OFFICE OF THE FUTURE

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Introduction

This document outlines exciting predictions for the way that we could be working in 2030. With the assistance of fifteen experts, Plusnet has created an image of what might just be the office of the future.

Whilst some technology is being developed presently, others still seem a distant possibility. Take a look at the office of the future, and read our interviews with experts in the field, to uncover what 2030 may be like.

"The Office of the Future shows just how innovative and fast-moving technology has, and can, become and just how much of an influence it has in our daily lives.

"Whilst some of the technology is a long way off and outlandish in some respects, it is fascinating to hear and see just what the mix of experts suggest how workplace environments change.

"Areas such as nanotechnology and artificial intelligence are areas that are incredibly exciting and frightening in equal measure, whilst the notion of 'biophilia' will also become more important as companies seek to go greener and more energy efficient." – [Plusnet](#) CEO, Andy Baker

The Office of the Future

Here are the main features that our 2030 office is likely to include:

Car park and entrance:
- Driverless cars
- Automated car stacking car park
- Biometric register - thumb-print scanners on all entrances to replace paper-based registers
- Artificial intelligence assistants - hologram receptionists to meet and greet visitors

Office space:
- Fully ergonomic chairs - using biofeedback technology they will know which position will be most comfortable and will automatically adjust
- Foldable computers - there is speculation that graphene will lead to super thin computers
- Full cloud integration - everything will operate through the cloud
- Fully customisable desks
- 3D printers - allowing workers to print pens and replacement PC parts
- Open space and collaboration room - a place where people can meet to throw ideas around

Meeting rooms:
- Hologram projections
- Universal translators
- Universal monitors - a table surface in meeting rooms will be electronic

Kitchen:
- 3D food printers
- Health tracking trays
- Biometric rotating fridge - on touching the handle, the fridge detects who you are and a carousel rotates to show you only your food
- Drone tea trays - you program the robotic tray and it goes to the kitchen, makes your drinks, and brings them back

Bathroom
- Composting toilets - reducing water demand
- Diagnostic toilets that analyse your health
- Smart hand dryers – detecting cleanliness

Chill space:
- Changeable walls - wall surface that can change colour
- Slides - based on Google's penchant for slides in offices, this will be more widespread in the future as the morale benefits are noticed
- Auto-inflate bean bags - personal pocket-sized beanbags that inflate when they're thrown towards the ground
- Nap space
- Virtual reality gaming machines - headsets where employees can plug in and zone out
- Wellbeing room - meditation, chiropractors and counsellors available

General office features:
- Wireless power: no need for plugs.
- Energy saving daylight bulbs
- Climate control: simulates outside weather, complete with slight breeze, when ambient temperature.
- Roof garden
- Nanopaints allowing the walls to be used as screens on demand
- Allergies to fur may be cured so office pets could be (or robotic pets)

SIEMENS

Dieter Hoertreiter, [Siemens Real Estate](#) Head of Region EMEA

What is the vision for Siemens offices around the world?

The goal of the NewWow project was to create trendsetting work environments in close cooperation with the Siemens business units, to create long-term conditions worldwide that allow for both concentrated individual working and intensive collaboration in teams in an innovative, integrated office concept, without losing sight of cultural differences.

New working environments, however, are not just an end in themselves. They pave the way for a leadership culture shaped by trust, for sharing across departmental boundaries and for work-life integration. Supporting employees who are increasingly social, mobile and collaborative requires sufficient preparation, the full support of executive management and willingness to support choices about where to work.

Have Siemens found that better technology has improved workplace efficiency?

The conversion into an open-office landscape, fitted with Siemens furnishings and the most up-to-date technological elements has greatly improved workplace efficiency. Powerful IT is a prerequisite for mobile working and non-territorial office concepts. With state-of-the-art communication and collaboration platforms, Siemens ensures that clients, partners and employees reach people rather than machines and enables our employees to be online anywhere at any time.

