The future of enterprises SMB edition

The digitalization and dematerialization path for small and medium-sized businesses

Figure 1: Coverage map

Contents

Acronyms used throughout
this report
AI   Artificial intelligence
AR   Augmented reality
EV   Electric vehicle
GDP   Gross domestic product
ICT   Information and
      communications technology
IoT   Internet of Things
SMB   Small and medium-sized
      business (more than 5 but
      less than 250 employees)
VR   Virtual reality
XR   Extended reality

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The SMB of the future

Imagine walking through the doors of a typical small and medium-sized business (SMB) in the year 2030. Perhaps there is no door at all, since you have just entered into a virtual workspace! You quickly realize many work tasks performed by white-collar employees are aided or automated using artificial intelligence (AI) and data mining. Employees mostly work from home or from locations closer to home, so company premises are smaller and fewer, if they exist at all. Many SMBs have transformed into agile companies with global customers and workforces. Many are also showing significant CO_2 reductions driven by increased renewable energy usage, reduced commuting and traveling, increased digitalization and dematerialization efforts, such as moving data and applications to the cloud or switching from producing and selling physical products to digital products and services.

These predictions are based on insights from our IndustryLab research, which examines the future of SMBs, white-collar work and the role of ICT in the next 10 years.

This research was conducted during the COVID-19 pandemic. The report reflects on its lasting effects and the future impact on white-collar work.

Methodology

This SMB edition is based on a sub-set of the data from the Future of Enterprises report.[1] Only white-collar employees and ICT decision-makers in SMBs (more than 5 but less than 250 employees) have been included in this edition. The quantitative data was collected from 11 markets, through 2,047 online interviews held with respondents aged 18 and older, in Australia, Brazil, China, India, the Kingdom of Saudi Arabia, Singapore, Sweden, Thailand, the UAE, the UK and the US.

Of these respondents, 766 were white-collar information and communications technology (ICT) decision-makers from SMBs. The remaining 1,281 respondents were white-collar employees, also in companies of the same size.

We believe the early adopter profile of many of these respondents makes them important when it comes to exploring the changing nature of white-collar work in SMBs 10 years from now. All industry branches, except for telecommunications, non-governmental and not-for-profit organizations, were included in the scope of this study. The online survey was conducted during September 2020.

Qualitative insights were gathered through telepresence interviews with 10 subject matter experts and academic researchers in the US and the EU, as well as with 8 ICT decision-makers in businesses with 5 or more employees in the US. The interviews were conducted between June and November 2020.

About Consumer & IndustryLab

Ericsson Consumer & IndustryLab explore the future of technology for consumers, enterprises and a sustainable society. We deliver world-class market research, actionable insights, and design concepts to drive innovation and sustainable business development. We provide a scientific fact-based analysis regarding environmental, social and economic impacts and opportunities of ICT.

Our knowledge is gained from global consumer, enterprise and sustainability research programs, including collaborations with leading customers, industry partners, universities and research institutions. Our research programs cover in-depth studies and over 100,000 interviews with consumers, working people and decision-makers each year, in 30 countries — statistically representing the views of 1.1 billion people.
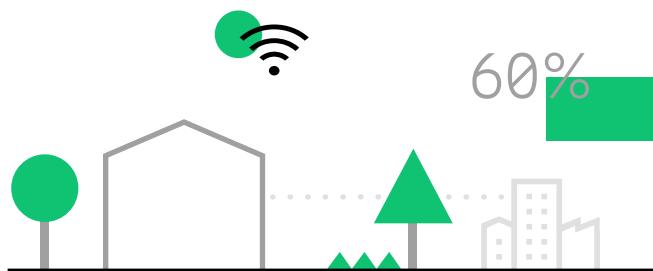
[1] www.ericsson.com/en/reports-and-papers/industrylab/reports/future-of-enterprises-dematerialization-path-to-profitability-and-sustainability

Key findings

01

Digitalization and dematerialization are key steps towards higher profitability and improved sustainability for SMBs

Today, almost 7 in 10 of the surveyed SMBs have already reached halfway or beyond in their dematerialization-through-digitalization journey, being able to create more using fewer resources. Productivity and profitability are named among the key benefits by more than 4 in 10 SMB decision-makers, and more than one-third say the same for sustainability.

02

By 2030, close to 60 percent of SMB white-collar work is expected to happen outside company premises

With less work taking place at company premises, SMBs must be able to provide their employees with full access to processes and tools regardless of the device they use or whether they are at home or out and about. A decrease in both commuting and CO2 emissions will likely be a result of this shift, as seen during the COVID-19 pandemic.

03

In the next decade, SMB usage of 5G is expected to grow by more than 50 percent, and extended reality (XR) usage to more than double

More than 5 in 10 SMBs expect to use 5G devices, and almost as many will use augmented reality (AR) and virtual reality (VR) devices, by 2030. Increased mobile immersive video technology usage regardless of location is expected to further drive the need for secure, high-speed, low-latency cellular connectivity.

04

The gig economy comes to the office

Amongst SMB white-collar decision-makers, more than 5 in 10 believe the share of temporary employment will increase significantly within their companies by 2030, in a shift from mainly being a blue-collar phenomenon. However, this evolution is not without its challenges, as 39 percent of SMB white-collar employees fear it could make life more difficult.

05

Despite worldwide trade conflicts, SMBs continue to grow internationally

While roughly half of all SMB decision-makers agree that trade conflicts and pandemics will continue to be barriers to international trade, more than 6 in 10 SMBs expect to have a significant international customer base by 2030, and almost 6 in 10 agree that the ability to hire employees globally will be key by 2030.

06

Almost three in four SMBs expect their electricity to come from renewable sources by 2030

The switch to renewable energy is a key component in the journey towards a net-zero business. Seventy-seven percent of SMB decision-makers expect to make significant energy savings through the move towards cloud solutions.

The COVID-19 pandemic and its impact on SMBs

The ongoing pandemic has forced many SMBs to quickly change their business models, strategies and operations in order to stay in business.

The COVID-19 pandemic disrupted the world and the short-term consequences have been severe, impacting people's health and lives. Millions of people have also been subjected to short-term lay-offs or lost their jobs completely, while others have had to rapidly adjust to working from home as offices closed. The immediate impact on white-collar work, not least among those working in SMBs, was significant. While many businesses with experience of remote working prior to the pandemic quickly managed to enable their employees to work from home, others struggled to make the same journey in a timely fashion. Nevertheless, more than 6 in 10 SMB employees say their businesses have become more positive about remote working during the pandemic and, furthermore, they believe these habits are here to stay.

The pandemic has become a digital tipping point for SMBs, dramatically changing the path for any SMB that wants to be successful going forward. Research from McKinsey showed an unprecedented rate of adoption of digital technology, achieving 10 years' worth of e-commerce adoption in three months during the pandemic.[2] Remote work may be the new normal, but SMBs need to create adaptable infrastructure to help them prepare for the "next normal". Digitalization can enable SMBs to "create more with less", such as focusing less on selling physical products and more on offering digital products and services — that is, becoming more dematerialized using technologies such as 5G, cloud computing, XR and AI.

2021 could be a bridge to a more normal situation where many aspects of social and economic life can resume without fear of excess mortality. But there is also a need to assess the lasting effect on work life and international business and on the future of SMBs. This future opens new perspectives on digital transformation, the future of work and sustainability.

Additional forces for change
Technological innovation will continue to have a significant impact, forcing SMBs to evolve their business models, strategies and operations. Technologies such as 5G, cloud solutions and IoT enable access to new markets as they encourage the trend of globalization by allowing SMBs to effortlessly transcend geographical boundaries and national borders.

An additional challenge in many countries can be found in their changing demographics. Stagnant population growth and an aging population are leading to a declining working population, meaning fewer people with the right skills. These competitive challenges can be, and to some extent are already being, counteracted by SMBs through upskilling their current workforce, attracting new employees with the right skillsets and through increased automation.

The urgency of mitigating climate change is ever-increasing, so SMBs will need their future strategies and investments to be based on sustainable technological improvements to ensure there is a future for them at all. Today, SMBs make up the majority of the more than 9,500 participants in UN Global Compact,[3] a non-binding initiative based on commitments by each CEO to adopt universal sustainability policies and to take steps to support UN goals.

