

**MWC Barcelona 2024**

26 - 29 February

# Embracing 5.5G to Unleash Industry Dividends

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President, ICT Marketing & Solution Sales, Huawei

# Innovation in technology driving socioeconomic progress

"From the history of human development, every technological progress will give birth to new economies, more demands, and the impact of technological revolution on the industrial economy is becoming more and more significant."

Michael Spence, Nobel laureates in economics

## Industrial Economy

100 Years

Contribution rate: 30+%

Steam Engine

Telegraph

1720

1820

## Digital Economy

20 Years

Contribution rate: 30+%

Digital devices

2/3/4G

Cloud

2000

2020

## Digital Intelligence Economy

5 Years

Contribution rate: 30+%

Cloud

5G/5.5G

AI...

2025(E)

2030(E)

Source: "The World Economy: A Millennial Perspective" Angus Maddison

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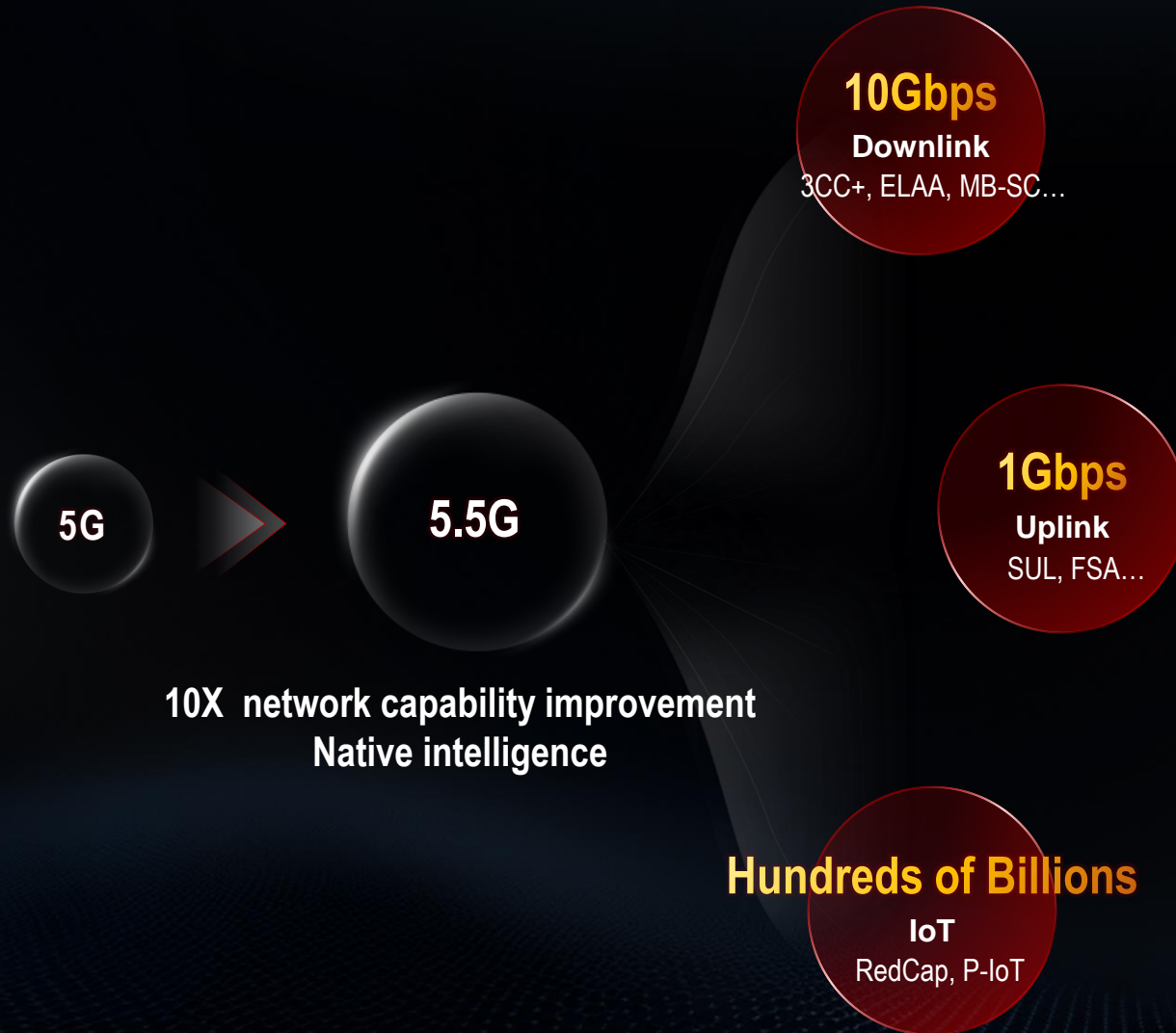
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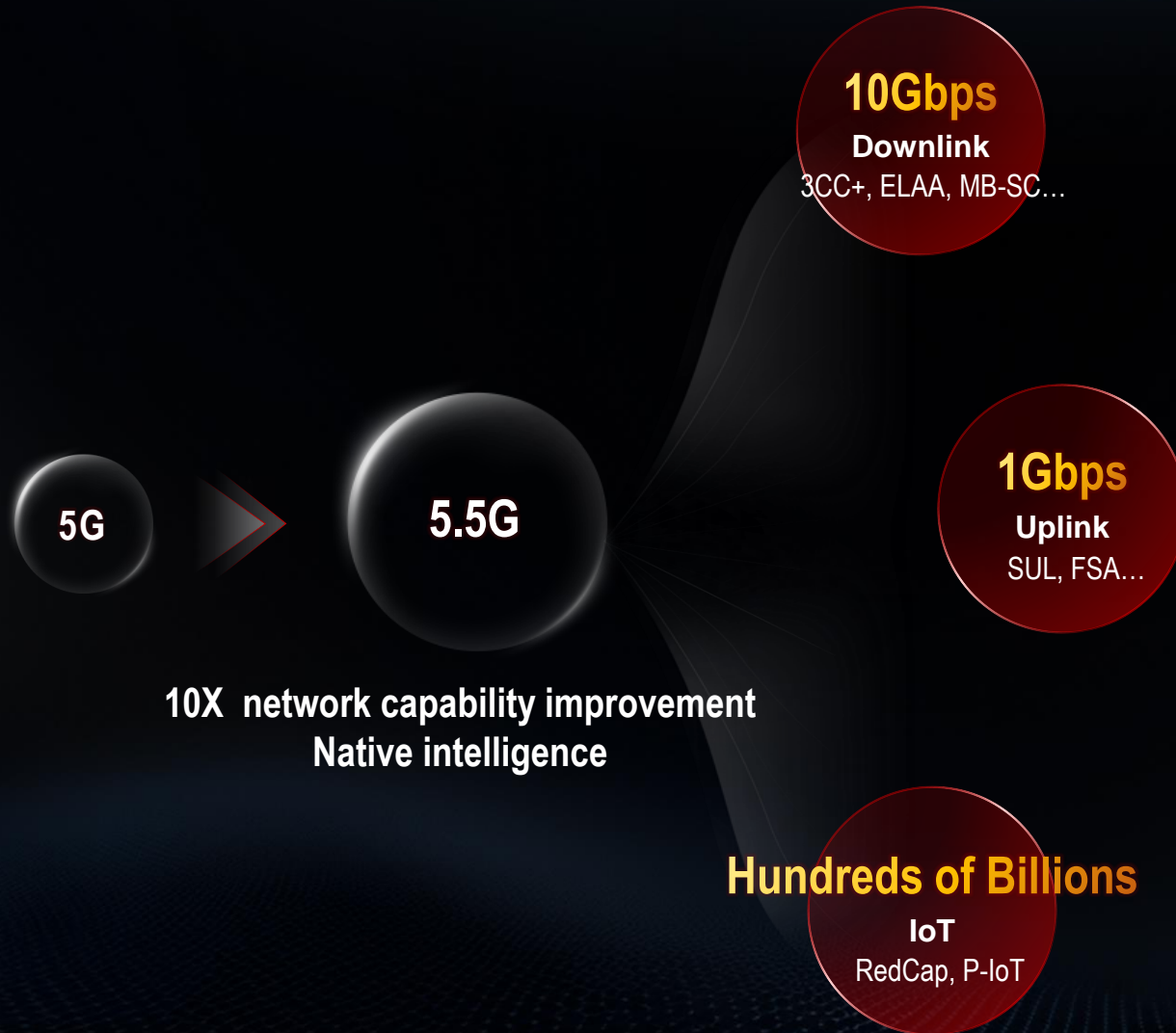
# 5.5G enhanced network capabilities to unlock business opportunities