Does better technology improve workplace confidence?

Siemens believes in supporting its employees in their daily life. To promote high employee satisfaction and motivation, Siemens supports employees with health and wellbeing measures and ergonomic office equipment. Siemens offices that have implemented the New Way of Working provide employees with optimal workstations and exposure to natural light. A good spectrum of work-life integration measures helps employees achieve work-life balance and promotes a sustainable corporate culture.

What is Siemens' view on being innovative in the office?

Many facilities globally have on-site employee restaurants, child care facilities, banks, fitness centres, recreation areas, shopping options and other services available.

How does Siemens see the office environment changing over the next 10-15 years?

In the long term, we want to lay the foundation for allowing both concentrated individual working and intensive collaboration in teams in an innovative, integrated office concept without losing sight of cultural differences.

How do Siemens offices vary on a regional basis?

There is no one-size-fits-all approach to our sites globally. There are definitely differences, so that we do adapt to local customs and the location and size of each site. Some sites do not allow for a full conversion to a NewWow configuration because of the types of work being done, but some sites will be more advanced technologically, such as a manufacturing or an R&D site. A region-specific implementation is vital.

What works best in one country can even be prohibited in another. In Dubai, for example, implementing the concept consistently was challenging in light of local labour laws. In Moscow, one challenge to cope with was the climate. Therefore an appropriate wardrobe and locker system was necessary for storing the employees' winter clothing.

What technology does Siemens believe will be the next big thing to be introduced into their offices?

We believe that the technology to be introduced includes:
- The ability to work only with mobile devices
- A generally paperless environment
- A sensor driven building management to optimize HVAC and lighting and thus reduce energy consumption and carbon footprint

If any technology was realistic and achievable, what would Siemens want most to improve their offices?

- Any additional technology to improve the office environment overall
- The next generation office environment will have better solutions to noise reduction
- Display technology will also deliver cutting edge solutions especially in creating virtual 3D situations

NETFL⦿⦿R USA

Ryan Hulland, Director of Business Development at Netfloor USA

We have seen a trend of moving employees back into a central office to help foster collaboration and to create 'chance encounters'. Many large tech firms embrace this concept, from Google to Apple to Yahoo!

Despite the proliferation of wireless technology, offices and tech centers are more 'wired' than ever. Organizations need flexible methods of providing power and data connection points at any location in the office, whether it's a cubicle, conference room or a 'quick huddle room'.

You won't find much wireless technology at a government facility, and most high tech start-ups have major power and data requirements that can't be met wirelessly. They need the reliability and security of a wired connection, but need to keep the office layout flexible as their organization changes. We see this trend gaining momentum in the future.

The trend of an 'open air office' seems to have been curbed recently. While a good idea in theory, productivity often suffers with dozens of voices echoing off the reclaimed wood flooring and authentic metal roof.

Many organizations are giving employees their 'personal space' back, but are keeping the common areas that can lead to collaboration: the conference rooms, quick huddle rooms, and the water cooler spot. The challenge is keeping employees creative, productive and connected in such a dynamic office environment.

Scott Lesizza, Founding Principal of [Workwell Partners](#)

Office Space
I would guess that in 10 years what is currently in the office, will look much more like what is outside the office. We are already starting to see this with 'Biophilia', the idea that humans have a natural instinct to want to be closer to nature. By increasing natural sunlight (perhaps through greenhouse type spaces, and bringing plants, trees and flowers into the workplace), we are replicating what is naturally a less stressful environment, and a more productive one. I think we will see offices dedicate a significant amount of their space to outdoor amenity areas, whether it be through rooftops, or street level work.

Meeting Rooms
I see entire floors dedicated to private meeting rooms. It is perhaps the number one issue that we see in offices today. Because of the open plan, there is a much higher premium on private spaces, and there is more demand than supply. Offsite conferencing centers and dedicated conferencing floors will be the norm.

