



Remote Working Study 2022

CEIR Report No. 01/2022



2C-NOW
Collaboration & Coordination in
Networks of Work

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We also thank the members of the *IndustryConnect* initiative for their participation in this study and for their commitment to our long-term research programme on collaboration technologies and the digital workplace.

Executive Summary

The **Remote Working Study 2022** is focused on the transition to work from home (WFH) triggered by the stay at home directives of 2020. These directives required employees to work in their private premises wherever possible to reduce the transmission of the coronavirus. The study, conducted by the Center for Enterprise Information Research (CEIR) at the University of Koblenz from December 2021 to January 2022, explores the transition to remote working.

The objective of the survey is to collect baseline information about organisations' remote work experiences during and immediately following the COVID-19 lockdowns. The survey was completed by the key persons responsible for the implementation and/or management of the digital workplace in 19 German and Swiss organisations.

In the past, organisations provided remote working modes mainly to selected employees with clearly defined requirements. Due to the extensive corona-related restrictions on the choice of their workplace, the diversity of employees who work remotely as well as their requirements significantly increased.

The results of the study make clear that:

- *future digital workplaces are becoming more complex in both scale and scope;*
- *organisations still need to pay attention to their culture and change management attention for realising a successful transition to remote working;*
- *to achieve a seamless transition of their employees between physical and digital work locations as well as between different tools to be used for fulfilling job-related tasks, organisations require careful strategic planning, an integrated design of both the physical and digital workplaces as well as technical solutions and support for their employees;*
- *emerging organisational competencies as well as guidelines and policies need to be developed. Therefore, it is likely that organisations will have to allocate more resources and effort towards understanding the requirements and the complexity of their digital workplace and to design appropriate solutions for their specific context.*

The data presented in this report was collected from member organisations of the IndustryConnect initiative. IndustryConnect is a university-industry research programme that is coordinated by researchers from the University of Koblenz. It focuses on research in the areas of the digital workplace and enterprise collaboration technologies, and facilitates the generation of new research insights and the exchange of experiences among user companies.

Table of Contents

Table of Contents	4
1 Introduction	5
2 Survey design and participant demographics	6
2.1 Survey design	6
2.2 Survey respondents	7
3 Remote work arrangements pre-COVID-19	8
3.1 Participation in remote working pre-COVID-19	8
3.2 Organisational areas participating in remote working pre-COVID-19	8
3.3 Organisational drivers of remote working	9
3.4 Remote working policies and guidelines	10
3.5 Responsibilities for remote working	11
4 Transition to remote working since 2020	12
4.1 Readiness	12
4.2 Challenges and successes when transitioning to WFH	13
4.3 Overall success and importance of digital workplace projects	15
5 Future plans for remote and hybrid working	18
6 Summary and conclusions	19
7 References	20
The CEIR team and IndustryConnect	23

1 Introduction

In early 2020 the COVID-19 pandemic was declared by the WHO (2020). In response, many countries introduced a range of policy initiatives to control the spread of the coronavirus and to ensure business continuity (International Labour Organization, 2020). For example, in Germany the “*Gesetz zum Schutz der Bevölkerung bei einer epidemischen Lage von nationaler Tragweite*” (Deutscher Bundestag, 2020) and in the UK “The Health Protection Regulations” (Department of Health and Social Care, 2020) were enacted. As a consequence of these new laws and directives, organisations were required, at limited notice and with limited preparation, to ensure that wherever possible employees could work from home (Kamouri & Lister, 2020). These measures, now widely discussed at all levels of our society, have been labelled as the “*largest experiment in mass remote-working in history*” (Hadzilacos et al., 2020).

Practitioners and researchers have begun the process of investigating these changes and the challenges that organisations needed to (or still need to) overcome. For example, these challenges include:

- the urgent need to purchase and allocate technologies to enable employees to collaborate (Kaiser et al., 2020; Lund et al., 2020; Mariano, 2020; Pennington & Stanford, 2020);
- the development (or enhancement) of formal policies and guidelines for remote working (Adnams, 2020; Chatterjee et al., 2022; Lieb & Lister, 2020);
- the adjustment of work practices, e.g. for organising distributed teams (Bick, Chang, et al., 2020; DeFilippis et al., 2020; Reichelt, 2020), recruiting and onboarding of new employees or maintaining existing talent programmes (Choudhury, 2020; Hadzilacos et al., 2020; Sharply et al., 2020).

In 2022, after two years of distributed work, the availability of vaccinations against COVID-19 and a decreasing number of patients in intensive care, means that the mandate for remote working has been reduced and employees can return to working in company offices and organisational premises (Deutscher Bundestag, 2022; GOV.UK, 2022). As an outcome “*a window of opportunity now exists for companies and organizations to reassess the impact of the pandemic, review the changes imposed and reset and rejuvenate their approach to work, the workplace and their workforce*” (Hadzilacos et al., 2020, p. 4). Organisations and governments are now rethinking their current strategies regarding the concept of remote work and have identified clear achievements from these new modes of work, such as increased employee satisfaction and better job performance, and many organisations have signalled their intentions to permanently adopt the pandemic-induced changes in the workplace (Allianz, 2020; Siemens AG, 2020; Vielkind, 2022). The aim of the Remote Working Study 2022 is to examine these changes and the challenges and successes that organisations have experienced in the transition to remote working.

A variety of terms and definitions are used in the academic and professional literatures to describe the different forms of work conducted away from the employer’s premises including: *remote work* (Bick, Hazan, et al., 2020; Cygal et al., 2021; OECD, 2021), *telework* (Bélanger & Allport, 2008; Eurofound & International Labour Office, 2017; Offstein et al., 2010; Pérez et al., 2002), *work from/at home* (Baker et al., 2007; Garrote Sanchez et al., 2021; Kramer & Kramer, 2020; Waizenegger et al., 2020), *telecommuting* (Allen et al., 2015; Gajendran & Harrison, 2007; Hill & Fellows, 2014; Madlock, 2018) and more. In this report we use the following terms:

- **Remote working:** an overarching term that refers to working from any site outside or away from the employer’s premises. Whilst this is a generic term, it is also widely used and captures any form of working away from the “normal” office or employers’ premises.
- **Work from home (WFH):** this term refers specifically to work that is conducted from the employee’s home or private premises.

