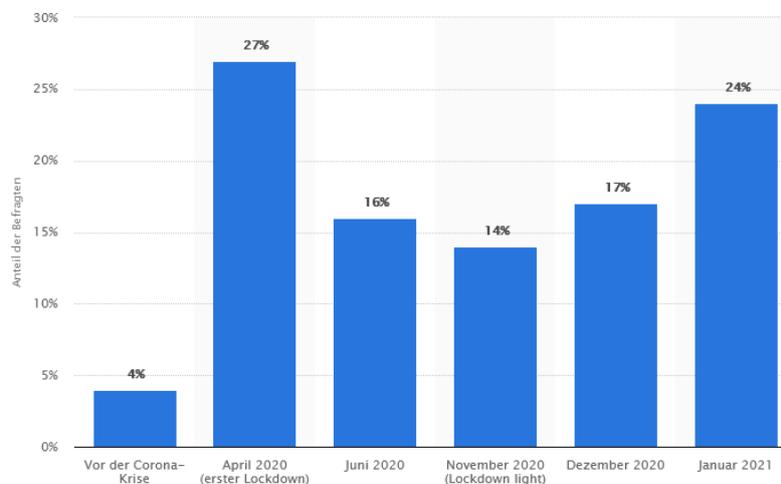
from home, while only just under a quarter of SMEs do so. Even before the Corona crisis, home working was far more common in larger firms⁷⁰.

Nevertheless, the Corona pandemic led to a rapid expansion of the home office, especially during its first rapid spread phase. Previously, about 13 % of all employed persons in Germany worked at least occasionally at home⁷¹.

While employees see in the home office the possibility of a better reconciliation of family and work and more flexible working, companies face the challenge of finding labour law, organisational and technical solutions for working from home. Many employees see the lack of direct contact with colleagues and the blurring of work and leisure time as disadvantages of the home office.

At the end of January 2021, 24 % and thus almost a quarter of the surveyed employed persons worked exclusively or predominantly in a home office. This does not quite correspond to the 27 % of the first lockdown in April 2020, but recommendations and the home office regulation on the part of medicine and politics have nevertheless had an effect. The survey shows that in the course of 2020, the use of the possibility to work from home decreased. Thus, in June 16 % and in November only 14 % of the respondents did their job from the home office. In December 2020, this figure rose again to 17 %. It can be seen that home office use has increased significantly overall since the beginning of the pandemic⁷².

Exhibit 2: Proportion of employees working from home in Germany before and during the Corona pandemic in 2020 and 2021



Source: Statista Research Department: Anteil der im Homeoffice arbeitenden Beschäftigten in Deutschland vor und während der Corona-Pandemie 2020 und 2021. www.statista.com. 21.04.2021

After the end of the state of emergency, however, the question of how much home office will remain will come even more into focus. The pros and cons range from the cost-saving potential of office real estate to questions of data protection and the ergonomics of the home office.

These figures illustrate the overall dynamism with which work organisation has changed in the face of the new framework conditions. The digitisation push was all the stronger in sectors whose tasks

⁷⁰ Alipour, Jean-Victor, Falck, Oliver, Peichl, Andreas and Sauer, Stefan: Homeoffice-Potenzial weiterhin nicht ausgeschöpft. Ifo Schnelldienst Digital, 6/2021.

⁷¹ Schattenberg, Marc: "Homeoffice – gekommen um zu bleiben". Deutsche Bank Research. 17.12.2020

⁷² Statista Research Department: Anteil der im Homeoffice arbeitenden Beschäftigten in Deutschland vor und während der Corona-Pandemie 2020 und 2021. www.statista.com. 21.04.2021

and activities are easier to work on from home. There are sometimes significant differences between sectors due to the tasks involved⁷³.

Due to the merging of home and office during the Corona pandemic, most employees in Germany feel strong effects on their professional situation, but these are surprisingly positive. The majority of respondents start the day with less stress thanks to the elimination of commuting. Every second respondent works more concentrated and relaxed in the home office. Families tend to manage the overall situation better, although time management is more difficult. Social interaction in the office is most lacking for the majority of respondents, especially couples and respondents aged 40 and over.

Although the majority of respondents find virtual collaboration good, the majority prefers real meetings. The majority of academics are convinced of virtual meetings and the acceleration of processes in the home office. Germany's companies surprise in the area of digitalisation. More than two-thirds of those surveyed gave their company a good grade for the changeover to home office.

Only 20 per cent felt their company was poorly prepared and speak of a lack of technology and know-how. In particular, employers should keep an eye on the social component in the team. Only 5 per cent of respondents, for example, said that cooperation works better in a home office. Maintaining collaboration and team spirit during general home office phases is therefore a factor that employers should keep in mind⁷⁴.

Time flexibility as asset for employees

Many employees appreciate the advantages that the newly gained spatial and temporal work flexibility brings with it. These include, above all, the time saved through the elimination of commuting, but a general facilitation of the reconciliation of work and private life cannot be denied.

Time and cost savings can be measured directly, but the real gain is likely to lie in the greater time autonomy. According to the 2016 micro census, almost every second employed person in Germany was/is on the road for up to 30 minutes per commute. This quickly adds up to a total commuting time of a full hour. Employees may arrive at work stressed by the volume of traffic. If children have to be taken to school, the time complexity increases further. Here, working from home can also bring relief and create additional time leeway⁷⁵.

The assessments of companies and employees with regard to mobile work and home office show that flexible working is generally viewed positively by both sides, as it offers employees greater flexibility and is a suitable instrument for better reconciling family and private life with work. On the other hand, many employees also want a strict separation of work and private life.

Furthermore, the surveys show that the nature of professional activities in many cases does not allow for mobile working or working in a home office. Other main reasons against home office are a pronounced culture of presence in Germany and the fear that cooperation among employees could be negatively influenced if employees increasingly work from outside company facilities.

⁷³ Schattenberg, Marc: "Homeoffice – gekommen um zu bleiben". Deutsche Bank Research. 17.12.2020

⁷⁴ Avantgarde Experts GmbH: Studie: Arbeiten in Corona-Zeiten. 2021

⁷⁵ Schattenberg, Marc: "Homeoffice – gekommen um zu bleiben". Deutsche Bank Research. 17.12.2020

On the other hand, employees consider themselves more productive if they can work undisturbed from a place of their own choosing; at the same time, they rate location-flexible working positively, as commuting times are eliminated and it becomes possible for them to increase their working hours. Overall, it can be said that companies and employees generally view mobile working and home office as positive, but both sides also recognise the associated risks and challenges⁷⁶.

Employees use the extra time primarily for hobbies and family. On the other hand, only just under half of the respondents are interested in professional development via online formats. On the negative side, the lack of social compensation, which also includes time with colleagues in the office, is clearly perceived by a large majority. Consistently, one third cite maintaining morale and motivation as a major challenge for companies. Only the preservation of jobs is mentioned more frequently⁷⁷.

The future of hybrid working models

The positive experience with working from home is reflected in companies' plans and employees' wishes for the time after the Corona pandemic. In the second quarter of 2020, 64 % of HR managers surveyed by Randstad and the IFO Institute said that conferences should continue to be held virtually more often. 47 % of HR managers were also positive about expanding the use of home offices, while another 18 % said they wanted to maintain the status quo of use.

The result of a survey by the consultancy Deloitte published in November points in the same direction. According to this, 66 % of the CFOs surveyed said they would increasingly rely on working from home in the future. These figures coincide with the results of a survey by the Fraunhofer Institute for Industrial Engineering (IAO). Of the managers surveyed from almost 500 companies, 42 % said they wanted to expand the home office offering, while 13 % would at least like to maintain the current level of use⁷⁸.

Despite all the enthusiasm for the newly gained spatial and temporal work flexibility, there are also one or two downsides here, which is why many employees would like a mixed form of presence in the company and home office.

On the one hand, the general spatial and technical working conditions in the home office are often not ideal. For many of those affected, the unexpected move to the home office was realised as a relocation of the workplace to the kitchen table at home or to a desk that was subsequently integrated into the home. In short, the private living situation is usually not suitable for working from home all the time. This is especially true for the comparatively scarce and expensive living space in many conurbations and even more so if, for example, two people want to work professionally in one flat at the same time.

A separate study is rarely available. This often concerns non-ergonomic technical equipment that is permanently used for mobile working. Many companies have already reacted here and equipped their employees accordingly or subsidised the purchase of ergonomic work equipment.

⁷⁶ Bundesministerium für Arbeit und Soziales: Forschungsbericht 549. Verbreitung und Auswirkungen von mobiler Arbeit und Home Office. Oktober 2020

⁷⁷ Avantgarde Experts GmbH: Studie: Arbeiten in Corona-Zeiten. 2021

⁷⁸ Schattenberg, Marc: "Homeoffice – gekommen um zu bleiben". Deutsche Bank Research. 17.12.2020

Nevertheless, there is still a need to catch up here, although in Germany there is also tax deductibility for work equipment⁷⁹.

In addition to the more material obstacles in the home office, a lack of participation in general company communication is also perceived as a problem, as is a dissociation of work and private life, which not only leads to longer working hours, but can raise stress levels in general. Working in a home office requires more self-organisation and places higher demands on communication, which lacks the moment of personal encounter.

The personal environment is also sometimes unfamiliar with one's own work schedule, which is usually not conducive to task focus. Where work tasks allow, it would be plausible to strive for a balanced mix of presence work and home office. Both companies and employees can benefit from this⁸⁰.

⁷⁹ Schattenberg, Marc: "Homeoffice – gekommen um zu bleiben". Deutsche Bank Research. 17.12.2020

⁸⁰ Schattenberg, Marc: "Homeoffice – gekommen um zu bleiben". Deutsche Bank Research. 17.12.2020

Qualitative indicators on Smart Working in Germany

Digitization is permeating the world of work and changing it: bakers are baking cakes with 3D printers; farmers are using sensors to monitor animals and mechatronic engineers are increasingly working with computer simulations. Online sales or completely digitally controlled production processes offer the economy many opportunities, but also challenges⁸¹. In Economy 4.0, processes are becoming more efficient and new business models are emerging - production, maintenance and sales are merging with information technology.

Artificial intelligence enables self-controlling manufacturing plants in which machines and robots learn autonomously and interact with each other or with humans. The smart home is changing plumbing, heating and air conditioning technology as well as the building trade. Whether industry, trade, craft, agriculture, services or care - this change has an impact on all sectors and economic areas⁸².

It is significantly more difficult for SMEs than for large companies to approach the topic of Smart Work and Economy 4.0 in general. Current studies show that these companies are less digitized than large companies are and thus have a greater need to catch up when it comes to implementing Economy 4.0 activities. One of reasons for this is that the necessary Know-how for complex digitization projects is still lacking in many companies. Consequently, companies increasingly need skilled workers who can competently handle new technologies and processes. In addition to the high investment requirements and the demands on IT infrastructure and data security, companies see the lack of qualified personnel as the main obstacle to implementation⁸³.

From this, one could deduce that the topic of smart work, very closely linked to the concepts of Economy 4.0 and digitization, is a greater challenge for SMEs than is the case for large companies. This kind of disadvantage could be successfully counteracted by adapting training for SMEs.

Digitization is also changing the content and processes of training. As mentioned above digital skills are becoming increasingly important. Likewise, thinking in complex contexts and an understanding of the analysis and processing of large quantities of process data has to be promoted⁸⁴.

Nationwide initiatives and projects (e.g., the JOBSTARTER plus program) were funded by the Federal Ministry of Education and Research to provide impulses for vocational training and improve regional training structures. This particularly affects projects for teaching basic skills in the area of digitization. Thus, small and medium-sized enterprises are supported in setting up their training for Economy 4.0⁸⁵.

The potential of digitization can be used to support employees and trainees in their work according to the situation and to provide information and support at the workplace as needed. Handheld devices, such as tablets or smartphones, play an important role here, as do microteaching or learning nuggets, learning on the job and modular learning offerings. Learning and working alternate and are interlinked. This requires good training of employees⁸⁶.

⁸¹ Bundesinstitut für Berufsbildung: Die überbetriebliche Ausbildung modernisieren — das Sonderprogramm zur Digitalisierung in überbetrieblichen Berufsbildungsstätten. 2020

⁸² Bundesministerium für Bildung und Forschung (BMBF): Ausbildung im digitalen Wandel - Strategien für kleine und mittlere Unternehmen. 2019

⁸³ Bundesministerium für Bildung und Forschung (BMBF): Ausbildung im digitalen Wandel - Strategien für kleine und mittlere Unternehmen. 2019

⁸⁴ Bundesministerium für Bildung und Forschung (BMBF): Ausbilden für die Wirtschaft 4.0. Projekte der fünften Förderrunde JOBSTARTER plus. 2020

⁸⁵ Bundesministerium für Bildung und Forschung (BMBF): Das Programm JOBSTARTER plus: Stark für die berufliche Bildung. 2020

⁸⁶ Bundesministerium für Bildung und Forschung (BMBF): Ausbilden für die Wirtschaft 4.0. Projekte der fünften Förderrunde JOBSTARTER plus. 2020

There are many activities, which are very compatible with working in a home office or remotely, for example information gathering and processing, communicating with others, teaching and counselling, and coding data can theoretically be done remotely. There are many activities, which are very compatible with working in a home office or remotely, for example information gathering and processing, communicating with others, teaching and counselling, and coding data.

Studies show, that for many German companies, the home office works much better technically than originally assumed and that it offers significant savings potentials. With regard to digitization, the Corona-crisis clearly showed that activities can be moved more quickly to the home office - contact with customers, business partners and colleagues is facilitated, and necessary VPN tunnels and corresponding security precautions are implemented⁸⁷.

Moreover, companies that maintain an active physical sales force already do a lot of mobile work anyway and are equipped with the appropriate technology, so the move to a home office is often not that difficult⁸⁸.

Managers are also more likely to be equipped with mobile devices for professional use, which makes it much easier for them to perform coordination tasks. The difficulty that arises, however, concerns greater flexibility and constant accessibility required of managers. Mobile working requires a high degree of trust and autonomy: many companies report the more difficult management and control by superiors that this creates⁸⁹. Noteworthy is that “...*although some tasks can be done remotely in a crisis, they are much more effectively done in person*”.

The actual trend towards alternative smart work methods could have a profound impact on urban economies, transportation, and consumer spending, among other things⁹⁰.

A noticeable argument is that the potential for remote work is highly concentrated among highly skilled, highly educated workers in a handful of industries, occupations, and geographies. Looking at the findings in the context of the digitization of the labour market and the transformation of the German economy to an Economy 4.0, it is striking that the occupational groups that provide access to the home office are also those that profit the most from developments with regard to an Economy 4.0. Particularly in information technology and other ICT professions, job gains can be expected in the future.

The findings of the 2018 BIBB/BAuA Employment Survey (ETB) show that while subjective perceptions of the impact of home office vary, employees in professions whose activities do not allow them to work from home apparently, also do not have the chance to decide for themselves whether or not to use home office. The practiced profession thus accounts for inequality of opportunity in access to home office and limits one's freedom of choice⁹¹.

⁸⁷ KPMG AG Wirtschaftsprüfungsgesellschaft: The New Reality: Corporate Governance nach Covid-19. 2020

⁸⁸ Grunau, Philipp, Ruf, Kevin, Steffes, Susanne und Wolter, Stefanie: Aktuelle Analysen aus dem Institut für Arbeitsmarkt- und Berufsforschung. Institut für Arbeitsmarkt- und Berufsforschung. 2019

⁸⁹ Grunau, Philipp, Ruf, Kevin, Steffes, Susanne und Wolter, Stefanie: Aktuelle Analysen aus dem Institut für Arbeitsmarkt- und Berufsforschung. Institut für Arbeitsmarkt- und Berufsforschung. 2019

⁹⁰ McKinsey: What's next for remote work: An analysis of 2,000 tasks, 800 jobs, and nine countries. 2020

⁹¹ Mergener, Alexandra: Homeoffice in Deutschland – Zugang, Nutzung und Regelung. Ergebnisse aus der BIBB/BAuA-Erwerbstätigenbefragung 2018. 2020

In the case of companies, whose activities involve individual and short-term trips; these are being replaced by the increasing digitalization of work processes as well as the use of video conferencing, because this is also related to the questions of the economic efficiency of travel, which companies are increasingly focusing on. From this, the tendency can be derived, that the office space reduction will be a result in the next three years: PWC lists the share of up to 30 % in its study, from which a savings potential of up to 12 % over 10 years can be derived with regard to real estate-related costs⁹².

However, increasing digitization also results in the costs of implementing new hardware and software solutions. A uniform IT infrastructure for all users is essential for an effective implementation of mobile working. The technical requirements - standardized tools such as WLAN, notebooks, cell phones, Skype for Business and headsets - must be procured in the areas of network and equipment.

For example, the cost of a successful home office model, particularly for new hardware, training and conversion measures, is around EUR 950 per employee. The move to home office working also triggers increased IT security measures (including security updates of firewalls and antivirus programs) that need to be taken and are in themselves a challenge for companies.⁹³ About one in ten companies is affected by a lack of technical requirements. This particularly affects companies for data protection reasons that work with personal data. This also affects companies operating in the service sector: here, the need for direct customer contact often also prevents mobile working. Sensitive company internals and personal data that is strictly protected by law, for example, must not be disclosed to third parties⁹⁴.

Furthermore, tools and resources available on the Internet are also offered to companies free of charge (see Tool's appendix), which they can use to ensure continuity of work. Worth mentioning at this point is information on how companies can have their home offices financed with the available state subsidies, for example, IHK Niederbayern⁹⁵.

Complementing this is the information published by the Association of the German Social Accident Insurance Administration Department⁹⁶ for companies on workplace design and recommendations on the use of work equipment (smartphones, tablets, laptops, etc.).

With the aim of making a contribution to increasing employer attractiveness, strengthening employee loyalty, increasing flexibility, reducing absenteeism, extending opening and production times, optimizing the use of office space and other aspects. The competence centre for securing skilled workers, funded by the German Federal Ministry for Economic Affairs and Energy, has provided recommendations for action for SMEs on how they can adapt home office work to their company and which preparatory measures and steps (analysis of the initial situation, recording responsibilities, setting up a project team, introduction steps, implementation control and optimization) are necessary for this⁹⁷.

⁹² PriceWaterhouseCoopers: Mehr Home, weniger Office. 2020

⁹³ PriceWaterhouseCoopers: German Entertainment and Media Outlook 2020–2024. 2020

⁹⁴ Grunau, Philipp, Ruf, Kevin, Steffes, Susanne und Wolter, Stefanie: Aktuelle Analysen aus dem Institut für Arbeitsmarkt- und Berufsforschung. Institut für Arbeitsmarkt- und Berufsforschung. 2019

⁹⁵ <https://www.ihk-niederbayern.de/coronavirus-und-homeoffice-4720406>

⁹⁶ <https://www.dguv.de/fb-verwaltung/index.jsp>

⁹⁷ <https://www.kofa.de/ueber-uns/das-kofa>

Furthermore, different working time models (part-time, flexitime, trust-based working time, working time accounts, flexible shift work, etc.) are presented, which could be used by the companies depending on the degree of flexibility and coordination effort. PWC's study also shows that the desire for smart work is increasing on the part of both employees and employers: more than two-thirds of respondents would like to work in a home office at least one day per week in the future⁹⁸.

For companies whose fields of activity involve business trips abroad or whose fields of activity are cross-border, an increase in remote work is also recorded⁹⁹. This may be the reason to expect an increase in home office days compared to pre-crisis levels. With regard to productivity, it can be also assumed, that this will either remain unchanged or even increase.

The Roland Berger study from 2019 also shows that employees, who have very flexible working conditions, are 4.4 % more productive. In addition, the attractiveness of the employer increases. The assumption, in turn, that the home office would reduce company productivity was made because of the change in communication that would result. Moreover, indeed, the results of the PWC study show that half of the employees surveyed experience difficulties in teamwork and general problems in sharing information¹⁰⁰.

Nevertheless, such factors as hierarchical thinking, silo thinking, lack of support and vision, lack of trust and resistance to change are seen as the most obstructive for the introduction of teleworking in the company. In addition, there are inappropriate processes and systems, as well as a lack of competence and experience¹⁰¹.

An additional issue that needs to be addressed in the context of adapting to the new working conditions is so-called digital stress, which is taking on an increasingly central role in working and living environments¹⁰².

Digital stress is a form of stress, caused by the use and ubiquity of digital technologies. Digital stress is also a significant phenomenon in German-speaking countries that is associated with negative consequences (e.g., reduction of job satisfaction, mental health, and innovation climate). It should also be mentioned, that personal characteristics and digital stress are interrelated. Crashing and slow computers, a multitude of unprocessed mails, permanently incoming social media messages on the smartphone, fear of computer viruses and other IT security problems, continuous introduction of new programs and updates, lack of usability and a poor help desk, as well as the prediction that many jobs might be lost in the future due to digitalization, automation and artificial intelligence – these and other similar phenomena stress very many people.

Moreover, findings from scientific studies show, that digital stress can also have an unfavourable impact on performance and work productivity. Since the Corona pandemic led people using digital technologies more than before (e.g., video telephony, email), at least since the lockdown that began in March 2020, it is likely that digital stress has increased further because the demands to operate the system exceed employees' abilities.

⁹⁸ PriceWaterhouseCoopers: Mehr Home, weniger Office. 2020

⁹⁹ Deloitte: Global Mobility Studie „Smart Mobility“. 2020

¹⁰⁰ PriceWaterhouseCoopers: „Mehr Home, weniger Office“. 2020

¹⁰¹ Schmitz, Anja: Agiles Arbeiten –Worüber reden wir hier überhaupt? 2018

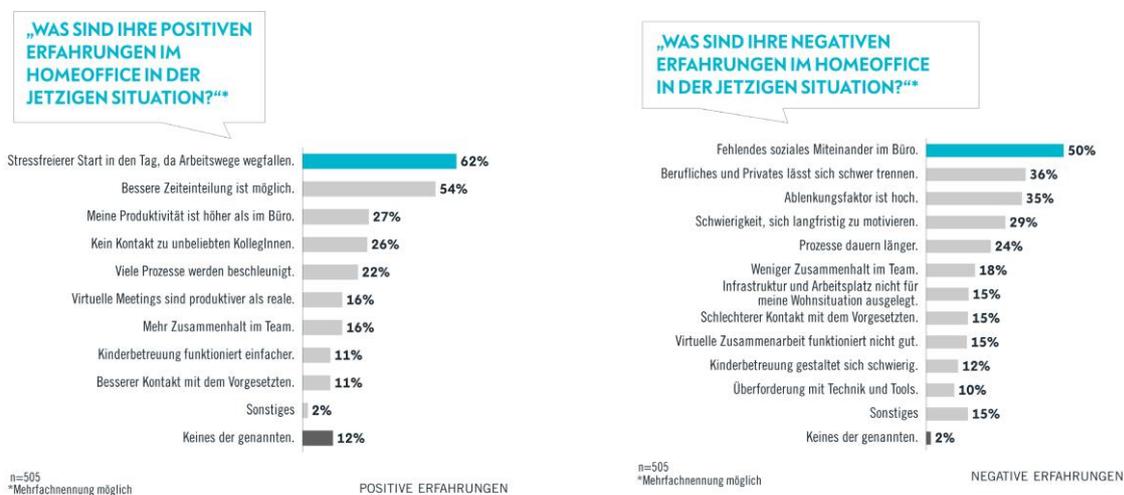
¹⁰² Klaffke, Martin: Gestaltung agiler Arbeitswelten. Innovative Bürokonzepte für das Arbeiten in digitalen Zeiten. 2019

As a result, a lot of time and effort has to be invested in learning and mastering information systems and digital devices. It has been scientifically proven that digital stress and the resulting dissatisfaction with the job makes employees more likely to change the job¹⁰³.

Effects on the companies

When it comes to the positive and negative experiences they discover during the corona pandemic, 62 % of the respondents said that their start to the day was definitely less stressful because the “normally” daily commutes to work were no longer necessary. For 54 % of workers, even better time management was possible and 46 % of respondents worked less than normal in their home office during the Corona crisis.

Exhibit 3: Positive and negative experiences in home office during the Corona pandemic



Source: Avantgarde Experts GmbH: Studie: Arbeiten in Corona-Zeiten. 2021

More women (55 %) than men (45 %) perceive the elimination of commuting to work as a relief. 48 % of those surveyed said they are more productive in a home office than in the office.

