The road to the autonomous industry

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Automation region 4th of February 2020

5G

Massive

Connect everything

100x
Connected Devices

~15 years
Battery Life

1.000.000 /km²
Density of connected devices

Create digital twins and predictive maintenance

99,999%
Data transmission reliability

10Gb/s
Extreme bandwidth

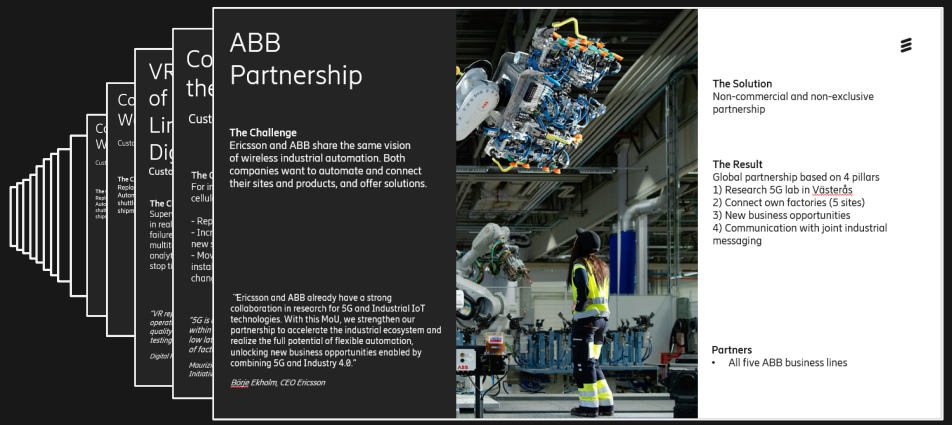
<10ms
Ultra low latency

Intelligence orchestration and remote control

Cut the wires

5G for Industries since 2015

Estbl. 2015



Automotive / Transport

Energy & Utilities

Manufacturing

Mining

Logistics

Construction

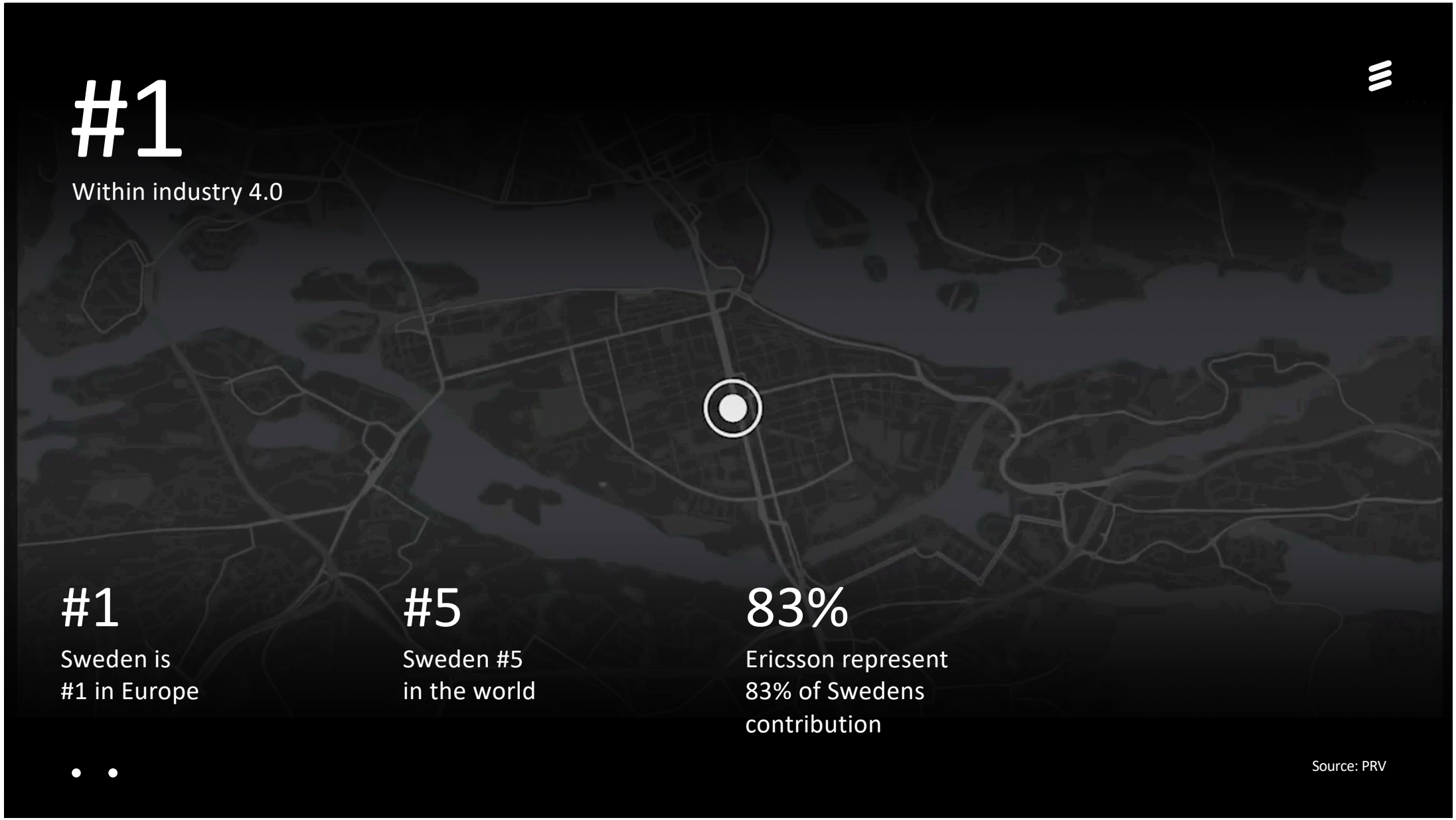
Agriculture

Public safety

Smart Cities

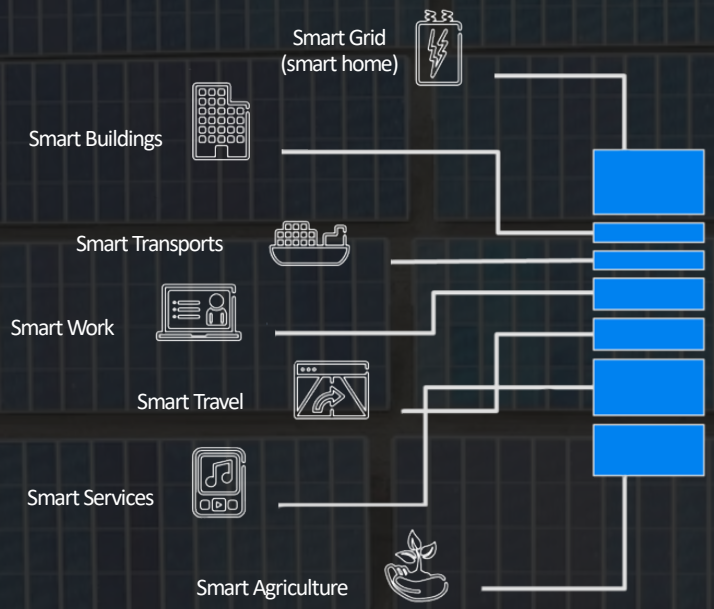
40+ Cutting edge industry research programs across 5G, IIoT, Cloud and AI

Mercedes-Benz · SIEMENS · HEXAGON · COMAU · VOLVO · VATTENFALL · BOSCH · ZENUITY · KINGS COLLEGE LONDON · ABB · Epiroc · OSRAM · Berkeley · Husqvarna Group · BOLIDEN · Keio University · Audi · Fraunhofer IPT · SKF · BMW


#1
Within industry 4.0
#1
Sweden is
#1 in Europe
#5
Sweden #5
in the world
83%
Ericsson represent
83% of Swedens
contribution
Source: PRV

Reduced emissions

By using ICT and 5G



63.5 Gt

Global emissions2030

-15%

Potential reduction to 2030 by ICT in the best scenario.
7% in an average scenario

Evolved insights on drivers and barriers - all industries present major value pools

Healthcare: Significant opportunity – historical barriers – strong digital evolution

Manufacturing: Productivity and flexibility key 5G drivers – increased caution and complexity demands

Energy & utilities: Growth in power generation, oil and gas – scope reduction of smart-x

Automotive: Connectivity and autonomous key drivers – coverage and safety concerns

Public safety: Public safety focus – slowed down adoption of new technologies

Media: Streaming precedes e-sport and interactive events – 5G pilots implemented

Financial services: Cyber security and blockchain stable service provider opportunities

