

Group Progress Update

Pekka Lundmark
President and CEO

Marco Wirén
Chief Financial Officer

26 January 2023

Agenda



Pekka Lundmark
President and CEO

- 3. Progress since CMD 2021
 - 6. Our purpose and strategy
 - 10. Aspirations across business groups
-

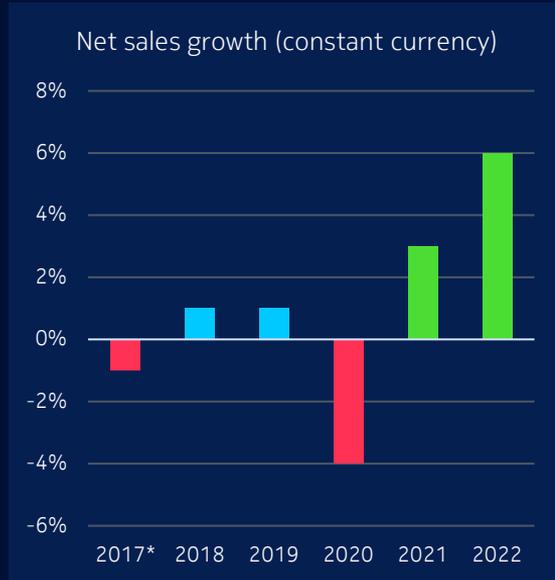


Marco Wirén
CFO

- 31. Progress on operational model
- 34. Capital allocation policy
- 35. Long-term modelling assumptions

Nokia's financial performance is transforming...

...with accelerating growth and expanding margins



*2017 is non-IFRS data which adjusted for amortization impacts of the Alcatel-Lucent acquisition.

In 2021 we introduced the three phases for Nokia's transformation

2021 focus

2022 and mid term

Reset

- ✓ Technology leadership
- ✓ Operating model
- ✓ Mobile Networks
- ✓ Lower cost base
- ✓ Purpose and culture
- ✓ Leadership team

Accelerate

- Grow beyond CSP
- Increase market share
- Improve operating margins
- Technology Vision 2030
- Refreshed ESG strategy
- Digitalize operations
- Create new growth opportunities

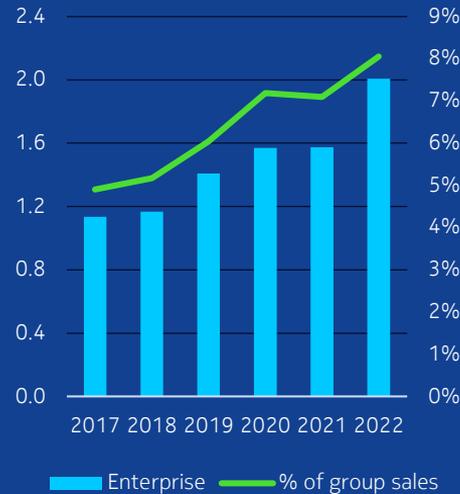
Scale

- Undisputed technology leader
- Higher market share in CSP
- Market leader in target enterprise opportunities
- Higher operating margins
- Meaningful partner-driven revenue stream
- New business models thriving

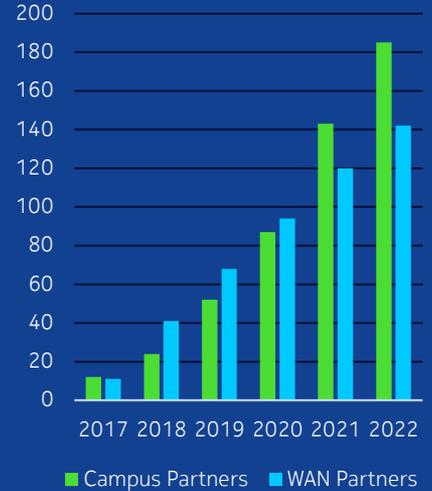
Enterprise momentum building

- Strong return to growth in 2022 with 21% net sales growth
- Strong webscale traction with new IP Routing wins
- Maintain leadership in private wireless
- Building go-to-market with expanding partner network

Net sales to Enterprise customers (EUR billion)



Expanding our active partner network



Aspiration

Net sales: Continue double-digit growth to become at least 10% of group net sales

All net sales changes presented are year-on-year in constant currency

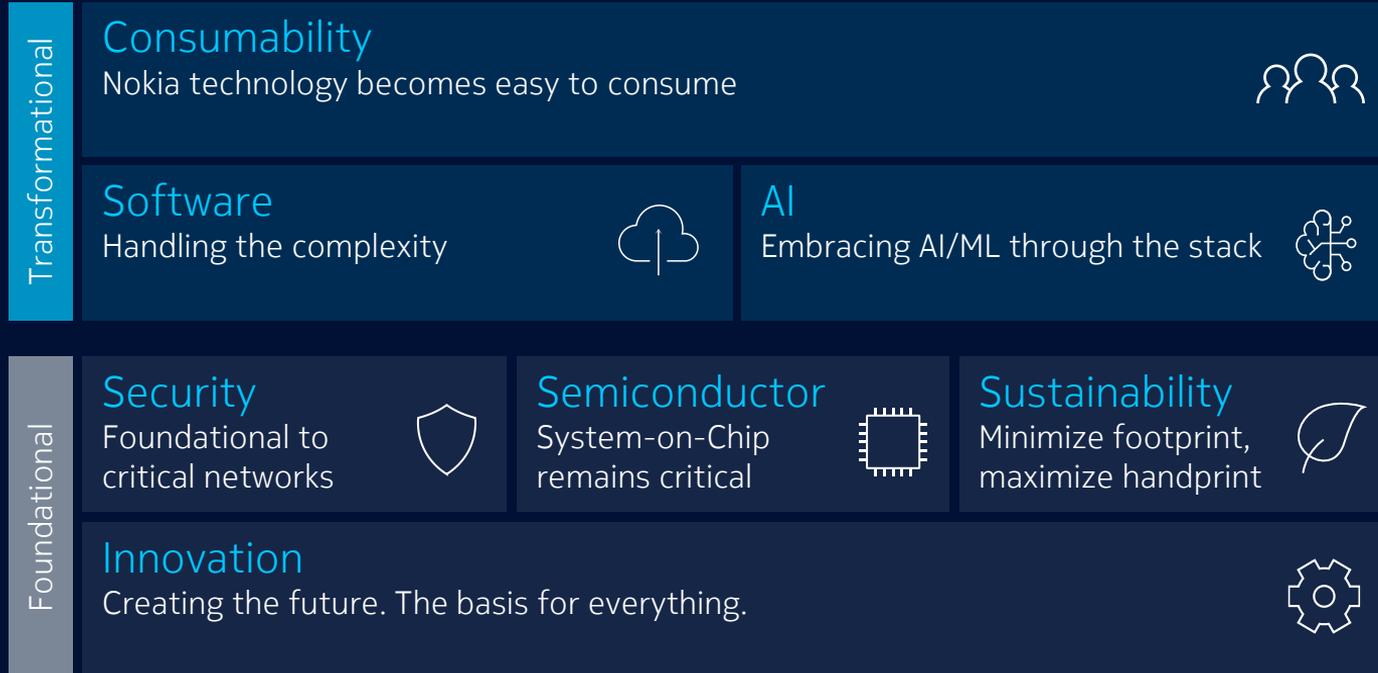
Nokia's purpose uses technology to address global challenges

