

04·NOEMBPIOY·05

## Largest ICT R&D Hub in Greece



Established in 1990

Employees ~850

Average age 34

Average tenure years ~8

MSc, MEng, PhD (%) 50

Gender Diversity (%) ♀ 27

**5G Core & EPC**

**Private 5G/4G Networks**

**Fixed Wireless Access 5G/4G**

**5G SMSF & TAS**

**Fiber Fixed & SDAN**

**Microwave**

Complemented with Highly Skilled Sales, Pre-Sales and Delivery Organization supporting all Customers in GR, AL & CY



## 5G will usher in the 4th Industrial Revolution and change the economy

5G benefits are expected to fuel transformative new technologies, not just for consumers but also for businesses, infrastructure and defense applications



Fixed Wireless Access



Immersive experiences



Smart Stadiums



Capacity Upgrades



Video Surveillance and Analytics



Cloud Robotics



Machine Remote Control



Connected Vehicles



eHealth

# 5G expected to launch commercially in number of waves

Driven by ecosystem capabilities and business needs



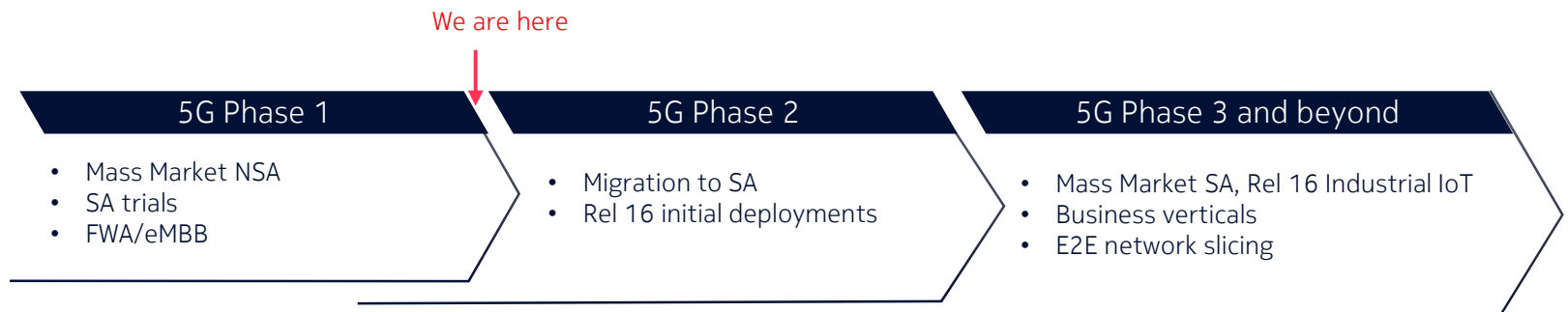
Operator's  
Focus

**Time to Market, 5G Technology leadership**  
Main markets build out mass-market NSA; eMBB & FWA

**5G as a business engine**

Widescale deployments of SA, limiting CAPEX, new revenues with verticals and E2E slicing

Build it in  
phases



## 5G is much more than a new Radio Generation

Five domains for the 5G era – deliver the extraordinary



## Leveraging Nokia's 5G portfolio

### Nokia is the only vendor

with a globally available product portfolio which covers all 5G network elements, including radio, core, cloud and transport as well as management, automation and security.

Broadest range of radios with wide bandwidths to maximize spectrum assets

1

Dual-band and Triple-band RF units with unique PIM cancellation for EN-DC performance

2

AirScale SRAN maximizes NW performance and minimizes cost using the same baseband hardware (2/3/4/5G)

3

Superior TCO advantage by investment protection with broadest radio upgradeability

4

Only major supplier to support formation of Open RAN consortium with commitments to open interface

5

# Nokia strong leadership in 5G

Gaining momentum also in Europe

101

Commercial 5G deals

36

Live 5G references

160

Commercial 5G engagements

5M

5G upgradeable radios



60%

Of our Q3 deals are in Europe

## # of deals in Europe

48 out of 101  
total deals

21 out of 48  
2020 deals

7 out of 21  
Q3/2020 deals

## Key technology drivers in European market:

- 5G coverage, 5G upgradability, Energy efficiency, Cloud RAN / ORAN, Network Sharing, Network slicing, Vertical markets and enterprise.

## Recent innovation and industry leadership

Nokia launches end-to-end 4G and 5G NR slicing

Feb 2020

Nokia commercializes next-generation 5G Cloud RAN

Jun 2020

Nokia and Elisa see sustainability leap in world-first 5G liquid cooling deployment

Jun 2020

Nokia accelerates availability of Open RAN technology to lead the open mobile future

July 2020

Nokia can migrate 5 Million legacy 4G radio units to 5G by software

July 2020

Nokia announces first commercial 5G standalone (SA) private wireless networking solutions for enterprise customers

Aug 2020

**NOKIA**



# Summary

5G is 5-D

NOKIA develops 5G in Greece

5G Drives the Industry 4.0 Revolution

5G a marathon rather than a 100m sprint

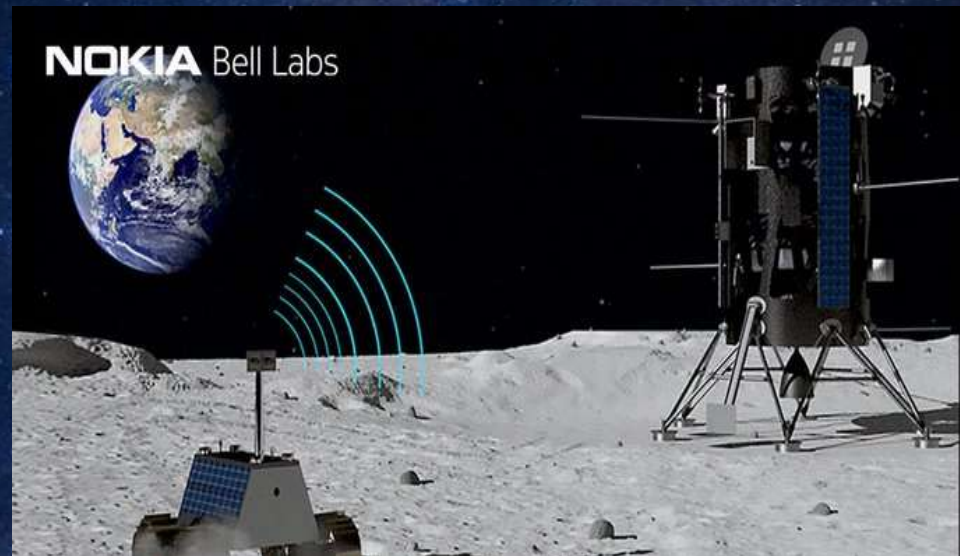


# Nokia and NASA to build the first ever cellular network on the Moon

Our pioneering innovations will be used to build and deploy the **first wireless network on the moon**, starting with 4G/LTE and evolving to 5G

First ultra-compact, low-power, space-hardened, end-to-end solution on the lunar surface

Will be the critical communications fabric for data transmission applications (control of lunar rovers, real-time navigation and streaming of high definition video)



**NOKIA**

