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Homeoffice Experience 2.0

Changes, developments and experiences regarding working from home during the Corona pandemic

As part of the innovation network:

OFFICE 21[®]
Zukunft der Arbeit

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1. Results at a glance

Interaction with colleagues a motivating factor for returning to the office

Meeting, collaborating and working with colleagues as well as having the chance to have an informal chat are the most common motives for people to return to the office. Despite this distinct longing for interaction, people also need a place to escape to. This is reflected by those surveyed who are concerned that they are more likely to be disturbed by colleagues in the office or have their workflow disrupted compared to when they work from home.

Perceived productivity when working from home keeps rising

The perceived productivity when working from home has continued to increase when compared with the 2020 survey. However, office productivity has also increased and is now ranked just behind in second place. On the contrary, there was a sharp fall in the number of respondents who said they did not notice any difference in terms of their productivity. The group of respondents is clearly divided into two distinctly polarized camps when it comes to the workplace and productivity.

Working from home improves the work-life balance

On the whole, work-life balance has improved as a result of the Corona pandemic. This is especially true for people who would like to spend more than 50 per cent of their working time at home in the future. Yet even those who would rather spend the majority of their time at the office said that they have found it easier to maintain a good work-life balance since the pandemic.

Ergonomics and technical equipment influence employees' motivation to return to the office

The better the ergonomic and technical equipment in the home working environment, the more days the people surveyed want to work from home. People with inadequate ergonomic equipment would rather work in the office more days per month than employees who are satisfied with their set-up at home. This trend is even more prominent when it comes to technical equipment. The quality of the equipment at home therefore appears to be a crucial factor in the employees' choice of workplace.

Willingness to return to the office irrespective of age

People's willingness to return to the office is more or less identical across all age groups. Only those aged 50 to 59 show a slightly increased desire to return to the office than the other age groups. Meanwhile, as people get older, external incentives such as good infrastructure links or the availability of sports facilities seem to become less important factors in their decision to return to the office.

Good connectivity and food are the main attractions when it comes to returning to the office

Good connectivity and catering are the main incentives for returning to the office across all age groups. Yet, as age increases, the significance of these two external motivators decreases.

2. Introduction

2.1 Initial situation

Working from home became a new focus of research due to an almost complete relocation away from the office in 2020 as a result of the Corona pandemic. The main issues addressed were the functionality and the associated productivity when working from home. It soon transpired that there were additional factors to be considered to best understand how the working from home environment works. This study is considered a continuation of the study “Working from home experience – An empirical study from the user perspective during the Corona pandemic”, published in October 2020 as part of the Office 21® innovation network.

Whereas the 2020 study largely centers on working from home, the new survey focuses more on the return to the office. Now that many employees have switched to working from home due to the ongoing pandemic, questions remain regarding the role that the office will play in the future. Therefore, this study explores the impact of working from home on the employees’ personal and structural working conditions, and discusses the conclusions and developments this will bring to the world of work following the end of the pandemic.

2.2 Objectives and procedure

The web-based survey was designed to analyze the employees’ working situation after a year of working from home. This included a comparison to the 2020 survey results, an assessment of how employees’ motivation to return to the office was impacted and a discussion of the potential for alternating between home and office-based work in the future. The goal was to identify correlations of impacts that extend beyond single-moment assessments as well as to offer guidance in shaping the post-pandemic work environment. The following questions were the main focus of the study:

- How has working from home during the pandemic impacted individual success factors, in contrast to the 2020 survey?
- How has working from home impacted the work-life balance?
- What are the biggest hurdles preventing a return to the office?
- What are the main incentives for returning to the office?
- Is it possible to confirm, rebut or build on any already formulated scenarios for some kind of new normal after the pandemic?

This survey was carried out by the Fraunhofer Institute for Industrial Engineering IAO as part of the Office 21® joint research project. A total of around 1700 respondents took part in an anonymous online survey between May and August 2021.

The survey was directed at private companies and public organizations from both Germany and abroad. It was web-based and the link to the online survey was circulated using a variety of Fraunhofer IAO email distribution lists, websites and selected social media channels.

The survey consists of six different subject areas. The first part covers questions on socio-demographic data and details of work organization and characteristics to determine the different categories of work. Then, it looks at the home working environment. The questions cover the technology and workplace equipment used, the environment and any details regarding potential care responsibilities whilst working from home. This is followed by questions relating to the office environment, so that comparisons can be made between working from home and being present in the office. The final section of the survey analyzes the key success factors along with the respondents' incentives to return to the office.

Percentages quoted in the survey are always based on the responses provided, which can vary according to the sub-question. Rounding up and down when analyzing the results may result in a total that does not add up to 100 percent.

The term "working from home" is used synonymously with "mobile work from home" throughout the study. There is no distinction between various workplace guidelines that apply to these two terms.

3. Results

3.1 Future places of work

A number of changes are apparent when comparing places of work with those from before Covid-19. For example, before the pandemic, employees spent the majority of their working hours in the office, with an average of 15 days per month out of the 20 workdays per month total. The other five days were divided between working from home, while traveling, and at coworking spaces or other locations. Survey respondents suggested that there will be a decline in both office and business travel in the future when compared to the time before Covid-19. This contrasts with a significant increase in the number of days spent working from home. While the number of days spent in the office will fall from 15 to 11, the amount of time spent working from home will increase by an average of 5 days. Data collected in 2021 supports the findings of the 2020 survey. In 2020, people estimated that, in the future, they would spend an average of 11 days a month in the office and around seven days working from home (compared with 6.5 days in 2021). This drops by 25 percent compared to levels before Covid-19, when respondents estimated 1.5 days away from the office for business trips. In fact, only 2 percent of respondents said they expect to spend more than 10 days per month on business trips in the future. The dramatic drop in business travel is confirmed by a VDR study, which predicts a permanent decline in business travel by 30 percent (VDR business travel report 2021).

