Smart working and the organisation of labour: smart working and internal labour markets

Overview report

WP3

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1. Introduction

The aim of this report is to present the results of the literature review and analysis of case studies in the IRsmart project – work package 3 “Smart working and the organisation of labour: smart working and internal labour markets”. The literature review relates to various aspects of the use of remote work in the economy, including in particular its impact on working conditions, the functioning of internal labour markets, as well as the ability to use various smart work solutions depending on positions, sectors or regions of countries. While the analysis of case studies presents key conclusions from the study on ten companies and organisations from Italy, France, Poland, Romania and Spain (two per country).

As already indicated in the previous report titled "Remote working across the European Union before and in COVID-19 pandemic" summarising the work package 2 in the IRsmart project, the COVID-19 pandemic that broke out in early 2020 was a breakthrough in the field of remote working. The need to commission work from home to all those workers for whom it was possible in order to reduce the number of social contacts and thus - the risk of infection - was a significant challenge both from the perspective of employers and employees. Admittedly, already before the pandemic attempts were made to implement solutions of this type in the case of selected professions, especially those related to various types of cognitive work, but the data for various countries show that before 2020 it was not a common practice. The remote work was performed by certain employees whose duties required them to be away from the employer's premises (in some cases this involved significant mobility). As for office workers, in the conditions of the labour market of an employee (caused by the low unemployment rates and labour shortages) which had existed in the few years before the pandemic, working from home on a limited basis (e.g. one day a week) was a kind of non-wage bonus.

It might therefore seem that, prior to the Covid-19 pandemic, teleworking and its impact on employment conditions were not a frequent subject of analyses. It turns out, however, that some issues have been the subject of researchers' interest for a long time, and the potential of telecommuting to change the economy and labour relations has been noticed since the first wave of widespread computerisation in the Western countries in the 1970s. At the same time, various research problems related to this issue were explored, which enriched the body of knowledge and theories in the field of human resource management, sociology of work and related fields[1].

This report will attempt to analyse both pre-pandemic and post-pandemic sources to obtain the broadest possible perspective and universal conclusions, based on well-established scientific theory and evidence. In addition, an important research issue are perspectives of maintaining remote work after the pandemic, which is primarily related to the possibility of using remote work (“smart-workingness”) – this will also be an important thread of the analysis. Undoubtedly, following Marcus (2022), one should agree that there is practically no return to the status quo ante from before the pandemic. Remote working has become too common in various companies, and employers have discovered its advantages, especially in terms of

[1] Among other issues, its potential impact on the reduction of pollution or the reconfiguration of urban space was explored, cf.: Fana et al. 2020.

increasing cost-effectiveness. Most possibly, the conclusion is also true that hybrid solutions will dominate, combining remote work with work performed at the employer's premises, and the technical basis will be various telecommunications solutions, including videoconferencing software (ibid: 2)

In this report, first the analysis the drivers of remote work use will be conducted, taking into account both the perspective of the organisation (managers) and employees. Then, the impact of remote work on the efficiency and quality of work from the perspective of the employer will be discussed. The next part analyses the impact that smart work has on working conditions. In the following chapter the reportpresents an analysis of the potential for the use of teleworking (*smart-workingness*, *teleworkability*) in various areas of activity and jobs/occupations. Last part is devoted to in-depth analysis of ten case studies covering the motivation to introduce remote work, its impact on working conditions and job satisfaction, development of skills and the role of collective workers representation in setting conditions of remote work. The report is concluded with some final remarks and key takeouts.

2. Drivers

The factors driving the use of remote work have been analysed since at least the 1990s, as indicated by a literature review by Errichiello and Pianese (2016). This issue was analysed from three different perspectives: of an employer (manager), employee and company/organisation.

Managerial perspective

In general, in the first case, the factors motivating managers to allow subordinates to work remotely and to trust them were analysed. For example, in the study by Peters and den Dulk (2003), such issues were considered as national culture and legal regulations, organisational factors (e.g. leadership style), individual factors (e.g. employee's tenure), as well as characteristics of the employee's remote work request (e.g. intensity of telework). Particularly interesting seems to be the analysis of the influence of cultural factors on the managers' approach to the main problem arising from the adoption of remote work: the lack of (direct) control over the employee and the uncertainty as to whether the work is performed correctly by increasing the employee's ability to act in an untrustworthy manner (ibid: 333). The reaction of giving employees autonomy instead of trying to introduce additional, in practice difficult to implement control over the course of their remotely conducted work depends on cultural factors. These include especially: power distance and a tendency to avoid uncertainty. A large power distance is associated with a stronger centralisation of power within the organisation and a strongly hierarchical structure with multiple levels of supervision, as well as a directive style of management, while a small power distance implies the opposite features of the organisation and managerial style (ibid: 334). The problem of avoiding uncertainty is how representatives of a given culture deal with the unknown and uncertainty. Strongly avoiding uncertainty cultures create individuals who fear such circumstances, which leads to the creation of many formal and informal regulations controlling the work process. Therefore, remote work, leading to strong uncertainty, will be more difficult to adopt in such cultures, and if it does, there will be a tendency to regulate it more strongly.

Peters and den Dulk also analysed the factors influencing the readiness to offer remote work resulting from the characteristics of the organisational culture of a given employer. Favourable features include a lack of focus on control, including creating rigid rules or striving for stability and predictability, and instead focusing on productivity and accomplishment. A favourable circumstance is also the organisation's openness to technological innovations, striving for a sense of ties with the company among employees, and an emphasis on creativity (ibid: 338). Not surprisingly, the presence of a strong emphasis on being seen at work is, in turn, a hindrance to the implementation of remote work. Similarly, unfavourable features of the enterprise are: emphasis on employee participation in the organisational culture, limiting working time to typical business hours, expecting employees to convey the corporate image as well as the presence of interruptible work processes (ibid). Adopting remote work is also accompanied by a specific leadership style in the organisation, including giving the employee more discretion over the work process, focusing on outcomes, and a more holistic approach to jobs. The authors also point to the impact of the very characteristics of an employee on the readiness to accept remote work by managers. It is not only about the nature of the tasks performed, which will be analysed in a separate part of this report - for example, remote work is favoured by the cognitive nature of the work performed. The position of the employee in the hierarchy of the organisation also has an impact - the higher it is, the greater the chances that the manager will accept the request for a remote job (ibid: 340). Finally, the content of the remote work request itself was analysed. It has been shown that more work-related motivations for remote work - such as a desire to concentrate better on the tasks performed - will result in greater success in fulfilling a request, while less chance of success will arise in the desire to shorten the time of commuting to work or reconcile private and professional life. This is where the problem of potential discrimination against women appears, who may be perceived by managers as more than men expecting an improvement in their work-life balance from telecommuting (ibid: 341).

Employees' perspective

Errichiello and Pianese refer to the article by Moktarian and Salomon (1994), which, despite the distant publication date, seems to contain many interesting and still valid observations about drivers that may encourage an employee to undertake remote work. This shows that already in the first half of the 1990s, there were strong theoretical and empirical foundations (the cited authors refer to a number of other publications) that exhaustively explained the problem of undertaking telecommuting from the perspective of employees. Factors such as attitudes and personality, access to information on remote work, and a comparison of factors inducing to telework (e.g. the desire to be independent) and discouraging it (e.g. fear of isolation) were taken into account as Errichiello and Pianese (2016: 4) indicate.

The authors distinguish a number of different driver categories (Moktarian and Salomon 1994: 755-756). The first is work-related and includes the desire to do more work by people who encounter distractions in the workplace, reduce the stress associated with being in the office (e.g. as a result of conflict situations, high-pressure atmosphere, competition for scarce resources) as well as to better control the working environment (e.g. more space, a more attractive or comfortable surrounding). For some employees, a sense of greater independence, lack of direct supervision, a sense of own initiative or even "entrepreneurship" resulting from greater flexibility may also be important. The authors do not forget

about such specific sources of motivation as the desire to avoid people, resulting from introversion or misanthropy, while admitting that these are rare cases. Another group of drivers are those related to the family, which include the willingness to spend more time with the relatives and greater flexibility in taking care of those of them who require care (children, elderly or disabled family members). Then, the motives related to free time are indicated: the desire to have more time for oneself, more flexibility in arranging of it, e.g. to deal with one's interests, hobbies and avocation, as well as education or physical activity.

Specific categories of motivation include those defined by the authors as "ideological", related to the desire to reduce greenhouse gas emissions by less frequent car travel. There are also various reasons related to the problem of commuting. The reason for the willingness to work remotely may be the long duration of commuting to work, but also its inconvenience (e.g. traffic congestion, multiple mode changes), as well as the costs of commuting. In specific situations, travel safety may also be problematic, such as during the riots in Los Angeles in the spring of 1992 or even physical inability, e.g. caused by the earthquake in the San Francisco Bay in the fall of 1989. Finally, the willingness to telework may be determined by the employee's immobility, temporary (e.g. broken leg, convalescence after surgery) or permanent (disability, chronic disease), or parental leave after the birth of a child (ibid: 756).

The authors also analyse possible constraints on the choice of remote work from the employee's perspective. They mention the problem of the lack of awareness of existing solutions or misunderstanding of their ideas (e.g. that they are intended only for mothers with young children). This category of restrictions appears to be much less widespread today than it was in the 1990s. Limitations may also result from the attitudes of managers or – more broadly – the lack of support for the implementation of remote work by the employer. The authors indicate that only few employers are ready to allow remote work at the time of writing, which undoubtedly remained relevant in many cases until the outbreak of the Covid-19 pandemic in 2020. Another constrain indicated is the nature of the job. Here we touch on the issue of teleworkability, which will be discussed in a separate chapter. However, it is worth pointing to some interesting observations of the authors. First, it is stated that the problem of fitness for remote work is not a binary issue. For example, many seemingly “site-dependent” jobs are actually partially “information-related” and thus remote working is possible to some extent. Therefore, under certain programmes, as early as the early 1990s in Los Angeles, restaurant inspectors and probation officers performed some of their duties from home. Second, the authors prophetically state that technological progress will expand the range of tasks that can be performed remotely and the spectrum of situations suitable for remote work, and that their final application will dictate current business, social and psychological needs (ibid: 753).

The next constraints indicated have potentially become obsolete to the greatest extent: the authors mention the unavailability of telecommuting technologies and the high costs of, for example, telephone calls (the costs, however, include in their opinion also insufficient space at home). The inquiries about psychosocial costs seem to be more universal: the willingness to interact with specific people in the workplace and to see and be seen, which should include, for example, dressing up and social recognition. Another limitation is the potential distraction or conflict with other household members. The problem for some people may be the lack of discipline - they need certain cues of time or the presence of a supervisor. In addition, beyond the work environment, excessive eating, smoking and drug use may occur. The authors

refer to the case of people who gave up remote work after gaining weight (ibid: 754). At the same time, some remedy for these problems may be working not from home, but from telework centres or other places ensuring social interaction. Some people may not want to work remotely because they are risk averse. In particular, there may be concerns about professional promotion or lowering the position (probably, due to the much greater popularity of telecommuting, this problem does not occur at present or is marginal). Finally, the last constraint analysed concerns the perception of commuting as a useful stage of the day, ensuring a separation between work and private time, as well as allowing certain activities such as calling, reading or listening to music (ibid).

