

Webinar:

What Mattered in 2025: Opensignal Analyst Wrap-up



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Agenda

What will we cover over the next hour

Introduction
to
Opensignal

The path to
5G

FWA and its
impact

In-Home
Broadband

Starlink -
internet and
D2D

AI and
innovation

Q&A

Global reach, global expertise and global insight



118 
operators in over 50 countries

billions 
of crowdsourced network data points collected

170+ 
Mobile, broadband and market
insight reports published in 2024

Opensignal supports operator marketing, sales, and network teams



For Sales and Marketing Professionals

Independent Brand Validation

Retail and Digital Sales Enablement

Subscriber Market Share and Churn Analysis

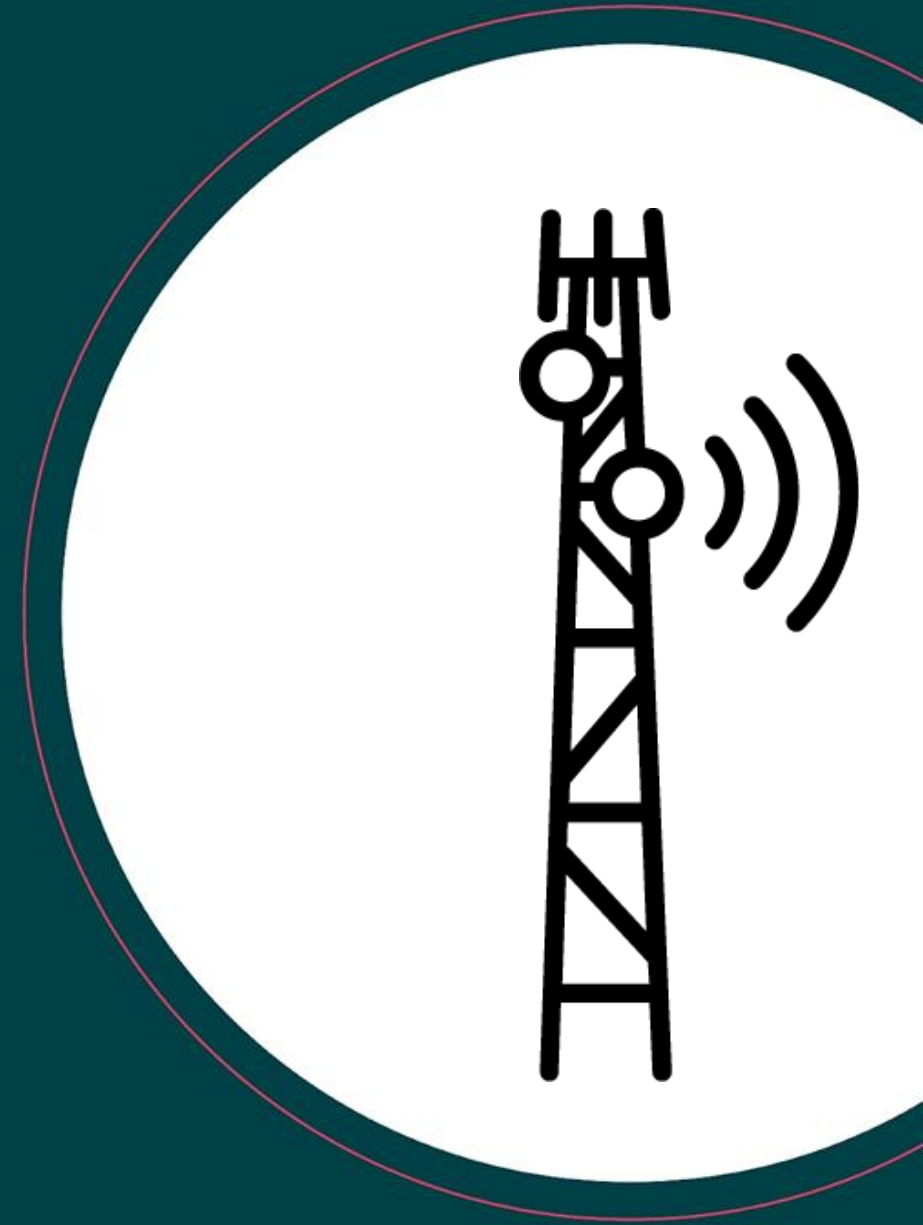


For Wireless and Broadband Network Teams

Network Experience Insights & Actions
for Executives, Benchmarking Teams, and Engineers



The path to 5G (and beyond)



State of Network Evolution

North America

3G shutdown concluding; 5G SA emerging

Europe

5G maturing; C-band & low band focus

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Middle East and Africa

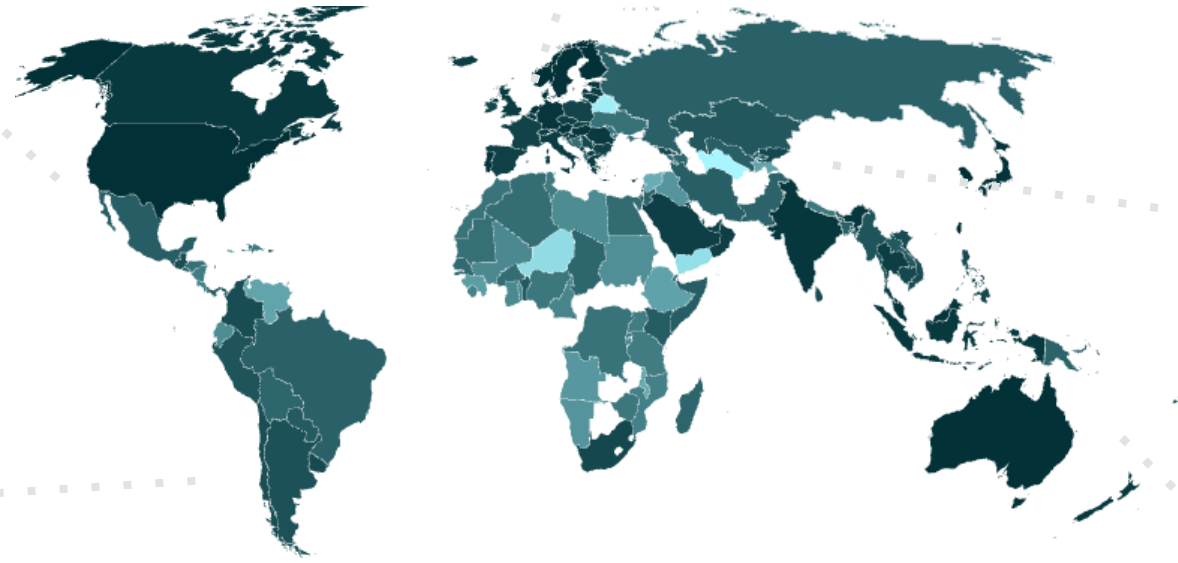
GCC embarking on 5G Advanced, Africa starting the journey