Kitchen Areas
What were at one time thought of as luxuries will in the future be thought of as absolute necessities when it comes to attracting top talent. There will be exotic menus, outdoor eating areas, and a lot of standing-only cafeterias. Standing at communal tables during lunch has the effect of encouraging interaction of people within an organization that would not ordinarily do so. It also has the added benefit of encouraging people to stand more, and not get too comfy in the lunch room. The trade-off is great food, better conversation, but quick 20-30 minute lunch breaks.

Leisure Areas
We will see multipurpose 'chill' areas whose purpose during the work day is to have informal meetings that don't require closed-door privacy, and whose purpose during happy hour is to give employees a break area to de-stress.

General whole office
The work from home idea, while nice in theory, won't work for most organizations. What ultimately keeps good people working at an organization is a place that they can go to share ideas, to be a part of something larger than themselves, and to be amongst other like-minded and ambitious people. You can't do this by checking into a space once a week.

Organizations will continue to compete for the brightest minds by creating spaces that make people excited to come to work. I envision a communal workplace, more like a college campus, where colleagues work hard, in workspaces without traditional confines, and within an atmosphere that is much less confined and separated from nature than it is currently.

Owen King, Workplace Consultant at **Unwork**

Technology is poised to reinvent our understanding of what constitutes a workplace in the near future.

First, waves of jobs will be rendered obsolete, as technologies that can replicate the work of a person come into the fold. These technologies will not only take the form of robots and machines used in manufacturing, but also intelligent software capable of performing tasks that are usually associated with knowledge economy professions. Managers, accountants and journalists will find themselves competing with software that can work faster, smarter and at a fraction of the cost.

Second, for those of us who aren't replaced by a computer program, technology will play a far more critical role in our working lives. Virtual reality, ubiquitous computing and artificial intelligence will all be integrated into our everyday activities, as we digitally beam into meetings in Shanghai and receive calendar invites from our virtual personal assistants. Wearable technologies will end the cycle of constant interruptions from emails, calls and colleagues. Monitoring our levels of concentration, these devices will wait for us to get into the flow of a task before filtering out all but the most important communications.

Third, the geography of the workplace will be disrupted. No longer constrained by the talent they can source locally, businesses will be able to access a near endless supply of connected workers and freelancers who can work from anywhere. With our connected devices, we will be able to work on projects in New York, London and Tokyo, all from our kitchen tables.

Mona Kovacheva, Business Development and Social Media Manager at eOffice

To envision the office of the future you don't need to tap into space-age utopia or out-of-this-world architecture. If you ask architects about tomorrow's office the conversation mostly revolves around touch points such as collaboration, communications and integration.

Effectively-designed spaces and use of resources would play an integral role in response to employees' needs and specific company culture. The relics of the isolating cubicles have paved the importance of cultivating workplace community and giving people connections to one another. Open space, experts say, nurtures open minds and access to ideas, which is one of the vital aspects of the office of the future. The office will become a collaboration room that will foster productivity and well-being.

With everything weaned on mobile technology, flexibility too becomes an essential feature complying with the way people work and use the office space. Rather than a dedicated desk, people would just need a touch-down station to plug in to. This would be in the form of a standing or adjustable desk, offering full mobility and flexibility of work.

Following that trend, the next stage of the office evolution will be the "chairless" workplace – complying with the anti-sitting agenda of medical researchers continuously stressing the negative effects of sitting down for many hours.

Technology would also evolve to offer more sustainable solutions like desk stations with individually-controlled light and temperature settings. Interactive screens, virtual reality and 3D printing will be the basic technological fit-outs in every office, while artificial intelligence would steadily take over the office, creating the phenomenon of the "peopleless" office.

Christopher Barnatt, Associate Professor of Computing & Future Studies at Nottingham University Business School and Futurist

I think that in the future, work will be increasingly detached from any one particular technology or computing device. Almost all files and applications will be accessed from the cloud, and multi-screen computing will become far more common. This will increasingly involve people using two or more computers at once, such as a desktop PC and a tablet.