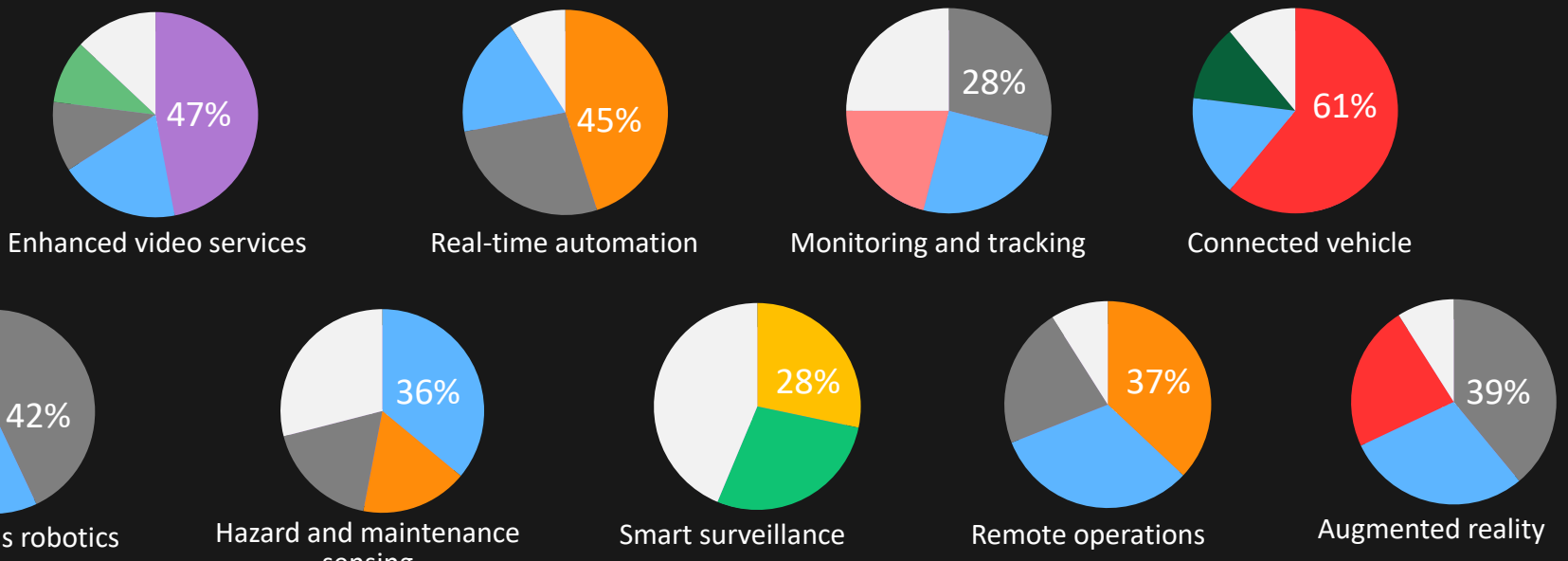
Public transport: Mass transit focus – passenger information and ticketing systems

Retail: Tracking and analytics initial focus - mixed reality and hyper-personalization in 5G