Organisational perspective

An example of a contribution concerning organisational perspective included in the Errichiello and Pianese comparison is the analysis by Pérez Pérez et Al. (2005). It is based on the study of the impact of various company resources on the adoption of temporary work. These resources can be: human, organisational and technological. The first category relates to the qualifications of employees - the higher they are, the greater the probability of implementing telecommuting. Remote work is most often performed by knowledge workers – the authors conclude that "competitive resource are an ideal environment to teleworking adoption" (ibid: 1478). The analysis also showed that the use of remote work is positively correlated with the employment of salespeople, which the authors explain by the fact that this professional category is to a greater extent managed by results, and its efficiency is easily measurable. Enterprises that offer ICT training to their employees and simply those that have more know-how in teleworking are more willing to accept remote work. The organisation's experience in implementing other forms of work flexibility, such as flexible working hours, is also important – the company that has them will be more inclined to accept teleworking as well. Regarding technological resources, it is not surprising that the acceptance of telecommuting goes hand in hand with the use of more ICT technologies and a greater share of their users in the company. More computer-savvy workers will also be more open to the use of remote work. Companies that are generally more innovative – that is, conduct research and development activities, develop innovative products or implement organisational innovations - are more likely to offer teleworking.

The organisational resources favouring telecommuting include the presence of many geographically dispersed company branches, which in itself prompts the organisation to use electronic communication on a larger scale. Companies that use outsourcing are also more prone to accept telework, as well as those that involve employees in job planning and design – the latter, again, favours the acceptance of remote work on the part of the employee. The management style is also important – it should be conducted through objectives and performance, instead of supervision and control. Teleworking is also fostered by trusting employees and building a culture of teamwork. The last-mentioned factor facilitating the adoption of telecommuting is the practice of sharing work locations. Teleworkers are more satisfied with their work if they work in a hybrid formula, dividing their working time between home, employers' premises and customer visits (ibid: 1481).

Errichiello and Pianese mention other authors who contributed to the analysis of telework adoption drivers. They mention, among others article by Neirotti et al. (2013), in which the internal and external resources of the company were distinguished and an attempt was made to explain the practices of remote

work in relation to the context of the organisation's activities. It includes the technologies used (e.g. ICT systems), organisational resources (e.g. geographic scope) and "environmental" factors. In turn, the analysis of Daniels et al. (2001) takes into account various types of external pressures, such as regulations or norms, the desire to imitate the HR practices of competitors or the sharing of values in explaining the decision to adopt telework by an organisation. Analysis by Peters et al. (2004), in turn, takes into account all three perspectives described above, considering, among others, the characteristics of the organisation (size, number of locations), factors related to the nature of the workplace (e.g. the level of digital skills, working time), or individual employee characteristics (gender, attitudes). Their impact on the employee's decision to take up remote work is examined, as well as on the manager's decision regarding such a possibility and on the effective introduction of teleworking in the organisation (Errichiello and Pianese 2016: 5).

3. Impact of smart-work on work efficiency – employers' perspective

The authors of the report prepared at the beginning of the pandemic in spring 2020 (Angelici and Profeta 2020: 2) admitted that the results of research on the impact of smart-working on employee productivity so far had not been extensive. At the same time, they provided examples of research showing the possibility of increased productivity in the case of remote work. For example, Bloom et al. (2014), on the basis of an experiment with Chinese call-centre employees, indicated that teleworking can have a positive impact both on the productivity and on the work-life balance of employees. Despite the concerns of the company's authorities, which previously allowed only occasional remote work of managers, a significant increase in employee efficiency of 13% was achieved. This number was made up of an increase in productivity per time unit (4%) and longer working hours due to fewer breaks and sick leave (9%) (ibid: 21). At the same time, the company achieved measurable benefits resulting from the decrease of costs related to running the office as well as reduction of employee turnover. These benefits, however, can be reduced as feelings of isolation build up over time as well as concerns about reduced promotion opportunities (ibid: 3). The authors also indicate that the specificity of work in a call centre, including especially the ease of evaluation and measurement of task performance and the close link between effort and results, is far from universal. At the same time, they admit that such features, enabling managers to control employee efficiency, are shown by a significant number of jobs in sales, IT support or work related to office management (ibid: 21).

The efficiency of employees working remotely in relation to those working traditionally was also explored in the course some studies. Dutscher's (2012) analysis shown that the differences between the two groups depend on the nature of the work performed – in general, an increase in productivity should be expected in the case of employees performing creative work, while negative impact of telecommuting should be expected in the case of routine/dull tasks. This was found in an experiment in which two groups of workers performed two different types of tasks – in a laboratory or home environment. The first was a simple routine job – typing on a computer. The second, in turn, was an exercise in the unusual use of common objects (ibid: 358-360). However, the author do not attempt to comprehensively explain the impact of remote work on productivity depending on the nature of the tasks. They only mention a limited number of

possible factors that have previously been identified in the literature. For example, in the case of the first type of tasks, in the author's opinion, the deterioration in productivity could be due to the lack of managerial control as well as the lack of the peer effect (ibid: 362), which is the factor that has been proven to be significant in the case of relatively simple works in a number of studies – cf.: Falk and Ichino (2006), Bandiera et al., (2005), and Mas and Moretti (2009). The problem may also be the presence of various distractions present in the home environment, as well as behaviours such as using the Internet for purposes other than performing professional duties (Dutscher 2012: 362).

Coenen and Kok (2014) assessed the impact of the implementation of telework and flexible work schedules on the performance of teams in product development projects in two Dutch companies. The analysis was focused on five cases from two large companies that implemented telework arrangements for their employees in new product development projects. The results suggested a positive effect on the performance of work teams within organisations which is mediated by increased knowledge sharing and cross-functional cooperation. Telework seemed to improve the quality of the product under development. This was because it enables the involvement of both internal and external parties with relevant knowledge that become integrated in the work process. The findings also show that these positive effects may be offset when face-to-face interactions are completely replaced by online contact. The latter is stressing the role of telework intensity as a mediator effect and points out the need for management to balance online and physical contact in teleworking settings. (Llave 2017)

In their experiment, conducted in a large Italian company, in which a group of employees worked remotely for nine months one day a week[2], the previously cited Angelici and Profeta (2020: 23-24) recorded an increase in efficiency in the treated group compared to the control group. The number of sick leave days has decreased, while the productivity of the work process itself has increased. The causes of the latter effect are not fully clear to the authors, but they present some explanatory hypotheses, such as less time spent on breaks, saving time that would be spent on commuting, and greater commitment to the company. The latter is a reference to the "Hawthorne effect", according to which employees, having obtained a bonus in the form of smart-working opportunities, have a more positive emotional attitude towards the employee, and thus – a sense of commitment to more solid work. In fact, the analysis did show that the workers in the treated group felt a stronger identification with the company.

4. Impact of smart-work on working conditions – employees' perspective

The literature, both from before the outbreak of the Covid-19 pandemic and the most recent publications, suggests a generally positive impact of the use of remote work on the well-being of employees and their satisfaction with work, although it may depend on the shape of the solutions adopted. For example, Angelici and Profeta (2020), based on a literature review and the Sixth European Survey on Working

[2] It is important that – according to the definition adopted by the authors – it was a smart-work, i.e. remote work with a high degree of autonomy in terms of shaping the time and place of work. The authors contrast this type of work with "classic" telecommuting, which they associate with strong constant supervision over a remote employee.

Conditions conducted by the European Foundation for the Improvement of Living and Working Conditions (Eurofound), state that employees appreciate the consequences of telecommuting, such as flexibility in time and place of work. However, their perception of matching working hours to their family and social commitments only improves statistically significantly when there is flexibility in starting and ending work and arranging breaks, while the impact of telecommuting itself is negligible (ibid: 4). On the other hand, in Gallup's research, both the flexibility of time and workplace are, again, important for the respondents (37 and 54%, respectively, declared that they would change the workplace for such a benefit). This kind of flexibility is even more desired by millennials (ibid).

The already mentioned Angelica and Profeta experiment (2020: 25) also showed a statistically significant improvement in the well-being of employees using smart-working. Satisfaction with regard to the following aspects of the life situation was examined: income, health status, home, work, social life, free time, and life in general. Smart-working improved satisfaction with social life, free time and life in general and, after adjusting for control variables, also satisfaction with income, health status and home. At the same time, members of the experimental group felt an improvement in all but the last aspects of life, including the following: staying focused, losing of sleep due to any concerns, being able to make decisions, appreciating the daily activities in a regular day, feeling stressed, feeling unable to overcome difficulties and feeling that they play a useful role in their work life. It can also be concluded that the participants of the experiment improved their work-life balance: they devoted more time to household activities and caring responsibilities. The authors also indicate that the results turned out to be heterogeneous with regard to gender. After Goldin (2014), they expected a reduction in gender gaps, and this was actually reflected in the data: smart-working increased male participation in the household and caring activities, while making women more focused, losing less sleep, and feeling more useful (ibid. : 27).

An analysis conducted in 2017 by Eurofound in cooperation with the International Labour Organisation (Eurofound and ILO 2017) showed that remote work allowed to reduce commuting times, provided greater flexibility of working time, better overall work-life balance as well as greater productivity and stronger motivation of employees. On the other hand, it caused the extension of working time, the overlapping of professional and private life (home-work interference, blurring of boundaries between work and private life) and intensification of work. The impact of telecommuting depends on the nature of the duties: remote work from home improves work-life balance, while jobs requiring high spatial mobility carry the risk of negative effects on health and well-being. Hybrid/semi-remote work seems to have a better balance between advantages and disadvantages. Finally, from the gender perspective, women working remotely have a shorter working time than men, and at the same time achieve a slightly better improvement in their work-life balance (ibid: 1). The issue of work-life balance, being highly complex and ambiguously influenced by teleworking, has been analysed by many other authors. For example, a problem that has been exacerbated by the pandemic and consequent school closures in many countries, namely the combination of work and caring responsibilities – or more broadly the impact of household structure on the performance of work from home – was studied e.g. by T.L. Dixon and J. Webster 1998, Hill et al. 1998. Bailey and Kurland (2002: 384), on the other hand, noted that remote working has a positive impact on work-life balance only when both parents are economically active. A. Martínez-Sánchez et al. (2007)

confirmed the positive impact of teleworking on the reconciliation of work and care responsibilities for parents in countries with a 9-hour working day with a lunch break. The positive impact of working from home was also observed by Reeves (2003) and Tremblay (2002), showing, among other things, that this way of performing duties gives more autonomy in managing one's own time and work to be done, which in turn improves productivity, reduces stress and time spent commuting. In particular, people with disabilities may benefit from remote working (Harker and MacDonnell 2012).