## Scenario Expanding...

- Basic > **Premium Connectivity**
- Private Line > **ICT Services**
- Auxiliary Production > **Core Production**
- Low-speed IoT > **Full-scenario IoT**
- IVI > **V2X**  
In-Vehicle Infotainment  
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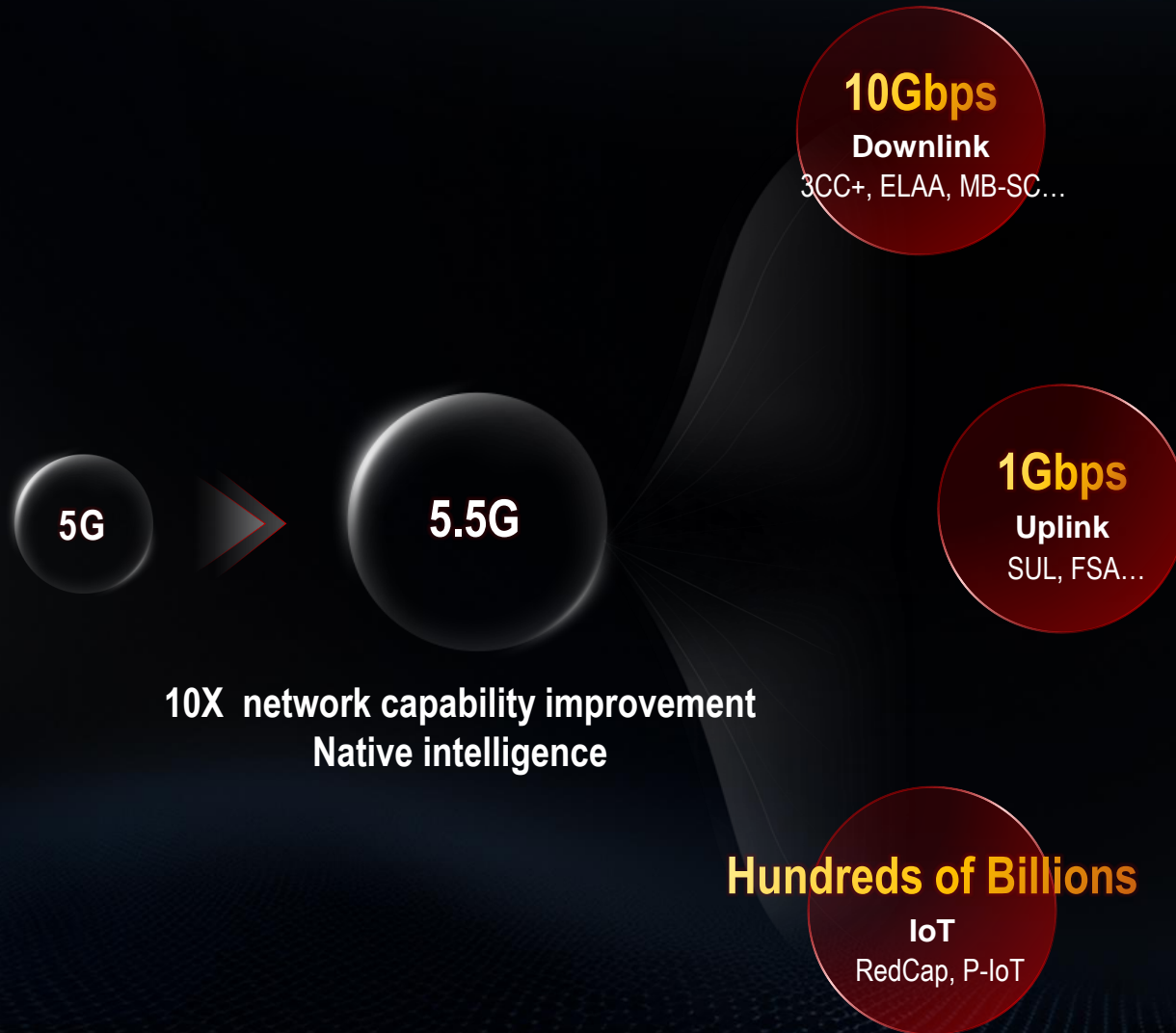
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# 5.5G FWA unleashing various scenarios & business value

**5G FWA  
1st wave**

**Up to 1Gbps, 300M Guaranteed**  
5.5G NR 3CC

**< 20ms, 99.99%**  
Deterministic Experience  
(SUL, QoS, FSA, HPUE,...)

50%+ MNOs  
Up to 300Mbps  
...