Agriculture: Automation and remote control – resistance to disruptive technology

Source: Ericsson and Arthur D. Little

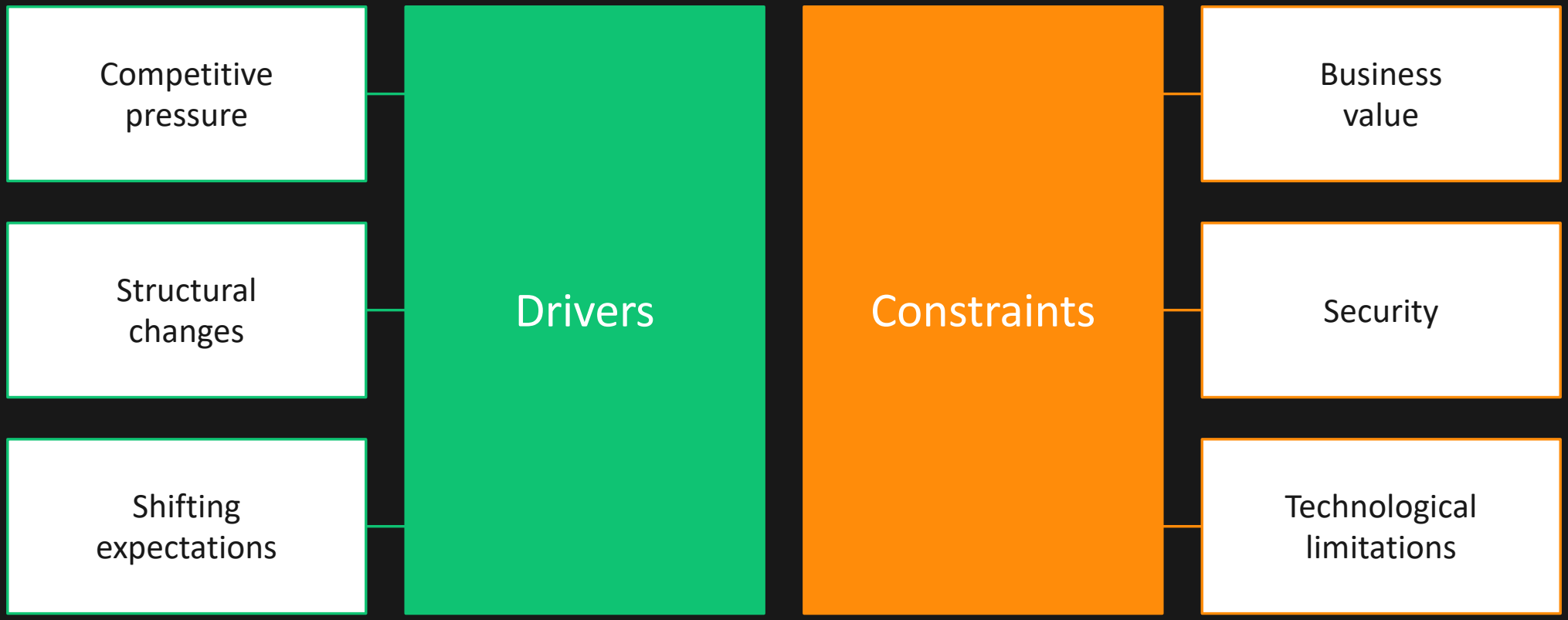
Each cluster serves a set of industries



Note: For each individual diagram, white color indicates other clusters than those marked in the diagram