2 Survey design and participant demographics

In this report, we present the findings of the **Remote Working Study 2022**. The focus of the study is on the transition to WFH triggered by the stay at home directives of 2020 that required employees to work in their private premises wherever possible in order to reduce the transmission of the coronavirus. The survey was conducted by the Center for Enterprise Information Research (CEIR) at the University of Koblenz as part of the zC-NOW (Collaboration and Coordination in Networks of Work) research project. The project is part of the IndustryConnect initiative and the DFG funded research programme SPP2267 Digitization of Working Worlds.

2.1 Survey design

The online survey was conducted from December 2021 to January 2022 when baseline information about remote work experiences was collected from the member organisations of IndustryConnect. IndustryConnect is a long-term university-industry research collaboration which has been a key research initiative of CEIR since 2015. IndustryConnect focuses on research in the areas of the digital workplace and enterprise collaboration technologies and facilitates the exchange of experiences among user companies, coordinated by the participating researchers at the University of Koblenz (Schubert, 2018; Schubert & Williams, 2020).

The survey is structured as follows (Figure 1). The first part of the survey investigates the **remote work arrangements in place before the COVID-19-induced shift** of workplaces in 2020. Here, we are specifically seeking to understand which (if any) remote work arrangements were already implemented in the organisation and which types of employee groups were involved. We also identify the drivers of remote working, the existence of policies and guidelines for remote working and organisational responsibilities for supporting remote working.

In the second part of the survey, we explore the **technological, procedural and employee readiness** of the participating companies for transitioning to remote working and investigate the **challenges and successes** that have been experienced during this shift. We also gather information regarding the **perceived overall success and importance of the digital workplace projects** in the responding organisations.

Finally, in the third part of the survey, we asked the participants about their **future plans for remote and hybrid working**.

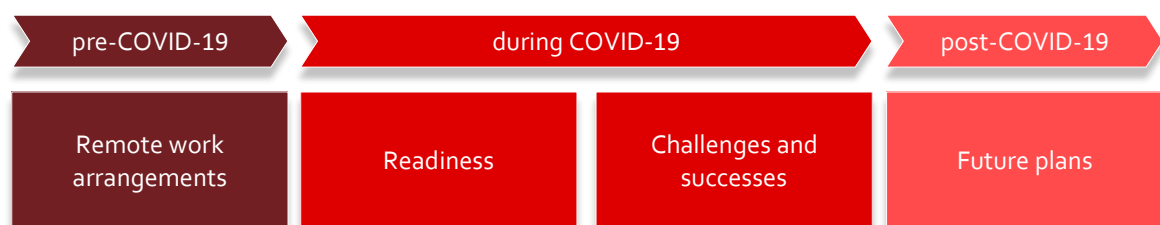


Figure 1: Remote Working Study 2022 structure

2.2 Survey respondents

The survey respondents represent 19 German and Swiss organisations who are all part of the Industry-Connect initiative. These companies represent a range of industry sectors (including for example, construction industry, steel processing, automotive or aviation) of different size, primarily medium- and large-sized organisations.

The online questionnaire was completed by the key person responsible for the implementation and/or management of the organisation's digital workplace. The job titles of the survey respondents include for example *Manager of Social Collaboration*, *Head of IT*, *Product Owner*, *Head of System Technology* and *Manager Strategy, Architecture & Innovation*. The survey participants could select one or more functional areas of work and the distribution across different functional areas is shown in Figure 2, with the majority of respondents (89%) being attached to the IT department of their organisation.

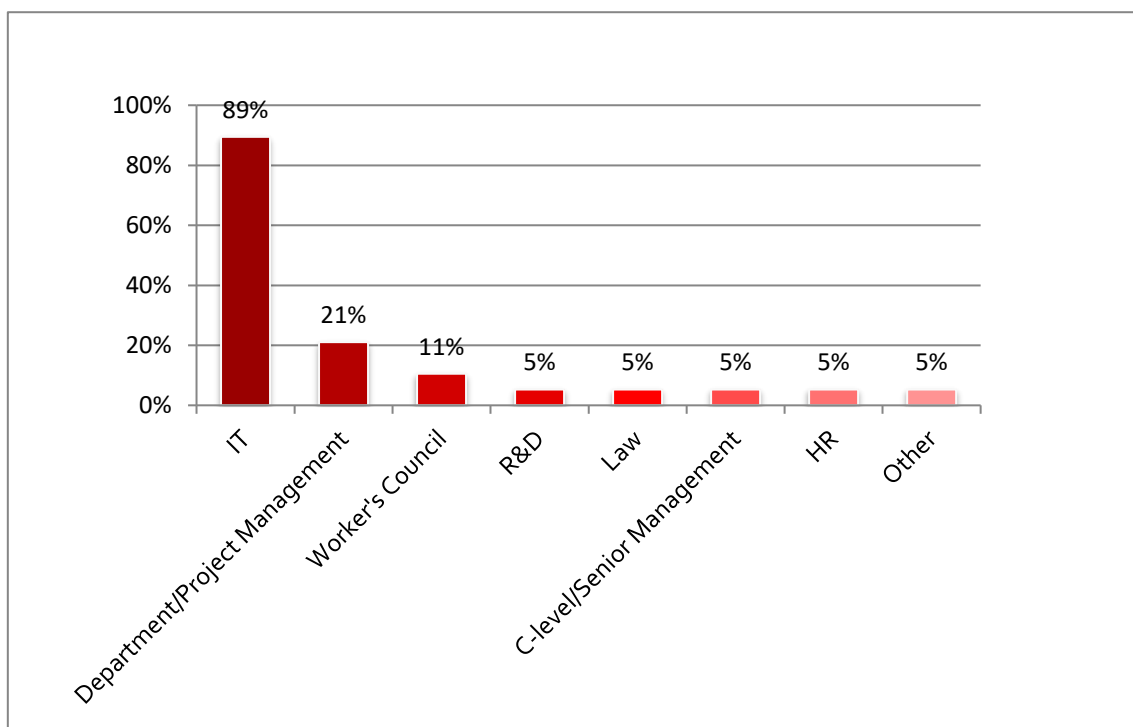


Figure 2: Participants' area of work within the represented company

In the following sections, we present an overview of the study's key findings in the form of descriptive statistics and discuss their implications. Our research programme in CEIR is now building on these findings to further examine new models and arrangements for remote working, and to investigate the design of large-scale digital workplaces to support collaborative work among distributed teams.