Jeran (2016) conducted an extensive and comprehensive literature review, focusing on the problematic issues, namely the impact of teleworking on the different functions in people's lives that are attributed to work. She used the motivational ERG theory, on the basis of which she identified three basic functions of work: in the livelihood (economic), relational (social) and developmental (self-development, growth) spheres (ibid: 50). Using numerous publication examples, the author indicated the existence of significant risks attributed to each of these areas. For example, in the livelihood sphere, there is potentially less access to the organisation's resources (both material and information) or to training or promotion opportunities. The latter is due, among other things, to being less seen by superiors, having fewer opportunities to show your achievements and influence the others (ibid: 54). In addition, there is the risk that the employee bears the main cost of maintaining contact with the employer/supervisor and that the control that is exercised over his/her work is annoying and restrictive. He/she is also responsible for the arrangement of his/her workplace and exposed to the health consequences of ergonomic or safety mistakes. Here, again, the issue of work-life balance also comes into play – the author emphasises that the lack of skills in planning working time or the distractions experienced in the home environment can lead to extending working hours beyond standard hours, giving up taking breaks or taking holidays. In addition, the expectation of constant contact from the employer can exacerbate the situation (ibid: 55). With regard to the relational function, teleworking can pose threats to the maintenance of social relationships and contacts (ibid: 56-57), which has a number of also non-obvious consequences. Apart from the lack of daily interactions with colleagues, the feeling of isolation and loneliness, as well as the lack of psychological reinforcement, there is also a risk of not feeling part of a larger group, the inability to learn the culture of the organisation, not feeling connected and co-responsible for its situation, being excluded from decision-making processes, the impoverishment of the sphere of interaction due to the purely verbal and formal nature of remote communication, the lack of opportunities to show signs of status or exchange courtesies and show mutual respect. In the case of the last function of work, concerning development and self-fulfilment (ibid: 58-59), some risks partially overlap with those already mentioned, in some cases constituting their long-term consequence. The lack of direct contact with colleagues and superiors hinders informal learning and the transfer of tacit knowledge, and in the long run, as already mentioned, may limit promotion opportunities. The very fact of working from home may make it less valuable in the eyes of some than at the employer's office (although it seems that due to the mass work from home during the pandemic, this is no longer a relevant risk). In the case of some teleworkers, the lack of or less identification with a prestigious employer, brand or company headquarters may worsen self-esteem. Finally, poorly managed, redundant remote control can lead to avoiding experimentation and innovation in the way things are done because of the focus on immediate results.

Qualitative analysis by Fana et al. (2020) of the situation of people working remotely as a result of the COVID-19 pandemic outbreak showed a significant heterogeneity of assessments regarding the impact of the telecommuting on employee well-being and quality of work. Assessments depended on the position of the respondents in the organisational hierarchy, their level of qualifications or previous professional experience. Among other things, autonomy at work was analysed. This increased in the initial period after the massive shift to remote work (especially according to the middle-skilled workers and clerks), and then decreased as managerial control was restored and procedures were standardised. The increase in standardisation, and thus in the routine of work, was felt most by employees working with the public (ibid: 8).

Job quality impact assessments were multifaceted. For some employees, especially those working in direct customer service, job satisfaction increased, among others thanks to the elimination of distractions typical of the work environment. On the other hand, highly skilled workers felt the inability to gain significant feedback or exchange ideas with colleagues. On the other hand, regardless of the nature of the work performed, people with children experienced a decrease in their productivity when working from home due to frequent work disruptions. At the same time, for some of the respondents, the possibility of being with their family offset these problems. This was especially the case with women who, despite the increased level of stress, appreciated greater flexibility and the reduction of conflicts within the family. Remote work has also turned out to be a challenge from the point of view of mental and physical health, including the emergence of negative emotions and musculoskeletal problems. Longer working hours and greater work intensity were also reported, and at the same time, the negative impact on career prospects was usually not feared (ibid: 17).

Another analysis, conducted by Dolot (2020) based on a survey on a non-probability sample of 327 employees, allows to compare opinions on the impact of teleworking on various aspects of working conditions during and before the pandemic (respondents were also asked about previous experience of working from home, if they had any). The results of the study, despite the strengthening of certain problems by the pandemic and the related lockdown, allow us to assess the impact of telework on the well-being of employees as rather positive. The respondents particularly highly appreciated the possibility of reconciling work and home duties and the possibility of adjusting work to the needs of themselves and their relatives (ibid: 40). The possibility of saving time due to the lack of commuting was also often indicated (these indications were even more frequent when they concerned the time of the pandemic), as well as the possibility of better concentration on the tasks performed and completing work faster. Among the negative aspects of the impact of telework, in relation to the pre-pandemic period, the most frequently indicated were: giving up breaks at work, problems with self-discipline, the feeling of being at work all the time, working on weekends, the blurring of the border between the professional sphere and private life, lack of direct contact with colleagues and concentration difficulties due to the presence of other members of the household (ibid). It is worth noting that the frequency of all these answers was much lower than in case of the positive aspects of teleworking. With regard to the pandemic period, the lack of direct contact with colleagues, the blurring of boundaries between work and private life, being at work all the time, and difficulties with concentration caused by the presence of other family members (especially children during

school closures) were clearly more often felt (ibid). This study is another one that shows the ambiguous impact of teleworking on work-life balance, depending on the individual situation of the employee and his/her personality traits.

5. Smart-workingness – who can perform remote work?

The issue defined by such neologisms as "teleworkability" or "smart-workingness" was already initially discussed in the report "Remote working across the European Union before and in COVID-19 pandemic", which indicated, among others, that 37% of employment in The European Union is characterised by the ability to adopt work from home, ranging from 27% in Romania to 54% in Luxembourg. Additional information was the increase in estimates concerning this issue from the level of approximately 15% before the outbreak of the pandemic. Interestingly, these data are strongly consistent with another study conducted at the start of the pandemic in the United States. That Dingel and Neiman analysis (2020) gave an identical result of 37% of global smart-workingness. Other significant findings concerned, among others, the share of this type of jobs in the economy. It turns out that they are relatively better paid - they accounted for 46% of all wages in the US. The authors also made an attempt to apply their methodology to 85 other countries. The result of this analysis was the finding that the lower the level of economic development, the lower the possible share of smart-workers - GDP per capita lower than 1/3 of that in the USA translates into a half of the potential share of remote work in employment. As in Europe, the situation caused by the pandemic resulted in a significant increase in the share of remote work - back in 2018, this share was reported to be below 25% among full-time employees, with the average time spent in this way of working less than half of the weekly working time (ibid).

The analysis showed significant differences in the potential for remote work between different US cities and economic sectors. In the case of the latter, the areas with the highest potential share of smart-workers are: education (83%), professional, scientific and technical services (80%), enterprise management (79%) and finance (76%). The lowest smart-workingness characterises transport and warehouse management (19%), construction (19%), retail trade (14%), agriculture, forestry, fishing and hunting (8%) as well as accommodation and food services (4%). Detailed data is presented in Table 1.

With regard to occupational groups, the analysis for the USA indicted that teleworkability is highest in those related to computers and mathematics (100%), education, training and library activities (98%), in legal occupations (97%), those related to business and financial (88%) and management operations (87%). In turn, the smallest ability to work remotely was found in the occupations related to the maintenance and cleaning of buildings, preparation and serving of food, construction and mining (0% each), maintenance, installation and repair, production, agriculture, fishing and forestry (1% each).

Table 1. Share of jobs that can be done at home by industry

Share of jobs that can be done at home, by industry.

	Unweighted	Weighted by wage
Educational Services	0.83	0.71
Professional, Scientific, and Technical Services	0.80	0.86
Management of Companies and Enterprises	0.79	0.86
Finance and Insurance	0.76	0.85
Information	0.72	0.80
Wholesale Trade	0.52	0.67
Real Estate and Rental and Leasing	0.42	0.54
Federal, State, and Local Government	0.41	0.47
Utilities	0.37	0.41
Other Services (except Public Administration)	0.31	0.43
Administrative and Support and Waste Management and Remediation Services	0.31	0.43
Arts, Entertainment, and Recreation	0.30	0.36
Mining, Quarrying, and Oil and Gas Extraction	0.25	0.37
Health Care and Social Assistance	0.25	0.24
Manufacturing	0.22	0.36
Transportation and Warehousing	0.19	0.25
Construction	0.19	0.22
Retail Trade	0.14	0.22
Agriculture, Forestry, Fishing and Hunting	0.08	0.13
Accommodation and Food Services	0.04	0.07

NOTES: This table reports the share of jobs that can be done at home in each 2-digit NAICS sector. We compute these shares using our O*NET-derived classification of occupations that can be done at home and the occupational composition of each 2-digit sector's employment by 6-digit SOC in the BLS's 2018 Occupational Employment Statistics.

Source: Dingel J. I., Neiman B. (2020). *Op. Cit., p. 4*.

According to Sostero et al. (2020: 28-31), teleworkability depends on the nature of the tasks performed as part of a given job. Some of them can be done remotely from a technical point of view, others not, or worse than in person at the place of employment. The following categories of tasks have been distinguished: 1) physical, which, as a rule, cannot be performed remotely using existing technologies, 2) related to social interaction, which - unless they require physical contact - can be performed remotely, but often with a significant loss of quality, and 3) related to the processing of information, which can usually be performed remotely without compromising quality.

6. Smart-work and skills mismatch

Performing remote work raises the issue of skills. This relationship is multidimensional and multi-directional. On the one hand, the mere possibility of working away from the employer's premises correlates very strongly positively with employees' skill and qualification levels. Thus, we are dealing with another dimension of employee differentiation in terms of smart-workingness. According to Espinoza and Reznikova's (2020) estimates, while an average of 31% of workers in OECD countries could potentially work from home, such a possibility applied to as many as 54% of those with tertiary education and only 18% for those without tertiary education (ibid: 11). Interestingly, for some countries this gap is even much higher -

in the case of Hungary and Lithuania it exceeds 50 percentage points. The analysis also showed a strong correlation of smart-workingness with levels of numeracy and literacy, as measured by the OECD PIAAC adult skills survey, conducted every 10 years in 40 countries. It measures key skills in three areas: literacy, numeracy and problem-solving in a technology-rich environment. The survey found that 57% of those with a skill level of 4 or 5 scored on this test were capable of teleworking, while the level of teleworkability for those with a level of 3 or below was only 28% (ibid: 12). Teleworking also requires non-digital skills related to the way in which the task completion process is organised: self-discipline and time management (Raišienė et al. 2021). In general, as indicated by the authors of the cited studies, the above requirements create new dimensions of inequality in the labour market due to individual socio-demographic characteristics of workers, such as educational level or age.

On the other hand, remote working has a significant impact on certain employees' skills, particularly digital ones. In particular, the massive shift to working from home as a result of the COVID-19 pandemic has contributed to a significant increase in skills often previously lacking among employees, such as working with remote communication applications, video conferencing, process automation, collaborative work and document sharing platforms, corporate social networks, internal blogs and wikis, meeting and training support tools, etc. In Luxembourg, for example, lockdown has become an opportunity to familiarise 43% of employees with new digital tools (Hauret and Martin [ed.] 2020: 3). The average number of tool types used by respondents increased from 3.9 to 4.3. The pandemic objections also brought an increase in the intensity of the use of digital tools - by 58%. Perhaps not surprisingly, the huge increase in intensity was in videoconferencing software (up 46%) (ibid: 3). 30 per cent of homeworkers estimated that their digital skills had increased as a result of the lockdown, and the stated learning of new tools or increased intensity of their use further increased this percentage (up to 50 per cent) (ibid: 6). It should be expected that in other countries, the increase in digital literacy forced by the use of digital tools as a result of the pandemic was even higher than in a country generally standing high in the DESI index, such as Luxembourg (cf. European Commission 2023).

The issue of skills mismatch in the context of smart-work implementation can be considered from yet another perspective that is quite different from the previous ones. Some companies are using remote working as a way of dealing with local skills shortages and the mismatch between the skills possessed by available job candidates and the needs of the labour market. They may offer a job position to candidates living even at a considerable distance from the employer's premises, as long as it is possible to telework there (Soroui 2021: 12, Morrison-Smith and Ruiz 2020: 1).

