

# Capital Markets Day 2021



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# Cloud and Network Services at-a-glance

Strong foundation with growth potential

Strong  
foundation

€3.2bn

Software, private  
wireless and  
managed services

#1

Market growth  
2% CAGR 2020 -  
2023

€25bn

Growing faster  
than the market

>2%

Creating value for our customers by leading the industry transformation to cloud-native software and as-a-service delivery, as demand for critical networks accelerates

# Opportunity drivers

Market dynamics are creating a value shift

## CSP revenue and cost pressure

Market saturation and cost pressure driving need for new 5G revenue sources leveraging cloud economics

## COVID learning

Increased need for resiliency, capacity, and automation

## Security and data explosion

Network disaggregation increases threat surface while mission critical data volume increases

## Acceleration of digital industries

Automation driving industrial wireless networks and digital transformation

## Industry requirements

- Cloud
- Automation
- Security
- Analytics
- SaaS



# Growing addressable market

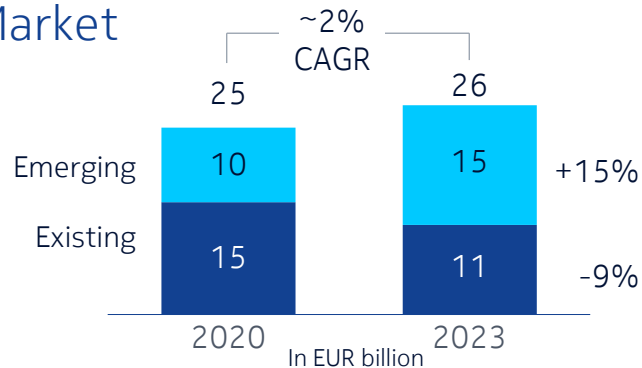
Pivoting to emerging market opportunity

## Key emerging opportunities

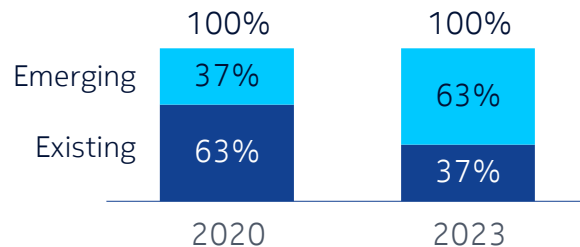
- 5G Core
- Analytics and AI-based services
- Private wireless and industrial automation
- Digital operations and closed loop automation
- Managed security

Existing areas include 3G/4G core, legacy assurance, voice prepaid systems, legacy transactional managed and network performance services

## Market



## CNS business mix



# Technology leadership for emerging opportunities

## Four areas of technology leadership

### 1 Security

Adherence to new security standards and regulations  
Automated self protected networks  
Secure core, fulfillment, assurance and operations



### 2 Automation

Automated, orchestrated end-to-end slice management  
Self healing, predictive network operations and maintenance  
Plug and play industrial wireless as-a-service (NDAC)



### 3 Monetization

Enterprise triggered network slice activation – “customer of one”  
Network abstraction to monetized units - cloud gaming, sVPN, etc.  
Recommendation engine based on network/subscriber behavior



### 4 XaaS

Private Wireless-aaS, Core-aaS, Security-aaS, etc.  
Aggregate 5G insights for new service and quality  
Deliver rapid innovation to customers



Analytics and Artificial Intelligence *Telefonica*

Any Cloud

NDAC – Nokia Digital Automation Cloud; XaaS – Everything as a Service; sVPN – secure Virtual Private Network; aaS – as a Service

# Technology leadership strengthens differentiation

Delivering for CSPs and Enterprises

## Customer needs

Time to market

## Nokia delivers

- 50+ 5G Stand Alone core customers
- 1st 5G Stand Alone charging deployment
- 1st private wireless as a service

Expertise

- 250+ core networks currently under execution
- 1,500+ mission critical networks for Enterprise
- 1B+ subscribers via managed network and security services

Open and flexible

- 5G network analytics across multiple vendors
- Open standards, open source, and APIs
- Any cloud