Aligning roadmaps to make ESG a competitive advantage



Nokia's Technology Strategy for sustainable differentiation

Execute the cross-company technology strategy

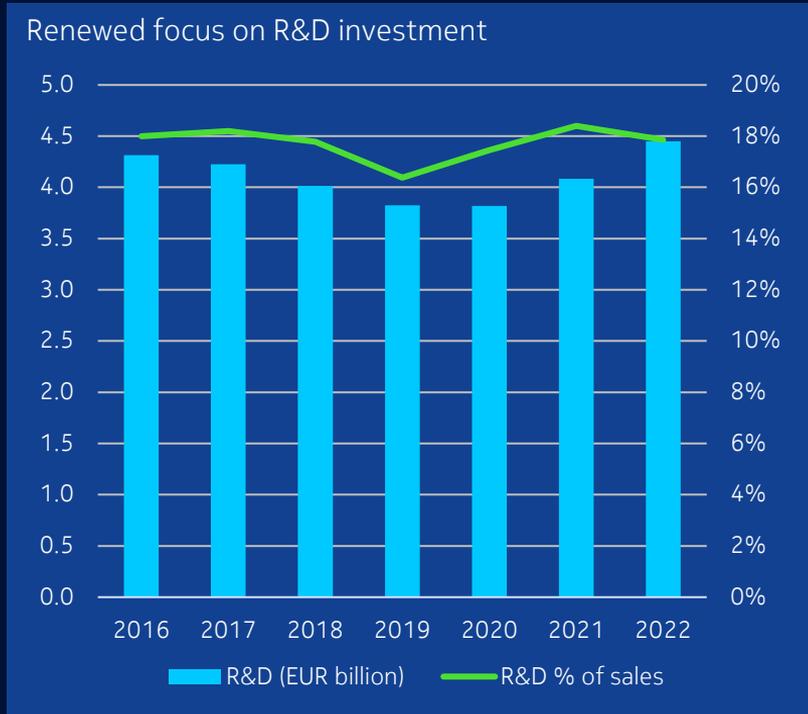


ESG Strategic focus areas for maximizing impact

Translating our purpose into a refreshed ESG strategy with 5 focus areas

ESG roles	Nokia is part of the solution to the world's biggest challenges	We are a trusted partner within our eco-system	We do the right thing in our operations and interactions with other		
Focus areas	Environment (Climate & Circularity)	Industrial Digitalization	Security & Privacy	Bridging Digital Divide	Responsible Business
Key targets/Ambitions	2025 100% renewable electricity in facilities 2030 95% circularity rate 2050 Net zero emissions in our value chain	We provide connectivity and digital solutions that sustainably transform physical industries	Security and privacy become cornerstone of our reputation and product proposition	2024 Nokia's technologies connecting 400 million additional residential subscribers covering unconnected and underserved	2030 100% of suppliers delivering high risk activity meet or exceed "H&S preferred supplier" status

Investing in product roadmaps to drive industry leadership



Products / BG	2021	2022
NI – IP Networks	Launched FP5 silicon 1 st with 112G SerDes ANYsec encryption	World's 1 st 800GE optical interfaces running live with FP5
NI – Fixed Networks	1 st triple coexistence: GPON + 10G + 25G	Launched MF-14 supporting the Fiber for Everything vision
NI – Optical Networks	Expanded Capacity with C+L band 2.0	Expanded OTN Switch Capacity to 48 Tb/s
NI – Submarine Networks	1 st commercial submarine cable with Aluminium	1 st deployment of DCFO for Equinor
Mobile Networks	Energy efficient AirScale baseband: industry benchmark for flexibility and capacity	5G 3CC Carrier downlink aggregation speed record of 2 Gbps
Cloud and Networks Services	Pioneering SaaS model launched - energy, security, and core SaaS followed	Patented technology to combine disparate radio paths
Nokia Technologies	~1,500 patent filings	~1,700 patent filings

Long-term targets

Delivering continuous improvement each year

Revenue growth

Grow faster than the market

Comparable
operating margin

≥14%

Free cash flow

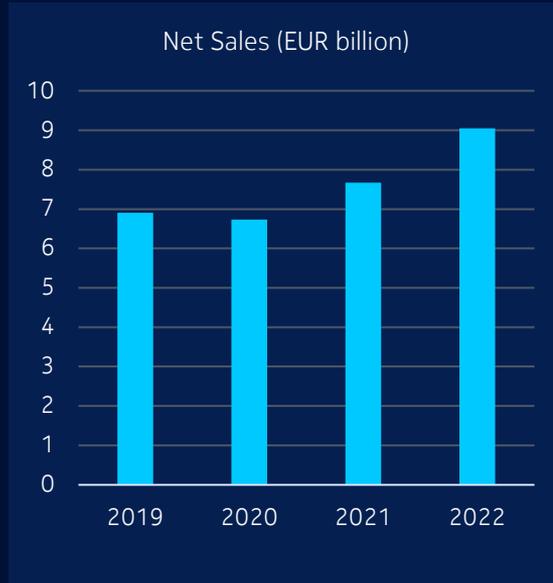
55 to 85% conversion from
comparable operating profit