7. Impact of smart-work on unionisation and social dialogue

The proliferation of telework challenges workers' representation, which is dominated by trade unions in most countries, potentially having an overwhelmingly negative impact on their ability to engage in social dialogue and thus their social legitimacy. First of all, trade unions are still strongly rooted in the workplace located at the employer's headquarters, where, among other things, they recruit their members and maintain a sufficiently high level of membership, which in favourable circumstances leads to union

membership becoming the norm among employees (Vandaele and Piasna 2023: 105-106). The growing popularity of telework, combined with other contemporary managerial practices aimed at making employment relations more flexible (e.g. the use of fixed-term contracts or the abandonment of employment contracts in favour of B2B cooperation), causes a number of difficulties for unionising employees. They are increasingly physically dispersed, working different hours depending on their preferences or - in the case of larger, transnational organizations - may even be in different time zones (ibid: 107). The lack of direct, physical contact in the workplace weakens or eliminates the social bonds that traditionally formed between employees when they spent time together. Opportunities for joint meetings in common spaces, such as the corridor, kitchen or printer room, cease to arise. Lack of interaction means that mutual trust and readiness for collective action are not created. An opportunity for unions is the use of new remote communication channels that could replace the traditional ones. Various studies cited by the authors have already shown that unions are able to strengthen their position, e.g. thanks to the activity of social media (ibid: 107). The authors emphasize the role of various online communities in maintaining ties between employees. In conclusion, although they indicate that the physical workplace as an environment for the functioning of trade unions will still be important, it will be important for unionization to function online spaces where employee activism can develop.

In response to the increased popularity of teleworking during the COVID-19 pandemic, the UNI Global Union calls for the respecting of employee rights, such as the possibility of associating in trade unions or various forms of social dialogue, including collective bargaining (UNI Global Union 2021). In the light of these postulates, remote work should not be a pretext for weakening the implementation of these rights. This applies e.g. to the right to information on trade unions present in the workplace and communication between trade unionists and workers (ibid: 3). Unions should have access to all means of communication with workers, as well as appropriate tools for secure online meetings and other tools such as online surveys and petitions. This also applies to tools that allow voting on collective action. Meanwhile, the aforementioned consequences for unionisation resulting from the extensive use of teleworking, as well as certain technical limitations, may hinder the effective conduct of collective bargaining. Firstly, the decline in union density resulting from the difficulties of trade union activists in reaching out to employees reduces the negotiating power of the trade union side. Secondly, negotiations conducted remotely are usually controlled to a greater or lesser extent by the employer who is their organiser. This gives them the opportunity even to mute selected participants of the negotiations (Otieno et al. 2021: 13).

The very content of collective bargaining is also important, namely whether it takes into account the working conditions of teleworkers. The literature on this subject, as well as on the previous issue of the impact of telework on conducting collective bargaining, seems to be scarce. More publications on this topic were brought only by the pandemic period (e.g. Molina and Pedersini 2022, Czarzasty and Mrozowicki 2023). Studies show that the crisis caused by the pandemic has contributed to a certain revival of social dialogue and collective bargaining in some countries. For example, in Spain there were several collective agreements signed to regulate teleworking, including right to disconnect (i.e. workers' rights not to be contacted by their employer/supervisor outside of statutory working hours) (Molina and Pedersini 2022: 26). In other countries, the situation has not necessarily improved. This is the case with Poland. Czarzasty

and Mrozowicki (2023) indicate that the pandemic period even weakened the social dialogue, which had already been weak for many years (which means: low union density, low collective bargaining coverage, no sectoral collective bargaining agreements). The illusory and corporatist character of the national social dialogue, dominated by the government, the mutual distrust of social partners and the practice of informal influence on public policy makers have only intensified (ibid). Some hope for at least a slight revival of social dialogue in this country is brought by the recent amendment to the Labour Code, which entered into force in the spring of 2023. It introduced detailed regulations on remote work, obliging the employer to negotiate detailed organisational solutions in this regard with employee representatives.

8. National case studies

Case studies overview

As part of work package 3 "Smart working and the organisation of labour: smart working and internal labour markets" of the IRsmart study, a case study analysis of out-of-office work (OOOW) was carried out. In each of the partnership countries: France, Italy, Poland, Romania and Spain, two company cases were analysed to describe the experience of telework before and after the COVID-19 pandemic (10 cases in total). The specific objectives of the study included the following:

- To explore how work arrangements and working conditions are altered by smart working
- To identify the potentials, bottlenecks, risks and opportunities that may foster or impede effective work in smart-working (care duties, workplace conditions at home, communication technologies and infrastructure, etc.) for different categories/groups of workers in different sectors
- To assess the working time and flexibility, engagement and motivations in organising work and in work productivity due to smart-working, with a focus on internal labour markets and human resource management
- To identify skills needed for an efficient smart working transition and the skills needed to the diffusion of smart working: e.g. digital skills, soft skills (communication, self-motivation, managing work and family obligations at home).
- To explore the role for industrial relations/social dialogue in mediating the relation between smart working and working conditions in different countries and regions

The case studies were selected in order to show posibly high variety of experiences in OOOW in various institutional and organisational contexts in order to problematise explorative objectives of the study. Therefore, the cases relate not only to working from home, but also to examples of ICT-based mobile work in two large electricity companies (focus on field electricians fixing grid and communicating through tablets), cover both private and public sector. Also the context of collectve employment relations in settling working scheme arrangements is refered to and analysed in the studies as the various national industrial relation clusters are represented (Continental – France, Southern-European: Italy, Spain, and Eastern-European: Poland, Romania).

The analysis of the case studies was carried out on the basis of a uniform methodology covering all the cases in question, which consisted of the following research instruments: A. desk reserach, B. in-depth

individual interviews with representatives of employees/trade union, employer, academic expers, and C. a focus group interview with employees in these companies. Semi-structured interviews were conducted based on giudelines developed as a part of the methodology (see Annex). At the request of some organisations, company names were withheld and the analysis was anonymised. All interviews conducted as part of the study were anonymous, so the names of interviewees were not disclosed. The survey was conducted in the second half of 2022 and the first half of 2023.

Table 2. List of case studies

	Company profile	**Sector**	**Sort of out-of-office work**	**White / blue collars**	**Unions present**	**Collective agreement**
France	**insurance and manufacturing of automotive equipment**	Private	Working from home	White / blue collars	No, works council prasent	No
	universal bank with global outreach	Private	Working from home	White collars	yes	yes
Italy	**regional administration**	Public	Working from home	White collars	yes	yes
	electricity company	private/ public	ICT-based mobile work	Blue collars	yes	yes
Poland	**universal bank with global outreach**	Private	Working from home	White collars	yes	no
	electricity company	Public / private	ICT-based mobile work	Blue collars	yes	yes
Romania	**IT company**	Private	Working from home	White collars	no	no
	university	Public	Working from home	White collars	yes	yes
Spain	**charter primary public school**	Public / private	Working from home	White collars	yes	no
	telecommunication services provider	Private	Working from home	White collars	yes	yes

Source: own eleboration, case studies comparative analysis

France

Roole is a company providing services focusing on **insurance and protection equipment against car theft** established in 1982. The case study focuses on development of telework (present yet irregular and unregulated before the COVID-19 pandemic) – especialy in a hybrid format from both the perspective of management and impact on working conditions, including skills development. The company has been able to seize and organise telework as an opportunity to contribute to both the economic and social performance of the company. The history and culture of the company is the main driver of this positive

results of introduced organisational change. Currently, telework is a permanent part of a hybrid form of work organisation and is part of an overall company policy to promote employee well-being at work. Working from home now seems to be fully integrated into the organisation and is largely based on management by trust. It is combined with various initiatives to maintain cohesion within the company, notably by ensuring the attractiveness of the office.

BNP PARIBAS is an international banking group born of a merger process between BNP and Paribas in 2000, which have made it one of the world's leading banking groups in terms of turnover. Telework is part of a Group overall strategy dedicated to Smart Working which intends to address different economic and social objectives, including creating a workplaces that meet employees' preferences. Since 2021, telework has been a subject to common rules applied in all the entities of the Group, which is embedded in a hybrid work organisation to safeguard cohesion of the organisational culture. If access to telework might not always be very flexible in practice at this stage, it remains that telework has strongly developed within the Group and is here to stay. Challenges linked to working conditions are clearly identified and monitored and many resources are dedicated to ensure good working conditions in this form of work organisation. Social dialogue at different levels is key to regulate this form of work.

Italy

Emilia-Romagna Regional Administration has developed a structured experience of smart working even before the Covid-19 outbreak through a concrete involvement of trade unions and worker representatives. Whilst most of the Public Administrations in Italy were forced to undergo the fluctuating legislative provisions issued at the national level, the Emilia-Romagna Region, thanks to its expertise, has succeeded in reacting to the challenges posed by the pandemic and continued in its organisational transformation based on an effective social dialogue approach.

Enel is the largest Italian electricity company, the whole group has over 66 thousand employees in 47 Countries, half of them is located in Italy. The whole electricity sector employs about 50,000 workers, therefore approximately 2/3 work of them in Enel. The value chain is organised along three business lines: production, distribution and trading so the variety of professional profiles is very wide and under the Industrial Relation perspective, due to the history and size of the company, Enel plays a leading role in the sector. The case study focussed on the specific group of workers of electricians that fix electricity infrastructure when there is a break in the service (on-field workers conducting ICT-based mobile work). Digitalisation in Enel had both positive and negative impacts on job quality, depending mainly on the profession and on the technologies applied. In general terms the increasing possibility to control electric networks remotely on the smart grids has resulted in a reduction in the required workforce working along the distribution lines, reducing job security. The possibility instead for technicians to start their shift directly from home, without going to the office, has improved workers' lives and had to become progressively more multi-skilled. However, the use of apps and tablets to monitor and track working activities for technicians working on-site has made work extremely long, intense, and more unsafe. Finally, for those workers starting to work from home during the pandemic, working and living conditions have mainly improved, although the blurred boundaries between work and life can cause stress and overload. The last company level agreements and the industry wide agreement address specifically two topics related to digitalisation:

remote working and the classification of professional profiles where the latter aims at recognising the changing profiles of workers in terms of competences and working tasks.

Poland

The case concerns the implementation of hybrid working (combining working from home with working in the office) when employing around half of the staff at a large, **nationwide universal bank**. Until the outbreak of the COVID-19 pandemic, the institution had been reluctant to introduce remote working on a larger scale. Rather, it was done as an exception for the most valuable employees, treated as a kind of non-wage benefit. The pandemic and associated restrictions forced a large proportion of staff to move to working from home. Ultimately, this was possible for those employed at the company's head office (located in three major cities), while local branch employees still had to work on site. After an initial period of rather chaotic and forced implementation, accompanied by the additional inconvenience of lockdowns, remote working took hold. Guidelines were developed for managers to ensure that work-life balance was respected. Employees mostly accepted the new form of work provision and managers positively assessed its impact on employee productivity. At the time of the survey in late summer 2022, the introduction of working in a hybrid scheme as a permanent solution in the company was just beginning. The role of the trade unions present in the workplace in this process was rather limited. The unions particularly called for the establishment of reimbursement of the employee's costs (electricity and telecommunications fee), which was eventually guaranteed anyway by the amendment to the Labour Code that came into force in Spring 2023.

