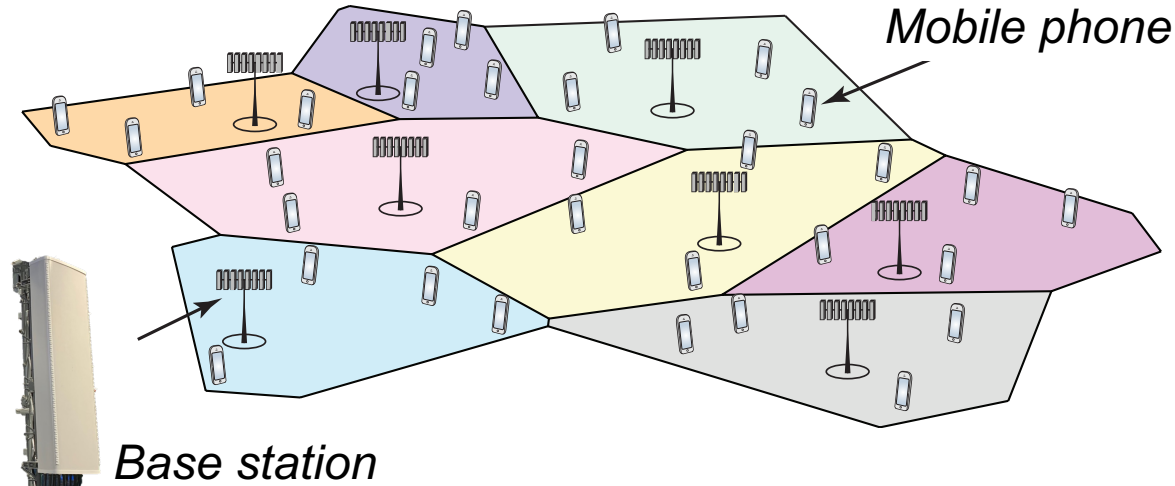


A person stands on a rocky mountain peak, holding a device that emits a series of glowing blue concentric circles, resembling a Wi-Fi signal. The scene is set against a backdrop of a vast, mountainous landscape at dusk or dawn, with a city visible in the valley below. The sky is dark with stars, and the overall atmosphere is futuristic and awe-inspiring.

