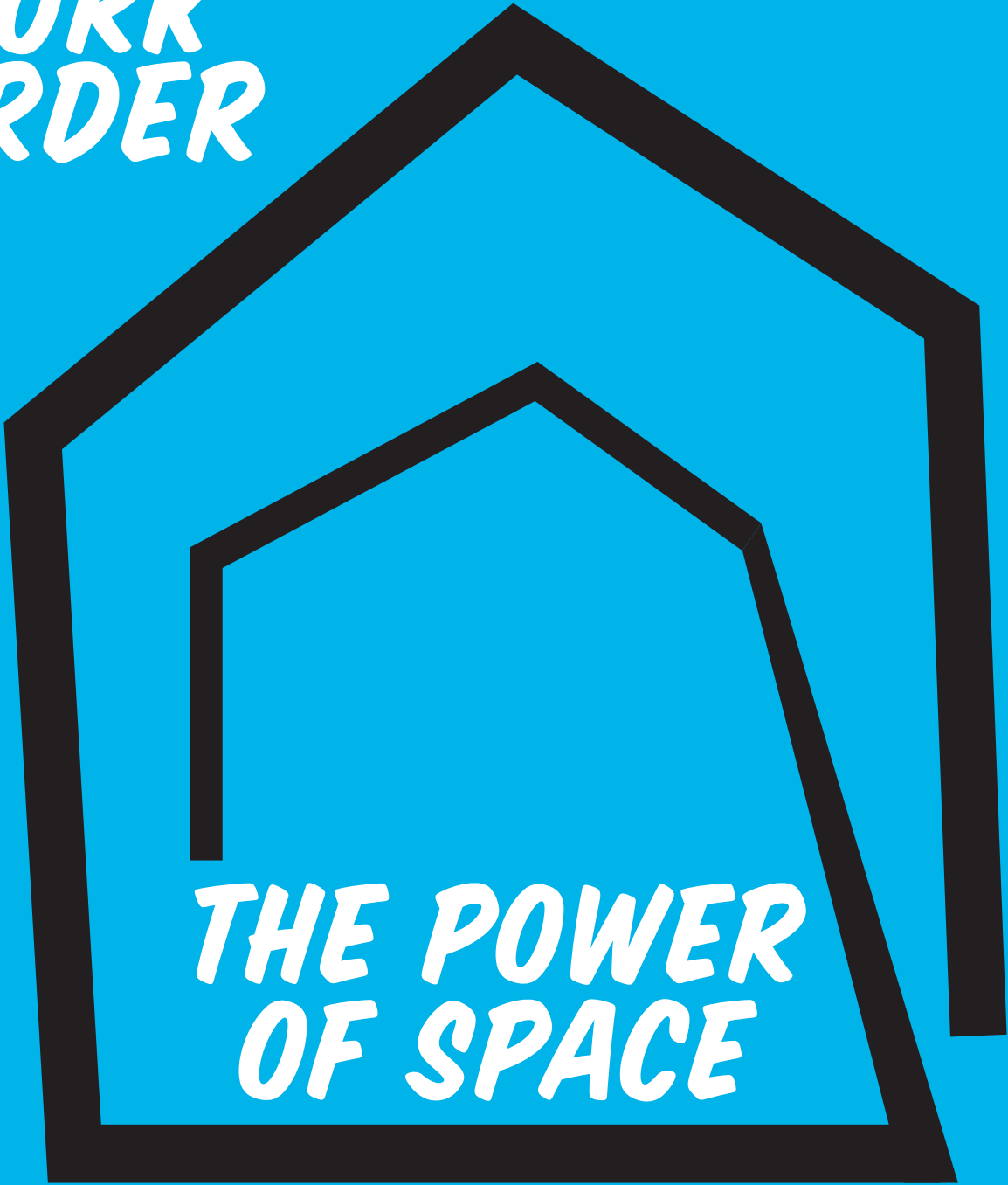


**NEW  
WORK  
ORDER**

**ORGATEC  
Special**



**THE POWER  
OF SPACE**



**BIRGIT GEBHARDT**  
Trend Consulting



**iba**

INDUSTRIEVERBAND  
BÜRO UND ARBEITSWELT

# ARE OUR WORK-SPACES FIT FOR TOMORROW?

*We want to address this question in a new and honest way. Do our products and services meet the current expectations for offices?*



**Helmut Link**

*President of the Interior Business Association*

**>> The future of the office is dynamic. It is becoming even more flexible, hybrid and digital.** Offices are becoming zones where customers as well as employees can interact. They are becoming places we identify with and meeting points for creative collaboration on projects.



**Oliver Frese**

*COO Koelnmesse GmbH*

**>> Inspiring work environments are not limited to a concrete place;** instead, they link the office, the workplace at home and the mobile workplace into a hybrid ecosystem.

## THE QUESTION OF THE SPACE WHERE WE WORK IS MORE CURRENT AND UNRESOLVED THAN EVER BEFORE

That's because brick-and-mortar offices are facing a dilemma: hybrid collaboration is increasing and replacing physical interaction by means of interfaces. Location-independent access is outshining the advantages of physical presence. However, office spaces want to more clearly demonstrate the advantages they bring to their users in particular.

The focus on space utilizes both concepts of service: the communication space that overcomes diverse times and realities, and the space for physical interaction in which people overcome the barriers between them. We believe that each of these spaces has its own impact. In this ORGATEC Special, we would like to show what this insight means for the office. We want to prove that your choice of where to work is not irrelevant!

It has been proven that the search for the best work environment is an individual matter and that it has become a social issue. Similarly, today the design of workrooms takes into account much more than technological trends and preventive framework requirements. The design issues range from the overall global and environment context to the individual as the smallest but the crucial unit. Therefore, only if the users actively decide in favour of the office, we know all of us have done our job correctly.



### THE AUTHOR

**Birgit Gebhardt | Trend expert**  
[www.birgit-gebhardt.com](http://www.birgit-gebhardt.com)

Birgit Gebhardt studies the future of work culture. She summarizes her findings, which are based on interviews with experts, consulting and travels, in the NEW WORK ORDER studies. Her work for clients such as Swisscom Immobilien, Xing and Lufthansa is based on 12 years of project management at Trendbüro, of which she was the Managing Director before she founded her own company.

Photography:  
Rebecca Hoppé

### NEW WORK ORDER

**Research series on networked work culture**  
[www.iba.online](http://www.iba.online)

The research series NEW WORK ORDER was launched in 2012 to investigate the transformation of office communication. It was followed by the in-depth studies "Organisations in Transition" (2014), "Creative Learning Environments" (2016) and "The Human Factor@Work" (2020), whose tips on spatial planning can be found in this special edition. The publisher of all of these studies is the Interior Business Association (IBA).

# NEW WORK IN TRANSITION

*New Work began as a movement to realign work in its social, economic and environmental dimensions. To date we have achieved an individual interpretation of work—for employees and enterprises.*

**N**ew Work is calling for work that people really, really want to do, and it has removed our fear of automation and artificial intelligence. In fact, this movement believes that both of these developments offer us opportunities for a world of work that is centred on human beings. Through the New Work movement we realized that digitalization is not only presenting us with new and complex challenges; it's also making tools, media and intelligence available to us so that we can deal with the new complexity. New Work outlines how to deal with networked communication, decentralized organization and expanded value creation. The trick is to use the methodical approach to simultaneously test the value set of New Work:

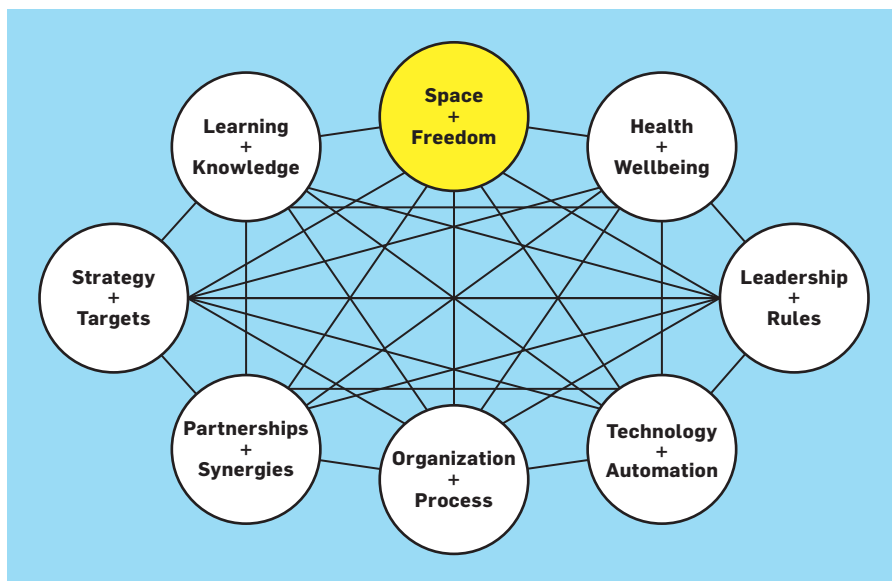
## FREEDOM, INDIVIDUAL SELF-RESPONSIBILITY, MEANINGFULNESS, INDIVIDUAL DEVELOPMENT AND SOCIAL RESPONSIBILITY

These are values and principles to which the social philosopher Frithjof Bergmann committed his New Work movement. Admittedly, we still have not found the feasible substitute that is required by his ideal goal—the abolition of turbocapitalism and dependent wage labour—either in terms of economic viability, global environmental friendliness or social justice. However, we were able to start with these five values within the small systems: organizations, companies, teams and our individual selves.

ADAPTED FROM:  
The NEW WORK  
ORDER (NWO) study  
"Organisations in  
Transition", p. 4

**The disciplines of the  
NEW WORK ORDER**  
The individual  
areas of action must  
be made fit for the  
new work culture  
and networked  
to form a holistic  
NEW WORK ORDER.

new-work-order.net  
Graphics in  
cooperation with the  
Austrian partner  
initiative "Das Neue  
Arbeiten DNA"



Today the increasingly lack of skilled workers is clearly and painfully showing us what we should focus on: motivated individuals, self-organized teams and their freedom to choose—and thus no longer necessarily in the office.

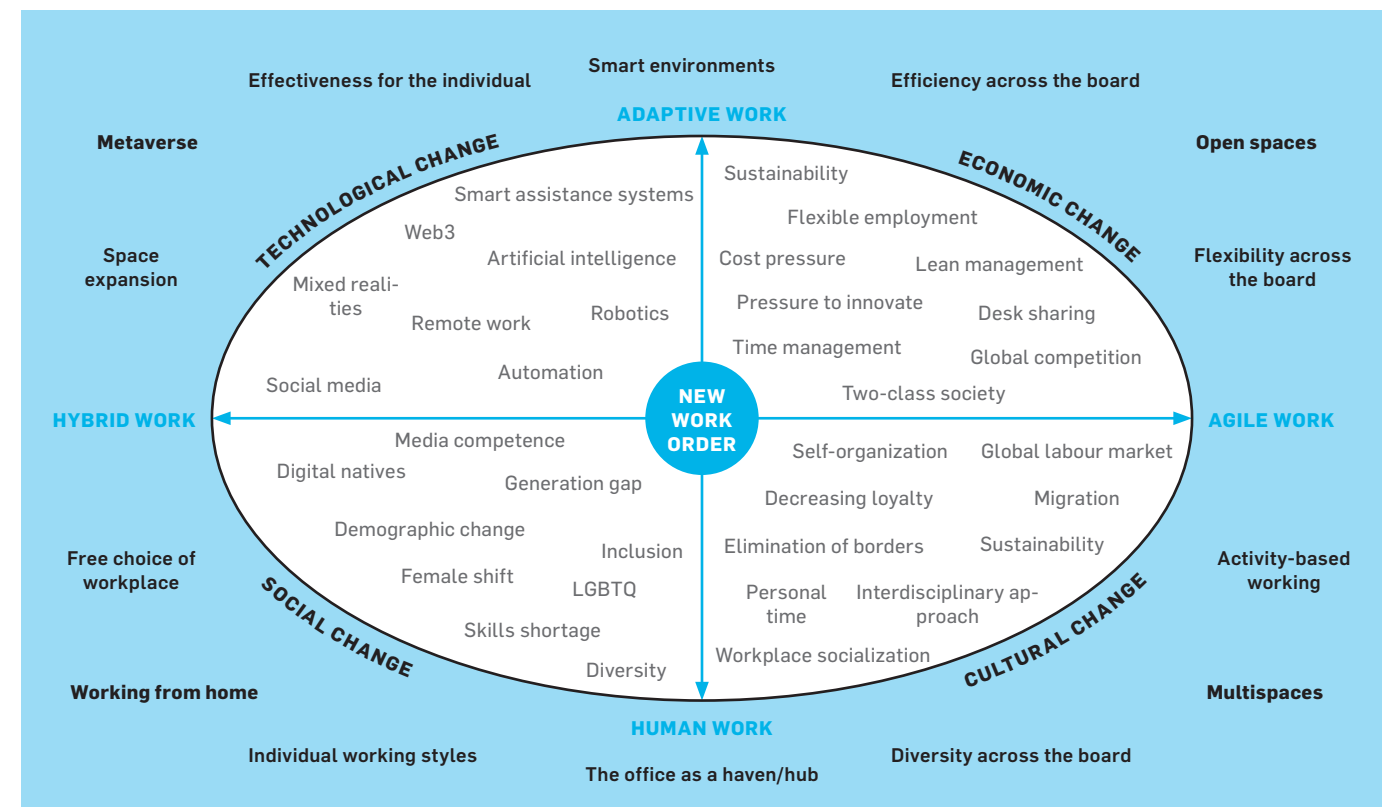
Even before the Covid-19 pandemic, agile project teams were proving, that people can work very effectively without rigid structures and prescribed solutions. Nowadays, skilled workers are demanding flexibility from their supervisors. During the lockdown, all office workers proved that the world of work can function even if millions of people are working in the midst of their living environments. And still, they experienced first-hand what it means to forfeit what the professional working environment promotes. All in all:

## THE QUESTION OF THE BEST WORK ENVIRONMENT IS NOW BEING ANSWERED ON AN INDIVIDUAL BASIS

And that also applies to the evaluation of the office, because from now on this assessment is being done by the employees—currently via their appearance or absence of the office. In the near future, employees will use their smartwatches to measure their performance curves on site. While working on different tasks, personal concentration or stress levels will be monitored and mirrored in relation to the environment and behaviour.