With remote work becoming the new normal for SMB employees, traditional offices might soon be a thing of the past

[2] www.zdnet.com/article/mckinsey-three-factors-drive-consumer-loyalty-in-the-next-normal
[3] www.unglobalcompact.org

The digitalized and dematerialized SMB

The future will see more digitalization among SMBs, leveraging cloud and mobile technology and allowing them to become more dematerialized and adaptable.

As outlined in a previous IndustryLab report,[4] office work is under significant pressure to evolve (not least due to the ongoing COVID-19 pandemic) and part of that evolution is likely to happen with the help of immersive XR technology.

This report's focus is wider — enter the digitalized and dematerialized SMB.

Dematerialization through digitalization leads to increased value and less consumption of resources, enabling SMBs to "create more with less". Through the use of ICT, SMBs can, for example, substitute physical products with services and digital products, move storage and workloads to the cloud or conduct their training online. This replacement of a physical entity with a digital ditto is at the core of dematerialization.

Dematerialization front-runners lead the way
In this report, we have defined the SMB dematerialization front-runners as the top one-third of the surveyed SMBs that have reported the most progress in their ICT-enabled dematerialization efforts.

It may not be surprising that these front-runners are more environmentally sustainable than other SMBs, but they also show higher profitability, are better at innovating and are more agile when it comes to responding to a changing world. In fact, the surveyed SMB decision-makers agree that businesses capable of adapting to the evolving needs of customers will be the norm by 2030.

Of the surveyed SMB decision-makers, 68 percent agree the willingness to transform will be of very high importance to the success of companies by 2030. In addition, 64 percent believe access to powerful data analytics and data mining capabilities will also be very important by 2030. This data analytics capability is key when it comes to learning from previous experiences, making adequate decisions and experimenting while adopting a "fail fast" philosophy in order to become innovative as the pace of work life and business increases.
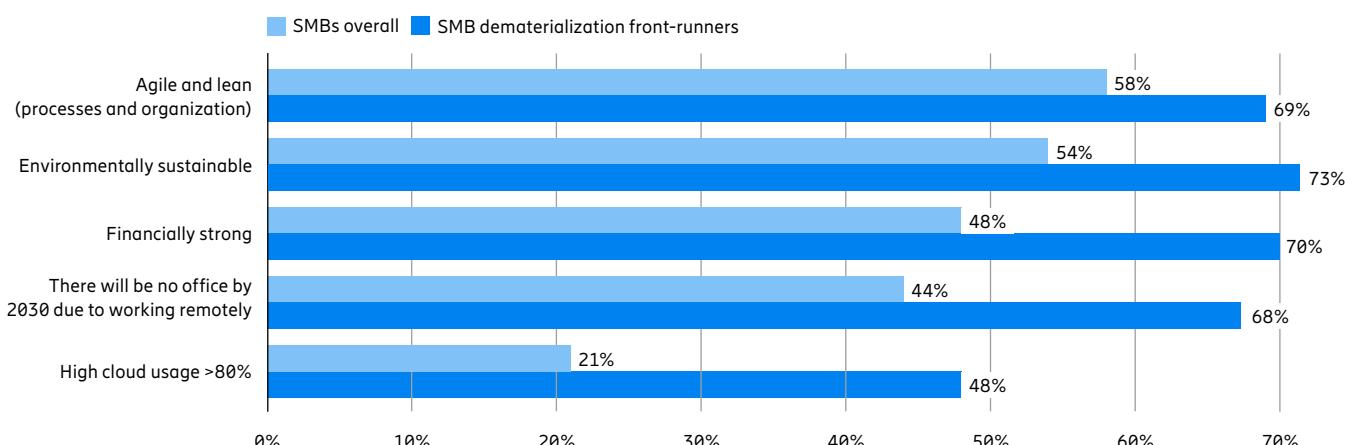
Research from Forrester has shown that companies that harness digital insights to optimize products, services

and operations will grow at least eight times faster than global gross domestic product (GDP).[5] Therefore, in the future we will see even more digitalization among SMBs leveraging cloud, AI and mobile technology to become more dematerialized and adaptable.

> "You have to adapt to whatever it is that the situation calls for... [enterprises] need to evolve, become more fluid, more agile. They need to be able to turn on a dime. They need to address a changing landscape."
>
> **Rick Lievano,**
> Worldwide Director of Industry Technology Strategy, Microsoft
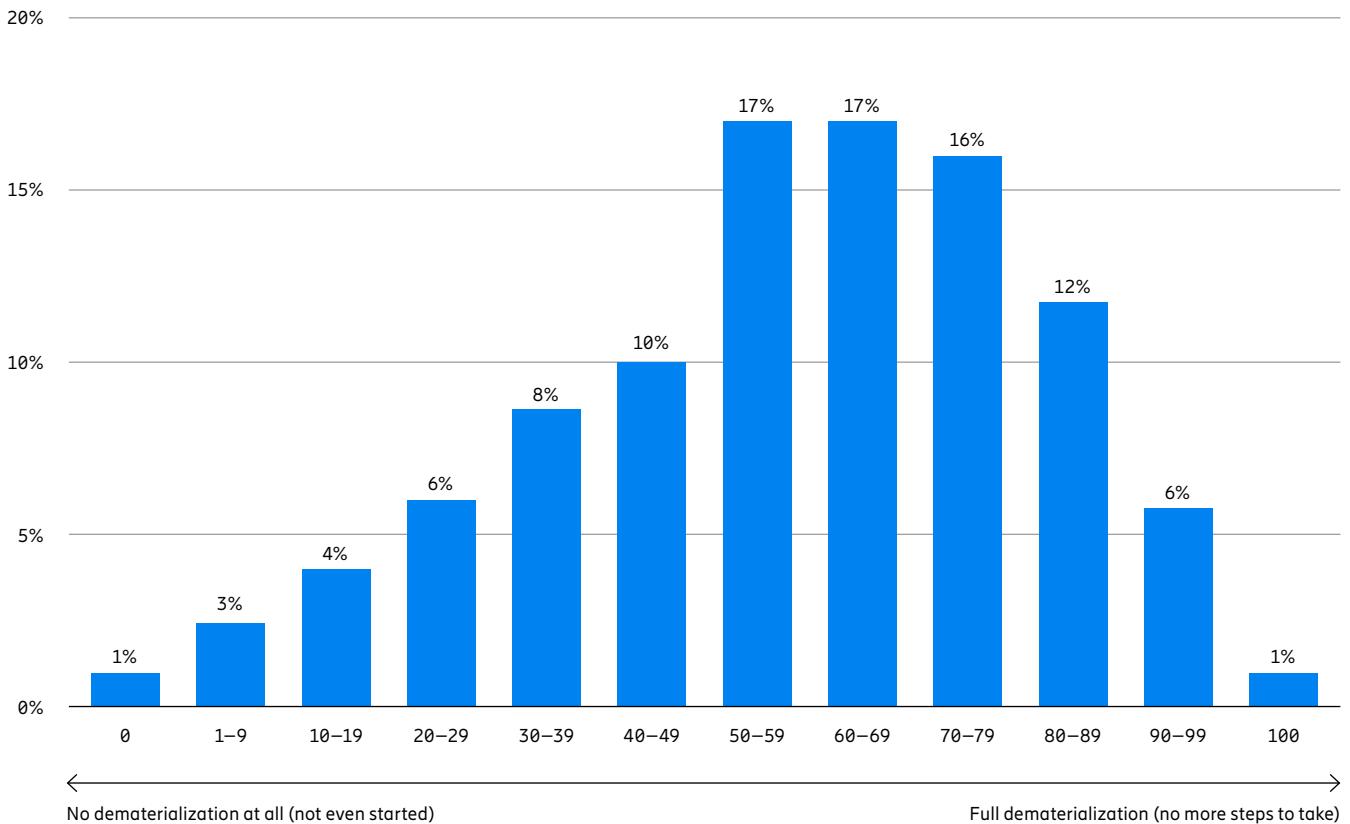
Figure 2: Share of decision-makers in SMBs that agree each statement is true for their respective company (self-reported)

Legend: SMBs overall / SMB dematerialization front-runners

Statement	SMBs overall	SMB dematerialization front-runners
Agile and lean (processes and organization)	58%	69%
Environmentally sustainable	54%	73%
Financially strong	48%	70%
There will be no office by 2030 due to working remotely	44%	68%
High cloud usage >80%	21%	48%

[4] www.ericsson.com/en/reports-and-papers/industrylab/reports/the-dematerialized-office
[5] go.forrester.com/press-newsroom/insights-driven-businesses-will-take-1-2-trillion-a-year-by-2020

Figure 3: SMB dematerialization maturity spread today (self-reported)

No dematerialization at all (not even started)   Full dematerialization (no more steps to take)

Decarbonization through digitalization and dematerialization

The Paris Agreement's goal is to limit global warming to well below 2C and preferably to 1.5C, compared to pre-industrial levels.

