

# How eSIM is enabling the new mobile workforce

# CONNECTIVITY

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Even before the Covid-19 crisis, more than two-thirds of people (70%) around the world worked away from the office at least once a week.<sup>1</sup> The pandemic accelerated the trend. It also amplified the challenges: more than ever, the mobile workforce must be able to communicate anywhere, anytime, with reliability, convenience and security. Enter, the eSIM.

## Rise of remote working

Where do your colleagues work from? Chances are—not in the same room as you. Today, even those who work closely together within teams are more likely than ever to be dispersed across geographies, mixing traditional corporate facilities with remote locations, including co-working spaces and home offices. **According to an Owl labs study,<sup>2</sup> 62% of workers aged 22 to 65 work remotely at least occasionally.** What's more, since the first quarter of 2020, entire workforces—who used to stay in their offices—have proven able to work from home. All around the world, these employees embrace new remote working trends.

## Many benefits for employers and employees

Remote working can be beneficial for employees, as it allows increased flexibility, more choice in jobs or employers, better work-life balance and less time wasted commuting. Companies, too, benefit from the trend. **Remote workers save organizations, on average, \$22,000 a year<sup>3</sup> per employee** as the company saves on renting office space, electricity, central heating cost, food, etc. Remote work can also increase productivity. According to 94% of the 800 companies interviewed by Mercer<sup>4</sup> (an HR and workplace benefits consulting firm) work productivity is the same or higher with employees working from home.

## 4 challenges related to mobile workforce connectivity

The growing number of remote workers creates four new challenges:

- Always-on connectivity needs, as employees must remain connected and agile wherever they work;
- Logistical issues;
- New security needs to safeguard the mobile work environment;
- And the rising Bring Your Own Device (BYOD) trend, which must be taken into account.

The good news is eSIM technology is helping both employers and employees overcome these challenges.

## Challenge #1: Always-on connectivity needs

What's the biggest challenge for the mobile workforce? Connection. **When the internet is a lifeline to your colleagues, reliable access is critical**

. Remote workers need to be always connected to stay in contact with their teams and access their files wherever they are. Today, even traditional industries (manufacturing, construction...) that have undergone digitization require connected devices and easy linking to their company.

Yet, being connected anytime, anywhere can prove to be an issue. According to a Slack study,<sup>5</sup> remote workers cited unstable Wi-Fi or internet as the biggest challenge to remote work.<sup>6</sup> Nearly 1 in 4 respondents (24%) reported unstable connectivity as a challenge!

**Wi-Fi connections are often unreliable**, especially when employees working from home must share bandwidth with other members of their family—who may rely on the same Wi-Fi for work, education or entertainment purposes. As for field workers, in critical situations they might need to quickly switch from one provider to another to maintain their connectivity. But to remove and replace a physical SIM on-the-go in order to get connectivity service from a new mobile network operator (MNO) can be stressful and tricky.

## The embedded SIM has the solution

Fortunately, more and more laptops and other devices are integrating **eSIM technology** that allows for always-connected PC and mobile phones.

An eSIM (or embedded SIM) securely stores the mobile subscription details. The standard is recognized by those in the industry, such as the GSMA, ETSI, Global Platform, etc. eSIMs are very compact (60x smaller than the nano SIM), but we don't need to worry about handling or inserting them! An eSIM is embedded, i.e. soldered, directly into the device—anything from smartphones, smartwatches, fitness bands, connected PCs, tablets, and even automobiles and IoT objects.

The eSIM is rewritable and can be activated and managed remotely by MNOs using remote SIM provisioning (i.e. over-the-air updates). The eSIM flexibly associates with mobile networks, hence **extending connectivity on-the-go to new devices**—mobile internet is more secure and reliable than Wi-Fi networks, caters to more consumer needs, and is present almost everywhere on the planet. For the mobile workforce, eSIM brings benefits such as ease of use and extra convenience. No more tethering, no more dependency on Wi-Fi... just **seamless, always-on connectivity, even when traveling**. There is no longer a need to buy and insert a new SIM from a local provider; mobile workers only need to download the profile directly onto the eSIM to instantly connect to the mobile network. They may also store **several profiles**—corresponding to as many mobile networks—in a unique eSIM; it allows them to quickly switch from one connectivity provider to another, in case of emergency or according to their needs. Embedded SIMs also match the **high capacity of 5G networks**, thus offering broadband, versatility, and a harmonious experience to consumers.

