



# CMD<sup>20</sup>/<sub>20</sub>

CAPITAL MARKETS DAY

## Break Out Session 4: Our 5G approach

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# Our 5G approach

## 01 5G is part of our **modernisation journey**

5G is one of the key objectives of our ongoing modernisation journey digitalising our technology stack and innovating our operating model resulting in more for less with improved customer experience.

## 02 Our 5G steps are **value-driven**

Our 5G business value is two-track: efficiency improvements from 4G and sun-setting copper, and additional business growth. These are individually assessed per market.

## 03 Our **global scale** brings great learnings and benefits across markets

We use learning from activities in individual markets to define attractive use cases and drive technical improvements across markets. This competitive position attracts partners from a broader ecosystem.



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## No legacy investments

- > >87% of mobile data traffic on cloud platform
- > ~27% of sites end 2020 have 5G-enabled base stations
- > >84 % of spectrum for 4G/5G

## Now

- > 5G 30% more efficient than 4G
- > Launched FWA & eMBB in Finland

## Next

- > 5G 3–5x more efficient than 4G
- > Exploring campus/ private networks, fish farming, health, media

## Innovating with partners

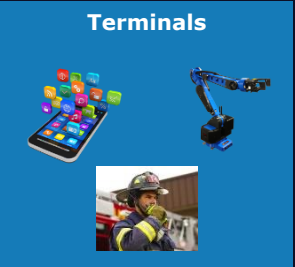

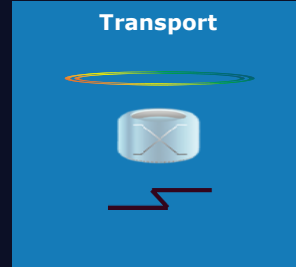
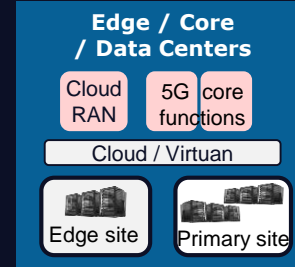



- > 6 markets with pilots and show-cases involving enterprise customers, vendors and others
- > Leading 5G-VINNI EU research project with more than 23 partners from 10 countries





# Successful 5G requires end-to-end perspective...

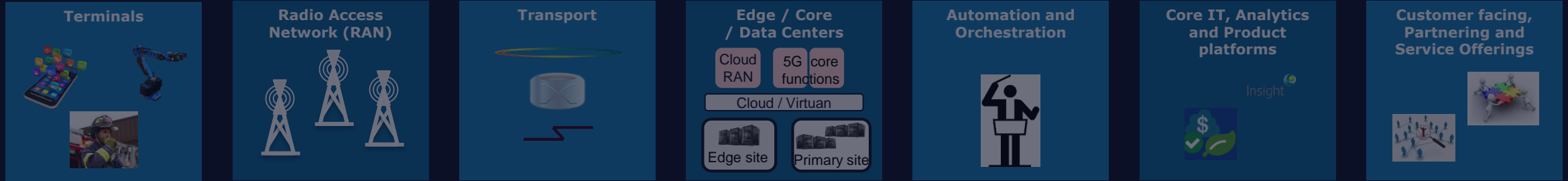
## Customer experience

	Terminals	Radio Access Network (RAN)	Transport	Edge / Core / Data Centers	Automation and Orchestration	Core IT, Analytics and Product platforms	Customer facing, Partnering and Service Offerings
<b>Now</b>	 <p>5G devices emerging, e.g. Huawei, Samsung</p>	 <p>72% spectrum 4G/5G, ~8% 5G enabled base stations</p>	 <p>51% sites with fiber</p>	 <p>87% of mobile data traffic on cloud platform</p>	 <p>~600 automation use cases AI/ML for energy efficiency and network NPS</p>	 <p>216 standardized APIs Data lakes operational in all BUs</p>	 <p>Launched Fixed wireless access and Enhanced mobile broadband</p>
<b>Next</b>	<p>More device types, more functionality, e.g. Apple</p>	<p>&gt;90% spectrum 4G/5G 48% 5G enabled base stations</p>	<p>62% sites with fiber, strict synchronisation</p>	<p>100% of mobile data traffic on cloud platform Converged IT and network, container, micro-services</p>	<p>Fully automated and predictive customer centric operations</p>	<p>Simplified, decoupled and agile for speed of innovation</p>	<p>Additional use cases and scalable partner set up for new business models</p>