In accordance with this goal, the 2019 Exponential Roadmap[6] focuses on how to halve global emissions by 2030, becoming net-zero by 2050 (halving every decade). A plethora of solutions to cut emissions have already been identified but further actions will be needed.

It is estimated that ICT solutions on a global level could lead to reductions in CO_2 emissions, both within the ICT sector itself and in other sectors, of up to 15 percent.[7]

One approach to reduce the environmental impact, including CO_2 emissions, is to decrease material usage through dematerialization.

When ICT white-collar decision-makers in SMBs were asked about how far their respective businesses have come in their dematerialization efforts — on a scale where 0 means no actions have been taken and 100 means there are no more steps

to take — the surveyed SMBs are spread widely across the scale, with almost 7 in 10 having reached halfway or beyond on their dematerialization journeys. However, given that the surveyed SMBs are over-represented by technologically advanced businesses, it is important not to generalize too widely based on these results. In other words — the journey to the dematerialized SMB will not be over any time soon.

More than half of SMB decision-makers agree that cloud infrastructure, selling software and services rather than physical products, and using online training courses and documents, are key ICT-based enablers for dematerialization at their respective businesses.

Forty-five percent of SMB decision-makers agree that improved productivity, and almost as many agree that profitability, are key benefits of dematerialization. More than one-third say the same for sustainability. This should be seen as a win—win situation that benefits both SMBs and the environment.

[6] exponentialroadmap.org
[7] Malmodin, J et al. (2015) "Exploring the effect of ICT solutions on GHG emissions in 2030".
  Paper published and presented at ICT for sustainability (ICT45), Copenhagen, Denmark, 7–9 September 2015

Remote working is here to stay

The COVID-19 situation and social distancing during 2020 has had a profound effect on many SMBs.

The views of SMB decision-makers and white-collar employees alike have shifted due to their experiences of working remotely. More than 5 in 10 SMB employees agree their respective companies have become more positive about remote working during the pandemic, and they believe these habits are here to stay. In fact, they expect that almost 60 percent of their work will happen outside company premises by 2030. This is completely inverse to the pre-COVID-19 situation, when 60 percent of the work time was spent at the company premises.

This shift will be driven not only by changing employee expectations but also by the opportunity to save on office space, as 55 percent of SMB decision-makers are very satisfied with the ability to cut back through remote working.

Only 28 percent of SMB white-collar employees are very satisfied with fewer desks at the office, while a full 67 percent are undecided, which indicates that they see a risk of not having a desk if and when they need to visit the office.

At the same time, 63 percent of SMB decision-makers strongly believe the vast majority of all meetings will be virtual by 2030.

With less work taking place at company premises, businesses must be able to provide their employees with full access to processes and tools regardless of the device they use or whether they are at home or out and about. Using thin clients[8] coupled with cloud services would enable this transition, which more than 5 in 10 SMB decision-makers agree would be quite beneficial for their employees.

A decrease in both commuting and CO_2 emissions is also a likely result of the shift towards remote working, as seen during the COVID-19 pandemic.

This is important not only from a sustainability perspective, but also for job satisfaction. The potential to work from home and have a sustainable commute actually represents more than one-quarter of overall job satisfaction. Satisfaction is also impacted by employees' and SMBs' general views on distance working and by the tools at their disposal (both communication devices suitable for remote working and virtual collaboration software and services). Of course, a job where it is possible to work remotely is a precondition in this context. Even though remote work has predominantly been a white-collar phenomenon, the evolution

of technology — such as for remote control and surveillance of machines and vehicles — is likely to enable more of the workforce to do so in the future.
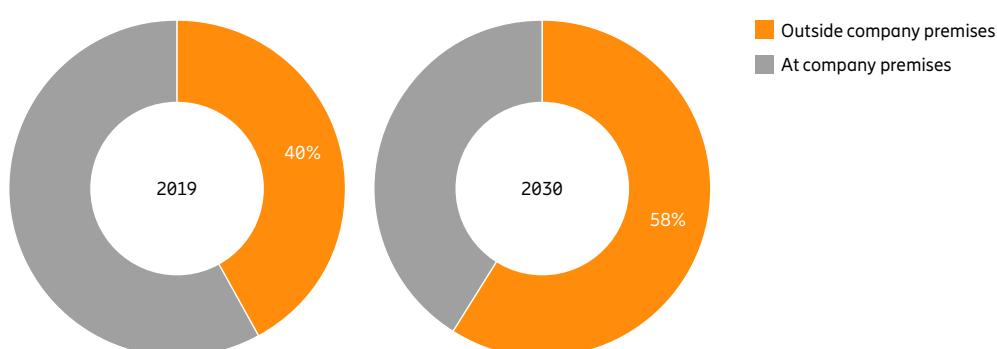
> "[The pandemic] has taught us that it is possible to work remotely and be productive. Also, you don't need a huge chunk of real estate in midtown Manhattan at high prices to conduct your business. "
>
> **Male, 68,**
> IT Technical Manager,
> Lawfirm, SMB

44%
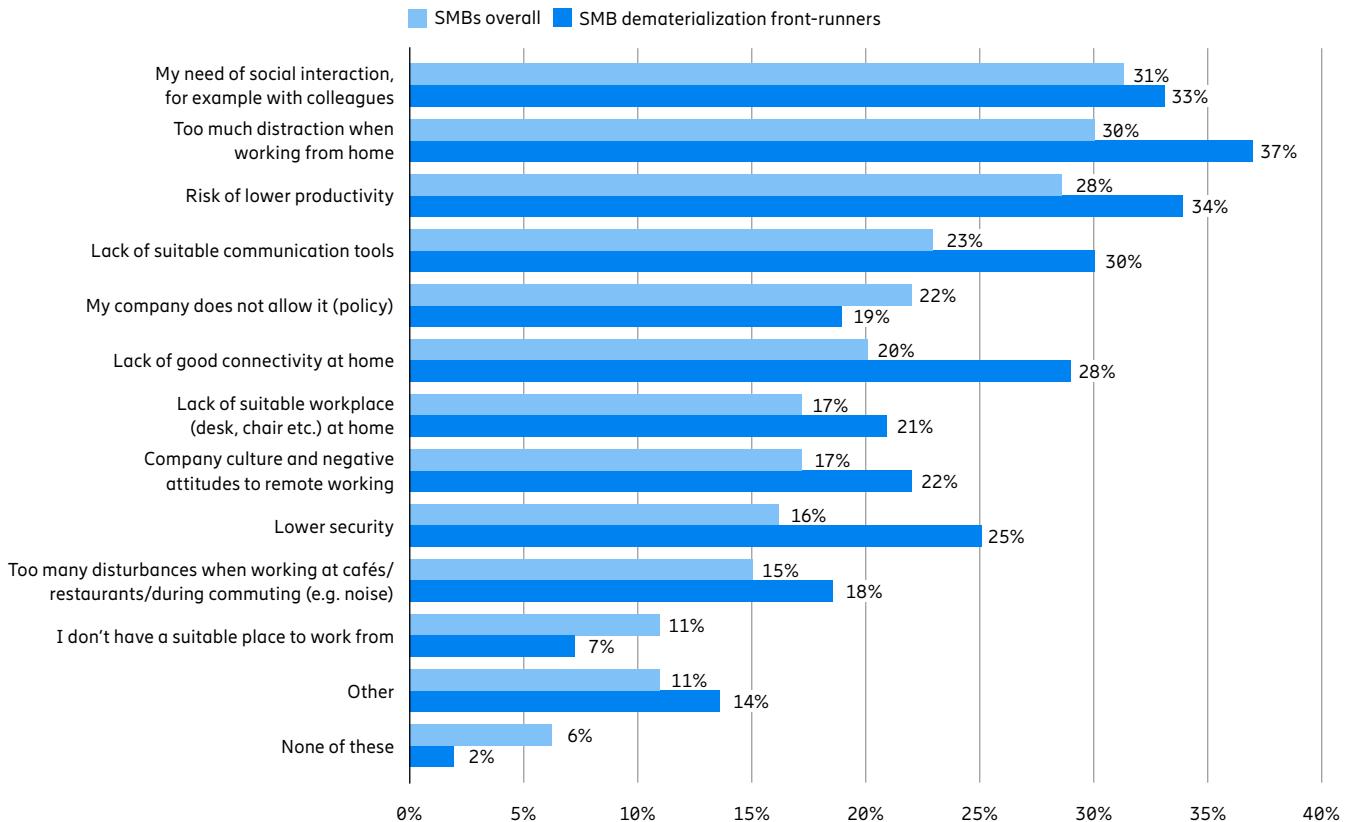
By 2030, 44 percent of SMB decision-makers strongly believe there will be no offices at all.