Parallel to this development, the professional work environment has also become more differentiated. The illustration below points to the trends (inside), the drivers of the transformation and the resulting array of available spaces (outside). Very much in line with the New Work movement, it's becoming clear that there's no such thing as "the" right spatial solution. Instead, the combination and weighting of the entrepreneurial tasks and the required work culture must be determined individually. And in the nature of trends, the offers shown are certainly not the end of the story.

ADAPTED FROM:  
NWO baseline study,  
p. 6



# THE CHALLENGE OF HYBRID WORK

*The increase in mobile work as a consequence of working time flexibility was actually not surprising. Nor was the increase in video conferencing. And yet, the terrain of the office has to assert itself in a completely new way.*

The office aims to be the central place of work, but today work is organizing itself in decentralized networks. The office enables workers to experience synchronous presence here and now, but hybrid collaboration operates as a spatially asynchronous process. Most importantly, the challenge of synchronizing workers' presence and their sense of space will lead to increasing demands regarding workstation equipment. That's why we're asking:

## WHAT DO THESE DIVERSE WORKSTATIONS LOOK LIKE?

1. Decentrally distributed teams are equipped with laptops, tablets, smartphones and other devices that bring processes closer to people via glasses, voice recognition or gesture control. This enables them to work anywhere: On a treadmill, in a library, at the baker's or on holiday, work nomads are now the new normal. It is foreseeable that the tools will get even smaller, even more intuitive to use and, as social media, will also create stronger emotional bonds.
2. The situation is somewhat different for working from home, which can be classed as mobile work. But if home is increasingly seen as the "first place", it must be properly equipped sooner than other places. If the space and the budget permit, here we can find ergonomic office chairs and desks, bigger monitors, extra lighting fixtures,

### Hybrid work is becoming the norm.

In German DAX companies, 17% of the employees would like to work on a fully mobile basis. And 14% of the employees would like to have the option of doing three-quarters of their work in a mobile setting. However, only 5% of the decision-makers in human resources units are prepared to offer them the latter option. A third of these companies (34%) want to give their employees the option of spending half of their working time at home. And 28% of DAX companies would like to enable their employees to spend up to a quarter of their working time in a mobile setting. The proportion of companies that see no possibility whatsoever of allowing their employees to do mobile work is 31%.

*Forsa survey of DAX companies commissioned by XING, 2022*

### Videoconferences inhibit the development of creative ideas, but they can encourage participants to focus.

US researchers have shown that videoconferences make it more difficult to generate ideas, because the participants actively block peripheral visual stimuli in order to focus their attention on the display. A laboratory study and field trials in five countries have shown that the conscious limitation of the field of vision also narrows cognitive focus. Conversely, the researchers suspect that videoconference groups may function even better when focus is required.

*"Virtual Communication Curbs Creative Idea Generation", by Melanie S. Brucks and Jonathan Levay, "Nature", Volume 605, 2022*

- microphones and headsets. It is possible that the individual office, which office planners used to believe was outdated, is emerging at home. Employees who love to work from home claim to benefit from fewer interruptions and better concentration. Is that still true—in spite of the constant video calls? In any case, they also speak in favour of the ergonomic monitor-based workstation. Regarding the office, work should be different: more agile, more creative, more sociable, more diverse.
3. Today the office aims to promote interaction and communication between individuals. Diverse areas should invite teams for physical creative work as well as hybrid collaboration for specific goals.

But this spatial diversity is now thwarting our expectations regarding hybrid collaboration—specifically, our wish to involve colleagues who are not physically in the office. Today the solution would be to "seat" them at the round table by means of media technology, and tomorrow perhaps to beam them into the room as life-sized OLED displays or holograms. In fact, media technology offers the office a new opportunity to get everyone on board and generate in-person participation (see page 9).

Crucial, as team members are currently distancing themselves from one another. They're acting as though it doesn't matter whether they are really looking at each other or just seeing their colleagues' initials on tiles. For the sake of convenience, employees prefer to use their monitor at home rather than experiencing the burst of energy generated by a face-to-face workshop. In the end they groan about Zoom fatigue but submit to the demands of technology. Is this self-determined work?

Office planners are still trying to give people "resonance spaces" in which they can perceive their physical presence as self-efficacy. Few planners are now ready to subordinate their spatial efficiency (via open spaces) to user effectiveness (via multispaces). The benefit of the office lies in a shared learning landscape. However, this transformation will only succeed if everyone regards the physical space as a working tool.

## HYPOTHESIS

# THE OFFICE AS A SPACE FOR EXPERIENCES

*The added value of the office is in its multifaceted array of spaces. This stimulates us and binds us together in new ways through our senses and media technology.*

**FEWER** standards, fewer normal workstations and fewer uniform space. Fewer typical office motifs, less enforced conformity, less racing around between computer workstations—and probably less space, but this is balanced by greater diversity!

**SMARTER** equipment, adaptable and capable of dialogue. In the future, performance should not only ensure sustainability within a company and a building but also lead to success for the users. The occupancy, followed by the quality of stay, are becoming the key factors of capacity utilization. Space sensor technology will be connected with smartwatches in order to make its benefit visible to end users on site.

**BOLDER** in appearance than a "new normal", more appealing than new distancing rules, more involved than laissez-faire flexibility, more effective than simple "feel-good" decorations and more clearly tailored for our five senses and our natural pre-dispositions as human beings.

**MORE COMMUNICATIVE** than we have been in the past. Rooms are no longer expected to merely offer space for people sitting at desks; they must also promote people's interactions with one another. In addition, there will be media that depict content from the cloud or external colleagues. In their placeholder function, these colleagues should also be positioned as naturally as possible in the room.

**SAP is introducing "Meeting-free Fridays"** so that before the weekend begins people can still finish some of the work that has piled up during numerous video calls in the course of the week.

*Deutschlandfunk, "Wirtschaftsgespräch", 20 May 2022*

## OUTLOOK

# GATHERING SPACE OR GAMING CHAIR?

*Some companies create more interaction in their lively learning environment. Others reduce their office space and trust in the social aspects of the media.*

### DO WE MEET FOR LUNCH OR IN THE LEARNING LANDSCAPE? THERE'S COFFEE IN BOTH PLACES.

In this case, the office has transformed itself into a learning environment that appeals to all the senses and brings in life in all its fullness. Users meet there to get to know others (not only during onboarding), learn methods (by doing and coaching), do blended learning (hybrid and in mixed realities) and learn from one another (expertise and skills). Intense interaction is reinforced by diverse spatial situations and simulations. In-person participants feel the difference with all of their senses, as well as through the inclusion of cultural and pleasurable stimuli. The purpose of the facilities is to generate as rich and varied a sense of togetherness as possible.

### MEET AT THE MONITOR OR IN THE METAVERSE? EITHER WAY, I'M STAYING IN MY GAMING CHAIR.

The growing popularity of videoconferences seems to confirm that people are fixated on their monitors, meet one another in the form of small tiles, write on digital Post-its and group together in circles called "rooms". In fact, the quality of people's real spatial surroundings is being increasingly blocked. Tech companies are trying to improve audio quality and camera resolution in ways that simulate and reinforce our natural perception. In gaming and in the metaverse, real sensory impressions are regarded as disturbing. If what we're seeing doesn't match what we're feeling, hearing or smelling, we get dizzy. What does this imply for how we work and the equipment we use?



## THE OFFICE AS A STAGE?

*It all points to one conclusion: the desired in-person presence, the stronger inclusion of external workers—all this requires new equipment and staging.*

The need for a stage began with town hall meetings, during which CEOs commit themselves to goals and answer the questions posed by their workforce. The stage presence provides accessibility and elevation in equal measure. Theatre motifs such as arenas and open stairways are used in many ways in interior office spaces (see the illustration below). Sometimes they transform a café into a marketplace with an interesting topography; at other times they offer employees a stage of their own. Wherever the transformation requires us to constantly try out new roles, the rehearsal stage provides a resonance space where people can boldly step into new roles together. The stage creates flexibility and visibility. It encourages us to improvise by turning the spotlight on the actors.

### FROM THE TOWN HALL MEETING TO THE STUDIO STAGE

Digital media technology is pointing to a further surge of equipment that will invite us to have new experiences in the office. Especially in situations where we need to motivate on-site groups and external workers to engage in intense discussions and creative collaboration via their computer screens, the office can learn from the field of event management.

Hybrid events are the speciality of Sascha Ackermann, Experience Lead at Microsoft Deutschland. According to Ackermann, there are three important aspects of event spaces:

1. the technical setup for high-quality perception and transmission,
2. a more seamless interaction between physically present and remote participants,
3. both groups' ability to influence their respective participation and experience.

*The technical advantage that the office has lost because of mobile media could be restored once again by means of presentation, visualization and presence technologies.*

**>> Purely remote work also requires new equipment.**

The model for this would be the gaming market. In order for Magic Horizons glasses to credibly transport me into a rainforest, I should be unable to see my body in its real surroundings, and ideally I should barely be able to feel it.

Offices could conceivably have gaming chairs and screens that create a comfortable private sphere in a small space.

**Anna Kopp**  
Director IT, Microsoft  
Deutschland GmbH

Above all, the technical establishment of a picture-sound congruence is still complicated, because the signal should emanate not from the loudspeaker but from the person speaking. Microsoft and Steelcase are currently investigating how they can use furniture to influence the position of human speakers in the room. The effort that is required to provide the 200-square-meter prototype room with monitor equipment and to distribute cameras and microphones throughout is currently so great that Anna Kopp, the director of IT at Microsoft Deutschland, emphasizes that people should not think that the terms “hybrid events” and “hybrid work” are synonymous. But in the future, people will probably prefer to hold hybrid events in the office instead of in a conference hotel so that they can connect shared (learning) experiences with the company.

### USING MEDIA TECHNOLOGY TO SHAPE SPACES

In general, media for presentation, simulation and representation could add a new dimension to the technological advantage of the office. Here the term “media” refers to new devices—in some cases extensive and generally costly—that improve hybrid interactions and require a playing field or the aforementioned stage on site in order to translate the digital presence into local perception or vice versa.

Conceivable two-dimensional devices include transparent or rollable OLEDs that can create displays on demand (i.e. from a tabletop console) and cast projections on glass room-dividers in order to transform them into interfaces or pull out a live link to a colleague like a roll-out banner from a mobile stele whose pedestal functions as a soundbar.

Three-dimensionally simulated telepresence would use precursor stages of beaming such as holography or holoportation to teleport people as objects to join the people in the office. Here too, we are faced with the question of whether this should be staged as a sensation or as an inclusive process.

Other forms of interaction are generated via augmented reality overlays. Unlike the smart glasses that guide logistics or servicing personnel and replace instruction manuals when people are repairing devices at home and in industrial production plants, AR glasses in the office should guide us instead toward independent thinking. Because of their transparency they could also motivate us to cooperate in person, and through their overlays they could enrich our learning by means of playful narratives.

### TEAM SPIRIT AS AN ENERGY CARRIER

Even gaming chairs, when used with a curved monitor (without VR glasses) like those used in Esports could be placed prominently in office spaces. They could be lined up side by side on platforms in team groups or a downsized arena so that the top teams are close to each other and the in-person audience or the video audience could look over the users' shoulders to watch how they solve the problem. In this process it's not even obligatory to make every project a competition. It's enough to have the energy that is generated by the positive pressure of the model function between the seats in the room, which all the active players also feel physically through this close contact. Through the new world of media and gaming we could also develop appealing leadership and role profiles that come directly from the peer group.