Trusted partner

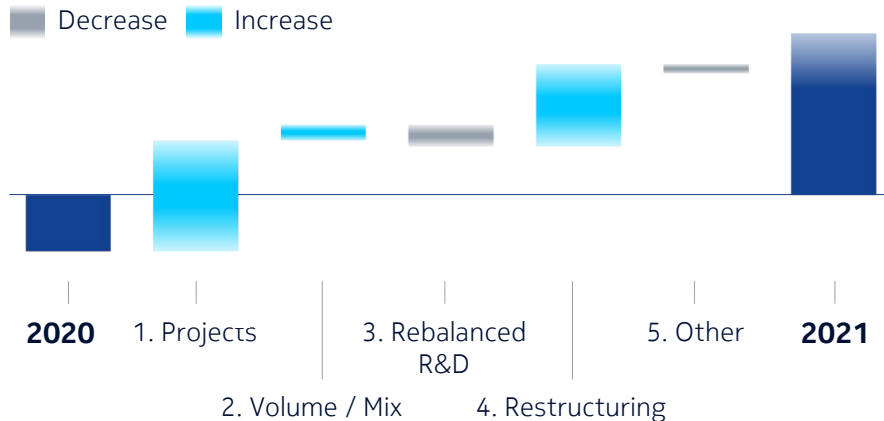
- Serving the top 50 CSPs globally
- 260 private wireless customers
- National Cybersecurity Center of Excellence partner

# Bottom-line financial performance expectations 2020-2021

Execution plan in place to grow comparable operating margin

## Reset

Comparable operating profit drivers 2020-2021



1. Reengineer challenging projects
2. Improve volume, mix, and delivery
3. Rebalance R&D to emerging opportunities
4. Restructuring savings
  - Automate operating processes
  - Remote delivery of services
  - Centers of Excellence
5. Other savings offset by currency impacts

Comparable operating margin



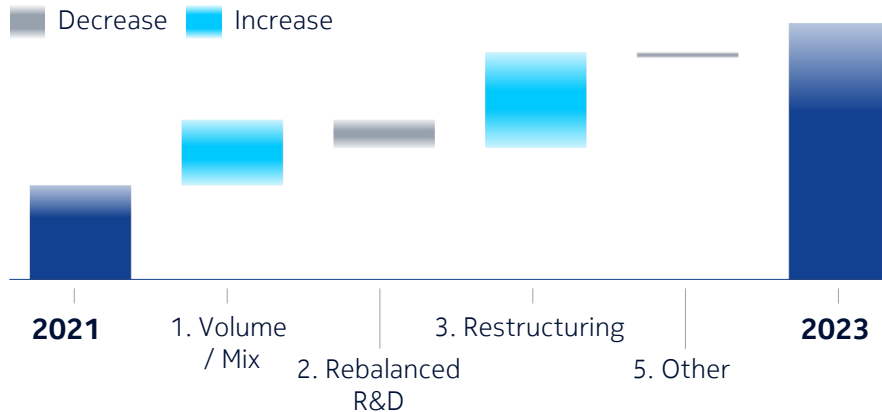


# Bottom-line financial performance expectations 2021-2023

Accelerate growth in comparable operation margin

## Accelerate and Scale

Comparable operating profit drivers 2021-2023



1. Improve volume and mix
2. Rebalance R&D and invest in SaaS
3. Restructuring savings
  - Add cloud, automation, and AI capabilities
  - Continue transition to automation, remote delivery, and Centers of Excellence
4. Other savings

Comparable operating margin

3-6% → 8-11%

# A phased journey of technology leadership and value creation

2021 focus

2022 and mid term

## Reset

- Grow faster than the market
- Lead in software, services, and private wireless
- Digitize and automate operations
- Rebalance R&D investments
- Reset fixed costs

## Accelerate

- Grow faster than the market
- #1/#2 in key emerging technologies
- SaaS foundation – 1000 customers
- Network and industrial automation
- R&D and revenue rotation

## Scale

- Grow faster than the market
- #1/#2 in all technologies
- Full SaaS transition
- Zero touch automation
- Seamless integration into the digital ecosystem

Cloud and Network Services is expected to grow faster than the market, while investing for technology leadership and SaaS, with improving operating margin reaching 8-11% by 2023

**NOKIA**