Figure 4: White-collar SMB employees' estimated share of work time across locations during 2019 and expectations for 2030 (self-reported)

- Outside company premises
- At company premises

2019: 40%
2030: 58%

[8] Computing devices with limited hardware specifications that rely on cloud services and good connectivity to give the user a high-performance experience

Figure 5: Share of SMB white-collar employees that agree each factor is a barrier to working remotely (self-reported)

Legend:
- SMBs overall
- SMB dematerialization front-runners

Factor	SMBs overall	SMB dematerialization front-runners
My need of social interaction, for example with colleagues	31%	33%
Too much distraction when working from home	30%	37%
Risk of lower productivity	28%	34%
Lack of suitable communication tools	23%	30%
My company does not allow it (policy)	22%	19%
Lack of good connectivity at home	20%	28%
Lack of suitable workplace (desk, chair etc.) at home	17%	21%
Company culture and negative attitudes to remote working	17%	22%
Lower security	16%	25%
Too many disturbances when working at cafés/restaurants/during commuting (e.g. noise)	15%	18%
I don't have a suitable place to work from	11%	7%
Other	11%	14%
None of these	6%	2%

However, working remotely is not without its challenges. The need for social interaction with colleagues, the risk of potential distractions and lower productivity when working from home are mentioned by one in three SMB employees in dematerialization front-runner businesses. A lack of suitable communication tools and good connectivity at home are also named.

Front-runners are more aware
It is also interesting to note that a significantly higher share of dematerialization front-runners, who already have more exposure in the area of remote working, see the challenge several of these barriers bring but have already come up with ways to circumvent these challenges.

One such solution may be to establish co-working spaces and remote working hubs close to employees' homes.

In fact, 6 in 10 SMB white-collar decision-makers, and 3 out of 4 amongst SMB dematerialization front-runners, agree that co-working spaces for their employees would be a good idea — both from a work-life balance perspective and for the environment.

Travel takes a hit
Information technology can further enable remote working. This has been shown during the pandemic, with almost 6 in 10 SMB decision-makers reporting less business travel and commuting.
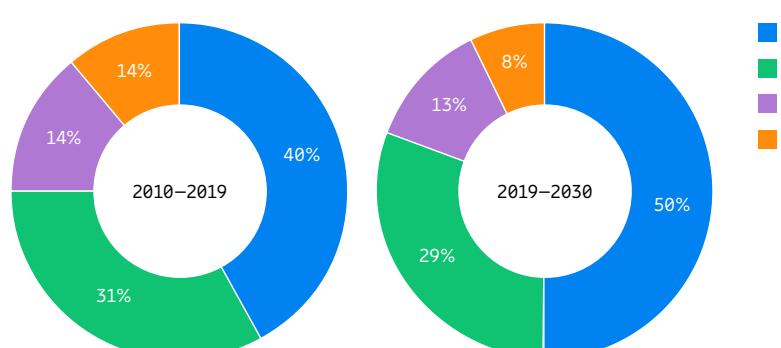
By 2030 half of SMB white-collar workers believe their need to commute, and for business travel in general, will be lower than before the pandemic. Perhaps even more interestingly, 4 in 10 SMB white-collar employees said their commuting had decreased during the past 10 years.

For the next decade, the share of SMB white-collar employees who expect their commuting to decrease grows 24 percent compared to the past decade.

It's hardly surprising that SMB decision-makers and employees alike expect decreased environmental impact as a consequence. They also anticipate that the environmental impact of the remaining commuting will be lessened, driven by the evolution of more efficient and environmentally friendly modes of transportation.

More than 4 in 10 SMB decision-makers are satisfied with how their businesses are offering employees subsidized electric vehicles (EVs) as well as EV charging using renewable energy at the company parking lot. Satisfaction amongst SMB dematerialization front-runner businesses is even higher — with roughly 6 in 10 SMB decision-makers agreeing.

Figure 6: Share of SMB white-collar employees that agree with each statement regarding the change in their commuting habits since 2010 and the expected change

2010–2019: 40%, 31%, 14%, 14%

2019–2030: 50%, 29%, 13%, 8%

The 5G- and XR-enabled SMB

Cellular connectivity is a key enabler for SMBs to transition to remote working, with 5G set to be an important innovation platform.

After a long period of remote working, SMB white-collar employees today feel something needs to be added to the remote experience to make it more immersive, enabling some of the benefits of traditional ways of working. SMB decision-makers and employees alike see the need for XR-powered immersive online collaboration and meeting tools, such as AR and VR, going forward.

In fact, close to 6 in 10 of the surveyed SMB decision-makers expect to use 5G devices and 5 in 10 expect to use XR devices in their businesses by 2030 — an increase of more than 50 percent on today for 5G devices and a doubling for XR devices.

Furthermore, almost half of all surveyed SMB white-collar employees, and nearly 8 in 10 among SMB dematerialization front-runner employees, are interested in a virtual desktop (keyboard, screen, mouse and so on) that can be projected on any surface, enabling you to turn any location into a workplace. Almost as

many show interest in an AI assistant that could help with repetitive tasks, for example. The interest in a hologram where you can see meeting participants as a 3D image attracted somewhat less interest — 33 percent amongst SMBs overall and 63 percent amongst SMB dematerialization front-runners. Almost two in three SMB decision-makers agree that their employees will work everywhere, using cellular and cloud technology, by 2030.

> "I think security is really our main concern, especially everybody working from home. You don't want individuals working from home if their network's not secure."
>
> **Male, 45,**
> IT Technical Manager,
> IT products, SMB
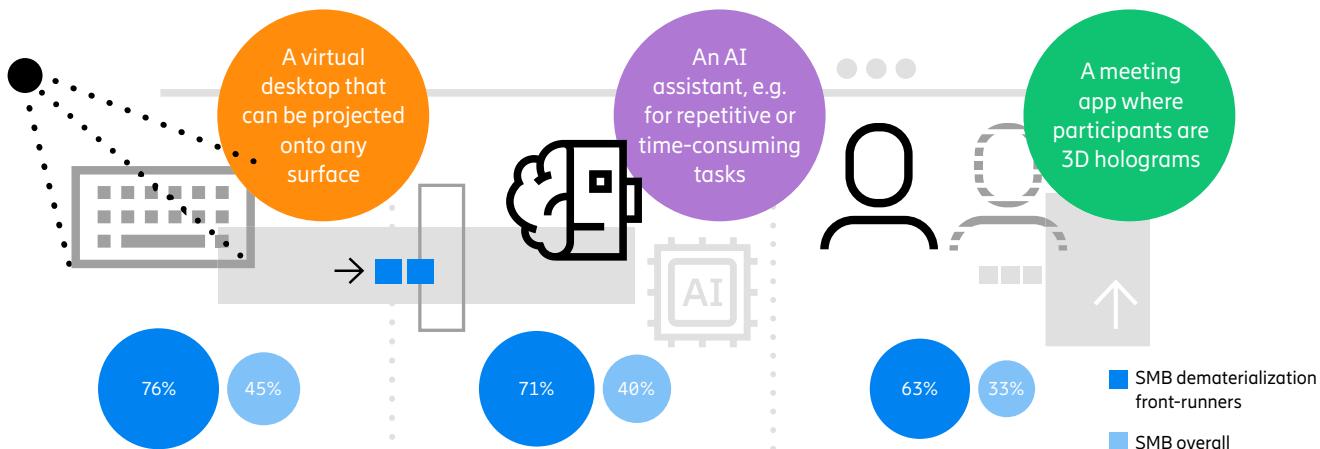
As a consequence, their increased usage of mobile immersive video technology will further drive the need for high-speed, low-latency connectivity, not only in the residential domain but also in other urban and rural locations. This may also lead to further dematerialization through decreased usage of expensive, power-hungry high-end devices, such as laptops and desktop computers, and increased usage of more power-efficient thin clients, mobile devices and easily-managed, or even self-managed, digital workplaces.