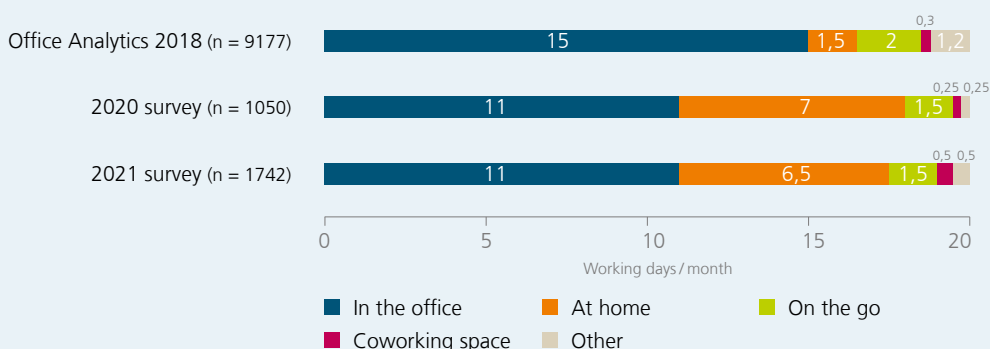


Figure 1: Places of work after the pandemic – compared with data from before the Corona pandemic.

3.2 Work activities carried out in the office in the future

In addition to anticipating future work locations, it is also important to consider which work activities will be performed in the office to determine what they should look like. Changes can also be seen here when compared to data collected before the pandemic. For example, before the pandemic, nearly half of all working time (48 percent) was devoted to focused independent work in the office. While focused independent work will continue to be the main type of office activity, it will reduce by an average of 10 percentage points in comparison to the pre-pandemic level, to just under 40 percent. This will be offset by an increase in the amount of meetings and informal communication. While survey participants were spending approximately 13 percent of their office time in meetings before Covid-19, they predicted that this would rise to 17 percent in the future. They believe that the amount of informal communication will roughly double, from 7 percent to 13 percent.

Despite what people may think at the moment, the amount of (video) telecommunication in the office will stay at a similar level to that before the pandemic (24 percent before the pandemic, 23 percent in the future). Upon closer inspection of the motives behind returning to the office as described in section 3.4, it becomes quite clear that the main reason survey participants want to return to the office is so that they can work together with their colleagues. Therefore, we can assume that longer video conferences will be conducted from home and that the amount of future (video) calls in the office will not change.

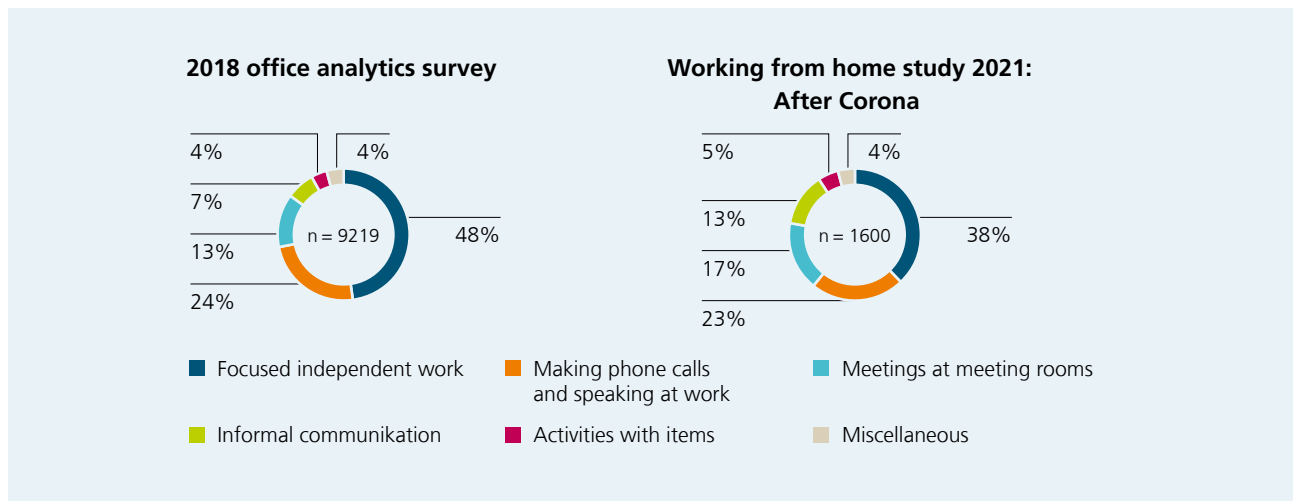


Figure 2: Percentage breakdown of activities in the office before and after the pandemic.

When looking at experienced disruptions and the sense of flow between working from home and working in the office, there are clear differences overall. For example, in the office, people were not only disturbed more often by others, but they were also more likely to feel that their workflow was disrupted. People also stated that they felt they were disturbing others from their work more often in the office.

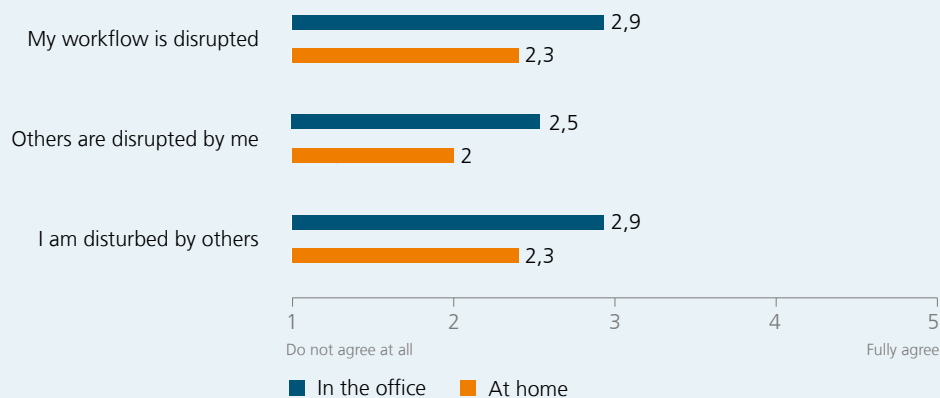


Figure 3: Disruptions and sense of flow (n = 1 751).