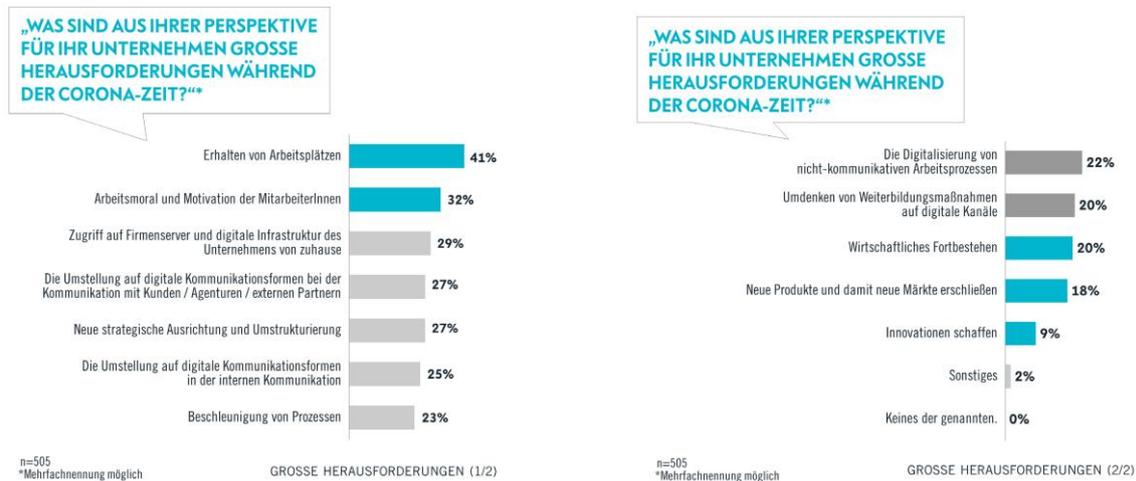
It is interesting at this point: children apparently have little to no influence on the productivity of workers in the home office. Whether with or without children, a quarter of the respondents say they are more productive in the home office. While the productivity of respondents in the home office is independent of children living in the household, the time management of respondents with children living in the household is clearly more challenging. For more than half of the respondents (54 %), the home office offers the possibility of better time management. 44 % of them are childless households, one third of them (32 %) live with children.

In addition to positive experiences in the home office, the employees were also asked about their opinion on negative experiences. One fact about working at home clearly stands out: every second respondent agrees with the statement that the lack of social interaction in the office is a negative experience in the home office and as many as 61 % of respondents miss the company of work colleagues in the office.

¹⁰³ Riedl, Rene and Fischer, Thomas and Kalischko, Thomas and Reuter, Martin: Agiles Arbeiten in offenen Büroumgebungen und Mitarbeiterstress. 2020

This is accompanied by the feeling of almost one fifth (18 %) of the respondents that there is less cohesion in the team. In other words: even if colleagues in the office may not always be the best of friends, for the majority of respondents they are still social contacts that they now miss. The respondents agreed with no other statement as often with 10 points as “I miss spending time with colleagues at work”¹⁰⁴.

Exhibit 4: Challenges for companies during the Corona pandemic



Source: Avantgarde Experts GmbH: Studie: Arbeiten in Corona-Zeiten. 2021

When asked about the major business challenges during the Corona pandemic, the respondents clearly put preserving jobs first, with 41 %. In second place, 32 % see maintaining staff morale and motivation. Here, too, all bosses should take notice.

A high number of respondents (29, 27 and 25 %) see access to the company's internal IT infrastructure and the changeover to digital forms of communication, both internally and externally, as a challenge for companies.

Every fifth respondent is also concerned about the economic survival of the company. In connection with this, 18 % see the introduction of new products and the opening up of new markets as particularly challenging at the moment. The creation of innovations is currently the least concern, at 9 %.

Almost all respondents are convinced that after the Corona pandemic, everyday life will no longer be the same as before. Looking deeper, half of the study participants expect that the advantages of working from home will be used more. Especially the flexible change between office and home office is expected by 44 percent of the respondents and 41 percent more home office than before the Corona pandemic. That the focus on the digitalisation of work processes will increase is expected by 39 percent and 33 percent believe that business trips will be permanently replaced by virtual meetings. 31 percent also expect working hours to become more flexible. Only 15 per cent think that nothing will change in the long term¹⁰⁵.

¹⁰⁴ Avantgarde Experts GmbH: Studie: Arbeiten in Corona-Zeiten. 2021

¹⁰⁵ Avantgarde Experts GmbH: Studie: Arbeiten in Corona-Zeiten. 2021

Opportunities: training available and operational tools

Definition home office, teleworking

In Germany, home office is not the same as mobile work. The terms are often mistakenly used as synonyms, although legal and actual differences are linked to the respective term. Both models have their advantages and disadvantages. Which model fits better also depends on the culture in the company, the implementation possibilities as well as the professional and - as far as possible - private requirements of the employee.

In the case of home office, the (partial) performance of work at a fixed workplace outside the company, typically “within one's own four walls”, is given. The following applies: the employer must ensure that the home office workplace meets the same legal requirements as the company workplace. In the case of home office work, the employee is not free to choose his or her non-workplace, but must perform the work from a fixed, verified workplace.

Mobile work is to be understood as the possibility, granted by the provision of mobile terminals, to perform the work at typically changing locations outside the business (for example, when travelling by train, in a hotel or on the sofa at home). The employee does not necessarily have to work from home. He only has to ensure his availability.

Home office must basically be measured against the same occupational health and safety standards as the classic office workplace. If the workplace is set up by the employer, the comprehensive regulations of the Workplace Ordinance must also be observed. Even if the peculiarities of home office can be taken into account in part (for example, with regard to education about escape routes), the employer remains responsible - both for the implementation and for the assumption of costs. While the employer must therefore in principle ensure full compliance with occupational safety and health regulations for employees in a home office, the requirements for mobile work are more flexible. Here, at least the Workplace Ordinance does not apply - understandably, as it would be impossible for the employer to ensure the safety of a table in a hotel room or a chair in a café. On the other hand, the other provisions of occupational safety and health law, such as the risk assessment according to Section 5 (1) of the Labour Protection Act, the instruction of the employee according to Section 12 (1) of the Labour Protection Act as well as the Ordinance on Industrial Safety and Health, also apply to mobile work, even if in part only to a limited extent. The employer's inspection and documentation obligations should be observed here.

Training opportunities and operational tools

The federal government is supporting technology-based innovations by SMEs with various initiatives, which will also make smart working easier. These include the "Digital Hub Initiative", which aims to promote networking between established companies, founders and research institutions. In

Checklist “Work from Home” by DGUV

Working from home is becoming increasingly important - not least due to the pandemic. This presents employers and employees with the challenge of organising temporary work in a private environment in accordance with the Occupational Health and Safety Act (ArbSchG) and the Working Hours Act (ArbZG).

The checklist provides employees with specific recommendations and can be used by employers as a tool in assessing working conditions. The checklist is available in a short and a long version. While the short version presents the recommendations at a glance, the long version contains explanations and further links.

You can find the checklist via the following link:

<https://publikationen.dguv.de/forschung/ia/g/weitere-informationen/4065/work-from-home-checklist-long-version>

September 2020, the new investment grant program “*Digital Now - Innovation Support for SMEs*” was also launched. The Digital Hubs should cooperate with the middle class 4.0 competence centres.

There is also potential in increased e-learning. Digital teaching and learning platforms, media-supported collaboration between schools, and work- and leisure-related online communities open up new opportunities. Since May 2019, the federal government has been providing financial assistance of EUR 5 billion through the digital pact for Schools for investments in the municipal digital education infrastructure that are important for the entire country. Via the supplementary agreement "Immediate Equipment Program" from 2020, a further 500 million euros will be made available for equipping schools with digital end devices and supporting schools with online teaching content¹⁰⁶.

However, there are no training tools or continuing trainings free of charge provided by national government, business support institutions or other educational institutions. Instead, numerous transcripts can be found on the Internet that also make smart working easier for SMEs. For example, like checklists, which serves as a guide for employees to make their home work environment safe and healthy. This can equally be used for assessing working conditions.

The guide “Homeoffice sicher und gesund gestalten” also provides extensive information about the home working environment to make it safe and healthy. In addition, this document provides information on home office rights and insurance coverage.

As a control for yourself, there is a checklist at the end, which requires the most important points for a safe and healthy work. The following document, “Personenbezogene Daten im Home Office schützen”, contains important tips on security of personal data when working outside the usual office workplace. This list may contradict or supplement existing regulations and can of course be extended and adapted as required. The visual presentation in videos with information is excellent for showing how to motivate and structure oneself in the best possible way in the home office.

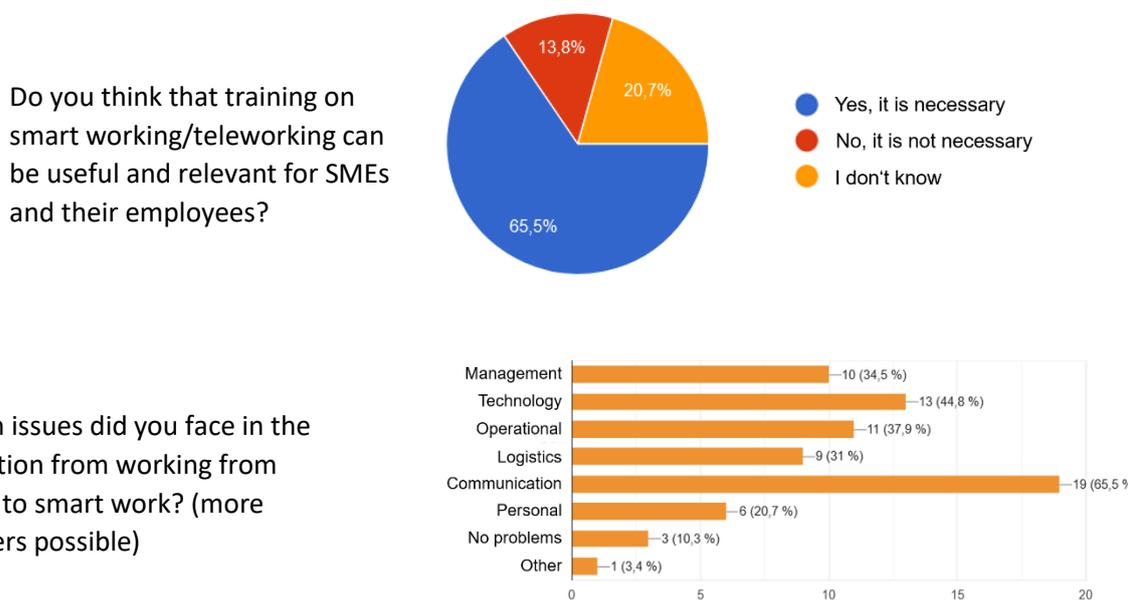
¹⁰⁶ Bundesministerium für Ernährung und Landwirtschaft (BMEL): Das Land lebt! Dritter Bericht der Bundesregierung zur Entwicklung der ländlichen Räume. 2020

Needs: skill gaps and needs assessment

A world in constant change puts pressure on companies, especially in times of the Covid-19-pandemic. They have to adapt permanently to new (market) conditions, (customer) needs and (technological) possibilities. Therefore, a pronounced ability to change, flexibility and agility are particularly essential in the new world of work concept.

When researching for the national report we started a questionnaire about the necessity of training on smart working/teleworking and which topics and competences are needed. The responses are not representative but they give a good impression. For example, more than 60 % of the respondents say that training on smart working contents will be useful for SMEs and their employees (Exhibit 5).

Exhibit 5: Results of the online questionnaire (29 respondents)



The New Work movement

The development towards home office work (intensified by the Corona pandemic, but already recognisable for years) did not happen in a vacuum. Rather, location-independent working can be seen in the broader context of the New Work movement.

The term stands for the partly gradual, partly revolutionary changes in the workplace since the 1980s. “New Work” goes back to the philosopher Frithjof Bergmann. He wanted to use the term to create a counter-model to both socialism and capitalism. The model conceives of work as something that workers see as meaningful and really want to do.

If one wants to describe New Work, this can be done most concretely via some essential, central concepts or dogmas, even if these can be translated very differently into everyday working life. According to Otto (2017), the six factors flexibility, flat hierarchies, agility, digitalisation, individuality and new office concepts are cited. Admittedly, they are on different levels: Digitalisation as a trigger/condition, flat hierarchies as a feature and flexibility as a capability. Nevertheless, they can be considered central concepts of the New Work movement. The factors described describe

relevant approaches according to which New Work is lived in companies. In the following, we describe the concepts on which the implementation of New Work approaches is based. These take effect on different levels: Requirements arising from external change, changes in the employee structure and individual motivation:

Ability to change: Fast and efficient adaptations to changing conditions, both at the level of the company and of individual employees. It requires resilience (psychological resistance) and the will to not only accept change, but to be able to use it productively.

Flexibility: "Flexible working hours, locations and workplaces enable effective work adapted to different situations" (Otto 2017) and are at the same time a (measurable) consequence of dealing with the pressure of change. Co-working spaces, flexitime models and location-independent working options, e. g. working in a home office, are increasingly emerging.

Agility: "Structures and processes are designed in such a way that they can be adapted to unforeseen events or new requirements" (Otto 2017). Agility describes the need not only to create flexibility in terms of working space and time, but also to practise methods and optimise processes so that future changes can be recognised and designed at an early stage (see Scrum or Design Thinking). The buzzword *permanent beta* sums it up well in this context: Processes, projects and products are in continuous development that never comes to a conclusion. The increasing flexibilization is also reflected in a new employee structure. Clear and rigid hierarchies are softening, becoming more permeable and making employees more responsible. Self-management is becoming a central skill; leadership must be rethought and lived.

Flat hierarchies: "A modern, democratic leadership culture enables cooperation at eye level with short decision-making paths" (Otto 2017). This means that there is increasingly more say and decision-making power beyond the boardroom. In some cases, the fixed position of the boss is being abolished altogether and replaced by so-called competence-based hierarchies.

Self-management: When the control "from above" decreases, a free space is created on the part of the employees, who now have to manage themselves. Self-management requires the corresponding ability to make independent decisions about which tasks are to be completed and how.

Leadership: It would be a fallacy to conclude that there is less (or no) need for leadership in New Work. However, a new leadership culture relies on situational, supportive leadership, often as a kind of coaching of employees in their development. This kind of leadership promotes the development of the potential of individual employees. Employees are not seen as faceless workers who are kept in highly standardised processes in individual office boxes, but rather are allowed self-development and in return are demanded a lot of self-motivation. Demographic change and the so-called war for talents also make it necessary for companies to attract skilled workers. A promising strategy is to focus on meaningfulness.

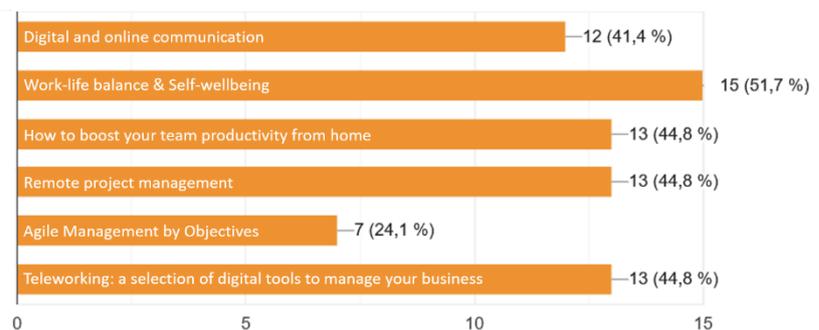
Meaning in work: As Frithjof Bergmann defined it, New Work is about seeing meaning in one's own work. This is a demand that more and more employees are making - even with the even willing to give up their salary in return (see interview with occupational psychologist Theo Wehner 2019). This is often associated with the values of commitment, freedom and participation in the community.

Work-life balance: The right balance between professional demands and private needs has been a central buzzword in the new world of work. Broadened to "work-life blending", it is a question of combining the seemingly distinct worlds of work and private life with each other. Home office models and mobile office solutions play a role in this¹⁰⁷.

As the New Work movement explains the requirements which arise from external change and the skills which will be necessary working remotely and/or in home office, these skills have been confirmed by the respondents of the research questionnaire. Exhibit 6 shows that work-life balance and self-wellbeing plays an important role to help SMEs transition to smart working.

Exhibit 6: Results of the online questionnaire (29 respondents)

From the following topics for a possible training and/or tool, please select three topics that you think are most relevant to help SMEs transition to Smart Working/ Teleworking!

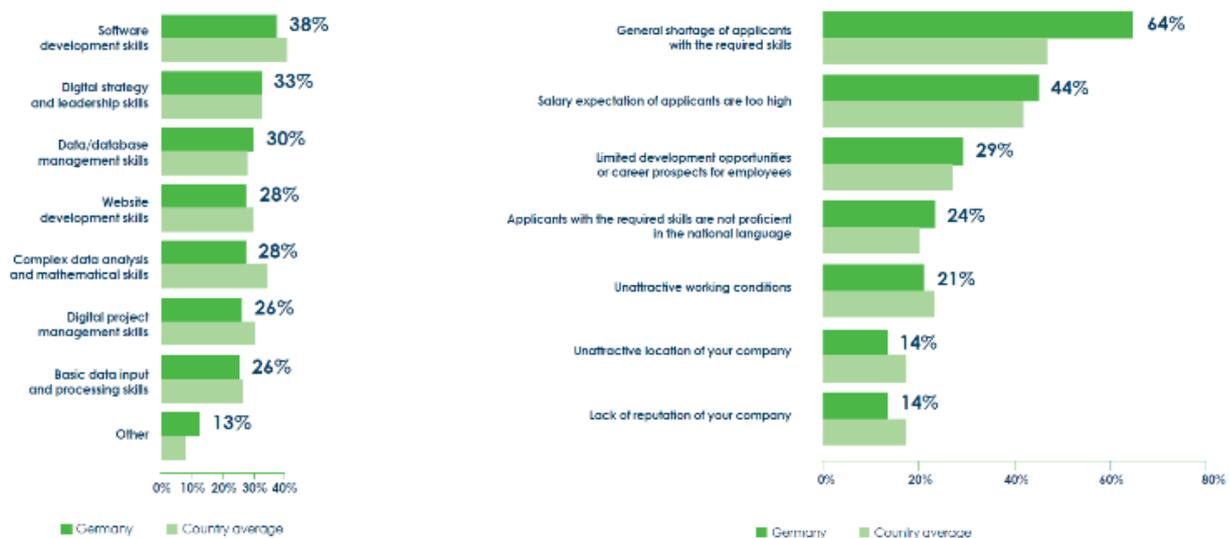


¹⁰⁷ Hauptmann, Nora und Peters, Stephan, betterplace lab, Hanna Daum, randstad stiftung (Hrsg.): Neue Kompetenzen im Home Office - Veränderungsfähigkeit, Selbstmanagement und Teamgefühl als Erfolgsfaktoren für das Arbeiten von zu Hause. 2020

Challenges

- German SMEs have experienced robust revenue and employment growth in the last financial year, not least due to their success on foreign markets.
- Although digitalisation is gaining foothold among German SMEs, it is not one of their competitive strengths, according to their own assessment. In many digital activities, they still lag behind their European peers.
- Important obstacles include the lack of digital infrastructure and cyber security issues but also the lack of digital skills – both within the company and on the external labour market.

Exhibit 7: Digital Skills missing in German SMEs (left) and difficulties in recruiting digital talent (right)



Source: Going Digital – the Challenges Facing European SMEs. 2019

- German SMEs are missing a broad spectrum of skills among their employees, ranging from basic digital competencies to advanced programming skills and digital leadership capabilities.
- To tackle this skill gap and build up digital knowhow, SMEs in Germany train their employees. This seems urgently necessary, as the shortage of digital experts on the external labour market is particularly pronounced in Germany.
- Thus, while investments in digital infrastructure are crucial, the public debate must not lose sight of digital education, which needs to be strengthened if future skill needs are to be matched.
- The low speed of internet is the most important barrier to digitalisation in SMEs.
- Crucial for Germany to ensure its international competitiveness, fostering the digital skills of its labour force seems equally important.
- Having identified insufficient digital skills as a key obstacle, what are the specific competencies that are missing? In fact, German SMEs are missing a broad spectrum of hard and soft digital skills among their employees¹⁰⁸.

¹⁰⁸ Dr. Abel-Koch, Jennifer; Al Obaidi, Leath; El Kasmi, Sabrina; Fernandez Acevedo, Miguel; Morin, Laetitia and Topczewska, Anna: Going Digital. The challenges facing European SMEs. 2019

Conclusions

Digitization is permeating the world of work and changing it. It is significantly more difficult for SMEs than for large companies to approach the topic of Smart Work and Economy 4.0 in general. Current studies show that these companies are less digitized than large companies are and thus have a greater need to catch up when it comes to implementing Economy 4.0 activities. Digitization is also changing the content and processes of training.

As mentioned above digital skills are becoming increasingly important. Likewise, thinking in complex contexts and an understanding of the analysis and processing of large quantities of process data has to be promoted. Studies show, that for many German companies, the home office works much better technically than originally assumed and that it offers significant savings potentials. With regard to digitization, the Corona-crisis clearly showed that activities can be moved more quickly to the home office - contact with customers, business partners and colleagues is facilitated, and necessary VPN tunnels and corresponding security precautions are implemented.

The federal government is supporting technology-based innovations by SMEs with various initiatives, which will also make smart working easier. However, there are no further training tools or continuing trainings free of charge provided by national government, business support institutions or other educational institutions. But a world in constant change puts pressure on companies, especially in times of the Covid-19-pandemic.

They have to adapt permanently to new (market) conditions, (customer) needs and (technological) possibilities. Therefore, a pronounced ability to change, flexibility and agility are particularly essential in the New Work movement. If one wants to describe New Work, this can be done most concretely via some essential, central concepts or dogmas, even if these can be translated very differently into everyday working life. The six factors flexibility, flat hierarchies, agility, digitalisation, individuality and new office concepts are cited.

Although digitalisation is gaining foothold among German SMEs, it is not one of their competitive strengths, according to their own assessment. In many digital activities, they still lag behind their European peers. Important obstacles include the lack of digital infrastructure and cyber security issues but also the lack of digital skills – both within the company and on the external labour market.

ITALY

Introduction

In the context of this brief report, we analysed the phenomenon of smart working in Italy from different perspective.

First, we provided data and statistics pertaining to the diffusion of smart working in pre- and post-COVID era: findings suggest that before spring 2020, Italian SMEs have always nurtured a sort of cultural detachment from remote working as a sustainable model to manage people, resources and processes. A lack in trust-culture and management resistance acted as inhibitors to facilitate the experimentation at organisational level with telecommuting.

In second place, we observed how the operative distance from such kind of models challenged SMEs' flexibility and resilience degree after the outbreak of the pandemic. According to national findings, many employees and employers felt unprepared to readapt the schedules, tasks and processes to the new settings. An historical lag in digital proficiency and ICT skills, lack of adequate technological resources, industrial factors and too much "affection" to uncoherent managerial styles are all factors preventing SMEs' adaptation to new style of business management.

What followed was a brief review of needs and skills-gap perceived by both employers and employees. Workers feel to be empowered on the topic from many different perspectives – above all: cybersecurity, well-being, and "agile" management – but unfortunately, literature review confirms a substantial lack of education and training resources freely available for users' consultation (at exception for paid training programmes, consultancies delivered by private organisations).

Based on the above, SWIFT position itself as a very strategic initiative for the empowerment and nurturing of "smart-compliant" skills among management and staff of SMEs.

Quantitative indicators on Smart Working in Italy

By comparing data from pre- to post-pandemic, it is possible to notice the lag of many Italian enterprises in embracing smart working as a reliable model for people, resource, and process management. While large organisations demonstrated much more responsiveness to experiment with telecommuting, SMEs and public sector gave very little chance to this discipline.

In 2018, IPSOA institute observed¹⁰⁹ that in Italy there were only 480.000 smart workers and operating for the most in IT and capital-intensive sectors. The reasons why SMEs tempted to exclude smart working as a potential alternative to “traditional” work-from-office models, were mainly related to:

1. The (unmotivated) perception from employers to lose “physical control” on their employees
2. The (unmotivated) perception from employers of a decrease in productivity from employees
3. The (unmotivated) perception from employees that smart working might somehow prevent their professional and career development

Compared to 2018, In 2019 the number of Italian smart workers rose of a 20% (570thousands in total) and numerous benefits were recorded among employees: better work-life balances, higher productivity, increase in motivation and job-satisfaction¹¹⁰.

