

Unleashing the human potential in the 6G Era

A woman with long brown hair, wearing a white hoodie, is shown in profile, looking upwards. The background consists of abstract, wavy patterns in shades of blue and purple, creating a sense of movement and depth. The overall mood is futuristic and aspirational.

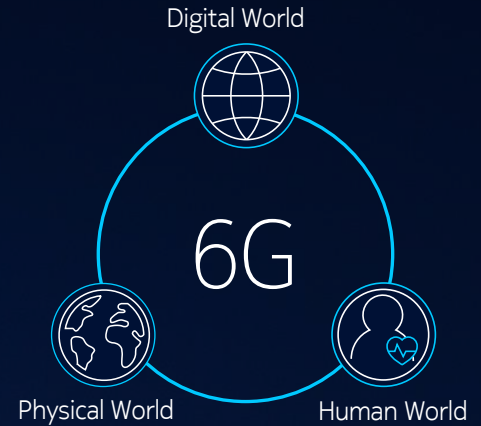
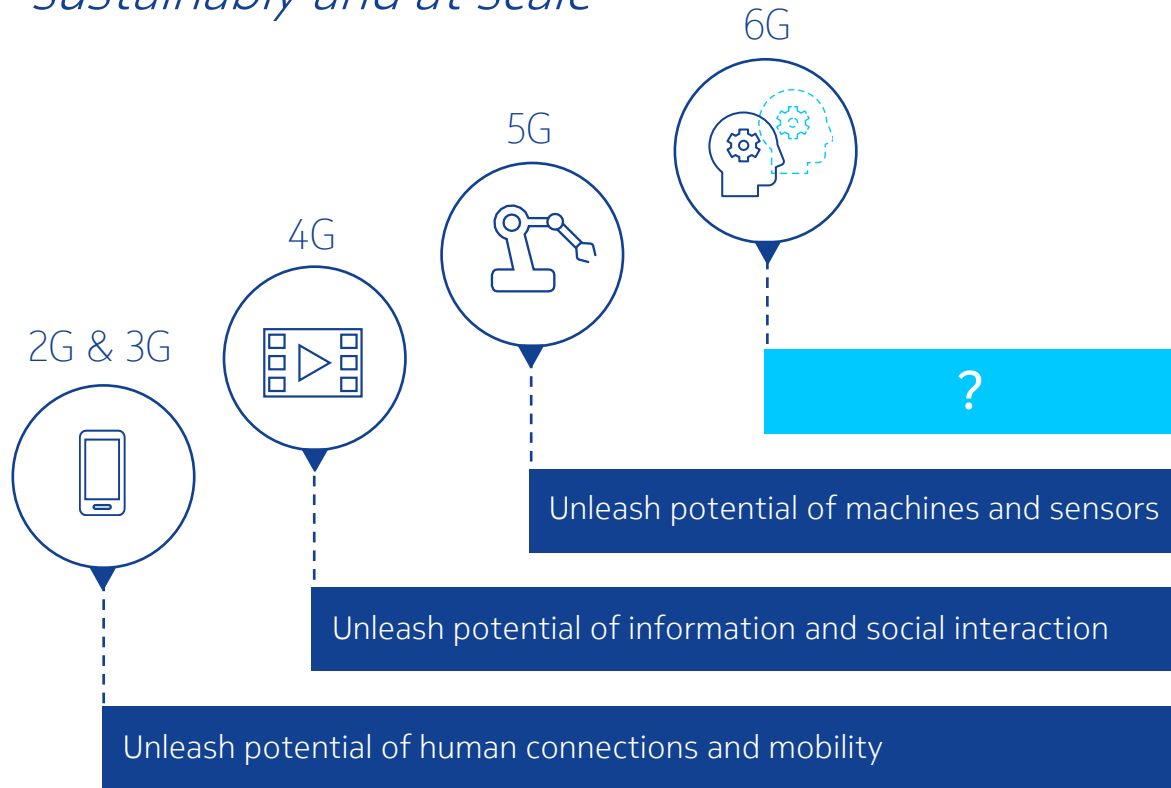
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Unleash human potential and well being *sustainably and at scale*