Connectivity is crucial
Connectivity is deemed to be at the center of future work life. Residential broadband is expected to grow in importance due to increased remote working. In fact, today almost two in three SMB white-collar employees state that being able to remotely connect to the work environment is very important, or even business critical.

Figure 7: Share of SMB white-collar employees expressing high interest/value in each concept (self-reported)

A virtual desktop that can be projected onto any surface — 76% / 45%

An AI assistant, e.g. for repetitive or time-consuming tasks — 71% / 40%

A meeting app where participants are 3D holograms — 63% / 33%

■ SMB dematerialization front-runners
■ SMB overall

Note: Top two answers on a seven-graded scale

The vast majority of meetings will be virtual in the future

Cellular connectivity is also seen as a key enabler for this transition. Two-thirds of SMB decision-makers believe 5G will be an important innovation platform, as its security, low latency and high data speeds enable a more mobile workforce. From an SMB decision-maker perspective, reliability and the ability to handle complexity are key attributes of connectivity. Security is also high on the agenda for many SMB ICT decision-makers, as there are challenges in handling threats, such as unauthorized access to corporate data, malware and computer viruses, when employees work outside company premises. However, the fear of high costs is a key barrier, particularly if cellular is to be used as the only form of connectivity.

Managed ICT environments
More than 8 in 10 SMB decision-makers are positive to one-stop-shop ICT outsourcing. The main reasons for their interest are access to skilled personnel, sustainability and turning capital expenditure (capex) into operating expenditure (opex).

Today, more than 7 out of 10 SMB decision-makers already have managed ICT environments and more than 8 in 10 expect to outsource in the future. However, 4 in 10 perceive security issues as the number one barrier to outsourcing.
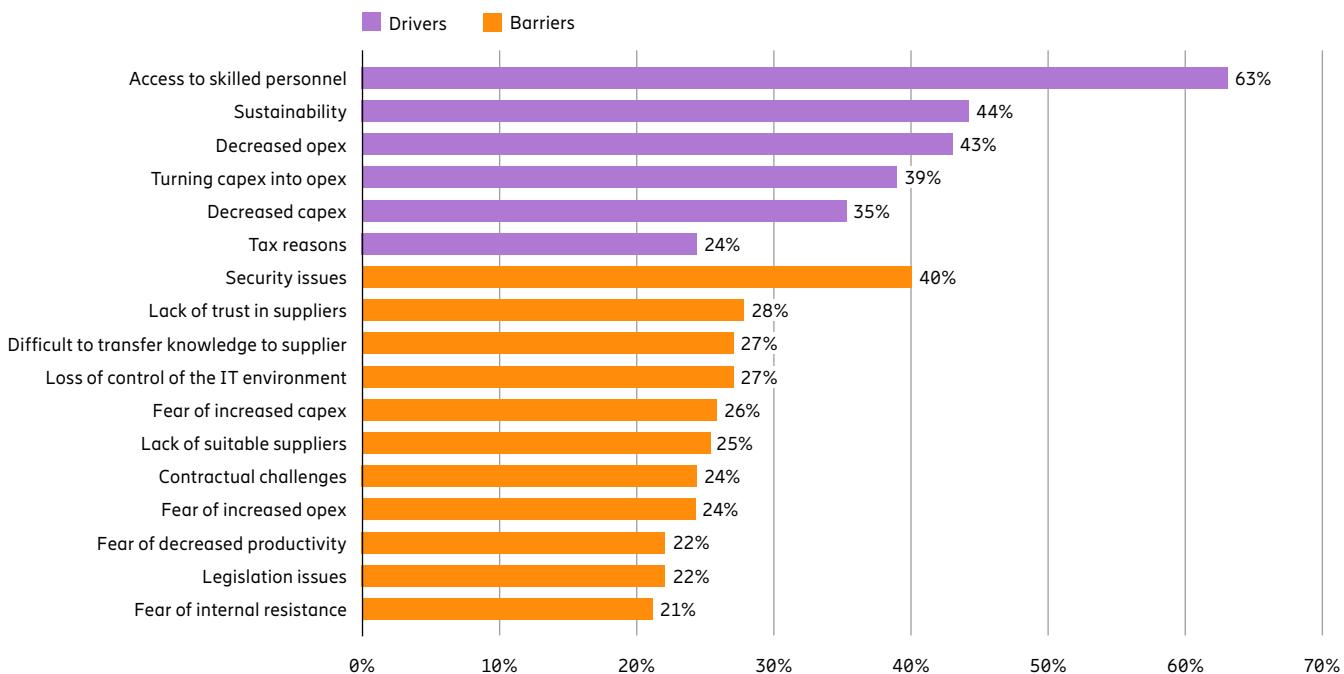
A key part of this type of outsourcing is the transition to cloud-based solutions. By moving applications, workloads and storage to the cloud, users receive immediate access to data and applications, enabling them to work from any device or location.

The transition to the cloud is not new — on average, 59 percent of surveyed SMBs' business applications and IT infrastructure are already running on cloud solutions. It is estimated that by 2030 this number will grow to 71 percent.

When looking at SMB dematerialization front-runners, the numbers are even higher — a staggering 77 percent today and set to reach 81 percent by 2030.

Figure 8: Share of SMB decision-makers that agree with each factor being a driver and/or barrier for ICT outsourcing (self-reported)

Factor	Share
Drivers	
Access to skilled personnel	63%
Sustainability	44%
Decreased opex	43%
Turning capex into opex	39%
Decreased capex	35%
Tax reasons	24%
Barriers	
Security issues	40%
Lack of trust in suppliers	28%
Difficult to transfer knowledge to supplier	27%
Loss of control of the IT environment	27%
Fear of increased capex	26%
Lack of suitable suppliers	25%
Contractual challenges	24%
Fear of increased opex	24%
Fear of decreased productivity	22%
Legislation issues	22%
Fear of internal resistance	21%

The white-collar gig economy

The changing business landscape could mean a shift towards task-based organizations rather than today's job-based structure.

As a result of globalization and changing demographics, many SMBs are experiencing a skills gap. Our study found that 68 percent of SMB decision-makers believe that access to the right employees will be highly important to their companies' success by 2030, and almost 6 out of 10 agree that the local market will not be enough when it comes to finding the right talent — be it specialists or entry-level employees.

One solution for businesses is to automate work processes. Overall, the surveyed SMB decision-makers estimate that the level of automation within their respective businesses will increase from an average of 40 percent today to 53 percent by 2030.