Network Infrastructure (NI) performance

Operating Margin – CMD '21 recap

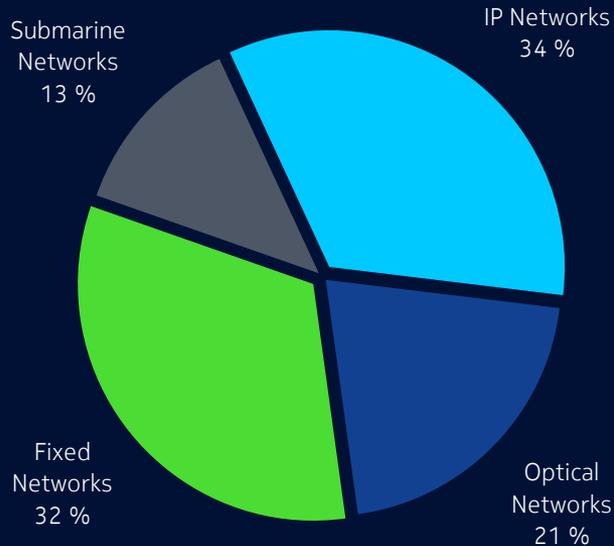
2023 target from CMD '21 9 – 12%

Current 2023 assumption 11 – 14%



NI – delivering the critical pieces of the network

NI net sales (2022)



5G infrastructure
& services



Enterprise digital
transformation & cloud



Pandemic-accelerated
residential broadband

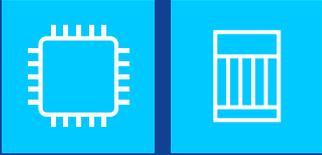


Industry 4.0

New applications need higher capacity networks driving continued innovation and investment across the network

IP Networks – Our competitive edge

Delivering an agile, secure and sustainable IP Network



Silicon and systems

We build the right systems with the right silicon foundation for the right places in the network enabling optimum network performance and efficiency

- FP routing silicon
- Broad router portfolio



Software excellence

Software quality is the heart of what we do - developed 100% in-house for total control, proven predictability, and demonstrated quality

- SR OS router software
- SR Linux network OS



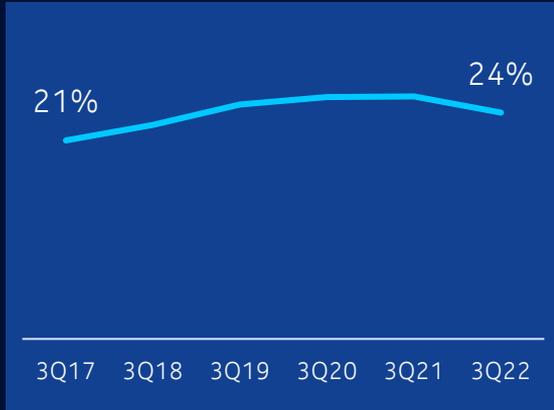
Automation and tools

Open APIs, fully integrated real-time analytics, assurance, automation and security are critical to address increasing network scale and complexity

- NSP
- Fabric Services System
- Deepfield
- ANYsec

IP Networks – Grow share in CSP, enterprise and webscale

SP Total Routing Market Share*



Accelerate & Scale

Addressable market growth: 3% CAGR (2022 – 2025)

Gain share in CSP edge routing helped by FP5 ramp

Continue strong double-digit growth in enterprise verticals

Grow meaningful share in the webscale and data center markets

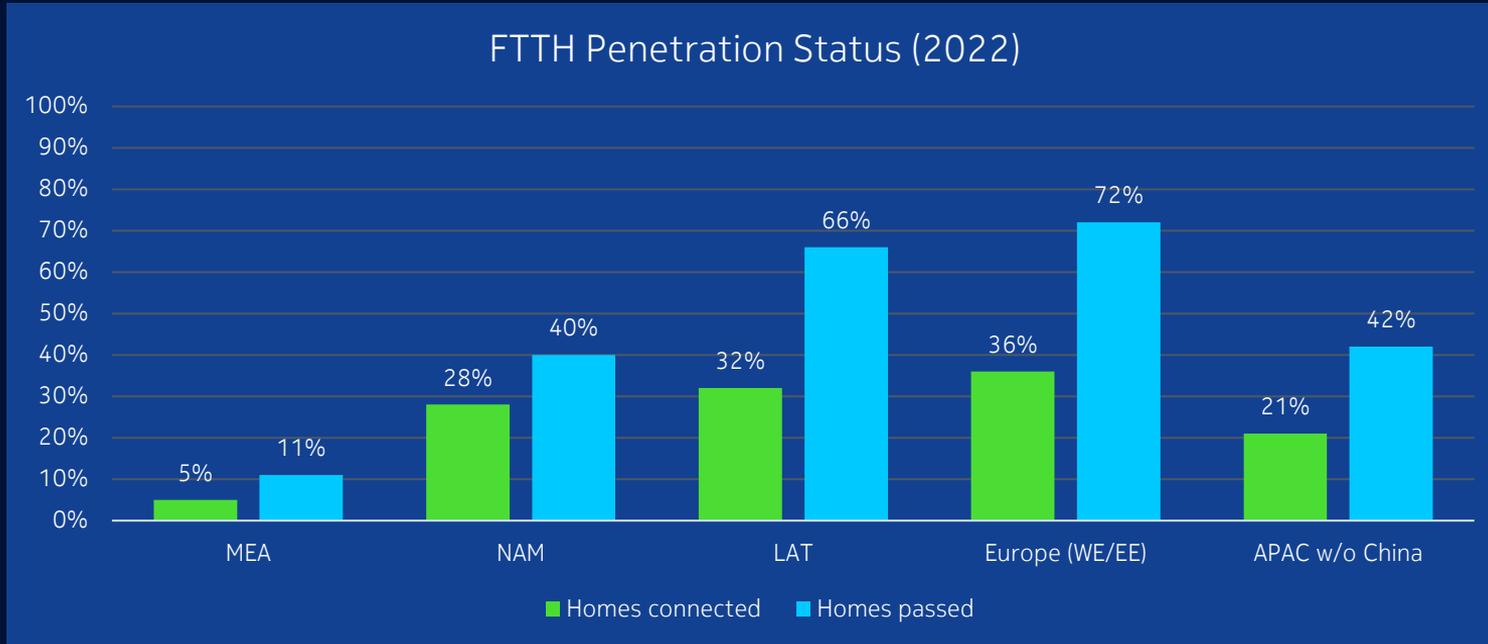
Aspiration

Net sales: Grow faster than market; **Operating margin:** Sustain high-teens operating margin

*Dell'Oro 4 quarter rolling global excluding China

Fixed Networks - Fiber deployment remains strong

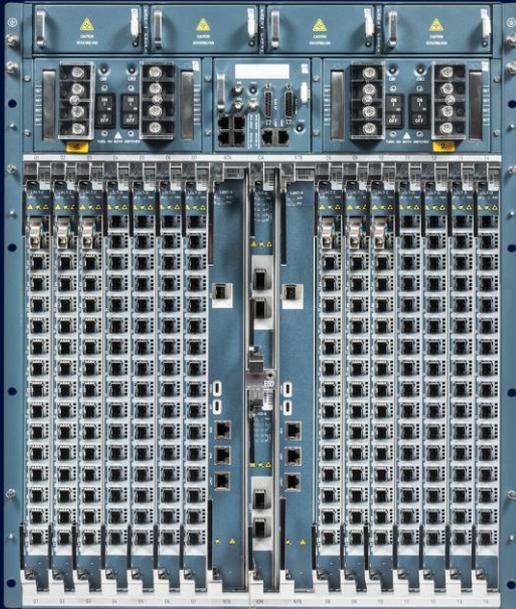
Broadband access potential: Europe and APAC (w/o China) to drive demand



Source: IDATE World FTTX market , Dec 2022.