**Up to 150Mbps**  
(NR 1CC + SUL, SA)

## New Services

**5.5G  
FWA Pro**  
(High speed)

Glass Free 3D



Cloud XR/Gaming



8K Video



**Operator D**

**+15%**  
ARPU

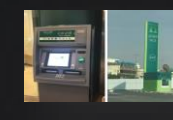
## New Applications

**5.5G  
FWA Biz**  
(High Reliability)

Grid/Industrial



Bank backup



Public transportation



**SME TTM**

**Month → Day**  
Service Launch time

## New Scenarios

**5.5G  
FWA Lite**  
(Cost Effective)

4G -> 5G FWA Migration:

- CPE Price : RedCap ≈ 4G (\$60)
- Speed requirement per house\* : 100Mbps

**Efficiency Improvement**

**+30%** ↑ Speed VS 4G WTTx  
**-50%** ↓ Power Consumption VS 5G CPE

\*Assumption: 1 TVs & 3~4 smartphone & 2~3 pad/PC, per House

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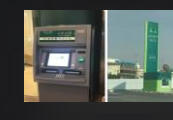
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# 5.5G 1+X bringing converged ICT services for enterprise

## 5G private line

**Guaranteed ~50Mbps**

worldwide launched(2020~2023)

**30+**  
countries

**350K+**  
lines

SME

CCTV

Live Streaming



Internet access



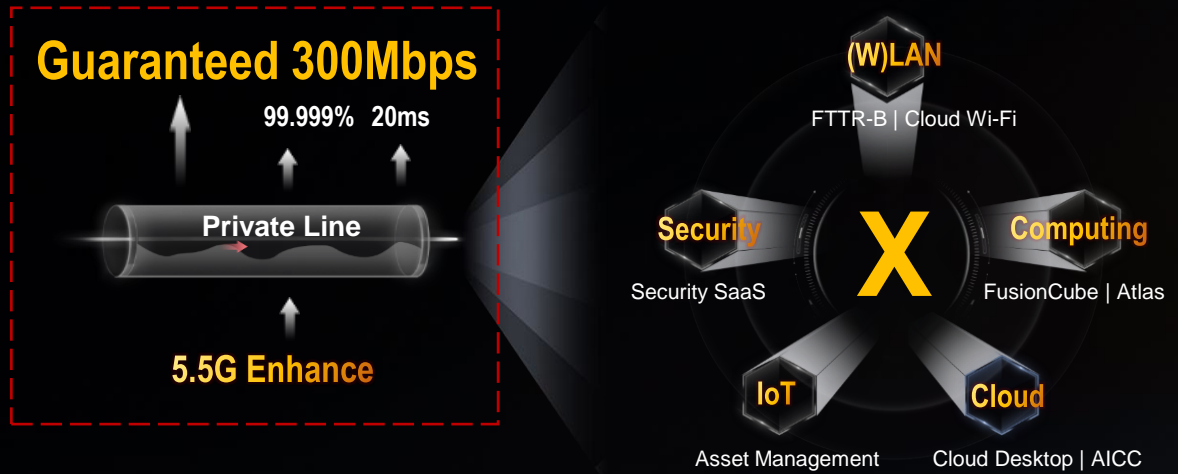
Data backhaul



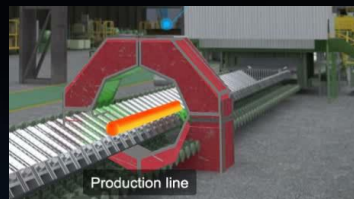
Live Streaming

*Faster TTM, Lower Cost comparing to Fixed connection*

## 5.5G Enables "X" Capabilities for Enterprise Digitalization



Defects Inspection



Bandwidth >616Mbps

PLC Remote Control



Latency < 20ms

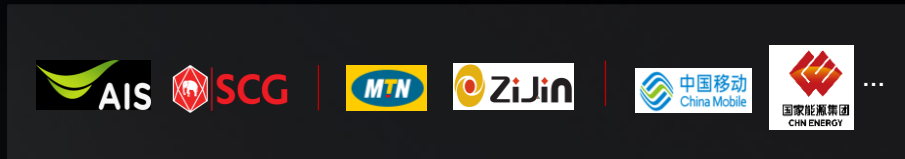
Remote Medical



Latency < 15ms

# 5.5G private network expanding into core production processes

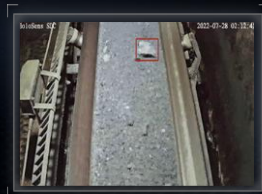
5G accelerates digital transformation of coal mines



Better EHS, More Efficient



Unmanned driving



Belt monitoring



Patrol inspection

New 5.5G-powered production tools

**5G Remote Control: Independent Image Segmentation with Blind Spots**

Limited uplink(200Mbps) and limited number of video backhaul channels



**5.5G remote control: intelligent splicing for immersive operation**



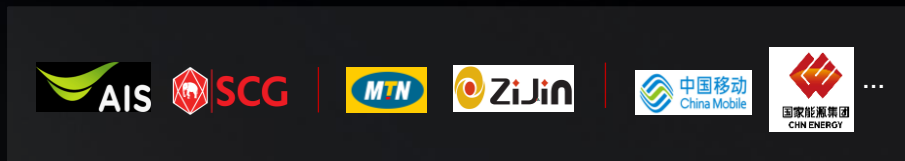
5.5G Video backhaul from 100+ cameras

**1.2Gbps Super uplink**

**Full, clear view of operations**

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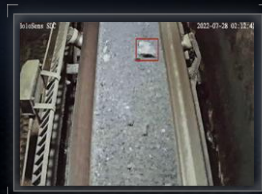
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# 5.5G IoT towards fully connected 100 billion connections