# ...and we have demonstrated in Norway and Finland

## Customer experience



**Norway - Trondheim** harbor area (Jan-2020):

- › Average throughput ~1 Gbit/s
- › Latency ~15 ms



**Norway - Spitzbergen** (pilot Oct-2019):

- › Throughput 750 - 1 Gbit/s,
- › Latency 50 - 100 ms (to main land)

Speed	List price
5G 1000	44,90*
5G 400	39,90*

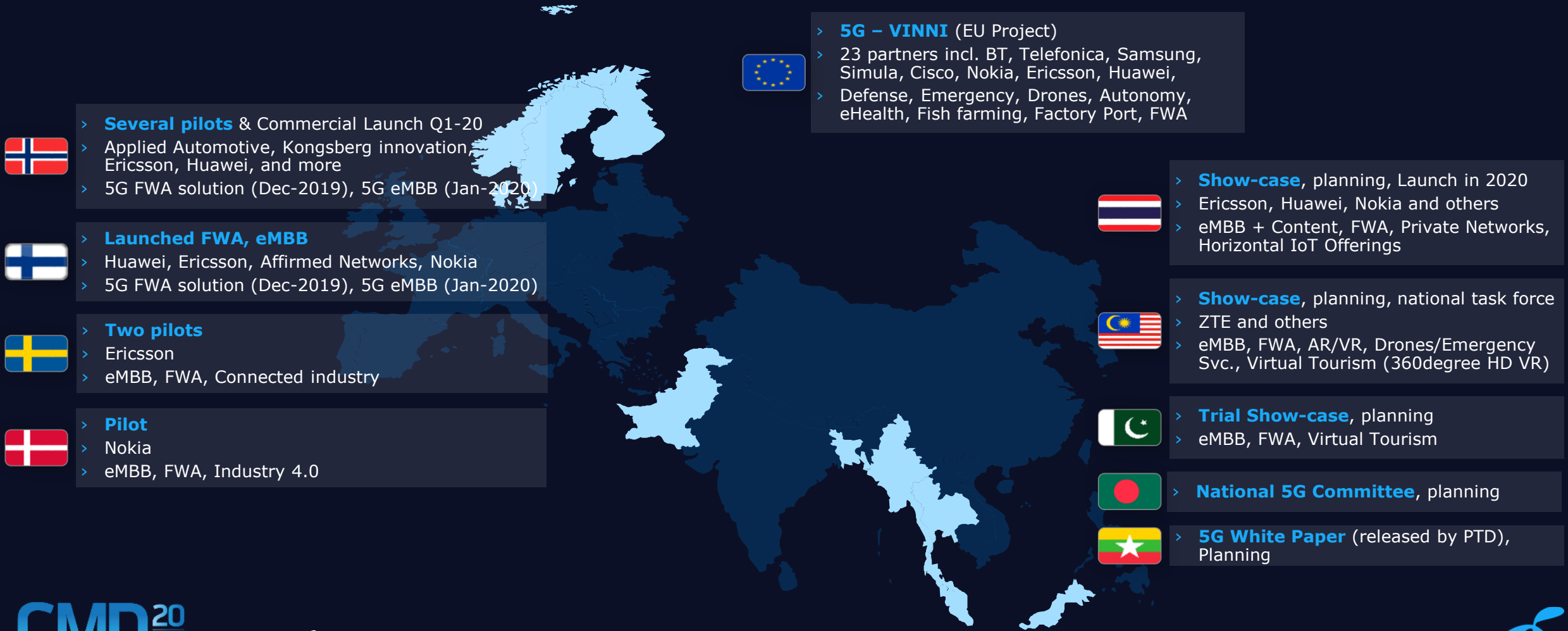
**Finland** (commercial Dec-2019):

- › Fixed wireless access  
400 Mbit/s and 1000 Mbit/s



# Our 5G engagements

## Global pilots and partners



# Our 5G approach

- 01 **5G is part of our modernisation journey**
- 02 **Our steps for 5G are value-driven**
- 03 **Our global scale brings great learnings and benefits across markets**