The subject of the study is the work model and practices of electricians servicing the power grid using **ICT for remote communication and mobile work** in the field in a **large electricity company** operating in Poland. The digital solutions, introduced in 2016 and successively developed in the consecutive years, allow electricians to communicate remotely and work in the field without having to return to the company base. In the year of the COVID-19 pandemic outbreak, this model has been facilitated and extended to a larger number of electricians. Currently - in 2022 - a more advanced system has been introduced to combine information provided remotely by electricians with an electronic customer service system. Management of the company reported significant increase in productivity and control over the power grid as well as improved quality of provided services to the final clients (ie. reduction in power outages). Electricians highlighted greater flexibility in arranging tasks and working time, which results in job satisfaction increase. However, the process of the mobile work deployment caused some tensions with the management due to the short implementation period, additionally some workers had difficulties with acquiring new skills and adapting to the new technologies. In parallel to development of ICT based mobile work, a self-employment model is being introduced among the electricians, which has an impact on collective labour relations.

Romania

Figshare, a private company based in London a division of publishers Macmillan employs 35 workers in the Iasi office (6 of them interviewed in the Irsmart project). Before the pandemic, working from home could be done for short periods of time only, but after the pandemic, the possibility to work for longer periods of time was introduced with the agreement of the management team. The management team encouraged all

employees to take from the company office whatever they needed for good working conditions (chairs, monitors, keyboards, etc.). The main benefits of the out-of-office work that were identified are the following: saving time spent in traffic, the flexibility to work from almost every place in the world, the fact that they could concentrate better on daily activities, and the advantages of a fresh lunch. The most important challenges in the Figshare case were the lack of a clear distinction and boundaries between life and work, the lack of socializing, building trust and relationships are harder, especially with new employees, limited feedback in the team, lack of informal knowledge transfer. Some of the problems identified are the following: creating a quiet environment may not be easy for those with children or living in a small apartment. Also, at the end of working hours, the work equipment (unless it's just a laptop) will still occupy some space or will have to be moved every time. The main challenges reported are the following: it was hard to focus and to stay focused, socialization with colleagues was more difficult, there was less time dedicated to team building and doing fun things together, and in the beginning, communication with colleagues was more difficult, keeping the "eyes" open against productivity.

"Alexandru Ioan Cuza" University of Iasi, Romania is the oldest higher education institution in Romania, established in 1860, having over 750 full-time academics. The participants of the case study were the members of the academia from the Faculty of Law, Faculty of Computer Science, Faculty of Geography and Geology, Faculty of Economics and Business Administration. The main benefits reported: increased attendance to classes, less time for traveling for students and professors, calm and rest increased, a comfortable working environment, the safety of your own home, saving money you would have spent at the office on food or coffee, better timing (some of the activities can be processed quickly), the digitalization of the academic processes, learning new didactical tools (teaching platforms, interactive platforms). The main challenges reported were: the average level of competence for the students has decreased, the academic process requires direct interaction between students and faculty, the teaching system is poorly adapted to online tools, out-of-office work is hard to implement well and difficult to justify, implies higher maintenance costs for the employee (electricity, internet, water, heat, etc.), the period of time spent in the front of the electronic devices, the space that sometimes can be improper for professional activities, managing working hours, work-family balance, physical space for work and general mood. The main challenges reported were focused on the idea that out-of-office work for academic activities needs more effort from the staff. Furthermore, problems were reported concerning access to resources (laptop, web camera, microphone, boxes), Internet speed and access, the working space for the entire family, the balance between work and personal and family time, and communication with colleagues. There were suggestions made for measures that needed to be implemented, such as ensuring decent working conditions, taking account of the differences across various workers' groups, and regional assistance to the administrative staff to communicate with the students (synchronous and asynchronous). The responses showed advantages for the remote worker as well: in terms of working time, flexibility hours, stress level, costs, commuting to the online activities entirely, and integration at the workplace.

Spain

The Spanish case study was conducted in a **charter school based in Valencia** which, as of January 2023, employed some 120 workers. Charter schools in Spain are mixed "semi-private" entities financed by both

the State and privately collected fees. Like standard public schools, they operate under the national framework for education - and therefore abide by standard rules concerning i.e., the maximum number of students per class, total hours in the classroom, holidays, et cetera. The feature that sets charter schools apart from public ones is that they are privately run and managed. The case study focuses on the obligatory schooling from home that was introduced in the result of the COVID-19 pandemic national-level regulations. Working from home / schooling from home had never been applied in the school before the pandemic and the school returned to regular teaching mode as soon as the temporary regulations were lifted. The analysis revealed how the pandemic and its consequences hit teachers, supporting staff and pupils, who were not prepared for shifting to working from home overnight – with regards to various aspects: technical equipment, both general and specific digital skills necessary for remote schooling, and also psychological counseling. Support from unions to the workers was provided to the extent possible in the given circumstances, although no specific collective bargaining mechanisms were in place.

The second case analysis conducted in Spain focused on a **large provider of telecommunications services** - voice, messaging, and data across fixed and mobile networks, plus cloud, payment, cybersecurity and internet-of-things with global headquarters abroad. As of January 2023, the company operated networks in 21 countries, with partner networks in 47 further countries. The company has been based in Madrid since 2000 and employs some 4000 workers all over the country. The company has had a protocol of out-of-office work since 2017, which consisted of a maximum 1 day a week (not Mondays or Fridays). The company facilitated the transition to working from home as a part of the corporate policy by offering online courses to adapt the workspace at home and to avoid occupational hazards i.e., screen brightness, keyboard height, ergonomics, breaks. Remote work has been gradually introduced well before the COVID-19 pandemis in order to improve the company's image (as a progressive and modern way of living and working) and to provide some incentives to employees in order to retain talents. Also cost reduction has been observed as a result of spreading out-of-office work due to less infrastructure need (such as canteen, offices. The company, therefore, was relatively well prepared for the COVID-19 pandemic outbreak and the company has come through it dry. After the pandemic, remote work has been extended to much larger groups of workers, but working entirely from home was not allowed (hybrid work is the option applied by the company).

Comparative analysis

Motivations to introduce out-of-office work

Most often, out-of-office work was introduced in response to the lockdowns forced by the COVID-19 pandemic, which constituted a kind of crash test for the organisational cultures of companies and institutions analysed in the IRsmart study, as well as for their technological advancement allowing for shifting work from the employer's premises to a remote location - either at home or in field facilities. However, some of the companies analysed had been using OOOW to a greater or lesser extent even before the COVID-19 pandemic. This part will present the main drivers of out-of-office work with an indication of their evolution in result of the outbreak and gradual revocation of the disruptive factor of the pandemic.

In several cases OOOW has been introduced before the COVID-19 pandemic which was driven by a group of factors that could be classified as a result of a **modernisation process** and **adaptation to current market trends** (electricity company in Poland and in Italy) or **a strategy to address workers' preferences to improve working conditions** (BNP PARIBAS and Roole in France, Emilia-Romagna Regional Administration in Italy, Figshare in Romania, telecommunication company in Spain), (or both).

In the electricity companies in Italy and Poland, digitalised the power grid (so called smart grid) in order to modernise the infrostructure (improvement of energy efficiency, productivity and sustainability of the grid system) and its management (through big data analytics, blockchain technologies to guarantee traceability along the value chain and IoT instruments for an automatised maintenance of networks), which has been a general trend accros Europe in this sector. In result also the electricians servicing the grid could work in the field using advanced digital solutions and shift communication with the company to fully mobile mode with no need for their phisical presence in the employer's premises nor paper reporting. An important aspect of this process was to reduce time taken to repair faults through the flexible arrangement of servicing by electricians during the day, as well as billing electricians for their work. Prior to the implementation of the digital tool, billing for work was entirely paper-based, with electricians having to submit manually completed documents to the company's head office. It was also the intention of the company's management to avoid problems such as errors in completing documentation (which involved rewriting forms) or lost documentation. A long-term benefit of the electricians mobile work was a reduction in both power grid monitoring and maintenance costs, as well as labour costs. In the latter case, savings are achieved by electricians being able to carry out more repairs during the day, as they do not have to return to base and fill out paper documentation. Another benefit of introducing this digital solution is increased productivity, reducing repair times. In effect, customers also experience the benefit of increased service quality resulting from a clear reduction in the length of power outages. In terms of managing a team of electricians, the company representative also highlighted the benefit of providing constant contact with workers via an app on a tablet[3]. This makes the resolution of potential problems and also the coordination of tasks much smoother than before the introduction of the IT system.

In **Emilia-Romagna Regional Administration**, first atempts to introduce remote work followed the Agile Work Act (2017) and was addressed to relatively small number of workers, that gradualy increased after positive experiences from the previous experimental phases. The legislation was introduced on top of telework regulations, which were more rigid and did not refer to major organisational change in companies / institutions (like agile work) nor digitalisation processes and were not used too often in practice by workers. In 2019, the Region approved the first formal implementation of this new work approach for over 0,5 thousand employees. Before the pandemic, the smart working has been introduced as an organisational change implemented intentionally by the management but is cooperation with the unions and workers.

[3] A number if applications are also available on the tablets to support electricians in their work. Ie. by means of these applications workers are asked to trace the work they do taking pictures of their work while there are working, and they can access relevant files remotely (like maps of the grid). Applications are also used to guide workers that are fixing a broken electrical system, there are tutorial that explain how to fix problems and workers, even if very experienced and competent, are required by the company to follow the instructions from the tutorial. They can also print out documents with a portable printer.

Smart workers were equipped with a fancy backpack containing laptop, headphones, mouse, Office 365 license and smartphone to engage tham in a wider sense of corporate change and to symbolize the transformation from the old-fashioned public servant to the modern self-managed professional. In 2020, because of Covid-19 emergency, extraordinary smart working, motivated primarily by sanitary purposes, was extended to up to 68% of the regional workforce. In 2021, with the approval of Pola (Piano Organizzativo del lavoro Agile, Organisational Plan of Agile Work) that defines the objectives and processes of smart work for public administrations, the number of regional employees involved in a smart work plan extended even more up to about 85% in mid 2022.

Also in **Roole in France** telework was present before the pandemic as the company experimented with work organisation that could contribute to well-being of employees (reduction of time related to commuting, better articulation of work-life balance). The company undertook a major project before the pandemic to make the organisation more *'transparent'* with the aim to encourage collaboration between employees in accordance with a corporate culture intended to be fully participatory. This resulted in significant technical changes: adoption of a collaborative communication application, electronic document management tools, sharing of professional agendas, etc. These developments to support a decompartmentalised company were used to support the development of telework in the company during and after the pandemic.

In BNP Paribas, telework has been developed in several phases starting in early 2010s, and consecutively extended to new establishments and occupations within the group, starting from the most willing to work remotely (IT and technology, communication, risk management and compliance). By the end of 2019, there were almost 12,500 regular teleworkers in the group. 90% of them teleworked one day a week and in some companies of the group, the possibility to telework two days a week was given to 1,150 employees in total. Special regulations were put in place for the duration of the pandemic, which covered most workers (apart from those who could not work remotely) and also included health regime threads from government regulations.

In Figshare, Romanian Office, that deals with scientific outputs management and sharing services to other scientists, working from home was also available before the pandemic due to the nature of the work allowing it to be done from anywhere at any time, and Romanian law provided an adequate basis for organising work in this way since 2018. During the pandemic - as in other countries - special transitional provisions were introduced to allow remote working motivated primarily by the need to maintain the sanitary regime. During this period at Figshare, all employees switched to remote working in an effort to adapt their workspace with equipment brought from the office (chairs, monitors, keyboards, etc.). Before the pandemic, working from home could be done for short periods of time, but after the pandemic, the possibility to work for longer periods of time was introduced with the agreement of the management team.

