

Mobile data from 75 cents a day while you travel

Travel eSIMs, whose global user base is predicted to grow to 215 million by 2028, are changing how people stay connected overseas

Sarah Stanley

The world of travel connectivity has welcomed a formidable player to the mass market – the embedded SIM card, more commonly known as the eSIM.

Unlike their removable thumb-nail-sized predecessors, eSIMs were developed to be space-saving and are embedded as a tiny chip in devices.

Despite its size, it performs the same functions as a physical SIM card – such as storing identification information and connecting users to networks – and allows users to switch mobile providers or data plans digitally.

This means those who use travel eSIMs no longer have to purchase multiple SIM cards when heading to different destinations, or go through the cumbersome process of swapping out their regular SIM card with a travel one.

Globally, the number of travel eSIM users is projected to increase from 40 million in 2024 to more than 215 million by 2028, according to a study by Britain-based research company Juniper Research, released in April.

The study predicts that the rising cost of international roaming charges and increased penetration of eSIM-compatible devices will spur user growth in the coming years.

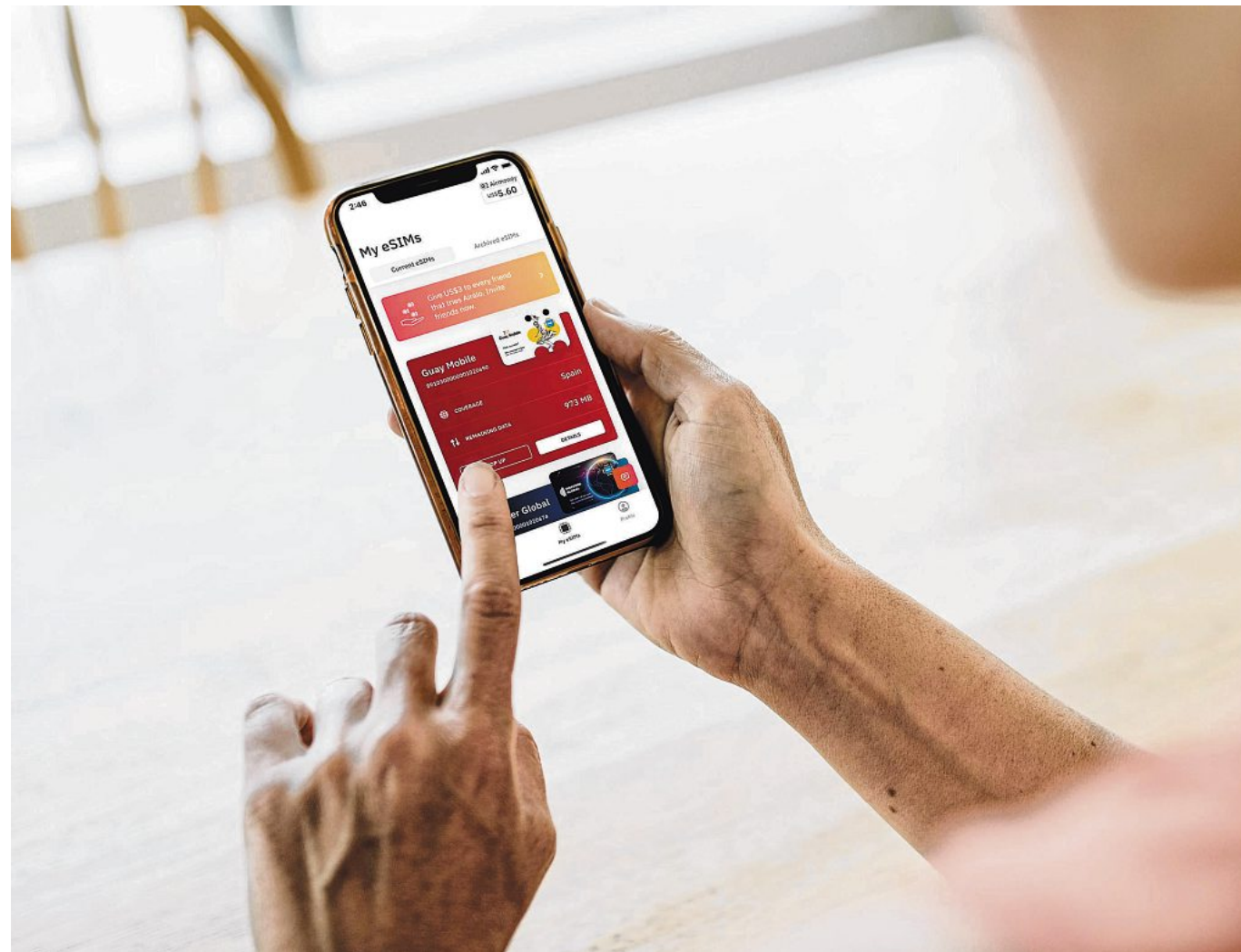
Swapping physical SIM cards for eSIMs has been a game changer for Ms Deborah Gan, 26, a large language model training specialist. She made the switch in late 2021, when borders began opening up to travellers after the pandemic.