It's important to regard these innovations not as a new technology but as a new experience—especially since the manufacturers themselves have long regarded the actual service they provide as a User Experience (UX). This would also make it easier for us to didactically translate these innovations into a seating arrangement in the office environment.

The physical work environment needs to catch up. Today we already pragmatically use information from both the real and the virtual worlds. The task and the opportunity that the office now faces is to bring together these user experiences and make them accessible to people in the form of multisensory “blended learning”.

The Dutch architecture firm MVRDV has designed a combination of a marketplace and a stage. For the Mattilanniemi Campus in Finland, MVRDV planned a “UniverCity” with multipurpose functions and smooth transitions between a stage, a marketplace, a café, and areas for interaction and collaboration.

The Mattilanniemi Campus for Jyväskylä University. A competition by MVRDV with ALA Architects, 2013



# HOME ZONES FOR AGILE AND MOBILE WORK

*IT experts, consultants and creative workers were the first ones to make their work methods networked and mobile. So it's all the more surprising that these "free radicals" like to meet inside their shared home zone.*

It's interesting to note that before the pandemic Scrum Teams liked to get together for close collaboration. In our study, "Organisations in Transition", the Swedish agile coach Henrik Kniberg reported on the "home zones" for agile collaboration at Spotify. The team space consists of about eight desks with adjustable heights where workers discuss a topic or work individually on a shared project. Attached to this team space is a lounge with sofas and whiteboards and a "personal huddle room" that is acoustically insulated from the other spaces so that individual workers can retreat individually.

## THE HOME ZONE IS IN THE OFFICE

The trio of computer work, creative design and retreat option was created and used by each individual team. As the Agile Manifesto puts it, "The most efficient and effective method of conveying information to and within a development team is face-to-face conversations." The office was also the home port, because it gave the workers their own

ADAPTED FROM:  
NWO study  
"Organisations in  
Transition", p. 10

If we compare the data gathered for the "Best Workplace Award" in 2019 with the same survey in 2020 (at the beginning of the first lockdown), we see in the respondents' readiness to recommend their workplace, a decrease in the importance of the working atmosphere and an increase in the importance of the company's image. This is a clear and logical indication that the respondents' connection with their company is lost relatively quickly when they are doing remote work and no longer have an insider's perspective.

**Dr Katharina Radermacher et al.**  
Professorial Chair for Human Resources Management at Paderborn University

individual timeslots, depending on the progress of the work—for leisure (training sessions, etc.), working from home (family responsibilities) or mobile work (at a vacation spot).

Since then, other sectors have also adopted the concept of home zones. The home zones compensate for the workers' loss of their individual workstations, especially when a company introduces desk sharing.

For example, Generali Deutschland has abolished individual offices at all branches and for all staff positions, introducing a desk sharing model instead. A home zone consisting of computer workstations and cooperation areas was assigned to each department. Individual workers can use a booking tool to reserve a workstation for themselves by the day. All workstations are equipped with two monitors (for operations) and a webcam. The incentive for the change was that the workers who participated in the desk sharing concept were also provided with home equipment (laptop, monitor, headset). The company's office workstations could be reduced by 40% and its office area by about 30%. This corresponds to the current reduction figures for the "new normal" work environment.

At Swisscom, which introduced desk sharing back in 2006, workers are now once again allowed to decide for themselves how territorial they want their working style to be. Many of them have grown accustomed to desk sharing and regard the entire building, with all of its different work zones, as "their" office. And the individuals for whom it's important to set up a long-term workstation for themselves are also allowed to do so.

In this situation, three things are certain. Firstly, a desk sharing quota can help to utilize space efficiently and give on-site workers the feeling that their workspace is lively rather than deserted. Secondly, there is a growing tendency to allow individual workers to decide for themselves where they want to work. And thirdly, the office needs to offer not only functional items such as larger monitors but also territorial triggers such as home zones that can be occupied for several days at a time.

**>> A sense of identification with the place of work has not only a social dimension but also a spatial one.** People devote a lot of care to their personal arrangement of their work environment—the picture on the wall, their plants, the knickknacks on their desks which mark their space. If these things are missing, their connection with the company erodes.

**Dr Martina Löw**  
Professor for Sociology of Planning and Architecture, Technische Universität Berlin

## EXPERTISE

# HOW IS HYBRID TEAMWORK CHANGING AGILE TEAM AREAS @ SPOTIFY?

*The Spotify teams form agile project-driven work groups—but previously they would sit close together in common areas. The space defined the home base. But how do things look now?*

**HENRIK, YOU'RE AN AGILE COACH: HOW DO AGILE TEAMS DEAL WITH REMOTE WORK?**  
Remote work is actually nothing new for agile teams. The cliché of the coder who is surfing while he waits for his next work assignment may have become more timely as a result of the competition for talented workers. Work locations have become fluid.

**HAVE THERE BEEN CHANGES IN THE WAY THE TEAMS ARE ORGANIZED IN THE OFFICE AREA?**  
We still have the home zones, which have proven their value as team spaces—with work tables for a maximum of eight people plus a creative lounge plus a retreat space. They only have to be booked

in advance. They can be booked for days or even weeks, depending on the team's needs. Because we do a lot of remote work and co-working, the office has turned into the place for socializing, onboarding or critical problem-solving.

**WHAT DO YOU NOTICE WHEN YOU SEE HYBRID AND VIRTUAL TEAMS WORKING?**  
Purely virtual cooperation works astonishingly well—and so does the purely physical cooperation in an office. However, things become difficult if some of the team members are on site and the other ones connect with them virtually. Experiencing shared communication is still a challenge.



**Henrik Kniberg**  
Agile and lean coach, consultant, developer and author

Henrik Kniberg supported the agile model of Spotify in his capacity as a coach. Today he is a consultant at Crisp in Stockholm and a co-founder of Operational Excellence. At Majang, he is responsible for the gameplay design, development and team coaching of "Minecraft". He previously worked at Lego and Spotify.

**>> The greatest demand is for smaller meeting rooms designed for six to eight people, with excellent equipment.** In some places there's also an associated Green Room, in which elaborate presentations are produced for the sales organization.

**Stefan Kleinhenz**  
Quality Office trainer and interior consultant  
**Maik Gnegel**  
Consultant for conference and media technology at zgoll: GmbH

Paraphrased from the "Manifesto of Agile Software Development", Utah, 2001

## DERIVATION

# SPATIAL REQUIREMENTS ACCORDING TO THE AGILE MANIFESTO

*What do the priorities of agile teams tell us about their spatial requirements?*

- 1. CUSTOMER SATISFACTION GAINS TOP PRIORITY**  
Progress is measured according to the output (on the customer side)—in other words, short decision times, many releases, permanent feedback.  
>> The interface with the customer defines the digital dashboard on the one hand  
>> and the customer's world of experience on the other. How and where can this interface be spatially activated/visually simulated?
- 2. PROJECTS TAKE SHAPE AROUND MOTIVATED INDIVIDUALS**  
The best architectures, requirements and designs are generated by self-organizing teams.  
>> This means offering the teams all the tools,  
>> as well as the available spaces and rooms near the protagonists, depending on the team size,  
>> and adaptable equipment for experiments.

- 3. ACTIVELY BRINGING ABOUT INTERDISCIPLINARY COMMUNICATION**  
The most efficient and effective ways to transfer information are direct cooperation between businesspeople and developers and talking in person.  
>> Facilitating in-person meetings (at sensitive spots),  
>> docking informal spaces close to workrooms so that people can get to know each other better, or  
>> informally lowering thresholds to workrooms.
- 4. INNOVATION THANKS TO THE MULTIPLE PERSPECTIVES OF USERS, DESIGN AND TECHNOLOGY**  
The direct involvement of various disciplines and customers compels the joint search for new simplicity or attractive otherness.  
>> The space must invite people to experiment, and  
>> its mode of use must be intuitively accessible.



# ENTERPRISES IN CULTURE SHOCK

*Today's goal is no longer to do more work but to organize individuals. This alone can cause a culture shock. Now, because everyone is dispersing, the question is: how can a shared culture be generated?*

Workers and work equipment are detaching themselves from the office. More employees than expected are discovering that the well-being-trend functions better at home than in the office. Many business leaders would have liked the connected work culture to be somewhat more centralized. Nowadays their employees are circling like free radicals around the headquarters and their workplaces at home, and it is conceivable that now that they will set out from their newly elevated positions in search of even more attractive working and living destinations, according to their own preferences.

## REGAINING INFLUENCE OVER IMPRESSIONS AND EXPERIENCES

Physical distance becomes felt distance. Along with atomization into very tiny units, the demand for strong cohesion is growing. And this cohesion can no longer be decreed by means of a scorecard, a design manual or a set of in-house values.

A work culture is something you can see and feel when people engage in busy interaction: how they act and against what kind of background their behaviour generates an effect. A culture needs space. And today this is truer than ever, because a work culture is now starting to emerge in many different kinds of interaction spaces. In real and associative ways, communication spaces are spreading out fields of energy that enable us to experience something shared. This is where the office has an advantage. The more human senses are addressed, the richer is the impression. The more positively the senses are stimulated, the more lasting is the (learning) experience—and the work culture comes to life!

>> **Employees won't come to the office just for fun.** Simply by dispensing with the commute, the average (US) employee saves one whole hour per day. It's clear to see why employees won't return to the office just for the sake of free bagels or ping-pong games.

**Dr Nick Bloom**  
Professor of Economics, Stanford University, USA



A scene from the film "Outsourcing Offshore" by the video artist Nicholas Masterton, with a subsequently inserted headline

*The greatest obstacle connected with the office: the time required for commuting.*

*The greatest nostalgia connected with the office: communication with one's colleagues.*

*Workers' freedom of choice requires employers to develop a new self-image as a host. What does the employer's office offer that other companies' offices don't? In a restaurant, the atmosphere is just as important as the cuisine.*

>> **Creativity requires contact.** A large part of our culture is the energy of our agency. We are really in the people business. You don't win pitches with "big ideas". Instead, it's a question of the chemistry between people. And if you don't meet in real space, this gets really difficult.

**A culture of learning and well-being:** we don't want to force people to come. We let the junior people know that it's good to feel the atmosphere in the agency, so they come inside. And we've asked the senior people to come into the office when the juniors are there in order to guide, help and coach them.

**Patritia Pahladsingh**  
Managing Director of the TBWA\Neboko agency, Amsterdam

Identity, cooperation, a sense of well-being, and meaningfulness can all be regarded as parameters that create a culture. As we look at these four constant factors in the following, in each case from the perspective of spatial experience, we come to some clear conclusions.

## THE CAMPUS AND THE OFFICE HAVE THE GREATEST POTENTIAL FOR CREATING A WORK CULTURE THAT CAN BE DIRECTLY EXPERIENCED

>> **IDENTITY** requires points of reference. It requires a sense of belonging as well as boundaries. One spatial formation of identity is local rootedness. International companies such as Google have created points of reference in the interiors of their respective locations. In some cases this local colour seemed to be exaggerated, but in videoconferences it turned out to be a reminder of people's respective backgrounds. The interiors made it easier to remember where the employees were located.

Today companies tend to look for their own identity-creating key features—together with their employees, a process that simultaneously sharpens their self-image/public image. The desire for visualization has remained. As an Instagram society, we are aware of the power of images, and we can use selected spatial impressions not only as a stimulant but also as a stage setting with spinoff effects.

>> **COOPERATION:** a corporate culture can be "read" most accurately by looking at how the company's employees work together. For example, close contact is the key energy source that generates the scintillating togetherness in a creative workshop, and this close contact should be celebrated by providing it with the space it needs. The office environment must design cooperation more efficiently and make it easier for its users to experience it. It must mediate experiences through the interaction of virtual and real, individual and shared, emotional and efficient elements in ways that cannot be achieved elsewhere.

## THE AIM IS A FRUITFUL LEARNING ENVIRONMENT WHERE KNOWLEDGE IS SHARED AND WORKING STYLES LEARNED

But before that can happen, people with different ways of thinking must encounter and warm to each other. This is possible in attractive spaces for leisure and enjoyment that are located near circulation areas, so that encounters can become relationships that bear fruit through virtual collaboration. The gateway to the learning environment is the café.

>> **WELL-BEING:** the trend toward well-being is gradually making offices less uniform. Unlike the open space model, multispace offices are geared to people and their diverse needs for concentration, creative closeness, retreat and recuperation. The functional arrangements for activity-based working can be designed as an inviting and emotionally appealing work environment. Lush green plants, atmospheric daylight colours and many features that used to be regarded as nice decoration have now turned out to be elements that promote our physical and emotional balance. What kind of decor could act as a self-fulfilling prophecy? Who wouldn't want to find out more about the natural interplay between our performance capability and our surroundings?

