



INNOVATIONS IN INTELLIGENT TRANSPORTATION



COLIN TOH

Global Head of ICT in Transport,
Ericsson

ERICSSON AT A GLANCE



NETWORKS

Create one network for a million different needs

IT

Achieve business agility with Transformative IT

MEDIA

Delight the TV consumer every day

INDUSTRIES

Connecting industries for business acceleration

39,000

Patents

25,700

R&D Employees

36 B. SEK

In R&D

1 BILLION

Subscribers managed by us

2.5 BILLION

Subscribers supported by us

65,000

Services professionals

246.9 B. SEK

Net Sales

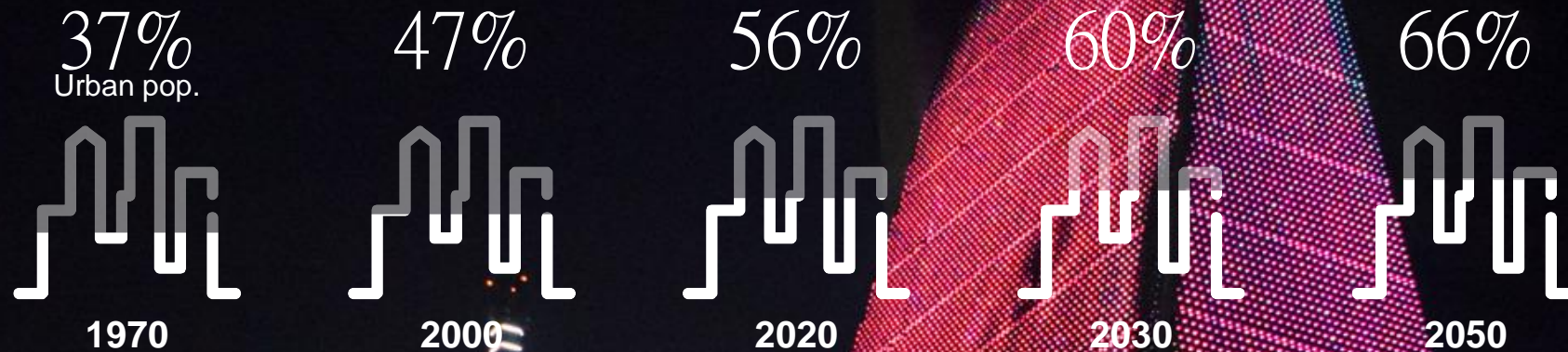
180

Countries with customers

115,000

Employees

WHY CITIES MATTER



10 largest cities = 2.6% population and 20% of world economy
70% of energy-related CO2 emissions*
~50% of global CO2e*
Will bear 80% of the climate adaptation costs #



CITIES CHALLENGES



HOUSING



JOB



TRANSPORTATION



ENERGY



WASTE



EDUCATION



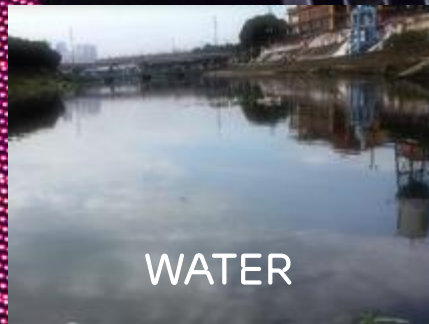
PUBLIC SAFETY



POLLUTION



HEALTH



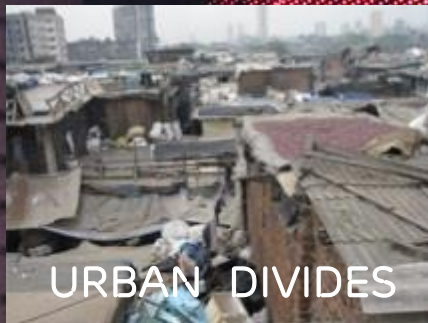
WATER



ENVIRONMENT



FOOD &
AGRICULTURE



URBAN DIVIDES

ROLE FOR ICT &
INNOVATIONS

INNOVATION HIGHLIGHTS



Cloud

(Infrastructure & Analytics)

IoT

(Connected Things)