3 Remote work arrangements pre-COVID-19

The first area of focus in the **Remote Working Study 2022** examines remote work arrangements before the COVID-19 pandemic occurred. The survey questions aim to identify the type and the number of employees who were involved in remote working pre-COVID. The participants were then asked about the drivers for offering remote work possibilities in their organisations, the allocation of responsibilities for supporting remote work as well as the implementation of policies and guidelines regarding remote working.

3.1 Participation in remote working pre-COVID-19

What was the situation regarding remote working in your organisation before the COVID-19 lockdowns?

The first question examines the proportion of employees for whom remote work was an option before the pandemic-induced transition to work from home. From the findings (Figure 3) we see, that in most of the responding companies (74%) remote working was available for *some employees* with specific job requirements and special arrangements. This result is consistent with studies investigating remote work in the EU before COVID-19. For example, the OECD identified that the prevalence of remote work “*varied strongly across sectors and occupations. It was particularly high in knowledge- and ICT-intensive services. [...] High-skilled professionals and managers were already quite used to working from home [...] who do most of their work on computers, enjoy high degrees of autonomy, and are employed in knowledge-intensive activities*” (Milasi et al., 2021, pp. 6–11).

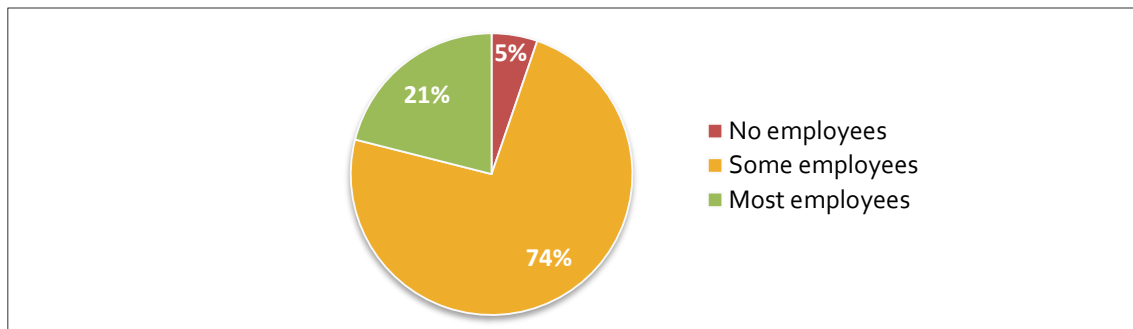


Figure 3: Situation regarding remote working pre-COVID-19

3.2 Organisational areas participating in remote working pre-COVID-19

How high/low were the levels of remote working in the different areas of your organisation pre-COVID-19?

In order to understand the areas of the organisation where remote working is possible, we asked respondents to identify the levels of remote working in the different functional areas. The participants were asked to identify the levels of remote working (“*very low*” to “*very high*”) for each functional area in their organisation.

As shown in Figure 4, those areas where remote working was most typical are those where the work type takes the employee out of the office. This applies to employees who travel to client’s sites or conventions regularly, for example, Sales and Marketing staff (56% *very high* or *high* level). In addition, IT

professionals who are typically early adopters of collaboration technologies were also more likely to participate in remote working (32% *very high* or *high* level).

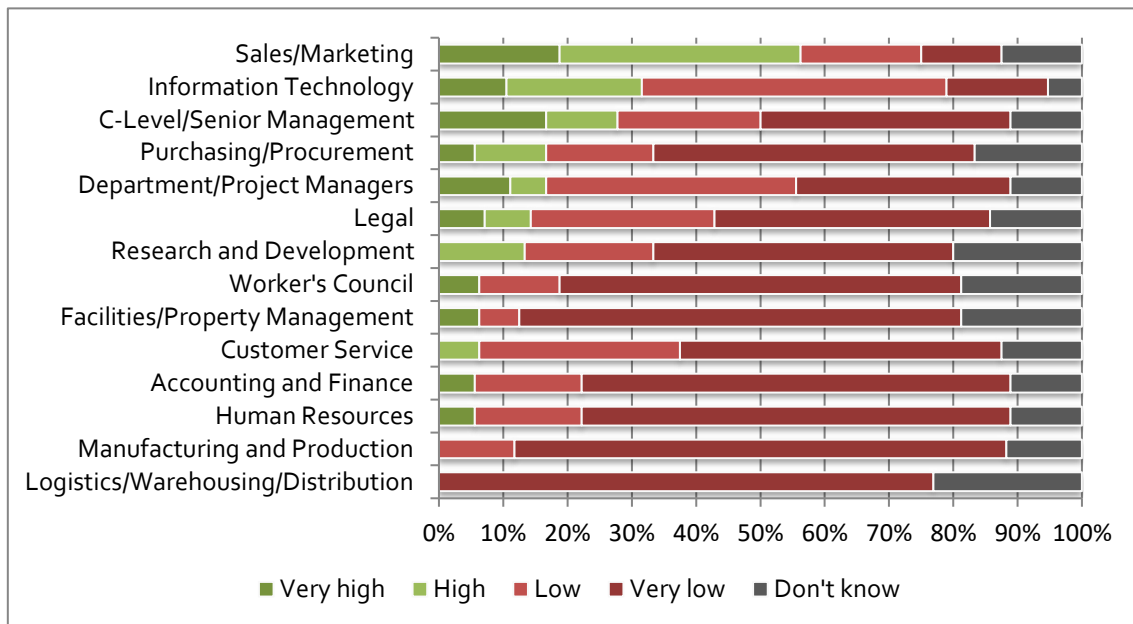


Figure 4: Levels of remote working in different areas pre-COVID-19

Clearly, for some areas, remote work is less possible due to the nature of the job, such as for manufacturing and production staff or in the logistics area (zero% *very high* or *high* level), where employees need to be onsite and require the physical access to specific materials, tools and machines. These findings are consistent with the research findings of the OECD, which state that activities that involve face-to-face interaction in the physical world showed the lowest share of remote work among occupational groups before the pandemic (Milasi et al., 2021).

3.3 Organisational drivers of remote working

How important were the following (organisational) drivers of remote working in your organisation pre-COVID-19?