>> **MEANINGFULNESS,** from a spatial perspective, means greater transparency about one's own and other people's contribution to the whole. The ability to compare and depict goals and the progress of one's work requires visualization areas and representation tools that make it possible to get feedback and reassurance regarding one's own activities. Being able to use space not only for working but also as a resonance space. The office as a stage on which roles are rehearsed and initiatives become visible and reach the right audience. The office must include the outside world while at the same time expressing its advantage compared to the outside world.

"Career", "Community" and "Company" are the three areas on the dashboard at Alpine One. Here the employees of this business consultancy supplement the key performance indicators and the scorecard ("Company") with their own personal development goals ("Career") and the collective added value ("Community") for which they take on responsibility. Depending on their commitment and fit, this enables measures to be defined or guiding principles deduced. Remuneration, promotions and bonuses can also be rethought on this basis.

The "Roots" citizenship model, Alpine One, alpine-one.com

# FLOOR-SPACE MANAGEMENT: WHAT CAN STILL BE PLANNED?

*Because employees prefer to work from home,  
Corporate Real Estate Management has to change plans. At Swisscom,  
this affects around 15,000 workplaces.*

*Staff restaurants  
have been downsized  
at Swisscom.  
Not only do young  
people eat differently  
than older em-  
ployees, the variety  
of local offers is  
expanding. The  
location plays a key  
role here as well.  
Swisscom's Corporate  
Real Estate Manage-  
ment (CREM)  
googles the local  
points of interest  
when planning  
a new location.*

The portfolio strategy at Swisscom is called 20<sup>X</sup>, which implies that the company doesn't plan to rewrite it every five years. Jöri Engel, the CEO of Swisscom Immobilien, is close to his end users and has already done a great deal to make the offices attractive, flexible and productive for different employees. Although desk sharing was introduced back in 2006, anyone who wishes to can still sit at his or her "own" desk, because you cannot and should not dictate anything to people you want to win over. Attractive co-working areas have been created in a former post office in Bern, and there are also a variety of work zones to be found inside the offices. But even attractive offices cannot stop the trend to working from home.

In line with this trend, which was already discernible before the pandemic, companies have to reallocate and rent out space for management and sustainability reasons. At Swisscom, occupancy almost halved on a weekly average and is now around 40% of building capacity. However, Engel is also convinced that "We won't be able to get back the space that we give up today." It is unclear whether the employees are also aware of this. Until now, interiors have been adapted to their wishes. But the very fact that employees are staying away is itself a signal.

## EXAMPLE SWISSCOM'S PORTFOLIO STRATEGY

*It's about accessibility, location added value  
and user centricity.*

**A DYNAMIC DEVELOPMENT IN NUMBERS:**  
Since 2014, digitalization has been influencing mobility, which in turn affects building occupancy. The pandemic has greatly accelerated this trend:  
>> 2021: -30% in office space, 2023: -40% is expected.  
>> Average weekly occupancy at the main sites has fallen from 66% before the pandemic to 40% today despite the shedding of space.  
>> A significant additional need for meeting rooms and co-working areas (60-80% of the total area!) is now initiating the transformation of the existing properties.  
>> The declining demand for fixed workplaces becomes irrelevant for occupancy planning.

**KEEPING EMPLOYEES CONNECTED TO THE SHARED CULTURE**  
In order to promote the shared culture despite the reduction in floor space, the main sites will have their "own" Swisscom office and smaller satellite hubs will be distributed in the surrounding communities.  
>> The Swisscom offices at the main sites will be reduced to one building each and will mainly be used for collaboration (80% of the available space).  
>> The peripheral satellite hubs are also open to all employees, offer a local alternative to working from home and make it possible to meet colleagues from the company. These hubs are located in Swisscom telecommunications buildings with good local public transport connections.

>> Variety is a key feature here. The workplace concept is not based on roles or functions, but is people-centric, which means it should meet every-one's preferences. How does this work? By means of diversity, tolerance and open communication.

**Jöri Engel**  
CEO Swisscom  
Immobilien AG

>> We bear re-  
sponsibility  
for creating spaces  
that are effective—  
not just attractive.

**Jöri Engel**  
CEO Swisscom  
Immobilien AG

**CREM puts over-  
stocks of furniture  
into six categories:**  
1. Storage for  
possible future  
needs,  
2. Especially  
initiated online  
furniture ex-  
changes for SMEs,  
3. Upcycling by  
design: furniture  
is altered for  
changed uses,  
4. Partnerships with  
aid organizations,  
5. Materials  
exchanges,  
6. Recycling.



**Jöri Engel**  
CEO of Swisscom  
Immobilien AG  
and President of  
CoreNet Global in  
Central Europe

Engel has been the CEO of Swisscom Immobilien AG since 2013, and as the Head of Corporate Real Estate Management he is responsible for Swisscom's properties. The close connection with Swisscom AG and with the employees offers valuable in-sights into the trans-formation of the ways they work and their spatial needs.

Agile forms of work had already made it obvious that planning would have to become more demanding and work more process-oriented in line with people's needs. Engel learned that organizational charts, for example, incorrectly depicted the links between the various employees. For one thing, many people don't work within their respective teams, but across disciplines. On the other hand, individuals are more versatile than the spatial characteristics that a task or role typically gives them. What was already clear to the Swisscom CEO in the light of the working nomads before the pandemic is now clearly demanded by the work-from-home trend: going to the office has to be worth it! In other words, the office must provide end users with a tangible boost to their performance and efficacy. Conversely, this means that in the future real estate and office planning will also have to be measured in terms of its effectiveness for the end user. An end user who, thanks to digital assistance systems, is becoming increasingly sensitive to his own performance.

ADAPTED FROM:  
NWO study  
"The Human Factor  
@Work", p. 30

## EXPERTISE FOCUS ON USER EFFICIENCY

*What does an office property have to provide in the future? Jöri Engel talks about  
the new tasks of Corporate Real Estate Management at Swisscom:*

**WHAT ARE THE INSIGHTS FROM ALMOST TEN YEARS OF OFFICE DEVELOPMENT AT SWISSCOM?**  
We should tone down our urge to shape things and instead spend more time observing so that we can find out which elements are helpful for the users. That's because users are looking for solutions that effectively bring them the greatest added value. From the point of view of real estate management, almost anything is possible (provided it can be financed). In order for the expectations to be fulfilled, however, managers are also needed who breathe life into the ideas and see themselves as experience shapers. It should not and must not be the case that managers are not present for their employees in the office!

**WHAT IS THE NEW SIGNIFICANCE OF THE OFFICE?**  
The main aim is to form a clear vision of what can and will benefit the company. For example, you can stipulate that the office must be a site of collective know-how, networking and creativity, and that it is embedded in the organization as such. The fusion of the worlds of work and private life is a fact. Some employees deal with this better than others. A company is responsible for offering support to both of these groups, and for creating a "home port" or a "campfire" where people meet, work, provide inspiration and feel that they are part of a whole and of something big.

**SWISSCOM INTRODUCED DESK SHARING IN 2006, DOES EVERYONE DECIDE FOR THEMSELVES NOW?**  
Prior to the pandemic, about 50% of the people in my environment appreciated their personal work-places and the other 50% voluntarily gave up a fixed workplace in favour of a variety of work opportunities. Functionality, ergonomics and flexibility can be planned

and achieved for both types of people. In the near future I expect only 10% fixed and 10% flex desks for individual work, but 80% cooperation areas.

**DO THE EMPLOYEES USE THIS FLEXIBILITY?**  
The flexible design is very accommodating to the employees and their individuality. Highly functional spaces and room structures for teamwork are considered much more important than individual workplaces. We need more team/project/theme rooms where people work together on something and where the knowledge that has been gained in the room can be displayed and understood. This requires high-performance technologies that make video conferencing a great experience for large and small groups alike. This includes plug-and-play systems that provide good image and sound quality.

**HOW CAN CREM STRENGTHEN EMPLOYEES' SENSE OF BELONGING AND IDENTIFICATION?**  
Teams need a shared DNA and also want to celebrate it. In other words, they should be able to be together when they are in the office, even in fully flexible structures. This must be made possible.

**WHAT ARE THE CURRENT CHALLENGES?**  
The way we measure occupancy is wrong! Planning is still based on the ratio of people to workplaces. We will never have too few workplaces, but we already have too few meeting rooms, workshop rooms, etc. We need to focus on measuring the utilization (density stress) of meeting and cooperation areas. Currently, with 20% employee occupancy at the top sites, 40% of the meeting rooms are fully booked on three out of five days. We need the buildings to be transformed!



# CLARIFYING COLLABORATION

*The first step in freely choosing a place to work is to understand one's own way of working. This is exactly what Otto employees were able to experience in a very agile way: in a collaboration sprint.*

It makes little sense to first have teams organize themselves and then to tell them what they have to do and where. Human resources developer Sebastian Murawski points out that “it can’t be a case of one size fits all.” As a member of the FutureWork team, he too thinks that the future at Otto will involve a hybrid working model.

The teams should be able to decide for themselves which work is to be carried out face-to-face and which is better done remotely. In order to put them in this position, the transdisciplinary FutureWork team itself resorted to a New Work method and officially announced a “collaboration sprint” at the company.

To start off, employees were asked to compare their own ideas about working hours, location, methods and availability with the needs of their team. A matrix for activity-based work sensitized the people concerning their choice of location and this was to be individually verified. This was followed by three months of self-testing at different locations—on campus and remotely. After the test phase, the impressions gained were retrospectively checked, and after an assessment of foreseeable changes, each team announced its commitment. The diagrams on the right provide an overview where most teams say they can do their jobs most effectively.

## EXAMPLE

### “HOW DO YOU WANT TO WORK?”

*This question Otto addressed to its various teams. Not only could they decide the way of work for themselves, they could also try spaces out on the campus.*

**SEBASTIAN, HOW INTERESTED WERE THE EMPLOYEES IN THE FUTUREWORK SURVEY?**

Very. The survey had a participation rate of 76%, which is the highest to date. It confirmed that the employees have individual needs regarding their work and they want to (help) shape its future.

**YOU RAISED PEOPLE'S AWARENESS OF ACTIVITY-BASED WORKING. WHAT EFFECT DID THIS HAVE?**

By testing different places of work, it became clearer what works where and how well. We now also have a transparent commitment. The majority would like to work on their own at home. As a result, we invite people to take part in more discussions and collaboration on campus—for physical as well as hybrid meetings. The collaboration sprint has helped us and the employees to locate activities more individually.

**PHILIPP, HOW DOES THE COLLABORATION SPRINT AFFECT THE OTTO CAMPUS' TRANSFORMATION?**

We tried out a lot of new working environments before the sprint. The collaboration sprints underpin our spatial offerings and help the teams achieve their ideal of collaboration.

**WHAT DEVELOPMENTS ARE BECOMING CLEAR?**

The key to going from concentration to collaboration has changed. We are reducing the planned “libraries” where 20 people can work in peace and dedicating more resources to teamwork. We are now planning our flexible “project garages” as private and open structures. In some cases, we have taken the sound screens off the tables and provided space for up to six people at a work table. For video calls we have a kind of shared language lab or booths. We are clearly moving away from the standardized workplace.