South America

4G dominant; slow 5G progress

Asia Pacific

Ongoing shift to 5G Standalone in mature markets, rest follows



© Australian Bureau of Statistics, GeoNames, Microsoft, Navinfo, Open Places, OpenStreetMap, Overture Maps Foundation, TomTom, Zenrin
Powered by Bing
Time on 4G/5G (%) 50 100

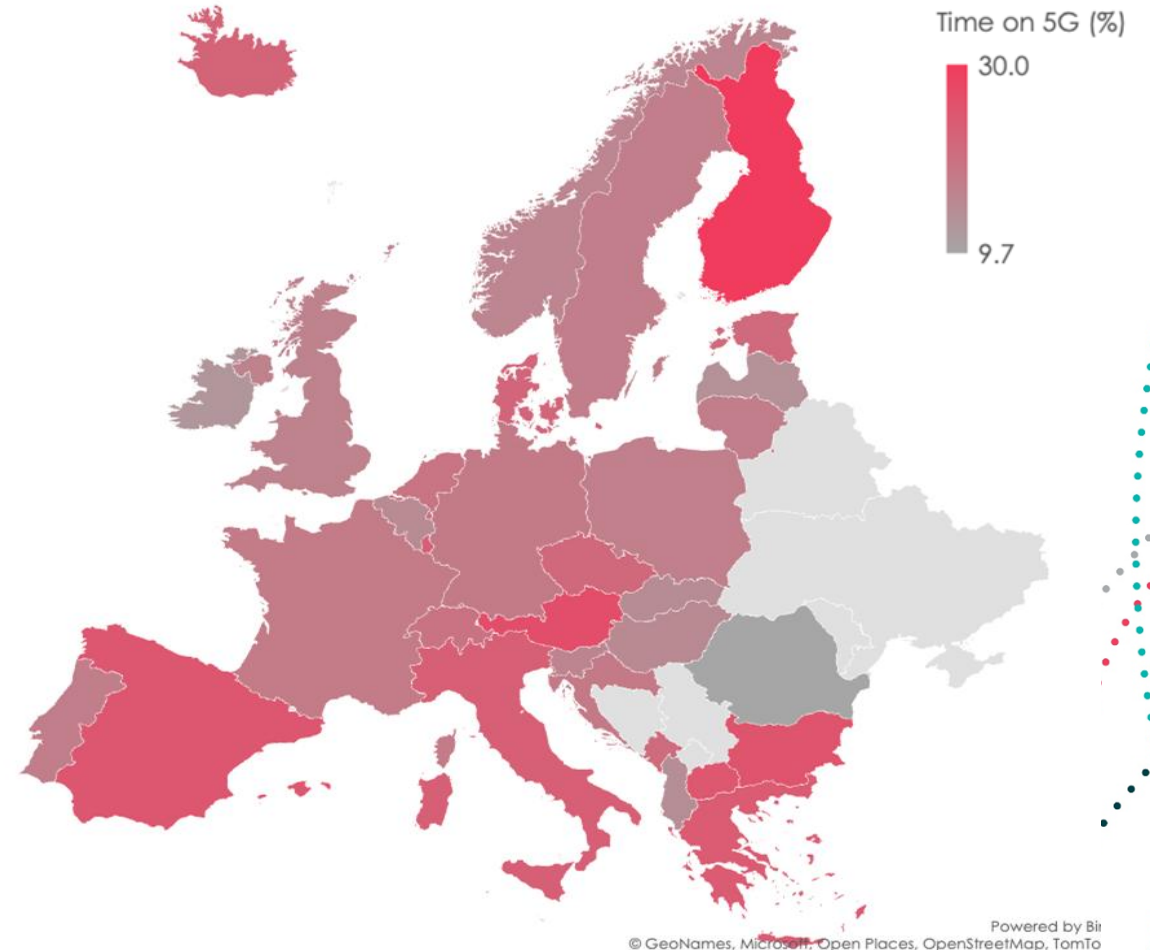
In Europe, as 5G matures the focus shifts to quality of experience and extending coverage