After investigating how many and which employees were involved in remote work, we asked the respondents about the drivers for offering remote work in their organisations pre-COVID-19 (Figure 5).

Based on an analysis of prior research the drivers were grouped into four areas: i) *Employee flexibility and choice*, ii) *Organisational development*, iii) *Environmental* and iv) *Economic/cost saving*. Respondents were asked to rate the importance of each of these four areas in driving the availability of remote working in their organisation.

In the pre-COVID-19 era, the participating organisations viewed remote work more as an investment in people and business development rather than as an opportunity to protect the environment or directly gain economic benefits. The potential for cost reduction (e.g. by saving on building rent or travel expenses) is only identified as a driver for 11% of the participating organisations. Rather, the key drivers for

offering remote work were primarily related to *employees' flexibility and choice* (58% report this as *very important* or *important*) and providing them with options to adopt remote work to, for example, have a better work/life balance.

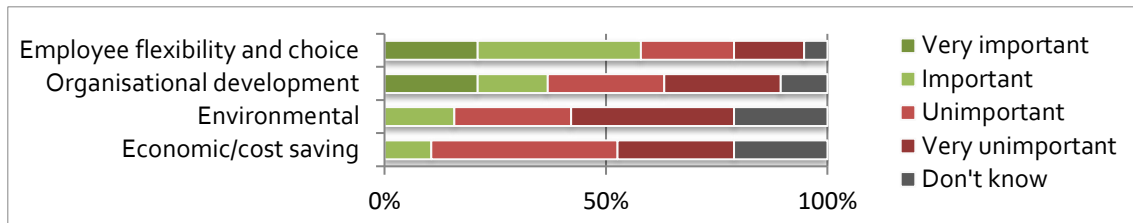


Figure 5: Drivers for offering remote working pre-COVID-19

Organisational development was rated as *important* or *very important* in some organisations (37%) where remote working was seen as a way of attracting and retaining highly skilled staff and being more agile in the terms of workforce and facilities management planning. The potential benefits of remote work in terms of reducing emissions are mentioned and examined in different studies (e.g. Bachelet et al., 2022; Choudhury et al., 2021; Eregowda et al., 2021; Guerin, 2021). A corresponding benefit could arise under certain conditions if, for example, employees commuted less, and companies can reduce the energy consumption of large, potentially obsolete building complexes. These effects would be weakened, however, if commuting distances are short and the energy efficiency of private households is lower than that of modern building complexes (Guerin, 2021). The results of our study show that only 16% saw environmental benefits in providing remote work pre-COVID-19.

3.4 Remote working policies and guidelines

Did your organisation have formal policies and guidelines for remote working pre-COVID-19?

This question investigates the implementation of policies (such as providing financial and other support) and guidelines (such as distributing information on best practices) for remote work (Figure 6). The majority of responding organisations had already implemented policies and guidelines for remote work (63%) across all or part of the organisation. However, in 37% of the participating organisations no policies were implemented, which would make remote working difficult in large parts of these companies prior to the enactment of laws and directives to contain the pandemic in 2020, since employees need to have sufficient information about the possibilities, restrictions and advantages of remote work for adopting this mode of work (Illegems et al., 2001).

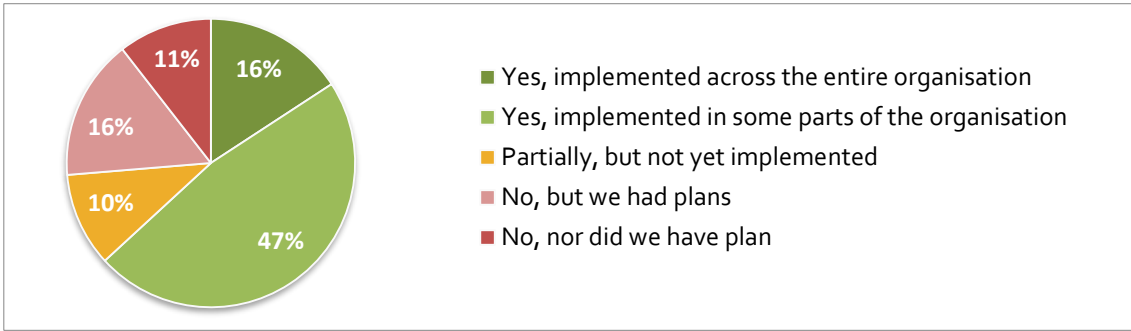


Figure 6: Policies and guidelines pre-COVID-19

3.5 Responsibilities for remote working

Does your organisation have a specific group/business area responsible for remote work?

Participants were asked a series of questions about whether their organisation has defined responsibilities for i) specifying and providing the required remote working systems and technologies, ii) ensuring employees are informed about remote working policies and guidelines and iii) ensuring employees have the appropriate skills and knowledge for working remotely.

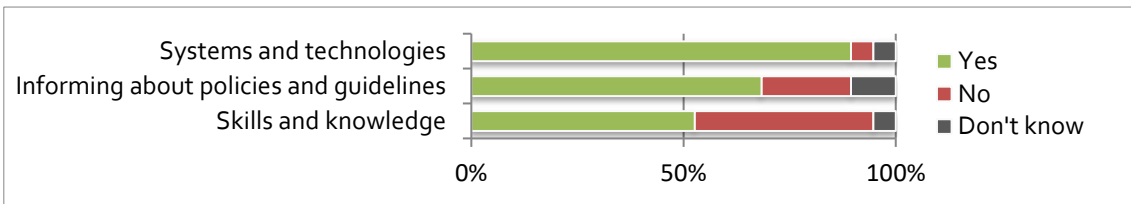


Figure 7: Responsibilities for supporting remote working pre-COVID-19

It can be seen in Figure 7 that the provision of systems and technologies (89%) as well as of information about remote working policies and guidelines (68%) appear to be well supported in the participating organisations. However, ensuring that employees have the appropriate skills and knowledge for remote working (53%) is often not so well-supported. Pre-COVID-19 it is likely that employees who worked remotely had elected to engage in remote work for fulfilling their daily tasks (see Section 3.1 and 3.2) and were, therefore, motivated to gain the necessary skills. During the COVID-19 pandemic, this was potentially more of a problem as a wider range of user groups were forced to work remotely at short notice and (at least in the early days) required additional support in working from home.