Source: Ericsson and Arthur D. Little

Key drivers and constraints for digitalization



Dependence on 5G is based on enterprises' maturity levels

Dependence on 5G

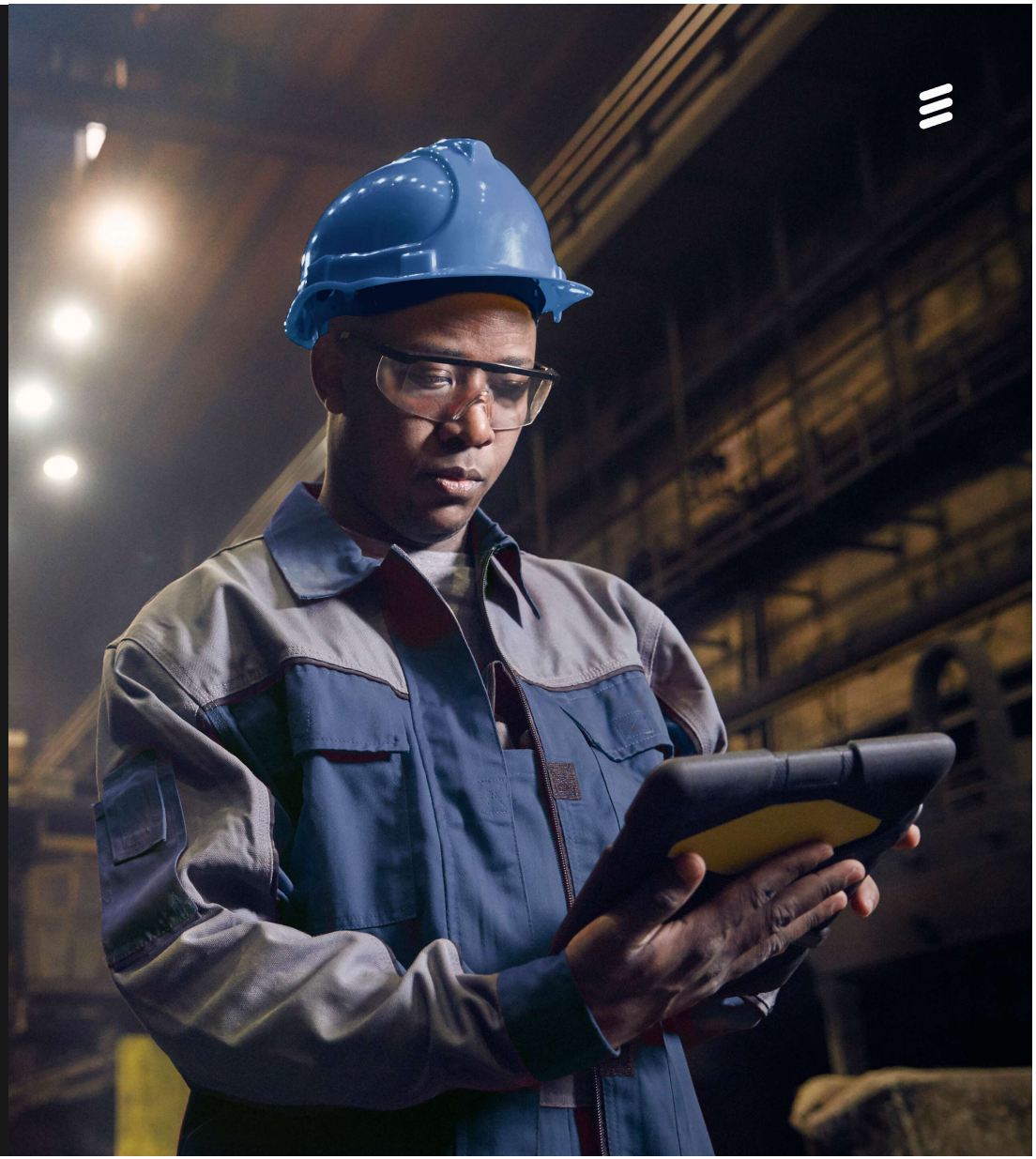
05. Automate actions

04. Provide advice

03. Present information

02. Collect data

01. Simplify documentation



Kankberg

PIMM-Projektet
(Pilot for Industrial Mobile Communication in Mining)

Partners

Boliden, Epiroc, Volvo CE, ABB, RISE, Wolf IT, TeliaSonera, Vinnova, EU, Mobilaris, InfoVista, Linköping University

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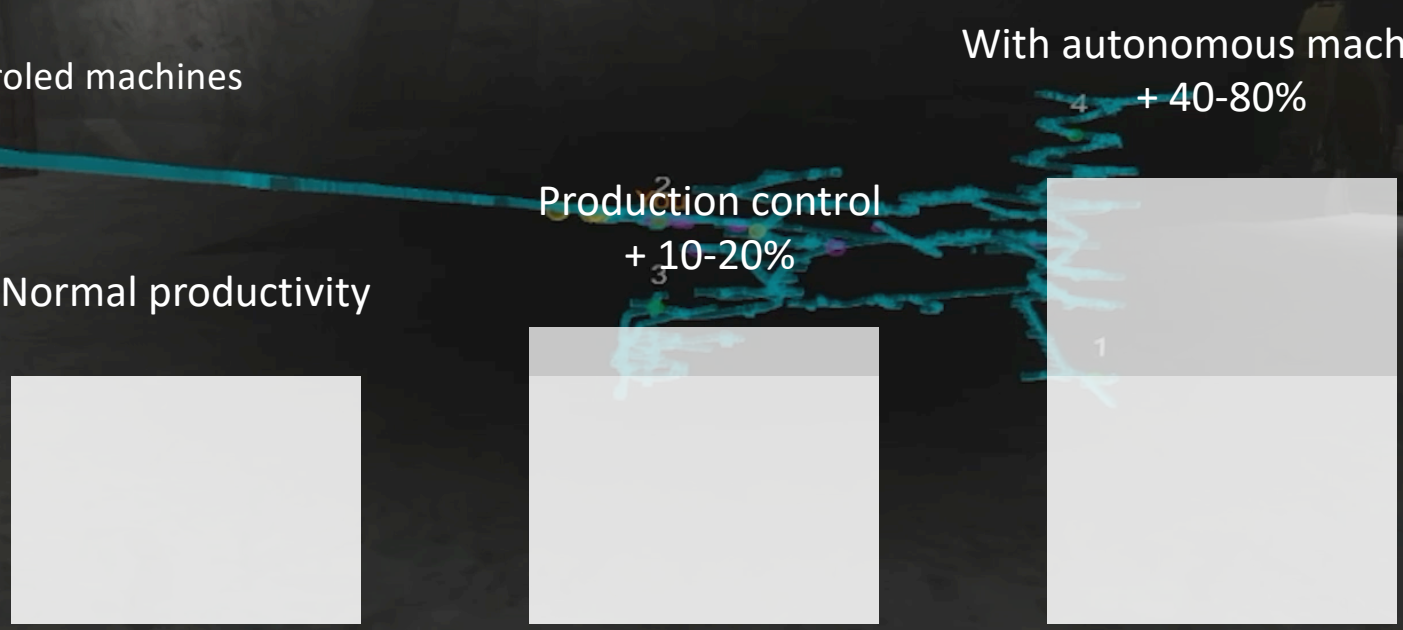
Kankberg