5G momentum shifted from coverage, to improving QoE

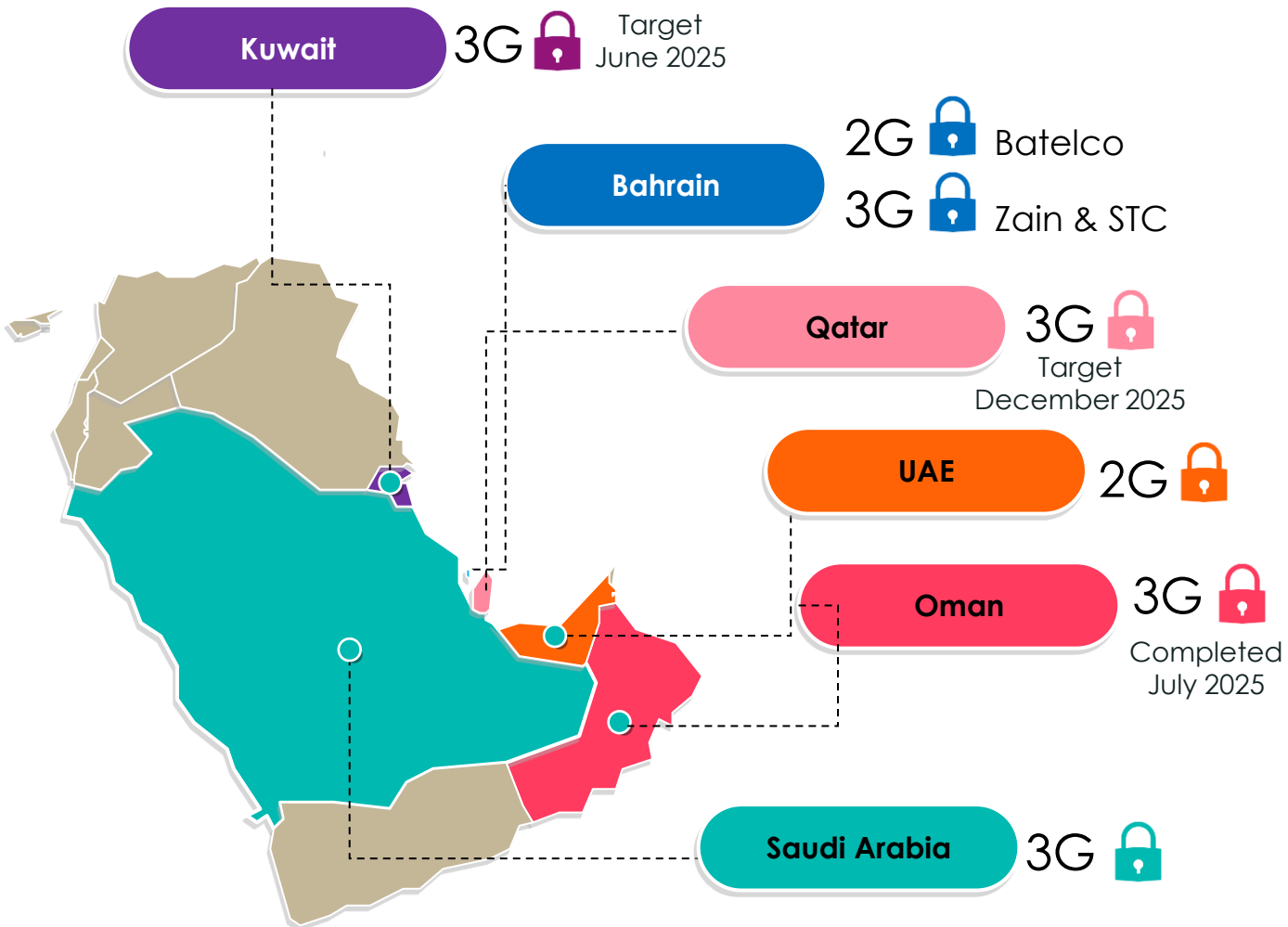
Enabling the critical mid-band layer (C-band)

Legacy sunsets accelerate spectrum efficiency

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In GCC, 2G/3G networks are being sunsets



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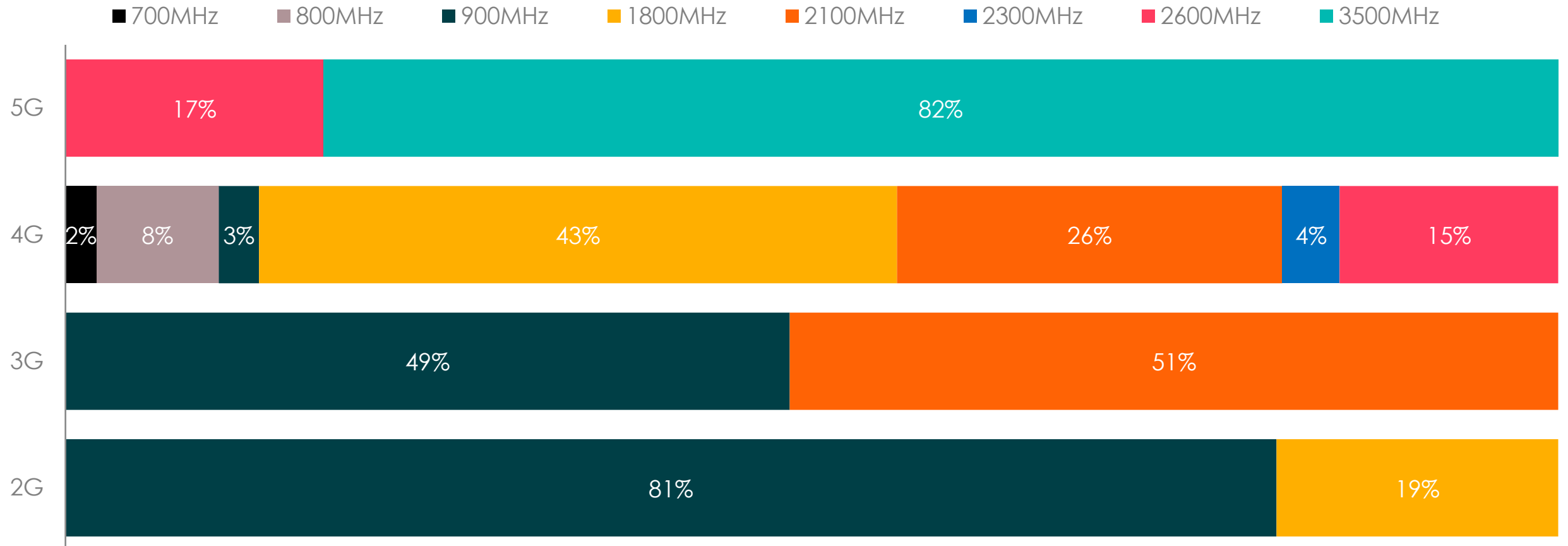


The drivers for this transition are both technical and operational:

- Spectrum efficiency and refarming
- Operational simplification
- Improve customer experience
- Energy efficiency
- Enhanced security and capabilities

And the legacy (2G/3G) spectrum is starting to be refarmed for 4G and 5G networks

Proportion of readings on network generations by spectrum bands



As 5G Advanced expands its presence



• 3GPP Release 18 and beyond

• 5G Standalone (SA) Core is essential for full access to 5G-Advanced features

• Enable a step-change in network capacity and flexibility.

• Use new spectrum and extremely large antenna array.