# 6G: What, why, and how?

# Cellular networks

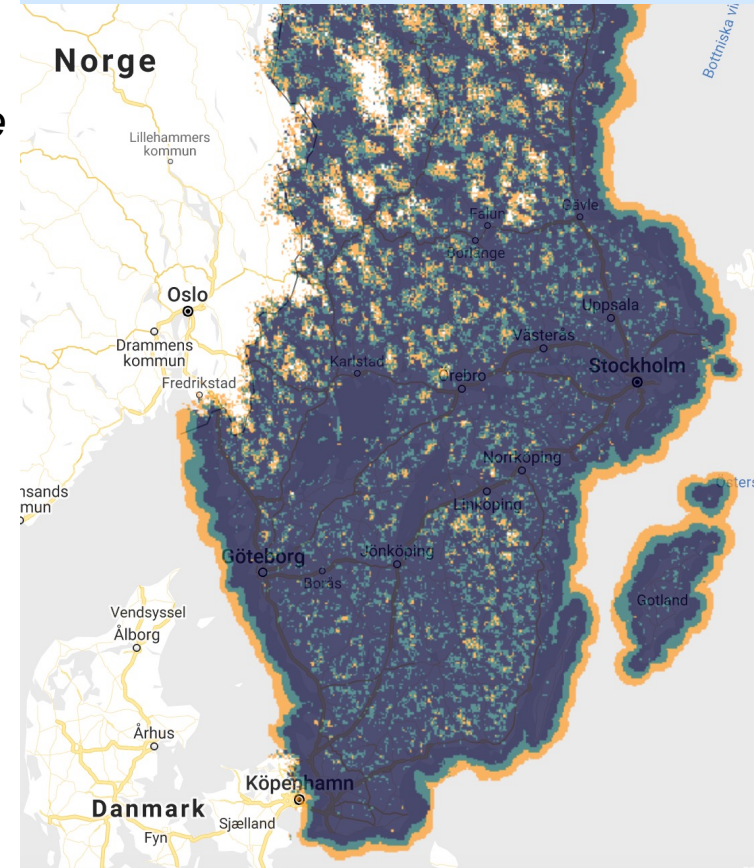


## Performance:

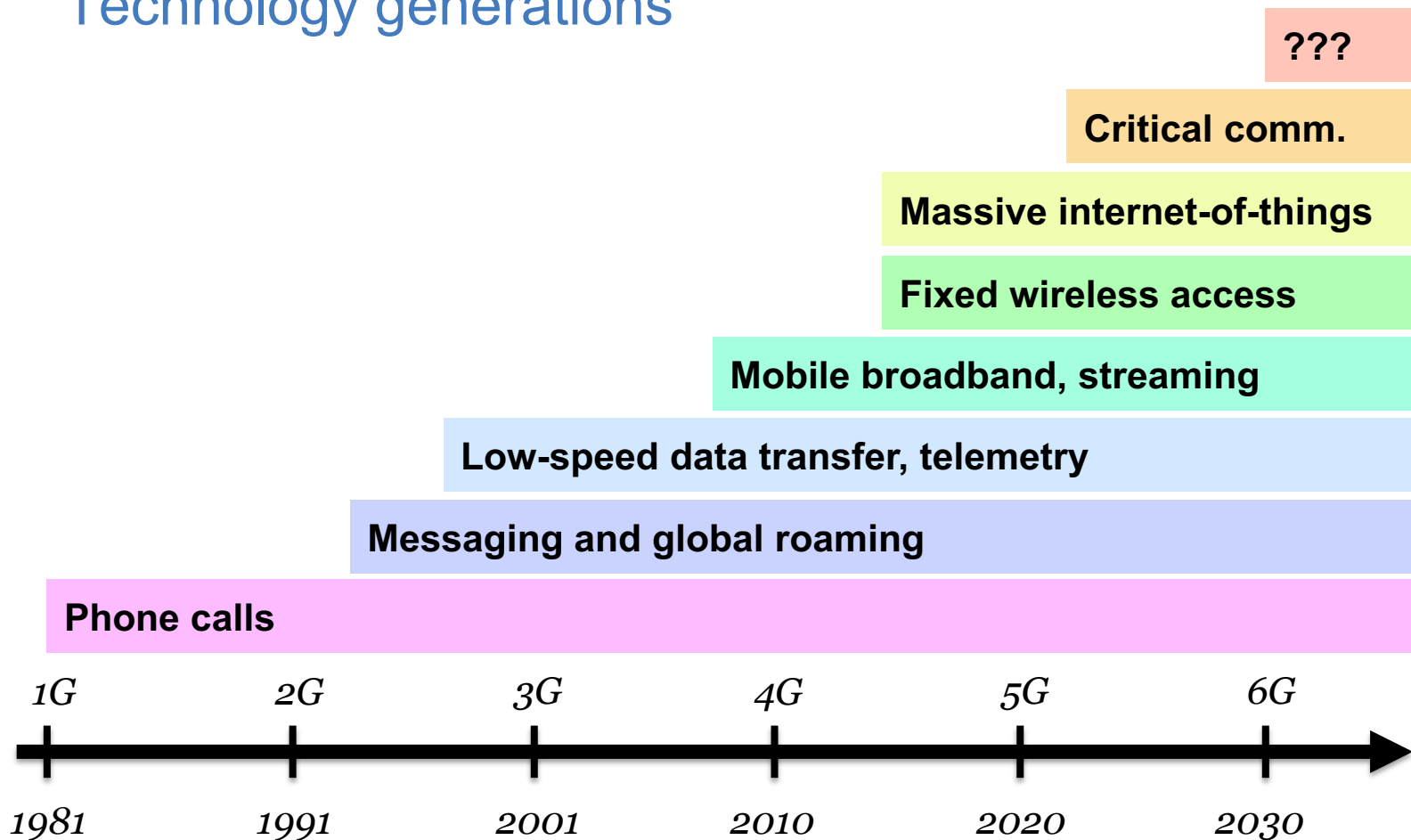
bits per second,  
latency, etc.