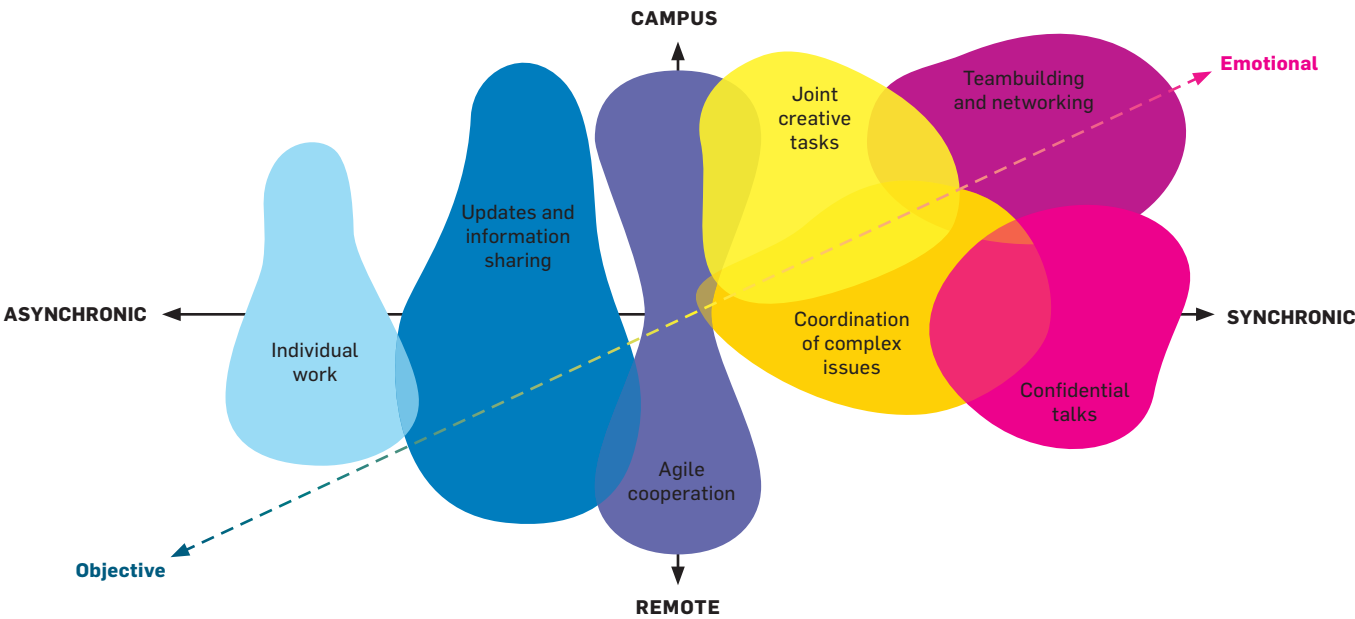


**Sebastian Murawski**  
Senior HR Manager,  
specialist for  
human resources  
development at Otto

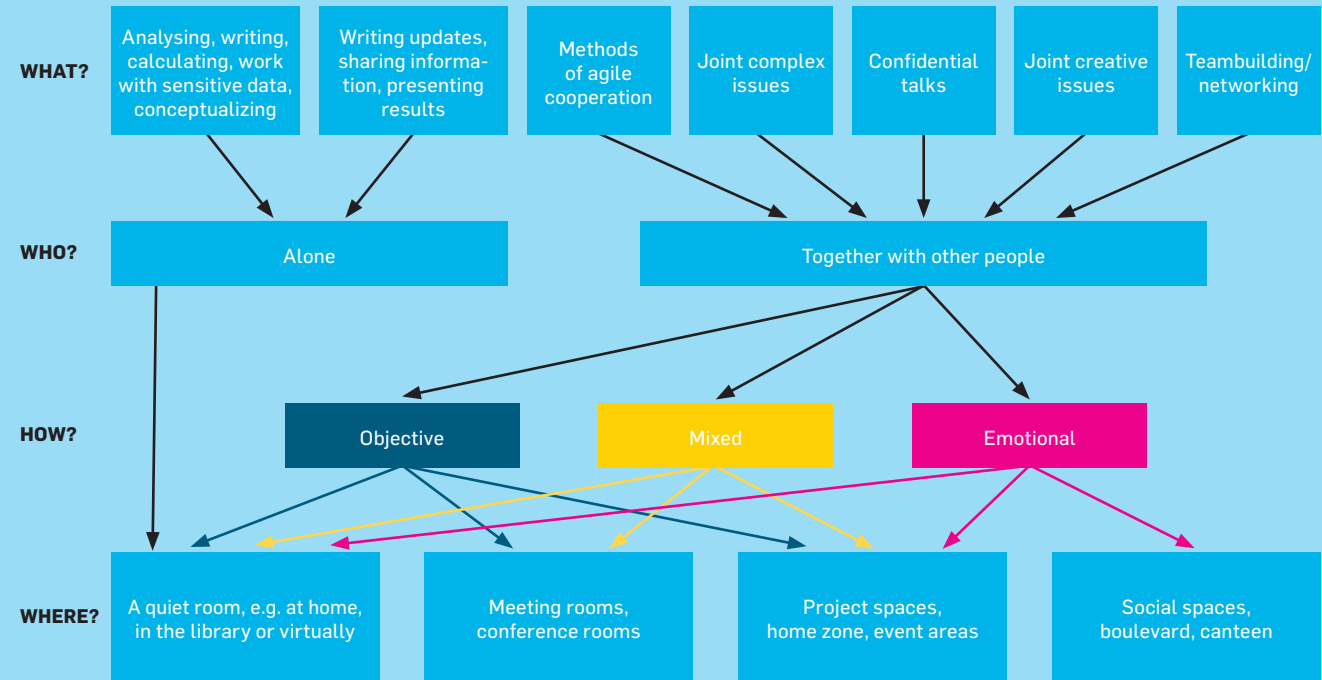


**Philipp Poppe**  
Senior Project Lead,  
Expert New Work and  
Workplace Strategy  
at Otto

## THE TEAMS' CHOICE OF WORK LOCATION AT OTTO



## THE OTTO MATRIX FOR HYBRID WORKING



# ~~PLACES OF WORK~~ PLACES OF INTENT

*Purely functional facilities are not enough to switch from one work mode to another. As humans, we are more likely to be moved by associative-emotional stimuli.*

Whereas the offices of the past provided technical and professional infrastructure, these things are also made available today outside of the building in the form of either mobile or ubiquitous Cloud applications. In the near future, the office will serve more as a location for nurturing social ties in a stimulating work atmosphere. Employees will then make a conscious decision to work in the office if no other place immediately puts them in the “right” working mood. Furnishing this mood management in an intuitive and practical way is becoming the key challenge of office design.

THE SIX FUNCTIONAL ACTIVITIES OF KNOWLEDGE WORKERS  
IN AN ASSOCIATIVE CONNECTION TO AN EMOTIONAL LOCAL CONTEXT

The graph divides knowledge work on an axis between the poles of concentration (left) and collaboration (right). The goal must be to associatively enhance the central primary tasks by providing a stimulating environment, whereby a vertical distinction is made between planned and spontaneous activities in order to also shape informal exchanges. The assigned locations serve to provide a spatial motif for inspiration for the desired work intention.

ADAPTED FROM:  
NWO baseline study,  
p. 36–37

*Where previously it was the provision of computers that brought people to the office, tomorrow it will be the atmospheric transposition of the individual into the intended working mode.*

*We should be able to shape the framework if we know the contents, the action and the effect that it is supposed to generate.*

Here, the (interior) architectural design should not only be functional but also have a clear emotional effect. The decommissioning of traditional workstations and the simultaneous expansion of opportunities for across-the-board communication and informal meetings have led to the establishment of many different spatial functions in recent years. Most of these opportunities were varied but always very functional in terms of ensuring concentration or collaboration. However, designing offices on the basis of functional criteria only marks the halfway point to the New Work Order because people assimilate themselves in their surroundings and, conversely, they select an environment which they hope will provide them with the maximum of functional and emotional support. Employees find it easier to switch to working or communication behaviour if an office—and those working in it—offers them an associative image of the mode of activity that they wish to adopt. Flexible structures in particular, and those that also offer the freedom to choose how and where one will work, create a situation in which examples, rituals, and symbols become important guides for organizing and orientating oneself more efficiently.

PLAYING OUT THE SPATIAL NARRATIVE IN THE DIALOGUE CULTURE

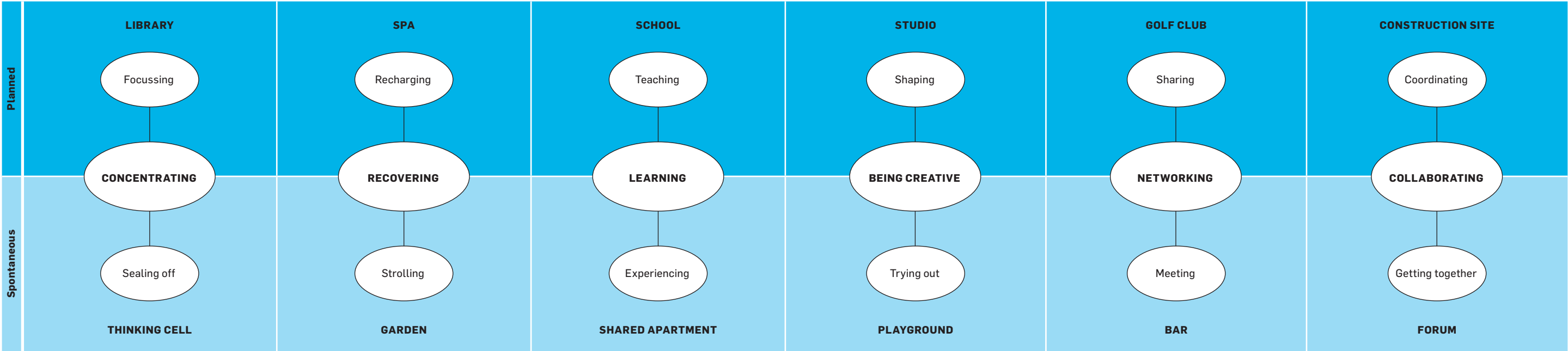
An examination of historical knowledge sites brings to mind the Ancient Library of Alexandria and the magnificent rooms for assembling, for reading, and for storage. The complex also included a network of ways for strolling. The library was thus a perfect example of a building for contemplation—one that put visitors into a state conducive to accumulating knowledge. Offices could benefit from the example set by such formative places. Coupling activity-based activities with an associatively linked or archetypical atmosphere could transform the office into an ideal workplace that doesn’t have to look like an office because its primary task is not to supply infrastructure but instead to stimulate a mood conducive to work and the exchange of ideas. Spaces that accompany us culturally have shaped us in the context of life and learning. Behavioural intentions can be derived from this immediate recognition.

Learning works more like a network, a network of ideas and streams of action. One should take advantage of this and create several spatially distributed offers that one can also use better individually. At best, the offers are directly related to the specific job. This also leads to more variety in the result.

Julia Dellnitz  
Managing Director of the business consultancy firm smidig

ADAPTED FROM:  
NWO study  
“Creative Learning Environments”, p. 21

COMMUNICATION INTENSITY





# CODES OF CULTURAL SPACES

People network as soon as they find a common language. They mark spaces as soon as they want to delineate their group. And they have developed patterns and codes on how to behave within a community.

>> I would say that the most important thing is to not treat human beings as though they were nothing more than brains in vats. We are social beings, but also territorial ones.

Dr Colin G. Ellard  
Cognitive neurologist and experimental psychologist

ADAPTED FROM:  
NWO study  
"Creative Learning Environments", p. 14

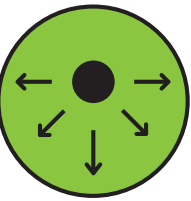
Office buildings will act as a magnet if their welcoming gestures are understood. When their spatial arrangements encourage different forms of exchange. The motives for this lie beyond our workplaces, meeting rooms or kitchenettes. We know them from traditional rituals of widely different cultures and carry them as landmark-like orientation points within our evolutionary memory:

The *mountain* or the arena as a stage. Self-centeredness in seclusion (*cave*). A discussion among equals around the *campfire*. The chance meeting at a *watering hole*, where the refreshment is jointly experienced.

## COMMUNICATION CAN BE SHAPED

The US sociologist David Thornburg is convinced that the key to successful forms of learning can be found in rituals and their flow of communication. The reference to nature evokes intuitive behavioural patterns, and the form of the ritual provides information about hierarchy and expectations. The pictograms shown illustrate that spatial settings can very well provide answers. Who's addressing whom? What's the purpose of which meeting? How are participants encouraged to contribute? Suddenly the old question "How do the participants relate to one another?" receives a strategic spatial dimension.

## INTERACTION SPACES

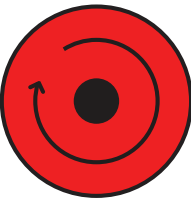


**MOUNTAIN TOP**  
by David Thornburg

>> One to many

Presentation, speeches or performances (live/digital), lectures, webinars, etc.

- + Active presentation to an audience
- + Imparting information via a range of media

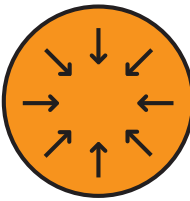


**CAVE**  
by David Thornburg

>> Personal learning space

A refuge for concentrated working: individual rooms, libraries, offices at home, passenger compartments

- + Uninterrupted learning
- + Working alone
- + Being concentrated
- + Working quietly

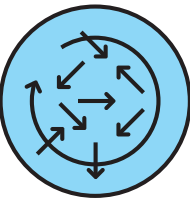


**CAMPFIRE**  
by David Thornburg

>> One to many, in rotation

Discussion groups, meetings, moderated game rooms and online conversations

- + Group work
- + Listening to others
- + Sharing ideas
- + Discussing



**WATERING HOLE**  
by David Thornburg

>> Many to many

Random encounters: cafeterias, halls, wikis and social collaboration platforms (digital)

- + Work in small groups
- + Informal discussions
- + Listening to others
- + Free flow



**HANDS ON**  
added by Rosan Bosch

>> Tactile experiences

Sensory stimuli to deepen learning, playing and trying things out

- + Touching
- + Holding
- + Understanding mechanisms
- + Experimenting
- + Building

A campfire for the group, a fireplace for the spatial impression. The Dutch architects MVRDV planned a "UniverCity" for the Finnish Mattilanniemi Campus in which open, urban and cosy spaces overlap.

The Mattilanniemi Campus for the University of Jyväskylä, architectural competition design by MVRDV in cooperation with ALA Architects



**Rosan Bosch**  
Founder and Creative Director of the Rosan Bosch Studio, Copenhagen

<https://rosanbosch.com/en>

The representation of the five pictograms comes from Rosan Bosch, whereby only the right hand one of the five illustrated learning metaphors was added by her as the process of manual comprehension. The four learning metaphors on the left describe cultural-historical or natural interaction patterns and come from Dr David Thornburg. In this way, the US education consultant wants to provide schools and offices with intuitively understandable settings for learning.