## Industrial Sensor



**70 mn Connections**

- 3 Gbps / 10,000 m<sup>2</sup>

## Camera



**50 mn Connections**

- > 10 Mbps UL / Camera

## Power Grid DTU



**50 mn Connections**

- 10ms Low Latency
- Slicing

## Passive Tag



**100 bn Connections**

- Battery Free
- Positioning 1-3m @ 90%

Source: Intelligent World 2030, Huawei

## Enhanced Capabilities Meets SLA Demands

UL Throughput

1 Gbps

60-300 Mbps

Latency

10ms

20-50ms

Positioning

1m

3 - 10m

Passive Tag



## Lower Terminal Cost Boosts IoT Scale

\$40

NR Module

\$15

RedCap Module

<\$1 / Tag

Passive IoT

# 5.5G V2X enabling highly reliable smart transportation

## 5G Boosts In-Vehicle Traffic



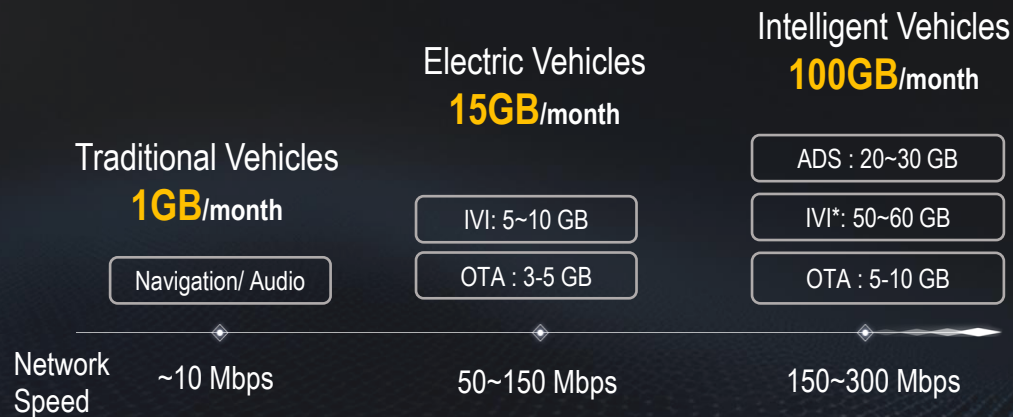
**More Screens:** 5~10

**More Connected** vehicle: 350Mn

**More Intelligent** vehicle: 45%\* L2+

\* new vehicle on sale 2023