## Coverage:

Where devices “reach” base stations



# Technology generations

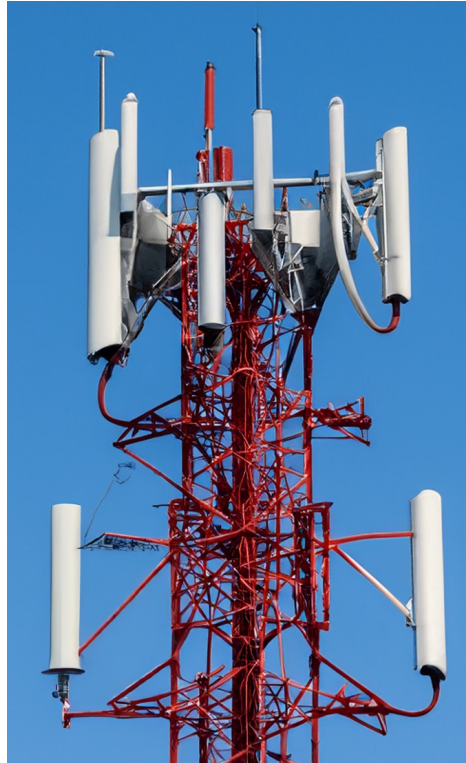


# Network Evolution

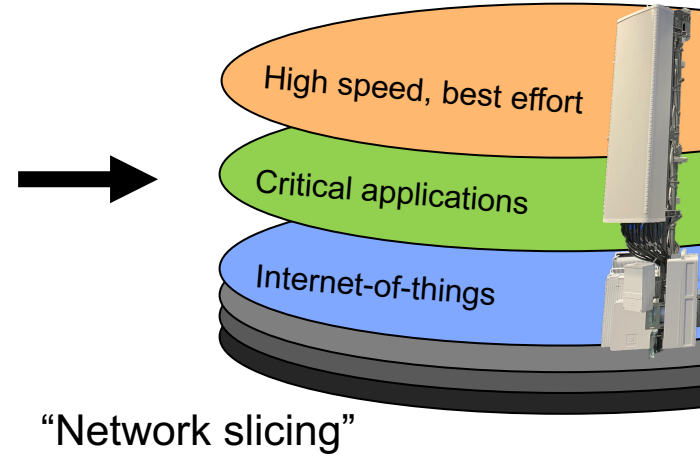
**One network per application**



**One network for all applications**

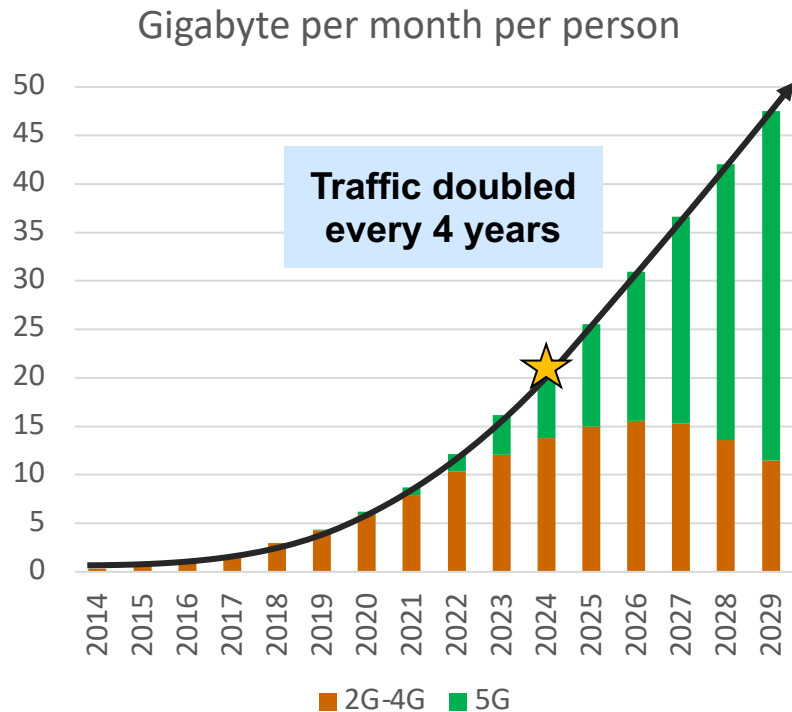


**One physical network, virtual networks for different applications**



# Why 6G?

## Traffic demand



Ericsson Mobility Report, 2024

## New applications

(Enhanced current applications)

1. Industrial and societal automation
2. Brain-computer interfaces
3. Self-driving vehicles
4. Artificial intelligence
5. Global coverage
6. Extended reality
7. Radar sensing