However, it is also to be observed that these positive trends are not by effect of a renewed awareness among SMEs but it is due to the major incidence of large companies and public sector. As a matter of fact, the percentage of smart workers in SMEs decreased from 24 to 12%.

Overall, it is possible to state that before the pandemic the traction gained by smart working among small enterprises’ management was very low. But radical changes came with the rageous outbreak of the COVID-19.

According to official statistics¹¹¹ from the Ministry of Labour and Social Policies, back in spring 2020 in Italy there were nearly 1.9 million of smart workers, 90% of which started to work from remote only after the pandemic. Followed by Spain, Italy became one of the very first member state to experience a dramatic health crisis: national-scale lockdown measures have been implemented before than any other EU country and soon after Italy became one of the member state with the highest number of “home only” workers¹¹².

Data gathered by the National Institute of Statistics (ISTAT)¹¹³ confirm the new reality of smart working at national scale: +18.3% of microenterprises introduced or extended smart working models in their operational settings, the same did +37% of small enterprises. Even larger increases have been recorded among SMEs (+73.1%) and big companies (+90%).

¹⁰⁹ IPSOA, Lavoro agile poco utilizzato nelle PMI, ma con grandi potenzialità, November 2018. Available at: <https://www.ipsoa.it/documents/lavoro-e-previdenza/rapporto-di-lavoro/quotidiano/2018/11/21/lavoro-agile-utilizzato-pmi-grandi-potenzialita>

¹¹⁰ Polytechnic of Milan, osservatori.net; Smart Working davvero: La flessibilità non basta;

¹¹¹ Ministero del Lavoro e delle Politiche Social, Sono più di 1 milione e 800 mila i lavoratori attivi in modalità smart working, May 2020. Available at: <https://www.lavoro.gov.it/stampa-e-media/Comunicati/Pagine/Sono-piu-di-1-milione-800-mila-i-lavoratori-attivi-in-modalita-smart-working.aspx>

¹¹² Source: EUROFOUND 2020, Employees’ place of work during the pandemic by country, EU27 (%)

¹¹³ ISTAT, Situazione e prospettive delle imprese nell'emergenza sanitaria Covid-19, May 2020. Available at: <https://www.istat.it/it/files/2020/06/Imprese-durante-Covid-19.pdf>

Qualitative indicators on Smart Working in Italy

In the context of Qualitative phenomena pertaining to smart working in Italy, it is important to recall what previously mentioned concerning the overall business awareness on telecommuting and remote working for resources, people and process management.

Although formally regulated in 2017 by the Law no. 81/17 in the context of the “Jobs Act” labour reform, smart working struggled to find a cultural recognition among small entrepreneurs and employers. As a matter of fact, before the pandemic, Italy was among the member states with the lowest adoption rate of smart working¹¹⁴ - even way below the EU average.

With such a strong cultural detachment from the phenomenon at SME’s dimension, the greater number of smart workers did not translate into immediate smart working’ proficiencies at industrial and economic level. On the other hand, specifically in the case of non-IT sectors, the transition to smart working represented quite a challenge for many small entrepreneurs. Lockdown measures forced the vast majority of employers to redesign and re-structure their businesses following the principles of a new framework which they never experienced before.

As a matter of fact, COVID-19 pandemic showed that smart working is much more than “working from home”: it implies strategic decision making and planning based on new strategic mindsets leveraging on paradigms of flexibility and resilience.

Smart working happened to be the safety net of many small organisation prone to revise their *status quo* and embrace uncertainty as an opportunity for change, innovation and development, rather than a threat¹¹⁵. But for many other organisations, 3 out of 4 according to Unioncamere’s estimations¹¹⁶, the transitions towards smart working came with more challenges than benefits. In this regard, according to data¹¹⁷ published by Confindustria, these challenges/inhibitors can be organised in three main clusters:

- a) **technological equipment and IT security**
- b) **organisational readjustments**
- c) **amplified inequalities**

a) For what concerns the first one, COVID-19 brought under the limelight the unpreparedness of Italian micro- and small-medium enterprises to cybersecurity and “cyber-hygiene”, so much so to lead critiques in talking about *cyber-pandemic*. Cybercriminals exploited in their favour the transition of economies and societies into the digital domain.

An independent assessment¹¹⁸ from CYNET reports that, in the period that goes from February to March 2020, Italy experienced a spike in phishing attacks (+70%), malicious log-in attempts (nearly 600 hundred), email-based attacks (nearly 9.000 thousand) – with working documents and email as

¹¹⁴ Source: Eurostat, LFS. Variable code: lfsa ehomp.

¹¹⁵ Il Sole 24 Ore, Coronavirus, così lo smart working sta salvando la produttività delle aziende in Italia, March 2020. Available at: <https://24plus.ilsole24ore.com/art/coronavirus-cosi-smart-working-sta-salvando-produttivita-aziende-italia-ACKt6IMB>

¹¹⁶ Unioncamere, Imprese: 1 su 4 ha investito prima del lockdown sul lavoro agile, May 2020, Available at: file:///C:/Users/RICCARDO/Downloads/11052020_com_smartworking.pdf

¹¹⁷ Confindustria, Smart working: Un’analisi oltre l’emergenza, November 2020. Available at: [https://www.confindustria.vr.it/confindustria/verona/istituzionale.nsf/\(\\$linkacross\)/F2E1A45C2EE3FDDEC125861D0058DD67/\\$file/2020_Fatti&dati_15.pdf?openelement](https://www.confindustria.vr.it/confindustria/verona/istituzionale.nsf/($linkacross)/F2E1A45C2EE3FDDEC125861D0058DD67/$file/2020_Fatti&dati_15.pdf?openelement)

¹¹⁸ CYNET, Recent escalations in cyberattacks in Italy prove the coronavirus impact on cybersecurity – acting as a warning for ciso worldwide, 2020. Available at: <https://www.cynet.com/blog/recent-escalation-in-cyberattacks-in-italy-prove-the-coronavirus-impact-on-cybersecurity-acting-as-a-warning-for-cisos-worldwide/>

favourite weapon of choice of cybercriminals. IBM estimates that in 2020, the total cost of data breaches was nearly \$4.00 Million. Out of the 17 sampled countries, Italy ranks at the 8th position with an overall total cost of \$3.5 Million¹¹⁹.

b) Communication and coordination from remote proved to be quite a significant challenge for many small organisations. SMEs' managerial style in Italy is typically "control-driven", the introduction of smart working model put in crisis the traditional HR models sustained and encouraged by many entrepreneurs and employers. Remote and agile working paradigms required a renegotiation of working relations with regards to monitoring and evaluation of performance.

Many entrepreneurs approached to smart working ignoring/underestimating the implications and relational consequences that working from remote has on their employees. The loss of control perceived by many entrepreneurs triggered even more rigid monitoring routines that not only are inconsistent with the very essentials of smart working but damaged and eroded the productivity, satisfaction and trust of their employees¹²⁰.

c) Smart working does not work for all. Findings¹²¹ emerging from a research conducted by INAPP demonstrates that smart working benefits senior males and high-paid white collars from urban areas. Women, young employees, blue collars tempt to suffer disproportionately from the uncertainty caused by current circumstances.

This is mainly due to the fact that the latter are typically employed in non-teleworkable occupations (e.g. manual work, third sector, etc.), moreover, in the case of female workforce, smart working conflicts with domestic duties which their figure is normally associated with. By looking the phenomenon from a broader perspective, there is also another condition preventing Italian SMEs from a smooth implementation and adoption of smart working models.

EU sources¹²² indicates that the level in which activities and professions can be performed in remote environments highly depends on the autonomy the employees can rely on to carry on its specific tasks, and the degree of digitalisation of those same tasks.

Autonomy and digitalisation are features that are characteristic to capital-intensive sectors and ICT-related professions, which do not represent the bulk of Italian economy and entrepreneurial ecosystem in general – nor of many other Mediterranean and Balkan countries sharing common features with the Italian context (i.e. low incidents of capital-intensive sectors, high rates of digital skill-gaps).

Exhibit no. 1 provides for a clear visual representation of the phenomenon. Even before COVID-19, the EU countries with the highest percentage of "smart workers" are the same relying the most on knowledge-intensive services and capitals (and of which Italy is not part of).

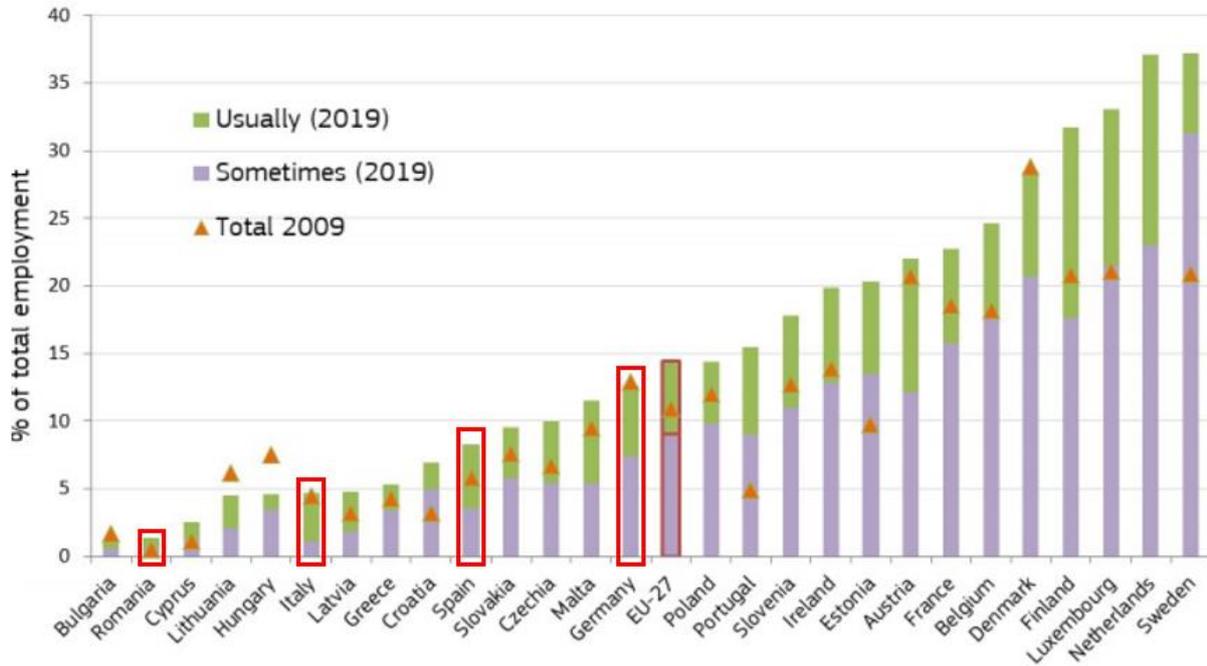
¹¹⁹ IBM Security, Cost of Data Breach Report 2020. Available at: <https://www.ibm.com/security/digital-assets/cost-data-breach-report/#/>

¹²⁰ L&E Global, Italy: Smart Working Beyond the COVID-19 Emergency – The Challenge is to Change the Mentality, July 2020. Available at: <https://knowledge.leglobal.org/corona/country/italy/italy-smart-working-beyond-the-covid-19-emergency-the-challenge-is-to-change-the-mentality/>

¹²¹ INAPP, Working Paper no. 50, All that glitters is not gold. Influence of working from home on income inequality at the time of Covid-19, June 2020. Available at: https://oa.inapp.org/bitstream/handle/123456789/709/INAPP_Bonacini_Gallo_Scicchitano_All_that_glitters_is_not_gold_WP_50_2020.pdf?sequence=1&isAllowed=y

¹²² JRC based on European Jobs Monitor Task Indicator dataset, Eurofound (2016)

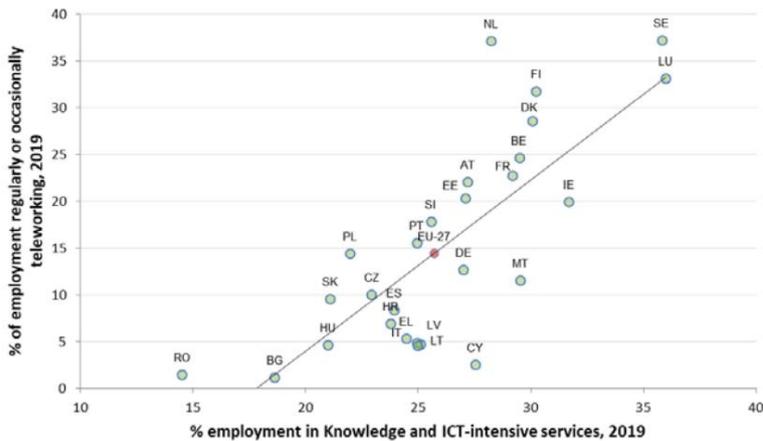
Exhibit 1: Prevalence of telework across EU Member States



Source: Eurostat, LFS. Variable code: lfsa ehomp.

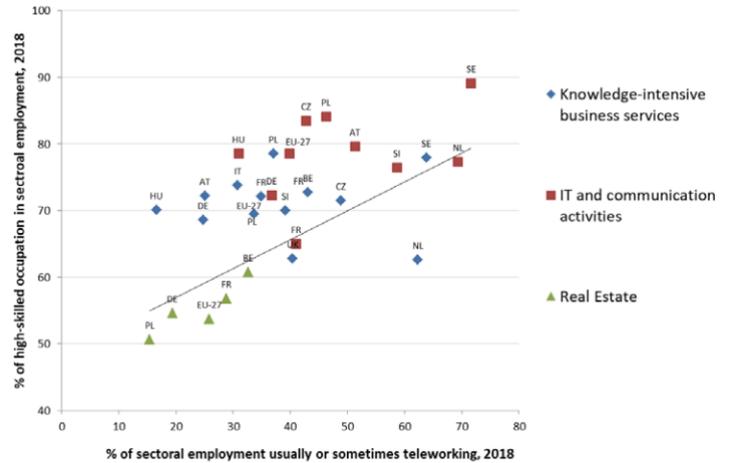
Result indicates a direct correlation between prevalence of telework and industrial structure of the country (Exhibit 2); that is exactly why, even within the same professional occupation, the number of employees on smart working varied a lot depending on the national context – with specific reference to existing regulatory frameworks less or more friendly to smart working, and the overall cultural perception upon the phenomenon by both employers and employees (Exhibit 3).

Exhibit 2: Industrial structure of employment and telework, EU-27



Source: Source: JRC calculations from Eurostat, LFS. Variables codes: lfsa_ehomp (y-axis); lfsa_egan22d (xaxis).

Exhibit 3: Occupational mix and telework by sector



Source: JRC calculations from Eurostat, and ad-hoc extractions of EU-LFS data

Opportunities: training available and operational tools

Based on the mapping analysis that anticipated this report, SWIFT-like training programmes on smart working seems to be available in the context of private consultancy, paid training and education courses, summer schools, etc. and with no opportunity/possibility to pre-assess in details their expected learning outcomes, or more in general, the structure of the training in terms of topics of interests and didactic units. Nevertheless, by referring to training material in a much broader sense, soon after the outbreak of the pandemic, search engines have been flooded with articles aimed at guiding readers in getting familiar with the topic of smart working. In some cases, publishers are represented by reliable sources (business associations, notable consultancy companies, etc.), however it is much more likely to stomp across personal blogs and opinion articles published by independent authors/webzine of no better identified trustworthiness.

Leaving aside the first category of training offers, by browsing the Internet users can gain accesses to a very large number of guidelines, recommendations, “tips and tricks”, inputs and suggestions to familiarise with the topic and experiment with its implementation. Above all, LinkedIn offers certainly the greatest number of available resources. But once again, nothing really similar to what SWIFT has potential to offer. Even initiatives promoted from a policy level perspective seem more of “awareness campaign”¹²³ rather than actual training/education programmes. Reports and surveys conducted at national-scale level are very vocal about the most urgent training areas, but at the same time it is very difficult to find resources and materials that are not compartmentalized or with a better comprehensive systematization of needs and specific skills-gaps.

For instance, the Italian CSIRT published a very detailed *vademecum*¹²⁴ for “cybersecure” smart working. Although addressing one of the most relevant topics associated with the transition to smart working, cybersecurity is not representative of the phenomenon per se, and is indicative of just one of the many training dimensions associated to it.

Same goes with two other very comprehensive reports¹²⁵ published by ADAPT (Association for International and Comparative Studies in Labour and Industrial Relations). The aforementioned share some very useful insights for organisation and employers on how to safeguard employees’ health. Once again, mental and physical well-being of workers represented one of the most pressing concerns at social and organisational level, but at the same time cannot be estimated as the training and educational material for smart working as a whole.

Numerous are then the articles¹²⁶ addressing the motivation and engagement of employees from remote. In this regard notable to mention is the fact that such large abundance of material generates soon after a perception of redundancy of contents.

Overall, and except for paid resources, there is quite a significant lag of training and education resources for smart working.

¹²³ For instance, among among many, #iorestocasa (co-promoted by MISE, Ministry of the Economic Development, and the Ministry of Health). Further references: <https://iorestocasa.work/>

¹²⁴ CSIRT, Lavoro da remoto - Vademecum delle policy di sicurezza per le organizzazioni, August 2020. Available at: <https://csirt.gov.it/contenuti/lavoro-da-remoto-vademecum-delle-policy-di-sicurezza-per-le-organizzazioni>

¹²⁵ ADAPT. "Le indicazioni delle organizzazioni internazionali sul telelavoro nell'emergenza Covid-19 " Bollettino ADAPT June 29, 2020. n. 26; Gentilini, D. and Filosa, G. "La tutela della salute e sicurezza del lavoro nello smart working: Inquadramento giuridico e sfide formative". ADAPT. Working Paper n.20. 2020

¹²⁶ One among many: McGregor, L., Doshi, N. "Come mantenere la vostra squadra motivata anche a distanza". Harvard Business Review. November 2020

Challenges, Skill Gaps and Needs Assessment

Beside the aforementioned organisational and HR-perspective, the limited “grip effect” of smart working at national-scale level it is mainly due to low digitalisation index and responsiveness to technological development of national economy and society.

By looking at the last available EIDES results (European Index of Digital Entrepreneurship System), the weakest Italian pillars are represented by “1. Culture and Informal Institution”, “2. Formal Institutions, Tax and Regulations” and “5. Human Capital” (Exhibit 4), in which Italy performs even worse than the countries which share the same category (Exhibit 5):

Exhibit 4: Italy’s position in the eight EIDES pillars

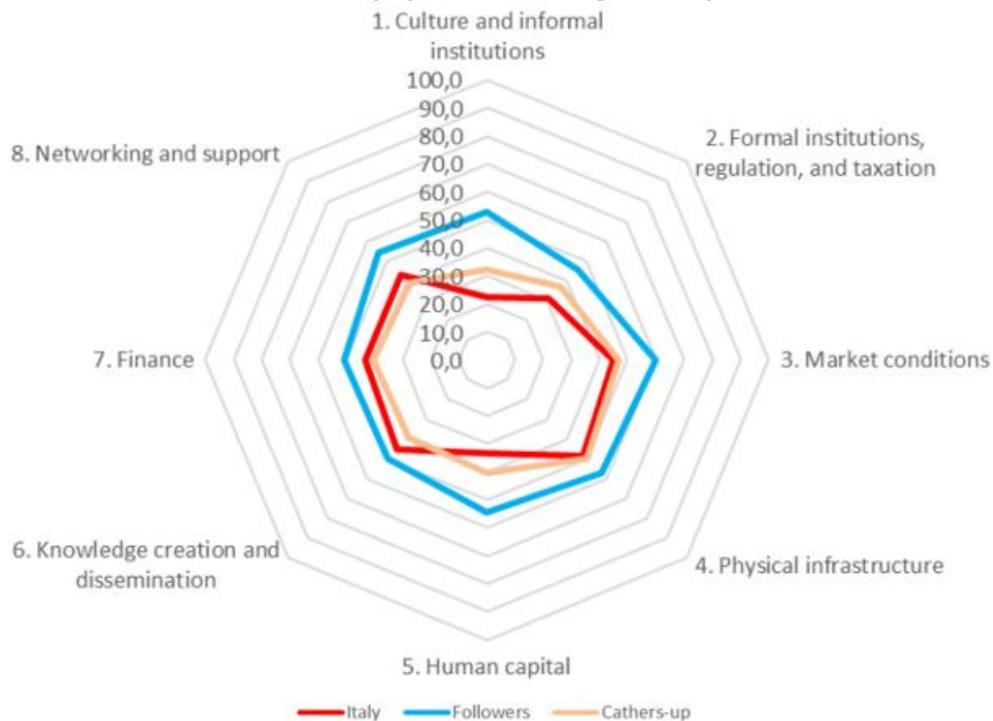


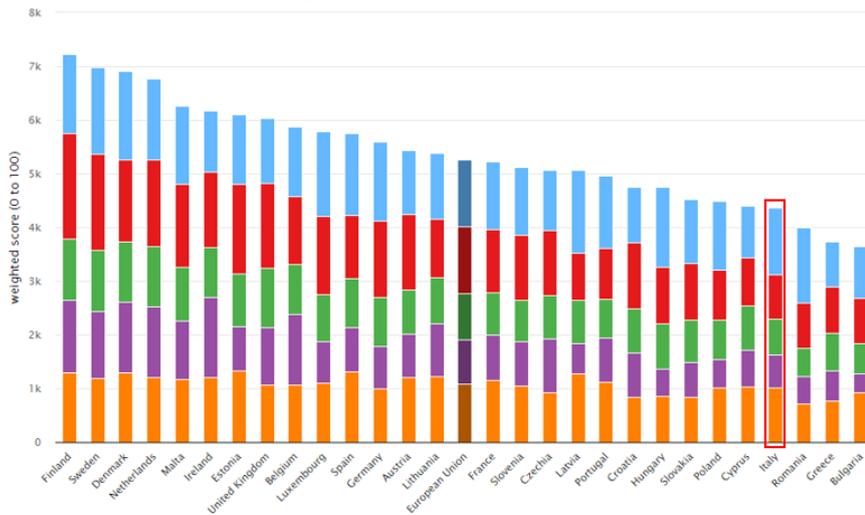
Exhibit 5: Pillar Values of the EIDES 2020, a comparative analysis

Country	Culture and informal institutions	Formal institutions, regulation and taxation	Market conditions	Physical infrastructure	Human capital	Knowledge creation and dissemination	Finance	Networking and support	EIDES 2020 score
Lithuania	40,9	39,0	53,9	57,9	42,0	32,8	34,2	49,2	43,8
Czech Republic	40,9	33,3	66,4	48,1	44,9	53,0	43,2	32,6	42,8
Slovenia	37,5	37,5	51,7	59,2	46,1	44,7	34,2	33,8	41,7
Poland	29,1	31,3	52,9	46,0	33,7	39,1	48,4	39,4	37,9
Portugal	23,0	39,5	35,2	51,0	40,8	36,4	43,2	43,0	36,9
Italy	22,6	31,1	44,9	48,5	33,2	44,9	43,2	43,0	36,2
Cyprus	32,1	46,6	23,5	39,3	41,0	25,4	37,5	30,7	35,4
Cathers-up	32,3	36,9	46,9	50,0	40,3	39,5	40,6	38,8	39,3

Source: EIDES 2020

Despite representing one of the Group of Seven, Italy suffers from a chronic digital lag that distances it from the actual digital leaders of Europe (i.e. Scandinavian and Northern countries). Looking at the latest annual results from DESI (Digital Economy and Society Index), Italy ranks at the fourth position from the bottom: an even worse result than the previous year’s (Exhibit 6).

