

# Connecting the Unconnected

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The Nokia logo is displayed in white, uppercase letters within a large white arrow shape that points to the left. The arrow is set against a background that transitions from a dark red at the top to a lighter orange at the bottom.

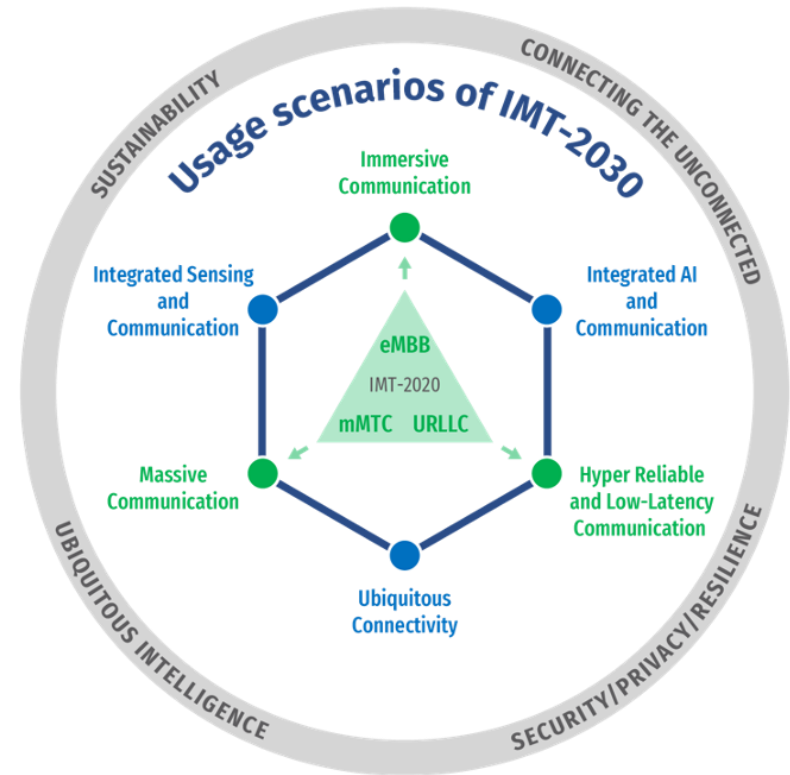
# Ubiquitous Connectivity

## IMT 2030 definition

This usage scenario is intended to **enhance connectivity with the aim to bridge the digital divide**. Connectivity could be enhanced, *inter alia*, through interworking with other systems (see § 5.1.2).

One focus of this usage scenario is to **address presently uncovered or scarcely covered areas**, particularly rural, remote and sparsely populated areas.

Typical use cases include, but not limited to, **IoT and mobile broadband communication**.

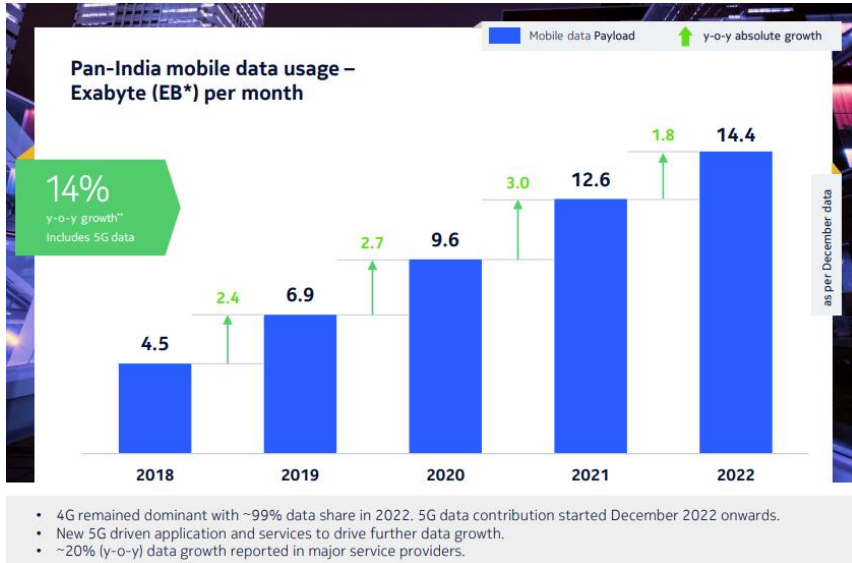


# UBIQUITOUS CONNECTIVITY



# Mobile Connectivity

## Delivering broadband to the masses



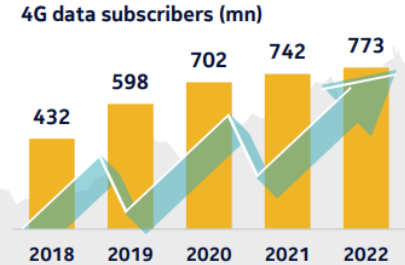
Major 5G uptake is expected starting 2H 2023. Expected **5G data usage** by 2024: (per annum): 43.7 EB.<sup>3</sup>

Expected subscribers by 2024 -

- **5G:** ~150 mn<sup>3</sup>
- **Combined (4G + 5G):** ~990 mn<sup>3</sup>

4G subscriber addition stabilizing after ~5 years of solid growth

Further subscriber addition to be driven by 5G and existing 2G subscribers (350 mn)<sup>1</sup> migrating to 5G/4G.



**31 million**  
added/migrated in 2022

Source: 1. Nokia Analysis 2. Operator Quarterly Reports, TRAI 3. OMDIA  
\*1EB=1000 PB \*\*Represents y-o-y growth for Dec-21 to Dec-22

Source: Nokia MBit report 2023 ([https://www.nokia.com/sites/default/files/2023-02/mbit-10th-edition-for-2023\\_1.pdf](https://www.nokia.com/sites/default/files/2023-02/mbit-10th-edition-for-2023_1.pdf))

# “Mobile Connectivity for All”

## Considerations

- Application needs – **latency, throughput, affordability**
- **Ubiquitous/Minimum quality** across **coverage** area – Grow serviceable area grow, while offering a certain guaranteed data throughput
- **Coverage and services continuity** can be achieved through access to **low band and mid-band** spectrum
  
- **Targets and Challenges**
  - Ship in the ocean or hut in a jungle or shop in a village or high rise in a city?
  - Beyond technological issues - Power, Backhaul, Devices, Spectrum, Regulation (determine KPIs)

***Collective effort*** – Operators, Vendors, Policymakers

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