5G

(Speed & Connectivity)

SLIPPERY ROAD



INNOVATION HIGHLIGHTS



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SLIPPERY
ROAD



5G

(Speed & Connectivity)



CONNECTED CAR

THE RESULT

- › Allows Volvo Cars to add new functionality throughout the life cycle of the car
- › Live since 2013
- › Available in 160 markets with 500,000+ cars
- › Recognized with 15 Industry Awards in Telematics, M2M and Infotainment



Application services,
Telematics Data



ENERGY POSITIVE CAR

THE RESULT

- › Winner of 2016 World Solar Challenge – Cruiser class
- › Ericsson provides the Solar Navigator



CONNECTED BUS STOP

Bus Line Status
Info LCD Monitor

LTE Antennas (external or hidden),
2G and 3G compatible

Security Webcams

Digital Signage
Advertisement
LCD Monitor

Underground
watertight cockpits

Touchscreen
Info LCD Monitor

- Breaking news
- Meteo
- Newspapers
- Timetable
- Real time traffic information

USB recharging station
for mobile phones



INNOVATION HIGHLIGHTS



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SLIPPERY
ROAD



TRAFFIC AUTHORITY REACHING OUT



Roadside



Aftermounted



Smartphone



Fully integrated



CONNECTED TRAFFIC CLOUD



Built on insights from leading C-ITS projects:

- Converge Germany
- Drive Sweden



COCARX AND CONVERGE

R&D AND DEMONSTRATION PROJECTS, GERMANY

THE RESULT

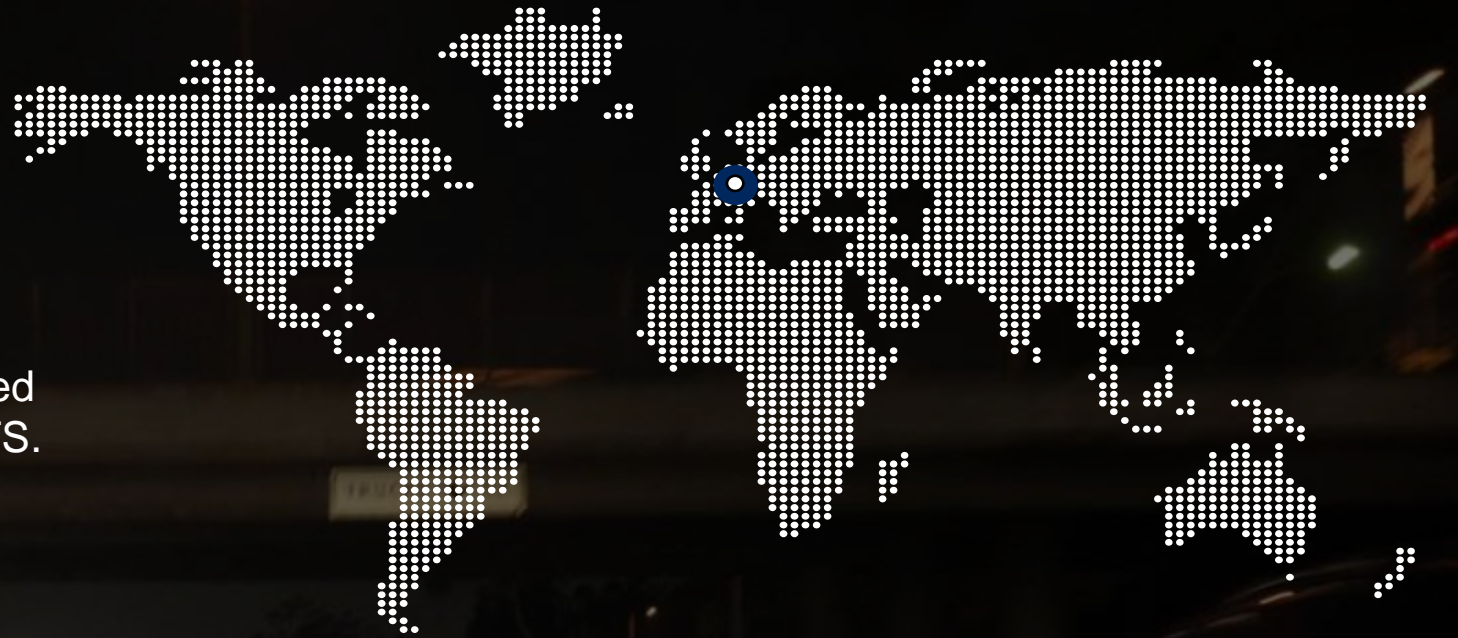
CocarX

- Developed and demonstrated Cellular Cooperative ITS, and tested performance in 3G and LTE.