PIMM-Projektet
(Pilot for Industrial Mobile Communication in Mining)

- Sensors
- Remotely controled machines

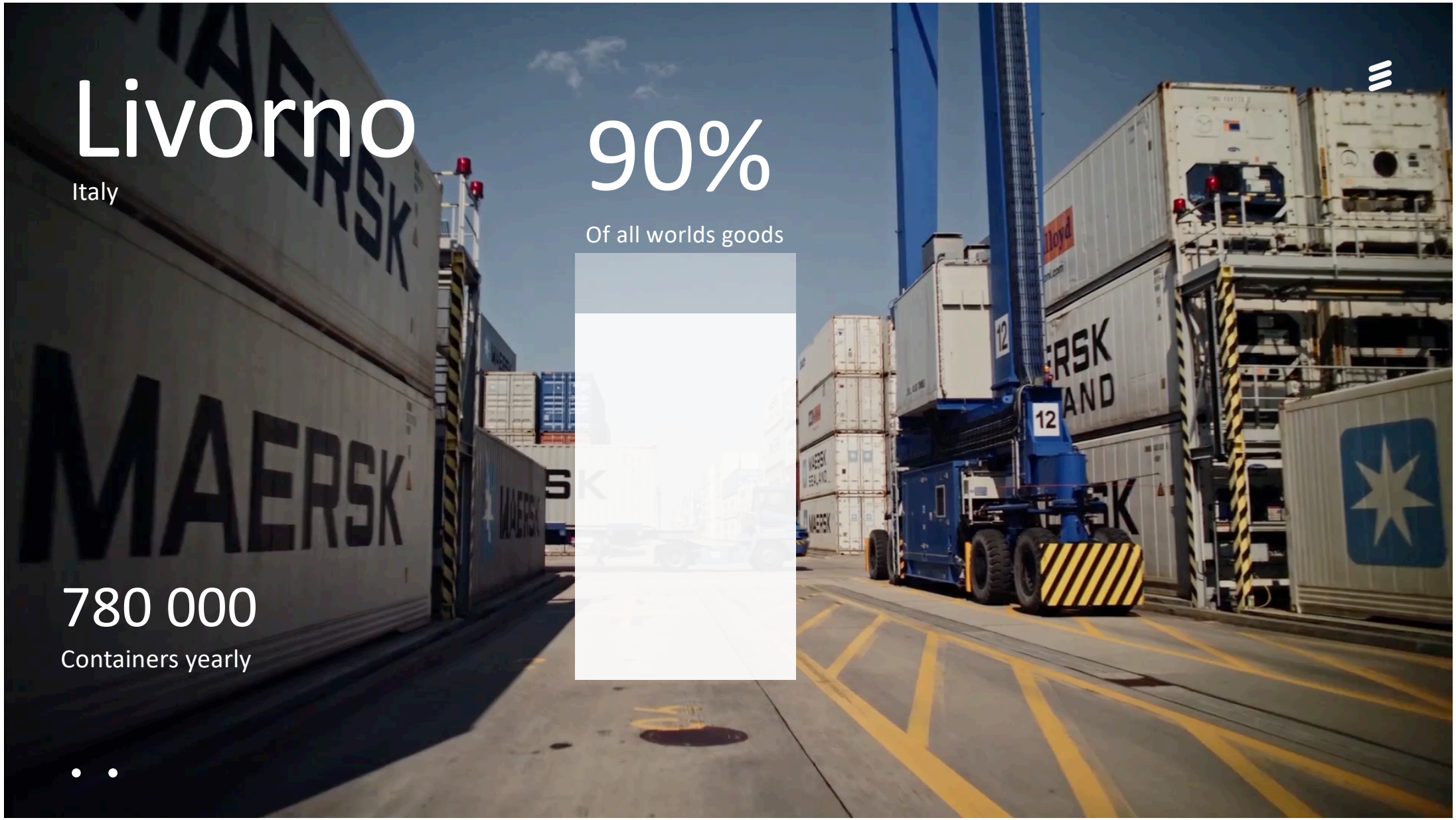