Home connected: Home with BB services over fiber. **Home passed:** Home in an area where fiber exists and can be connected to the BB service

Fixed Networks - Continued technology leadership



Lightspan MF-14
First platform ready for 10G-25G-50G-100G
for residential and non-residential services



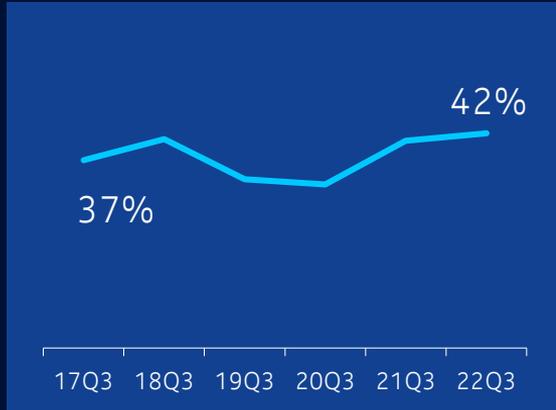
Fastmile 5G mmWave CPE
First affordable mmWave solution
for long-reach scenarios

25G
100G

Pioneering FTTH evolution
First 25G solution
First 100G proof-of-concept

Fixed Networks – Continued faster than market growth

Fiber (OLT) market share*



Accelerate & Scale

Addressable market growth: 4% CAGR (2022 – 2025)

Gain share based on technology leadership

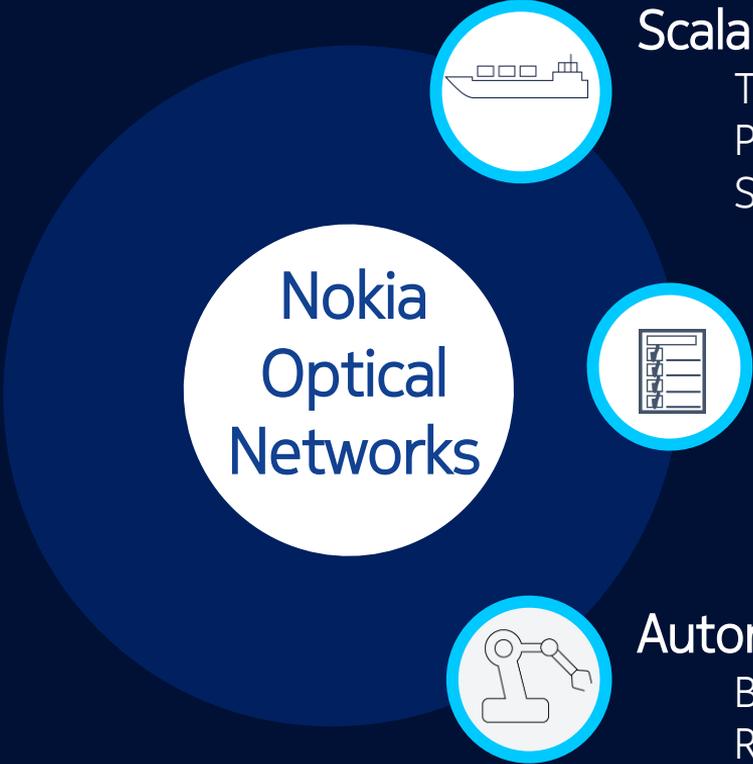
Position to benefit from government funding and neutral host builds

Aspiration

Net sales: Grow faster than market; **Operating margin:** Sustain mid-teens operating margin

*Dell'Oro 4 quarter rolling global excluding China

Optical Networks - Scale made simple

A central white circle containing the text "Nokia Optical Networks" is surrounded by a larger dark blue circle. Three smaller light blue circles are positioned around the central circle, each containing an icon: a ship, a checklist, and a robotic arm. To the right of each icon circle is a text block describing a key feature of the network.

Nokia Optical Networks



Scalable Capacity

Transponders
Photonic Line
Systems



Differentiated Features

Coherent Routing
Network Synchronization,
Secure Connectivity



Automation

Basics: Planning, Management, Control
Revenue Opportunities, Operational Excellence

Optical Networks – Share gain aspiration as we make scale simple

Optical Networking market share*



Accelerate & Scale

Addressable market growth: 2% CAGR (2022 – 2025)

Expand market share as technology competitiveness improves

Improving scale drives meaningful operating margin potential

Target double-digit from current low-single digit

Aspiration

Net sales: Grow faster than market; **Operating margin:** Expand to double-digit operating margin

*OMDIA 4 quarter rolling global excluding China

Submarine Networks – Opportunity to improve margins

Internet traffic through submarine cables

99%

Hyperscaler investment in recent years

~2x

Nokia leadership position, expertise, experience and capability

#1

Continuous actions to retain leadership

Delivery capacity
Innovation
Digitalization

Accelerate & Scale

Addressable market growth: single-digit CAGR (2022 – 2025)

Grow with the market maintaining market leadership

On path to improving margins towards high-single digit

Aspiration

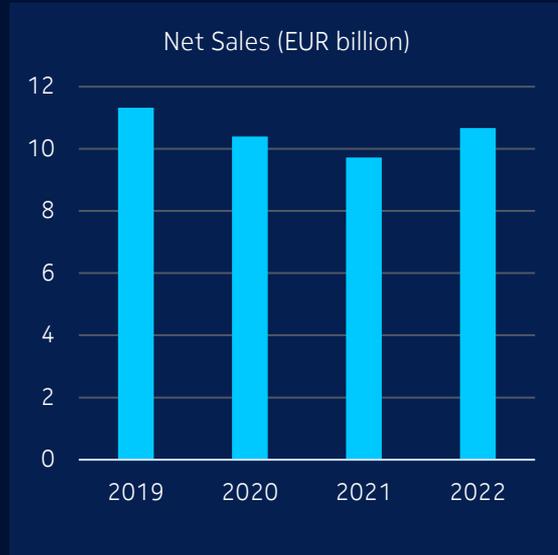
Net sales: Grow in-line with market; **Operating margin:** Improve margins to high-single digit