Converge

- Developed and demonstrated a decentralized and scalable architecture for Cooperative ITS.

Partners involve Road Authorities, vehicle manufacturers and mobile operators.



INNOVATION HIGHLIGHTS

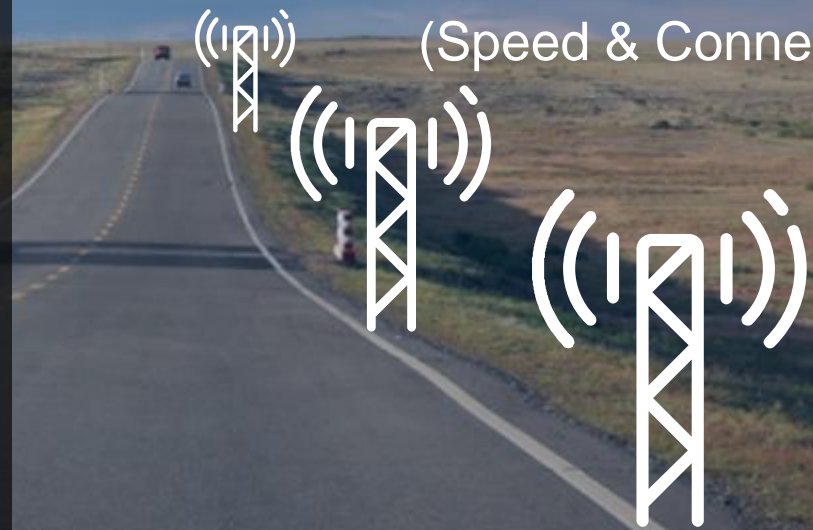


Cloud
(Infrastructure & Analytics)

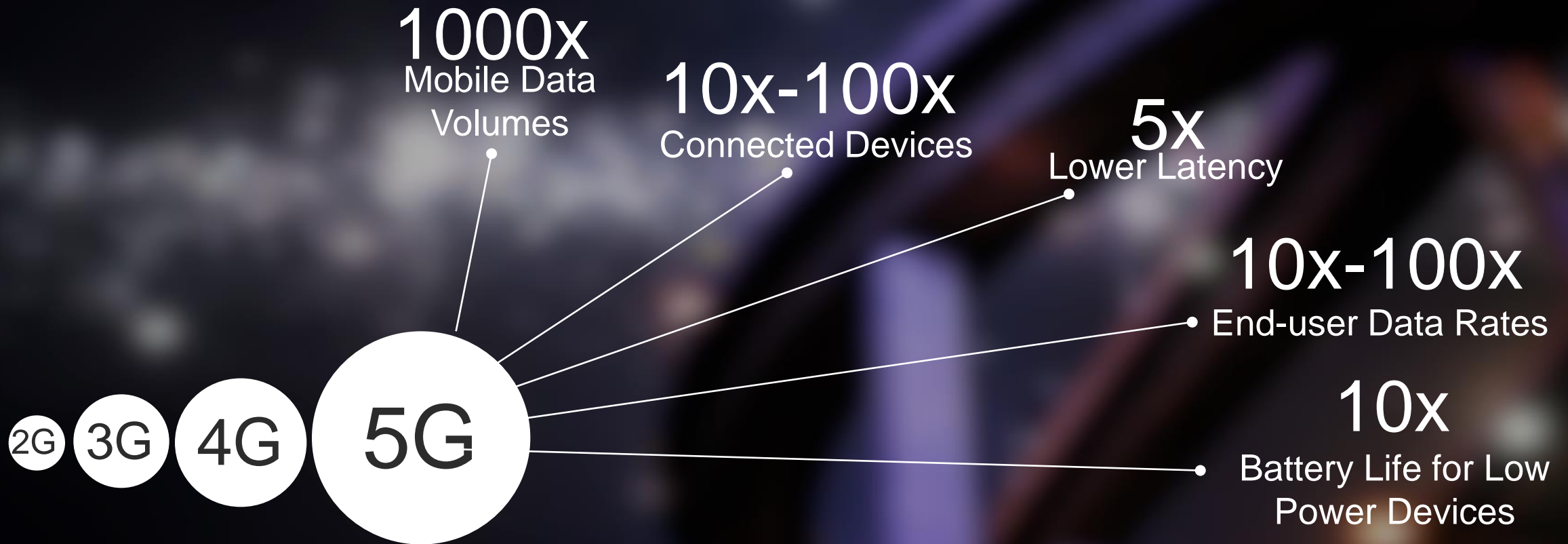
IoT
(Connected Things)