Early adopters are already picking up messages on smart watches before they read them on their phones, tablets or PCs, and ten years out we may have screens integrated into clothing, or projected onto our retinas from AR contact lenses. Nanopaints may allow entire walls, ceilings and even rooms to function as displays, while roll-out or foldable screens are a real possibility in a decade's time.

Already video conferencing and cloud collaboration tools enable highly effective remote working, and both of these areas of technology are likely to improve. Increasingly an office space will be anywhere a high-speed broadband connection is available. Holding meetings in virtual reality, offices that people "visit" by donning a stereo headset, is a distinct possibility five years from now. Alternatively, workers may remotely attend physical meetings by inhabiting a telepresence robot. Such robots are already being created, and feature a video conferencing camera and screen mounted on a mobile pedestal that their virtual inhabitants can steer the Internet. This means that if colleagues in the physical meeting break for a coffee, their telepresent colleagues can go with them down the corridor!

[David Zach](), Futurist

3D Printing might just change everything. What it does do rather well is throw out a lot of the rules of not just how things are constructed, but also where they'll be constructed. As 3D Printing gets more sophisticated (and it's going to be come vastly more sophisticated over the next ten years) then it can become a replacement for distant factories.

Nanotech may toss all of that on its head. That's a bit farther out than 3D Printing, but in many ways vastly more interesting.

I think Big Data is quite interesting. It should excite you by making the world more predictable and should scare the hell out of you because it'll make all of us more predictable. We like the idea of making the world more predictable by coordinating people, things and ideas. If we know where they are and where they're going, there's a treasure trove of possibilities that open up.

The notion of gathering health information is going to go in many directions and will also land in the loo. The notion of diagnostic toilets is something that the likes of Toto have looked into. (They designed one, but then sold that division. I've lost the trail since then.) This freaks out people in my audiences. They like their privacy, regardless of the fact that privacy in practical terms has pretty much disappeared. When such a notion is raised with the Millennials, they're not even sure why you wanted it in the first place. If you have a diagnostic toilet, and it does its diagnostic magic - who will own that diagnostic information?

The question about how communication may change is an interesting one. I think it has and it will continue to change. Automation, which is what all of our applications and apps cause, relieves us of having to do some things, causes us to do other things, perhaps at a higher level if we're responding the right way, or at a lower level if we're just cheap and looking for the lowest common denominator.

We can use advances in technology to do one of two things: Get to a cheaper, faster bottom line or to get to a better and farther horizon. The cheaper, faster bottom line is the easier thing to do, especially if the people running things are obsessed with measurable parameters. To reach a better, farther horizon takes some rather complex thinking. The sort of thing that is not found in accounting, but in literature, or even philosophy and even theology.

So if we have Big Data and it takes care of all the usual tasks (and even the usual suspects) then there will be far less to talk about in the work setting and automation will run rampant through the workplace. As Peter Drucker has said, "If you can measure it, you can manage it." Just so. But if you can't measure it, you might still need to manage it or find ways of dealing with it. That may be an interesting clue about the future of the workplace.

[Sofie Sandell](https://www.sofiesandell.com), Social Media Speaker and Author

Our understanding of time will change in the future and we are going to be less dependent on time and clocks. Some organisations are already flexible with where you can work and the time you are working. This is going to spread and more organisations will adopt to this.

All repetitive tasks will be automated and there will be less jobs that are outsourced. More organisations want to keep the knowledge within the business.

One of the best things with the office in the future is that we will not have any allergies against animals and there will be dogs and cats around in the office. I hope there will be a cure in the future. It would make life better for many people.

At the moment we are not using the social media networks that well for collaboration. Social media networks will have new functions that encourage collaboration. More platforms with functions like DemocracyOS will be around. (DemocracyOS is an open-source platform for voting and political debate that political parties and governments can download, install and repurpose much like WordPress blogging software).

