

We are the industry's leading source of data and insights, serving the mobile ecosystem and beyond. Get in touch with our analysts at info@gsmaintelligence.com

Is the use of mmWave in 5G cost effective?

Use of mmWave spectrum in mobile networks – for access, not backhaul – is relatively new. Combined with limited reach, its place in a viable business model is sometimes questioned. However, compared to using 3.5 GHz spectrum alone, it can offer a compelling option in terms of total cost of ownership (TCO), particularly in areas with high levels of traffic.

A key benefit of mmWave spectrum (24 GHz and above) is the amount available in many markets, allowing **massive capacity** to be delivered.

AVERAGE BANDWIDTH PER OPERATOR



The value of mmWave 5G depends on the **services and use cases** it supports. The savings it can deliver over other options depend on a number of market and deployment realities.

Full report: [The economics of mmWave 5G](#)

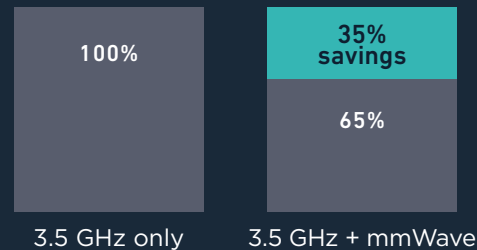
USE CASE



DENSE URBAN CONNECTIVITY

Generating ultra-fast capacity hotspots in dense urban areas

TCO



- **Traffic demand:** very high population density and 25% connected users
- **Propagation:** 3.5 GHz band for coverage
- **Operator:** 30% market share



FIXED WIRELESS ACCESS

Providing fibre-like speeds in residential broadband FWA

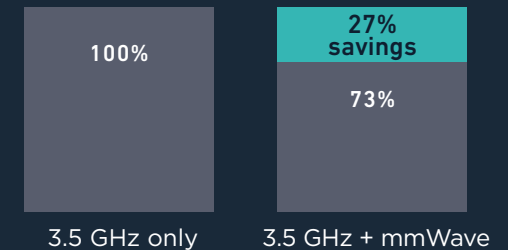


- **Traffic demand:** high data consumption growth and 10% busy hour share
- **Propagation:** rural area
- **Operator:** 30% of households



ENTERPRISE 5G

Enabling next-generation enterprise communications equipment



- **Traffic demand:** moderate share of devices on an indoor 5G network
- **Propagation:** 3.5 GHz band for coverage
- **Devices:** laptops, smartphones, security cameras, conference room equipment