5G
(Speed & Connectivity)



EVOLUTION TOWARDS 2020



CREATING A PLATFORM FOR THE INTERNET OF THINGS



Massive scale



Critical processes



- Massive numbers
- Low cost, low energy
- Small data volumes

Different requirements of connectivity

- Smaller numbers
- Ultra reliable, high availability
- Very low latency

5G TRUCK

THE AMBITION

- › Joint Research efforts to accelerate connectivity of commercial vehicles and infrastructure



BENEFITS WITH PLATOONING

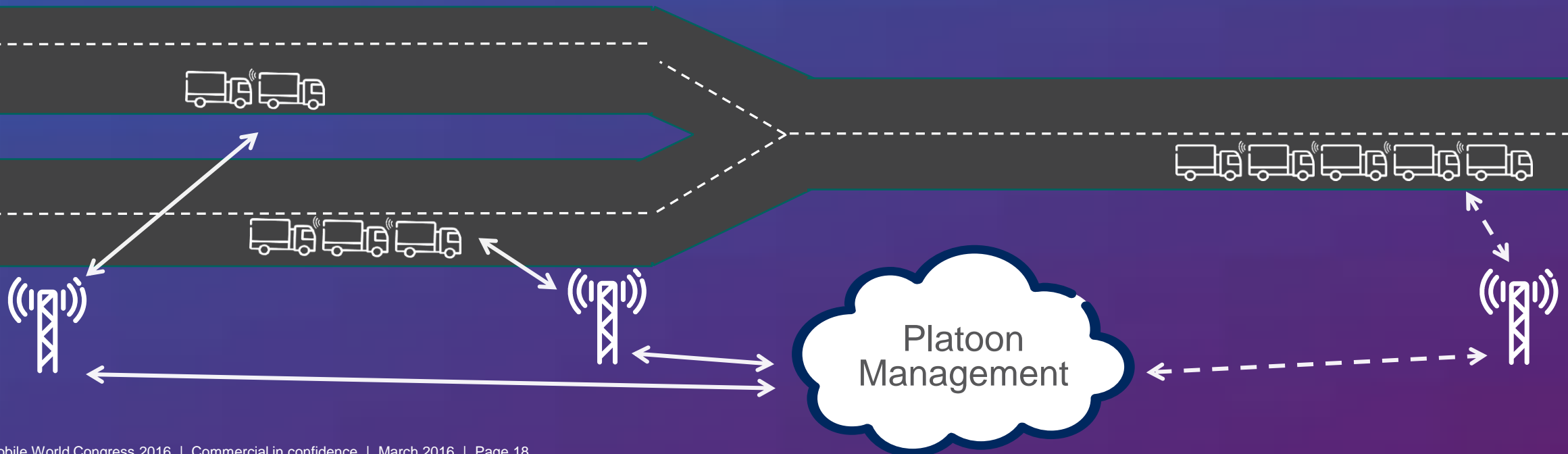


Platooning: Very short distances between vehicles

- only the first driver in active driver mode
- reduced stress on other drivers
- reduced cost and carbon footprint
- direct mode V2V for intra-platoon operation

V2I plus Cloud and knowledge management enables off-board platoon management, for example:

- creation and disassembly of platoons
- rearranging vehicles between platoons
- efficient traffic management with platoons



TURNING INNOVATION TO LIVE

KISTA, 25th to 29th April



5G Networks

Connected Public Transport

Connected Bus Stop

Connected Traffic Cloud



Autonomous Driving

KEY TAKEAWAY



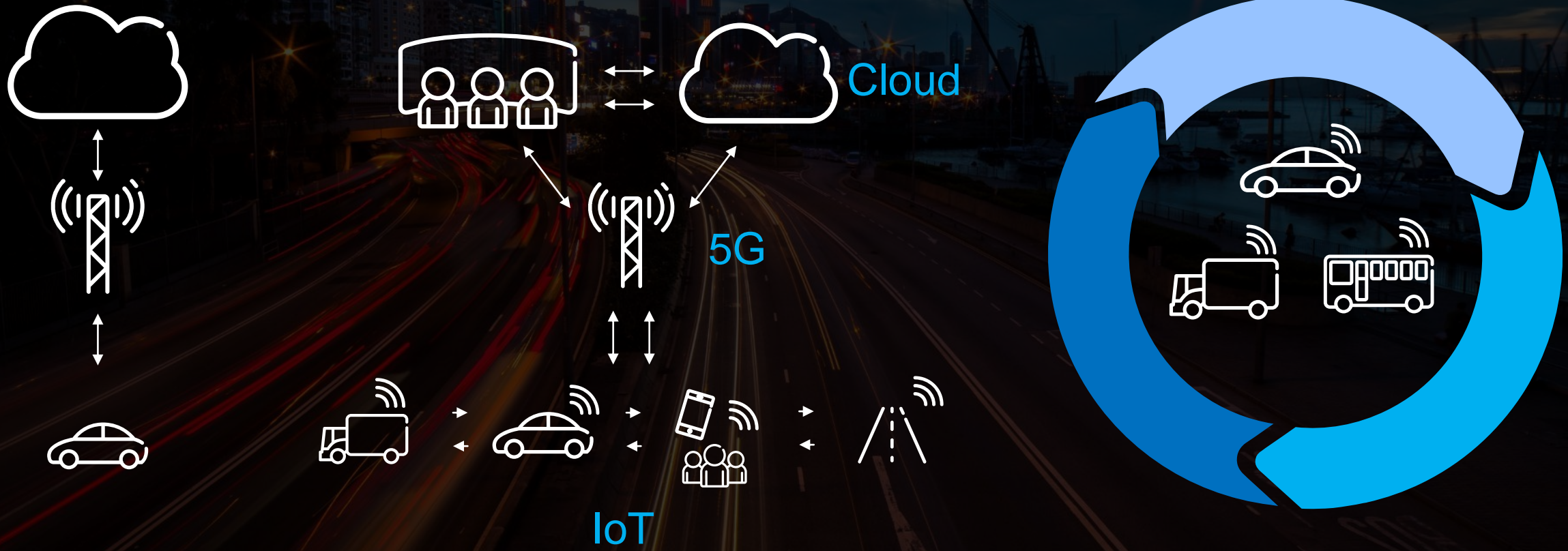
CONNECTED

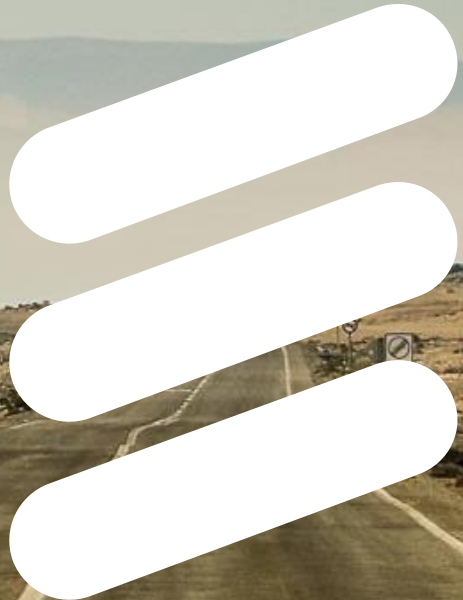


COOPERATING



AUTOMATED





ERICSSON