3.3 Working from home

3.3.1 Productivity when working from home

There was another subtle increase in perceived productivity while working from home in comparison to the 2020 survey. Last year, almost 40 percent of respondents said they were more productive when working from home, but this number rose by a further 5 percent when surveyed in 2021. Meanwhile, the number of people who feel they are more productive in the office has also risen significantly from 18 percent to 30 percent. The number of participants that indicated no difference in terms of productivity and their chosen place of work decreased sharply. Overall, there appears to be a clear polarization of the two groups in terms of their differing views of perceived productivity.

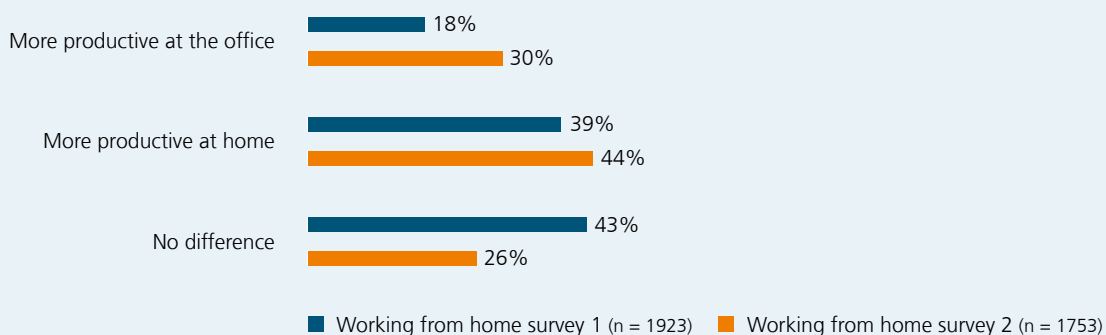


Figure 4: Perceived productivity in the office and at home.

When asked about the success factors information flow, creativity, performance, team performance and motivation, they all retained a similarly high level. There was a slight increase in the values for information flow. It would appear that the initial difficulties regarding the flow of information have been overcome, which may be partly down to the introduction of new technologies and the way in which they are used, or to any teething problems that may have occurred with them.

3.3.2 Work-life balance

On average, respondents indicated that their work-life balance has improved since the start of the Corona pandemic with an increase of 0.3 points. Individuals planning to spend the majority of their working time at home in the future, in particular, reported a significantly higher work-life balance score since the pandemic than those planning to spend less than 50 percent of their time working from home (WFH) in the future. Work-life balance improved by 0.5 points since the start of the Corona pandemic for those who plan to do the majority of their work from home in the future.

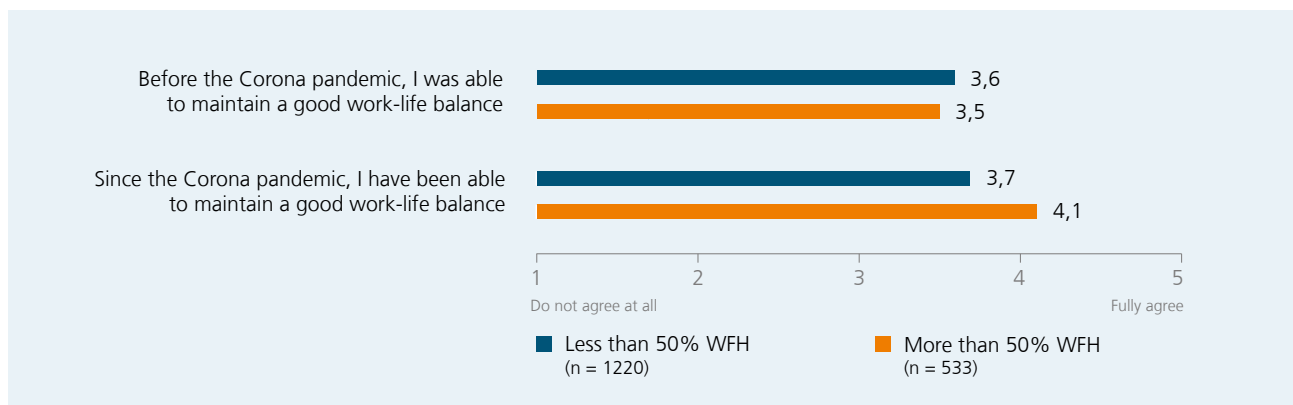


Figure 5: Work-life balance since the start of the pandemic – in relation to the proportion spent working from home (WFH).

There was no significant change observed in the work-life balance in relation to the care responsibilities at home during the pandemic. Those caring for children or dependent relatives alone at home reported a poorer work-life balance than those who could share care responsibilities or who did not have to provide care at all. For example, individuals who provide care alone reported an average mean score of 3.7 points on the scale, while their peers with no caregiving duties reported an average of 3.9 points for their work-life balance since the onset of the Corona pandemic.

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3.4 Influencing factors for returning to the office

Having explored the situation of mobile working from home in some detail, the focus is now on another key question: What factors will influence a person's willingness to return to the office and/or the number of days they will work from the office in the future? The survey reveals that the most compelling reasons for returning to the office are the opportunities for impromptu conversations with colleagues and the ability to work together on different topics. The availability or expectations of colleagues and managers were much less important for those surveyed. This paints a mixed picture. Respondents considered the importance of acting as a role model and the expectations of the employer to be the least significant. Overall, the main reasons for wanting to work in the office are related to productivity, teamwork and the working environment. The influence of the employer is not as important, suggesting that employees are intrinsically motivated to return to the office.

It is worth noting that the desire to return seems to be largely independent of age, company size or office type. In fact, it is largely identical across all age groups. The only exception is the 50–59 age group, which has the highest level regarding future office working days, with an average of twelve working days per month. There were no significant distinctions regarding the readiness to return to the office with regard to the type of office used. At twelve working days per month, those who work in a single or two-person office are slightly more willing to return than those who work in other types of offices. Yet even here, the difference only comes to a maximum of two working days per month.

If we look at the size of the company and the expected number of office days, it becomes clear that, at ten days per month, the number of office days is lowest for people in small or particularly large companies and, at 13 days, it is highest for people in companies with 25 to 250 employees.