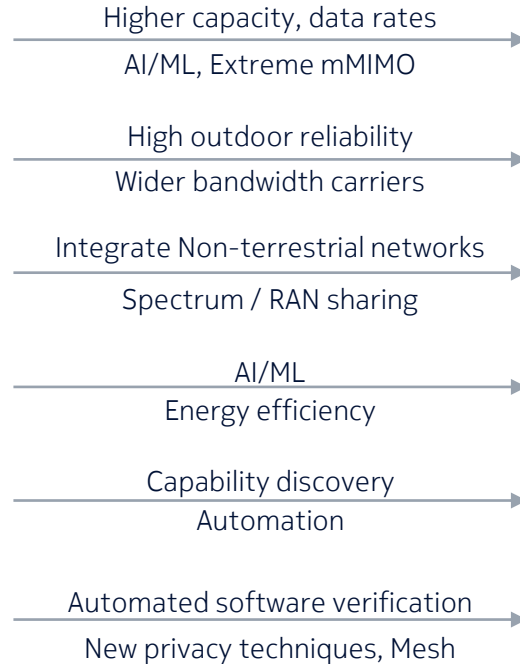
Enrich experience
Augment intelligence
Enhance productivity

Connect digital, physical and human
worlds to unleash the innate
potential of human beings

6G for wide area

5G

Augmented Reality Games Connected Infotainment
Remote Monitoring, Guidance
Non-uniform coverage
Self-optimizing Networks
Cloud native
Secure networks

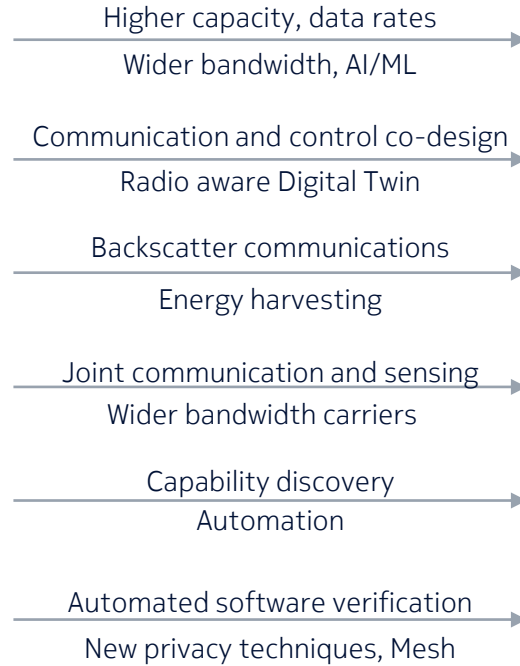
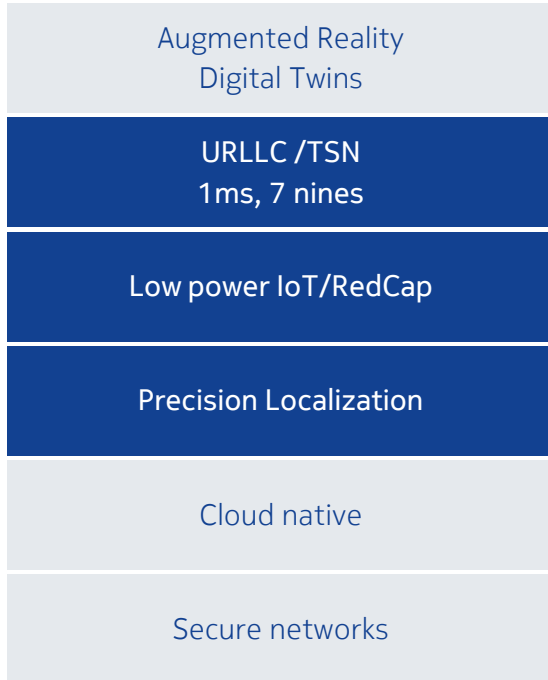