4 Transition to remote working since 2020

In the previous section we examined the arrangements that were implemented to provide remote working to employees before the first COVID-19-induced shift to WFH. At the beginning of 2020 and with the announcement of the lockdowns, WFH became compulsory for many employees and caused significant challenges for organisations. In this section of the study, our focus is specifically on the readiness of the participating organisations to support collaborative work at the beginning of the COVID-19 pandemic (4.1) as well as the experienced challenges and successes since the first lockdown (4.2). Lastly, we analyse the observed changes in the perceived importance of digital workplaces compared to the pre-pandemic period (4.3).

4.1 Readiness

We asked the participants about their organisation's technological readiness, procedural readiness and the readiness of their employees to work from home at the beginning of the pandemic.

Technological readiness: *In my organisation, at the beginning of the COVID-19 pandemic and the Work from Home directives the availability and suitability of existing hardware, software and systems to collaborative working from home was ...*

The survey responses indicate that technological readiness (shown in the left part of Figure 8) and the availability and suitability of technologies to support collaborative work were *good* or *very good* for the majority of the responding organisations (84%). Whether or not these organisations viewed the COVID-19 induced work-from-home situation as a temporary phenomenon and remote work as a potential post-pandemic mode of work, investments have been made in technology to enable remote collaboration. In most organisations all or most employees had access to the basic hardware, network connectivity and software that support joint work in the form of synchronous and asynchronous communication, team meetings, coordination of tasks etc.

Procedural readiness: *In my organisation, at the beginning of the COVID-19 pandemic and the Work from Home directives our existing guidelines and policies for Work from Home were ...*

With regard to the procedural readiness, our objective was to identify how useful existing policies and guidelines were in the mass transition to remote working. As discussed in Section 3.2, before the COVID-19 pandemic, in general only specific departments were allowed to work remotely. With the work from home directives in 2020, we can see from the middle part of Figure 8 that for 47% of the participating organisations the existing guidelines and policies were of limited usefulness as they were not designed to accommodate the exceptional circumstances of mass-remote working.

Employee readiness: *In my organisation, at the beginning of the COVID-19 pandemic and the Work from Home directives, the level of skills and capabilities for remote collaborative work of the employees were ...*

The readiness in terms of skills and capabilities of the employees is shown in the right part of Figure 8. The results indicate that in almost half of the participating organisations (47%), the employees were capable of fulfilling their job-related tasks at home. However, this was not the case in 42% of organisations, where employees lacked the skills and capabilities to effectively communicate or to work remotely with their team by using collaboration technologies. For building the necessary knowledge in the company,

targeted training and the development of guidelines are essential in order to share best practices and to establish comprehension of the benefits from working remotely.

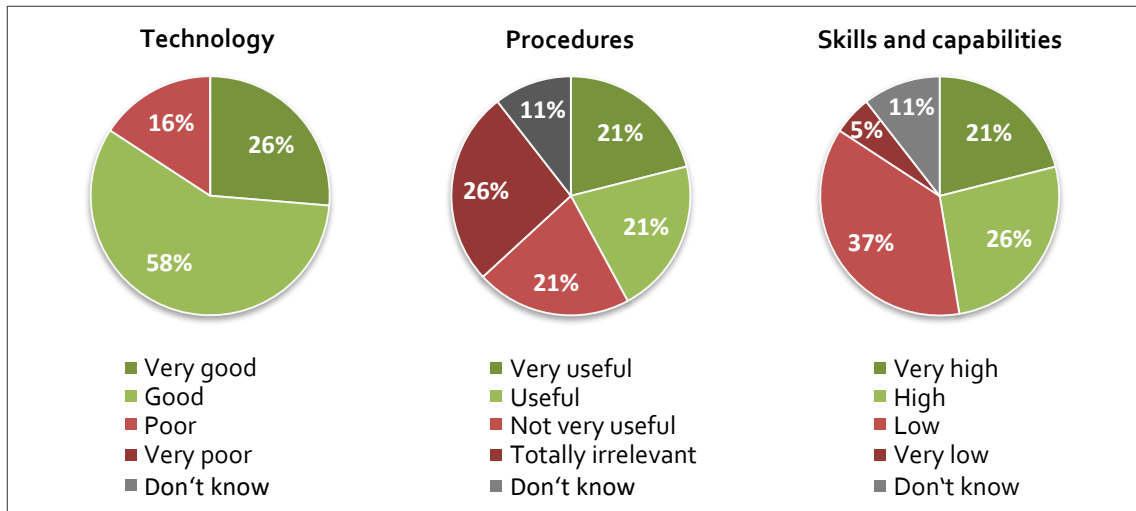


Figure 8: Readiness to WFH at the beginning of the COVID-19 pandemic

Thus, whilst the participating organisations were ready in terms of providing the necessary technology to their employees, they identified the limited usefulness of existing guidelines and the low readiness of employees for remote collaborative work. These findings have important implications for those companies who plan to offer different modes of remote or hybrid working in the future. If organisations cannot eliminate these identified deficiencies by applying targeted measures, such as the development of suitable policies and guidelines or by offering training for remote working, the affected employees may find it difficult to fulfil their job-related tasks by using the provided technologies that support collaborative work.

4.2 Challenges and successes when transitioning to WFH

The pandemic induced shift to WFH in 2020 has enabled successes that were previously considered difficult to achieve or even impossible. However, it also brought many challenges. In this part of our study, we investigate which aspects have been a challenge and constrained WFH initiatives. Then, we identify the extent to which these same aspects have (if at all) turned out to be successes over time and enabled WFH initiatives in the participating organisations.

What do you consider as the major challenges/constraints or successes/enablers in your company when shifting to working from home since 2020?

For analysing the challenges and successes that companies experienced, we build on preliminary research we conducted as part of the 12th IndustryConnect Workshop in November 20, 2020, where we asked the workshop participants an open question about their challenges and successes during the COVID-19 pandemic. The answers provided were documented, sorted and summarised into 10 items. These were then used in the survey to investigate in more detail whether they were experienced as challenges, successes or both in the responding organisations. The major challenges and constraints that the organisations experienced when shifting to WFH are shown in Figure 9 and the major successes or positive outcomes that have been realised since the lockdowns started in 2020 are shown in Figure 10.