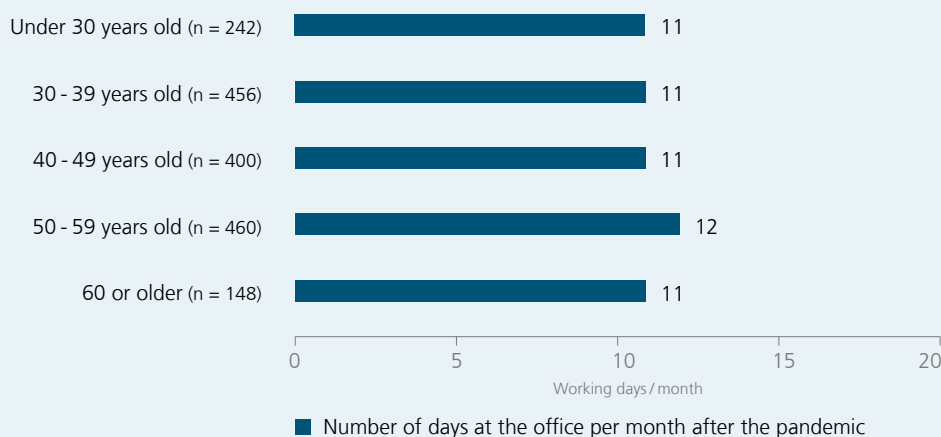


Figure 6: Willingness to return to the office according to age.

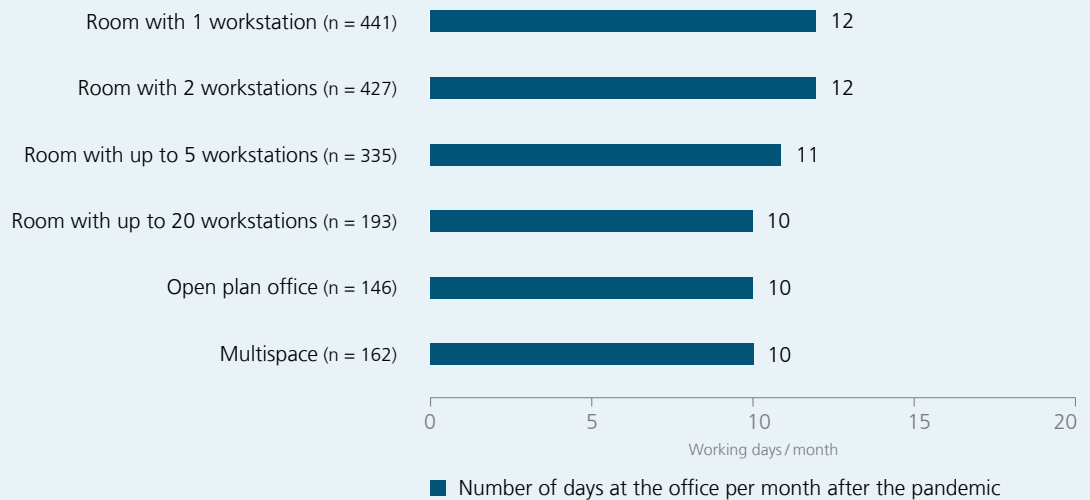


Figure 7: Willingness to return to the office according to office type.

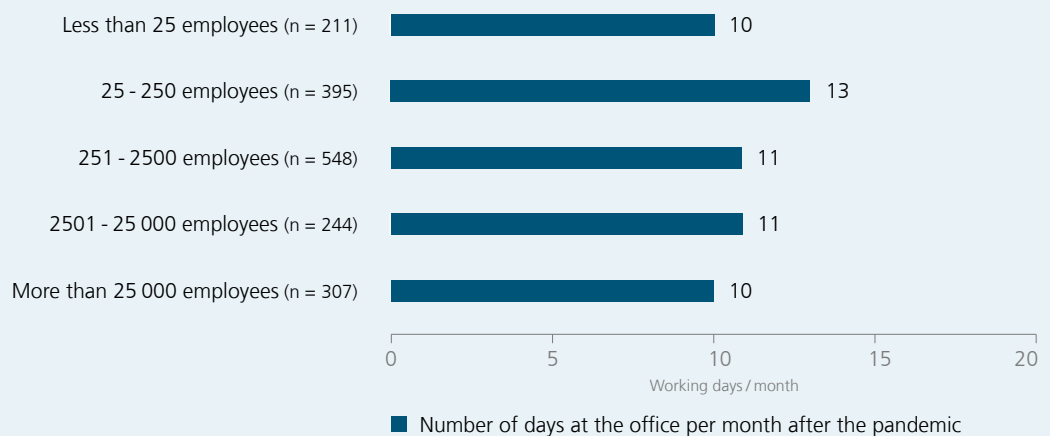


Figure 8: Willingness to return to the office according to company size.

This survey also confirmed the common assumption that Monday and Friday are the least popular workdays to spend in the office – particularly Friday. Just 32 percent of those surveyed said they intend to work in the office on Friday, whereas 55 percent considered Tuesday to be the top day of the week to work in the office. These results can stimulate innovative ideas when it comes to implementing office infrastructures. They definitely have a crucial role in the operation of canteens, for example. Organizing events such as joint lunch breaks on less busy days or an end-of-week event on Fridays might be a way to boost attendance on those days. Additionally, introducing team days is recommended in order to meet the respondents' needs for interaction and get-togethers with colleagues, which could also take place on a rotating basis on the occasional Friday. This will facilitate the management of office space across all five working days.