In telecommunication services provider in Spain, the remote work option was present since 2017, but consisted of maximum 1 day a week and the company facilitated the transition to remote work by offering online courses to adapt the workspace at home and to avoid occupational hazards i.e., screen brightness, keyboard height, ergonomics, breaks. The drivers for developing remote work included creation of company's image as a good employer attracting talents from highly competitive labour market as well as

cost reduction due to less infrastructure necessary to contain workers and social facilities. This motivational pattern blends into the business models of large multinational corporations (see BNP Paribas case).

In remaining of the analysed case studies, the out-of-office work, has been introduced **in order to sustain business activity during the lockdowns imposed by national regulations during the COVID-19 pandemic** in early Spring 2020 and later in consecutive years. This regards the following cases: bank in Poland, Alexandru Ioan Cuza University in Iasi, Romania, primary school in Spain. The main aim of these regulations was to stop or slow down the paste of coronavirus infections in the context of a health crisis and were introduced on an emergency basis. Consequently, these regulations were simplified in nature, not driven by modernisation motivations or improving the quality of working conditions. As a result of the introduction of the lockdowns the vast majority of office employees were directed to work from home overnight. Priority was often given to employees at particular risk of coronavirus infection, such as those over the age of 50. However, not all employees were allowed to work remotely due to the type of work they do e.g.: cashiers in a bank.

In addition, a key challenge reported by interviewees was insufficient availability of computers with the right software, including remote communication software (like Zoom, Teams, Skype, etc.) in almost all analysed cases (with the exception of Figshare IT company in Romania and electricity companies in Italy and Poland), as well as insufficient support from IT staff, who had to handle a large number of employees in a short period of time. Some employees also found it difficult to work remotely due to insufficient support from the employer for training in the area of digital skills, especially older workers. In the case of the primary school in Spain the transition to remote work during the pandemic was described as “traumatic and chaotic” due to the fact that the organisation and staff was unprepared to working from home in any terms (lack of procedures, equipment and skills).

After the COVID-19 pandemic, out-of-office work has become a regular feature of work organisation in most of the companies studied (with the exception of educational establishments in Romania[4] and Spain[5]). More often than not, companies have established a hybrid work system allowing them to work partly from the office and partly remotely, and in some cases even developed specific HR management strategies relating to smart work or agile work (ie. Emilia-Romagna Administration[6], BNP Paribas[7], Roole[8]). ICT-based mobile work in electricity companies in Italy and Poland has been by definition fully carried out remotely in the field. Interviewees on the employers' side highlighted OOOW’s benefits in the form of lower office costs or productivity increases, but also the need for increased digitalisation of business lines and processes,

[4] However, following the teaching experience during the pandemic, the rules adapted as ARACIS (Romanian Agency for Assuring the Quality in Higher Education in Romania) established in September 2022 that about 30% of the teaching activities can be organised remotely. Each faculty can decide what are the activities that can be provided in a remote mode. Currntly, however, practices based on these regulations are rather marginal.

[5] After the COVID emergency work schedules for teaching went back to pre-COVID standards – in presence only - while administrative staff can opt for OOOW up to two days per month.

[6] Organisational Plan of Agile Work (Pola, 2021-2023) and agreement regulating smart work in the wake of the first renewals of the National collective agreement in the Public Administration

[7] Road map “Smart working”, “People Care”, 80 "digital working" ambassadors,

[8] The rules of remote work arrangements were made, even if no trade union organisations were present in the company

improving work organisation, increasing attractiveness of companies among the most talented employees and possibility to offer genuine career paths. But also some environmental benefits were highlighted – mostly in the large companies analysed as they are obliged to comply with sustainable reporting requirements.

Employees emphasised a number of arguments that will be developed further in the section on working conditions, including a better work-life balance and work flexibility, strengthening self-discipline and work autonomy, saving time on commuting, being able to focus on elements of work that require more commitment or creativity.

Impact on working conditions and job satisfaction

The main objective of the IRsmart study in relation to the case study analysis was to identify the impact of out-of-office work on the different dimensions of working conditions, which will be presented in this subsection. Based on the prepared analysis, those were distinguished from among the companies on which OOOW did or did not have an impact with a detailed qualitative description about the type and direction of this impact. Despite the deliberately assumed diversity of the selected companies (by sector, size, type of occupational groups, country, etc.), the experiences and results are largely similar, allowing the conclusions of the study to be generalised to a large extent.

In most of the case studies, the most frequently highlighted outcome of out-of-office work was increased **work flexibility**, which was primarily expressed in a greater degree of freedom to shape one's work schedule and tasks to be completed during the day. In some cases, national regulations or the organisation of work by the employer also allowed the choice of where to work remotely, thus increasing the flexibility of the OOOW to an even greater extent. An exception in the group of organisations analysed was a primary school in Spain, which only introduced remote working as a result of an legal necessity related to the COVID-19 pandemic and phased it out as soon as regulations allowed it. The experience of remote working at this school involved organisational chaos and equipment unpreparedness, which overshadowed the potential benefits of greater flexibility in task arrangements.

The analysis showed that OOOW was associated with an **increase in autonomy** in the workplace, which stemmed not only from greater freedom to arrange tasks throughout the day, but also from a number of other factors. The immediate absence of a team and manager meant that those working remotely had to take greater control over the timing, outcomes and productivity of their activities, and reinforce self-discipline. Less chance to consult a team required more responsibility in carrying out tasks and self-reliance in decision-making. For occupations requiring autonomy, remote work only reinforced this nature of work (e.g.: electricians, corporate managers, IT specialists, academic teachers). While for occupations that were inherently less autonomous, OOOW increased the sense of uncertainty about the steps workers were taking. Another shadow of increased autonomy and working in (partial) detachment from the team is also the greater difficulties of young and new employees in their workplaces, who experienced more difficulties with peer-learning and company identification.

Out-of-office work also affected the **content of the tasks performed**. Employees functioning in hybrid mode declared that they separated tasks performed from home from those performed from the office. At

home, they were more likely to perform tasks that required focus, creativity, more attention or a longer time commitment. While in office, they were more likely to perform tasks that required interaction with team members: consultations, workshops, meetings, as well as work of an administrative nature (workflow of documents, supervisors' signatures, printing documents, etc.). An important limitation of remote work is the lack of direct and quick interaction with the team to get feedback on the task just performed. The impact of working in isolation and the lack of or deferred feedback extends more widely and also concerns the consequences for employee learning and the exchange of information of a general nature resulting from social interaction as such.

Out-of-office work also has important consequences for **work organisation**. A prerequisite is to equip the company and employees with the right remote communication tools (laptop/computer, tablet, sometimes a (mobile) phone, as well as the necessary computer programmes to carry out the work tasks and connect to the Internet, etc.). During the pandemic period, it was a challenge to meet this condition in companies where remote working was incidental or absent - as was the issue of adequately training provided to workers to use ICT tools (this issue will be discussed separately). A key challenge in the introduction of remote working was to overcome the mental barrier on the part of management expressing itself in the fear of losing control over workers and a decrease in work efficiency. Lack of sufficient trust in employees was the main constraint in companies where remote working was not present before the pandemic (i.e. in the bank in Poland). In the other companies analysed, this barrier was gradually overcome with the introduction of remote working practices and, after the pandemic experience, it almost completely disappeared and remote working became a permanent part of the work organisation (with the exception of a school in Spain). The analysis of the case studies also showed that, in many cases, employees highlighted the increase in teleconferencing, which began to constitute a significant part of working time (e.g.: Emilia-Romagna administration, Figshare in Romania, BNP Paribas). Some employees pointed to fatigue from the frequency or length of these meetings and the difficulty of focusing for long periods of time during a teleconference and the ease of distraction (simultaneously checking email, messages on the phone, doing activities at home, etc.).

The case studies also referred to the impact of OOOW on **health and safety**, although to a lesser extent than the above factors. Interviewees highlighted the necessity to use ICT tools forces people to sit at their desks for longer and spend more time in front of a computer screen. As a result, workers move around less, and the sedentary mode of work increases the number of physical difficulties, for example vision problems and musculoskeletal disorders. Computer work via digital applications can lead to increased mental fatigue, as well as worker alienation and a sense of separation, which can cause psychosocial risks (depression, feelings of loneliness, burnout, demotivation, etc.). In the case of mobile working analysed in an Italian and a Polish energy company, employees reported a reduced number of accidents due to the routinisation of procedures, the introduction of digital security features on the power grid, and a reduction in work intensity. With advances in technology, production processes and energy distribution are better monitored, more transparent and therefore safer (e.g. fewer accidents at work, less exposure of workers to harmful conditions and substances). Awareness of potential hazards and possible types of accidents is also increased, and these are identified and resolved more quickly before risks escalate. In addition, workers are

supported by dedicated health and safety services, whose main task is to monitor health and safety at work.

One of the strongest factors influenced by OOOW in the case studies analysed was **commuting** - both for entire and hybrid remote working modes. Time saved on commuting to the office was perceived by workers to be one of the main benefits of this form of work organisation, especially by workers who work in the centres of large cities, which involves wading through traffic jams (e.g. in banks in France and Poland, telecommunication company in Spain, Emilia-Romagna administration, Roole in France, Figshare in Romania). Reduced commuting does not directly affect working time or wages, but increases the daily resource of employees' time and money, which can be used by them for other purposes. Some of the case studies also highlighted environmental gains resulting from a lower carbon footprint due to less commuting.

Based on the case studies, there is a significant impact of OOOW on work-life balance, however, its nature is not clear-cut, and therefore one can speak of the existence of a **paradox related to the experience of work-life balance in the context of remote working**. Three contradictory dimensions were identified. Interviewees in most of the case studies emphasised that, thanks to OOOW, they can better reconcile work and family life, due to time savings on commuting, the possibility to more easily fulfil care obligations or house-keeping duties. On the other hand, however, interviewees pointed out the blurring boundaries of working time and rest periods, which would indicate an imbalance between life and work. In this context, the call for a legally or contractually regulated right to disconnect was often made. The second dimension of inconsistency refers to the declared satisfaction with remote working in the context of life-work balance and the possibility of combining caring responsibilities with work at home, and declaring at the same time work distraction and lower productivity in the case of parents having (small) children - especially during the COVID-19 pandemic lockdowns during which care and education facilities were closed and children were forced to stay at home together with their remote working parents. The third paradox concerns the satisfaction of being able to prepare fresh and cheaper meals at home while working remotely, at the same time the risk of excessive eating leading to overweight or obesity was also highlighted. In the case of the first and third paradoxes, the key to solving them may lie in developing greater self-control, self-discipline and raising awareness about ways to separate work and home responsibilities and healthy eating. In the second case, on the other hand, the paradox applies only to selected groups and occurred short-term during the pandemic period.

The analysis of case studies under the IRsmart project did not find significant impact on a number of working conditions including the following: wages, working time, job stability and job security, social protection, form of employment / form of contract.