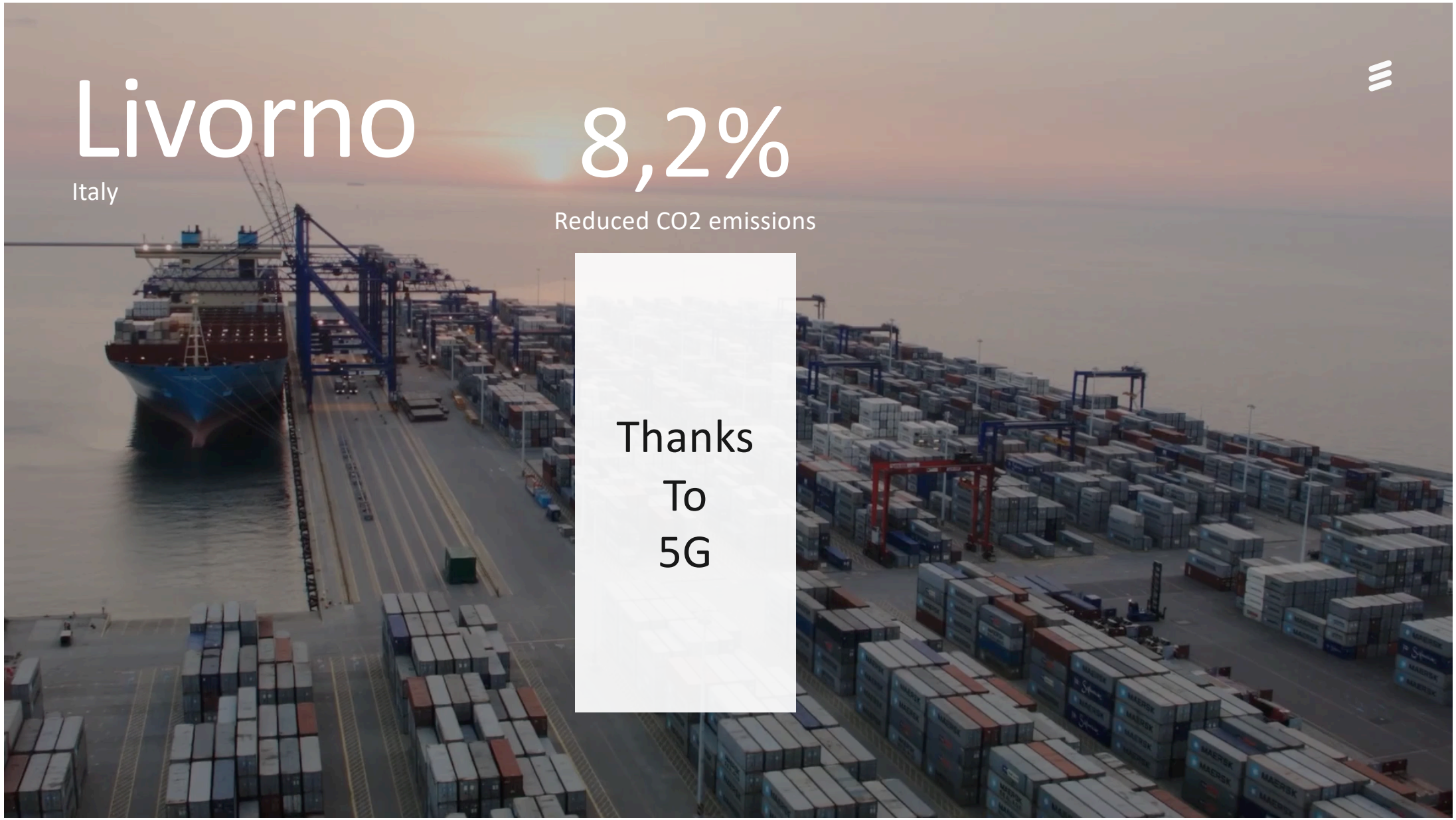
Annual 2.5 MEUR net saving
Reduction of 9,400 metric tons of CO2 emissions