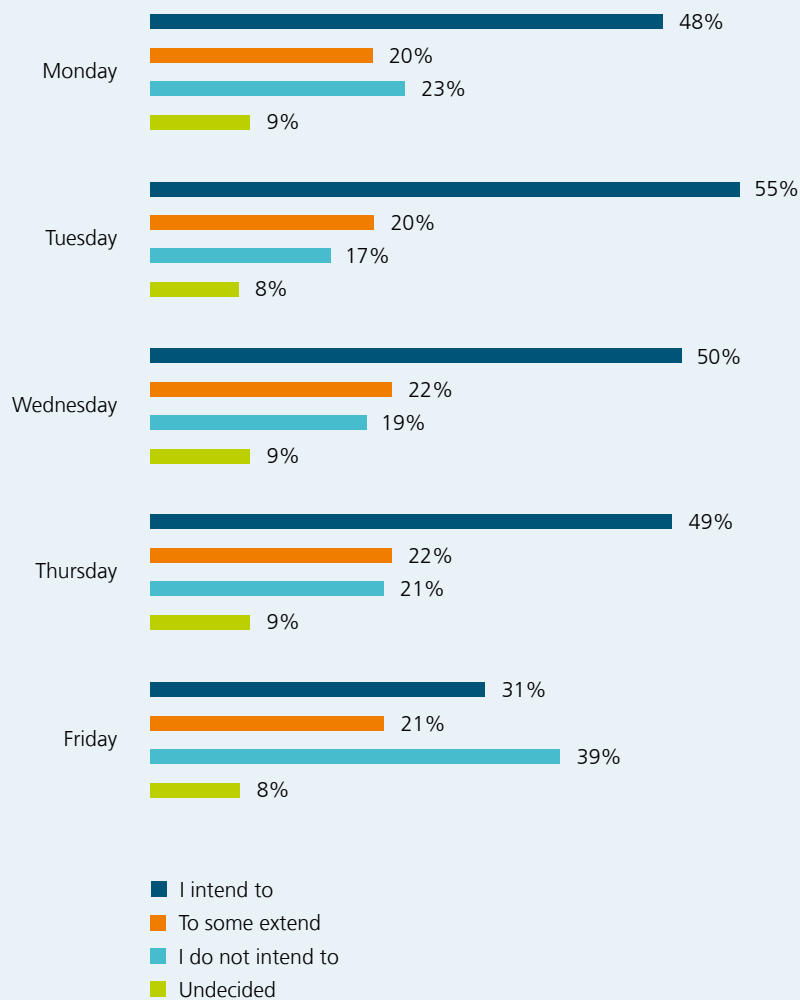


Figure 9: Willingness to return to the office according to number of working days (n = 1736).

3.4.1 Technical and ergonomic equipment

We also focused on the employees' willingness to return to the office in relation to the equipment available when working from home.

The result: The poorer the ergonomic and technical equipment in the home working environment, the more days per month the respondents would like to spend in the office. Whereas people with inadequate ergonomic equipment said they would like to spend an average of 15 days a month in the office, those with more satisfactory equipment said they would like to spend an average of only nine days in the office.

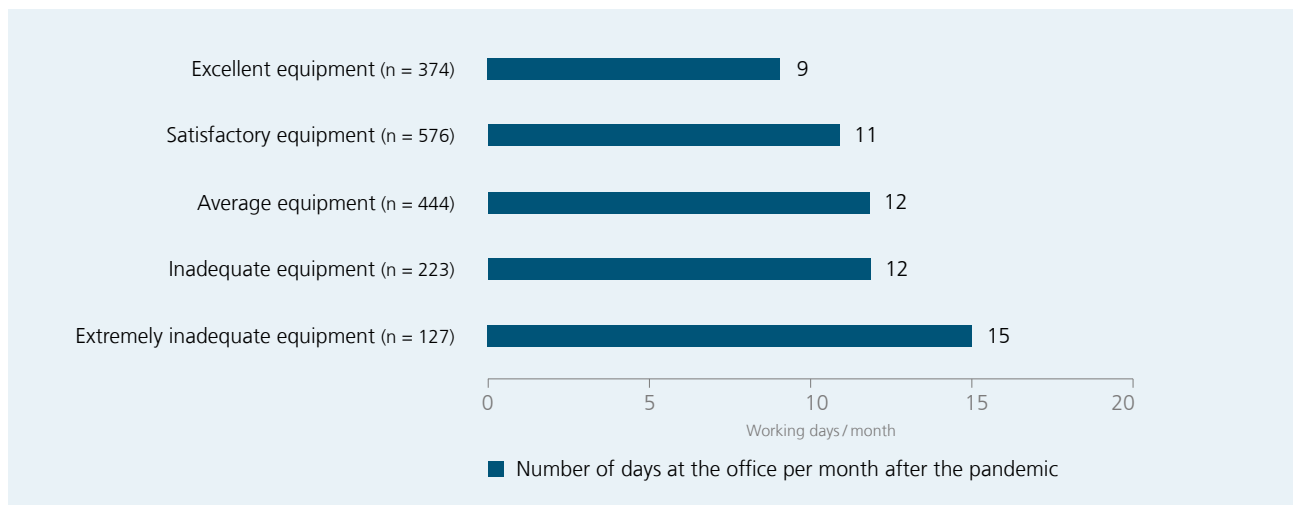


Figure 10: Willingness to return to the office according to ergonomic equipment in the home working environment.

Note regarding the calculation

(Dis)satisfaction is calculated based on how much respondents agree with the following statements:

- The ergonomic quality of my desk is very satisfactory
- The ergonomic quality of my chair is very satisfactory
- The amount of workspace available is sufficient

It is also important to note that ergonomic equipment used in the home working environment has improved substantially since the 2020 survey. While the quality of the chair scored an average of 2.9 points at the start of the pandemic, it now stands at 3.4 points. The quality of the desk also improved by 0.2 points (from 3.1 to 3.3). Yet the most significant improvement regarding ergonomic equipment concerns the amount of workspace available. In 2020, this scored 2.1 points,

whereas in 2021 it achieved a score of 3.7. The equipment in the home working environment has clearly improved significantly.

Much like the effects of ergonomic equipment on future office days, the same applies to technical equipment. Individuals who feel very dissatisfied with their technical equipment at home would prefer to spend almost the entire month in the office in the future, with a total of 17 days per month. On the other hand, those who are very satisfied with their technical equipment would only like to spend an average of ten days in the office.

Broadly speaking, it would appear that the quality of the home working environment plays a more significant role in the choice of workplace or the willingness to return than the office layout.