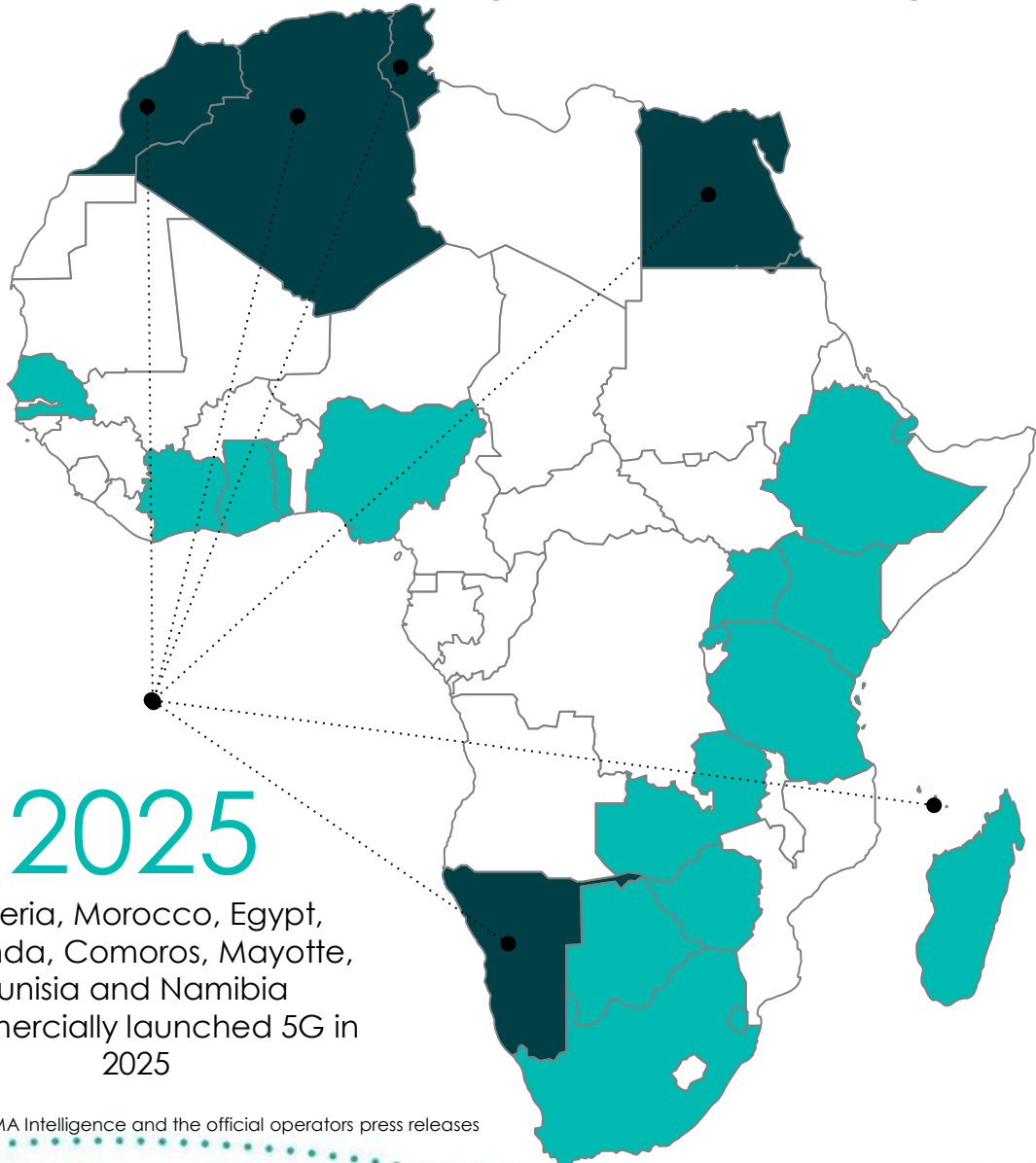
• Deliver much greater automation and AI-driven analytics

• Network operation efficiency



The next evolution of 5G technology that acts as a bridge between 5G and 6G.

Yet, 5G rollout pace is very different across Africa



30%

of African countries had assigned spectrum for 5G services to operators.

59

operators in 31 markets across the region had launched commercial 5G mobile services as of December 2025.

2025

Algeria, Morocco, Egypt, Rwanda, Comoros, Mayotte, Tunisia and Namibia commercially launched 5G in 2025

3.8%

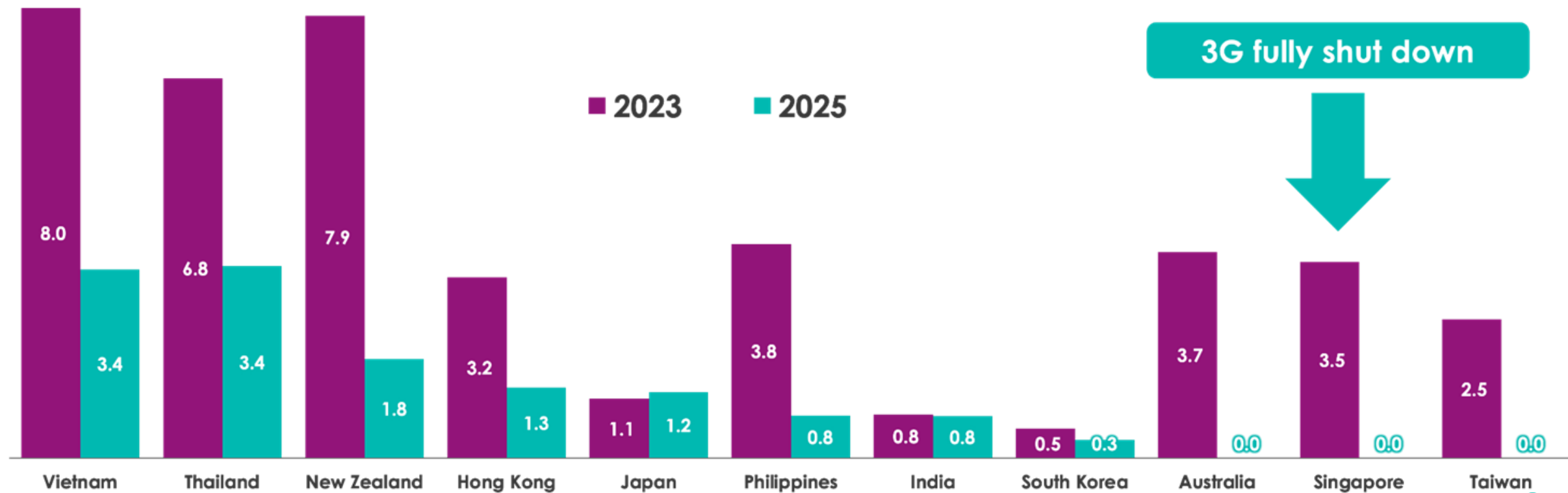
of total connections in Africa are forecast to be 5G by the end of 2025