"From the Campfire to the Holodeck: Creating Engaging and Powerful 21st Century Learning Environments" by David Thornburg, 2013



## EXPERTISE

# PATTERN + PLACE = BEHAVIOUR?

Rosan Bosch designs learning environments for children and adults. Her interiors are based on David Thornburg's communication flow pictograms.

### HOW SHOULD THE PICTOGRAMS BE USED?

They are metaphors that we cooperatively translate into our customers' objectives. In themselves, they don't yet imply the interior or the furniture. They only help to create awareness by showing how the communication must flow in order to adequately support certain tasks. They also include new media. For example, Mountain Top may also refer to the video of a TED conference. The pictogram simply represents "one-way" communication. This openness to interpretation is important for the use and design of the communication zones.

### SOME FOCUS ON THE PHYSICAL ACTIVITY RADIUS, OTHERS ON SOCIAL-RITUAL GROUP BEHAVIOUR ...

Yes, there's a mixture of both types. I think that for many of the activities we do, there's a reason why we do them in a certain way. I also think that our bodies play a huge role in the process. For example, we can't imagine infinity, because we are held back by the limitations of our bodies and their limited range of movement. Although we ignore our physical limitations when we use

media, which expand our presence and realities, we are still the same limited human beings depicted in Leonardo da Vinci's drawing of Vitruvian Man within a circle and a square.

### WITH REGARD TO THE NEW MEDIA AND REALITIES, WHAT ROLE DOES THE PHYSICAL ENVIRONMENT PLAY FOR OUR UNDERSTANDING?

We don't know yet where the development of virtual reality will end, but I think that the more closely we connect communication with our feelings and physical senses, the more communication can be a "real" experience for us. We have developed the "hands-on" icon in order to give tactile stimuli more significance, or so that we can grasp theories and try them out. It requires experimentation areas and tools. I think we shouldn't forget that we still have our local and real work environment; it's something we can fall back on. Accordingly, we should endow our physical encounters and work-related meetings with more sensory qualities that we can experience physically. The metaphors can also help us to do that.



# WHAT CAN DIFFERENT TYPES OF SPACE ACHIEVE?

*Digital networking encourages us to push spatial boundaries. We move in mixed realities, meet in hybrid environments and collaborate in simulated simultaneity. Work goes beyond all dimensions.*

**Space is becoming more diverse:** the spaces that we move through are becoming much more numerous and varied. The space that we use isn't contracting, but expanding. That's why the assumption that space is diminishing in importance is not correct.

**Dr Martina Löw**  
Professor for Sociology of Planning and Architecture at the Technical University of Berlin (TU Berlin)

Remote working tools decouple work from the office and bring it to people. In this way, the world of work connects with that of life. Moreover, greater consideration is given here to one's own agenda and current state of mind as well as to local conditions. However, this does not necessarily increase the spatial distance to the office. Thanks to networking, our scope for action is expanding via access to work content (the cloud), colleagues (working from home), bots and machines, real-life working environments and virtual worlds of work (the metaverse).

## CAN OUR PHYSICAL SENSE OF SPACE BE COGNITIVELY EXPANDED?

Our perception of space is created through our interaction with the outside world. We have always networked in communication spaces; our reference points form the coordinates of our network of relationships. Millions of years before digitalization, space surrounded us in an abstract, imaginary or real way.

The difference to today is actually only in the way it is visualized: by interacting with digital tools, social media and interfaces, we visualize our imaginary spaces, simulate what

**Visual impressions are the most compelling.** Vision provides us with up to 80% of the information about the outside world and occupies 1/4 of the brain, including 60% of the cerebral cortex, which harbours the higher brain functions.

Source: Stangl, W., "Online Lexikon für Psychologie und Pädagogik" (2017)

**>> The things we see are the most important determinant of our behaviour in the built environment.** Therefore, a device like the Google Glass is the beginning of a technology that penetrates this age-old connection to the outside world (...) and makes many principles of traditional architecture obsolete. Joseph Paradiso of MIT's Media Lab explains it like this: "Everything can become display. Or maybe photons will be painted right onto your retina so it doesn't matter so much what you see. Environments will be some combination of what you physically see and what's virtual."

**Dr Colin G. Ellard**  
in: "Places of the Heart: The Psycho-geography of Everyday Life", Bellevue Literary Press

could be real ("digital twin"), and materialize conceptual frameworks (3D printing). The spatial transitions from the communication environment to our carbon-based world now overlap and can be shaped.

## SPACE IS AN ENABLER, MEDIATOR AND TRANSFORMER

The only hurdle on this new playground is our physical limitations. Our bodily feeling tells us that we are sitting in a gaming chair, while the virtual adventure world wants to suggest that we are flying. If we now look at our feet, we might feel nauseous because our brain is irritated by contrasting spatial impressions. Our perception looks for truths. A difference of 30 to 40 milliseconds between lip movement and sound is enough for us to realize that something is wrong.

The more sensory impressions can be obtained and the more congruently the pieces of the puzzle can be put together to form something familiar, the faster we can master the situation.

Fundamental values such as security and trust can therefore best be built up through physical encounters and an informal process of getting to know one another.

However, our perception favours what is familiar and seeks self-similarity. This hinders the functioning of diverse teams. In this respect, virtual game worlds are probably just the right thing, because the reduction of our perception space compensates for a higher level of engagement in areas of playful interaction. Characteristics are replaced by actions. The behaviour of the participants in different narratives makes them predictable. And in the mixed realities in between, it is the information layers that provide us with real-time orientation in the here and now.

The nature of the space—the proportions of physical reality versus digital interaction—is crucial to our respective impressions. Physical reality lets us find support in certainties. In the virtual world, we are inspired by new motifs and playful interventions.

*With the expansion into virtual worlds, we are also creating parallel universes along a timeline.*

## HYPOTHESIS

# THE CONSCIOUS SHAPING OF WORK ENVIRONMENTS

*Spaces and activities are expanding our range of interactions. If we can coordinate them with one another, their effectiveness increases. The fields of action are outlined by the following four spatial concepts:*

### 1. THE MATERIALIZED THOUGHT SPACE

Knowledge work is abstract in nature. The associative context, such as a laboratory, or the cultural anchors, such as a reading room in a library, help us to better "grasp" our own actions. Such reminiscences can be translated into activity intentions and serve as instructions.

### 2. THE RITUAL MOTIF SPACE

New ways of working need familiar motifs in order to be able to dock onto learned rituals. Motifs define the interrelationships of the various positions at the campfire (discussion rounds), the parcoures (station learning) and the stage (role testing).

### 3. THE FLUID IMAGINATION SPACE

People are not only inclined to believe what they see, they also interact with the things that the environment simulates. With regard to gaming and the use of augmented realities, motifs and narratives from the fantasy world are likely to drift into the real world of work in order to also playfully expand our area of interaction on location.

### 4. THE SELF-REFERENTIAL SPACE

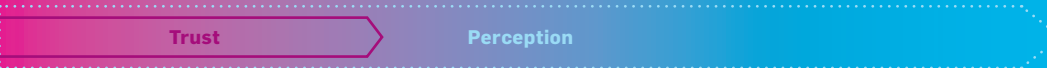
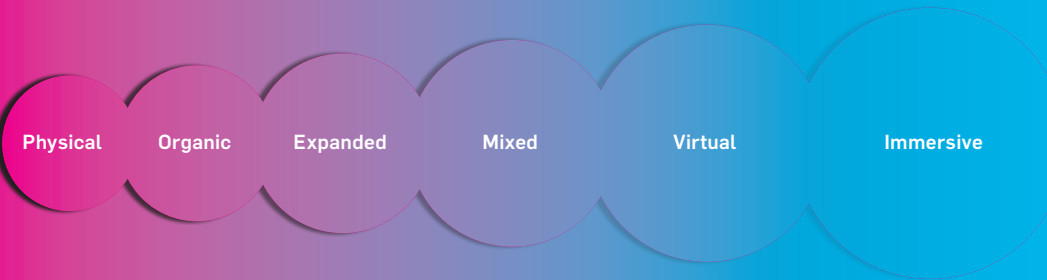
We are inspired by the environment, which we also use to showcase ourselves. The visualization tools in social media demand animation and scenery in the real world.

**The method of loci spatially organizes thoughts.** This was already the case with Cicero, who connected his thoughts with the Forum Romanum, which he walked through in his mind and where he placed his arguments. In a figurative sense, architecture can thus also be used as a pattern of order.

Cicero, in: "De oratore" (Orator), 55 B.C.

**Our sense of presence is maximized in the here and now**

**Our effect space expands through the various media**



# THE IMPACT OF SPACE

*“Nobody leaves the room until the problem is solved!” Physical space can put pressure on its occupants. However, this doesn’t have to be negative. The boundary can also release positive energies.*

The pressure on physical space is increasing: if everyone has invested travel time, the meeting in the office must also deliver as promised. However, it doesn’t seem to be sufficiently clear that spaces also exert pressure. That’s because the feeling of being “trapped together in a room” often first causes sparks of thought to generate friction and discharge—thoughts that are important for innovative solutions and hard to generate on a virtual Miro board.

## SPACE AS A LIMITING MEANS OF EXERTING PRESSURE AND A SOURCE OF SOCIAL ENERGY

**>>** 80% of all innovative, realized ideas arise from face-to-face communication.

**Dr Gunter Henn, architect**  
in: “Die Organisation und Architektur von Innovation”

When you’re face-to-face in physical confinement, you talk more openly with each other—because you’re quite literally closer. Your facial expressions, gestures and full-body presence help to make you understood to the other person. Criticism and appreciation can be formulated more openly, misunderstandings can be recognized more quickly and slip-ups can be rectified more easily. One’s visibility in front of everyone else reinforces social etiquette, while mutual visibility tends to cause people to conform and encourages a common group behaviour. Space welds people together. In the end, it swallows the ballast or mutates into a shrine: if criticism or confidential matters are to remain in the room.

## EXAMPLE

# SPACE DECREASES DISTANCE

*The Elbe Philharmonic Hall was a feat of strength. Architects and general contractors worked against each other—until they were brought together in one office.*

### A CONFLICT OF LAWYER'S LETTERS

The high planning risk as a result of an already overstretched budget, along with the question of responsibility, and constant finger pointing from the legal department made cooperation between architects and the general contractor impossible at a certain point. After the construction freeze, the city of Hamburg summoned the parties together and pointed out their contractual obligations. The commitment to better cooperation brought a few additional agreements, but in retrospect, the most important factor was that everyone would be working together in a single office in the future. The architects then moved from their floor of a Hamburg office building into yellow woodchip wallpaper rooms on Sandtorkai.

### SPACE LEADS TO RAPPROCHEMENT

Hochtief worked there in combi offices, while Herzog & de Meuron chose the central open space, where the area around the coffee machine became the meeting place from then on. Also thanks to the advanced planning people came face to face here—even if they had just sent each other nasty letters. Both sides subjected themselves to this situation and got closer. The Swiss coffee machine used by the architects was also popular with the Hochtief employees. People began to talk and understand each other’s constraints and background situation. Tensions eased and letters from lawyers became less frequent. If space enables informal get-togethers, it makes it much harder to be mean to one another.

*No other form of dialogue is as motivating and as fruitful as physical cooperation in one place. That’s because it’s the only form of dialogue that stimulates all the senses, enables the participants to become completely attuned to one another, and creates the cohesion that is crucial to making progress.*

ADAPTED FROM:  
NWO study  
“The Human Factor @Work”, p. 15

**>>** So I don’t think that the most important task of an office design is to sooth us into quiescence and complacency. I think we need some of that balance as retreat, but the places of friction or serendipity are, if anything, more important. Those are the places where the sparks fly.

**Dr Colin G. Ellard**  
Cognitive neurologist,  
University of  
Waterloo, Canada



**Professor Axel Buether**  
conducts research at the University of Wuppertal in the areas of visual perception, design and communication with a focus on the way colours, light and space affect human beings.

Photography: Martin Jepp

**>>** The HOW (something affects us) is more important for the assessment of one’s surroundings than the WHAT. Whereas the “what stream” leads to semantic memory, the “how/where stream” activates the behavioural conditions and interrelationships of actions that are linked to the event in the procedural memory.

ADAPTED FROM:  
NWO study  
“The Human Factor @Work”, p. 20

## EXPERTISE

# HOW PERCEPTION SPACES BECOME ACTION SPACES

*All of our perceptions serve to give us a spatial and temporal concept of our existence in the environment. But how do we generate this conceptual space?*

### WHAT DOES SPACE MEAN FOR OUR SENSES?

Our perception does not create spaces the same way that one constructs bridges. Instead, our conception of space and the world first arises as the results from our interaction with the environment. It’s similar to the way we understand language by asking questions and receiving answers. I look at the world with my eyes and the environment answers my questions, not only because I see something but also because my other senses (smell, touch, etc.) explore it along with my sight. In this way, we actively construct the world with all of our senses and link these impressions together to create experiences.