Development of skills in out-of-office work

In each of the case studies analysed, interviewees emphasised the role of the skills and qualifications needed to perform remote work. They pointed to two types of specific qualifications in this context: A. the (general and specific) digital skills e.g. use of digital programmes, remote drives and remote communication applications (e.g.: Zoom, Teams) and in some cases specific hardware (e.g. tablets in the case of electricians

in electricity companies); B. skills of an organisational nature, resulting from the greater autonomy of remote working e.g.: self-discipline, the ability to plan tasks independently during a day, the ability to contact remotely and getting feedback from team members in a mediated way, the ability to separate work from home activities, etc. The first group of skills was the subject of training in most of the case studies analysed - especially in large companies, while the second category not and workers had to acquire them on their own through practice. Within the digital skills training, their quality, as well as employee satisfaction with the opportunities provided, varied greatly. In most cases, these were online training courses. In companies that had their first experience of remote working during the pandemic (a school in Spain, Alexandru Ioan Cuza University in Iasi in Romania, a bank in Poland), training came too late in relation to the needs that arose.

The introduction of new digital tools in the **electricity companies in Italy and Poland** was primarily linked to the modernisation of organisational processes in order to improve the quality of public services and increase productivity. Consequently, every technological change is accompanied by the preparation of employees to handle the new technologies in the form of training. This was also the case with the introduction of fully mobile working for electricians servicing the power grid. Compared to the other case studies analysed in the Irsmart project, primarily qualifications of a "hard" nature in the handling of hardware were developed (e.g. drones, workforce management programmes, specific applications for smartphones / tablets).

In the electricity company in Poland, training was offered to a group of electricians in which the new solution was being tested on a voluntary basis in the first instance. When the first experience of working with the new system became more positive, the trained workers taught their colleagues in the on-job training modus. Then, systematically with the expansion of the scale of mobile work, the company delivered training to further groups of employees. Eventually, training was available to all electricians across the company. The training took the form of e-learning, accompanied by short tutorial videos showing the details of using the app and tablet. The training only covered the use of the tools and did not include an introduction on general digital competence. Both workers and company representatives said that the main challenge was to break down the psychological barrier and convince the first electricians of the benefits of mobile working with ICT tools. There was a certain barrier to entry consisting of different levels of development of general digital competences. Implementation into the new working model came for those with a general understanding of the digital world and working with mobile devices. In contrast, those who were exposed to tablets and digital apps for the first time found the training more challenging. These people also started their mobile work later.

In the electricity company in Italy, training was provided to use workforce management programme and specific application for smartphones, but in the case of the use of drones company searched for skilled workers on the market. In general terms workers perceive a decline in the competences required to operate new technologies because they are asked to follow standard instructions provided by means of the apps. Workers had several training opportunities. However, training courses are almost all online, which were not appreciated by workers, who believe that it is more difficult to really learn from an on-line training course, more difficult to keep focused, to remember and fully understand. The interviewees

expressed their fear that introduction of digital tools will lead to reduction of staff in the future, which impacts their sense of job security and undercuts career prospects.

In multinational companies studied in the IRsmart project, skills attraction and development has been embedded in the corporate HR policies. **In BNP Paribas**, the roadmap called “Smart Working” was adopted well before the COVID-19 pandemic, which refers to the matter in its fourth pillar “People Care”. The company aims at providing support to employees and managers in the context of new working methods. One of the initiatives undertaken by the HR department in order to carry out the roadmap was creation of a community of 80 "digital working" ambassadors which aims at sharing and disseminating relevant information and practices of telework within the group. This is mostly motivated by the challenge of ensuring attractiveness for the most talented workers, the challenge of harmonising teleworking practices from one entity to another to foster intra-group professional mobility in a logic of career development; as well as the challenge of treating all BNP Paribas employees fairly. In practice, the skills are not perceived as problematic, despite the fact that the individual features constituting workers’ autonomy (self-discipline and self-organisation) are envisaged as a skill expected from teleworker. Much more attention is put in the corporate policies on the development of managerial skills to effectively organise work of teleworkers.

The telecommunication multinational company in Spain facilitated the transition to OOOW also as a part of corporate strategy. The company offered online courses to adapt the workspace at home and to avoid occupational hazards i.e., screen brightness, keyboard height, ergonomics, breaks, and in order to provide incentives to employees and retain talent (e.g., no pressure in the negotiation of salaries). Much attention was put to the development of the following skills: general digital skills, time management, communication skills. One of the key concerns expressed by the interviewees in the company – especially in intermediate or junior positions – was that telework stifles or slows down personal career advancements. Although there are no formal impediments, out-of-office work is rarely conducive to fast-track promotion.

In Emilia-Romagna Regional Administration, introduction of smart working / agile working was planned as a major organisational change in the institution in order to dematerialise, modernise and to increase quality of public services. This included also development of skills necessary for such structural change, including general and specific digital skills. In result of the POLA strategy several studies have been conducted in order to monitor the impact on smart work and smart attitude on job quality, work organization, work performance and working conditions. One of the result is that teleworkers have much more developed digital skills as compared to non teleworkers, and, in general, teleworkers are more satisfied with corporate training measures. Evaluation of the POLA strategy brought a number of conclusions among which some refer to the matter of skills (other refer to organisation, technology and spaces). New training paths have been developed since the implementation of smart work on emotional intelligence, task management, team coaching, team working and leadership skills for middle and upper management will be developed in the next step due to the fact that these positions are constantly put under pressure in the coordination of hybrid forms of work performance. According to unions, training measures should be aimed also at the Regional management in order to break down biases against and cultural resistance to smart working. Also in order to monitor the development of smart attitudes the

repeating the Smart Attitude Assessment will be carried out in the future. This will allow for strengthening skills development and orientation of the skills towards the specific needs of the regional organisation.

Roole in France – still operating as a family company despite its size – and Figshare in Romania, adopted less structured approach in terms of developing the skills of the worker in the context of telework and in terms of shaping the career path. **In Roole,** there were online training opportunities available but the most important training courses were provided in a face-to-face manner. This is particularly valued by the interviewed employees. The workers are expected to have certain skills to enable effective telework: both digital and organisational skills (being autonomous and responsive, being responsible in the performance of one's duties, mastery of collaborative remote communication tools). Some interviewees underlined that asynchrone work requires more formalised procedures and communication to enable effective workflow, which was a significant challenge for some workers. The company provided relevant training to the workers systematically and proportionally to the development of telework in the organisation. Interviewed workers consider the possibility of teleworking as an important element that could guide, along with others, their possible career development. On the other hand, some employees are concerned about the rist of "invisibility" of worker to supervisors, while deciding on pay raises or promotion.

In Figshare, intervieweed workers pointed out a list of skills necessary to conduct telework in an effective way (sense of responsibility, self-discipline, ability to focus on tasks, good time manegement and organisation and communication skills) and percieve aquiring theses skills as a prospect for their future professional development – especially due to the fact the IT sector fully depends on the technology required to learn or different soft skills to achieve. The interviewees highlighted, on the other hand, that informal conversations at the office are quite valuable, and that is lost when working from home. The company provided some training and workshops to the workers during the COVID-19 pamdemic, when telework was forced by the law, but the meetings take mostly a hybrid format lately on the expense of in person trainings.

In bank in Poland, telework has been introduced overnight due to the forced lockdown, therefore most of the workers were not formally prepared in terms of skills to conduct their work from home. Moreover, a significant problem with providing relevant hardware in short period of time was a challenge. As in the other analysed cases, workers pointed out specific skills necessary for teleworkers (self-discipline, self-organisation, time management, etc.). The bank started to provide IT support and training – in the online form only – several weeks after the outbreak of the pandemic, which was assessed by the union as too late and insufficiently, and was addressed mainly to managers and focused on how to organise the work of the team with respect for work-life balance, so the rank-and-file employees were indirect beneficiaries. Those workers who experienced problems had to cope on their own, possibly asking for advice from colleagues or superiors, if they trusted them enough. The interviewees pointed out also that formalised, remote communication increased (emails or chats) and sometimes led to some minor misunderstandings due to the impersonal nature of written communication (for example, someone felt that the tone of a colleague's message suggested that they were impatient or offended). One also had to get used to the fact that sometimes a reply to a message would take a couple of hours to arrive. On the positive side of telework in

terms of skills required for work in the bank the company started to seek talents away from the large cities where the company headquarters are located. This is particularly important because there is a serious shortage of top specialists and they have very high salary expectations. This is therefore a favourable circumstance for the employer, but also beneficial for many ambitious and highly qualified employees from smaller towns.

Unsurprisingly, interviews from the **Alexandru Ioan Cuza University in Iasi** also reported that some specific skills are necessary to conduct work remotely. On top of the skills describes in the other case studies, university workers stressed also remote work – especially in telework forced by the COVID-19 pandemic – required innovation and adaptability in finding new methods of teaching, finding ways to capture and maintain attention of students, being autodidactic in the new context and to acquire the new skills in a short period of time in order to ensure relevant pace of work and safety in task execution. Also due to the stress and potential emotional burden related to the pandemic, lecturers had to express their emphatic and confident approach at the same time towards their students, as this is a profession of public trust. The university did not provide any training support to the workers, except some hardware and IT support. Interviewees, however, expressed that working from home is not an option for a career and thet they prefer to work on-site or, for some activities, in a hybrid format. The work performed implies direct contact with the students, with other colleagues from academia or professionals and this requires to be there in person. Therefore, they don't see telework as a way for career advancements. Although, the skills aquired during the pandemic might be be relevant for future career development in some other than academic contexts.

Similar conclusions were formulated by the interviewees representing the **primary school in Spain,** in which remote teaching was introduced only for the period of the COVID-19 pandemic. Except general digital (teaching through communication software), communication and self-management skills (time management, self-discipline) some specific qualities were enumerated: motivating the pupils, adaptability and emphatic support provided to the pupils. Interviewees mentioned that the key challenge was to keep all individuals up to date with the curriculum, so nobody has significant gaps in learning the material. This was problematic because each topic has a series of milestones that are necessary to build on and keep learning: missing one prevents reaching the following one. In many cases, cumulated learning gaps imperil the probability of moving on with the school curriculum. Also acquiring the digital skills (managing the communication software) in from of their pupils was stressful and often put the teachers in unfavourable light. The school management expected the teachers to proceed with the standard curriculum as usually, which turned out to be incompatible with remote mode of teaching, but there was no way to modify anything in the middle of the school year. Teachers expressed the opinion that suspending classes for two weeks and giving some time to reorganise the material, select the content, prioritise learning outcomes and adapt the style of delivering classes and of assessing students' performance would be much more efficient that adopting the strategy "business as usual". The school returned to regular teaching as soon as it was allowed by the law, with no traces of remote work whatsoever.

Role of collective workers representation in setting conditions of out-of-office work

Social dialogue at company level plays a role in setting condition of out-of-office work, but its impact vary across cases and countries. In the case studies analysed, the full spectrum of solutions could be found: from the absence of collective labour relations and employee representation (Figshare in Romania) to elaborate and mature social dialogue structures (Emilia-Romagna Regional Administration). Based on the analysis of the 10 organisations carried out, it is difficult to construct an exhaustive classification of the interaction between OOOW and social dialogue, but some general regularities known from the literature could be found. Social dialogue and social partners are more likely to play a greater role in Western European countries than in Central and Eastern Europe (the exception being a primary school in Spain), and in larger private and public sector organisations than in small and medium-sized organisations (the exception being a bank in Poland).