In APAC, 3G networks use is rapidly diminishing

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Time on 3G (% of time)



As 5G standalone is taking off across the region

5G SA deployments

- Japan (au, NTT docomo, SoftBank)
- Singapore (M1, Singtel, Starhub)
- Malaysia (DNB, U Mobile)
- South Korea (KT)
- Hong Kong (CMHK)
- Thailand (AIS)
- India (Jio)
- Philippines (DITO)

Benefits of 5G SA vs 5G NSA



1.5x faster speeds



25% lower latency

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Japan



Singapore



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The Growth of Fixed Wireless Access (FWA)



More than **150 operators** across **76 countries**

have launched some form of commercial 5G FWA as of March 2025, as per the GSMA. FWA delivers value across a range of uses:



Targeting new fixed broadband users

- Primary broadband
- Underserved/rural areas



Competing on service quality/value

- Competing with cable providers on cost
- Offering better value and speed to xDSL subscribers



Complementing fiber offerings

- Dense urban environments (MDUs)
- Redundancy and failover as an optional upsell for premium subscribers



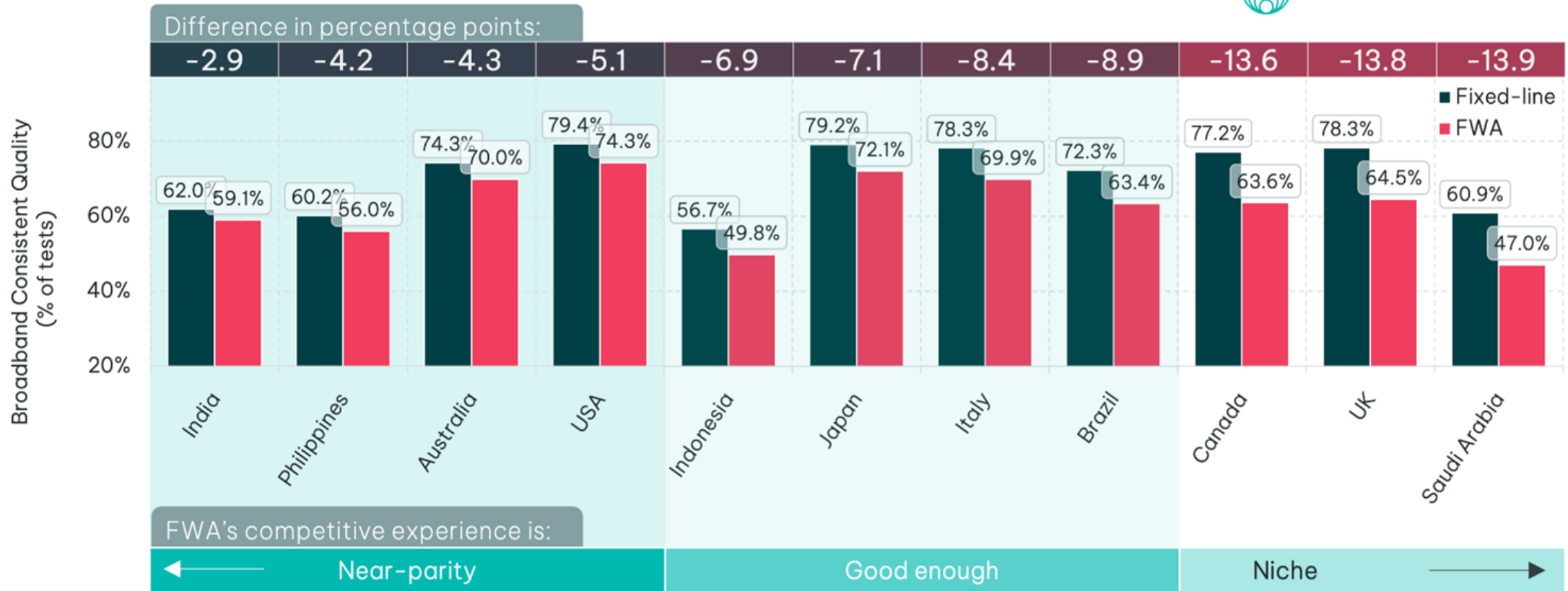
Addressing wider use cases

- Secondary or vacation homes
- Small & Medium Businesses (SMB)

FWA offers a mix of experience

In a handful of markets, FWA experience is almost on par with fixed-line

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With relatively small difference compared to fixed-line, FWA acts as a direct alternative

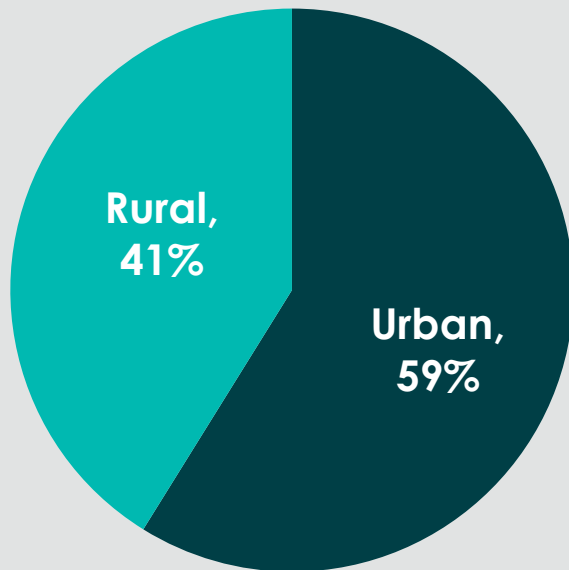
When experience on FWA falls short compared to fixed-line, it acts as a bridge for access gaps

