

Riding the 5G wave: AI at the Edge

23 November 2020

Aji Ed
CTO, Middle East and Africa
Nokia

The ecosystem's perception of 5G

Consumers perception of 5G

80%

Familiar with 5G find it appealing vs. 23% of the unfamiliar

Willing to pay 10% more

52%

Willing to pay 5% more

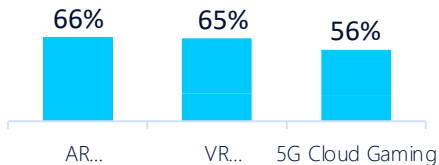
63%

Consumers view on video applications

65%+

Consumers find 5G video capture and detection applications appealing

Immersive applications experience



Enterprise perception of 5G

#1

Video surveillance is the top industry use case for 5G, appealing to 83% of target respondents

70%+

Respondents find Industry use case of connected vehicle, cloud robotics to drive industry 4.0

73%

of SMBs prefer 5G FWA as an alternate to broadband

Top industries which offer best 5G opportunities

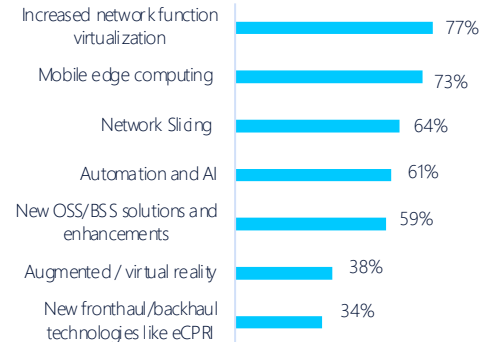


CSPs perception of 5G

NFV and edge seen as critical to 5G success

70%

CSPs believe further investment majorly in NFV and MEC will help them monetize 5G



COVID-19 accelerates new reality...

Vcomms become vital



Fixed networks
are new fixation



Streaming platforms
steamroll TV



Tracking getting
real traction



Security gets serious



Remote X (X = control, interaction, treatment, assembly, manipulation, diagnosis...)