Another way forward is to go global.
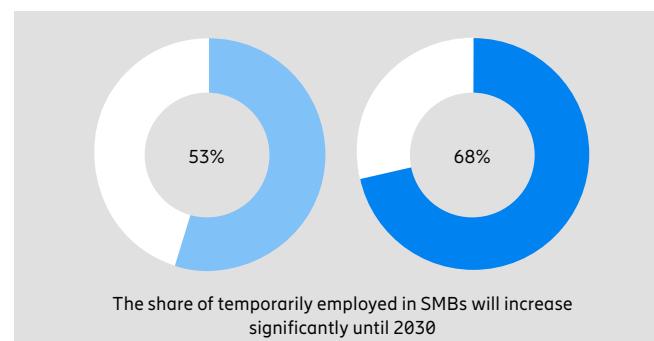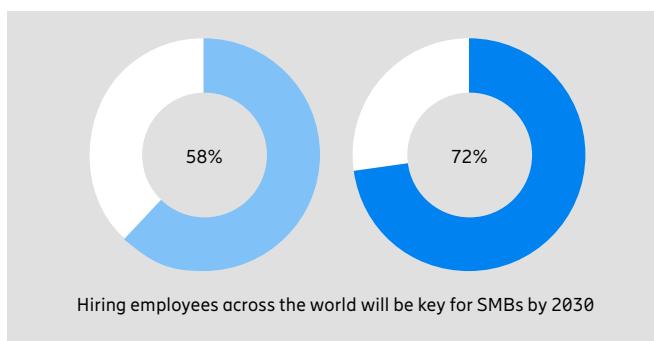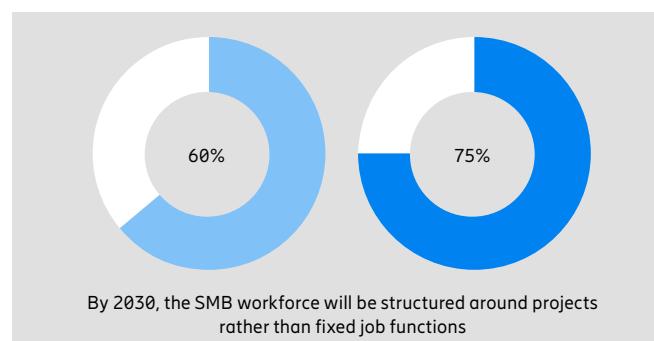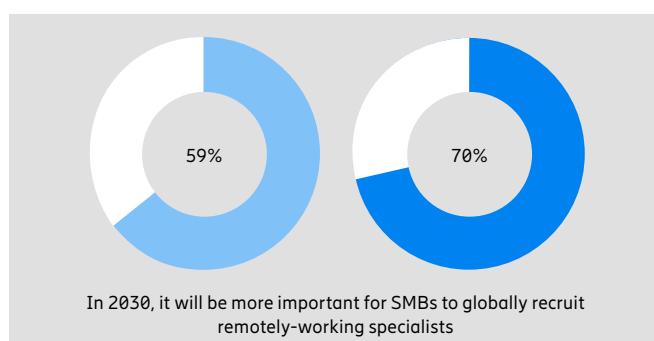
A relatively well-qualified workforce is rapidly becoming more easily available across the world, aided by digital cloud-based tools, social media platforms and collaboration services. It is reasonable to assume more SMBs will reach out beyond their own national borders to tap into this potential.

This evolution will likely lead to SMBs hiring people to do jobs without taking them on as employees. This, in turn, could drive a shift towards a task-based organization rather than today's job-based structure. According to OECD statistics, temporary jobs have already increased by 8 percent within the EU during the past 20 years.[9]

In a shift from mainly being a blue-collar phenomenon, over half of white-collar SMB decision-makers believe the share of temporary employment will increase significantly within their businesses by 2030. However, 39 percent of SMB white-collar employees think that replacing long-term positions with short-term assignments and project-based employment will make life more difficult. As employments become more flexible, but also uncertain, SMBs might also experience the drawbacks and vulnerability of not having a loyal workforce. There could also be an adverse effect on company culture and social cohesion, which may counteract the evolution towards dematerialized SMBs.

Figure 9: Share of SMB decision-makers that agree with each statement about their future workforce (self-reported)

■ SMBs overall ■ SMB dematerialization front-runners

59%   70%

In 2030, it will be more important for SMBs to globally recruit remotely-working specialists

60%   75%

By 2030, the SMB workforce will be structured around projects rather than fixed job functions

58%   72%

Hiring employees across the world will be key for SMBs by 2030

53%   68%

The share of temporarily employed in SMBs will increase significantly until 2030

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[9] data.oecd.org/emp/temporary-employment.htm

International expansion from an SMB perspective

Despite trade wars, SMBs continue to expand internationally.

As shown in Figure 10, there is no shortage of barriers when an SMB wants to reach an international audience. Roughly half of all SMB decision-makers agree future pandemics and trade conflicts will continue to be key obstacles to international growth. While many barriers have a similar share of mentions, future pandemics most likely gained its top position due to the trying times we are currently living in. It is also interesting to note that a significantly larger share of dematerialization front-runners, who already have more exposure to international markets today, see the challenge these barriers bring, but have also found ways to overcome these barriers.

Going international, particularly for SMBs, can be a daunting undertaking. In the past, setting up in a new market required both financial muscle and in-depth local competence. Nevertheless, more than 6 in 10 SMBs expect to have a significant international customer base by 2030. In addition, almost 6 in 10 agree that the ability to hire employees globally will be key by 2030.

Technology is seen to have a determining role for this internationalization by helping businesses smoothly set up new branches, contract personnel overseas, run worldwide, cloud-based e-commerce businesses or even remotely operate equipment without the need for increased international traveling. In fact, more than 6 in 10 SMB decision-makers agree that cloud solutions contribute to their company's international activities and among dematerialization front-runners this reaches almost 8 in 10.

An almost equal share of overall SMB decision-makers, as well as SMB dematerialization front-runners, recognize 5G as an important contributing technology in internationalization activities.

These front-runners, in particular, have significant experience of using technology as a way of achieving more with less, such as enabling them to reach a global market without any physical presence in different regions.
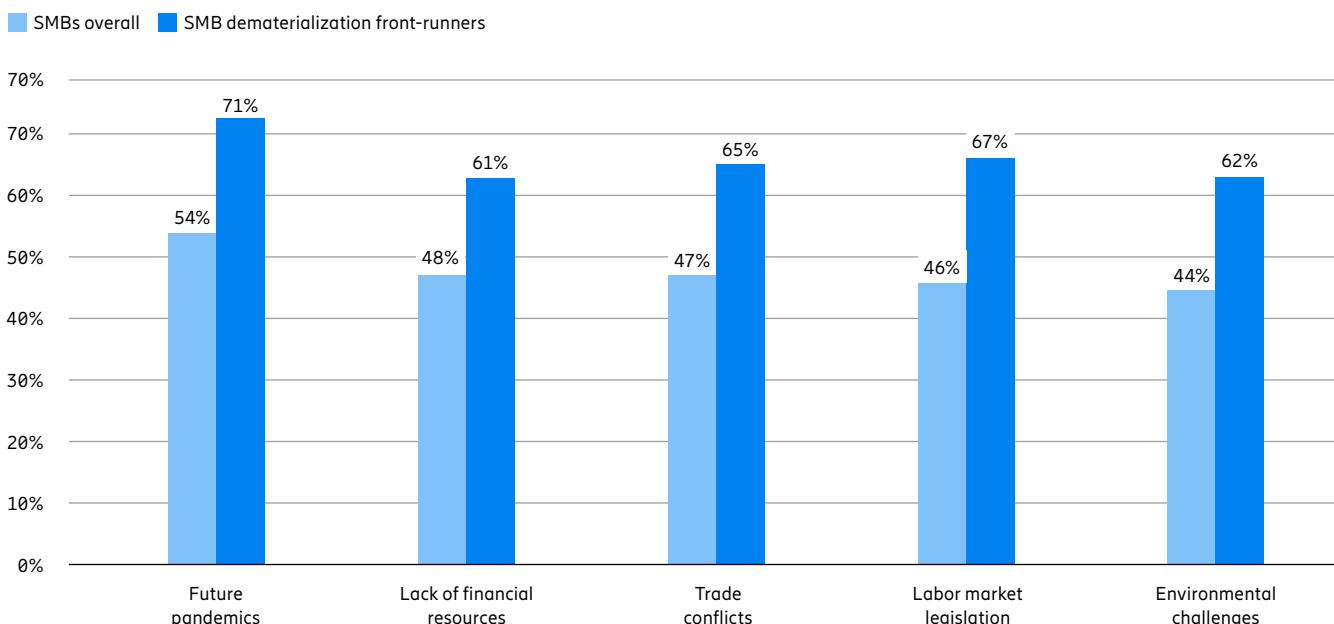
This internationalization will further contribute to stronger global economic integration. Competition and consolidation will likely increase as SMBs are required to compete with a rich variety of globalized businesses which, to an increasing degree, will be dematerialized.