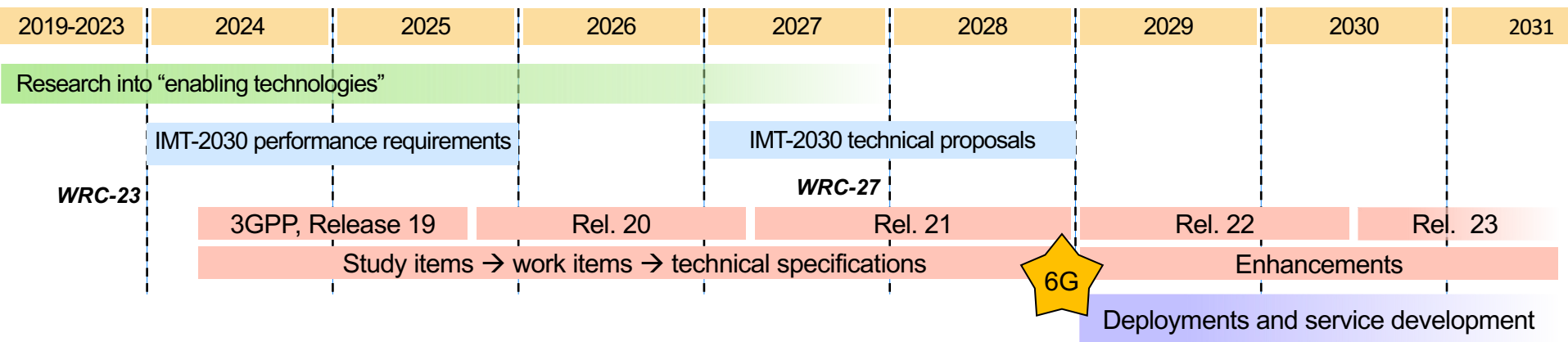
...



# Key Players in 6G Development



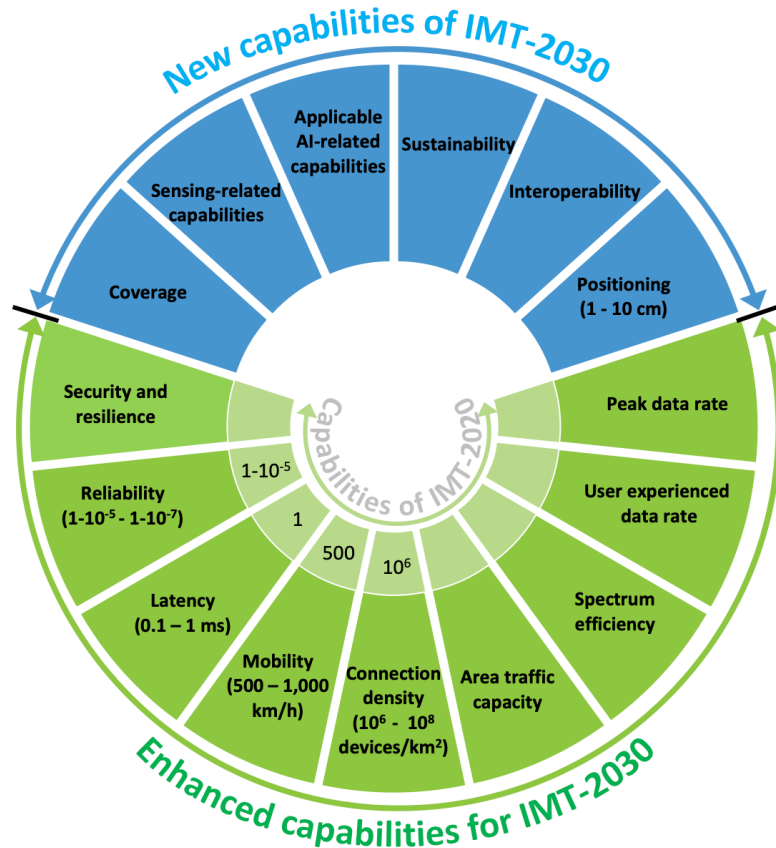
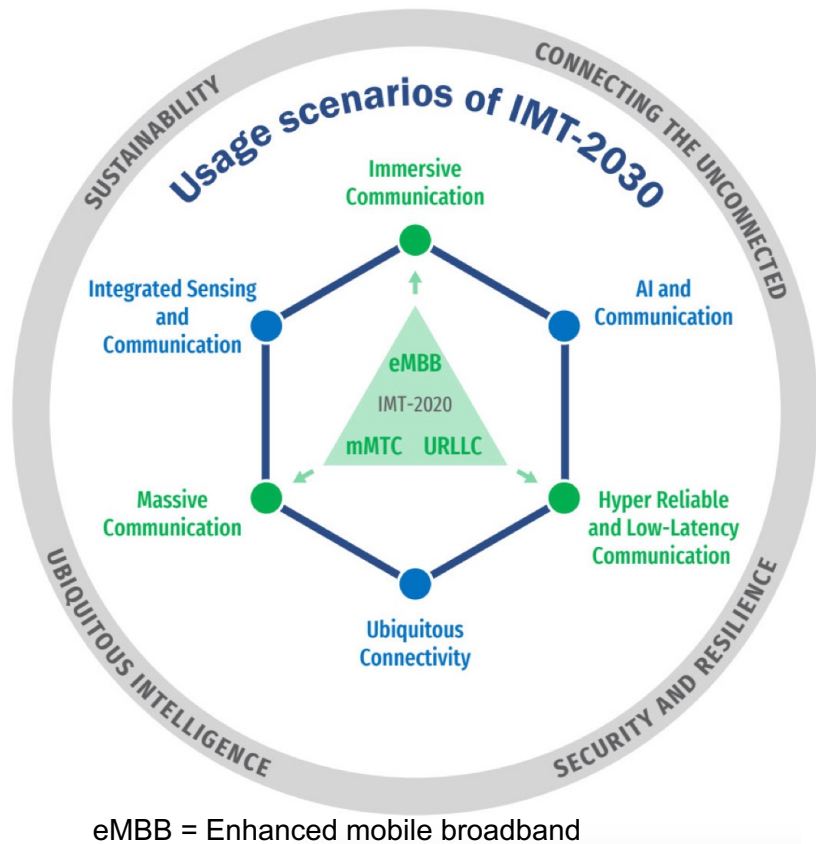
1. Requirements: ITU (International telecommunication union), stakeholders
2. Specifications: 3GPP (3rd Generation Partnership Project)
3. Technology component: Global research community