Exhibit 6: Digital Economy and Society Index, 2020



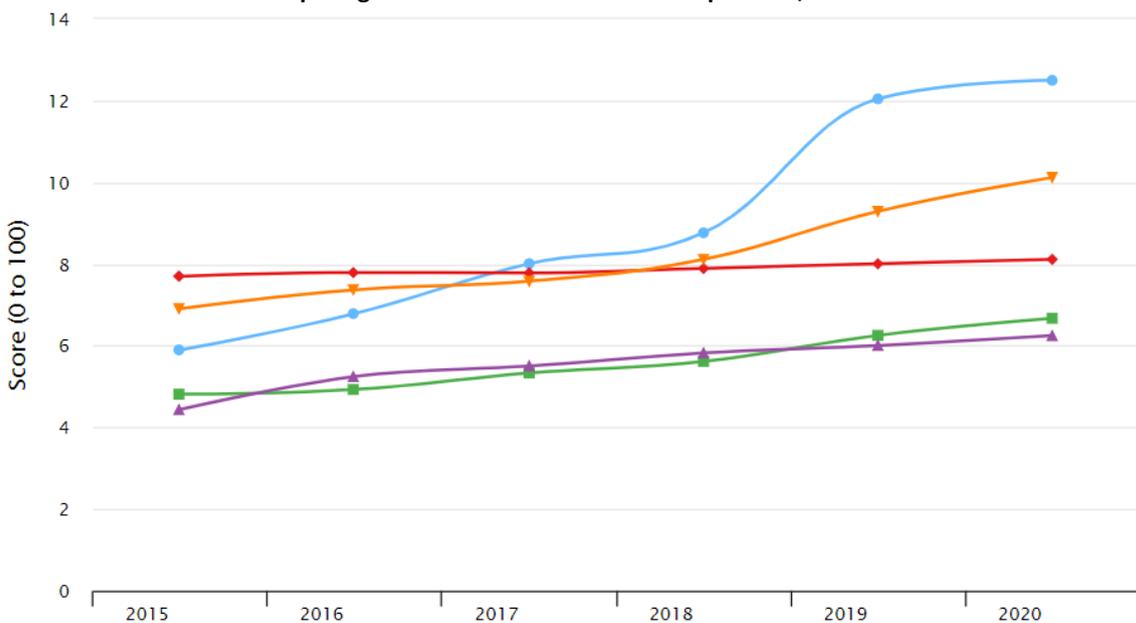
Source: DESI Composite Index

Note: In blue, Connectivity; in red, Human Capital; in green, Use of Internet; in violet, Integration of digital tech., in orange, Digital Public Services

More concerning is the fact that the reasons for such delay do not depend on a shortage of IT resources, but rather on a cultural dimension. In terms of “Connectivity” in fact, the Italian performance is in line with the EU average, meaning that the national economy disposes of the same digital infrastructures normally available in the EU.

But while other countries can exploit such resources in their full potential, Italy is not yet able to do the same. By comparing the Italian progresses over time for all considered variables, the course of the curves for “Human Capital”, “Integration of Digital Technologies” and “Use of Internet” is stagnant – the evolution of technologies and the nurturing of consistent digital skills are two dimensions progressing at different rates (Exhibit 7) – with Italy occupying the very last position in terms of basic and advanced digital skills development (Exhibit 8).

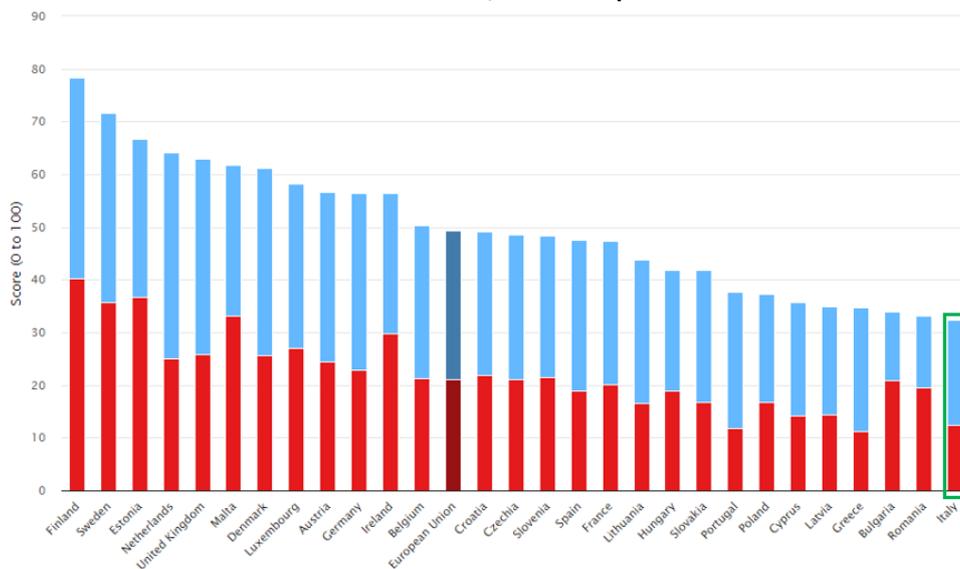
Exhibit 7: Comparing the evolution of the DESI components, the Italian context



Source: DESI Composite Index by Main Dimension

Note: Legend as previous

Exhibit 8: DESI, Human Capital



Source: DESI by components
 Note: in blue, Internet User Skills; in red, Advanced Skills Development

The main risk is represented by a rising shortage of skills, training, education and competences pertaining to the IT sector that might ultimately lead to severe inefficiencies and further digital divides between the Italian businesses and worldwide competitors. Such strong focus on digital skills and IT readiness is not cosmetic but is very practical and operative. According to a survey¹²⁷ conducted by Fondirigenti, digital preparedness appears among the most relevant preparatory conditions for smart working embracement at SME’s level. Cultural predisposition and managerial awareness follow also as instrumental factors (Table 1):

Knowledge on the specific legislation on the matter	2.3
Technical competences	3.1
Monitoring and control of KPIs compliance	3.3
Technological premises	3.6
Management Models	3.6
Source: Fondirigenti	

The same very high relevance is given to digital skills and digitalisation when perceived key topics for education and training for smart working (Table 2):

Knowledge on the specific legislation on the matter	3.3
Benefits and incentive mechanisms	3.3
Tools and IT means	3.6
Labour organisations	3.7
Cybersecurity	3.7
Digitalisations of business processes	3.7
Resource Management and HR	3.8
Source: Fondirigenti	

¹²⁷ Fondirigenti, Quick survey: Smart working, Il boom che annuncia il futuro . Available at: <https://www.fondirigenti.it/documents/35495/ea551f1e-7eaf-1702-cd79-b50ecffde29>

The focus on business digitalisation, empowerment and nourishment of digital skills, redefinition and re-design of flexible “management models” are very recurrent topics when it comes to training, education and proficiency on smart working even from a policy perspective¹²⁸.

According to results from a survey¹²⁹ published by Deloitte, 70% of Italian SMEs feel very urgent the need to update and revise the way in which they operate their business following an “agile” and flexible perspective. The range of these interventions declines into: reorganisation and restructuring of work spaces (in 6.8 cases out of 10), remote availability of IT premises for employees (5.9 cases out of 10), activation of digital supply chains for clients and suppliers (5.4 out of 10), digitalisation of business processes (5.4. out of 10).

Finally, many entrepreneurs are recommended not to limit their perception of smart working-related phenomena (and benefits) based purely on the idea of employees’ management from remote. Smart working comes also with new potential opportunities to favour innovative cooperation models with socio-economic actors that are of relevance for entrepreneur’s activities¹³⁰. Supply chain organisation and customer care will change as well, but while the vast majority of the literature consulted throughout the assessment is mostly employee or self-wellbeing centred, only a limited number of authors addresses the B2B and stakeholder management implications of smart working. The limited number of resources available on the matter does not seem doing justice to such relevant and interesting insights, which on the other hand might be perceived as a potential training topic on their own, and beyond the general label of “management processes renovation” or/and “revision of internal operative models”.

¹²⁸ Governo Italiano. “Iniziative per il rilancio “Italia 2020-2022”. Schede di Lavoro. Available at: http://www.governo.it/sites/new.governo.it/files/comitato_schede.pdf

¹²⁹ Deloitte, Confindustria e Intesa San Paolo, I bisogni delle PMI per la ripresa post-Covid: La crisi come opportunità per evolvere i paradigmi aziendali, 2020. Available at: https://www2.deloitte.com/content/dam/Deloitte/it/Documents/strategy/Bisogni_PMI_post_covid19_MonitorDeloitte.pdf

¹³⁰ Banca Ifis., Le reazioni delle PMI all’emergenza Covid-19, June 2020. Available at: <https://www.bancaifis.it/app/uploads/2020/07/MW-PMI-Fattore-I-Approfondimento-Covid19-giugno-2020.pdf>

Conclusions

For the most, the Italian SMEs ecosystem is unprepared to adapt to what many authors and professionals consider the “new normality” of work, business and people management. The national context is penalised by, firstly and foremost, an historical skill-gap in ICT and digitalisation – both at business and society level. This lag is particularly pronounced among SMEs typically operating in non-urban areas and non-IT intensive sectors. As such, from an organisational culture perspective, smart working, remote management, and telecommuting never gained the same traction and interest as in many others EU countries.

HR frameworks needs to be revised accordingly. Italian SMEs’ managerial style is typically based on close control and monitoring, which by nature is inconsistent with smart working practices. Trust-based policies and relations between management and employees are highly needed to assure for an impactful and sustainable implementation of telecommuting at SMEs’ dimension.

A strong focus on “cultural awareness” on the phenomenon is highly recommended for the design, development and implementation of Intellectual Output 3. Partners should focus on benefits and positive outcomes of smart working and how these might be triggered and nurtured leveraging on leadership. In other words: showing targets that other models for people, processes and resource management not only exist and are relevant, but they represent also strategic path for business excellence and performance in post-COVID markets.

More in general, IDP confirms the relevancy of the ten training topics as identified during proposal:

1. digital and online communication
2. Team and people engagement from home
3. work-life balance
4. self-well being
5. “how to boost your team productivity from home?”
6. Remote project management
7. Agile Management by Objectives
8. “Smart” self-efficacy
9. Leadership and Motivation in the Smart Working era
10. Teleworking: a selection of digital tools to manage your business

ROMANIA

Introduction

A first official and legally accepted definition of ‘teleworking’ can be found in law no. 81/2018 concerning teleworking activity: ‘teleworking – the form of organisation of work whereby the employee, on a regular and voluntary basis, performs his duties specific to the function, occupation he holds, in a place other than the workplace organised by the employer, at least one day a month, using information and communication technology (...).

However, the employee’s agreement is necessary, as the employer cannot unilaterally impose this working regime: ‘The telework activity is based on the agreement of the parties and is expressly provided for in the individual employment contract with its conclusion for the newly hired staff or by an addendum to the existing individual employment contract.

The employee’s refusal to consent to the performance of the work under telework cannot constitute grounds for unilateral modification of the individual employment contract and may not constitute grounds for disciplinary sanction.

Distinction is made between ‘teleworking’ and ‘working from home’ – the latter type of work is defined and regulated by the Labor Code, and, although it might or might not involve communication technology, it presents several particularities, respectively:

- While working from home, an employee can choose his/her working schedule, whereas, in case of teleworking, the working schedule is established together with the employer.
- In case of working from home, the employer is responsible for ensuring work security and health conditions – in case of teleworking, the employer has supplementary specific obligations such as providing, installing and maintaining the necessary equipment.

Those two types of work arrangements, although they are legally differentiated, do not exclude one another, having multiple intersection points – which might lead to difficulties when gathering data.

According to a study¹³¹ published in December 2020, ‘before the approval of the ‘teleworking law’ in 2018, telework was being used in practice, according to the internal policies of companies and their availability to allow workers, as a benefit, to work from home more days a month – after the approval of the law no significant increase in teleworking has been recorded.

On the other hand, during the COVID-19 crisis, teleworking has been considered a very useful mechanism for diminishing health risks for a large number of employees (...) with this occasion, even if according the Law 81/2018, telework was based on an agreement between the employee and the employer, during the emergency state, employers were allowed to unilaterally decided for introducing teleworking – and therefore the employees’ agreement was no longer necessary. Under these circumstances, the employer could ask the employees to carry out their activities from home, during the working program. However, after the emergency state ceased, the employee needs the employer’s consent to implement teleworking, according to a series of normative acts based on the Law 55/2020 concerning measures for prevention and combating effects of the Covid-19 pandemics.

¹³¹ Dima, Högback: Munca si justitie sociala. Legiferarea dreptului la deconectare, Friedrich-Ebert-Stiftung, 2020

The vast majority of studies carried out during the last period, especially since the beginning of the pandemic, were mainly focused on the transition to teleworking/remote working and less on analysing the smart-working phenomenon (which is much more than teleworking/working from home) on the whole. However, it might be useful, for SWIFT project's purpose, to have a brief overview of the context of SME digitalization.

The Digitalization Barometer in Romania 2020, a study realized by Valoria between July and September 2020 in order to determine managers and executives' perception concerning the impact of digitalization shows that 47% of the companies agree that digitalization already had a great influence on their business, and 53% of them are confident regarding the success of digitalization, considering they have the necessary knowledge for the process. On the other hand, 24% of them affirm that they encounter difficulties related to digital transformation, and only 2% do not consider digitalization as a positively-influencing factor for their company's development.

An interesting differentiation made into the above-mentioned study is related to the digital maturity of the companies: traditionalist (limited use of digital), beginner (which started implemented digitalization), minimalist (adequate infrastructure, digital solutions implemented to some extent), advanced and leaders. Although the general tendency is toward an increase of adoption of digitalization and smart solutions, SMEs lag behind: 61% of them are traditionalist (compared to 21% overall), only 4% of them are advanced (9% overall) or leaders (2% compared to 8%).

A report issued by OIR POSDRU Bucharest-Ilfov shows what Romanian SMEs consider the main success factors: 72% technology, 51% management, 35% vision and strategy, 49% specialized knowledge, 63% available budgets, 48% employees' competences.

Excepting for several specific activity sectors (such as IT), we can affirm smart working was not as popular before COVID, nor was homeworking (Romania ranking amongst the countries with the lowest percentage of people working from home according to Eurostat¹³² - around 0.5% between 2011 and 2018, rose up to 0.8% in 2019 and to 2.5% in 2020 – which we can assume it was related to the pandemic outbreak – and still far below the EU average). During the summer of 2020 however, the percent of people working from home has seen a significant increase - 24% according to Eurofound statistics, but still below the EU average of 34%.

Citing a study¹³³ 'before COVID-19, telework was framed as a benefit provided by large and multinational companies, especially in certain sectors (e.g. IT, outsourcing, banking). Various factors explain the low levels of teleworking during the COVID-19 period.

Among the factors leading to this situation, the study is mentioning the dominance of low-qualified and manual labor limiting use of telework ('slightly over 50% of Romanian enterprises are in the fields of retail, commerce, construction, industry and hotels'¹³⁴) and the low percentage of employees involved in knowledge intensive fields. Other aspects are related to lack of equipment and infrastructure, low usage of electronic signature, low levels of digital skills, traditional management styles, issues related to living in overcrowded homes (the case of 45% of Romanians).

¹³² https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ifsa_ehomp

¹³³ Vasilescu, C., 2021, The impact of teleworking and digital work on workers and society - Case study on Romania (Annex VII), Publication for the committee on Employment and Social Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg.

¹³⁴ idem

Concerning the public sector, the same paper states that 'the negative image of civil servants and citizens' limited trust in the capacity of public institutions to deal with their requests through digital procedures compound the other factors.

Another study¹³⁵ published by the National Administration Institute in December 2020 shows that only about 2% of execution public administration staff and 3% of managerial staff had ever teleworked before the pandemic. During the pandemic, however, approximately 60 % of the execution staff and 46% of management staff worked online for the first time, while more than 40% have not been involved in any kind of telework.

The pandemic revealed both positive and negative effects of turning towards teleworking and smart working. During the crisis, remote working was seen as a means to ensure health safety – however, it seems that many stakeholders become aware of the benefits and intend to implement either full or hybrid teleworking models in the future. In the following sections we will provide an overview of the most recent data and tendencies related to remote/smart working, before and after Covid crisis in Romania. However, as any other study, the present one has several limitations, as follows:

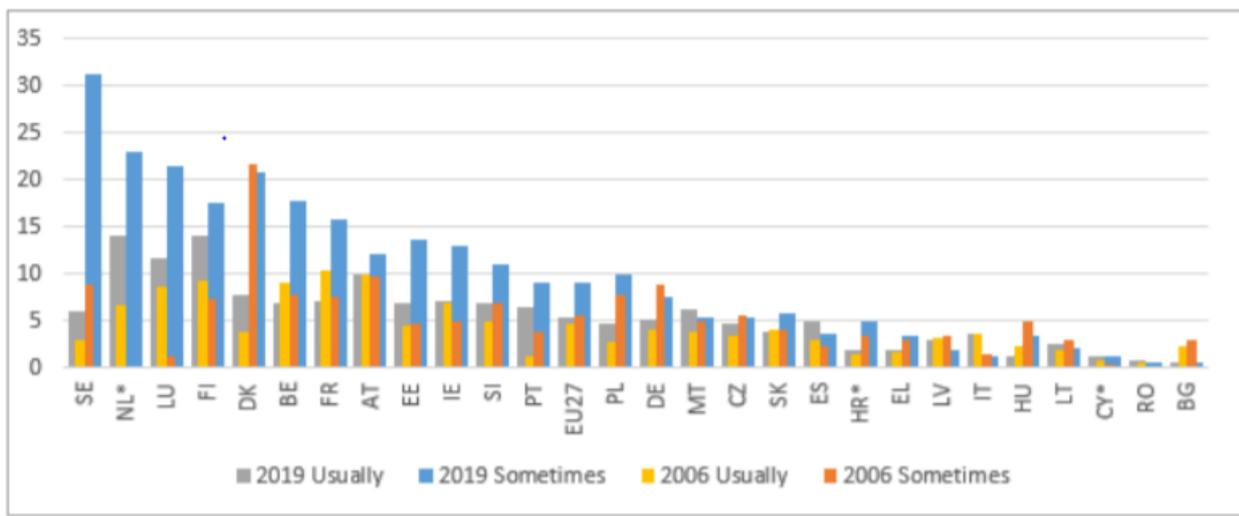
- Very few relevant official resources and statistics, directly focused on SMEs, from public authorities (e.g. from the Ministry of Economy, Entrepreneurship and Tourism, Ministry of Labour, National/Regional Statistical Offices); no aggregated data, or needs analysis carried out at national level at national level.
- Possibility of terminological confusions due to the fact that different stakeholders use different definitions (working from home/telework/smart-work/remote working).
- Although more resources and independent studies carried out by the representatives of the private sector were available, none of the target groups was formed 100% of SMEs (larger companies were included) and results were not directly correlated with the size of company (e.g. in a study where approx. 40% of respondents were SMEs the results were presented for the whole sample); most of the data available was provided by companies in large cities, data from rural areas/smaller towns was missing; in some cases specific sectors prevailed (e.g. IT and other knowledge-intensive fields), for which the transition to remote working was easier and therefore the results cannot be generalized.
- Resources generated from the media actors sometimes provide information they claim to be directly obtained from authorities which we cannot directly verify.
- Little data concerning the situation before COVID crisis.

¹³⁵ Institutul National de Administratie, Studiu privind oportunitatea flexibilizarii modului si timpului de lucru in administratia publica in Romania

Quantitative indicators on Smart Working in Romania

The European Commission Small Business Act Factsheet 2019 for Romania shows that SMEs represent 99.7% of companies in the economy and employ 66% of employees. 75% of the Romanian SMEs are self-funded¹³⁶.

According to a study¹³⁷ of the European Parliament, the share of work from home in Romania before the Covid crisis was amongst the lowest in Europe, below 2% in 2019. As case in other EU countries, some sectors had higher percent of home/teleworkers than others (e.g. in 2018 approximately 14% of the IT sector employees/self-employees were working from home at least once a week).



Although during the pandemic, the share of teleworkers increased up to 30.1%, it still remained below the EU-27 average, according to a survey¹³⁸ carried out by Eurofound. Gender gaps before and after Covid were registered in Romania, with more women working from home than men.

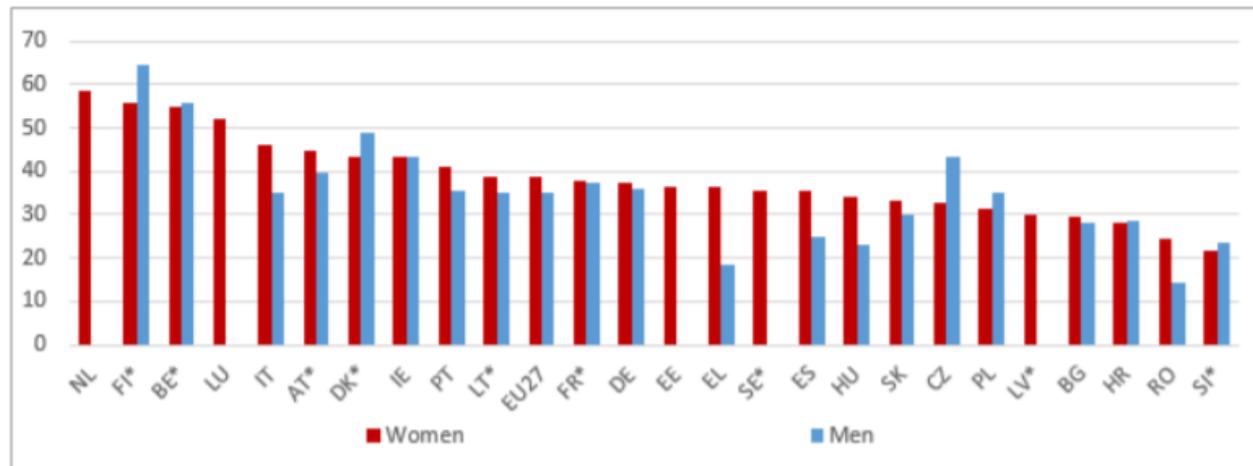


Source: Eurostat (LFSA_EHOMP). Share of population working from home in 2019, by gender.

¹³⁶ ASPEN Institute Romania, Romanian Priorities and the Presidency of the Council of the EU, White Paper, 2019

¹³⁷ SAMEK LODOVICI, M. et al., 2021, The impact of teleworking and digital work on workers and society, Publication for the committee on Employment and Social Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg. [https://www.europarl.europa.eu/RegData/etudes/STUD/2021/662904/IPOL_STU\(2021\)662904_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2021/662904/IPOL_STU(2021)662904_EN.pdf)

¹³⁸ Eurofound (2020), Living, working and COVID-19 dataset, Dublin, <http://eurofound.link/COVID19data>.



Share of population working from home due to the COVID pandemic, by gender, April 2020
Source: Eurofound (2020b)

Although no comprehensive country-wide SME-focused statistics are yet available, various sector-specific surveys, as cited into the above-mentioned EP study¹³⁹, show that certain fields of activity had significantly higher numbers of teleworkers than the national average: 'Romania, despite a sharp increase in the share of teleworkers during the pandemic, remained the country with the lowest share of teleworkers, after Bulgaria.

Nevertheless, recent sector-specific surveys show that in certain sectors, during the pandemic the shares of teleworkers were a lot higher than the national average of 30.1%. For example, during the pandemic, 50% of companies surveyed in the business service sector used "full telework", while 45% used hybrid models; 74% of companies surveyed in the financial sector used telework (Price Waterhouse Cooper PWC, 2020); over 50% of the executive and management staff in the public sector used telework and around 30% used hybrid models (Institutul Național de Administrație, 2020). On the other hand, telework in the logistics (26%) and pharmaceutical (24%) companies surveyed was below the national average (Price Waterhouse Cooper PWC, 2020).