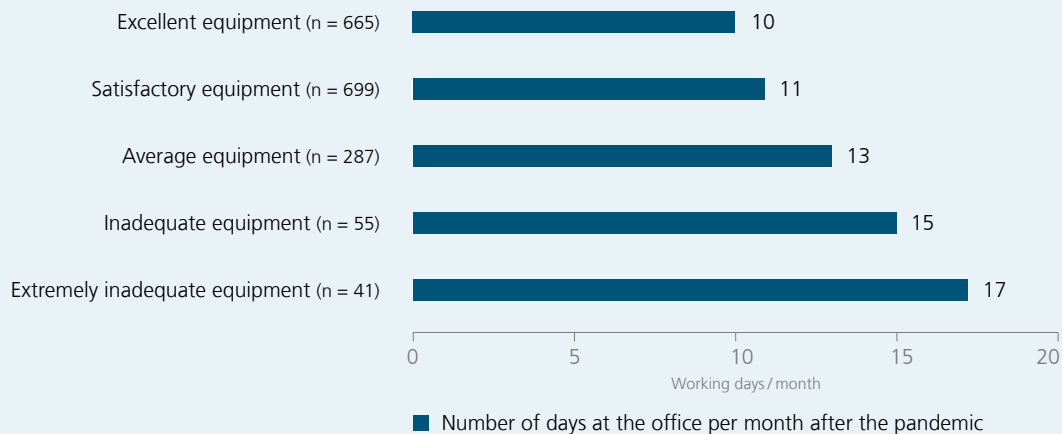


Figure 11: Willingness to return to the office according to technical equipment in the home working environment.

Note regarding the calculation

(Dis)satisfaction is calculated based on how much respondents agree with the following statements:

- My workplace is fully equipped with information and communication technology
- I have a reliable internet connection at home
- I have a fast internet connection at home

3.4.2 Other incentives

Potential incentives should not be overlooked when considering factors that influence employees' willingness to return to the office. Regardless of age, good connectivity and good catering in the office are powerful incentives for people to return to the office. The least relevant services influencing a return to the office are body care services (e.g., cosmetic treatments such as manicures or similar).

Whether good infrastructure connectivity are a strong incentive for returning to the office also depends on the travel time. For example, the longer the commute, the less time spent in the office and the more days spent working from home.

However, not only do a good location and accompanying infrastructure links influence the decision to return to the office, but so too does the available catering. This means that companies located in areas with poor connectivity can compensate for this by offering good catering facilities. Lunches are also another way of socializing with colleagues and sharing ideas.

It is also worth noting that incentives to return to the office are weighted less heavily as age increases, regardless of the incentive options. This means that older people have a higher intrinsic motivation to return to the office than younger colleagues, who are more likely to be guided in their decision by external factors.

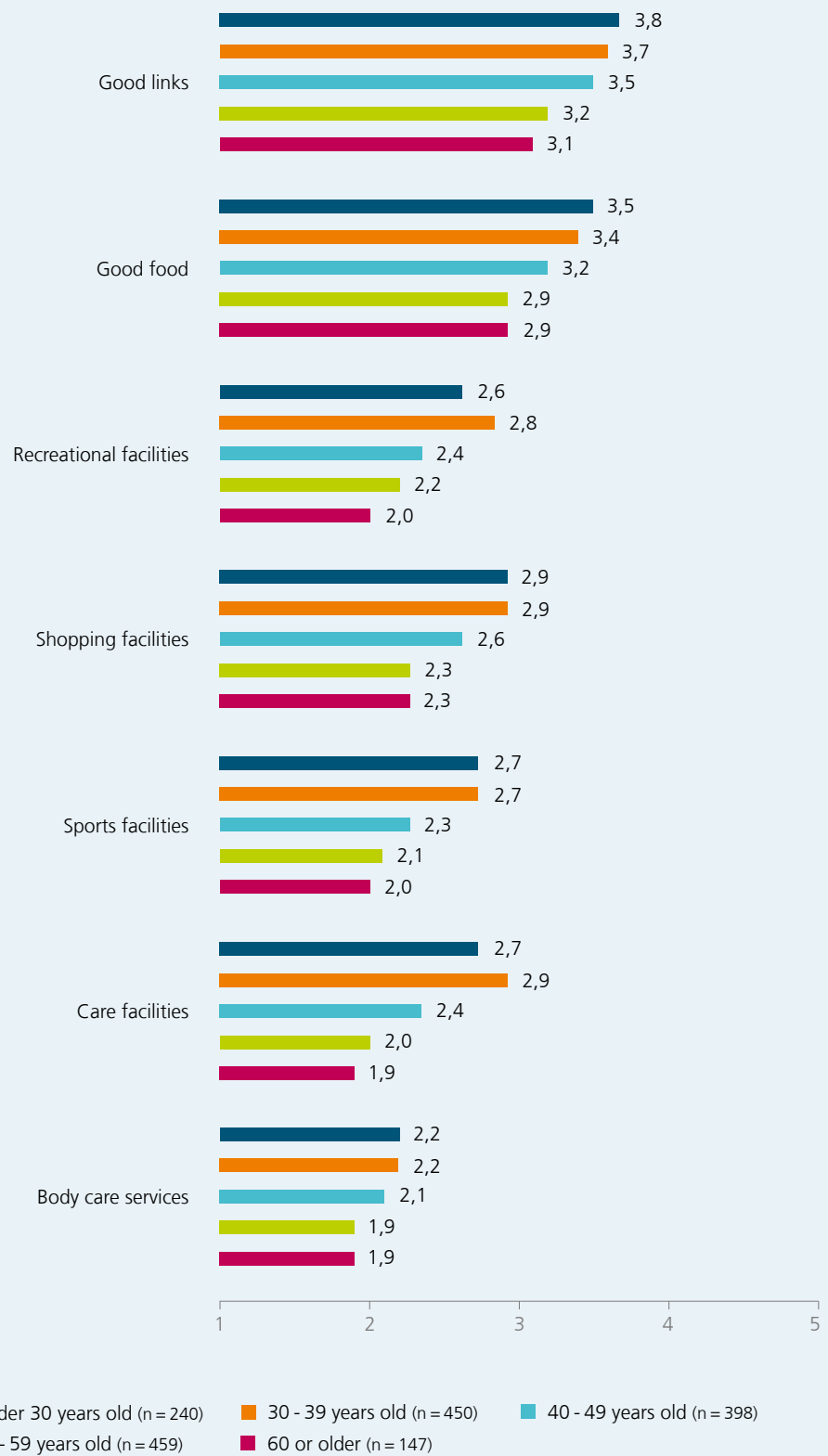


Figure 12: Incentives to return to the office according to age.