### WHERE IS THIS PERCEPTION SPACE?

Constructivists would say that it’s all in your head! However, I think rather like a semiotician. For me, the space of this interview is a discussion space that is created by you listening and me speaking. It becomes richer the more intensively we engage in a dialogue and it is limited to the duration of the interview. This is the perception space that our brains generate. It’s first constructed by our visual focus, which provides us with the picture.

### HOW DOES A PERCEPTION SPACE DIFFER FROM A CONCEPTUAL SPACE?

A conceptual space is the remembered perception space. It aggregates our scope for action from the various perception spaces. If a perception dimension is lost, as with blindness, we must learn to explore the world with our remaining senses. This is hindered if we remember how it used to look. Our conceptual space has to adapt to our new perception of the world, which also changes the brain structure.

### CAN I EXPAND MY CONCEPTUAL SPACE?

Yes, because the conceptual space can be explored via multiple senses. For example, I can expand my eyesight by talking about the image. Conversely, I can graphically supplement the language space by a model such as a diagram. The interactions between the sensory spaces exist interconnected within the conceptual space and can reinforce impressions. This is also accomplished by digital media, which have already become a fixed part of our conceptual space. If I took away your smartphone it would be as if I blindfolded you. I now consider smartphones to be an extension of our sensory perception.

### HOW DOES THIS ALTER LEARNING EXPERIENCES?

The environment is part of our memory system; it’s basically an outsourced memory. Something as minor as a pattern or a smell enables us to remember its importance for us. This also applies to digital tools—I no longer have to remember the way because my satnav does it for me. The need to remember something decreases because we can access everything in our immediate surroundings. So my students no longer have to memorize anything and instead are given much more complex tasks that they must solve by accessing knowledge. They would never have been able to achieve this level of complexity before!

### DO I SEPARATE REAL FROM VIRTUAL IN MY CONCEPTUAL SPACE OR DO I EXPERIENCE EVERYTHING AS IF I WERE USING DRUGS?

The whole way we perceive the world is similar to a psychedelic experience, because we perceive everything subjectively. This perception of the world goes away when we close our eyes. Our belief that the world really is as we experience it is nonsense because there is no such thing as an objective world. Everyone who dies takes their entire world with them, and every new-born has to discover his or her own world. To do that, we must learn to practically comprehend space as (inter)action space and to interact with it. It doesn’t matter where the information for this comes from or whether it is really or virtually generated.

### HOW CAN I TRUST A SPACE?

By gaining an impression of it. This is mostly a visual impression, an image that I make of a situation. But very often I am totally unable to objectively test a situation—the “what”—and therefore only make a decision about the “how” indicators and on the basis of my feeling of whether I’m in good hands. My intentions also play a role. Take a car, for example: if I step proudly into a dynamically styled automobile, but then get stuck in traffic, this context destroys the whole impression. The space has to generate a true sensory experience, not merely an illusionary one. I want to succeed in my intention here.

### DO CERTAIN COLOURS AFFECT HOW WE WORK?

No, there is no specific colour that will always work well when we work or relax. Light and colours can generate atmospheres that tend to be stimulating or relaxing, but it would be wrong to press people into such categories. We have to create tailored solutions that take people, intention and place into account.



# OUTLOOK: HUMAN FACTORS

*If we really want to improve workrooms, we should know more about ourselves. Our human condition grants external influences access to our innermost being via five paths.*

Our five senses are “always on” except for when we sleep. They navigate us through life, let us participate in everything, adjust our state of mind in real time and, in feedback with our memory, constantly evaluate what is good or bad for us. As a result, perception is always subjective. The perception of space also depends on personal experiences. Nevertheless, we understand across cultures what stone stairways invite us to do or what grandeur a high interior radiates. The physically tangible space leaves no uncertainties, because it addresses four of the five senses and is one of the strongest triggers for our sense of presence. We humans process spatial impressions via the following influencing factors:

## FIVE INFLUENCING FACTORS FOR PEOPLE AND SPACE

- >> SOCIALLY & ANTHROPOLOGICALLY, people seek a sense of belonging in their living spaces and follow a herd instinct. We long for the energy of the group, which primarily radiates to us physically when present. Targeted guidance to encounters and pleasure-oriented magnets for exchange enable space to initiate relationships. Space will act as a transformer for newcomers if it generates collective learning behaviour, as in a quiet reading room in a library.
- >> TERRITORIALY & EVOLUTIONARILY, we mark territories and look for protected spaces. The theory of evolution calls the ideal setting “prospect and refuge,” i.e. (a mountain as) protection at our backs and in front of us a view (across the savannah). What was essential for survival for our ancestors is anchored in our subconsciousness. Still today, our memory stores our own, very moving experiences (joy, fascination, fear) together with the spatial context. We occupy spaces with retrievable emotional codes.

ADAPTED FROM:  
NWO study  
“The Human Factor  
@Work”, p. 25

PERCEIVING CHANGE	
NEW POSSIBILITIES	NEW APPRECIATION
Security: control, transparency, monitoring	➤ Natural: liveliness, elementary forces, the environment
Remote presence: via media (video, holography, avatar)	➤ Physical: contact, tangibility, mechanics
Simulation: mixed realities, gaming, scenarios, BIM	➤ Authentic: identity, genuineness, reality
Synchronicity: global human-machine collaboration	➤ Original: cultural heritage, local, original
Facts: big data, AI analyses, measurable qualities	➤ Emotional: sensitivity, empathy, affection, openness

*According to a trend research rule, everything that threatens to disappear gains in value. In this respect, the digital possibilities do not make us new people; rather, our physical experience intensifies with the virtual experience.*

*Perception and world view result from the personal comparison between the inner and outer world. The perceptions are filtered by one's own limitations and experiences.*



**Lacey Arslan**  
Multidisciplinary Designer and Workplace Experience Designer (2013–2019) at Adobe, San José, USA

Lacey's role was to ensure that Adobe's brand and culture were reflected in the design of the headquarters.

>> I've had the most interesting and inspiring conversations with fellow employees over coffee or lunch. People love to share what they are passionate about, including their work environment. That feedback, as well as research from Adobe's internal intelligence team, has been the impetus of innovative new spaces.

ADAPTED FROM:  
NWO study  
“The Human Factor  
@Work”, p. 27

- >> BIOLOGICALLY & PHYSIOLOGICALLY, environmental factors such as climate, light, hygiene, nutrition and nature influence our bodily feelings. Slight movement stimulates the metabolism as well as mental performance, while daylight colours influence the body clock. Waking phases can be intensified to a small extent by a high proportion of blue light. However, this kick works only sporadically and leads to stress over the long term. Creative ideation require less light and more warmth than concentrated work.
- >> MENTALLY & COGNITIVELY, sensory impressions, attention and brain frequencies are mutually dependent. Ideas are sparked when we are in daydream mode, showering or looking into the distance. At these times, thoughts can wander in slow alpha waves without any problems or intentions. By contrast, the ingenious flow of high-energy gamma waves can only be experienced after hours of undisturbed practice in beta mode. So far we have not had the workrooms for any of these brain functions.
- >> SMART & VIRTUALLY, our sense of space expands in two directions: a world of services acts as a focus that surrounds the individual. The displayed information reacts like a sixth sense to the situational state. The other path leads into the immersive rooms of the metaverse. Intermediaries between people and space are hybrid spaces of action that open up social interfaces to blended learning experiences.

## EXAMPLE

### HUMAN-CENTRIC DESIGN

*At Adobe, Lacey Arslan's job title was Workplace Experience Designer. Her holistic understanding of design could not have been better described.*

#### A HOLISTIC IDEA OF WELLBEING

Besides Adobe's Wellness Center, covering a whole floor with various offerings for fitness, training courses and therapies, Adobe has ergonomic workstations, healthy lunch and snack options, onsite diet advice and access to meditation coaching. We even provide a sensory room to calm down nervous brain waves. The holistic thinking about wellbeing also embraces the quality of architecture and design. So, wherever possible, the built environment is made of natural materials (we specify low or no VOC paint products and try to avoid synthetic materials) and for our ancillary furniture we choose local sources and have a preference for handcrafted objects.

#### COMBINING SENSORY AND CONVENIENCE OFFERS TO ENHANCE THE WORKING SPIRIT

To enable both working and wellbeing, we integrated a small video conference room into the Wellbeing Center to give our colleagues the convenience of moving directly from a meeting with their trainer to a meeting with their team. Quite similar are the little greenhouse conference rooms between the restaurant area and the roof terrace. They are amongst the most frequently reserved conference rooms due to their proximity to a basic human essential; food.

Convenient, too is the fact that these rooms avoid the hassle of carrying your lunch across campus for a team lunch meeting.

#### DIFFERENTIATING SPACE AND ITS USAGE VISUALLY, ACOUSTICALLY, HAPTICALLY

Since each office floor is accessible from elevators, we designed the entrance areas like small lobbies which facilitate meeting with people and provide a sound buffer to the elevator lobby. In San José every office floor has transitions between the spaces to signal to the brain a change in atmosphere. From the office space to the break room the flooring changes from carpet to hard surfaces with playful overhead acoustical panels. In addition to plenty of natural light, there is a variety of seating suitable for gatherings and collaborative work.

#### DESIGN CAN SUPPORT THE WORKING SPIRIT AND EMPLOYEE PERFORMANCE

I believe, and I've seen, that when employees gain a sense of ownership over their office space through a creative contribution they also gain personal pride, feel more at home, and become a part of something bigger, which transcends into more positive work and work relationships.



# NATURAL INTELLIGENCE NEEDS SUPPORT

*In the future, we will be regarded as the natural intelligence alongside the artificial. In order to be able to celebrate this difference spatially, we should have a better understanding of how we humans actually learn.*

If we regard our (inter-)personal learning, problem-solving and actions as the central activities that people will undertake in the future, it will not be enough to adapt workplaces to fulfil ergonomic requirements. Instead, brain waves and hormones, as well as metabolic and sensory stimuli, play a role in our ability to learn. Despite all pandemics, our senses require physical closeness in order to fully comprehend their surroundings. We are more enjoyably inspired in a mixed group than when we are sitting alone at home, and we achieve better results after physical activity or a walk in the midst of nature. We know this by now. And before we knew it, we could feel it. However, in the past this awareness has seldom been implemented in the world of work.

## WE WORK IN PHYSICAL AND COGNITIVE NETWORKS. THE WORLD OF WORK SHOULD SUPPORT THESE CONNECTIONS

Psychology as well as behavioural and brain research confirm how strongly soft physiological and emotional factors influence our ability to think and act. Biologists have demonstrated that our bodies continuously communicate with the external world, and that this in turn influences our metabolism and hormonal balance—and thus our (work) condition, mood and emotions. So if we permanently locate ourselves in the here and now, that should be our argument for making the real environment more stimulating.

Neurologists have demonstrated how closely our memories connect learned content with learning environments. So why shouldn't we place more trust in the design of learning environments? We still tend to underestimate our finely tuned perception instead of operating it or employing it strategically for our learning purposes: when we are very attentive or have new experiences ("learn"), our senses react to many facets of our environment and our brains register these reactions.

This is even influenced by the colour of the light at the time we solve a task. If it has changed after a break due to the position of the sun, we need a little longer to get back into the task than if the colour of the light spectrum had stayed the same, because light colours control our perception of time. Knowing this puts the learning experience in our hands or the hands of those around us: should it make it easier for us to resume, or do we want to look at the task again in a different light, at a greater distance?

## THE WAY WE LEARN CAN ALSO BE SHAPED

Our lack of understanding of how to deal with space is particularly evident in hybrid collaboration, where we can be happy about the acquisition of new digital worlds because they can expand our spatial experience in terms of communication.

Instead, we reduce our spatial experience, go back in front of the monitors and believe that the device will overcome the distance. We adapt (ergonomically) to the device requirements and thus fail in our actual task: to design the interaction in a human-friendly way. We simply lack the knowledge, the experience and, above all, the didactic skills to use the potential of the diverse spatial forms for our purposes of learning and experience.

ADAPTED FROM:  
NWO study  
"The Human Factor  
@Work", p. 33

It's time to shift the focus from infrastructure to interaction. The cognitive neurologist Colin G. Ellard argues that buildings trigger efforts to adjust in us and points to our mirror neurons for capacity for empathy when we see joy or pain in a person's face. An appreciative room can thus also contribute to the feeling of being valued. And it shouldn't come as a surprise to us that our hearts don't open up in the typical combi office if our creation of spaces thus remains below our potential.