IMT = International Mobile Telecommunications

WRC = World Radiocommunication Conference

# IMT-2030 Scenarios and Requirements



eMBB = Enhanced mobile broadband

5G: mMTC = Massive machine-type communications  
URLLC = Ultra-reliable low latency communications

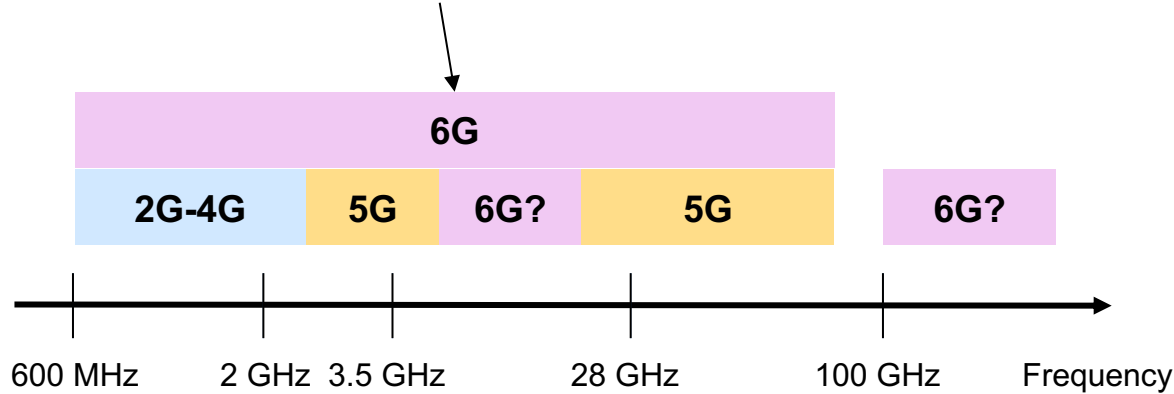
# 6G Spectrum

## WRC-23 candidates:

- 4.4-4.8 GHz
- 7.1-8.4 GHz
- 14.8-15.35 GHz

### Golden band

Good coverage, higher speeds



Better coverage

Higher speed, precision





## **6G will be**

- Many different things
- One network for all applications in the next decade