THE ROAD TO 5G INDUSTRY & ECOSYSTEM

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2021

Foundation of north

1G

70-80's

9.0 Billion Mobile Subscriptions 6.3 Billion Smartphones • 14X Video as 70% of traffic

> Industriesbeyt Snathhones

5G

10-20's

12X Mobile Data Traffic 90% pop coverage of MBB 75% LTE pop coverage

Mobile Telephony

2G

80-90's

spie Broadband

4G

00-10's

Loundation of

3G

90-00's

Hure of Mobile

28 Billion Connected Devices 16 Billion IoT related 1.5 Billion IoT with cellular







BROADBAND AND MEDIA EVERYWHERE

TRANSPORT

SMART VEHICLES,

5 USE CASES



INFRASTRUCTURE, MONITOR AND CONTROL



CRITICAL CONTROL OF REMOTE DEVICES



5G REQUIREMENTS



NR – KEY TECHNOLOGY FEATURES







3GPP TIMEPLAN FOR NR



AGGRESSIVE STANDARDIZATION TIMELINE

Technical decisions in study item phase are needed
 Prioritize decisions impacting hardware design, especially

 Waveform, numerology, frame structure, channel coding



5G SUCCESS FACTORS



> 5G System – Openness and horizontal network end to end (5G is cloud/core, control, access and devices/sensors)

 Global ecosystem – Multiple use cases with one global eco-system (Leveraging the scale of 4G/LTE)

> 5G enabling new business – Operators driving growth in IoT, media and industry transformation (New capabilities for digitalization and mobilization)

 The Network platform - Relevance to other industries (Speed is essential to position networks in the global web environment).

 Industry alignment - Standardization and open source approach (A broader set of use cases requires cross industry collaboration)



SUMMARY

5G Requirements Extreme & Diverse

28B connections in 2021 Large potential for IoT

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Common Network Dynamic & Secure Network Slices

Standardization ongoing Commercial launch in 2020

Addressing wide range of use cases, segments and industries