Mobile Networks – Back on track

Operating Margin – CMD '21 recap

2023 target from CMD '21 5 – 8%

Current 2023 assumption 7 – 10%



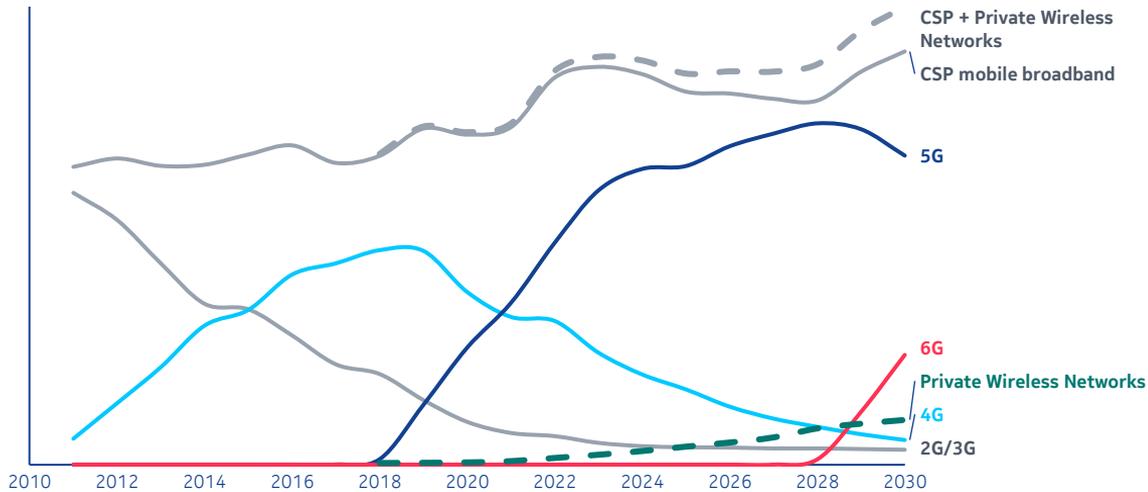
Aspiration

Net sales: Grow faster than market; **Operating margin:** Expand to double-digit operating margins

The 5G market has an extended peak

Private Wireless Networks market growing at 27% CAGR

Radio technology product and services market* revenue trend



Source: Nokia Business Intelligence estimate

Overall Mobile Networks market* growth 2022-25

1% CAGR

2022: €51bn*

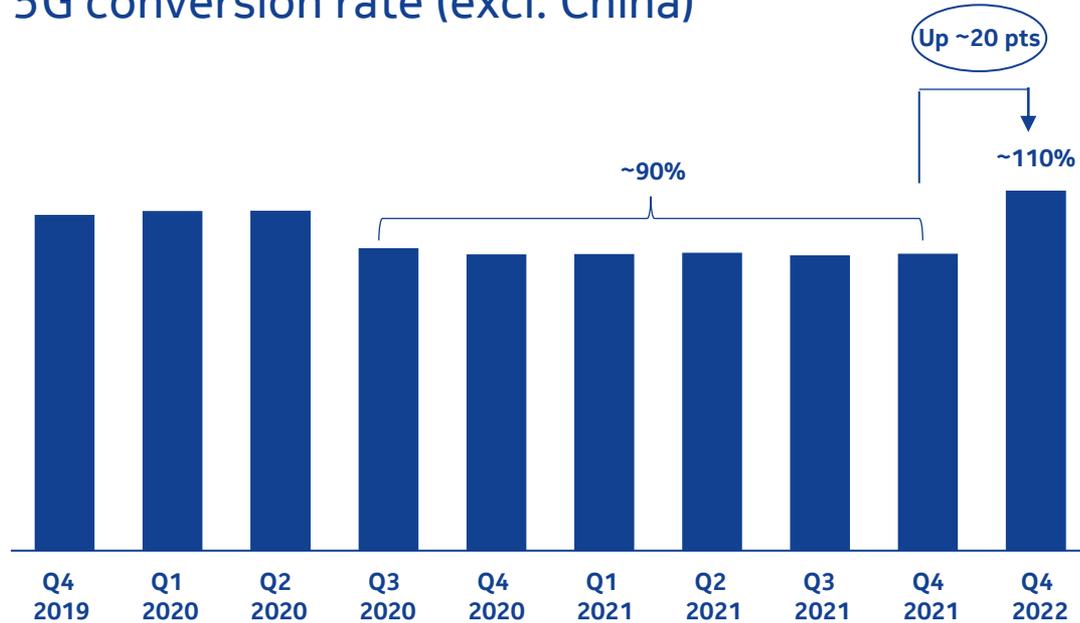
2025: €52bn*

Private Wireless Networks market* growth 2021-30

27% CAGR

Radio Access Network market share was stabilized and is on upswing

5G conversion rate (excl. China)



Since early 2019, we have won 41 new CSP RAN customers and increased share with 28 existing RAN customers



Long-term aspiration for Mobile Networks

Gain market share and improve profitability to 10%+

Opportunities to gain share – we've turned the corner

Nokia 4G/5G excluding China market share 2019 – 2022*



*Dell'Oro Mobile RAN reports 2019 - 2022

Long-term opportunities to expand margins to 10%+

Scale

- Convert Nokia 4G CSP customers to 5G
- Win new CSP customers and grow
- Continue winning in Enterprise segment

Product competitiveness

- Further key steps on roadmap in 2023
- Reduce product and service cost further
- Invest in 5G-A and 6G preparedness

Product maturity

- Margins can improve as demand moves from coverage to capacity investment
- Prior cycles saw significant improvement