4. Summary and conclusion

The results show that some of the predictions of the 2020 “Working from home experience” study became reality. The number of days spent working from home stayed consistent as outlined in the initial survey. Therefore, we can safely assume that respondents will want to spend around one-third of their working hours at home in the future. As a result, time spent working in the office will make up just over half of all working hours regardless of age group. Any remaining working hours will be divided between working on the go, in coworking spaces or in other locations.

In principle, nothing is preventing people from working from home if we consider the development of the various success factors (productivity, information flow and creativity), which have remained stable during the pandemic. Nevertheless, there should be a number of general prerequisites in place to ensure that working from home is effective, such as high-quality ergonomic and technical equipment. Furthermore, teams should agree on a set of common guidelines that guarantee successful teamwork when working remotely. After all, close coordination between colleagues and managers is crucial, particularly considering the different work locations of the employees.

We have not yet witnessed a fundamental change to working life as a result of the growing number of digital nomads, i.e., individuals who can do their job anywhere. Nevertheless, working from a fixed location is becoming less and less important. Only a small number of employees would voluntarily do without the flexibility that working from home provides in terms of both the workplace and working hours. As a result, other ways of working, such as the digital nomad, are expected to increase in popularity in the future.

Considering how time-consuming commuting to and from the office really is, the benefits of working in an office environment must be worthwhile compared to those of working from home. In other words, companies will need to explore the subject of innovative office concepts as well as experience- and learning-oriented operational formats in greater depth in the future if they are to incentivize people to return to the office. These will include, most notably, quiet zones designed for highly productive and focused work, as well as hybrid and spacious meeting and project rooms. The former will become particularly important with the increasing use of voice assistants in everyday office life and a noticeable increase in noise levels. Employees already find that they are disturbed or disrupted more frequently in the office than they do at home. Many respondents are also worried about disturbing colleagues in the office.

Nevertheless, it is important to provide open and lounge-like spaces where people can meet and interact, as the office is likely to play a vital role in the future as an important platform for social interaction and for generating ideas. Currently, the most common reason for working in the office is the chance to have spontaneous exchanges, work collaboratively and interact with colleagues. To do this, staff have to be on site — so in a sense, we are attracting each other back to the office.

The desire to work from home more often will mean that it will be less likely that all members of a team will be on site simultaneously, thus further breaking down the traditional separation of departments, floors and building areas. This change presents new opportunities for collaboration. In the future, such collaboration will increasingly take the form of projects, which in turn reflects new technological developments.

5. About the study

5.1 Basis of data and composition of the study

The survey results are based on data provided by approximately 1,700 respondents who participated in an anonymous online survey between May 19, 2021, and August 25, 2021. The mean age of respondents was 43.2 years old.

The survey was completed by approximately the same number of men and women. The group of respondents comprised of 51 percent women and 49 percent men. [No figures were available for other genders.]



Figure 13: Gender of participants.

The overwhelming majority of respondents (54 percent) are staff members with no HR responsibility. Lower and middle management make up 19 and 20 percent, respectively. At 8 percent, upper management level participants account for the smallest percentage.

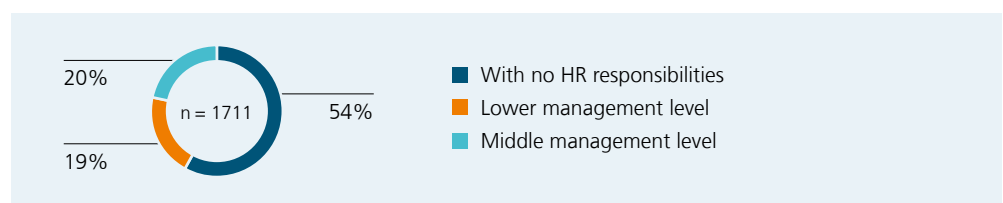


Figure 14: Distribution of participants according to role in the company.

The sample is made up of a relatively even distribution of respondents in accordance with company size. For example, 35 percent work in small to medium-sized companies. The figure is similar for medium-sized companies with 250 to 2500 employees, at 23 percent. Likewise, large companies and corporations also account for 32 percent of respondents.

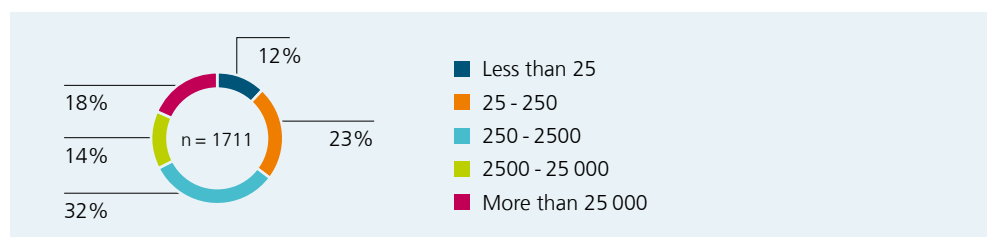


Figure 15: Distribution of participants according to company size.

33 percent of participants also perform additional caregiving tasks at home while working. 31 percent of these respondents perform these tasks alone, while the other 69 percent share caregiving tasks with others.