## Electric and intelligent Vehicle Requires Higher Network Capabilities



\* IVI: In-Vehicle Infotainment

Source: IMT-2020, Huawei MI, 2023

## 5.5G Enabling Intelligent Vehicle-road Synergy



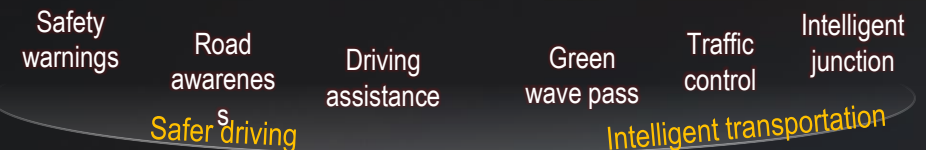
\* Case in Shanghai

**+ 30%**

Higher Transportation efficiency

**- 20%**

Less commuting time



V2X message

20ms @ 99%

Video backhaul

UL 35Mbps, 20ms@95%

AI Training data

UL 1Gbps

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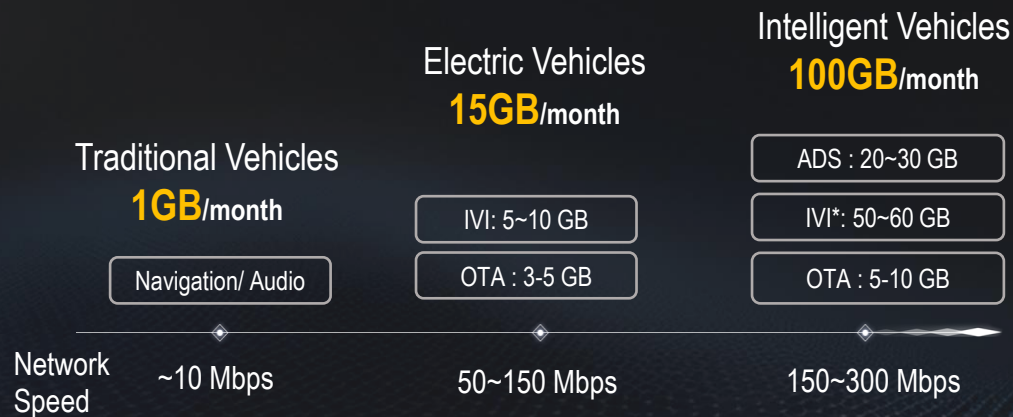
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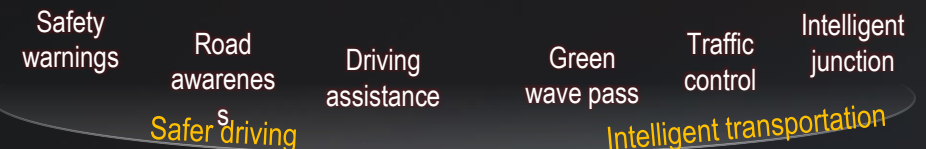
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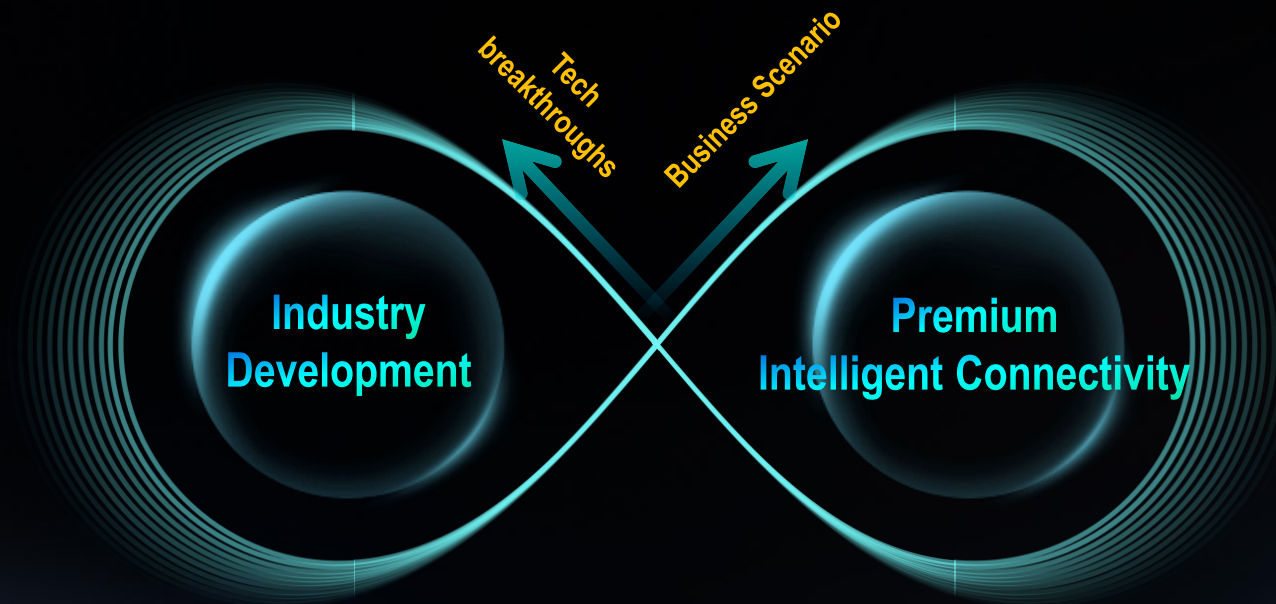
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Core Production