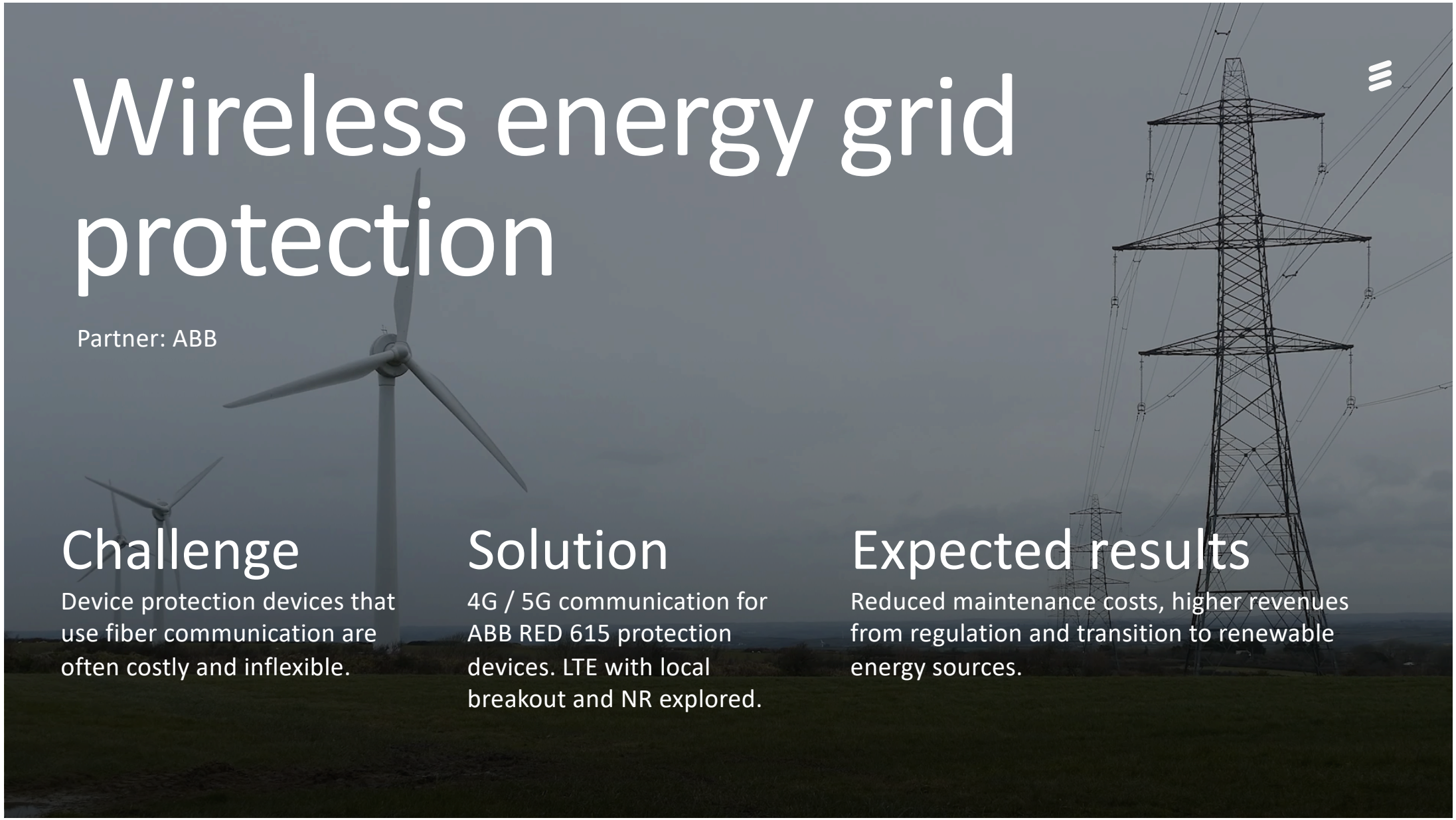
[Depth: -398 m]

Transport of the future

Digitalization and 5G will enable new safety solutions


Livorno
Italy
90%
Of all worlds goods
780 000
Containers yearly
MAERSK
12


Livorno
Italy
8,2%
Reduced CO2 emissions
Thanks
To
5G



Wireless energy grid protection

Partner: ABB

Challenge

Device protection devices that use fiber communication are often costly and inflexible.

Solution

4G / 5G communication for ABB RED 615 protection devices. LTE with local breakout and NR explored.

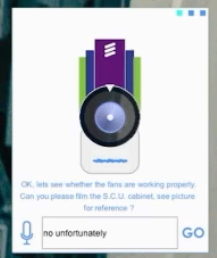
Expected results

Reduced maintenance costs, higher revenues from regulation and transition to renewable energy sources.


Drones
For automation, inspection and public safety

Augmented reality

Work tasks may be performed faster and with higher quality.



Internet of senses

Consumers predict that, by 2030, internet services will encompass all of our senses. Digital sound and vision will be complemented by touch, taste, smell and more.

43%

Visiting any place or time period could be possible – 43 percent desire digital holidays that involve all senses.

45%

Online shopping will be a sensory experience; 45 percent want a full-sense digital shopping mall.

Ericsson.com/industrylab