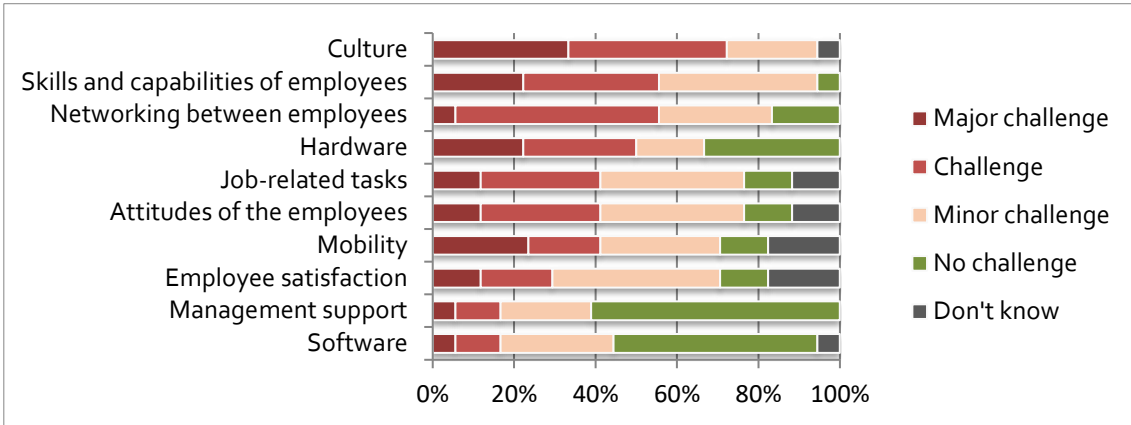


Figure 9: Challenges experienced when shifting to WFH in 2020

As described above, these aspects can be both a challenge and a success. For example, WFH did not fit well with 72% (*major challenge* or *challenge*) of the organisations' existing corporate *culture* at the beginning of the pandemic. But over time a positive change was realised making the companies experience success due to a corporate culture that is now supporting WFH (61% *very high success* or *success*).

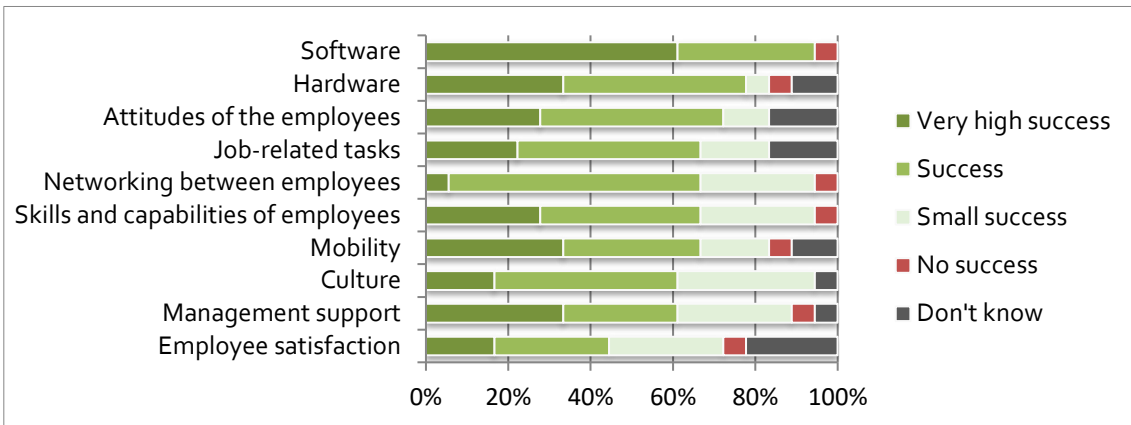


Figure 10: Successes experienced when shifting to WFH in 2020

Only 17% of the participating companies experienced a *major challenge* or *challenge* in providing *software* licences for the whole company or problems due to insufficient functionality or scalability of the collaboration tools to support WFH. Most of the participating companies did not even need to procure additional software types as their collaboration tool portfolio was already set up to support most of their employees during the lockdown. This was rated as a success for almost all participants (94% *very high success* or *success*). With regard to the technological equipment of the employees however, at the beginning of the pandemic half of the participating companies considered the provision of *hardware* as rather challenging (50% *major challenge* or *challenge*), for example, the hardware of the collaboration systems was initially unable to handle the massive increase in traffic or the procurement of the necessary equipment (e.g. video cameras) was problematic due to a sudden worldwide increase in demand. However, the participants later rated the hardware also as a success (78% *very high success* or *success*) as, eventually the equipment could be distributed to the employees' home offices without major problems as soon as it was available, and systems were made capable of handling the increased traffic. These results regarding hardware and software are consistent with the previous findings on technological readiness, where respondents indicated high technological readiness for the transition to WFH.

At the beginning of the pandemic, the *skills and capabilities of employees* were classified as rather problematic (56% *major challenge* or *challenge*), for example, due to employees not being able to achieve the potential benefits of the available collaboration technologies. This is consistent with the previous findings about employee readiness discussed in Section 4.1. However, over time, 67% of the companies reported *very high success* or *success* and were able to realise a successful transition as their employees were extrinsically motivated by the lockdowns to acquire the missing knowledge, in some cases self-taught, in order to be able to continue working at least to some extent. Possibly because of this employee-maintained productivity and effectiveness, the *attitude of the employees* (72%), as well as the *fulfilment of job-related tasks* (67%) were rated as positive for most responding organisations (*very high success* or *success*). However, traditionally collaboration tools were mainly used by knowledge/information workers for sharing information, but since many jobs include a wider range of activities with more process-oriented tasks or functional-oriented tasks, organisations have to make sure that these areas and work types are also supported. This could also explain why fulfilment of job-related tasks is also rated as a *major challenge* or *challenge* and a constraint in 39% of the participating companies. This is a topic that the CEIR team will focus on in the next phase of work in order to identify and develop digital workplace designs that support and improve the productivity and effectiveness of all employees.