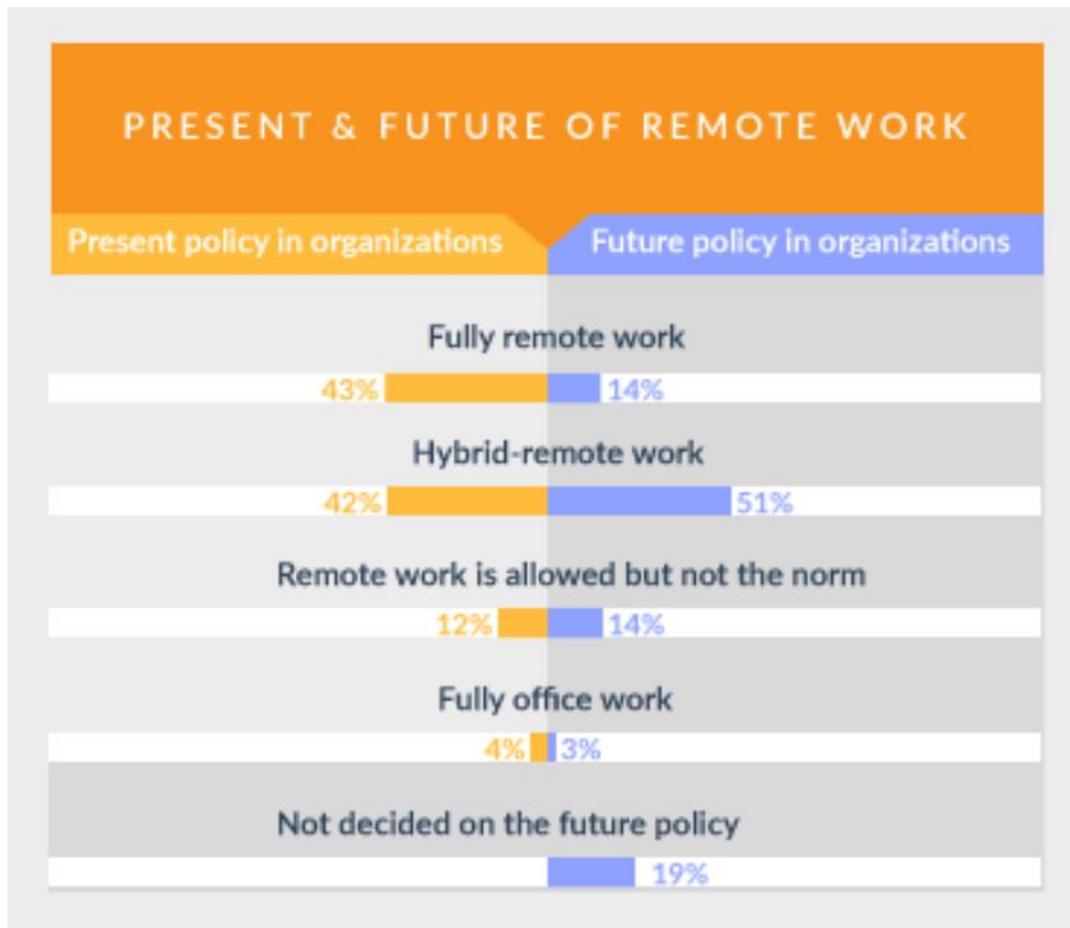
Another survey¹⁴⁰ run between August and September by Catalyst in partnership with Impact Hub Bucharest reveals several tendencies in and trends in remote working after COVID. A total of 194 companies and 2343 people were reached. Out of the companies, 8% were microenterprises (less than 10 employees), 33% SMS (up to 250 employees), while the remaining were larger companies (14% between 250-499 employees, 12% between 500-999, 27% 1000-9999 and 6% over 10000). The most represented industries were IT – 34%, engineering – 14%, Outsourcing/BPO/Shared services – 10%, professional services – 9%, banking/financial – 7%, FMCG – 5%, and other – 17%.

Out of the people surveyed, 45% were based in Bucharest and the other in various major cities of Romania.

¹³⁹ SAMEK LODOVICI, M. et al., 2021, The impact of teleworking and digital work on workers and society, Publication for the committee on Employment and Social Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg., p32; [https://www.europarl.europa.eu/RegData/etudes/STUD/2021/662904/IPOL_STU\(2021\)662904_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2021/662904/IPOL_STU(2021)662904_EN.pdf)

¹⁴⁰ Catalyst, State of Remote Work in Romania, 2020, <https://www.catalyst.ro/data-unveils-current-future-trends-remote-work-romania/>, accessed May 28, 2021

On the section: 'present and future of remote work', 43% of the companies already have a fully remote work policy, while 14% plan to have one in the future, 42 % have a policy for hybrid remote work and 51% plan for one in the future.



Source: catalyst.ro, State of Remote Work Study

The tendency is confirmed by another survey¹⁴¹ carried out by KPMG Romania in October 2020, stating that 96% of the responding companies will opt for hybrid working models, alternating, in various proportions, office work with remote work. Several other surveys, more or less field specific confirm the same tendency and intent to apply a hybrid working model in the future.

A PWC study¹⁴² carried out with 46 companies from sectors such as IT and Telecom, Financial Services, Retail and FMCG, Pharmaceutical, Agriculture, Automotive, Industrial Goods, Health and others shows that 80% of them intend to combine office work with remote working in the future. We cannot determine exactly how many of the respondent companies were SMEs (under 250 employees), as the differentiation by size was made differently (0-100 employees, 100-500, etc.).

At the moment of the survey, 81% of the companies considered themselves very well prepared to function remotely, and 8% decided to reduce office space.

¹⁴¹ <https://assets.kpmg/content/dam/kpmg/ro/pdf/2020/people-services-noiembrie-2020.pdf>

¹⁴² Price Waterhouse Coopers PWC, 2020, Raport HR Barometru Back to the new 'normal'



Source: catalyst.ro, State of Remote Work Study

The same survey reveals that switching to remote work has mainly been perceived as a positive experience, only 7% of the respondents reporting a negative experience, 25% seeing it as neutral and 69% as positive. At the same time, 45% reported an increase in productivity, 43% noticed no change and 12% a drop (the same tendency has been observed while analysing the results of the SWIFT SME survey in Romania).



Source: catalyst.ro, State of Remote Work Study

Qualitative indicators on Smart Working in Romania

During the last 5 year before the onset of the Covid 19 crisis, the evolution of the sector of economic and social operators was on an increasing, positive trend, the number of newly registered companies growing – especially microenterprises (0-9 employees which grew by 15.37% between 2013-2018). SMEs with 50-249 employees have seen a slower growth, of only 0.65%¹⁴³.

Some sectors such as services, real estate, health, transportation, hotels and restaurants, are predominated by microenterprises (0-9 employees). However, since the beginning of the pandemic, the number of newly registered companies decreased drastically, reaching the lowest level in the last 5-10 years (in March 2020 the decrease was of 74% compared to the same period of the precedent year).

The most affected sectors were those of hospitality and cultural activities, constructions, transportations, commerce of non-edible goods. We can assume that the SMEs whose activity allowed switching to remote working did so – however, data concerning microenterprises and SMEs in small cities, rural areas, and certain sectors of activity is missing.

Most of the studies independently carries out at national levels targeted companies in larger cities, from fields of activity such as ICT, professional services, online sales, where working from home was possible.

Switching to teleworking produced both positive and negative effects on multiple levels, including at the level of workers, employers, society and legal framework. According to the previously cited study¹⁴⁴ on the impact of teleworking and digital work, the main positive effects workers were related to:

- Improvements of digital competences and soft skills (workers had to learn to use digital tools, but also time planning, autonomy in task execution, personal effectiveness, task prioritization).
- Reduced commuting time.
- Increased flexibility in working schedule.
- In some cases, improved effectiveness in task execution as distracting factors such as noise, discussion with colleagues, pressure from bosses were no longer present.

Among the negative effects, the following were pointed out:

- At psychological level: social isolation, burnout, depression, anxiety.
- Work life-balance: in some cases, switching to digital meant longer working hours, interruptions caused by family members and house duties (gender bias present here: 78% of women reporting interruptions, compared to 22% of men¹⁴⁵).

¹⁴³ Antonescu, Daniela, The Small and Medium Enterprises Sector during the COVID-19 crisis. The Case of Romania, Institute of National Economy, 2020, available at: https://mpr.ub.uni-muenchen.de/100295/1/MPRA_paper_100293.pdf

¹⁴⁴ SAMEK LODOVICI, M. et al., 2021, The impact of teleworking and digital work on workers and society, Publication for the committee on Employment and Social Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg., Annex VII - Case study on Romania, available at:

[https://www.europarl.europa.eu/RegData/etudes/STUD/2021/662904/IPOL_STU\(2021\)662904\(ANN05\)_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2021/662904/IPOL_STU(2021)662904(ANN05)_EN.pdf)

¹⁴⁵ Wisemetry and Impact Hub Bucharest, 2020, State of Remote Work Study 2020. Available at:

<https://www.catalyst.ro/present-future-remote-work-romania-need-know-stats/>.

- Increases in personal costs: internet connection, electricity, devices, setting up a home office; however, since January 2021 the Parliament adopted a law (Law 296/2020) allowing employers to pay teleworking employees up to 80EUR/month to cover utilities costs (exempted from tax and deductible from the company's annual profit¹⁴⁶).
- Issues related to safety at work and data safety: 'while employers are responsible for ensuring employees' safety, employees must declare that their current work conditions comply with safety and data safety procedures set by the company, and must inform their employer whenever there is a change in their work conditions. Stakeholders held different views regarding the extent to which these procedures are respected. While some maintained that many companies (especially in outsourcing) adopted rigorous procedures and trusted employees to comply, others pointed to the difficulty for companies to control the extent to which employees respect work and data safety procedures at home. Work safety in the framework of telework is also a matter of public debate, with questions raised by the media as to how accidents at home related to work will be dealt with, given employers' and employees' obligations in this respect¹⁴⁷.

As for effects on employers, the following have been underlined:

Benefits:

- Possibility to continue their activity during lockdown
- Reduced number of absences
- Utility cost reductions
- Increased digitalization of their activities
- Increased productivity

Negative effects:

- Costs related to implementation of telework
- Difficulty in motivating and strengthening the cohesion of new teams
- Lack of soft skills among managers, resulting into issues on managing remote teams
- Issues related to data protection
- Issues related to security at work (employers requesting regulatory bodies to suspend their legal responsibility for employees' health and safety during telework)
- Difficulties ensuring innovation and collaborative work (virtual cooperation may inhibit some of the workers which are more retained and avoid expressing ideas freely)
- Fiscal challenges (e.g. for employers working remotely from other EU countries, the employer might be obliged to register for social security there)

At societal level, reports mention, as positive outcomes, increases in citizens' awareness concerning public health issues, increases in digitalization of public and private actors and services, improved attractiveness of mid-size cities (which previously were lacking office space), potential reduction of external and internal emigration.

¹⁴⁶ Eurofound, Covid-19 EU Policy Watch, Database of national level responses, Factsheet for case RO-2021-1/1700 – measures in Romania, https://static.eurofound.europa.eu/covid19db/cases/RO-2021-1_1700.html;

¹⁴⁷ SAMEK LODOVICI, M. et al., 2021, The impact of teleworking and digital work on workers and society, Publication for the committee on Employment and Social Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg., Annex VII - Case study on Romania, available at: [https://www.europarl.europa.eu/RegData/etudes/STUD/2021/662904/IPOL_STU\(2021\)662904\(ANN05\)_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2021/662904/IPOL_STU(2021)662904(ANN05)_EN.pdf)

Among negative effects, increases of social and economic disparities, weakening of social rights, reduction on the real estate markets, and potential increased shortage of qualified workforce, as now Romanian companies will have to compete with those from other countries and consequently with the wages they offer.

However, it would be interesting and useful to gather data related also to the target customers, their profiles, needs and reactions. How have they perceived the services after companies switched to teleworking? How did companies deal with those target groups of customers with limited digital skills?

Opportunities: training available and operational tools

During the crisis, various public and private support initiatives were put in place to ease the transition of companies to teleworking. However, very few of them were based on need analysis and truly tailored to specific target groups – they were rather emergency measures.

There are also training opportunities which are expected to become available in the near future, as in the case of the National Program “Digital skills for employees in Small and Medium-Sized Enterprises sector”, which was approved by the Government Decision no 599/July 2020, under the framework of the Human Capital Operational Program 2014-2020. The expected duration of implementation of this programme is by December 2023. Through this program (€with a total value of 20,000,000, out of which EU contribution of 17,000,000 and national contribution €3,000,000), employees from economic sectors with competitive potential will receive funding for participation in training programs aimed at improving digital skills.

Through this program, it is expected that at least 5000 persons will benefit from trainings, and minimum 4000 will receive a qualification or validate competences in economic sectors with ‘intelligent specialization’, and at least 60 SMEs will introduce training programs six month after funding. The applicants could be employers' organizations, employers' federations, employers' confederations or territorial employers' unions, enterprise associations, chambers of commerce and industry. Currently, the intermediary lists of selected projects have been published – however, we don't have clear details concerning the exact contents of the trainings.

Another initiative managed by the Ministry of European Fund is “National program for the digitalization of micro, small and medium enterprises”. Through this program, micro, small and medium enterprises in non-IT sectors, from the eight development regions of Romania, will be able to receive financing for the digitalization of their activity, in order to increase competitiveness. The Program value is RON 726 million (€150 million), of which the EU contribution is 85% and the national contribution is 15% (GEO no. 677/August 2020).

This program is not exclusively focused on training covering other activities such as acquisition of ICT equipment, acquisition, development of software, electronic signature solutions, industrial research or experimental development – but it also has a training component – instructing staff members which will use/ensure maintenance of the implemented equipment. Again, we don't have yet data concerning the contents of the trainings.

However, through the desk research we identified several other non-formal training opportunities, various online courses and tools developed and carried out by public and private stakeholders. For example, the Labor Inspection, a public authority subordinated to the Ministry of Labour issued a guide for employers concerning Development of activity in case of work of the home / telework / individualized work program. While not actually aimed at developing digital skills, it supports companies to correctly register employment contracts in the above-mentioned situations.

Other private actors developed small online guides for switching to telework (sometimes simply a selection of already existing tools and software, such as this [Guide for Telework](#) developed by eGovernment Solutions).

Other online trainings offered by private providers are listed below:

Telework. Employees working from home or remote? All you need to know about the work relationship¹⁴⁸, an online paid training with 7 lessons offered by inteligo.ro. Content in brief:

- What is Telework?
- Specific elements at the conclusion of the Telework contract
- How to organize
- Telework Discipline
- Employer's rights and obligations
- Rights and obligations of the tele-employee
- Penalties

Crisis communication: How to keep your team motivated and communicate effectively with the people in your company¹⁴⁹. Online training with 24 lessons, inteligo.ro. Content in brief:

- How to motivate yourself and keep the team united during crisis time
- Get used to the new reality. It's important to come up with what's going on
- Get ready for what's next. The first steps in a crisis plan
- My team works from home. What implications does this idea have?
- My team fails to sell as well. What's to be done?
- Fear and panic in the team are at alarming levels. How do I do it?
- My business plan is no longer relevant. About pivoting in times of crisis
- Self-interest vs. social involvement. Where do you draw the line?
- Crises do not last forever. Think ahead
- How to motivate people and develop projects you've never dreamed of
- How do you handle such a situation? Practical example
- Your plan must stand even when you can't resist
- The secret ingredient that turns your project into one that really matters
- A dash of confidence and other secret ingredients
- How to relate to the people you will work with
- If you're thirsty, don't start digging a well
- The three targets to be met at all times by an entrepreneur
- Useful resources, storage documents and books to read
- Internal communication. Build harmony within the team and links with management
- Is that stupid or useful? Why do you need an internal communication plan?
- The five important points to tick off the internal communication plan
- Analysis of problems/situation of your organization in order to define a communication plan
- Defining audiences. Who is your communication plan addressed to?
- Define the messages in the communication plan. What do you communicate with and with whom?
- Definition of means of communication. What communication tools do you use?
- Plan monitoring and integration of feedback from members of the organisation
- Useful tools for communication, reading books and specialisation courses

Good practices course for remote working¹⁵⁰. Online format, 4h duration, live sessions with 12-15 participants, using Zoom, provided by Axioma Solutions. Content in brief

- What are the specifics of working at home? What do we like, what is difficult, what are the challenges related to WFH?
- How are productivity and well-being affected?
- What are the factors that influence efficiency? How the workspace is organized, the working skills and the way the body reacts in a sedentary regime.
- What are the rules to follow, what are the productive practices, what is necessary to avoid?

¹⁴⁸ Training available here: <https://inteligo.ro/curs/139/telemunca-angajati-care-lucreaza-de-acasa-ori-de-la-distantatot-ce-trebuie-sa-stii-despre-relatia-de-munca-cu-acestia.html>

¹⁴⁹ Training available here: <https://inteligo.ro/curs/193/comunicare-pe-timp-de-criza-cum-sa-iti-mentii-echipa-motivata-si-sa-comunici-eficient-cu-oamenii-din-compania-ta.html>

¹⁵⁰ <https://axioma.ro/practici-pentru-lucrul-de-acasa-work-from-home-mini-training>

- What fits your own style? What are the habits and practices I would like to embrace?
- What do I have to do to achieve maximum productivity, satisfaction and collaboration in working from home?
- What other competencies do I need to develop or strengthen in order to cope with the new challenges?

Remote Leadership Course – Leading Teams Remotely¹⁵¹. Live mini-training with 12-15 participants, 1-2 days duration, requires login and payment, provided by Axioma Solutions. Content in brief:

- What are the specifics of remote management? How to lead people from beyond the screen?
- How are people's productivity and motivation affected?
- What are the practices to follow in leading virtual teams? Which ones remain relevant?
- How can we maintain the level of motivation and engagement of colleagues?
- What are the limits and limitations we need to take into account?
- What fits your own style? What are the habits and practices I would like to embrace?

Team management in teleworking¹⁵². Online self-paced training, provided by eduweb.ro requires payment and login, it is addressed to department and team managers willing to switch to online working. Along with the training materials, it also contains evaluation/ self-evaluation activities. Content in brief:

- Introduction – Management fundamentals
- Moving activity in teleworking
- Best Practices (5 examples)
- Final evaluation

Remote team management training¹⁵³. Online training course offered by a private provider – requires enrolment, the course fee is not published, learners are asked to write an email to the training provider to receive a personalized offer. It is addressed to team leaders and senior management staff members and any professional involved in implementing teleworking.

Various other articles/blog posts/mini guides were created by private actors, along with many webinars (some of them reposted), either free or requiring an access fee.

Digital competences for SMEs have also been approached through some Erasmus+ projects carried out during the last years, such as DigiVET - Online learning of Digital Media competences for SMEs to empower workplace learning¹⁵⁴, delivering tools such as Matrix of Competences for Digital Learning Coaching in small SMEs (not yet available), Handbook Media Competences for Coaches of small SMEs, Handbook and Video Guideline for SME and VET Trainers, Online Learning Programme and User Community.

Good Practice/Case Study/Example

In November 2020 Deloitte Romania announced launching Digital DNA, a solution aimed at evaluating the degree companies' of digital maturity based on 23 characteristics defining their structure, operating mode and behavior. It is addressed to SMEs and it might represent a starting point for the development of a digital transformation strategy.

In most of the cases the target group is very wide (they can be useful for SMEs but not expressly created for them following a comprehensive need analysis). A high number of trainings addressed to team leaders and management staff tackling the issue of remote team management are available. However, there are some limitations: usually an enrolment procedure is required, sometimes the process is not a simple one (learners having to directly contact the provider for a personalized offer).

¹⁵¹ <https://axioma.ro/curs-remote-leadership-conducerea-la-distanta-a-echipelor-virtuale>

¹⁵² <https://www.eduweb.ro/course/managementul-echipelor-in-teleworking>

¹⁵³ <https://www.amaliasterescu.ro/traininguri/managementul-la-distanta-al-echipelor/>

¹⁵⁴ <https://digivetproject.eu/>

Most of the structured courses providing a certificate of attendance are available with an enrolment fee (ranging from €15 to €200). No recognition of the certificate is guaranteed.

In terms of operational tools, as mentioned before, several guidelines are available in Romanian language, either issued by authorities, as case with the Guide on Telework for Employers issued by the Inspection of Labor, or translated documents from other international stakeholders, such as the International Labour Organization.

Needs: skill gaps and needs assessment

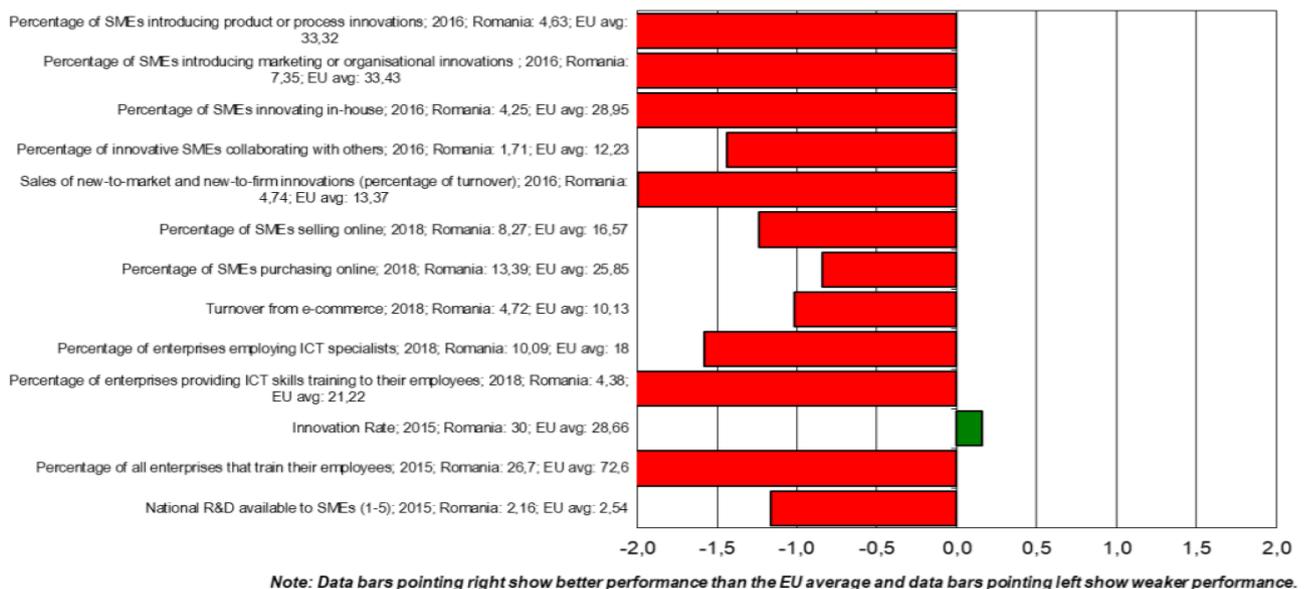
Until the present moment we couldn't identify any perfectly relevant paper or source outlining the training needs at the level of SMEs taking into account the target and scope of SWIFT SME project.

However, some of these needs can be deducted from other reports, such as the 2020 DESI report which shows that Romania is again ranking 27 out of 28 EU countries on Human capital.

	DESI 2018 value	Romania DESI 2019 value	DESI 2020 value	EU DESI 2020 value
2a1 At least basic digital skills % individuals	29%	29%	31%	58%
2a2 Above basic digital skills % individuals	10%	10%	10%	33%
2a3 At least basic software skills % individuals	32%	32%	35%	61%
2b1 ICT specialists % total employment	2.0%	2.1%	2.2%	3.9%
2b2 Female ICT specialists % female employment	1.2%	1.3%	1.2%	1.4%
2b3 ICT graduates % graduates	5.4%	4.9%	5.6%	3.6%

In terms of SMEs selling online, only a slight increase (from 8 to 11%) has been shown, still below the 18% EU average.

The SBA 2019 Factsheet for Romania shows it amongst the lowest performers at EU level in terms of skills and innovation. Only a small percent of the companies train their employees or employ an IT specialist.



A Vodafone Public Policy Paper¹⁵⁵ underlines for Romania the following issues: ‘Availability and accessibility of digital solutions: A key area where SMEs may require support is in finding and

¹⁵⁵ Vodafone, SME Digitalisation – charting a course towards resilience and recovery, Public Policy Paper, 2020, available at https://www.vodafone.com/content/dam/vodcom/files/vdf_files_2020/pdfs/sme-digitalisation.pdf;

accessing suitable digital solutions, particularly with their current constrained capability to engage. The government could therefore take a more proactive approach, encouraging digitalisation with an accessible, one-stop shop, particularly providing targeted guidance and training for key sectors and signposting to other schemes.

Training needs can also be derived from the main challenges signalled by companies participating in studies regarding telework that we have analysed within the previous sections, such as:

- Issues related to psychological well-being – social isolation, anxiety, depression, reduced communication and work-life balance (including gender-related issues – e.g. women working from home are more often interrupted due to family requirements than men). In this respect trainings aiming to build competences for psychological resilience and ensuring work-life balance are needed. Also, trainings on time management, self-efficacy, self-discipline, productivity.
- Practical issues related to the fact that 45% of Romanians live in overcrowded homes – creative solutions on how to delimitate a working space (e.g. by using acoustic separators, planning for working time, using headphones, backgrounds, etc.)
- Health and security while working from home – guidelines for SMEs and employees.
- Data security issues – simple guidelines & checklists for SMEs and employees.
- Difficulties in motivating teams, reduced creativity, difficulties in creating bonds within new teams while working remotely – trainings for team leaders on leadership and motivation, building engagement and boosting creativity while working from home.
- Costs related to the implementation of smart working – smart working with limited resources – analysing the current situation, estimating resources needed, costs projection, cost-cutting strategies.

In terms of target groups, taking into account that in Romania, many fields of activity are covered by SMEs with a small number of employees and limited resources, falling most often in the category of microenterprises, at least some of the proposed trainings should be personalized in this respect.