Maintain efficient cost base

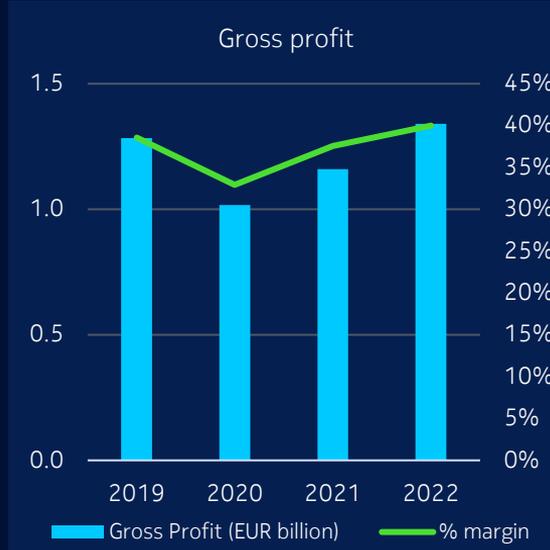
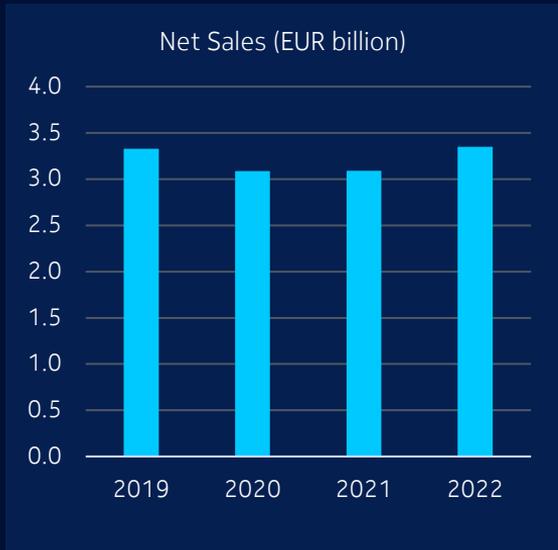
- Continued refinements to operating model
- Digitization to maintain efficient cost base
- Continue improving R&D productivity

Cloud and Network Services performance

Operating Margin – CMD '21 recap

2023 target from CMD '21 8 – 11%

Current 2023 assumption 5.5 – 8.5%



Aspiration

Net sales: Grow faster than market; **Operating margin:** Expand to double-digit operating margin

Driving growth, shifting business models, and creating new value

Engage full
Digital Ecosystem

CSPs, Enterprises, Hyperscalers, & Developers

Disrupt in new
Opportunity Areas

Network Monetization
Platform

Autonomous
Operations

Enterprise
Campus Edge

Win aggressively
in 6 Growth Areas

4G/5G Core



Monetization



Analytics
and AI



Digital
Operations



Security



Private
Wireless



Innovate with new
Business Model

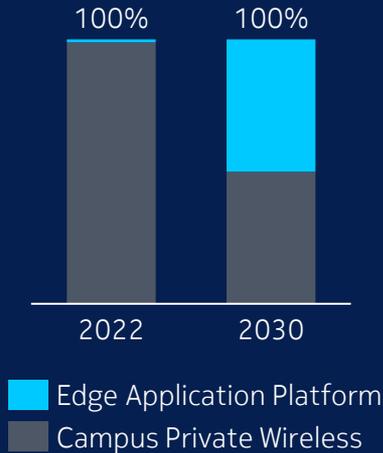


SaaS



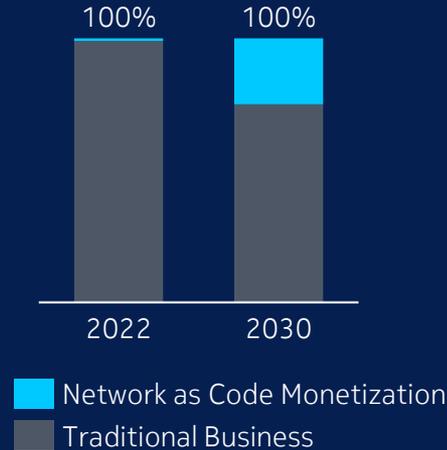
Cloud and Network Services - Longer term value creation

Campus edge opportunity



By the end of the decade about half of campus revenue will come from our edge platform (Mission Critical Industrial Edge)

New monetization opportunity



By the end of the decade about a quarter of CNS revenue will be generated through new monetization of the digital ecosystem

SaaS transition

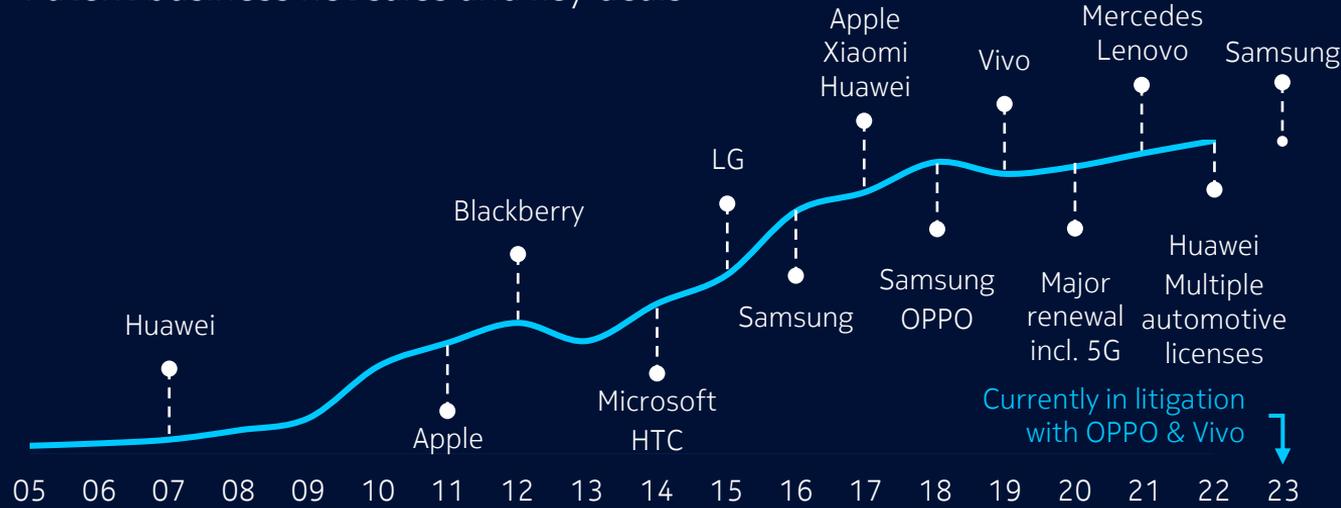


By the end of the decade more than half of CNS revenue will be generated through as-a-service models

Note: All targets are not mutually exclusive

Nokia Technologies proven track record with good execution

Patent business net sales and key deals



Proven assets
Strong IP assets with their value proven through the legal system

Expert team
Strong patent creation, licensing, and litigation teams

Licensee-friendly
Compelling licensing offering incl. patents, technology, and brand



Aspiration Largely stable operating profit and continue to renew & sign new agreements

NOTE: A limited subset of example deals is presented here for illustration purposes only and may include past and/or current licensees and do not imply future license renewals. Patent business net sales are illustrated using a 3-year moving average (centered). Cash inflows to net sales ratio shown is for Nokia Technologies.