Networking between employees (56%) and the experienced *mobility* with regard to business travel (39%) were both initially classified as a *major challenge* or *challenge* for realising collaboration between colleagues and for maintaining business relationships when working from home. However, these two aspects were improved and rated as *very high success* or *success* (67%). Over time during the pandemic the use of available collaboration tools such as wikis, blogs, forums or video conferencing systems improved to an extent that was previously considered challenging with WFH. Additionally, the importance of some tools for the completion of job-related tasks and to keep the business running increased significantly, such as video conferencing or virtual whiteboards as an essential part of workshops or meetings with colleagues, business partners or customers. In this context, it is not surprising that *management support* is classified as rather successful (61% *very high success* or *success*) by the represented organisations, since the smoothest possible transition to WFH during the lockdowns was of urgent economic interest. However, the forced transition to WFH was also associated with increased stress and relatively low *employee satisfaction* (27,8% *major challenge* or *challenge*), although this has slightly improved over time (45% *very high success* or *success*). Due to higher flexibility (see Section 3.3), work-related tasks could be aligned with private obligations to a satisfactory extent, as it might be possible to work and meet private obligations (Choudhury, 2020), such as taking care of family members. In companies that were already working in a distributed manner before the pandemic or who already had an innovation-driven culture in which the use of new technologies and new forms of work was normal the stress generated by increased usage of collaborative technologies in the home office, could largely be avoided (Castro Rodriguez & Choudrie, 2021).

4.3 Overall success and importance of digital workplace projects

In the previous section, the focus was on how successful or challenging different aspects of WFH have been for the responding organisations. Building on this, we investigated how the respondents rate the overall success of their organisation's transition to remote work.

How successful would you rate the shift to working from home in your organisation since 2020?

As can be seen in Figure 11 all responding organisations (100%) rated themselves to be *successful* or *very successful* in transitioning to WFH during the COVID era. This is not unexpected, as all the responding organisations were already focusing attention on projects around remote working and computer-

supported collaboration prior to the COVID-19 pandemic. However, as discussed in the first part of the survey, these initiatives were not widely applied to support remote working across the whole organisation. It appears that, with a few challenges the projects were scalable.

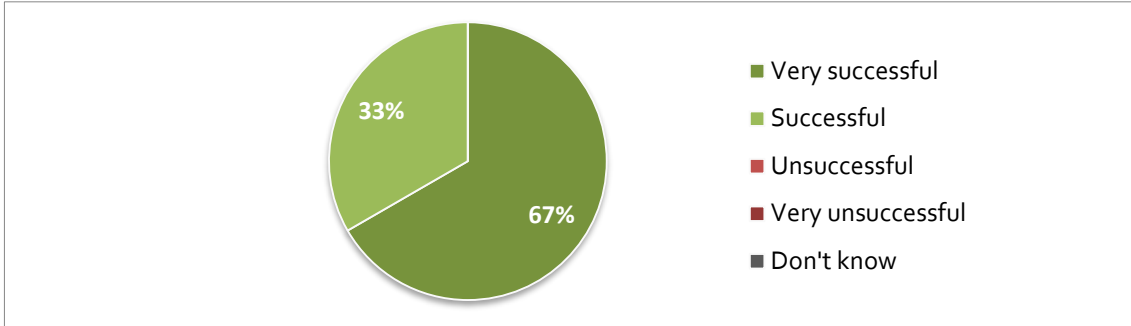


Figure 11: Overall success in shifting to WFH

How important were digital workplace projects in your organisation pre-COVID-19 and how important are they today?

To conclude the analysis of the successes and challenges of transitioning to remote working during the pandemic, we investigated the extent to which the perceived importance of digital workplace projects has changed.

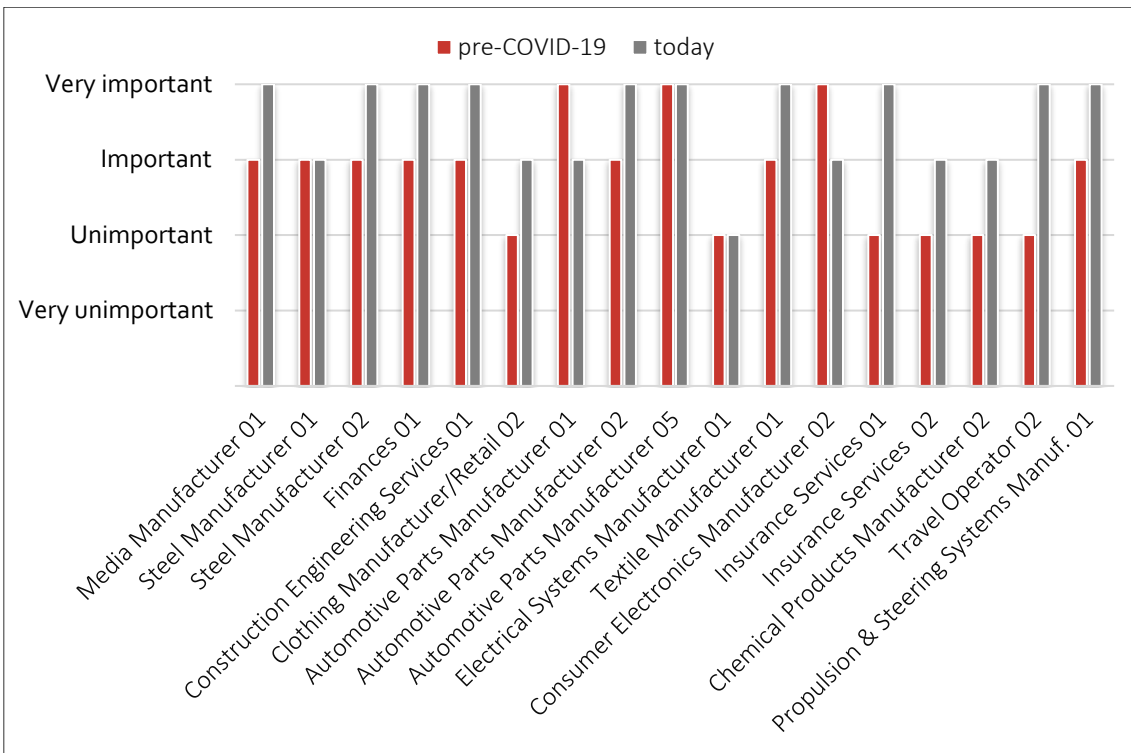


Figure 12: Importance of digital workplace projects

Of the responding organisations, 17 provided two responses about the importance of their digital workplace projects to indicate their importance prior to COVID-19 and their importance today. Figure 12 shows, for example, that in the case of Electrical Systems Manufacturer 01 the digital workplace projects were considered not very important pre-COVID-19 and are still today not very important. In comparison, in Automotive Parts Manufacturer 05 the importance was rated as very high both before COVID-19 and today. However, interestingly, most organisations reported that their organisation's digital workplace projects became important or very important over the COVID-19 era, which can be considered as an opportunity to further advance both the projects and the transition to remote work. For example, to allocate more resources to digital workplace projects, to identify and ensure that best practices are introduced in the organisations to achieve the expected benefits and outcomes from using collaboration tools to support digital work.