6G

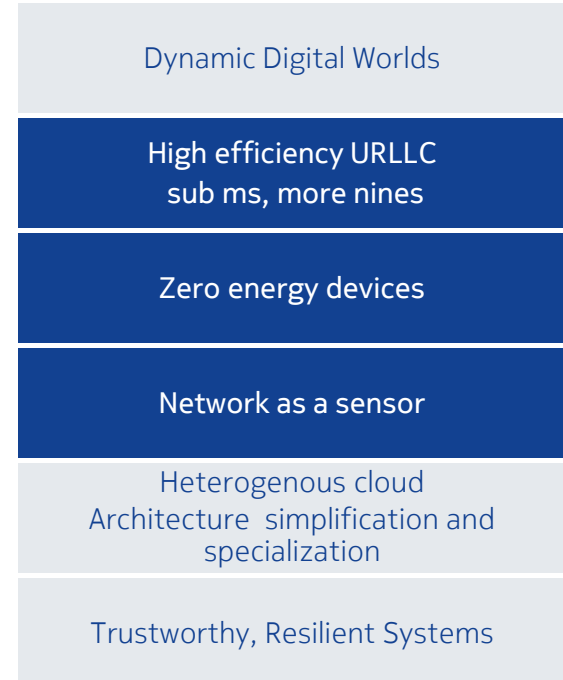
Dynamic Digital Worlds
Remote Control
Global coverage
Zero touch Automation
Heterogenous cloud Architecture simplification and specialization
Trustworthy, Resilient Systems

6G for campus

5G



6G



Key elements in transition to 6G



Seamless evolution of Radio architectures, chipsets, software and 5G/6G platforms

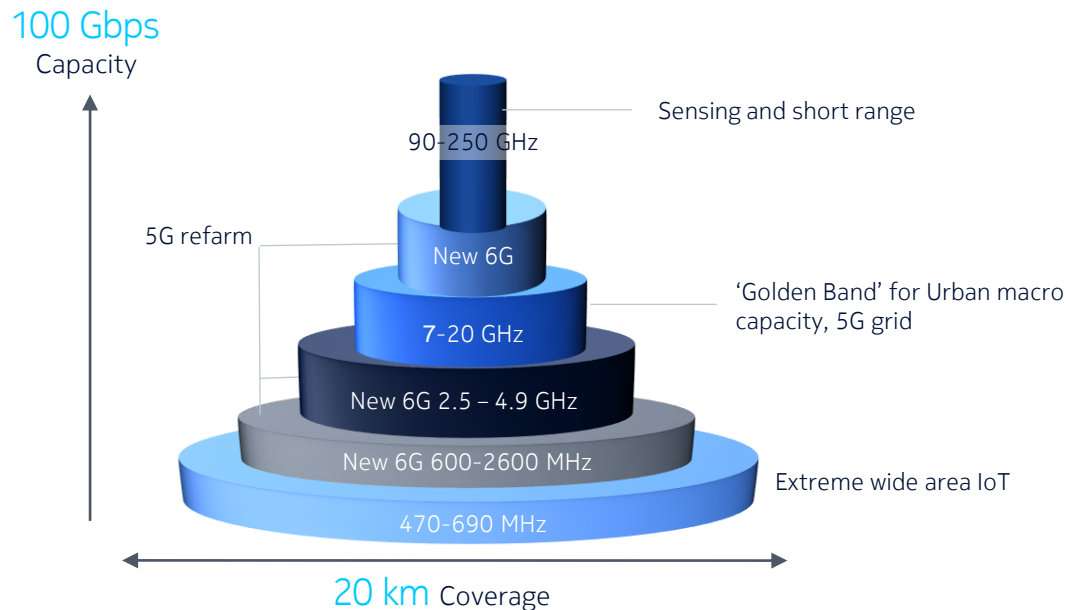
6G Spectrum Technology

mMIMO Radio Technology

AI native Air interface

6G Spectrum Technologies

Expected characteristics of 6G wedding cake



6G marks big investment cycle

New Golden Band frequency range enables CSPs to multiply capacity leading to significant infra investments