We are going to use 3D holograms in more meetings and phone conversations. It's better in the way that you can see more of the person's body language.

Today's biggest problem in society is that people are getting burned out and depressed. In Sweden this is the most common reason for taking time off from work. Companies can reduce people getting burned out or depressed through noise reduction and art and creativity.

Peter Cochrane, Futurist and Co-founder of [Cochrane Associates](#)

The notion of an office being a place you go to work and be with people will change. You might be wearing your office or visiting through visualisation and experiential, sensory technologies. Some will find that their boss is no longer human, but a machine embodying decades of experience and wisdom.

Workforces are going to be more mobile, agile, multitalented and transient. We can expect to see companies employing fewer full-time staff and more contractors and 'one-off fixers'. Also - many workers will never visit company premises, as they will be remote workers in and out of country. With new AI tools and anthropomorphic robots, the office will be a different kind of workplace. In addition, we might also expect to see the appearance of 3D and 4D printers for metals, plastics, ceramics and biological materials. In short; the walls are really going to come down!

The biggest challenge for people will be to stay relevant and employable - education and training will be acquired and the ability to solve problems will trump pure academic attainment. The notion of an educational degree is already being challenged and it could disappear as we know it - replaced by MOOCs and similar courses.

Neil Shah, Founder of the Stress Management Society

The office of the future will have a lot more focus on a company's culture and values. They will be designed to inspire and promote wellbeing.

The office environment will be designed around employees' needs to encourage efficiency, productivity, flexibility and creativity. Also, this is how company culture transpires.

There is no one-size-fits-all and I believe that organisations will find the best solution that reflects their unique culture. With formalities and corporate hierarchies relaxing, organisations will adopt open-plan offices, green spaces and communal multipurpose spaces designed to stimulate conversation, cooperation and inspiration.

With technology advancing, the future employee will be able to incorporate fitness and health monitoring into their working day and not just during breaks. We are already seeing a rise in the use of sit- stand desks, ergonomic chairs, office green spaces, standing meetings and wellbeing days which include massages, health and fitness workshops.

Glen Hiemstra, Futurist, Founder and CEO of Futurist.com

Within office spaces we can make the following assumptions pretty safely:

1. Fewer people will be in the office at a given time, as they work remotely.

2. In the office, people will continue to work in more flexible spaces - the proportion of space given to individual work stations will diminish in favour of a larger proportion given to informal meeting spaces. The idea is that in the future people will come to the office to get together rather than to simply do the routine work of wiggling their fingers on keyboards.

3. As we proceed through the next 15 years, two technology advances will impact office work the most:

- 3D, holographic, augmented reality, and other "immersive" technologies will enable fully interactive remote communication. So, over time, some face-to-face will be replaced with this, or these interactions will be added to our more traditional communication. We are still in the early days of big flat screens in every room.
- Augmented reality available on various devices. As the tech develops and worker generations change (millennial generation and generation edge take over), we'll see an uptick in this kind of interaction.

More impactful may be Watson (IBM) style AI to augment business decisions. Office work will involve a great deal more consulting with artificial intelligence to assist with decisions than what we've seen up to now, and rather than AI being the province of the most specialized IT people, everyday work will be engaged with AI decision assistance.

4. We'll see continued adoption of various ergonomic and health-related furniture and office set-ups in a more health conscious world, including flexible and standing desks and equipment that encourages less static postures and days.

The most radical future office forecast is that offices will have no furniture at all - simply flexible nanotech that can be formed into whatever you need at the moment - something to sit on, a desk, a conference table. This is often called "utility fog." To get there requires, literally, the technological singularity that a few expect by 2030, wherein technology becomes infinitely smarter and molecular manipulation is possible.

The reality is that office 2030 will look mostly like today, just as the office today looks mostly like 2000 - only with flat screens. The bottom line is that we tend to overestimate the rate of change for many things.