62%

By 2030, 62 percent of SMB decisions-makers expect to have a significant international customer base.

Figure 10: Share of SMB decision-makers globally that agree each aspect is a barrier to expanding their company's international activities (self-reported)

Note: Top two on a seven-graded scale

SMBs heading towards net-zero

No stone can be left unturned on the journey towards net-zero carbon emissions.

Different strategies must be taken by SMBs attempting to become sustainable. In addition to decreased commuting and increased digitalization and dematerialization, as covered earlier in this report, a switch to more renewable energy and energy-efficient solutions, such as cloud architectures, can aid the journey to becoming a net-zero SMB.

The power of renewable
Today, 50 percent of the surveyed SMB businesses already use renewable energy for most, if not all, of their energy needs. By 2030, this is expected to increase to almost 3 in 4 and only 2 percent think they will not use any renewable energy at all. For SMB dematerialization front-runners, a staggering 8 in 10 say the same.

Overall, 39 percent of SMB white-collar employees are at least somewhat satisfied with their employers' support in the transition to renewable energy at home.

Furthermore, 47 percent expect to commute to and from work only using fossil fuel-free transport, or to not commute at all, by 2030.

The transition towards renewable energy has its own set of challenges and barriers, with one in four SMB decision-makers expecting that economic barriers will be too significant.

Other barriers mentioned by one in five SMB decision-makers were the lack of necessary technology and the lack of incentives and tax breaks.

Thirty-nine percent of the surveyed SMBs are already investing in renewable energy production of their own; for example, by installing solar panels. When moving in this direction, it is important to have a strategy for handling the excess energy. If connected to the power grid, renewable excess energy can be sold back to the grid during the day and energy can then be purchased at night when the solar panels do not generate any power. However, if the power grid is not 100 percent renewable, then neither is the business.[10]
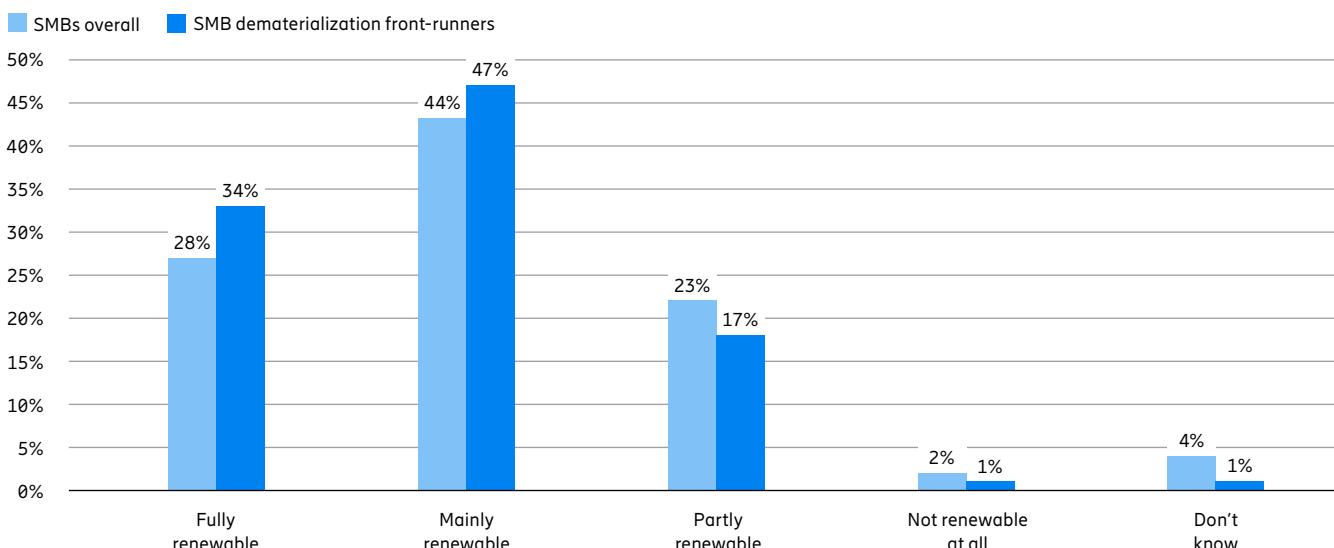
"Here in California they have very, very strict emission guidelines. They essentially want to do away with [fossil fuel] cars in California by 2030. I think as a business here, we are definitely going in that direction. I think it's exciting, and it's going to create new jobs."

Male, 45,
IT Technology Manager,
IT technology products, SMB
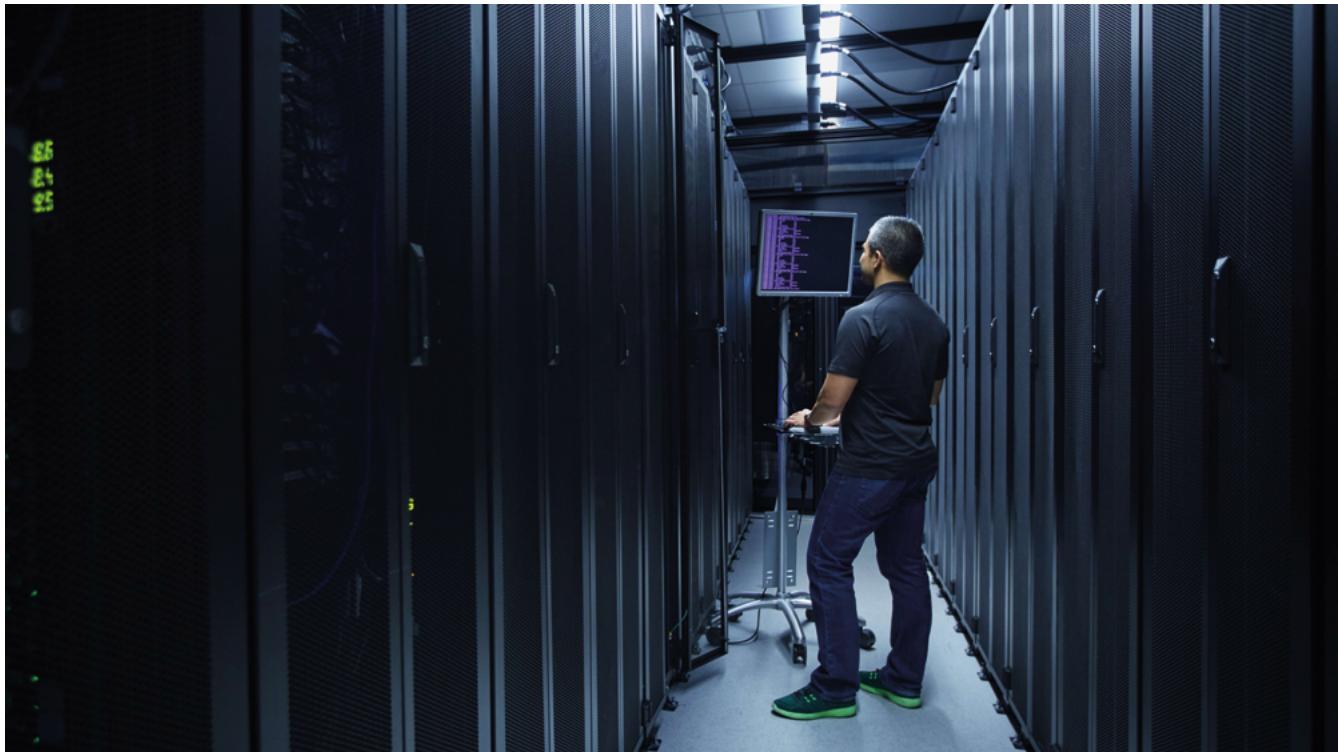
72%

By 2030, 72 percent of SMB decision-makers expect to mainly or fully use renewable energy.