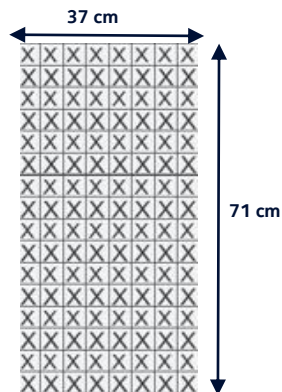
Existing 5G bands will also be reformed for more capacity

New extreme low and high spectrum will create new CSP and enterprise business opportunities

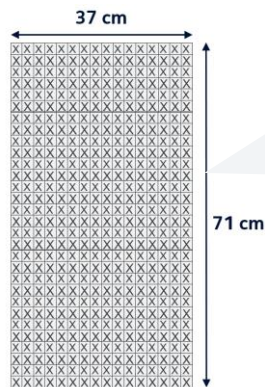
mMIMO Radio Technology



6G for Macro capacity in 7 GHz – 20 GHz 6G ”mid-bands”



256 radiator size @ 3.5 GHz
100 MHz, 160 MHz,...



1024 radiator size (7 GHz) is similar to the existing 3.5 GHz mMIMO antennas
100 MHz, 200, 400 MHz,...

4x wider bandwidth
5x spectral efficiency
20x cell capacity

Extreme scalable MIMO

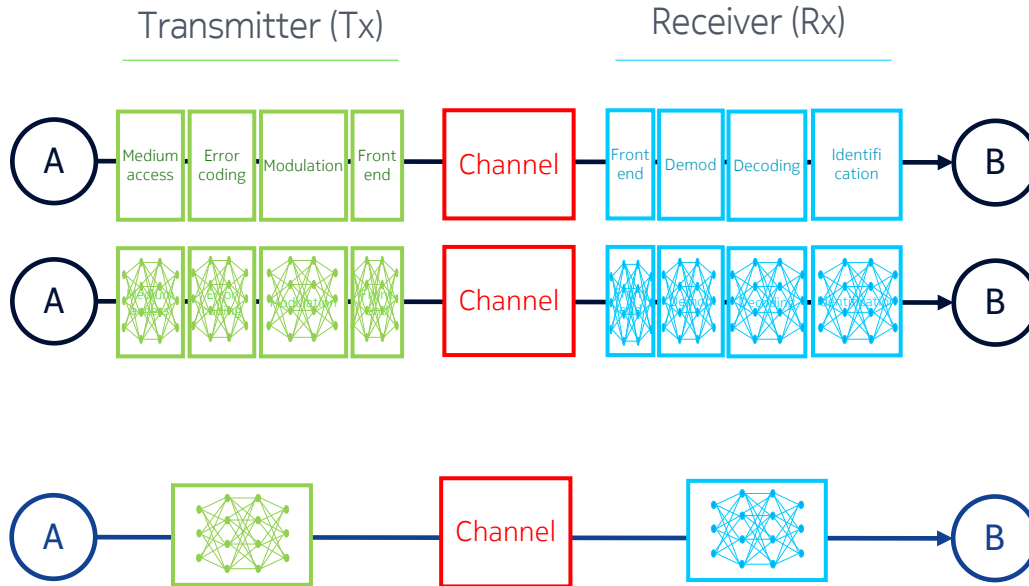
Antenna and beamforming innovations required for 400 MHz TDD bandwidth

Flexible Radios/Arrays supporting Multi-band, large bandwidth, waveform agnostic

Advanced Signal Processing Platforms & Algorithms to Increase spatial multiplexing efficiency

Artificial Intelligence Air Interface

A paradigm shift in designing radio systems



Hyper Air-interface intelligence

New modulation constellations

Waveform learning for non-linear operation

Combined channel estimation and detection

Channel feedback compression and beamforming

MAC protocol emergence

Expanding human potential in the 6G Era

Connecting worlds
digital-physical-biological

At extreme capacity and
high synchronicity

Creating a trusted
platform with a 6th sense

Thank you



Building early 6G research leadership