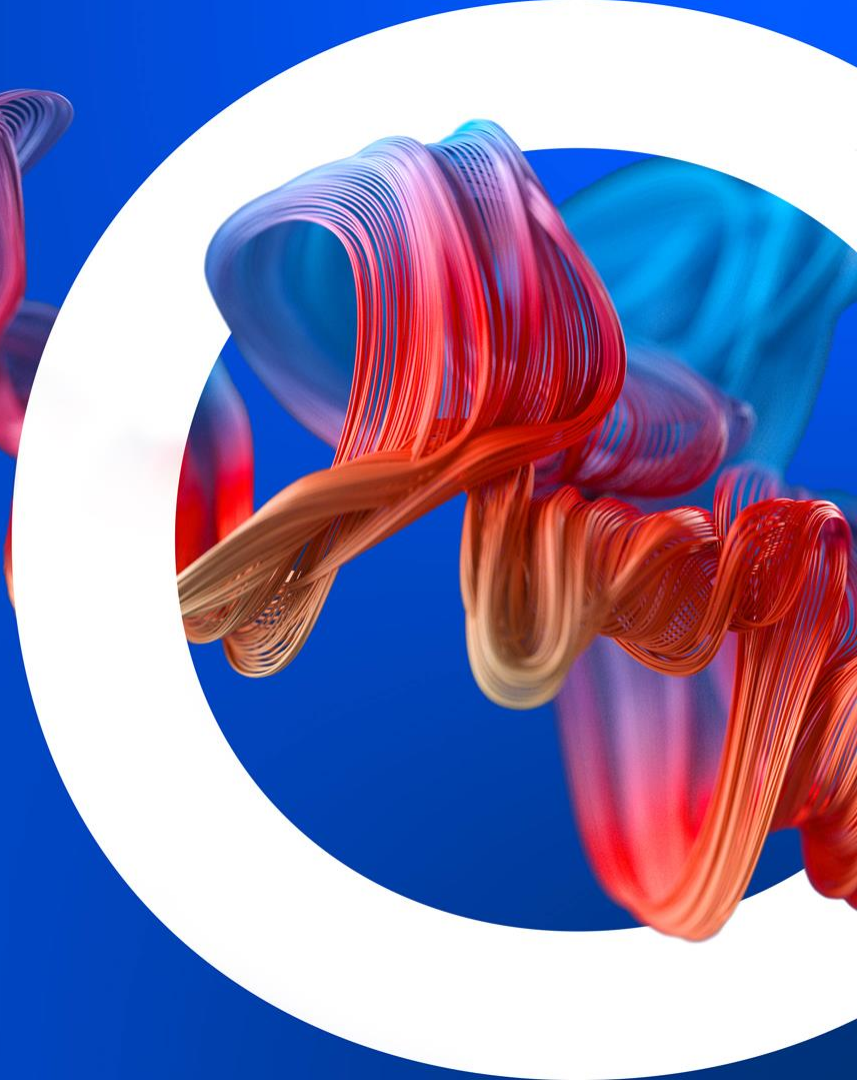# NOKIA

Thoughts on Standardization and Industry Priorities to ensure timely market readiness for 6G

Sari Nielsen, Nokia

November 1st, 2023

Mobile Korea 2023

6G - Sustainable, Secure and Digitally inclusive

Green by design

▲ X10 capacity increase with 50% power reduction, compared to 5G

Digital inclusion

▲ Aim to address three key factors: accessibility, affordability and consumability

Security and privacy

▲ Increasing security and privacy risks require higher levels of control

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Simplification

Limit complexity, optimize performance and enhance consumability of the systems

ONE Architecture

Single stand-alone 6GS architecture

No inter-RAT aggregation

Seamless migration

Smooth migration and efficient inter-working with legacy systems

Value focus

New features shall be motivated by strong value propositions

Lean design

Streamlined procedures and less options for similar purpose

Holistic perspective

UE requirement aspects shall be considered carefully when designing radio features to ensure practical deplorability
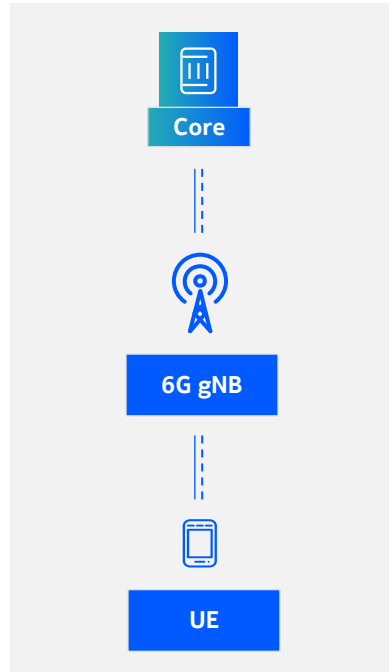
Learning from 5G

Harvesting the learnings of 5G

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6G Standalone Architecture

- ✓ Single standalone (SA) architecture for 6G
- ✓ Full utilization of 6G radio features
- ✓ Energy Efficient

Core

6G gNB

UE

— User plane
---- Control plane

- ✓ Implementation Friendly
- ✓ Cloud Native
- ✓ Trustworthy

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Why 6G Radio?

Radio Performance

Very high data rates throughout the cell with excellent user experience

Enhanced uplink coverage for all data rates

Support of low latency services

Macro cell grid on higher frequencies of 7-15 GHz

Scalability and Optimization

Energy efficient networks and devices with long battery lifetime

Intelligent and efficient usage of diverse spectrum & smooth migration

AI/ML-enabled radio for system and UE optimizations

Lean and implementation friendly

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Implementation friendly radio protocol design

6G

- Simple
- Scalable
- Smart
- Sustainable
- Secure
- Stable

Legacy Approach
one stack fitting all

6G Approach
native design for different UE types

CPEs
Fixed Wireless Access

Handsets

eXtended Reality

Cars
infotainment, telematics

Wearables

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