

Focus areas for Rel-16

A hand is shown writing mathematical formulas on a chalkboard. The formulas include $v = 2 \sum_{\infty} (-2)^k (6)$ and (12) . The background is a blurred chalkboard with various mathematical symbols and numbers.

3GPP TSG SA#80

La Jolla, US

13-15 June 2018

SP-180299

Content

- Four key focus areas for SA2
- Focus area – study item mapping
- Foreseen RAN impacts
- Nokia view on total SA2 work load

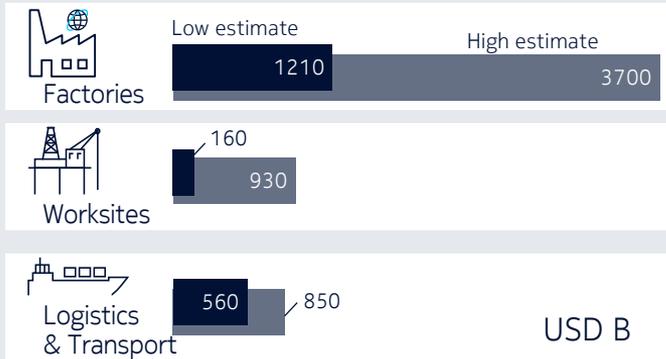
5G industry experience – enabling industry 4.0

Resilient, secure low-latency communication



Wireline connections
>90%

New markets offer significant revenue expansion



Estimated 2025 value creation potential
- McKinsey Global Institute

Plea from industry verticals

5G Alliance for Connected Industries and Automation endorses the 3GPP 5G standards as a key building block for future industrial connectivity infrastructures... (SP-180251)

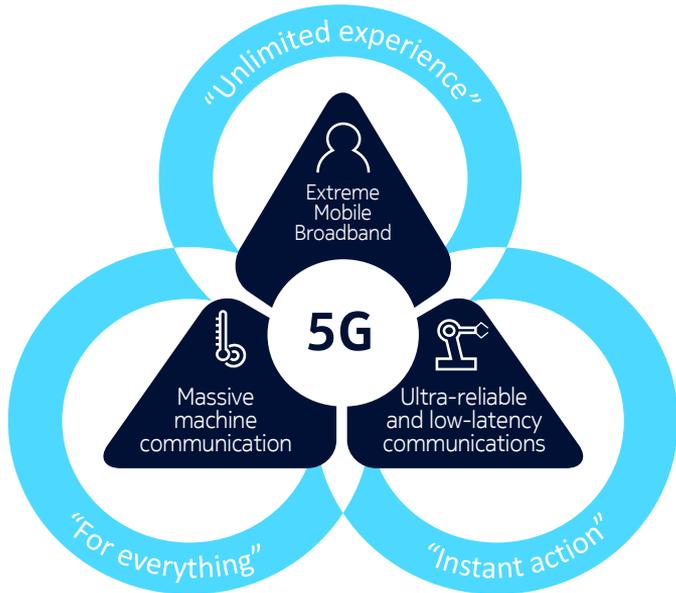
Connectivity today

Market value

Connectivity in the future...