5G drives FWA adoption in India

India is the second largest market for FWA subscribers after the USA

FWA growth is coming from both rural and urban areas

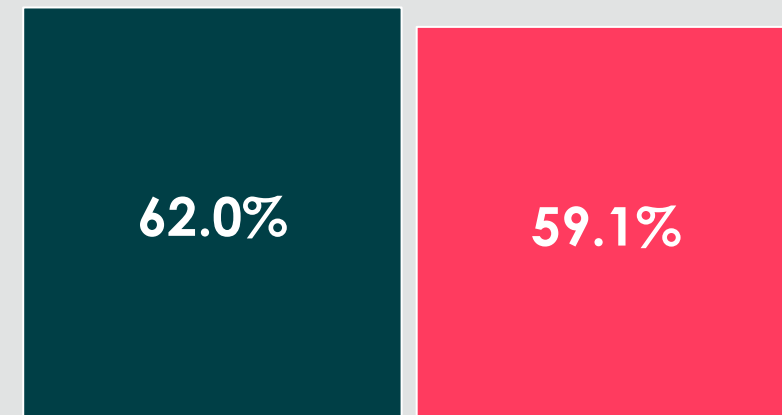
5G FWA subscribers by urbanicity



FWA performance is near-parity with fixed-line solutions

Broadband Consistent Quality by access technology

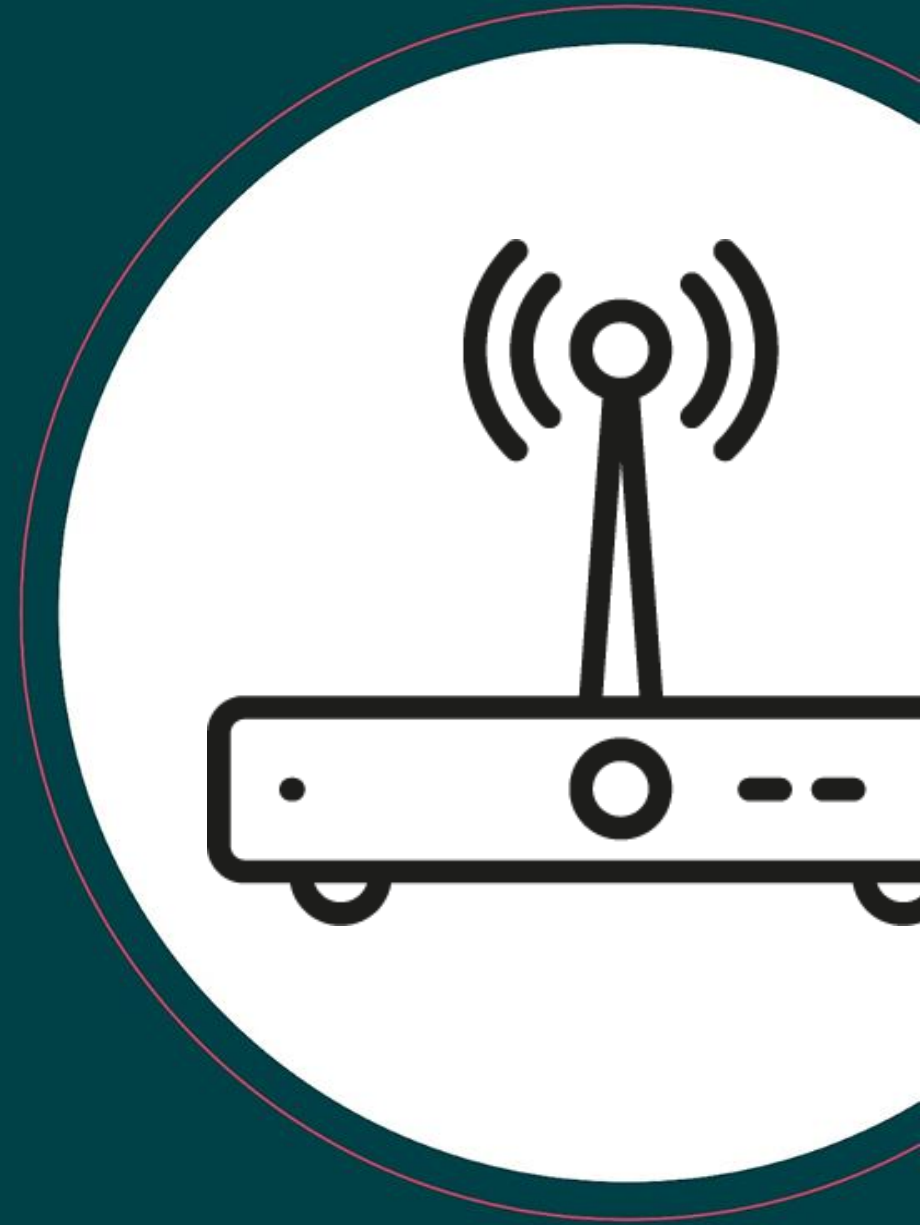
■ Fixed-line ■ FWA





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Shaping In-Home Wi-Fi Experience