5 Future plans for remote and hybrid working

In the past year, many organisations in Germany and worldwide have officially announced that they will continue to offer different modes of remote and hybrid working to their employees. For example, to enable employees to work remotely or to spend some time working from the employers' premises and some time working remotely. The objective of this part of our study is to discover future plans for remote and hybrid working in the participating organisations of the Remote Working Study 2022.

Announcements regarding the future

Has your organisation made any announcements regarding the future of remote working arrangements?

The final section of the study takes a brief look at whether organisations have made any announcements regarding the future of remote working arrangements. Of the participating organisations 89% state that this is the case and most of them have already formalised different modes of hybrid work (Figure 13). These range from flexible designs with a combination of days remote working and working at the employers' premises, to fixed full-time remote working modes without a specified number of days at the employers' premises. These different hybrid modes show that these forms of work do not only affect the place of work (remote/employers' premise) but also with whom we work and how, that is, do we work together with others synchronously and/or asynchronously, and the type of collaboration between employees (digital and/or physical).

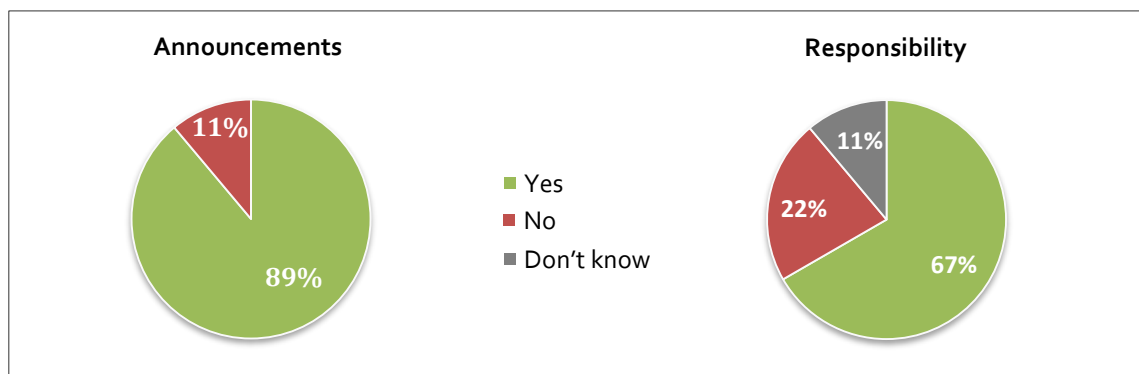


Figure 13: Announcements and responsibility for future modes of remote and hybrid work

Does your organisation have a specific group/business area responsible for developing future plans and policies for remote working?

Finally, we investigated whether responding organisations have a specific group or business area responsible for developing future plans and policies for remote working. 67% of respondents stated that they had already assigned corresponding responsibilities. The development of future plans and policies are mostly being coordinated in these organisations by the HR department but often jointly with the IT department or a specially created digital workplace project area. This is not unexpected as these transitions involve changes to working arrangements/contractual agreements as well as the provisioning and management of large-scale enterprise collaboration platforms to support remote working.

6 Summary and conclusions

The **Remote Working Study 2022** presents an overview of the state of remote working in member organisations of the IndustryConnect research initiative before and after the transition to WFH triggered by the *stay at home* directives in 2020. In the past year, many organisations in Germany and worldwide have officially announced that they will continue to offer different modes of remote and hybrid working to their employees. This requires increasingly complex digital workplace designs that support more users and more diverse employee groups, multiple models and arrangements for hybrid multi-locational work as well as a wider range of collaboration (asynchronous and/or synchronous) and job-related activities, including information-oriented, process-oriented and/or functional-oriented tasks.

The study points to the fact that the future digital workplace is becoming more complex in both scale and scope. This will require careful planning and the integrated design of both the physical and digital workplaces. It will be increasingly important to support remote working and to be able to realise seamless transitions between physical and digital work locations as well as between the different collaboration tools being used. The digital workplace is not only for remote workers but for every employee in the organisation, which therefore also affects future workplace designs and the equipping of physical offices to enable employees to collaborate in the best possible ways with remote workers. Intentional workplace and workspace designs are required to provide appropriate software, hardware and office equipment as well as the necessary support for employees in the form of training, guidelines and policies. This will require organisations to not only develop a clear understanding of the different work types, routines and diverse requirements for supporting remote and hybrid working but to also have clear strategies and processes in place to realise this new digital workplace.

The study results also show that culture and change management still need attention for realising a successful transition to WFH and from today's perspective there are emerging organisational competencies that are required for achieving excellence in supporting hybrid and remote working. Above all, organisations must ensure that employees have the necessary skills and competencies and appropriate technologies for conducting effective distributed collaborative work. Without this, the employees will struggle to realise the full potential benefits of remote working in their daily work. In this respect, it is likely that organisations have to allocate more resources into understanding the requirements and the complexity of their digital workplace and designing appropriate solutions for their specific context.

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The CEIR team and IndustryConnect

The **Center for Enterprise Information Research (CEIR)** at the University of Koblenz is a cooperation project between the Business Software Research Group lead by Professor Dr Petra Schubert and the Enterprise Information Management Research Group lead by Professor Dr Susan P. Williams. CEIR has the aim of bringing together Industry and University in joint research projects, which are directed towards developing new theoretical insights as well as relevant findings that can be applied successfully in practice.

The **IndustryConnect** initiative (<https://industryconnect.de>) was launched in the year 2015 by CEIR and facilitates the exchange of experiences among user companies under the moderation of the participating CEIR team members. IndustryConnect addresses current problems and issues in the area of collaborative work in companies using Enterprise Collaboration Systems. IndustryConnect goes beyond the usual experience groups, round tables or business lunches. The participating researchers continue their work on the topics between the meetings and make the results available in the form of documents, methods, techniques and guidelines.



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