Enhance 5G System to meet requirements of Industry 4.0

5G triangle and "missing" corner



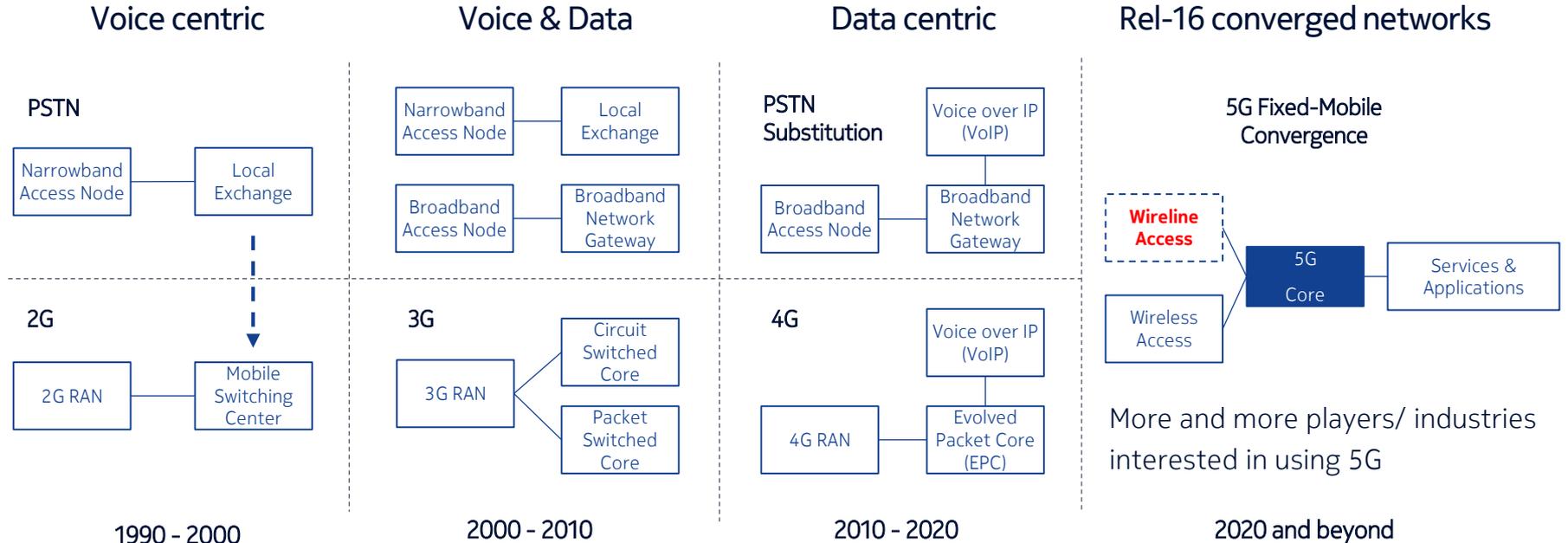
Extreme Mobile Broadband use case addressed with Rel-15 5G core specifications

Ultra-reliable and low-latency communications basic needs addressed in Rel-15

5G Core support for Massive machine communication is mostly missing
-> to be addressed in Rel-16

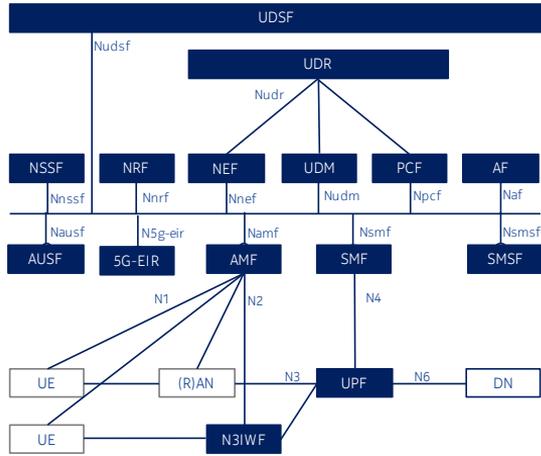
Evolution from voice- to data-centric and converged core networks

Rel-15 5G Core already supports NR, LTE and untrusted WiFi accesses



Add wireline access support in Rel-16

System Architecture enhancements



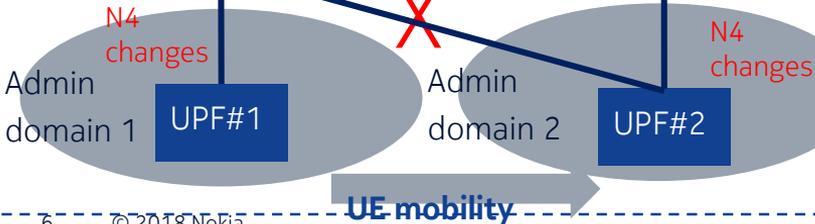
Rel-15 5G architecture is creating foundation for true Service Based Core Network with some initial restrictions.

Improved 5GC NF resiliency: Enable any NF (within an NF set) to process interleaved UE transaction

Improved modularization of NF Services for 5GC.