In our view, trainings should be kept simple, short and easily accessible (e.g. no complicated login or enrolment procedure), and contain practical examples rather than general explanations. On the other hand, customizable tools such as self-assessments and check lists or planning templates could be of interest.

A special attention should be given to definitions for key terms (e.g. teleworking vs working from home vs smart working) – a glossary of terms could be of great support.

Challenges

1. SMEs, especially those active in less knowledge-rich domains, rural areas or smaller towns, are less likely than larger business to take advantage of digitalization or to hire IT specialists, reports showing they lag behind larger companies in adopting new technologies, and being less advanced in terms of digital maturity.
2. Small and less vocal SMEs are often overlooked and not taken into account for needs analysis or while designing support policies and measures.
3. Micros have limited resources and are less likely to invest in developing their staff members' digital skills; often, their staff members or founders play multiple roles – and resources for hiring specialized services or persons dedicated to digitalization are unavailable. Solutions that can be implemented with minimum investments and with the already existing resources are needed.
4. SMEs lack guidance and report difficulties in identifying the most appropriate digital solutions and expertise.
5. The administrative system should support SMEs and reduce their paperwork load, facilitating online and digitalized services.

Conclusions

The recent Covid 19 crisis represented both a challenge and an opportunity for the business environment. Most of the companies, including SMEs become aware of the importance of digitalization and smart working, aiming to implement hybrid models in the future. Weaknesses in the business models and the necessity of upskilling people and investing in digitalization have been highlighted.

Moreover, consumers' and clients' behaviours and expectations changed – studies showing¹⁵⁶ that they now expect more 'value for money', becoming more demanding as they are more aware of their financial security. Also, they turned towards online, purchases growing significantly compared to the period from before the crisis. It is expected that, for a large portion of the market, digital channels will remain the main way of contact between clients and brands.

Businesses need to learn how to quickly adapt, grow and adjust to the new reality, how to use data to make informed strategic decisions and focus more on filling skill gaps and attracted well-prepared workforce.

Smaller businesses and those from sectors which were less in contact with technology before the crisis will need substantial support to keep up with the demands, both management and general staff will need to improve and upgrade their skills.

¹⁵⁶KPMG, Responding to consumer trends in the new reality, 2020

SPAIN

Introduction

As an introduction to our research, we would like to start showing, the different definitions we have found related to the topic of our interest. Firstly, according to the IMF Business School¹⁵⁷, before their introduction about why this concept is born, we come across the definition of Smart working, which states that smart working is much more than teleworking¹⁵⁸, In fact, that is its starting point.

But in reality, it's about giving your employees all the resources available and necessary for each of them to be as efficient as possible, delivering maximum performance wherever they are". Indeed, this definition is highlighted for the concept of flexibility and extended the possibility of working from anywhere employees could have access to all the information systems in an agile and comfortable way.

Moreover, the main European network of coworking and Innovation school for the technology and the digital community¹⁵⁹, from their campus in Spain, it refers to the concept as the "Kit Smart Working"¹⁶⁰, stating that the Smart Working concept is becoming more and more naturally recognisable and understood in Europe, even displacing teleworking "Smart Working means being able to work not only from home, but also in other environments such as airports, coworking spaces, bars and lounges, and this has positive implications for urban mobility and pollution", also pointing out that nowadays there is not a specific or formal methodology for smart working "is not an exact science" and that enterprises apply their own methods and practices, probably in very different ways, according to their necessities to try to find out the best way to implement this types of smart work methodologies.

According to this example, the "Kit Smart Working" also involves, Remote Working or telecommuting, which is more commonly known, more costly and better regulated, but in this point, they remark the need to define how teleworkers' performance works so that it does not create difficulties in dealing with Smart Working, mobility and nomadic work, "Since teleworking did not represent the smart practices way of working, it is appropriate to look further into the issues of personal productivity and freedom of action".

According to the specific concept of Smart working, the article states that we are talking about a concept which is radically different to understand work, and is expanding through those enterprises which work in the called "Knowledge area", or intellectual works, referred to all those works that imply the use of the ingenuity, with the help of digital tools and software for their execution.

This new management philosophy of work is more based on the results, providing at the same time, workers with more autonomy and flexibility related to the choice of workspaces, which generates a great deal of employee empowerment.

Regarding the last definition provided by the publication "Agile Working", the source defined it as an "A further step in the evolution", which is based on the flexibility of the tools and the efficiency provides, where the employees can define the right processes, technologies, times and places to carry out certain activities most efficiently and effectively with an impact on both management and

¹⁵⁷ <https://www.imf-formacion.com/business-school/escuela-negocios>

¹⁵⁸ <https://blogs.imf-formacion.com/blog/recursos-humanos/conciliacion/smart-working-aplicaciones/>

¹⁵⁹ <https://talentgarden.org/es/about/>

¹⁶⁰ <https://talentgarden.org/es/digital-transformation/kit-smart-working-que-es-y-como-aplicarlo/>

operational costs. It is interesting to note how agile working has taken root in Europe, being included in the regulations of different countries, such as Italy. Concluding that “What should be pursued is to improve the quality of professional life of the associated persons, in an indissoluble way, concerning the results of the work. It is a way of working that is more oriented to the results obtained than to the mere number of hours worked”.

From the ORH Editorial Group¹⁶¹, we found an interesting article “Moving towards the smart worker: the intelligent use of digital tools at work”¹⁶², in which Danella Porrás Esmeral, who works in the Key Account Offering and Marketing section at Telefónica, approaches the concepts giving an introduction stating that nowadays enterprises are undergoing digital transformation processes, and what was once seen as a project or an idea is now a reality, with different levels of implementation. All these changes, with the incorporation of digital tools in our daily lives, has enabled new ways of working “...and a redesign of the structure of teams, given that the solutions with which work environments are currently built provide them with greater flexibility and agility.

This has given rise to the figure of the digital worker”. About the Smart working concept, the author states that it is driven by employee experience, in which the company's focus is on performance and achievement of objectives, rather than presence. All of this implies competitiveness and connectivity to work from the most appropriate place at any given moment according to the needs. The author also points out that in this revolution, the need to take advantage of digital tools and to acquire new ones depends on each individual, with the support of companies.

Concluding that the key condition of the Smart working is based on the technology at the service of the business and the worker, with the characteristics of More communication (more open, flexible, approachable and simple), Collaborative working (in which dynamic online environments allow to gain agility and where geographical location is no longer a barrier), Access to infrastructure, platforms or software as a service (which provides immediacy and services tailored to the needs of the moment), Artificial intelligence support (regarding the possibility to incorporate more machine learning-based tools like virtual assistants with which workers will develop skills for their use and incorporation into their daily routines), Information security (because of their important role, its correct protection and management is vital).

In conclusion, mobility and flexible working hours, work by objectives and the massive use of new technologies are the three dimensions that make smart working possible, the new formula that seeks to increase productivity and worker satisfaction.

From the website of Factorial¹⁶³, dedicated to helping enterprises that want to automatise their RRHH processes, we reach the recent publication “Everything about Smart working: the new teleworking”¹⁶⁴, which mentions that everyone knows that teleworking is a model of work that allows people to work in any location, with the only requirement being a computer and an Internet connection.

In the age of technology, the working model is changing, and this approach is very attractive but at the same time teleworking is getting obsolete. Within these latest trends, we find the Smart working

¹⁶¹ <https://www.observatoriorh.com/>

¹⁶² <https://empresas.blogthinkbig.com/hacia-el-smart-worker-el-uso-inteligente-de-las-herramientas-digitales-en-el-trabajo/>

¹⁶³ <https://factorialhr.es/que-es-factorial>

¹⁶⁴ <https://factorialhr.es/blog/que-es-smart-working/>

concept itself, as a new working model where employees can access all the company's information systems, being the fusion of Teleworking and new technologies, and the methodology is based on giving to the employees all the tools they need to achieve the highest level of professional performance anywhere.

This source also is pointed out the keys to Smart working, is that the methodology is based on trust in employee “although it is also of great importance that the staff knows perfectly well what their objectives are. Thus, the aim of Smart Working is not that the worker works a certain number of hours, but that he/she fulfils certain objectives.”. Concluding with the main characteristics of this kind of work methodology as the mobility, remote work, technology and freedom and flexibility of schedules, and above all, the fact that all these changes represent great challenges for employees and enterprises.

From the online news and human resources newspaper RRHH Digital¹⁶⁵, we found an article about “What is 'Smart Working' and what benefits can its flexibility bring to your company?”¹⁶⁶, which states that the Covid-19 situation is forcing many people to work from home, and because of this the concepts of “Smart Working, agile working, remote working or teleworking” are becoming increasingly popular, but “not everyone knows what Smart working is and what is meant by agile working”. Adding that “After a year with the coronavirus in our lives, teleworking has become an established concept in many companies, from multinationals to small and medium-sized enterprises, in and outside the areas most affected by Covid”.

However, Smart working is not just about working from home, with a computer and internet connection, avoiding moving to the office, it's something bigger than this, including multiple aspects and a new change of mentality.

The article concludes with some of the benefits of this new methodology, as limit interpersonal contacts and thus the spread of Coronavirus, reduces transport stress, savings and reduction of environmental impact, time optimisation and organization freedom, work-life balance, and no dress code required; based on the key of flexibility and autonomy in the organization, choice of location and working hours from the employee, the requirement for digital skills, in line with the above-mentioned sources, and accompanied by an improvement in employee job satisfaction and thus productivity.

According to the article “Smart working or how to retain talent”¹⁶⁷, published on the website of CESCE¹⁶⁸ a Spanish Export Credit Insurance Company, the global sanitary crisis has had a drastic effect on the labour market, affected by numerous changes, with the catalytic effect of technology, perhaps most visibly exemplified by the rise of teleworking. Smart working is here to stay and will support companies in the challenges that businesses will face in increasingly changing and demanding environments, where productivity increases will depend more than ever on the confidence of the employers in employees, with a work performance based on flexibility but with higher commitment to results, pointing out the key factor of the role that technology plays in all this path.

¹⁶⁵ <http://www.rrhhdigital.com/>

¹⁶⁶ <http://www.rrhhdigital.com/secciones/teletrabajo/146091/Que-es-el-Smart-Working-y-que-beneficios-puede-aportar-su-flexibilidad-a-tu-empresa?target= self>

¹⁶⁷ <https://www.cesce.es/es/-/asesores-de-pymes/smart-working>

¹⁶⁸ <https://www.cesce.es/es/>

According to an article published in the digital version of the newspaper “El País”¹⁶⁹ from March 2020, we can approach “The teleworking jobs gap”¹⁷⁰. This article states that the pandemic has speeded up teleworking, forcibly testing whether the country is ready for it, and where it appears that only large companies can afford it. It is also interesting how it is shown that many of the multinationals and large Spanish companies, like LG, have already implemented the teleworking or Flexible working as a voluntary HR policy before the pandemic but not on such a large scale, defining the concept of Smart working as “[...] the activity that can be carried out from anywhere, not necessarily from home”. On the other hand, it is clear that SMEs, which represent the main part of the Spanish productive fabric, have not had the same luck in the implementation of this type of work, due, among other factors, to the lack of digitalization.

Regarding the public sector, and the publication “Public administration priorities for digital transformation”¹⁷¹, we can see how this sector has also been affected in this last year of historical challenges, completely transforming the structure of the organization especially in this sector, because of its regulation. The publication highlights that “Technological transformation has therefore meant a change in the priorities of public administration”, and that this sector is moving towards more flexible and resilient models.

¹⁶⁹ <https://elpais.com/>

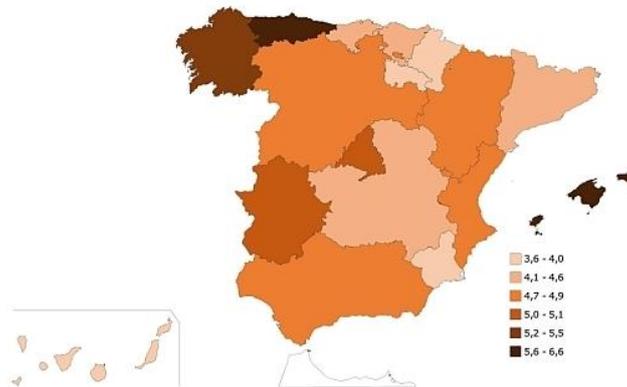
¹⁷⁰ <https://elpais.com/economia/negocio/2020-03-14/la-brecha-laboral-que-abre-el-teletrabajo.html>

¹⁷¹ <https://contactcenterhub.es/prioridades-de-la-administracion-publica-transformacion-digital-2021-22-30333/>

Quantitative indicators on Smart Working in Spain

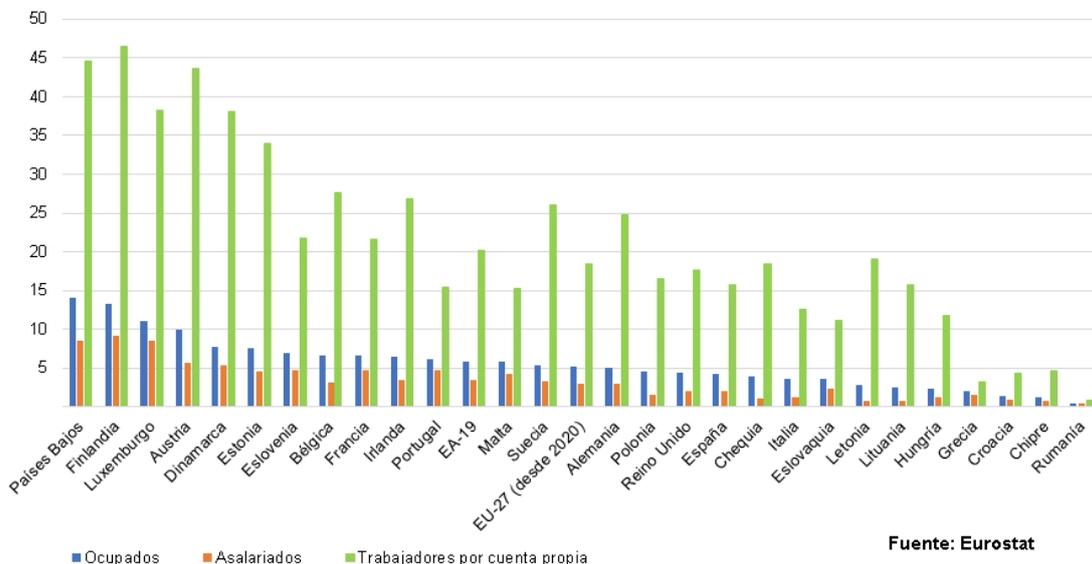
Related to the analysis based on specific data, we would like to introduce it with the article “Study on the implementation of telecommuting in Spain”¹⁷², of April 2021. The article shows that after a period of working from home, the first studies on teleworking in Spain have already appeared with the following data that help to understand how the new business trend is being experienced in our country. In 2019, although the moderate upward trend in the number of people working from home is continuing, just the 4,8% of workers teleworked in Spain according to INE¹⁷³ data, remaining way below countries such as Finland, with 13.3% or the Netherlands, with 14%. Showing that it was an underdeveloped modality before Covid-19.

Ocupados que trabajan normalmente desde casa (%). 2019



*Employed who normally work from home (%). 2019

Ocupados que trabajan normalmente desde casa por situación profesional. 2018 (% total ocupados y situación)



Fuente: Eurostat

*Employed people who normally work from home due to their professional status. 2018 (% total employed and status)

¹⁷² <https://factorialhr.es/blog/teletrabajo-espana/>

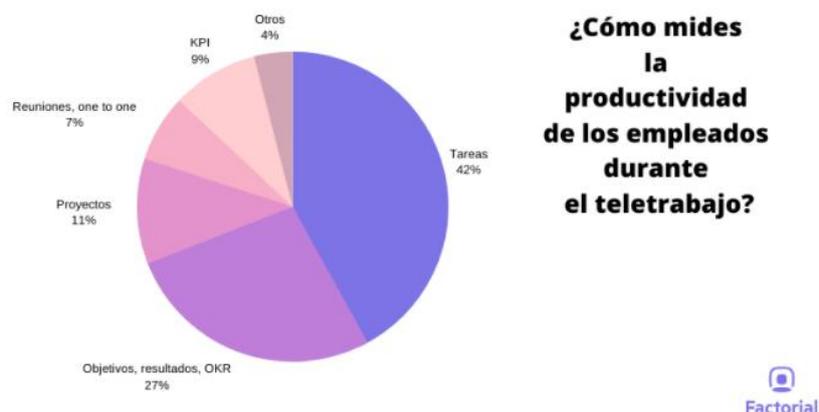
¹⁷³ https://www.ine.es/ss/Satellite?L=es_ES&c=INECifrasINE_C&cid=1259952649680&p=1254735116567&pagename=ProductosYServicios%2FINECifrasINE_C%2FPYSDetalleCifrasINE

Nowadays, due to the pandemic situation, this data has changed. According to the report carried out by the Bank of Spain¹⁷⁴, and their survey on a sample of different companies, states that “[...]80% of companies have increased teleworking, intending to minimise the impact on their activity in the current situation”. Regarding the barriers to the development of teleworking in the past, the study describes different reasons, as the lack of regulation, investment in computer and technological equipment, computer training for workers, and lack of flexible working hours, and before the pandemic and nowadays more than ever, it is crucial to regulate it.

At present teleworking is regulated by the law “Real Decreto-ley 3/2012, de 10 de febrero, de medidas urgentes para la reforma del mercado laboral”¹⁷⁵ (Royal Decree-Law 3/2012 of 10 February on urgent measures to reform the labour market), but it does not specify factors that in practice everyone asks as, the payment for the electricity or internet used during teleworking, how is overtime managed, what are the working hours, and doubt about the provision of computer equipment, and in all this situation workers could feel insecure. Besides, in addition to all the requirements that this working methodology brings with it, based especially in technological and digital tools.

Concerning Smart working, this methodology was already slightly implemented in Spain before Covid, representing just 27% of the Spanish enterprises, mostly in those areas which imply the use of ingenuity and digital tools. Factorial, the software of HR, and a survey that they have made to 100 enterprises to analyse how teleworking has developed so far during the Coronavirus situation have shown that the 45% of companies are dedicated to IT, e-commerce, technology, web development, and software, and all of them as based their activity in technology, digital tools and the online world, which means that because of their area of activity, are more likely to adapt to these new work models.

Related to the productivity during telecommuting, in the same survey a 42% of the respondents affirm that they do measure productivity based on the tasks performed, giving less importance to the measure based on objectives with represents a 27%.



*How do you measure employee productivity during telework?

Besides, 76% of enterprises affirm that they did not change the way of measure productivity in this period of implementation of telecommuting in Spain because of the pandemic.

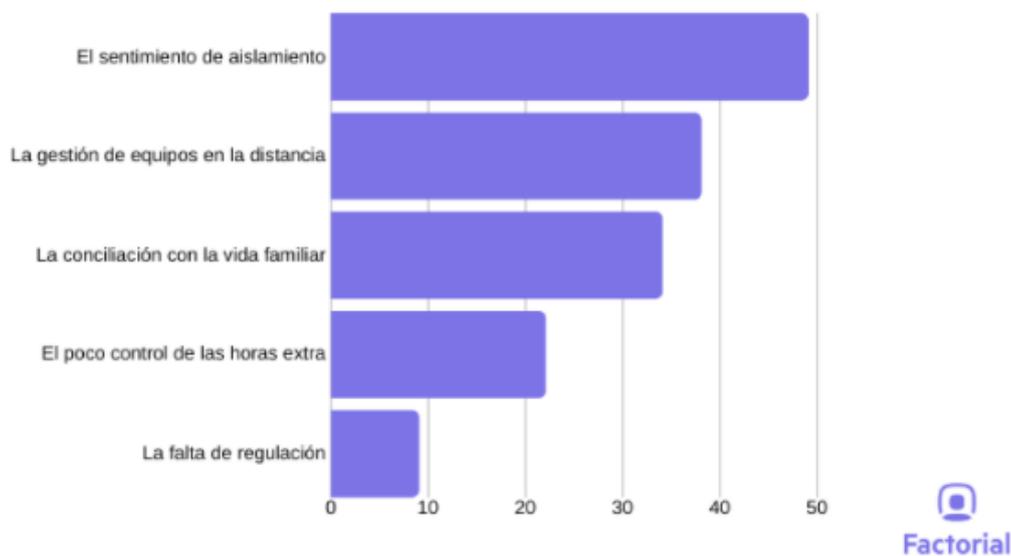
¹⁷⁴ <file:///C:/Users/Support/Downloads/be2002-art13.pdf>

¹⁷⁵ https://boe.es/diario_boe/txt.php?id=BOE-A-2012-2076

An interesting piece of data to highlight is that 67% of companies are considering keep working remotely in the future. All this information provided, presents a paradigm to employees and employers regarding the new work performance, “Teleworking comes with a company philosophy that prioritises goals over tasks, as well as flexibility. Will companies have to change fundamentally in order to improve their performance with teleworking?”.

Concerning the main problems related to work remotely, the survey has shown that the 49% of the enterprises considered that sense of isolation is top of the list, followed by remote team management, reconciliation with family life, poor control of overtime and lack of regulation.

¿Qué crees que es lo peor del teletrabajo?



*What do you think is the worst thing about teleworking?

About the research made by the consultancy Bain & Company¹⁷⁶ “Now that we know remote works, what's next?¹⁷⁷, which we have approached through Factorial, the same source mentioned above. We can see between interesting general data as 51% of the population respondents do prefer teleworking, while 25% opt for face-to-face work.

This research also reveals that in Spain, “[...] 68% of respondents are equally or more productive working from home. Therefore, it is expected that in Spain the percentage of employees who can work remotely will do so, at least occasionally, and that this will increase by 24 percentage points after the covid-19 crisis, from 63 % pre-crisis to 87 %”.

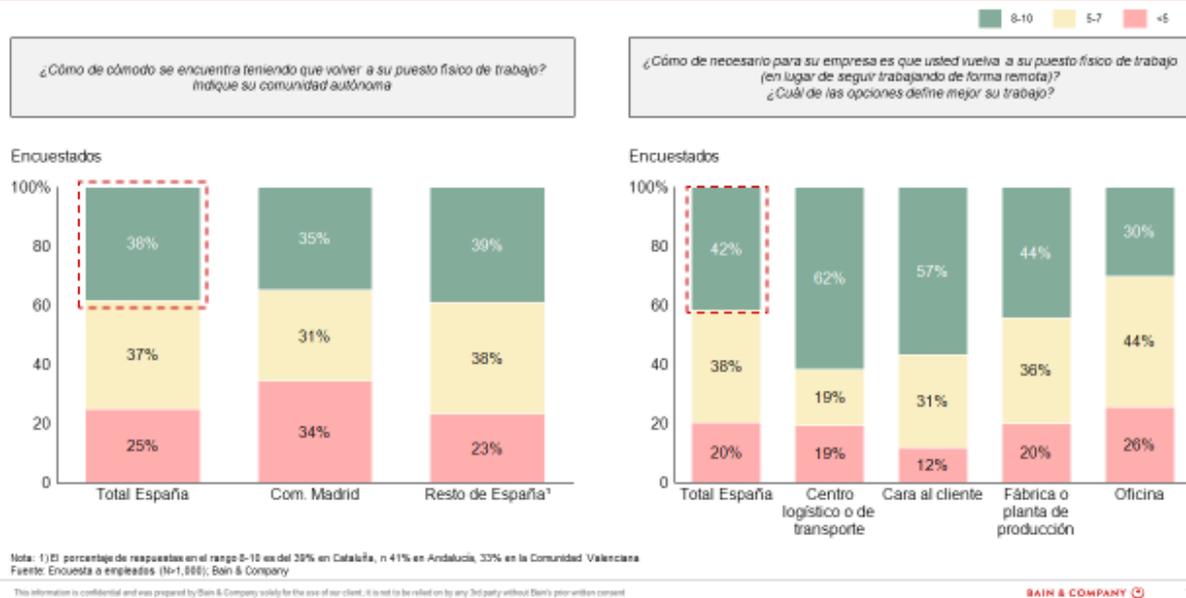
Confirming that this new work methodology is here to stay. Also, according to the Bain & Company survey, companies are introducing the latest technologies, with the use of collaborative platforms increasing by 30%. Concerning task performances, 65% remarked that efficiency has been increased related to critical tasks, and almost all the participants the 95% expect the greater agility that has characterised this covid-19 period to continue.