Emilia-Romagna Regional Administration. On top of well developed national level and sectoral regulations, detailed collective labour agreements (CLAs) have been covered the Emilia-Romagna Regional Administration. The notion of "telework" transposed in Italy by a cross-industry agreement[9] for the private sector signed on 9 June 2004[10]. The category of "agile work" (smart work) has been regulated by the Law no. 81/2017. As with telework, agile work shall be voluntary and the determination of organisational and operational issues (working and resting time, place of the working performance, control and surveillance methods, disconnection, use of ICT and digital devices) is left to the individual agile work pact among the parties, and so the employer and the single employee. The third scheme consists of a "derogated" version of the existing legal scheme of agile work introduced during the COVID-19 pandemic.

The Law 191/1998 and then DPR (Decree of President of Republic) n.70/1999 regulate teleworking in the public sector and were originally aimed at modernising public administrations[11]. Another piece of legislation (article 14 of Law no. 124/2015) entitled "Promotion of work-life balance in public administrations" (the so-called Madia Reform of the Public Administration) stipulated that public administrations must adopt organisational measures such as new spatial-temporal forms of work in order to support work-life balance and that at least 10% of public employees should make use of this organisational solutions within three years on a voluntary basis.

In February 2021, Emilia-Romagna launched its POLA 2021-2023 (Organisation Plan on Agile work) informing and consulting trade unions and worker representatives. The POLA constitutes the planning instrument to integrate the different regional policies together with smart working objectives and defines organisational modalities, technological requirements, training measures, monitoring and controlling tools: specific attention has been paid to the creation of a conceptual model for the definition of indicators coherent with the regional performance management system.

[9] as established in the European Framework Agreement

[10] https://www.cliclavoro.gov.it/aziende/documents/accordo_interconfederale_telelavoro_9_6_2004.pdf

[11] The Presidential Decree No. 70 of 8 March 1999 defines the organisational measures for implementing telework and gives a specific definition of it: (art. 2, c. 1, lett. b), teleworking is characterised by "performing work in any place deemed suitable, placed outside the public administration's premises, where the work activity is technically possible, with the prevailing support of information and communication technologies, allowing connection with the public administration where the work is expected".

Finally, in June 2022 the Emilia-Romagna Region and sectoral trade unions concluded a new agreement regulating smart work in the wake of the first renewals of the national collective agreements in the Public Administrations (and more precisely in the Public Central Function). The new agreement established the bilateral innovation committee in monitoring and verifying the homogeneous presence of smart working among the regional departments in order to verify if employees are entitled the same number of smart working days, also a specific task force for supporting teams in preparing smart work projects has been established and two forms of smart working are foreseen: ordinary and the "protected" agile work that refers to employees with specific family responsibilities or certified special needs ("protected agile workers" do not have any limitation in the use of smart working).

In multinational companies represented in the IRsmart study by **BNP Paribas, Telecommunication company in Spain and a bank in Poland,** OOOW has been introduced before the pandemic (with the exception of bank in Poland) and incorporated into the HR strategies as a form of innovative work organisation and making the company attractive for the most talented candidates. Also CLAs have been concluded in order to regulate various aspects of working conditions. **In BNP Paribas**, the HR strategies included the following: Road map "Smart working", "People Care", 80 "digital working" ambassadors. This policy partly echoes the Group's observation that teleworking is a sustainable practice (beyond the crisis) and that this form of work needs to be extended and organised. It is no longer a question, as before, of allowing practices that vary from one entity to another to flourish, but of forging a common framework for all employees at the level of the entire group. On 8 July 2021, a collective labour agreement has been concluded with representative unions present in the company: CFDT, CFE CGC and CFTC, taking in force from February 2022. This CLA introduced standardisation of practices in terms of telework, skills development, and fostered intra-group professional mobility. It also included non-discrimination and fair treatment clauses[12].

In Telecommunication company in Spain, introduction and monitoring of telework has been made in the top-down manner through HR strategies and managerial structures. The COVID-19 pandemic rapidly increased numbers of remote workers. The unions role in supporting workers in this process was important and significant. The respondents reported that unions have maintained a steady level of communication and kept workers up to date about ongoing negotiations or consultations with either the employee or with national institutions. During the strict lockdown periods they provided useful guidelines regarding practical aspects of working from home, such as ergonomics, taking breaks and family-work balance.Currently workers expect unions to be active in encouraging the debate on career development and stimulate the identification of best practices for performance assessment that would be widely shared and equally relevant to all workers.

In a bank in Poland, despite relatively well developed social dialogue structures, including a presence of five trade union organisations, as compared to other sectors in the country, OOOW is not a subject of collective labour agreement and the role of trade unions in the implementation of remote work has been relatively modest. The reason for this is largely due to the relative weakness of the unions at headquarters

[12] For details see the BNP Paribas case study

– they mainly cover workers employed in the local branch network. Due to the nature of the process of implementing work from home (spontaneity, pandemic-induced necessity), the union's activities largely amounted to some concrete actions of an ad hoc intervention nature. The unions had not been also directly involved in creation of guidelines for remote working that were proposed by the company in result of the COVID-19 pandemic.

Electricity company in Italy, has been covered by the sectoral collective agreement concluded in 2019, which included some reference to remote work. The agreement stipulates 'consolidation of leadership open to discussion, sensitive to people's well-being, results-oriented, leaving wide freedom and delegation to workers", voluntary participation in remote working, prevailing role of the company headquarters as a meeting place for activities, strengthening of good practices aimed at better protecting work-life integration, including digital disconnection, development of the transversal skills and abilities necessary to face the challenges of the future and to enhance workers' talent, attention to people's needs, both during on-site activities and when remote working, intensification of social dialogue as a tool for activating change. The agreement sets out a maximum number of working days per month that can be conducted remotely. It establishes that remote working must be voluntary, and contains a set of rules to ensure the right to disconnect and the right balance between working times and personal life.

While in respective **electricity company in Poland**, the initiative to introduce mobile work supported by ICT tools was taken and implemented by the employer in the most common in the country top-down model. The digitalisation plans were not consulted with trade unions, other forms of employee representation present in the company, or directly with workers. Although the process of implementing the change was in several stages and involved getting feedback from electricians on how elements of the system were working. Also other digitalisation-related issues were not subject to collective agreements or collective bargaining.

Roole in France, as an example of large but country-level company with family company identity, have not developed extensive social dialogue structures. There is a work's council (social and economic council, CSE), but trade unions are not present. Therefore, telework solutions have been introduced with the aim to ensure well-being for workers and sustain the sense of belonging and the works' council role in implementing telework was to support the company policies. The CSE was informed and consulted on the company's draft telework charter. To this extent, it was able to support the proposal of three days of telework per week instead of two, thus relaying the request of several employees. Even if this proposal was finally refused by the management, a dialogue was able to take place and to date the solution adopted is supported by the secretary of the Committee, who is also attached to the life of the company's collective.

At the Alexandru Ioan Cuza University in Iasi in Romania, despite presence of trade unions and collective agreement in force, telework has not been a subject of collective relations nor consultations with the unions. Also in this case the top-down approach has been adopted and implementation of telework (including during the most difficult period of the COVID-19 pandemic) was fully managed by the university administration. The university focused on ensuring infrastructure enabling telework. Unions role was boiled down to monitor the conditions of the general collective agreement provisions with respect to health and safety.

In the light of lack of collective relations in **Figshare in Romania** (no workers representative nor collective bargaining), only individual relations were present. In line with the legal obligation (DECREE no. 195 of March 16, 2020 regarding the establishment of the state of emergency on the territory of Romania[13]), individual employment contracts were amended with relevant clauses on the details of telework schedules.

Primary school in Spain returned to on-site work entirely as soon as the COVID-19 related temporary regulation allowed for that. Therefore, the role of social partners in managing remote work may refer only to this specific period. Unions provided useful guidelines regarding practical aspect of working from home to workers. Interviewees assessed that, given the urgency of the circumstances, unions could have not done much more given the high level of uncertainty, on top of the mandate to give continuity to teaching activities.

9. Conclusions

The analysis of the ten case studies revelled surprisingly coherent picture of out-of-office work in the countries covered by the IRsmart project (France, Italy, Poland, Romania and Spain), although context in this the companies operates and their profiles modify the practices and introduce some differences.

The OOOW has been mainly introduced in the companies due to one of the three following reasons: A., a modernisation process and adaptation to current market trends, B. a strategy to address workers' preferences to improve working conditions or C. as a necessary measure introduced obligatory during the lockdowns as a result of the COVID-19 pandemic.

The telework had a significant impact on working conditions: decreased commuting, increased work flexibility allowing for greater autonomy at work, changed the content of work and the way how work was organised in the companies, impacted negatively on physical and psychological aspects of health (although protected workers against the coronavirus infection during the pandemic) and had ambivalent impact on work-life balance (interviewees reported mutually exclusive findings in this regard – leading to the conclusion on existence of the work-life balance paradox). The OOOW had no significant impact on a number of working conditions including the following: wages, working time, job stability and job security, social protection, form of employment / form of contract.

Interviewees unanimously stressed that OOOW requires specific skills and that they have encountered employer expectations to develop such skills among workers. This is both A. the (general and specific) digital skills e.g. use of digital programmes, remote drives and remote communication applications (e.g.: Zoom, Teams) and in some cases specific hardware (e.g. tablets in the case of electricians in electricity companies); B. skills of an organisational nature, resulting from the greater autonomy of remote working e.g.: self-discipline, the ability to plan tasks independently during a day, the ability to contact remotely and getting feedback from team members in a mediated way, the ability to separate work from home activities, etc. Unfortunately, only in the large companies / organisation studied - which at the same time introduced

[13] DECREE no. 195 of March 16, 2020: https://legislatie.just.ro/Public/DetaliiDocumentAfis/223831

OOOW evolutionarily before the pandemic period - employees could count on training provided. Training took the form of online and face-to-face, although employees much preferred the latter. In companies that had their first experience of remote working during the pandemic (a school in Spain, Alexandru Ioan Cuza University in Iasi in Romania, a bank in Poland), training came too late in relation to the needs that arose.

The role of collective workers representation in setting conditions of out-of-office work was significant in majority of the analysed cases, although some significant differences were observed. The conclusions of the analysis are largely in line of what is know on the industrial relations systems / models in the countries covered. The full spectrum of solutions could be found: from the absence of collective labour relations and employee representation to elaborate and mature social dialogue structures. Social dialogue and social partners are more likely to play a greater role in Western European countries than in Central and Eastern Europe and in larger private and public sector organisations than in small and medium-sized organisations.

Before the COVID-19 pandemic, regulations on out-of-office work were in force in all of the countries analysed in the IRsmart project[14], mostly being the immediate result of the EU-level social partners Framework Agreement on Telework (2002). During the pandemic, another social partners' framework agreement on digitalisation was signed, and the European Parliament passed a resolution on the right to disconnect, and fair telework, in which it calls on the European Commission to bring forward an EU-level Directive on the issue. A review and update of the 2002 Framework Agreement on Telework is planned to be put forward for adoption in the form of a legally binding agreement implemented through a directive. Therefore, integration of the EU-level regulations that will include the experiences so far – especially those related to the COVID-19 pandemic period – might be expected. In the opinions of the interviewees, the out-of-office work will be there to stay in the experiences of companies and workers, mostly in the form of hybrid solutions. Long-term consequences are, therefore, to be observed in the future.

[14] For details of the national level regulations in comparative perspective with othe UE countries see: WP2 report "Remote working across the European Union before and in Covid-19 pandemic"

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