## Challenge #2: The logistical trials of increasingly scattered mobile workforces

Mobile workers need to have a good connection anywhere, anytime, according to their needs. But this poses significant logistical challenges and issues for companies. They must distribute physical SIMs by mail or through a kiosk to their remote workers, during onboarding, when the company decides to change operators, or whenever it sends an employee to a foreign country for a business opportunity. This physical distribution comes with a cost. It is also logistically tricky, especially if the company operates at a global scale with employees distributed all around the world. Another challenge is managing the different profiles within any organization. **Employees have distinctive connectivity needs depending on their role, mobility, daily tasks and responsibilities**—a sales representative always on the road likely needs more mobile data capacity than a HR manager always working from the headquarters.

## How eSIM supports the mobile workforce

eSIM technology enables the full **digitalization of SIM management**, streamlining and simplifying the management of enterprise devices. eSIM allows for a single SKU (stock keeping unit), comprising the device and the eSIM; it significantly simplifies the logistical processes, reduces operational costs, and **eliminates supply chain complexity**.

Companies can also set up the right profiles of the suitable operators into the right devices, and ship those to the appropriate countries. With eSIM technology, they are now able to get connectivity services from different MNOs at the same time; therefore, they take advantage of the best offerings, in terms of cost and coverage. It's a textbook win-win situation: organizations get full flexibility on subscription, with the possibility to choose the best local provider wherever the device is used while their mobile workforce benefits from a true out-of-the-box and always-on connectivity.

Embedded SIMs also **save a lot of time for IT managers**. The administration of different employee roles is facilitated. The company can set up different profiles, with distinctive subscription plans, according to the individual requirements. New needs arise? It's not a problem: data allowance is easy to change along the way. Companies can now download, activate, swap or remove profiles as required, quickly and on-demand.

## Challenge #3: To reconcile mobility and cybersecurity

Companies face a double challenge regarding cybersecurity in the era of mobile workplaces. On one hand, they want their mobile workforce to be as productive and agile as possible, with network and **collaborative solutions** that remain accessible, flexible, and easy to use. On the other hand, they must protect their workers' and their organization's devices, applications and information. The problem? Not all connectivity spots accommodate this double requirement—productivity and security. In fact, remote and distributed working, where people work from home and public spaces, extend the surface of attacks and **exposure to cybercrime and cyber breaches**. Wi-Fi connectivity, in particular public connections available in cafés, hotels, or airports, is often less secure than cellular connectivity. The fact that you need a password to log in does not mean your online activities are encrypted. **Public Wi-Fi can leave you vulnerable** for different reasons—old encryption protocols, fake or rogue Wi-Fi hotspots, etc. According to the European Cybercrime Centre (EC3), “it is safest to assume that no public Wi-Fi is secure.”<sup>7</sup>

And it's **not only a matter of security, but also of convenience**. Remote workers often perceive public Wi-Fi as troublesome, because of the logins required, time limits imposed, privacy concerns and overall slow performances.

## The solution comes from within (the devices)

The solution: enabling users to rely on mobile networks rather than public Wi-Fi. Is cellular connectivity more secure than Wi-Fi? In most cases, the answer is yes, according to the NY Times.<sup>8</sup> On a typical 4G or 5G network connection that eSIMs use, the data is encrypted, and the identity is authenticated and protected. These strong encryption and cryptographic mechanisms offer **more protection to a cellular data connection** than to public Wi-Fi networks.

As a side benefit, because eSIMs are embedded in the device, they are not as easily lent or given to individuals not working for the company.

## Challenge #4: the rising BYOD trend

Bring your own device (BYOD) refers to the situation wherein employees utilize their own devices to access the company's system and data. BYOD is sometimes the worker's choice, sometimes a policy encouraged by the management. In any case, BYOD is a rising trend. The market may grow as much as 15% each year between 2021 and 2026, according to this study,<sup>9</sup> while another report<sup>10</sup> predicts that the global BYOD market will exceed \$350bn by 2022, up from \$94bn in 2014.