¹⁷⁶ <https://www.bain.com/>

¹⁷⁷ <https://www.bain.com/insights/now-that-we-know-remote-works-whats-next/>

In relation to the return to the physical workplace¹⁷⁸ the study shown that the Spanish population is still uncomfortable with the return to the office: “42% of those surveyed thinks there is a need to return to face-to-face work at this time, although only 38% feel confident about returning to their workplace”, and this data varies slightly by geographical area and by the type of job held.

42% de los trabajadores piensa que hay necesidad de volver al puesto físico de trabajo, sin embargo sólo un 38% se siente totalmente cómodo volviendo ahora



On the other hand, some of the negative effects are an increase in stress and a reduction in productivity in the relationship of work distribution, while a third of respondents have not experienced a reduction in this area, a 40% feel that their productivity has decreased.

This survey concludes with the aim of enterprises to keep maintaining the teleworking success while balancing it with face-to-face interactions. The report of AxiCom agency¹⁷⁹, approached also by the source Factorial above mentioned, talks about commuting and work-life balance, where we can see that what respondents like most about teleworking, is avoiding commuting (86%), making better use of time (63%) and getting up less early (51%). While other aspects such as the work-life balance (44%), being able to eat home-cooked food (31%) and enjoying more free time (19%) also stand out. If we talk about families with children, what they highly value the most about teleworking is the avoidance of commuting (89%) and the work-life balance achieved by working from home (71%). The study also refers to those aspects' employees miss the most, such as socialisation and office environment (63%), the lack of mental disconnection (61%) and the difficulty in finishing the working day (57%) stand out. Other additional difficulties include inadequate or minimal workspace and equipment (46%), increased phone and video calls (34%), difficulty in concentrating (20%) and higher electricity and gas costs during this situation (20%).

The study concludes that with the implementation of telework (considering it the methodology of the future) it is clearer than ever that all work processes including HR, will tend to become digitalised. In order to compare the data provided related to SMEs activity and telecommuting, we

¹⁷⁸ <https://www.observatoriorh.com/orh-posts/el-68-de-los-empleados-espanoles-afirma-ser-mas-productivo-trabajando-desde-casa.html>

¹⁷⁹ <https://axicom.com/es/>

can see in a 2017 publication¹⁸⁰ by the company Talent Street¹⁸¹, dedicated to innovation and communication, how in this period, telecommuting was not a popular practice in Spain, and according to data from the National Institute of Statistics (INE), just a 7% of small Spanish companies have employees who work remotely outside the company and through technology. On the other hand, if we refer to companies with at least ten employees, the figure can be as high as 27%, far below other European countries, where teleworking is a very common practice.

To continue with the current situation, it should be noted that the study of the particular situation of SMEs is of particular importance, as they make up 99% of the Spanish productive fabric, as shown in the following graph from the most recent report¹⁸² prepared by the D.G. for Industry and SMEs based on data provided by the Ministry of Employment and Social Security (MEySS).



Following an article published by the national digital newspaper “El País” in the economy section, “SMEs were not prepared, but now they are the ones that work the most”. This article analysed challenges which SMEs had to face regarding teleworking, and how they adapted to all these changes, providing interesting data as when the alarm state was decreed in Spain, 42% of SMEs were not prepared to work remotely, however, a 61% of SMEs in Spain (and a 59% around the world) were forced to work from home due to the Covid19 situation.

In addition, all that has been experienced in the context of the sanitary crisis may also imply a change in the employment policies of SMEs, since 37% of their employees affirm that they will prefer to keep working remotely when the situation ends. Added to the 60% of Spanish workers who believe that their SME can operate by working remotely permanently, exceeding the global percentage, which stands at 55%.

In terms of the problems faced by SMEs, and in bases of the analysis carried out by the bank of Spain about teleworking in Spain¹⁸³ and the Labour Force Survey, also mentioned before, in the last 10 years, “teleworkers have increased by only 2.4 percentage points to around 8%. The coronavirus has boosted these figures in the last two months. But it has not been straightforward. According to

¹⁸⁰ <https://www.equiposytalento.com/talentstreet/noticias/solo-un-7-de-las-pequenas-empresas-espanolas-permiten-teletrabajar/1579/>

¹⁸¹ <https://www.equiposytalento.com/talentstreet/>

¹⁸² <http://www.ipyme.org/es-ES/ApWeb/EstadisticasPYME/Documents/CifrasPYME-abril2021.pdf>

¹⁸³ <https://repositorio.bde.es/bitstream/123456789/12361/1/be2002-art13.pdf>

the Capterra survey, 42% of SMEs did not have the necessary tools to be able to work remotely. In fact, 76% work with their own laptop or computer and only 24% have a company computer”.

Because of this, small and medium-sized enterprises have had to make efforts to adapt to the new situation. For this purpose, 31% had to buy or install the necessary software to be able to work. Workers also had to adapt to the new situation, learning to use new digital tools, programs and applications to continue developing their activity.

Another problem that SMEs have had to face is the reconciliation of work and personal life in the same space, with 57% of workers affirming that being productive and concentration was the most difficult task.

Last problem but not least, is Cybersecurity, a big risk related to work remotely that workers have to face. When the situation starts, 57% did not have an antivirus installed on their computers. Besides, while now 70% use cloud platforms applications, just 38% have management software implemented, 24% write them down on a piece of paper and 20% share them with colleagues. Concluding with the result of 38% of employers suffering from Phishing, and 56% with no knowledge of what to do in case of a cyberattack.

Qualitative indicators on Smart Working in Spain

In order to be able to carry out a qualitative analysis, we introduce the topic, with the article “SMEs face the challenge of going digital to survive the post-Covid era”¹⁸⁴, in which we can see how the months of isolation have affected all sectors of the national economy, leaving many firms without liquidity. SMEs, which make up the bulk of the Spanish productive fabric, were the most affected by the Covid-19, and they create 72,4% of the employment in the country, six points above the European average.

In a sector of vital importance for Spain, the economic recovery after the pandemic is completely related to the challenges faced by SMEs, which are even more fragile than larger companies. Regarding this, and the data supported by the Latest barometer of the employers' association Cepyme¹⁸⁵, 98% of SMEs reduced their income due to the pandemic situation, the lack of demand was the reason for almost half of them. In addition to this, the majority of SMEs have poor forecasts about the viability of their businesses after the crisis. With this perspective, 60% consider that will be forced to reduce the number of employees in next months, while 86% fear their survival if the situation is extended. The numbers are alarming if we remember that this type of company makes up the majority of the Spanish fabric.

The article also states that considering the data below, it is of crucial importance to boost the growth capability of these smaller companies with the objective of enhancing the financial soundness of the business fabric as a whole. According to the employers' association, the real problem starts now, as entrepreneurs face reduced demand, increased fixed costs due to the compulsory security measures imposed by the virus and the uncertainty that the future brings.

Another challenge that SMEs have to face are those related to the digital transformation that brings with it all this situation, in which at the beginning the companies had the initiative and the project towards digital transformation, now it is a requirement of the market and the consumers of primary consideration. So that to ensure that SMEs can continue to exist, generate employment and revive the economy after the crisis, experts recommend speeding up the digitalisation process, which is underdeveloped in Spain compared to other European countries.

So related to the information below is interesting to know according to the “PwC Industria 4.0: Global Digital Operations Study 2018”¹⁸⁶ it is believed that “[...]two out of three Spanish companies are lagging behind in the digitisation process, with only 20% of their revenues coming from digital products and services. Spain has only 5% of digitally leading companies compared to the global average of 10%. And according to Cepyme, only 14% of companies had a digital transformation plan before the crisis”.

To sum up, articles states that in the opinion of leading HR consultancies it is of vital importance to boost training in digital skills on employees and enterprises, to accelerate digital transformation, since digitalisation could increase incomes of Spanish companies in 11%, while considerably reducing costs, data supported by The Digital Society 2019 report, published by Fundación Telefónica¹⁸⁷. But this panorama is not so encouraging for everyone, since while 23% of large and medium-sized enterprises use cloud computing (working in the cloud) regularly, in the case of micro-

¹⁸⁴ https://cincodias.elpais.com/cincodias/2020/07/03/economia/1593790410_509985.html

¹⁸⁵ https://www.cepyme.es/wp-content/uploads/2020/04/CEPYME-LaPYMEhabla_barometro_opinion-1.pdf

¹⁸⁶ <https://www.pwc.es/es/productos-industriales/industria-4-0-global-digital-operations-study-2018.html>

¹⁸⁷ file:///C:/Users/Support/Downloads/SdiE_2019.pdf

companies which is the area of our special interest, this figure drops to 9%, while the use of analysis through big data it corresponds to little more than a tenth of SMEs, and 2% of microenterprises.

The article finally states that to help companies with less than 10 workers, it is crucial that administrations get involved through concrete actions and support plans, according to Cepyme. "Digital transformation requires technology, talent and information", summarises the Secretary General of the Executive Committee of the Spanish Confederation of Small and Medium-sized Enterprises (CEPYME) Luis Aribayos.

To continue our report and to give some more insight into the topic, we analyse the article "The employment gap that teleworking opens up"¹⁸⁸ dated March 2020. According to this article "Coronavirus speeds up remote employment, but only some trades and big companies can afford it".

Thus, most of the large companies and multinationals with their headquarters in Madrid, such as Banco Santander, Telefónica, BBVA, Orange, Microsoft, Cellnex, Bankia, Axa, Google, Ence, Repsol, Vodafone, Ericsson, Iberdrola... and institutions such as the Comisión Nacional del Mercado de Valores (CNMV- Spanish Securities and Exchange Commission), the Bank of Spain or the Congress itself, implemented the government's recommendation to work remotely to curb the spread of the coronavirus.

On the other hand, this has not been the case for SMEs. Although 14% have a digitalisation plan in place, this does not mean that they are exactly ready to work remotely. "SMEs and the self-employed are more exposed to the virus than employees of large corporations precisely because of this, and because they deal more with people", explains Lorenzo Amor, president of the National Federation of Self-Employed Workers (ATA), who at the same time considers that of 3,2 million of the Spanish self-employed are willing to telework.

Despite all this, SMEs are trying to find solutions to bridge this employment gap in which they are left behind and to continue with the remote business. It should be noted that only some of them can afford it, as there are many sectors, such as transport, industry, construction, hospitality, among others, in which teleworking cannot be considered.

But the difficulties that SMEs face when it comes to the transition is the large monetary investment involved in having the necessary equipment, licences and corporate connections, with the minimum amount calculated for a basic installation in a company with 10 employees being 22,400 euros, adding 50 euros per month per employee for the payment of licences and antivirus.

The importance of cybersecurity in all of this is highlighted, as SMEs represent 40% of the companies that suffer from cyber-attacks, 60% of which are forced to close their business after these attacks, stated the president of Cepyme, who called for aid for SMEs to be able to purchase this equipment.

The article concludes with another example of a company with 30 workers, the marketing company CHC Energía, which has had to implement teleworking with a large investment in the purchase of laptops, mobile phone lines and the contracting of a virtual switchboard, which has cost 30,000 euros. Mariola Martínez, the company's CEO, expressed her vision of how many companies are

¹⁸⁸ <https://elpais.com/economia/negocio/2020-03-14/la-brecha-laboral-que-abre-el-teletrabajo.html>

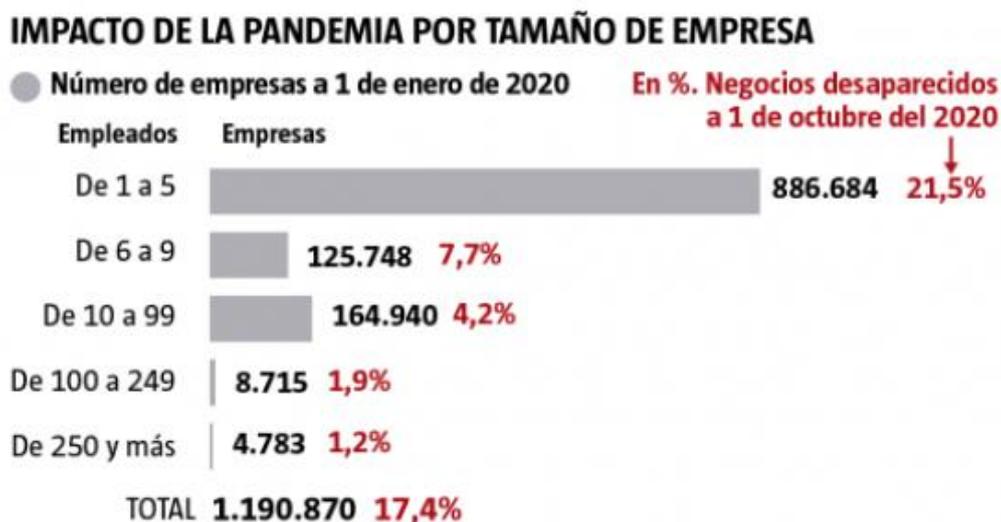
going to find it difficult to make this type of change, due to the lack of digital resources, and believes that SMEs need help to be able to make this investment. On the positive side, she believes that this will be a great boost for digitalisation and the take-off of remote working.

To give some more insight into the current situation of SMEs, we observe the article “20% of micro-enterprises close due to the crisis”¹⁸⁹, from the beginning of this year in the digital version of the national newspaper “La Vanguardia”.

According to an experimental study carried out by the INE to analyse the effects of the pandemic and take stock of the situation that has been triggered, until September 2000.000 companies disappeared, concluding that the crisis affected microenterprises to a much greater extent.

The article also states, that as always in a big crisis, microenterprises are the most affected, and the survival of companies depends on the size, “By far, it was businesses with between one and five employees that had the highest mortality rate. Thus, 21% of businesses with up to five employees that were in operation at the beginning of 2020 had disappeared by 1 October”.

From the following exhibits, we can see relevant data about the impact of the pandemic by the size of the enterprise, among the self-employed by age, and companies under ERTE (Record of Temporary Employment Regulation).



*Impact of the pandemic by company size

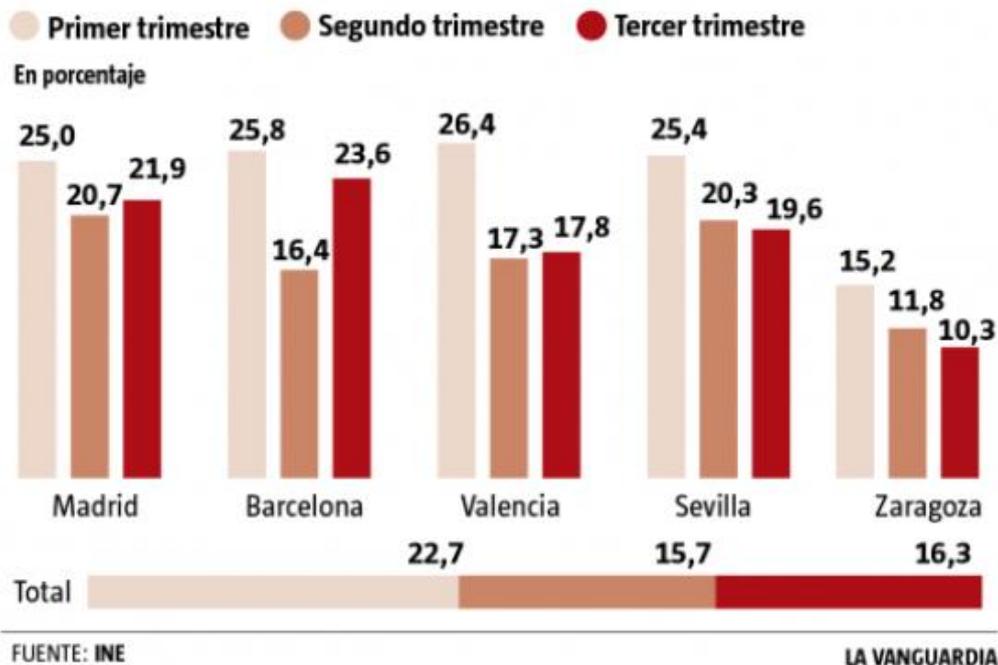
¹⁸⁹ <https://www.lavanguardia.com/economia/20210203/6220765/cierre-empresas-covid-ine.html>

ENTRE LOS AUTÓNOMOS POR EDAD



*Among the self-employed by age

EMPRESAS ACOGIDAS A ERTE EN LAS GRANDES CIUDADES



Destrucción de empresas por la crisis

*Companies covered by Record of Temporary Employment Regulation large cities

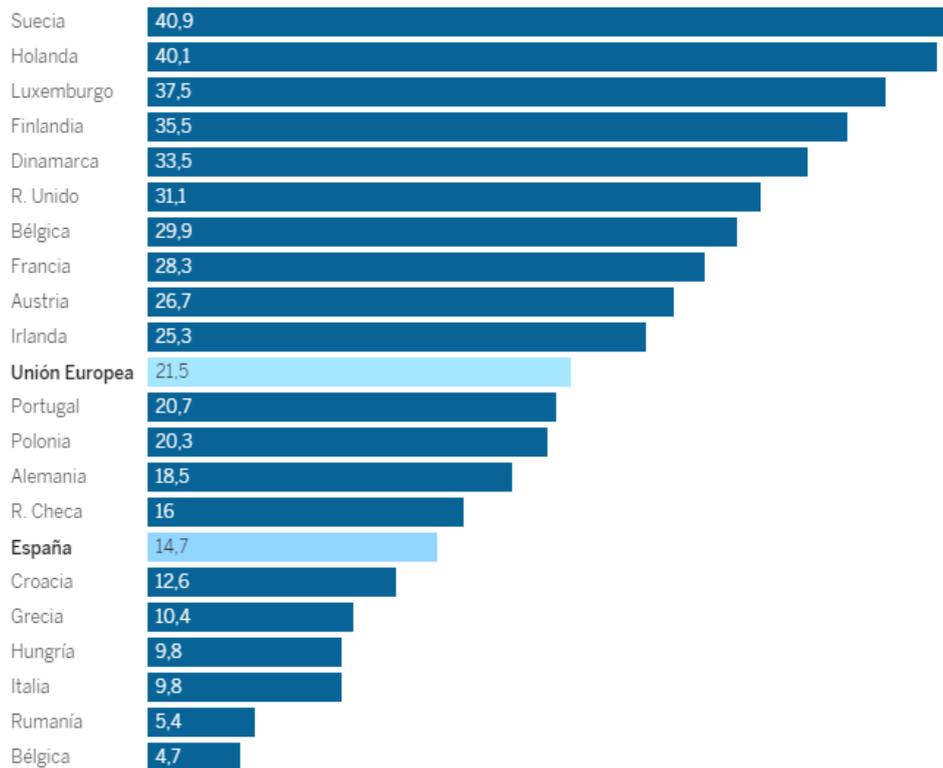
Continuing with, a brief description of the first graphic which is of special interest in our report, we can see how in the same period of the analysis first with the hibernation of the activity, then the restriction of social relations and mobility were maintained, 7.7% enterprises with 6 to 9 employees ceased their activity, while companies with between 10 and 99 employees experience 4% of disappearing businesses, dropping to a maximum of 2% for companies with more than 100 employees.

To sum up this part of the analysis and in the light of all this data, the importance of the automation of Spain's business fabric is mentioned, a factor that explains, among other reasons, why the country has one of the biggest falls in GDP.

Regarding the geographical factor, in the recent article “Pandemic drives teleworking in Spain: almost three million employees working remotely”¹⁹⁰, published by the national newspaper El País in their digital version, we can approach some interesting data which help to describe the situation. In first place, according to the Labour Force Survey (LFS) for the fourth quarter 2020¹⁹¹, we can see a graphic about the situation of telework in Spain in relation to the rest of the countries of the European Union, a percentage far below the EU average (21.5%).

Personas que trabajan ocasional o regularmente desde su hogar

Porcentaje respecto a la población ocupada



Fuente: Adecco Group Institute. EL PAÍS

*People who work occasionally or regularly from home

According to the implementation of teleworking at national level, it has differences depending on the territory of the country. Hence, Thus, the highest rates of increase in teleworking in the country are represented by the communities of Madrid and Catalonia with 200% and 118% respectively, as this is where the largest companies in the country are located.

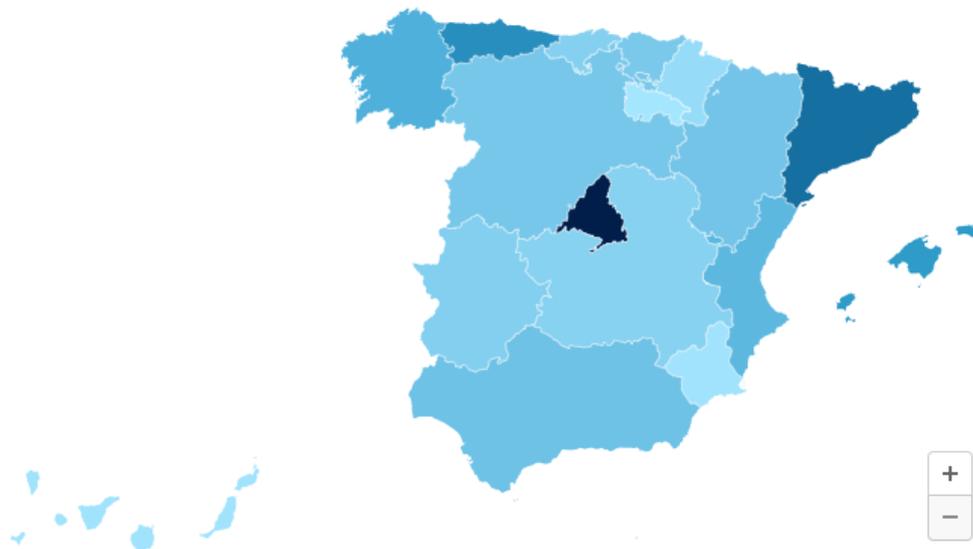
According to the dynamic map below, we can see how Madrid is first in the list of remote work, with 26.9% of teleworkers in Spain, followed by Catalonia with 22.6%, and Andalusia with 12.8%, with 14 points of growth, being where the percentage of workers in this modality has grown the most.

¹⁹⁰ <https://elpais.com/economia/2021-03-17/la-pandemia-impulsa-el-teletrabajo-en-espana-ya-son-3-millones-las-personas-que-operan-desde-su-hogar.html>

¹⁹¹ <https://www.ine.es/daco/daco42/daco4211/epa0420.pdf>

Porcentaje de ocupados que trabaja desde su hogar

Datos del 4º trimestre de 2020



Fuente: Adecco Group Institute. EL PAÍS

*Percentage of employed working from home

In addition to the geographical evidence for the data shown above, and to continue with the report and to understand in overall view information provided until now, it is worth to mentioning that SMEs are much more vulnerable¹⁹².

As indicated by the Bank of Spain in its latest annual report, mentioned above, this type of company has greater difficulty in obtaining financing, due to the perception of risk associated with investing in them, as well as problems among investors and entrepreneurs and problems of small scale.

All this means that SMEs have a different financing structure from large companies, which are more dependent on banks, and are thus more vulnerable to financial shocks that may occur. In line with what happened with the coronavirus crisis, the government has implemented some aid such as the 100,000 million in ICO guarantees to provide liquidity, reserving seven out of every 10 euros for SMEs and the self-employed, although this does not seem to be enough, as despite this there is a risk that some companies will suffer solvency problems.

Also regarding this, in the article “Nine out of 10 SMEs have seen their revenues fall due to COVID-19 and half fear for their viability in 2021”¹⁹³, published in December 2020 by the newspaper “El Mundo” in their digital version, we can see in addition to the analysis of the situation of SMEs in the pandemic and its forecast, that size is a variable proportional to survivability. In addition to what we commented above, and despite the aid to companies provided by the government and the European Union as part of the reform plan for the Spanish economy, it is pointed out that “beyond its objectives in terms of digitisation or energy, the approach taken to aid is that it should reach precisely the SMEs, which represent 99% of the business fabric”.

¹⁹² https://cincodias.elpais.com/cincodias/2020/07/03/economia/1593790410_509985.html

¹⁹³ <https://www.elmundo.es/economia/2020/12/21/5fdfa3ed21efa08d268b45d2.html>

In the same article, we can see how through the Vice-President for Economic Affairs, Nadia Calviño, at an event with Cepyme in Madrid how a budget of 2,600 million euros was announced to support the digitisation of small and medium-sized enterprises, pointing out that “a budget of 2,600 million euros to support the digitisation of small and medium-sized enterprises pointing out that “the transformation of these businesses must be accompanied by a process in which they gain size both in turnover and employees”.