Wi-Fi home gateways are the hidden bottleneck in broadband experience

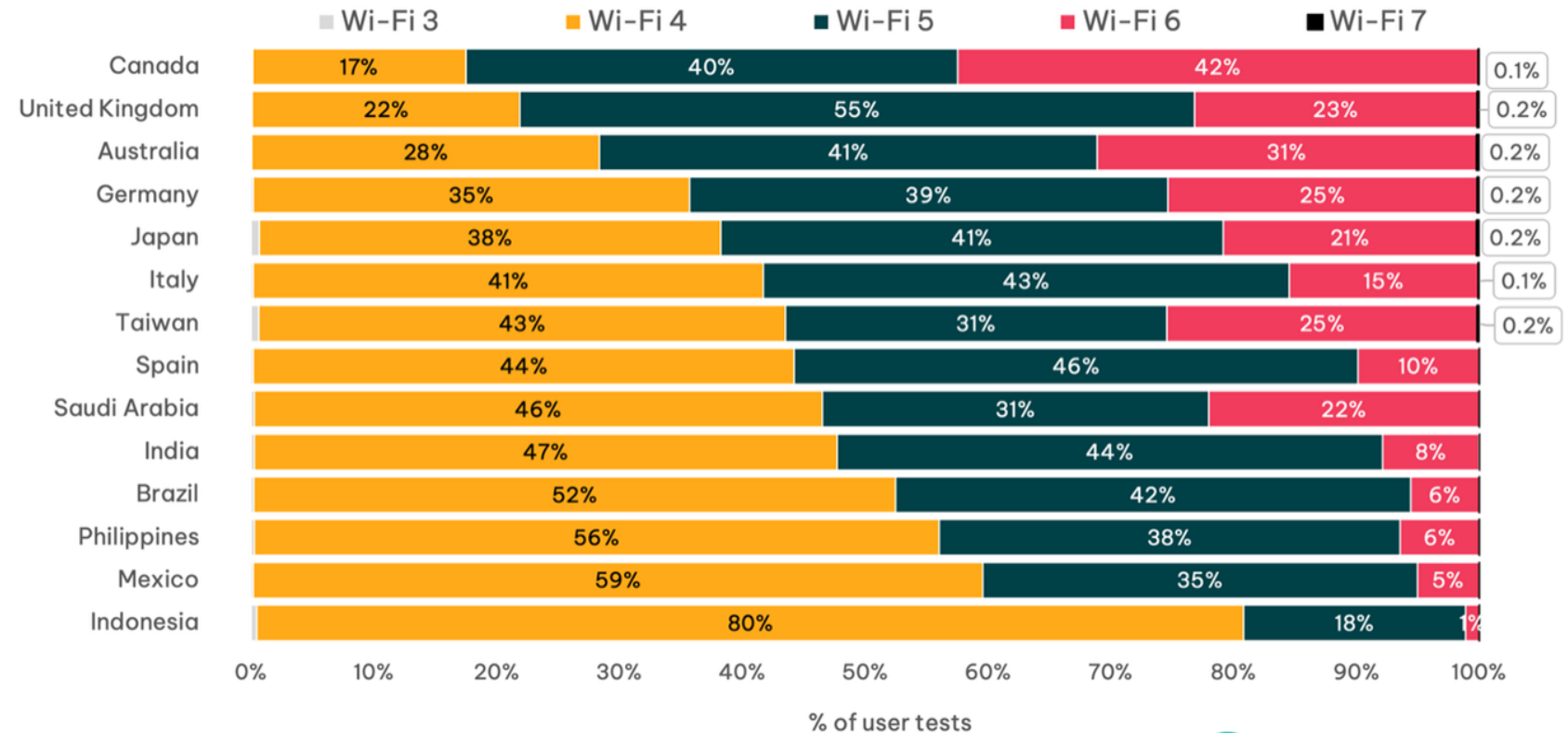
Access technology is no longer the main constraint in many markets

In-home Wi-Fi environment is a differentiator for ISPs

Gateways & customer premises equipment strategy directly shape user experience



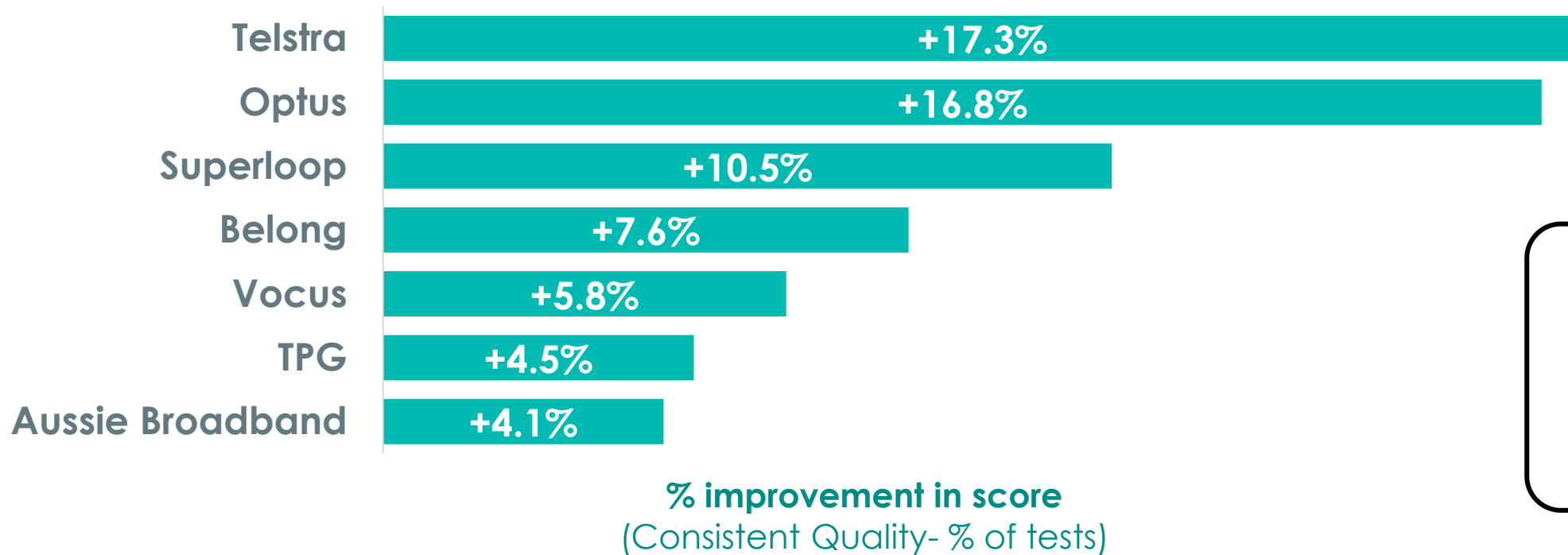
Time spent connected to different Wi-Fi generations as measured by our users; Q3 2025



Source: Opensignal | Using data collected over period: 01 July – 29 September 2025 (90 days)

ISP-provided gateways deliver better Wi-Fi experience than Bring Your Own (BYO) devices

Improvement in Consistent Quality on wired broadband for users with ISP-provided gateways/routers compared with those using Bring-Your-Own devices



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Note: In this analysis, we only examine experience on wired broadband (fiber, cable, DSL), with fixed wireless access (FWA) excluded. Data collection period: 1 Mar – 29 May 2025 (90 days) | © Opensignal Limited



Starlink and the rise of D2D



We must be careful with comparisons between D2D and satellite internet

While both might be provided by Starlink and use the same satellite constellations, the limitations and experience are very different



Starlink internet uses **specialized devices** to send and receive connectivity.

Starlink D2D uses your existing smartphone, which has a much **smaller antenna** and much less power.



Current Starlink D2D services support either **text messaging** only, or a **limited range of apps**.



Current D2D services are designed to work **alongside mobile services**, rather than separately. Additionally, the service is aimed at users **on the go**. This means more handoffs and more complexity.