## IF YOU WANT TO USE SPACE AS A MANAGEMENT TOOL, YOU HAVE TO KEEP PEOPLE IN MIND

We know about the power of space, especially when it comes to buildings that want to impress and invite us. Even without a knowledge of art history, we understand what arcades, colonnades, galleries, atriums and broad staircases invite us to. We feel the sense of calm that is generated by a view of a wide landscape: our breathing gradually relaxes, the sense of oppressive heat disappears and the spirit feels refreshed. We are familiar with many of the approaches summarized on pages 10–25. Above all, the cultural codes are familiar metaphors for expanding interpersonal interaction as a noticeable user experience in the professional world of work. Wouldn't this be an ideal instrument to make learning culture tangible as corporate culture?

## LEARNING SPACES FOR CORPORATE CULTURE!

Our architectural surroundings are targeted at our cultural concepts, which, according to the brain researcher Hannah Monyer, support our capacity to remember things. As sensual beings, we inevitably communicate with spaces, feel their effect on us, adapt, or begin to act within them. We know enough examples of sustainable user experiences. Why are there so few inspiring ones in the world of work?

ADAPTED FROM:  
NWO study  
"Creative Learning  
Environments", p. 21

ADAPTED FROM:  
NWO study  
"The Human Factor  
@Work", p. 33

## KEY QUESTION

# HOW IMPORTANT ARE PEOPLE TO US?

*Structural change isn't a walk in the park. Especially not when rosy times are not in sight. But it is precisely then that viewpoints gain in importance.*

### THE DYSTOPIA:

Imagine mobile technology and the working-from-home trend are being used to outsource parts of the workforce to their homes or to cheap spaces. This could affect low-wage workers or dependent employees whose work is expected to be automated. The remaining office facilities would be reduced and then only be available to the more highly qualified and sought-after talented professionals via a booking system. In here, changing decorations show appreciation, but do not support the user's performance. The added value is only superficial.

### THE UTOPIA:

We have an opportunity to redefine the significance that work has for us as human beings. An awareness of what each individual can contribute and in what kind of environment this will succeed most fruitfully. Offices will regain their unique professional status by providing tangible evidence of the workforce's ability to learn and perform on site. Smart environments support human performance everywhere, but multi-sensory learning environments generate the kind of knowledge advantage that can only be experienced here.

# URBANITY AS A MODEL

*The bustling city with its diverse range of offers, public spaces and retreat niches is considered a template for more traffic in the office. Now the city is reinventing itself—and discovering the world of work for itself.*

For the place of work, the environment is just as important as the context for the work task. If it is contributing, it enhances the value proposition. If it is lacking, an enormous amount of additional effort is required to achieve the intended result.

An attractive environment was originally missing in the commercial areas of Silicon Valley. That’s why Google (in Mountain View) or Meta (at the time Facebook; in Menlo Park) themselves built restaurants, studios, music and rehearsal rooms, delis and bicycle repair shops, and sports and meditation facilities that otherwise make a cityscape diverse on their own sites. >>> The campus offers the target group the things that are locally missing for working, relaxing and socializing.

Although it was not required in cities, the total workspace concept was also retained in the middle of urban centres. Inspiration and communication should continue to take place within the company. In addition, the “microcosm of amenities” had long since become part of the Google brand.

## FOR THIS MICROCOSM, SPECIAL AREAS AND FACILITIES WORK LIKE EMPLOYER BRANDING

European cities are more mixed in their centres than American ones, and modern urban planning is now trying to achieve an even greater mix of office, residential, commercial and green areas within districts. This makes office locations more distinctive and causes office planners, tenants and developers to think about how their offers can cross-fertilize with the environment. Previous recipes—such as a row of shops on the ground floor and publicly accessible company restaurants—seem no longer sufficient to draw local residents into the building and employees into the surrounding areas. It would only work for Microsoft employees if the food was free (according to a tweet sent from a “Welcome back” event) and for the neighbourhood if the associated accommodation, child- and healthcare services not only increased the residents’ purchasing power but also offered participation or jobs. In Vienna, for example, seniors run their “Vollpension” (full board) café themselves. They serve home-baked goods and thus create a neighbourhood community in the first place. Neighbourhoods want to get involved. Local participation means inclusion.

## LIFE BELONGS TO THE OFFICE AND WORK TO THE CITY

Work is being redistributed in both areas. In cities, libraries, museums, science centres, laboratories, studios and workshops are opening up for interested individuals and people who want to work. Free WiFi turns lounge areas into work areas. After the coffee shops, co-working is now docking on everywhere. Hotels see this as an opportunity to monetise rooms even between bedtimes. At top locations, fashion shops are beginning to turn into bars or galleries in the evenings. >>> Using space efficiently by means of time-distributed slots. The Kunsthistorisches Museum in Vienna organizes theatre and nude drawing courses in its state rooms on special evenings. >>> The more imposing the room, the greater the impression and radiant effect. The Rijksmuseum in Amsterdam lets visitors watch in the middle of the main hall as restorers digitally analyse the paint layers of Rembrandt’s “Night Watch”. >>> Work arouses public interest.

ADAPTED FROM:  
NWO baseline study,  
p. 33

Closeness to nature, parks and walking paths have been created as a “Walk Through Neighbourhood” between the new Google buildings in Mountain View. The new buildings blend into the landscape like hills with roof segments curved towards the sun. There is as much flexibility as possible: from the solar-panel-covered roofs to the cubicle-like room layouts inside the hubs.

Google new buildings, North Bayshore, by BIG and Thomas Heatherwick Studio

*Cities have always been sources of inspiration and drivers of development. The city’s diversity and changeability generates the vibrancy that gets people moving.*

*Hybrid spaces that are good for working are emerging in the midst of where we live. Meeting places that also offer products for consumption are expanding to encompass not only cafés but also cultural sites, natural landscapes and passenger compartments.*

*Working by means of voice control, and soon the superimposition of augmented reality, will make us even more busy in choosing how and where to work.*

Using digital creation and 3D printing, retail customers complete the manufacturer’s work. In the Adidas flagship store, you can customize your shoes and have sweaters knitted. >>> The trade gets people involved via creation and production. Prosumers are offered “short-term jobs” for a fee to try something new; to acquire not only products but also knowledge. The close interaction creates a lasting brand experience and must therefore be positive. >>> After the user has obtained a few skills, the application leads the user directly to the result. When, please, can we experience such successes in the office? Even if the learning curve would have to increase further during use, we should learn more didactically from the retail experiences in order to transform offices into learning worlds.

## TRANSFERRING MORE FROM THE LIVING WORLD INTO THE WORKING WORLD

So if more and more workable hybrids are emerging in our living environment, we should bring some of the enthusiasm to the office space as well. Facebook invites artists to creative workshops, Google has local chefs preparing Friday meals, and at Autodesk artists in residence teach software developers how to push the limits of their programs. Sometimes it has more leisure or team building value, sometimes it advances work in concrete terms—but in all cases the new experience is enriching.

Home life is also moving closer to the office. Boarding houses and hotel co-ops are expanding in order to keep distant employees in the office for days at a time. In line with this, micro-apartments and shared flats are currently changing the cubage in the housing market: small units for retreat and privacy connect to large communal areas for cooking, socializing and working. That’s not unlike the new office. Are we building the same thing, just setting it up differently? In any case, the worlds of work and the home are getting closer to their networked users—and to each other.

*In every experience there is personal learning that retailers know how to convey in a more entertaining way than the office.*

## HYPOTHESIS

# THE OFFICE AS A MICROCOSM

*The office floor, like the city, could separate different noisy and busy zones from restful and private areas.*

**LIVELINESS** could be signalled by a kind of marketplace at the entrance: a coffee bar and seating on steps or platforms create fluid spaces for welcome, informal gatherings, presentations or team celebrations.

**TRANSITIONS** create acoustically separate zones—workshops and team rooms—between which booths of different sizes are created. They can be used for workstations, video conferencing or relaxation areas, getting more and more quiet towards the end.





## IDEAL WORKING ENVIRONMENTS: THE PRODUCTIVE URBAN CAMPUS

*Companies and creatives, incubators and research, trade and crafts—  
they all have to network in a customer-centric way.  
This cross-fertilization requires a common space as a playing field.*

A similar idea is that of the work community hub from spaces4future. This idea is meant to revive the Horten department store in Braunschweig, for example. In addition to office, catering and commercial areas, networking and multifunctional spaces for events and larger gatherings are also planned. It also contains service centres for citizens and entrepreneurs for everything to do with work, health and business development.

spaces4future.de

Imagine a transformation of the office into open creative laboratories, where cultural workers contribute to the development of solutions, abstract concepts are transformed into vivid prototypes and the makerspaces also address the commercial environment. It may have the size of an urban campus or former shopping centre, where branches and start-ups benefit from the inner-city customer proximity and place it at the beginning of their value chain. Like a science centre, it addresses a special interest clientele from B2B as well as B2C. To encourage professionals to exchange and visitors to participate, it offers learning experiences on different levels.

Curated exhibitions could be reminiscent of a cultural centre whose exhibits can be consumed like in a concept store or are evaluated as prototypes like in a test laboratory. Interfaces measure customer involvement and connect potential influencers with local producers. Workshops on terraces intensify the exchange with the target group or the tenants learning from each other on site.

Their offices along the window façade could be extended in depth via movable panes to the experimental areas at the edge of the atrium or acoustically separated from them. The media rooms, studios or makerspaces that are visible from the atrium could thus be taken over to a variable extent, along with their furnishings, by the offices. Alternatively, they could be used for neighbourly cooperation or offered to other tenants via a booking system. Work itself—from conception to testing—fills the space.



A lively campus in the middle of a city and as an extension to it. Various types of spatially curated get-togethers divide the building into experience areas.

Design by Ole Scheeren Architects. One of the three first prize winners, but not the realized competition design for the Axel Springer Campus in Berlin.

Rendering: OS Architects

The “Neue Höfe” by Sabine Sauber and Michael Schmutzer have a different co-working concept than their “Design Offices” of the inner-cities.

“Neue Höfe” is conceived as an ecosystem for a new rural culture.

In 2014, Sauber and Schmutzer converted an old inn with a sheepfold in Neuuhof an der Zenn, Bavaria, for offsite meetings.

In the spring of 2022, they gained their first tenant, Datev, who is offering its employees a “third place of work” there.

The “rural pull” is also promoting the village’s development. Two more historic houses are being renovated, and a connection to handicrafts is also being sought at the “Macherhof” (makerspace).

Photography: NEUE HÖFE, Daniel Zenker

## IDEAL LIVING ENVIRONMENTS: THE COMMUNAL RURAL OFFICE

*For your own work-life balance, affordable living space and self-chosen work colleagues, rural co-working offers idyllic working conditions for a philosophy of life.*

Transferring the place of work into one’s own (dream) living space means having one’s workplace near where one lives, but not working alone at home. Maybe in a former shop? Co-working with people one knows from the local community. Perhaps even with friends—while communication with work colleagues can be turned on and off. However, career consultants warn people against relocating their offices to the private sphere. But maybe the office can also move?

Datev employees can try out the rural co-working site “Neue Höfe” for six months. A converted inn and a former sheepfold in an idyllic Bavarian setting are declared to be “third places of work”. The stay is structured by breaks for eating, playing, making music, exercising or relaxing in relation to the exterior. It’s about recharging one’s batteries, closeness to nature, meaningfulness, inclusion and sustainability. The guests keep the baker, butcher and some service staff on site. At the local makerspace, you will soon even be able to be productive yourself by doing local handicrafts.

And in some Italian mountain villages remote workers can live much more cheaply if they stay on site for a while and contribute to the revitalization of village life. Regions that used to be the boondocks are connecting to the modern world. The manageable size of the local area encourages people to participate. You live with the seasons, conduct business in a resource-conserving manner, master crises resiliently and recognize in your day-to-day work what you have achieved together.

Several Italian villages offer telecommuters discounted lodging if they stay on site longer, consume local offerings and/or help with farming. Houses are especially being renovated in villages that are affected by emigration. These homes are getting WiFi to make them ready for work tourists. The Borgo Office platform provides accommodation at agritourism locations throughout Italy.

<https://borgo-office.it/>





# METHODOLOGY & IMPRINT

*This fifth NEW WORK ORDER dossier was compiled by trend expert Birgit Gebhardt on behalf of the Interior Business Association (IBA) as part of the preparations for ORGATEC, the leading international trade fair for modern working worlds.*

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**PHOTOGRAPHY CREDITS**  
P. 8, p. 21 – Mattilanniemi Campus for University of Jyväskylä; competition renderings: courtesy of MVRDV  
P. 12 – "Outsourcing Offshore", film by Nicholas Masterton, screenshot with a subsequently added headline  
P. 17 – OTTO matrices from the FutureWork team at OTTO; adapted to the NWO layout  
P. 20 – pictograms by Rosan Bosch Studio (partly based on templates by David D. Thornburg)  
P. 25 – Axel Buether, photography: Martin Jepp  
P. 32 – Axel Springer Campus, rendering by Ole Scheeren Architects for a competition, 2014  
S. 33 – NEUE HÖFE, photography: Daniel Zenker



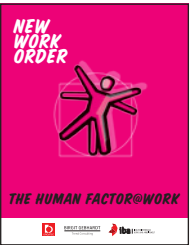
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