Nokia strategic aspirations across business groups

	Addressable Market growth*	Nokia relative opportunity	Nokia sales growth aspiration	Operating margin - 2022	Operating margin – aspiration	Key Competitors
NI – IP Networks	3% CAGR	Grow share in CSP, grow in enterprise verticals and further penetrate the webscale market through continued technology leadership	Grow faster than the market	High-teens	High-teens	Arista, Ciena, Cisco, Juniper, Huawei
NI – Fixed Networks	4% CAGR	Continue gaining share with 18-month technology leadership	Grow faster than the market	Mid-teens	Mid-teens	Adtran, Calix, Ciena, Fiberhome, Huawei, ZTE
NI – Optical Networks	2% CAGR	Build towards technology leadership driving market share gains	Grow faster than the market	Low-single digit	Double-digit	Ciena, Fujitsu, Huawei, Infinera, Ribbon, ZTE
NI – Submarine Networks	Single-digit CAGR	Continue executing on substantial contract backlog and driving innovation in subsea cable	Grow with the market	Low-single digit	High-single digit	Subcom, NEC, Huawei
Mobile Networks	1% CAGR	Technology leadership and geopolitical opportunities to drive share higher	Market +2-3% per year	8.8%	Double-digit	Ericsson, Huawei, ZTE, Samsung
Cloud and Network Services	4% CAGR	Drive market transition towards cloud and aaS business model	Grow faster than the market	5.3%	Double-digit	Amdocs, Casa, Cisco, Ericsson, Huawei, Mavenir, Netcracker, Hyperscalers
Nokia Technologies	Largely stable operating profit and continue to renew & sign new agreements					

*Source: Nokia Business Intelligence; 2022-2025 CAGR at constant currency

Agenda



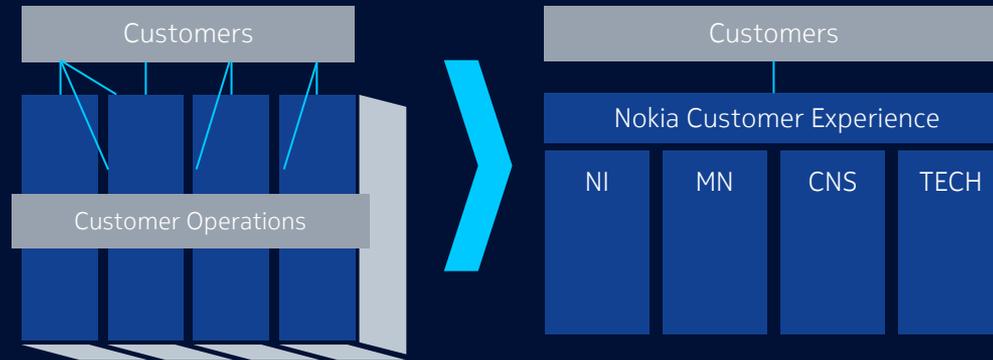
Marco Wirén
CFO

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- 34. Capital allocation policy
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Streamlined organization implemented within 6 months

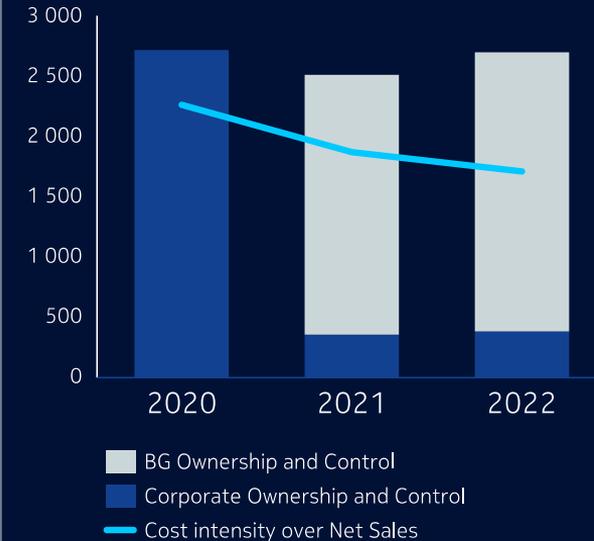
Still in continuous review to ensure evolution as industry evolves

From complex matrix organization...



...to streamlined accountability through business groups in 6 months

Maintaining a lean corporate center



Continued focus on value creation through

Technology
leadership

Capital
allocation

Performance
management

Four empowered and P/L accountable Business Groups, with management and employee incentives aligned with fundamental value creation