Starlink Internet impacts rural broadband internet

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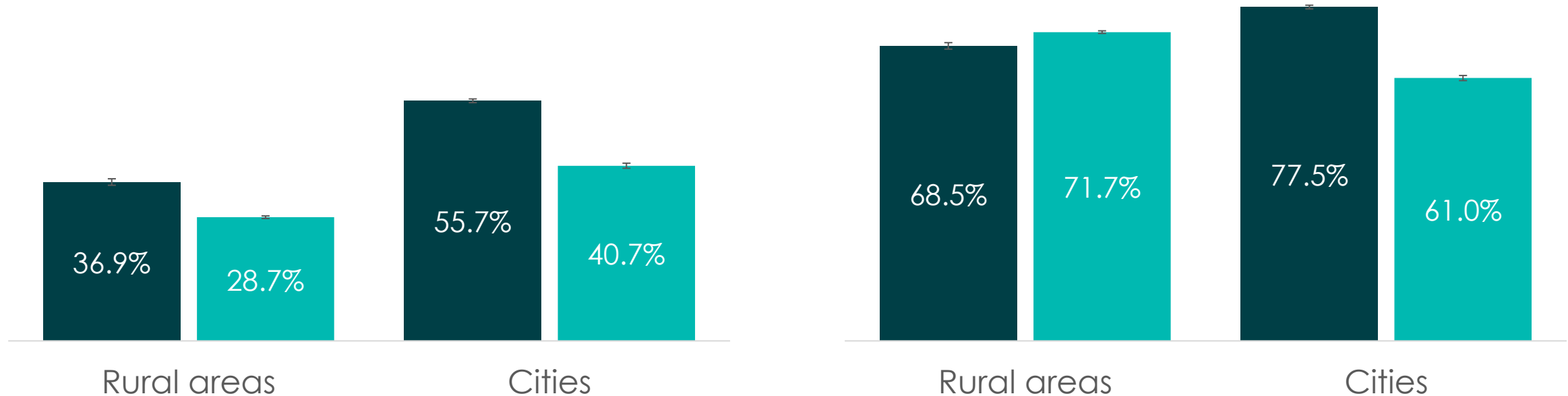
Consistent Quality (% of tests)

Indonesia

■ FWA ■ Starlink

Canada

■ FWA ■ Starlink



As the goal of satellite connectivity is to help reduce “not-spots”

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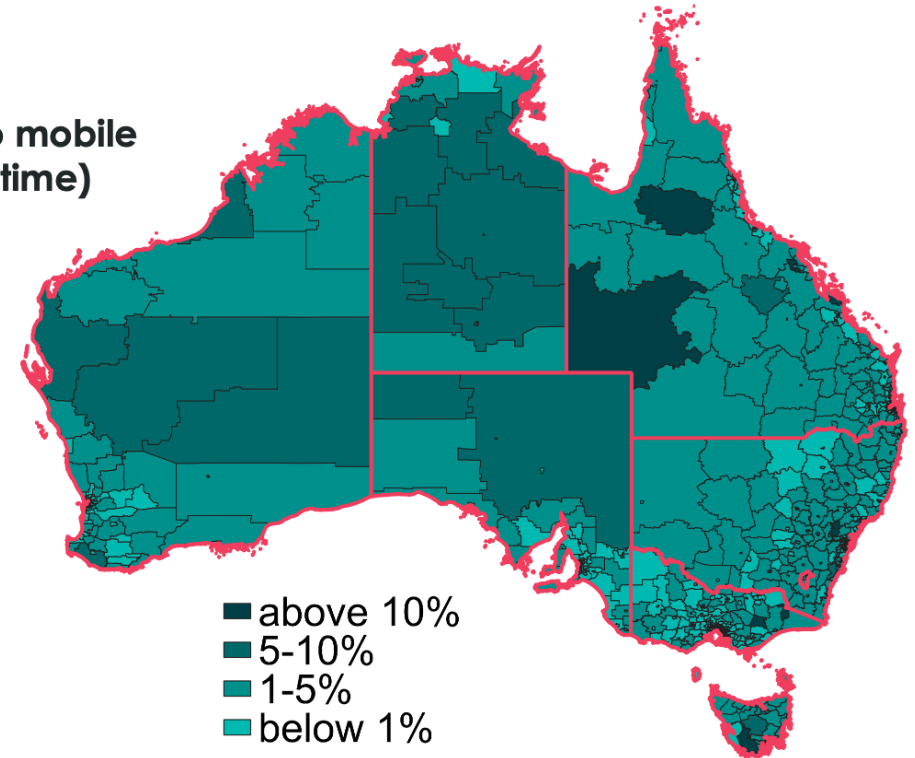


D2D partnerships in APAC

- Starlink
 - Australia — Optus, Telstra
 - New Zealand — One NZ
 - Japan — KDDI (au)
- AST Space Mobile
 - Japan — Rakuten Mobile
 - India — Vi
- Lynk Mobile
 - Philippines — Globe Telecom
- Viasat
 - India — BSNL



Time with no mobile signal (% of time)





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AI and innovation



AI in telecoms: a dual strategy

Cost reduction & efficiency

Focus: Immediate OPEX reduction and "Zero-Touch" operations



Generative AI for IT & coding



Agentic AI in customer service



Predictive network maintenance



Operators like Telefónica and AT&T are targeting billions in savings here.

The Growth Engine

Focus: Validating new revenue streams beyond connectivity



AI Infrastructure as-a-Service



Dynamic bundling



Sovereign AI platforms



AI is the primary tool being deployed to reverse decrease in APRU through personalization and dynamic pricing

The structural pivot: from connectivity provider to AI-First business

Structural transformation (Organizational Shift)



MNO-AI Split:

- MNO CIC (efficiency)
 - AI CIC (growth)
- \$3.6bn AI revenue by 2030



Separate AI business units

Singtel / Nxera



Data & AI as a core vertical

Telus International's Data & AI solutions unit

AI infrastructure and CapEx (The Compute Provider)



The AI Factory

€1 Billion+ investment in NVIDIA GPUs



Sovereign data centres

AI-ready, sovereign data centres across the region



Cloud-Native RAN automation

fully cloud-native driven by AI automation in the RAN

Sovereign AI Advantage (Trust Provider)



GDPR-Compliant platform:

- partnered with European LLMs like Mistral AI



Financial services AI

Advanced AI for fraud detection and risk scoring for M-PESA



Bespoke industry solutions

AI services + **KT Cloud AI** platform for specific industries



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