"I don't have to wait for an eSIM to get delivered like a physical SIM card. I can just order and activate one on the same day," says Ms Gan, who buys travel eSIMs from e-commerce platform Shopee.

"Also, it's so troublesome to change your physical SIM on the aeroplane, and storing it is another issue because I always worry that I might lose my original SIM card. An eSIM removes all the hassle."

Marketing executive Muhammad Edrie Rizwan, 29, has been purchasing travel eSIMs from both e-commerce platform Shopee and travel booking app Trip.com since 2021. He says the digital product saves time and is simple to set up.

"Once I arrive at my destination,



Mobile activities like e-mail use can consume around 50MB of data an hour, while streaming videos on YouTube can consume 500MB an hour. PHOTO: AIRALO

I just need to click a few buttons and I'm good to go. I also don't have to search for a shop that sells SIM cards at the airport any more," he adds.

More Singaporean travellers are capitalising on the benefits of eSIMs for trips.

In 2023, 15 per cent of Wi-Fi and SIM card purchases in Singapore were made via travel booking platform Klook for eSIMs. In 2024, the number rose to 66 per cent.

From May, the sales of eSIMs surpassed that of physical SIM cards and portable Wi-Fi devices on Klook. The company launched its own eSIM in March, which currently provides coverage in

more than 40 destinations.

Ms Jasmine Seah, marketing director for Singapore and Indonesia at Klook, lists Japan, the United States and Europe as some of the more popular destinations for which consumers purchase eSIMs.

"We started offering eSIMs in 2021. While the product was fairly new in the market, we aimed to provide more connectivity options for consumers," she says.

"Back then, not many phone models were eSIM-compatible and not everyone understood how to use it. Given the rise in its use in recent months, we can see that people are becoming more receptive to using the product."

Singapore-headquartered eSIM marketplace Airalo estimates that by 2030, more than 2.2 billion devices will be eSIM-compatible. Airalo provides eSIMs with global coverage for more than 200 destinations to over 10 million global users.

As the number of eSIM-compatible devices grows, Mr Matteo Papa, Airalo's growth director for Europe and Apac, says it will "effectively spell the end of roaming as we know it".

Other local eSIM providers have observed a similar rise.

Singapore-based travel eSIM provider Jetpac Global, which launched in November 2022 under digital telco CirclesLife, reached its target of 15 per cent conversion in the Singapore market within seven months, faster than it had expected.

Conversion refers to the segment of people who purchased a data plan after browsing its products.

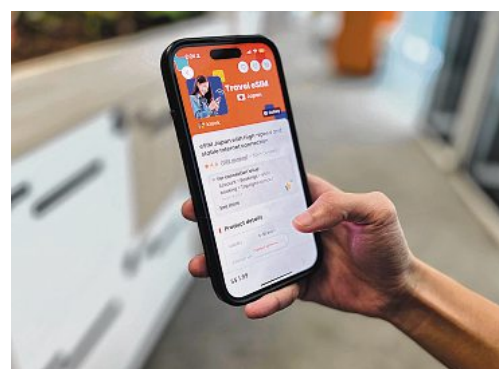
The company saw an opportunity to maximise its growth in the industry and, in January, it took off as a new business division separate from CirclesLife. Since then, Jetpac has seen a 30 per cent month-on-month increase in orders and a 193 per cent growth in website traffic from May to July.

Eskimo, a home-grown travel eSIM brand launched in February 2023, has 250,000 users worldwide, with 16 per cent from Singapore.

Mr Dennis Lee, Eskimo's founder and chief executive, says that convenience and cost-effectiveness are the two key drivers behind the exponential growth of eSIMs.

"In the past, to save cost, you would probably purchase a physical SIM card at your destination. But that means deciding on one foreign telco booth among many and having to queue, and people don't want to waste time doing that at the airport," he says.

As eSIM industry players work towards improving user experience and enhancing coverage,



Travel booking platform Klook launched its own eSIM in March. PHOTO: KLOOK



If your travel eSIM is manufactured in China, you may not be able to access social media platforms like TikTok once it is activated. PHOTO: ST FILE

Airalo's Mr Papa predicts rapid growth.

He says: "More travellers are becoming aware of eSIM technology and adopting it as their preferred way to connect abroad. The eSIM industry is still in its infancy and is poised to become the standard for global travel connectivity in the future."

HOW TO USE ESIMS

For short trips to regional destinations such as Thailand, Malaysia and Indonesia, Mr Edrie spends between \$4 and \$7 on each eSIM, which gives him enough data for occasional social media scrolling and sending WhatsApp messages.