Jacob Morgan, Futurist and Keynote Speaker

I think the office of the future will be different in a few ways.

1. Employees will be given more choice for how, when, and where they work. They will be able to choose the type of office setting they want (i.e. open space or private space), the technologies they use, the hours they work, and locations they work from. We already see this in some companies but it is by no means standard.

2. Self-driving cars will definitely be on the roads by this point which means car parks will have to be modified to accommodate them.

3. Office space such as kitchens, meeting rooms, and supply areas will also be outfitted with sensors to automatically re-order new products when needed.

4. Our office systems will know everything about how we work, when and where we are most productive, who should be in certain meetings, etc. You can expect much improvement in efficiency and productivity.

5. Smart assistants (AI) will be common in the workplace which will help us with remedial tasks such as finding people and information, thus making it easier for us to focus on the core things we need to get our jobs done.

[William Higham](#), Author and Futurist

With the rise of smart phones and tablets, individuals have enormous computer power. The more their personal technology empowers them, the more autonomous employees will want to be at work. We will see a growth in project-based teams and a decline in traditional, rigid hierarchies.

This will have a huge impact on office layout. There'll be fewer departments and more environments: you won't go to, say, the marketing department, you'll go to the workshopping, stimulus or quiet area depending on your needs. The more we're able to customise our personal tech with photos and lock-screens, the less we'll worry about having a dedicated desk space and the more we'll embrace the freedom of hot-desking.

The more we discover about concentration, efficiency and creativity, the more we realise how important employees' physical and mental health is. And with almost £30 billion lost to illness each year, British employers are likely to embrace the idea. As a result, the office of the future will start to include gyms, meditation rooms, crèches, doctors, chiropractors, even counsellors.

And, as stress concerns grow, employees will want to work in a way that best suits their personal social situation and their body clock, whether that's 9-5 or 5-9. In the past, this would have been a problem but, with business increasingly globalised and consumers expecting to be able to interact with brands at all hours of the day and night, it actually suits tomorrow's commerce much better.

[Ray Hammond](#), Futurologist

The office of the future will not have the desks, chairs, cubicles, water-coolers and the wide open space of today's offices, simply because work as we know it today will have become dispersed and semi-automated.

Virtual, agile working will be the normal way of working by 2030 and concepts such as "office hours", "the working week", and "place of work" will be outdated. People will work when they choose, from where they choose. The facilitator of this change will be high speed, super-broadband which is always-on, always-connected and universal in coverage (via various delivery methods).

Office workers will still meet regularly, but the "offices" of tomorrow will be more like clubs in which teams can discuss progress, share ideas and develop strategies. Office workers of 2030 will still feel the need to meet colleagues, but this will occur less often than in today's offices and in more informal settings.

Dr Graeme Mackenzie, Director of **Adlens**

I believe that screens will dominate the office environment in one form or another. Screens will get smarter: detecting the amount of ambient light and adjusting to provide a pleasing balance of light, monitoring user's viewing patterns and adjusting accordingly will become the norm. I personally believe that visual overlays similar to those hinted at by the likes of Google Glass will make a resurgence in the near future - but in a radically altered guise.

Our visual systems operate best when they are exposed to natural-light. If there's no way to get natural light into the office, use lighting that has an emission spectrum similar to that emitted by the sun. For offices in which workers rely heavily on screens try to find ways of providing eyewear that can absorb the so-called 'blue-light' emitted from screens. Health and wellbeing of workers should be a priority in the workplace of the future without a doubt.

Technology that enables companies and staff to understand when they need to rest their eyes already exists. Some motor vehicles have cameras that study a person's blinking and eye movement behaviour to determine if they are getting drowsy while driving. This same technology can be used for office workers, not just to check when they're they are not blinking enough, or when they've been focusing at one distance for too long. There's no need for specialist equipment either, the cameras that come with most computers will suffice. On-screen warnings could let workers know that it's time for a break.

Images