*Opportunities: training available and operational tools***Good Practice/Case Study/Example**

“Andalucía conectada” (Andalusia connected)
Portal Andaluz de Empresa Digital (Andalusian Digital Business Portal)

We would like to highlight this case study as a good practice. It is developed by the public sector, specifically by the Department of Economic Transformation, Industry, Knowledge and Universities of the Junta de Andalucía, and this tool is specially designed for SMEs (and freelancers), and has an extensive online catalogue of free training and resources categorized by levels, related to the digital culture and digital transformation, such as Webinars, Online Courses, Massive Online Courses, Workshops, among other interesting resources such as Magazine, and an Observatory, all this accompanied by an easy and intuitive tool, with interesting content designed for our target audience.

*More detailed information below

To introduce this part of the report, we have found through “PYMEactiva”¹⁹⁴, dedicated to the dissemination of information for small and medium-sized enterprises and entrepreneurs, an interesting article published on their website, that despite being before the pandemic is quite interesting because it shows the general panorama related to “The need for training in SMEs”¹⁹⁵.

This article starts analysing how enterprises and mostly SMEs feel about facing digital transformations, and everything this implies, as the implementation of new processes and tools, included management of these changes. The publication states that despite the concerns of SMEs about business growth and training, “What is clear is that there are many benefits to investing in this area: training translates into human capital, increasing employee productivity and generating more and better performance for the company”.

Based on the first Annual Labour Survey (EAL), referring to 2017, published by the Ministry of Employment and Social Security, training and flexibility are key to employment growth in the sector. We show from the original source¹⁹⁶ the graphic, where taking into consideration companies with 5 employees or more, shows that 73.7% of the companies offered training to their employees, while more than 80% of companies in "professional activities", "transport" and "construction" provide training for their employees, observing how training increases with increasing company size.

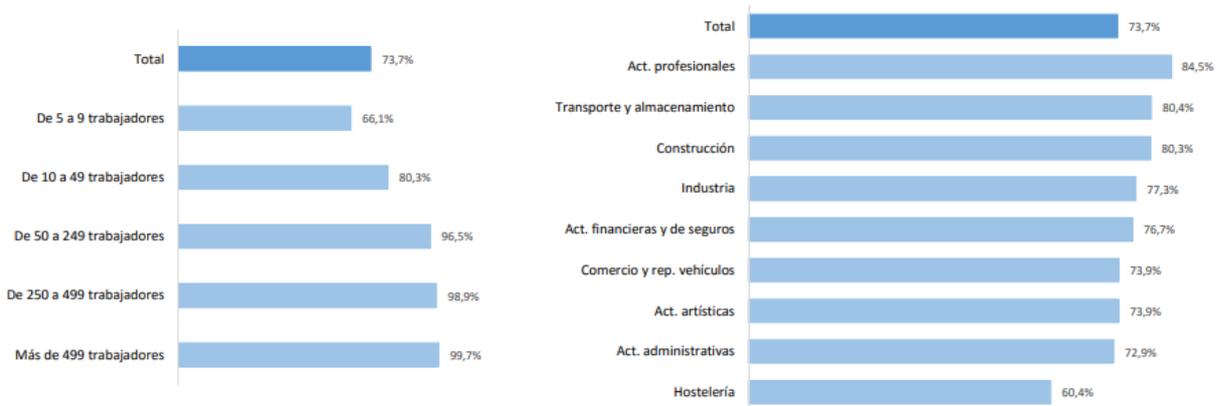
¹⁹⁴ <https://pymeactiva.es/pymeactiva-blog-actualidad-pyme-empresa/>

¹⁹⁵ <https://pymeactiva.es/la-necesidad-de-la-formacion-en-las-pymes/#:~:text=Un%2031%2C7%25%20de%20las,de%20499%20detectaron%20estas%20necesidades.>

¹⁹⁶ https://www.mites.gob.es/estadisticas/EAL/EAL2017/Resumen_EAL_2017.pdf

Empresas que proporcionaron formación

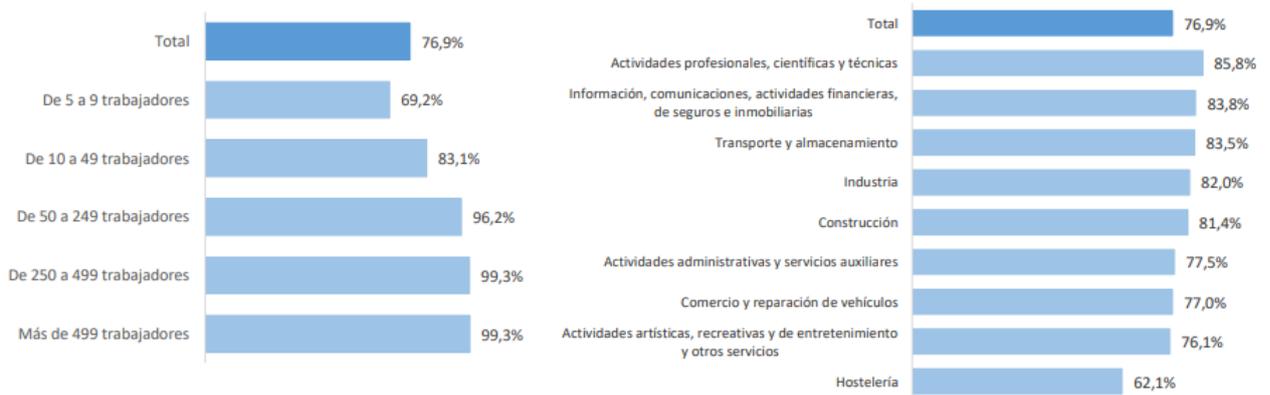
Porcentaje sobre el total de empresas en cada categoría



In order to update data, and in the absence of more recent data, which would be very interesting, we show the graphic from 2019 from the Annual Labour Survey (EAL), referring to 2019¹⁹⁷, in which we can see some slight differences in the percentages.

Empresas que proporcionaron formación

Porcentaje sobre el total de empresas en cada categoría



Concerning training needs, 31.7% of the companies detected training needs in their workforce in 2017, and in 2019 33,1 %. In smaller companies, from 5 to 9 workers, the percentage is 25.2% in

¹⁹⁷ https://www.mites.gob.es/estadisticas/EAL/EAL2019/Resumen_EAL_2019.pdf

2017 and 26,1% in 2019, and on the other hand, in companies with more than 499 workers, the percentage is 85.4% in 2017 and 84,1% in 2019.

Continuing with the article before mentioned, the main reasons why SMEs invest in training are to deepen and update their knowledge. And it is quite interesting how states according to a survey developed by Addeco, a human resource company, 84% of companies surveyed consider training to be a strategic part of their company. In turn, all these changes are driven by the fast advancement of technologies.

Articles summarized with all the benefits of good training for SMEs, such as value for employees, an investment in the future, brand image, quality of service to their customers, new business goals. At the same time, experts advise that in times of crisis the best money for SMEs to invest is in training.

If we delve into the aspect of the need for training of SMEs, according to the Spanish newspaper "El Economista"¹⁹⁸, we can see through their article "The need for digitisation of SMEs increases the demand for online training"¹⁹⁹, how the pandemic has driven companies to reinvent, position and adapt their businesses to the digital environment. This challenge, that has become a priority objective, has led many SMEs and freelancers to seek training in this regard, and proof of this is that the Level Up business school has experienced a 28% increase in demand since the beginning of the state of alarm.

The article also states that according to the report "SMEs and COVID 19: towards a sustainable recovery"²⁰⁰ carried out by the Spanish Global Compact Network, digital transformation, adaptability to the situation, and taking advantage of new trends were the main challenges for SMEs. On the other hand, the report by the Spanish Confederation of Small and Medium-sized Enterprises (CEPYME), states that 78% of SMEs considered digitalisation as an important element, but only 23% invested in it.

The article also shows that digitisation in companies was already necessary before the pandemic and that those that were already in the process have been more flexible and adaptable in the pandemic. Finally, the Level Up business school for entrepreneurs says that the biggest problem faced by SMEs has been the lack of training in the digital area and on the other hand the lack of funding to undertake the digital transformation.

Based on this, we looked for information on the training offered to SMEs in the area of Smart working, and we saw that The Official Chamber of Commerce, Industry and Services of Badajoz²⁰¹ is very active in this respect.

They offer paid online courses such as "Teleworking and smart working for SMEs and freelancers"²⁰², in which they can acquire skills and learn tools to better adapt to the circumstances and not lose control of the business. They also offer free seminars such as "Teleworking and smart working for SMEs and freelancers"²⁰³, in which they show how important teleworking and smart working is, both

¹⁹⁸ <https://www.eleconomista.es/>

¹⁹⁹ <https://www.eleconomista.es/ecoaula/noticias/11170707/04/21/La-necesidad-de-digitalizacion-de-las-pymes-aumenta-la-demanda-de-formacion-online.html>

²⁰⁰ <https://www.pactomundial.org/wp-content/uploads/2020/06/Gu%C3%ADa-Pymes-y-COVID-19-hacia-una-recuperaci%C3%B3n-sostenible.pdf>

²⁰¹ <https://www.camarabadajoz.es/web/es/camara-comercio-1/conoce-la-camara-1>

²⁰² <https://www.camarabadajoz.es/web/es/evento/curso-online-teletrabajo-y-smart-working-para-pymes-y-autonomos>

²⁰³ <https://www.camarabadajoz.es/web/en/evento/webinar-teletrabajo-y-smart-working-para-pymes-y-autonomos>

now and in the future²⁰⁴. On their website, we can also see articles about their activities regarding the digitalisation of the province among many others²⁰⁵.

We can see another example from the website of the company Openmart²⁰⁶, dedicated to offering technological and methodological solutions towards the Smart working model. In this case, we can see their training services for Smart working²⁰⁷ in this respect, which is: business cultural change, smart working, and technologies for smart working. They also offer within their services the PACK "AGILE TEAMS & SMART WORKING", offered to work teams that want to work in an agile and flexible way, providing them with the necessary tools, and the service of TECHNOLOGICAL SOLUTIONS FOR SMART WORKING, in which they offer effective communication tools for the digital work environment. In this example, we see that the information is somewhat scarce, while a form is available to contact them.

Another example that we give in which you can observe the disparity of information regarding the training offered in the area that concerns us, is from the Emagister website²⁰⁸, dedicated to the comparison of the training offer, and the publication "Smart Working: The present for companies and workers"²⁰⁹. This publication defines this work methodology, its characteristics, its advantages, and offers to acquire a large number of necessary skills, a paid training through ESNECA BUSINESS SCHOOL in Master in Business Administration and Management for managerial leadership adapted to the new needs of the working environment²¹⁰.

*Concerning public sector provision, there is no formal training specific to our subject of study, but we indicate some of the alternatives found. One of the most interesting tool is "Andalucía conectada"²¹¹ (Andalusia connected) from the "Portal Andaluz de Empresa Digital" (Andalusian Digital Business Portal), from the Consejería de Transformación Económica, Industria, Conocimiento y Universidades de la Junta de Andalucía (Department of Economic Transformation, Industry, Knowledge and Universities of the Junta de Andalucía), where we can see a website with a training catalogue that offers different categories of training based on the different areas of the digital society, and where we have found a specific section for SMEs²¹² and self-employed, with training courses in Digital Transformation and everything this involves, such as "Massive Online Course: Are you ready to compete? Digital transformation for SMEs."²¹³, "Cybersecurity"²¹⁴, and Webinars such as "Defining the infrastructure needed to take your business digital"²¹⁵, "How to telework securely. VPN + Self-protection of equipment and connections"²¹⁶, and workshops such as "Start the digital transformation of your business"²¹⁷ among others resources and activities. Because of all this reasons, this is our case study highlighted in the box of good practices.

²⁰⁴ <https://www.camarabadajoz.es/escuela-negocios/talleres-jornadas/webinar-teletrabajo-y-smart-working-para-pymes-y-autonomos->

²⁰⁵ <https://www.camarabadajoz.es/web/es/>

²⁰⁶ <http://openmart.net/quienes-somos/>

²⁰⁷ <http://openmart.net/formacion-smart-working/>

²⁰⁸ <https://www.emagister.com/blog/>

²⁰⁹ <https://www.emagister.com/blog/smart-working-el-presente-para-empresas-y-trabajadores/>

²¹⁰ <https://www.esneca.com/formacion/master-mba-administracion-direccion-empresas/>

²¹¹ <https://www.formacionandaluciaesdigital.es/>

²¹² <https://www.formacionandaluciaesdigital.es/pymes-y-autonomos>

²¹³ <https://www.formacionandaluciaesdigital.es/catalogo-cursos/-/acciones/ficha/6901>

²¹⁴ <https://www.formacionandaluciaesdigital.es/catalogo-cursos/-/acciones/ficha/11708>

²¹⁵ <https://www.formacionandaluciaesdigital.es/catalogo-cursos/-/acciones/ficha/13915>

²¹⁶ <https://www.formacionandaluciaesdigital.es/catalogo-cursos/-/acciones/ficha/11605>

²¹⁷ <https://www.formacionandaluciaesdigital.es/catalogo-cursos/-/acciones/ficha/6315>

Needs: skill gaps and needs assessment

Regarding this part of the analysis an interesting initiative²¹⁸ to support SMEs of the aforementioned Andalusian Digital Business Portal is the self-diagnosis tool for digital maturity²¹⁹, to find out the degree of digitalisation of companies and the steps to be taken to improve. The test areas are Digital Strategy and Culture, Customer Experience, Organisation, Communication and Talent, Products and Services, Infrastructure and Technology, and Processes.

The evaluation ends with the result by areas, and a total percentage of digital maturity, with the downloadable PDF report of these results.



Although this assessment test by areas is interesting, the results show a lack of redirection to the relevant training in each case, and in particular to digital training, which is the area of our study.

From the public sector, in organisation and collaboration with the Trade Union Confederation of Comisiones Obreras of Andalusia and also financed by the European Union, we find the Application to inform and detect training needs in Andalusian SMEs²²⁰. This tool provides information related to Vocational Training for Employment, Training on Demand (which directly affects the use of the tool) and topics of interest for SMEs, and detects the training needs of Andalusian SMEs both in a

²¹⁸ <https://www.juntadeandalucia.es/organismos/transformacioneconomicaindustriaconocimientoyuniversidades/areas/tic-telecomunicaciones/transformacion-digital.html>

²¹⁹ <http://www.programaempresadigital.es/>

²²⁰ <https://www.foremandalucia.es/aacc/pymes/index.php#!/>

common way and individually, to identify gaps in the area of skills. The application is based on the professional families in which 90% of the economic activity of Andalusian SMEs is found²²¹.

This tool has a user manual²²² in which SMEs can observe how it works, and in which we see that participants can, by choosing the activity of the company, access a series of training recommendations for the development of that activity.

Although this tool seems useful to detect the training needs of SMEs in a more formal aspect, we see that it is not a very dynamic tool in terms of detecting the needs of SMEs to improve their digital resilience.

With regard to operational tools, we can find on the website of the technology company Looptoit²²³, a publication that aims to check whether companies are ready for digital transformation²²⁴. This publication begins with an introduction to the digital transformation of companies, in which it indicates that this digital transformation involves a major cultural change in the company and in the way of managing the business, and then comments that for the implementation of this transformation, it is necessary to assess where the company is in this regard.

To measure the degree of digital maturity, the publication is based on the "Barometer on Digital Maturity in Spain 2017"²²⁵ (in its most current version of 2018²²⁶) prepared by IE Business School and Divisadero, which evaluates the degree of digital maturity of Spanish companies, thus giving a series of parameters as a guide to companies by which to measure the state of digital maturity: 1) MEASUREMENT OF THE ORGANISATIONAL AND BUSINESS MODEL, in which it indicates that the process begins from within the organisation. 2) INNOVATION AND DATA MANAGEMENT, in which the importance of this aspect and its impact on the value of the company is pointed out. 3) TRANSFORMING COMPANY CULTURE AND DIGITAL SKILLS, which highlights the importance of developing these types of skills, and holistically absorbing the new digital model.

Finally, it provides a series of questions as a checklist to be answered by the companies, and for each of the three sections mentioned above, in order to self-assess the level of digital transformation in which the companies find themselves.

About the organisational and business model

- Does your company regularly interact with the IT team?
- Do you apply agile methodologies for project development?
- Does your company have a technology-based business model?
- Do you have an innovation team?
- Do senior managers use dashboards with key metrics?
- Does your company have a digitalisation plan?

On innovation and data management

- Does your company collect real-time data?
- Is the company supported by a Cloud to work on projects?

²²¹ <https://www.foremandalucia.es/aacc/pymes/pdfs/familiasherramienta.pdf>

²²² https://www.foremandalucia.es/aacc/pymes/pdfs/MANUAL_USUARIO_EXPT%208107-AC11.pdf

²²³ <https://looptoit.com/>

²²⁴ <https://looptoit.com/comprueba-empresa-esta-preparada-la-transformacion-digital/>

²²⁵ https://www.divisadero.es/wp-content/uploads/Barometro_Divisadero_2017.pdf

²²⁶ <https://www.divisadero.es/wp-content/uploads/barometro-madurez-digital-espana-2018.pdf>

- Do you use internal communication tools (Intranet, email...) as a way of communicating with employees?
- Does each department have its own dashboards?
- Are collaborative tools used for project and data management?
- On company culture and digital capabilities

On company culture and digital capabilities

- Is there a senior digital manager in charge of digital transformation?
- Have employees been trained in the use of tools?
- Are the marketing and communication departments trained to implement the digital strategy?
- Does the marketing department analyse data to identify improvements?
- Is importance given to the mobile web experience?

Regarding training courses, we have found through different sources, some courses related to the topic, which we describe below.

According to the topic “Digital and online communication” we have found some Free courses for SMEs and the self-employed in Basic digital skills, Introduction to computer security, which are offered through the Vodafone website, and its Ideas for your company section²²⁷.

Searching for related courses from the “Andalucía Compromiso Digital”²²⁸ (Andalusia Digital Commitment) website, and in turn from the previously mentioned Andalucía Connected website, we found the free online course "Are you ready to compete? Digital transformation for SMEs"²²⁹.

With regard to the topic “Commitment of the team and people from home”, we did not find specialised courses on the subject, but rather recommendations in the form of publications, such as "Keys to maintaining the commitment of staff when working at home"²³⁰, published on the blog of Talento Humano Ascendo.

With regard to training related to “Work-life balance”, we see that many courses are fee-paying, such as the ISES (Spanish institute specialised in social and socio-health training), and their “Course on reconciliation of work and family life”²³¹.

About “Personal wellbeing”, we can see that there are some courses such as the “Course on wellbeing for personal and professional development”²³², which is offered free of charge, and with the option of payment with certification, from the Business and Entrepreneurship website, and given by the Anáhuac University²³³.

For the point “How to boost the productivity of your team from home”, we have found interesting publications such as "8 tips to improve work productivity in teleworking"²³⁴, from the Factorial HR website, mentioned above in our report and very active in this field.

²²⁷ <https://ideasparatuempresa.vodafone.es/cursos-gratuitos-online-para-autonomos-y-pymes-en-enero/>

²²⁸ <https://www.andaluciacompromisodigital.org/formacion/>

²²⁹ <https://www.formacion.andaluciaesdigital.es/catalogo-cursos/-/acciones/ficha/6901>

²³⁰ <https://blog.acsendo.com/claves-compromiso-home-office-empleados/>

²³¹ <https://www.isesinstituto.com/curso/curso-de-conciliacion-de-la-vida-familiar-y-laboral>

²³² <https://www.negociosyemprendimiento.org/2020/04/curso-bienestar-desarrollo-personal-profesional.html>

²³³ <https://www.edx.org/es/school/anahuacx>

²³⁴ <https://factorialhr.es/blog/productividad-laboral/>

Regarding the point “Remote project management”, we also found some interesting publications on the subject, such as “Teleworking: 5 key steps for remote project management”²³⁵, published from the blog of the company Workmeter²³⁶, dedicated to the creation of human resources management software. But without finding specific courses on this subject in this area.

In the search for “Agile management by objectives”, what we have been able to find are some paid training courses related to the subject, such as the course “Agile project management”²³⁷, given by the Chamber of Commerce of Bilbao, and published on the website of Mondragon Unibertsitatea²³⁸, which provides training for professionals, both face-to-face and online.

With regard to the next point, “Self-efficacy in the digital age”, we have not found any training course or publication in this area, but rather a study in the area of education aimed at teachers²³⁹. Following the point “Leadership and motivation in the era of intelligent work”, we have not found any specific course, but publications such as “Virtual leadership in times of telework”²⁴⁰, from the website of Telefónica Enterprises²⁴¹, which analyses the phenomenon of telework and gives some keys to virtual leadership, such as competence, character and communication and the development of these factors.

About the last point, “Teleworking: a selection of digital tools to manage your business”, on the Vodafone website also mentioned before, on its Ideas for your company portal, we can find a selection of free courses on teleworking for SMEs and the self-employed²⁴² as, Fundamentals of teleworking, Tools for working in the "cloud", Digital tools, Tools for virtual meetings and team management.

With all this information gathered, we can conclude that there is a need for more specific training in the area of digital and smart working for SMES, in which the training is structured, unified, dynamic, flexible and can serve as a source of information and development of these skills and tools for SMEs.

In many of the points related to training courses, we did not even get information on this, which shows that it is a need that can be covered by the SWIFTSME project, according to the objectives developed by the project.

²³⁵ <https://es.workmeter.com/blog/teletrabajo-5-pasos-clave-para-la-gestion-de-proyectos-a-distancia>

²³⁶ <https://www.web.workmeter.com/sobre-nosotros>

²³⁷ <https://www.mondragon.edu/cursos/es/tematicas/direccion-gestion-proyectos/curso/gestion-agil-de-proyectos>

²³⁸ <https://www.mondragon.edu/cursos/es>

²³⁹ [file:///C:/Users/Support/Downloads/23457-Texto%20del%20art%C3%ADculo-85692-1-10-20201127%20\(1\).pdf](file:///C:/Users/Support/Downloads/23457-Texto%20del%20art%C3%ADculo-85692-1-10-20201127%20(1).pdf)

²⁴⁰ <https://empresas.blogthinkbig.com/liderazgo-virtual-para-teletrabajo/>

²⁴¹ <https://empresas.blogthinkbig.com/espana/>

²⁴² <https://ideasparatuempresa.vodafone.es/cursos-online-gratuitos-sobre-teletrabajo-para-pymes-y-autonomos-en-abril/>

Challenges

Based on the quantitative and qualitative data analysed, please provide us with a list of challenges that threaten the digital resilience of your national SMEs ecosystem.

Based on the qualitative and quantitative data analysed on the digital resilience of the SME ecosystem in Spain, we can see how, as a result of the pandemic suffered in the last year, the digitalisation process that was gradually beginning to take hold in our country has been completely accelerated due to the Covid-19 health crisis, and the restrictions and changes that this has entailed, among many things in the field of work and work methodologies.

As such, the SMEs that make up 99% of the Spanish productive fabric, being the most vulnerable due to their intrinsic characteristics, have been particularly affected, and their slow path to digitalisation has not helped their survival. As a result, many of them have been forced to close down their businesses.

For the current challenge, and the future challenges that may lie ahead, SMEs more than any other type of enterprise, need to be equipped with tools, skills and free, structured and joint digital training, so that SMEs can cope with current and future changes in working methodology, and jump on the Smart working methodology bandwagon, in order to stay flexible, adapt and move forward in a digital world, in a constantly changing and evolving society.

In this way, SMEs will be able to experience the benefits of a new way of working, feeling competent in the face of this challenge, and the rest of the challenges to come.

Conclusions

Based on our research, and on the detection of identified needs and challenges described above for SMEs, it is worth noting that the trend towards a new smart working model is here to stay. In order to cope with the changes brought about by the Covid-19 health crisis, and the possible future challenges mentioned above, SMEs need to be equipped with tools acquired through structured and specially designed training, which enables them to be flexible and competent, and to adapt to this new smart working mode in order not to be left behind.

This underlines the need for comprehensive training in Smart working and digital culture and all that this implies, structured and specialised training in the field and specifically adapted to SMEs.

Therefore, based on the analysis carried out in the IO2, and following the objectives of the SWIFTSME project, and serving as a basis for the IO3, we can say that the fields of knowledge and based on the development of its activity, ITSFA highlights the field of digital skills in Smart working as the basis of the training to be provided, highlighting 3 specific training sections such as: ICT tools for Smart working, Cybersecurity, and technical problem solving in the area of the Smart working.