On the Trip.com app, where he buys eSIMs from, travel eSIMs for Malaysia start at 81 cents a day for 500MB of data. On Klook, similar options for Malaysia data coverage start at 75 cents a day.

Meanwhile, a 10GB plan that covers 34 countries in Europe and is valid for two years, offered by Eskimo, costs US\$33 (S\$44).

Some eSIMs tout unlimited data, though Eskimo's Mr Lee advises users to read the fine print before purchasing such options.

He says: "In the industry, the term 'fair use policy' means data providers usually impose a data limit, which can be 500MB a day. Beyond that 500MB, the company will slow down your data connection to 3G or even 2G speed."

According to a post on Airalo's

website, 1GB to 3GB of data a month will suffice for light data users, while heavy users – especially those who stream videos and scroll social media often – can blaze through the same amount in a week. 1GB is equivalent to 1,024 megabytes (MB).

The post estimates that mobile activities like e-mail use can consume around 50MB an hour while streaming videos on YouTube can consume 500MB an hour.

Installing an eSIM involves steps such as toggling mobile service settings and adding the eSIM via QR code. Step-by-step instructions are provided to the customer upon purchase, and are usually available on eSIM providers' websites.

Once installed, the eSIM will activate when it connects to the local network of the country you are travelling to, kick-starting its period of validity.

Most eSIM data plans range from seven to 30 days, but Eskimo's data packages are valid for two years – the longest expiry period in the industry, it claims.

In the event that data is not fully utilised, Eskimo's customers can transfer their remaining data to another user via the app, use it on their next trip within two years or keep it till the end of its shelf life, when it can be rolled over with the purchase of a new data plan.

Other eSIM providers tend to have shorter, fixed validity periods and telcos may automatically activate a new roaming package if

your data runs out overseas.

Klook's Ms Seah advises travellers to consider their connectivity needs and have an idea of how long they intend to use an eSIM before purchasing one.

PITFALLS TO AVOID

Even though eSIMs became popular among travellers only in recent years, the technology is said to have emerged in the tech market at least 14 years ago.

Today, newer models of devices from popular brands like Apple, Samsung and Sony are eSIM-compatible. But some, like Dr Pei Yiyang's Oppo Reno 7 phone, are still not.

Dr Pei, an associate professor who teaches and researches on wireless communications at the Singapore Institute of Technology's Infocomm Technology faculty, advises travellers to check on their device's eSIM compatibility before purchasing an eSIM to avoid disappointment.

She relies on data roaming plans and public Wi-Fi networks for connectivity when travelling.

Personal trainer Nicole Heng, 29, has heard stories of friends purchasing eSIMs on e-commerce sites and not being able to activate them overseas. So, for now, she has chosen to stick with her telco's data roaming plan.

"Data roaming add-ons to my mobile plan have made it pretty easy to stay connected overseas and at least I'm assured that it will work," she says.

Some eSIM users who purchase from third-party sites may not be able to access social media platforms like TikTok or Facebook when overseas.

Mr Edrie says: "Social media is important to me when I travel, but some vendors sell eSIMs that are made in countries like China where the international version of TikTok is banned."

WHAT'S NEXT IN CONNECTIVITY?

Dr Pei says that the next frontier in cellular connectivity is 5G non-terrestrial networks (NTN), which are fifth-generation cellular technology systems integrated with satellites. Traditional terrestrial networks use ground-based infrastructure to provide wireless connectivity.

NTNs will enable seamless connectivity in remote destinations or areas out of cellular service range – like far out at sea or on a flight. However, this will take some time to reach the consumer market.

"We can expect to see an increase in industry-use case trials for 5G NTN in the coming years, perhaps in the maritime sector first," says Dr Pei.

"There needs to be robust satellite infrastructure in place and devices that can support 5G NTN before it is ready for the mass market."

She estimates that it will be around five years before 5G NTN is available to consumers and says its introduction could bring down the cost of connectivity plans on cruises and planes.

In the meantime, the increased adoption of eSIMs is expected to impact local telcos as eSIM users have the flexibility to switch mobile providers more easily.

Apart from being used for travel, eSIMs can also replace regular SIM cards issued by mobile providers. This will mainly benefit those with no contract, SIM-only plans.

A study by international analytics firm Opensignal found that 70.6 per cent of active Singapore eSIM users switched operators in the first quarter of 2023. Among those who switched operators, some did so permanently, while others swapped back and forth between different operators.

At present, the three major mobile operators in Singapore – Singtel, StarHub and M1 – offer eSIM plans. Charges starting at around \$10 apply for those switching from physical SIM cards to eSIMs.

As eSIMs pave the way to a more seamless connectivity experience, customers can look forward to more innovative products as brands strive for customer loyalty in an increasingly competitive environment.

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