... validating future of cloud/edge, 5G, private networks

Importance of Edge Computing /AI and 5G

Edge Computing

5G

Real-Time Response

Lower Latency

Cost Savings

Higher Performance

Offline Operations

High Density Connectivity

Enhanced Security and Governance

New Use Cases

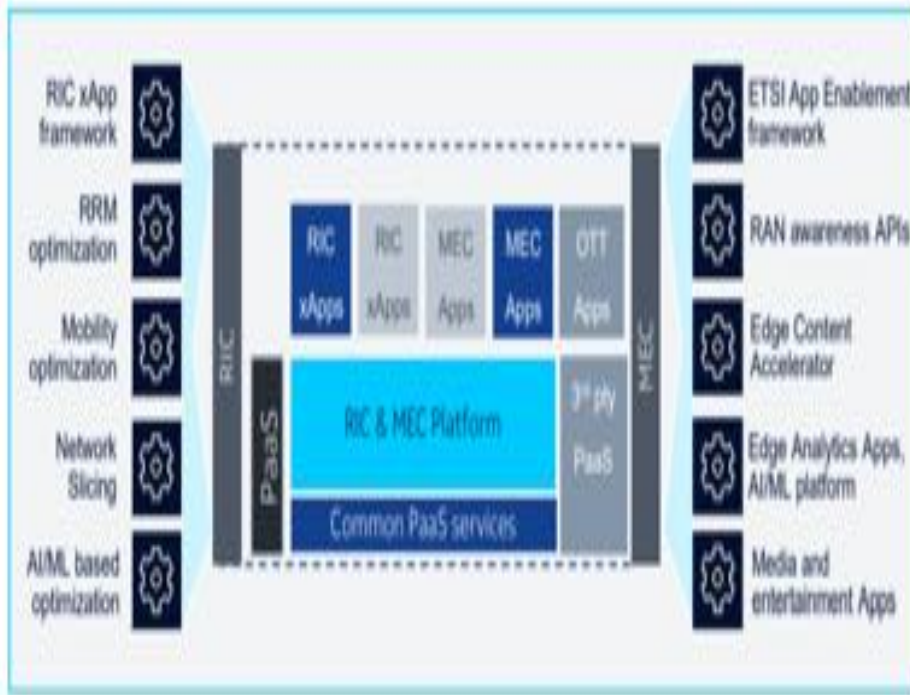
Workload, Data Optimization

Segmented Bandwidth

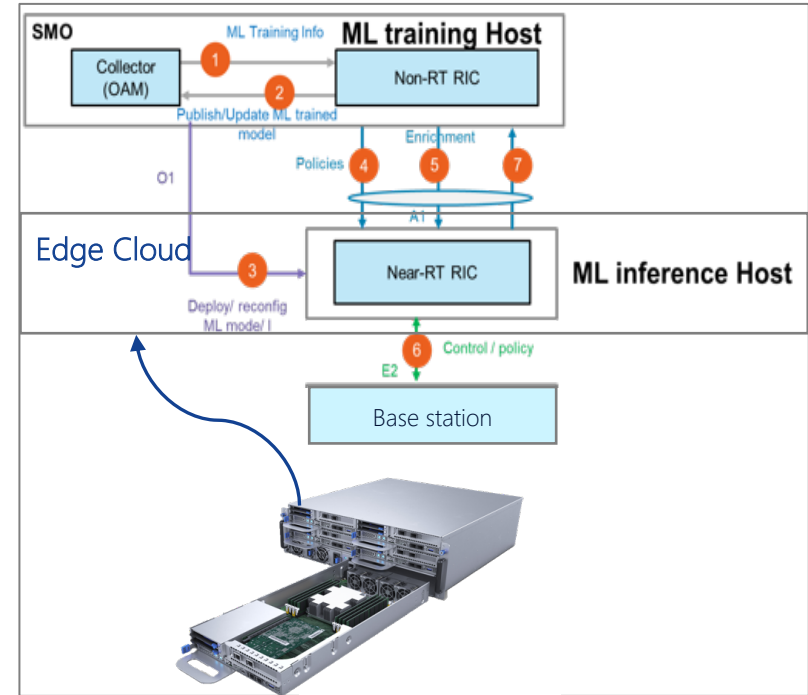


Major ICT spend for next 10 years : 5G enabled Edge Cloud and AI

AI and ML in Edge Cloud

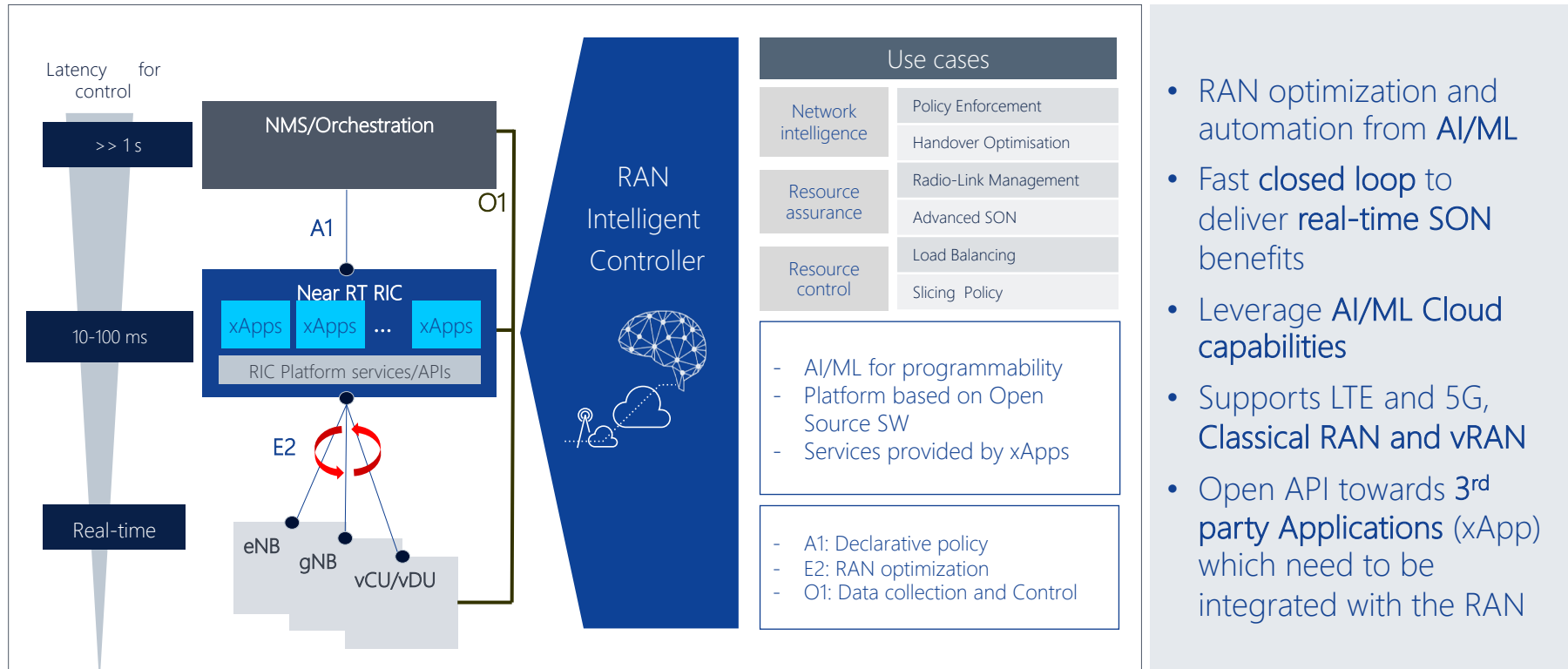


AI/ML flow



RAN Intelligence Controller (RIC)

SON-like RAN programmability via AI/ML and customized applications



RAN Innovation – RIC Use Cases

RIC Use cases are primarily focused on the following categories:

Network Efficiency



Service Experience



Cell coverage

+ 5%

Power saving

10-20%

mMIMO dynamic cell parameter optimization

Dynamic adjustments of sector coverage, gob according to network scenarios, traffic and interference

Mobility Load Balancing

Dynamic adjustment of sector coverage according to deployment scenarios, traffic and interference change

Throughput

+ 8-10%

Data analytics



Cell and UE anomaly detection

Identify abnormal UE behavior and security attacks at near Real-time for proactive admission control barring.

UL parameter optimization

Maximize combination of DL & UL throughput under given conditions in the cell (load, UE speeds, etc.).

Traffic Steering

EN Dual Connectivity (Dualco) optimization based on Cell Load, Network rules, E2 Policy towards eNB and gNB from single A1 intent

Predictive Video Analytics

Near real-time customer experience analytics by optimizing RAN parameter and resources for user experience

Live network power saving

Learn traffic patterns to set up specific power saving schemes for regions and time

The technology to keep everyone, everywhere connected has never been more important



NOKIA