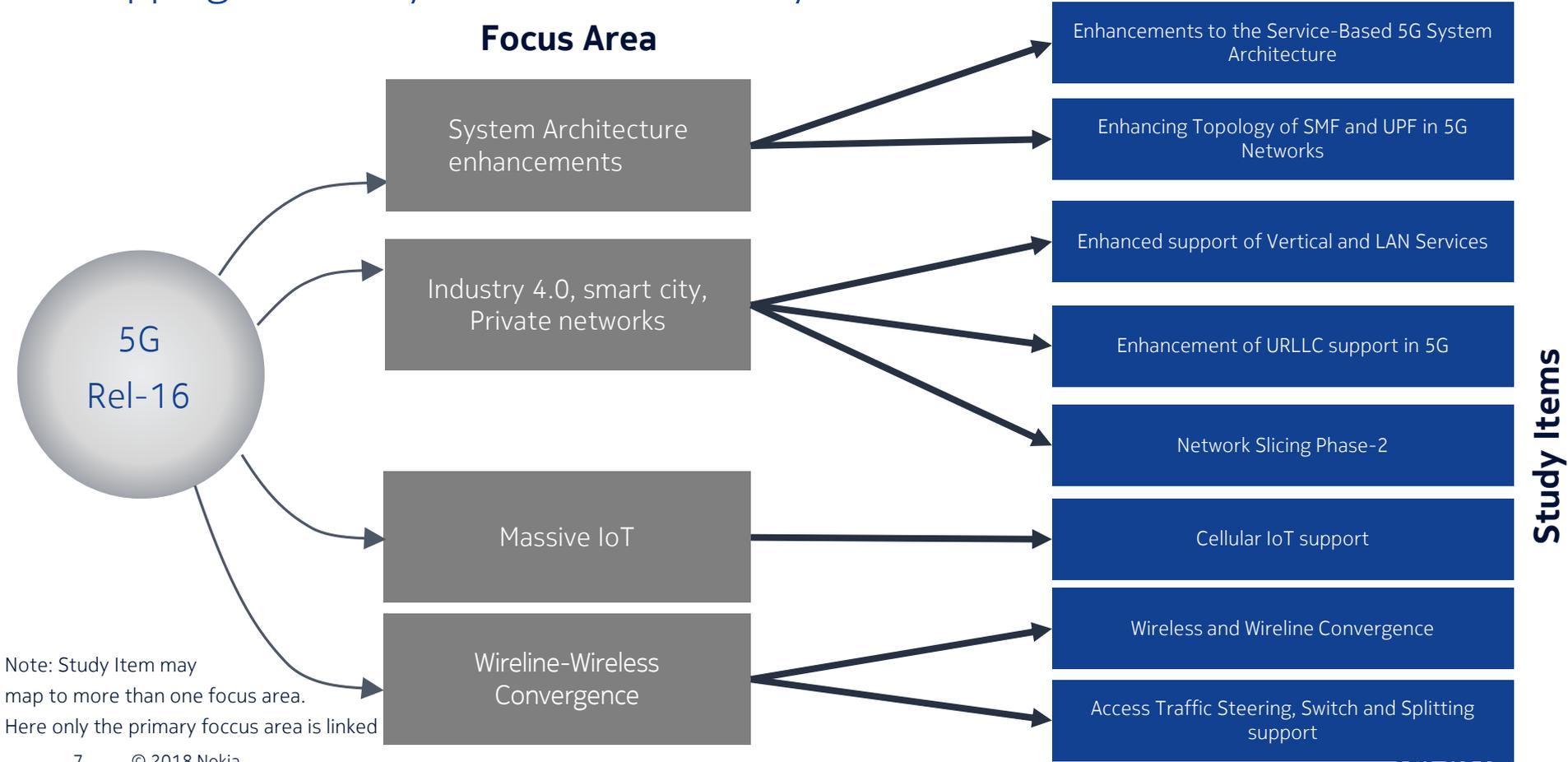
Etc..

Rel-16 (ETSUN)



1. Support mobility when a SMF is not able / allowed to control UPF(s) throughout the same PLMN.
2. Deal with scalability issues of many SMF controlling many UPF

Mapping Rel-16 key focus areas to study items



Foreseen RAN impacts

SA feature	RAN impact
Enhancements to the Service-Based 5G System Architecture	None
Enhancing Topology of SMF and UPF in 5G Networks	None
Enhanced support of Vertical and LAN Services	Medium, Time Sensitive Networking impacts RAN
Enhancement of URLLC support in 5G	Medium, RAN impact expected for N3, HO
Network Slicing Phase-2	None
Cellular IoT support	RAN impacts expected depending on the solution chosen
Wireless and Wireline Convergence	Low, impacts to N2/N3 protocols are likely
Access Traffic Steering, Switch and Splitting support	None

Nokia view on total SA2 work load