Figure 11: SMB decision-makers' expectations for the use of renewable energy in their enterprises by 2030 (self-reported)

- ■ SMBs overall
- ■ SMB dematerialization front-runners

	Fully renewable	Mainly renewable	Partly renewable	Not renewable at all	Don't know
SMBs overall	28%	44%	23%	2%	4%
SMB dematerialization front-runners	34%	47%	17%	1%	1%

[10] earth.stanford.edu/news/when-100-renewable-energy-doesnt-mean-zero-carbon#gs.i64wkv

Optimizing data center energy efficiency is crucial

Cloud data centers and their carbon emissions

It has previously been argued that the carbon footprint of data centers would increase significantly over time as data traffic growth leads to a similar increase in electricity consumption. However, this theory was debunked when a report found that data traffic between 2005 and 2015 increased about 30 times while a typical server could show a hundredfold increase in computing capacity per amount of energy over the same time period.[11]

The efficiency improvements could thereby harness the impact relating to the increased data usage.

When looking at a data center's carbon footprint from a cradle-to-grave perspective, the largest portion of the footprint is related to the electricity used to run the data center.
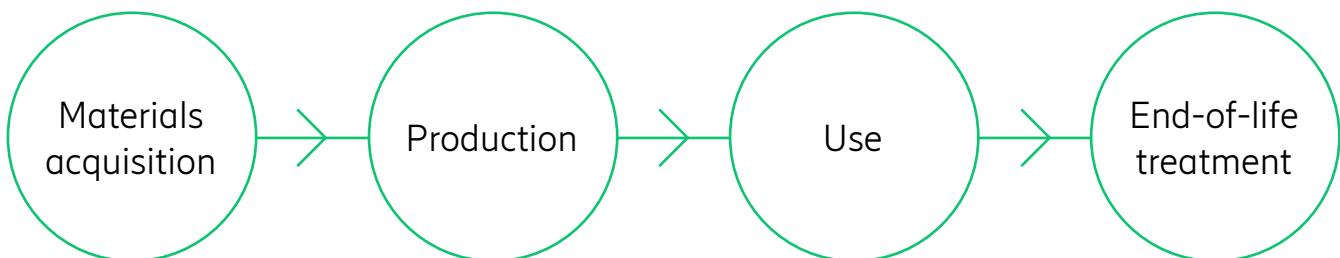
This electricity usage relates both to powering the servers themselves and to the cooling system needed for the servers. This means using renewable energy sources and optimizing data center energy efficiency will be key to significantly minimize the carbon footprint.

Cloud technology, used the right way, can actually be another important enabler of reductions in both energy consumption and environmental impact.

Overall, almost 8 in 10 SMB decision-makers expect significant energy savings due to the usage of multi-cloud solutions by 2030, not only for their own businesses but for society as a whole. Among SMB dematerialization front-runners, the consensus is almost unanimous, with 9 out of 10 agreeing.

SMBs have a long journey ahead towards a net-zero future, and as indicated earlier in this report, an overwhelming majority of SMB decision-makers agree there is no turning back.

Figure 12: Cradle-to-grave carbon footprint

Materials acquisition → Production → Use → End-of-life treatment

[11] Jens Malmodin and Dag Lundén, "The Energy and Carbon Footprint of the Global ICT and E&M Sectors 2010–2015" (2018)

SMBs without borders

With the future involving remote working and increased international ambitions, SMBs will be able to act both locally and globally at the same time.

The pandemic, in all its tragedy, has led us to ask: how can SMBs be better prepared for, and resilient towards, future disruptive events? It has given us a glimpse into the future of SMBs; one that is highly digital, more sustainable and increasingly global. Even though the sudden increase in remote working was not based on any strategic effort to decarbonize SMBs, it may have been the springboard needed to set a new direction. Social distancing policies implemented to limit the pandemic have transformed SMB white-collar work in terms of both attitudes and ways of working. The use of digital meeting tools has exploded and is expected to endure in a post-pandemic situation.

Considering how SMB decision-makers and white-collar employees alike expect the future to include both remote working and increased international ambitions, we are led down a paradoxical path where SMBs will simultaneously act both locally and globally. They will be more local in the sense that their workforce will spend less time traveling and commuting and instead spend most of their work and life in their own residential areas. In parallel, SMBs will act globally from the perspective that an employee's residential area could actually be anywhere in the world. Another, perhaps more obvious, global aspect is the expansion of e-commerce and cloud-based tools to reach a global customer base.

This transition will certainly put new requirements on digital and physical infrastructure used by SMBs. While today's technology already provides an opportunity for remote working, there is definitely room for significantly enhanced experiences, such as XR-based immersive meetings and multi-device work environments powered by cloud solutions. Connectivity infrastructure will face new challenges as the need for lower latency, higher security and end-to-end capacity increases throughout fixed and mobile networks.
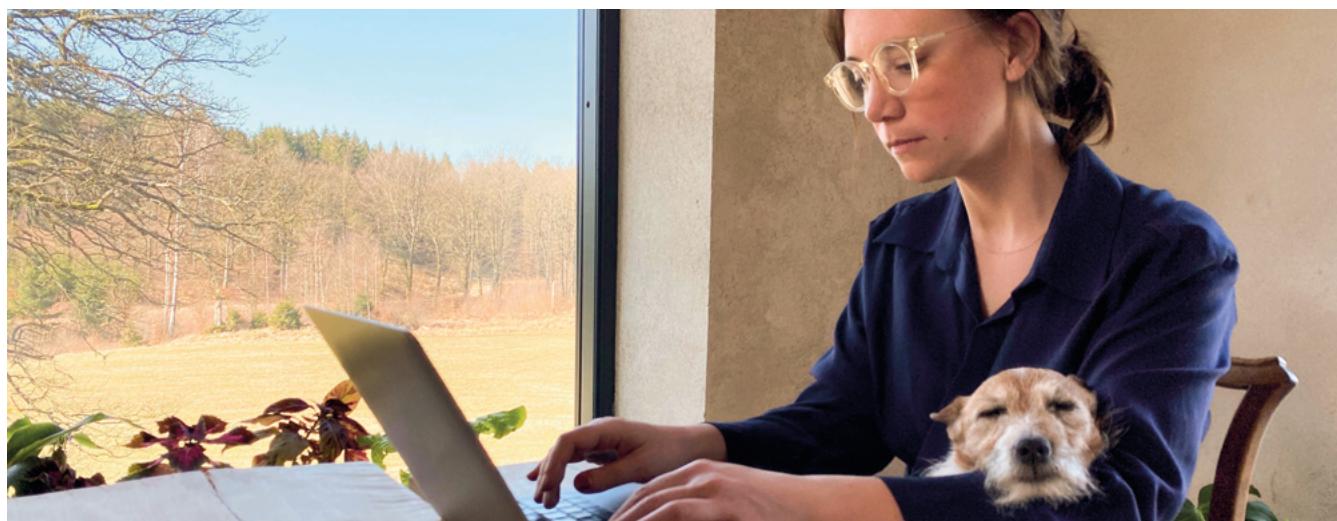
Non-office-related remote work, such as remote control and surveillance of machines and vehicles, will add further complexity and requirements to this infrastructure.

Increased remote working will also make city planners rethink the ways our cities are built. A more local life may very well fulfill the vision of the "15-minute city",[12] creating a renaissance for our residential areas with a rich set of services, catering to a remote working lifestyle. This could even contribute to a closing of the gap between rural and urban areas while further lowering the need for transportation services.

This report has outlined several approaches that SMBs can take to reduce emissions and move towards carbon neutrality, while becoming smarter, more agile, and internationalized.

ICT has the potential to continue its key role in this journey.

Perhaps now is the time to reflect on what kind of society we want to be part of in the future. There is a collective insight that SMBs need to continue their evolution to become more sustainable and better prepared for tomorrow's challenges. Decarbonization, digitalization and dematerialization are key components in this evolution.

Future SMBs are set to simultaneously act locally and globally

[12] In a "15-minute city", everyone can meet most, if not all, of their needs within a short walk or bike ride from their home

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