BYOD allows companies to reduce their infrastructure expenses. Mobile workers might also find it more convenient to **conduct work activities on a familiar device**, be it by accessing work-related communication channels on their personal smartphone, or drafting business emails from their own laptop. Studies even show that BYOD leads to greater flexibility, collaboration, and work-life balance, with productivity improved by up to 34%.<sup>11</sup> But for most organizations, asset management remains a big issue, to keep track of not only company-owned but also personal devices where work is done, updating them and providing them with a secure network. Above all, employees need to be able to **switch effortlessly from their personal to their professional connectivity plans**.

## The benefits of eSIM technology

eSIMs are a good way to ensure the success of the BYOD trend. They open new possibilities in terms of device connectivity to mobile networks, as they can be used to equip terminals that do not traditionally have a SIM, such as laptops. Being remotely reprogrammable, the subscription credentials can be easily managed. Subscribers can **connect more devices with multi-device packages** and bespoke data plans. Device bundling is also facilitated, with people able to conveniently add new devices to their plans without leaving their home nor wait for a physical SIM to arrive in the mail.

Embedded SIMs can also allow mobile workers to have **both a professional line and a personal line on a single device**, and to easily switch from one number to another according to their needs and their schedule. In practice, the company pays for the mobile subscription but lets the employee choose the device on which he or she will activate it.

## A growing trend and new opportunities for companies, employees... and MNOs

eSIMs help companies reduce costs and deliver great employee experience. But they also create **new revenue streams for MNOs** and connected devices manufacturers. MNOs can now develop true digital experiences for their subscribers while reducing the complexity of their supply chain, lowering environmental impact, and strengthening customer loyalty.

The technology, now mature, is seeing increasing traction. As of 2021, approximately 200 mobile carriers in more than 80 countries offered eSIM services. The technology is **now available in every region**, with Europe leading the way: 41% of its operators have launched commercial eSIM services, according to the GSMA "Mobile Economy 2021"<sup>12</sup> report. **By 2025, 2.4 billion smartphone connections will use eSIM globally.** This is only the beginning: another study estimates that the global eSIM market will reach USD 1.75 Billion by 2027 at a compound annual growth rate (CAGR) of around 16.2% during the review period.<sup>13</sup>

As market adoption grows and eSIM technology becomes part of day-to-day business, having a clear roadmap and strategy will be crucial to capture and monetize the new opportunities that rise amongst the mobile workforce. Are you ready?

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<sup>1</sup> <https://www.cnbc.com/2018/05/30/70-percent-of-people-globally-work-remotely-at-least-once-a-week-iwg-study.html>

<sup>2</sup> <https://resources.owllabs.com/state-of-remote-work/2020>

<sup>3</sup> <https://www.lifesize.com/en/blog/how-working-from-home-saves-your-company-money>

<sup>4</sup> <https://www.shrm.org/hr-today/news/hr-news/pages/study-productivity-shift-remote-work-covid-coronavirus.aspx>

<sup>5</sup> <https://slack.com/intl/fr-be/blog/collaboration/workplace-transformation-in-the-wake-of-covid-19>

<sup>6</sup> <https://slack.com/intl/fr-be/blog/collaboration/workplace-transformation-in-the-wake-of-covid-19#:~:text=Interestingly%2C%20the%20biggest,as%20a%20challenge.>

<sup>7</sup> <https://www.europol.europa.eu/activities-services/public-awareness-and-prevention-guides/risks-of-using-public-wi-fi>

<sup>8</sup> <https://www.nytimes.com/2018/08/10/technology/personaltech/security-wifi-lte-data.html>

<sup>9</sup> <https://www.mordorintelligence.com/industry-reports/byod-market>

<sup>10</sup> <https://www.cassinfo.com/telecom-expense-management-blog/the-future-of-byod-6-key-trends-for-2020>

<sup>11</sup> <https://insights.samsung.com/2016/08/03/employees-say-smartphones-boost-productivity-by-34-percent-frost-sullivan-research/>

<sup>12</sup> [https://www.gsma.com/mobileeconomy/wp-content/uploads/2021/07/GSMA\\_MobileEconomy2021\\_3.pdf](https://www.gsma.com/mobileeconomy/wp-content/uploads/2021/07/GSMA_MobileEconomy2021_3.pdf)

<sup>13</sup> <https://databridgemarketresearch.medium.com/post-covid-19-update-esim-market-to-reach-usd-1-75-d04f645ea513>