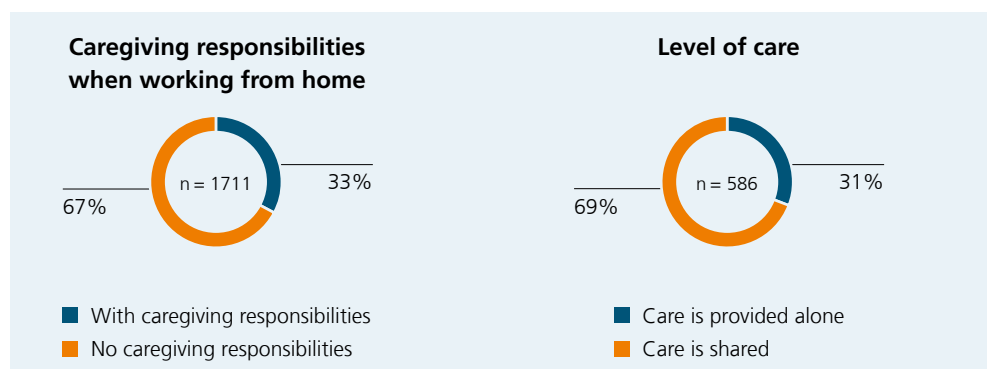


Figure 16: Caregiving situation and level of care provided when working from home.

The vast majority of survey participants (69 percent) live together with their families. A significantly smaller share live in a shared apartment (8 percent) or alone (23 percent).

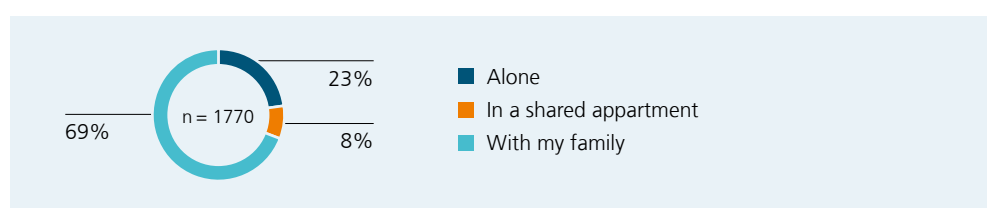


Figure 17: Living situation of participants.

When it comes to choosing a location to work from, most of those surveyed opt for a separate study (48 percent) or a room with a permanently installed workstation (23 percent). Only 17 percent of participants stated that they work in a room with no permanent workspace. The smallest percentage of respondents, 12 percent, work from different locations. A permanent workstation refers to a workplace where the required work equipment (e.g. monitor) is not removed at the end of the working day, but remains in the same place for a longer period of time.

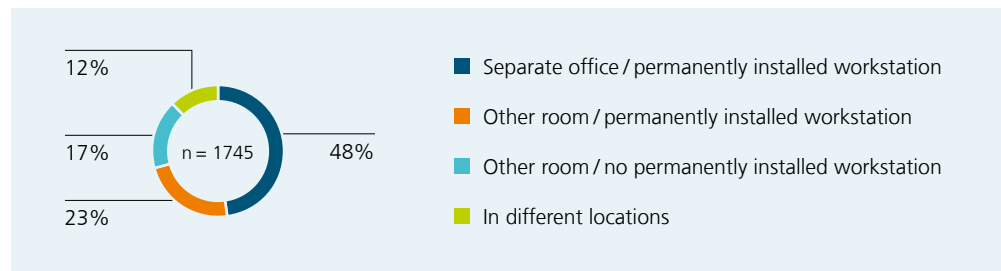


Figure 18: Workplace situation of participants when working from home.

5.2 Statistical analysis

Various statistical methods were applied to analyze the data from the online survey on office workers currently working from home. These include calculating means, absolute and relative frequency distributions as well as conducting correlational analyses.

In addition, indices were built for complex constructs that cannot be assessed with a single question. These indices aggregate the various characteristics making up the construct into a single variable. Thus, for example, the index for “flow of information” consists of various items in the areas of “access to documents necessary for work”, “exchange of documents”, and “degree of connectedness”. All questions were answered on a 5-point scale ranging from 1 “No, I do not agree at all” to 5 “Yes, I agree completely”.

Ultimately, the concrete index score represents the average of these characteristics. Indices were created for characteristics of technical and ergonomic equipment in the home setting as well as for the success factors of information flow, creativity, performance, team performance and motivation. Moreover, correlational analysis was applied to assess whether a given two constructs were correlated. Both the direction and strength of the correlation coefficient are relevant for its interpretation. The direction can be either positive (in the same direction) or negative (in the opposite direction). A positive correlation signifies that a change in one variable leads to an equivalent change in the other variable, whereas a negative correlation means that a change in one variable triggers an opposite effect in the other variable.

In contrast, the strength of the correlation coefficient (r) indicates the strength of the association between the two variables. The r value can lie between -1 (negative correlation) and +1 (positive correlation). A value of 0 means that there is no correlation between the variables at all. A t-test was conducted to verify the statistical significance of the results. It determined whether the results were simply random or whether there was in fact systematic correlation between two variables.

The Office Analytics reference dataset collected by Fraunhofer IAO was used for the pre-pandemic data (Jurecic et al. 2018).

6. Office 21® collaboration partners

Fraunhofer IAO is researching the current and future development of office and knowledge work in collaboration with an interdisciplinary network of scientists, solution providers and forward-thinking industrial partners as part of the Office 21® joint research project. The objective is to identify any changes and innovations ahead of time and to develop tangible courses of action to successfully design and implement new working environments in organizations.

While we are already living in the middle of the changing (and interesting) new working reality, there are still a number of questions left unanswered: How can we shape this transformation in terms of space, technology and organization and, most importantly, what resources can we use to do so? The research focuses on answering this as well as other questions.

Further explanations and more detailed information on the Office 21® joint research project, on current research topics as well as publications can be found online at www.office21.de.

Cooperation partners

- B·A·D Gesundheitsvorsorge und Sicherheitstechnik GmbH
- BMW AG
- CA Immobilien Anlagen AG
- Commerz Real AG
- Deutsche Bahn AG
- Fujitsu Technology Solutions GmbH
- Haworth GmbH
- Herbert Waldmann GmbH & Co. KG
- KYOCERA Document Solutions Deutschland GmbH
- Nurus GmbH
- Office Group GmbH
- officeMEDIA visuelle medientechnik gmbH
- Plateau RED GmbH
- Sedus Stoll AG
- Soennecken eG
- THOST Projektmanagement GmbH

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