Full-scenario IoT

V2X

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10Gbps downlink

Gbps uplink

100 billion IoT connections

Native AI

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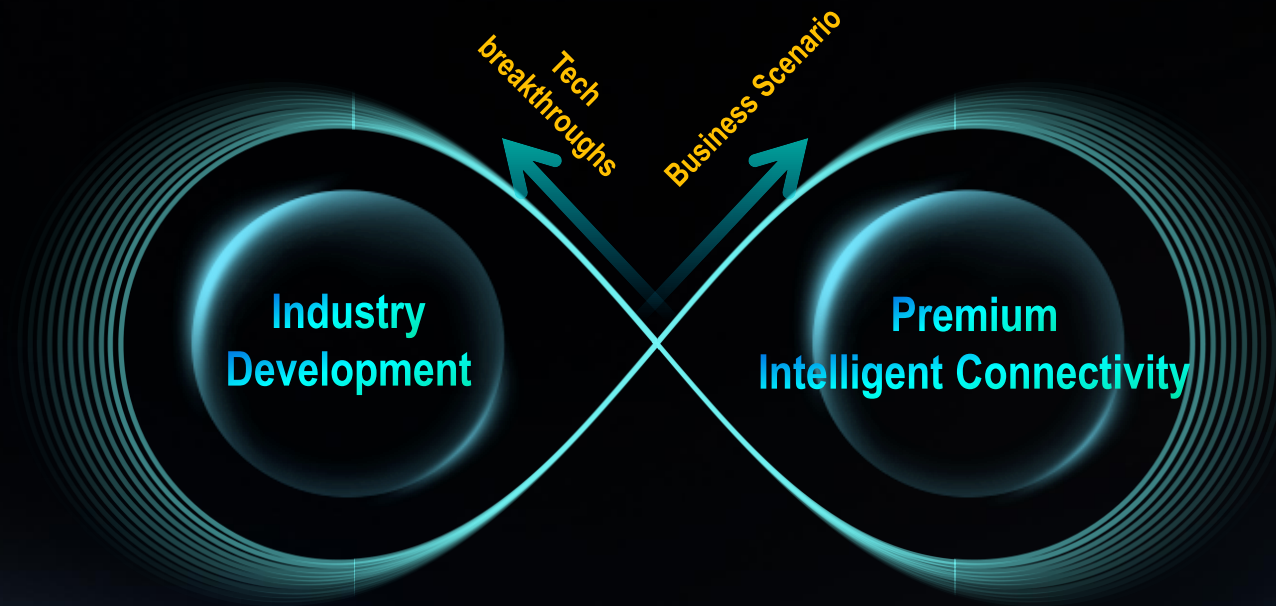
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**Thank you.**

Building a Fully Connected, Intelligent World