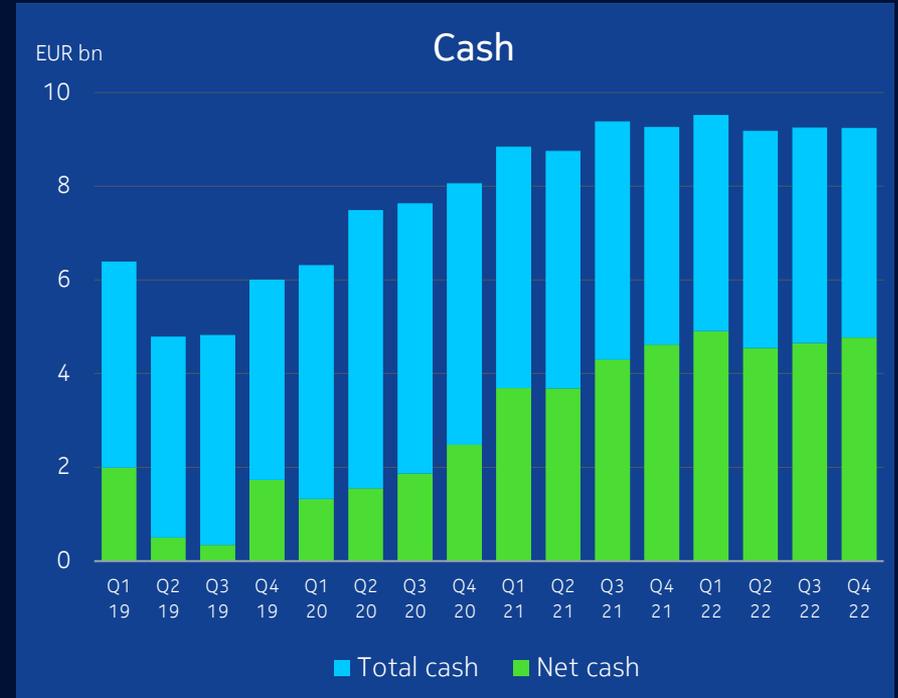
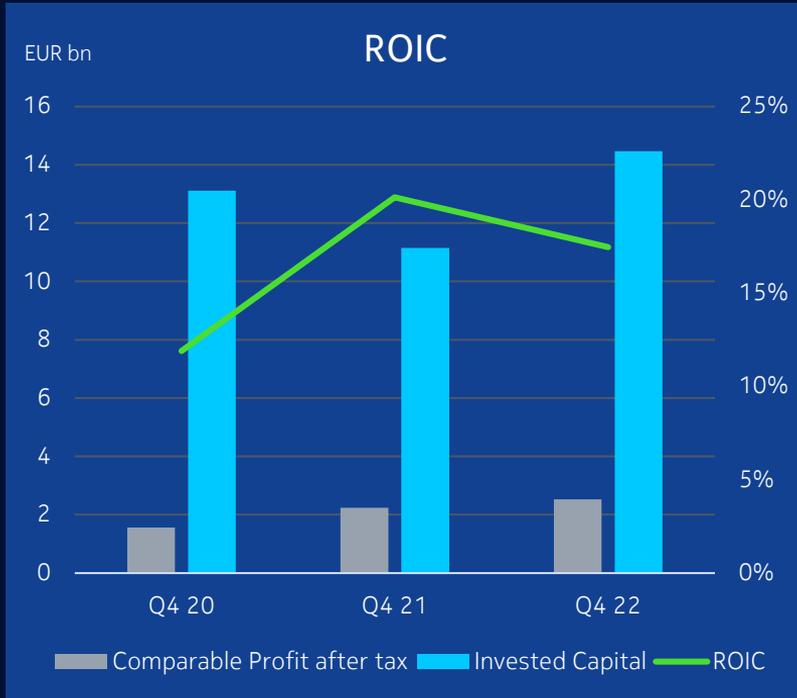
ROCE > WACC

Responsibility for portfolio management and go-to-market will support growth

Focus on free cash flow generation and working capital efficiency

Operating margin targets consistent with strategy to create value

Delivering improving returns with a robust balance sheet



Capital allocation policy leads to strong capital structure and technology leadership

Our primary focus

To deploy our capital towards organic or inorganic investments to ensure technology leadership in areas where we have a clear path towards creating shareholder value, while maintaining a strong capital structure and prudent financial strategy.

R&D spend 2022

EUR 4.4bn

Our next priority

To provide shareholders with capital returns.

2022 dividend proposal

EUR 0.12
per share

On-going share buyback program announced last year

EUR 600mn
over 2 years

Dividend policy

We target recurring, stable and over time growing ordinary dividend payments, taking into account the previous year's earnings as well as the company's financial position and business outlook.

Long term planning assumptions

Business Group

Nokia Technologies
operating profit

Largely stable

Group common and
other operating loss

EUR 300-350mn

Below operating profit

Financial income and
expenses

EUR 0 to -100mn

Tax rate

~25%

Cash flow

Cash taxes

EUR 700mn

Capex

EUR 600mn

Six pillars of our strategy to deliver our targets

1



Grow CSP business faster than market

2



Expand the share of enterprise

3



Take leadership position in every area we compete

4



Secure business longevity in Nokia Technologies

5



Build new business models

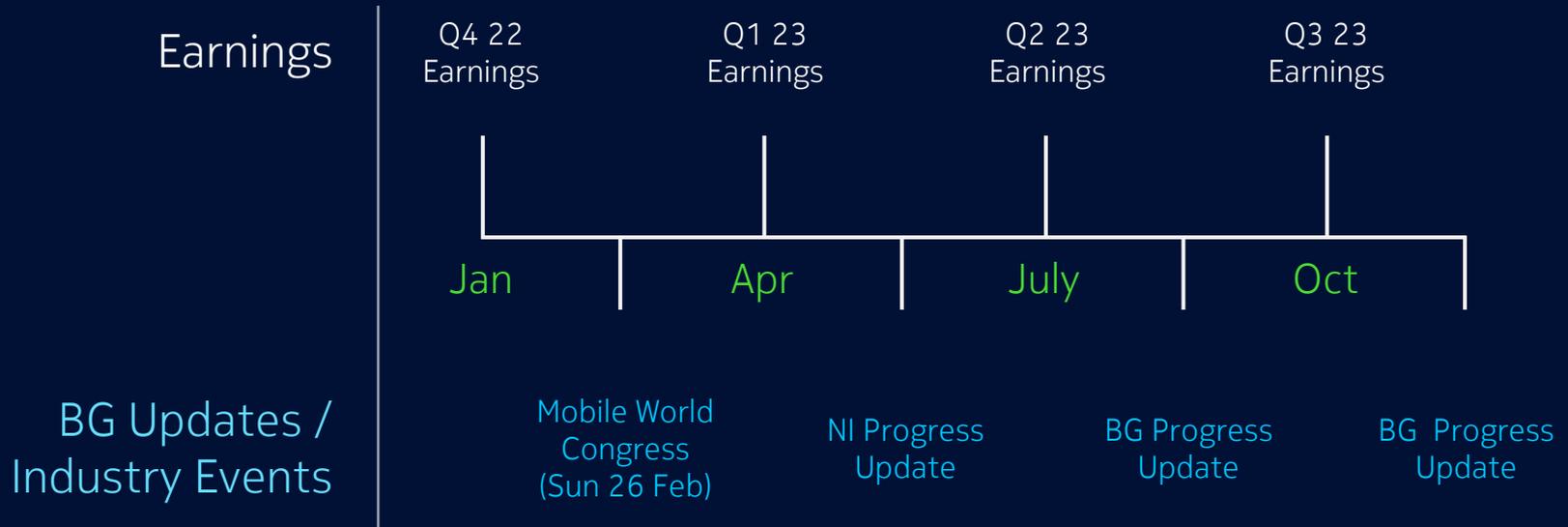
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Develop ESG into a competitive advantage

IR Calendar for 2023

Steady stream of updates on progress



Q&A

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