

# DATA CONNECTIVITY SOLUTIONS FOR AUTOMOTIVE



CLICK ON CATEGORY!



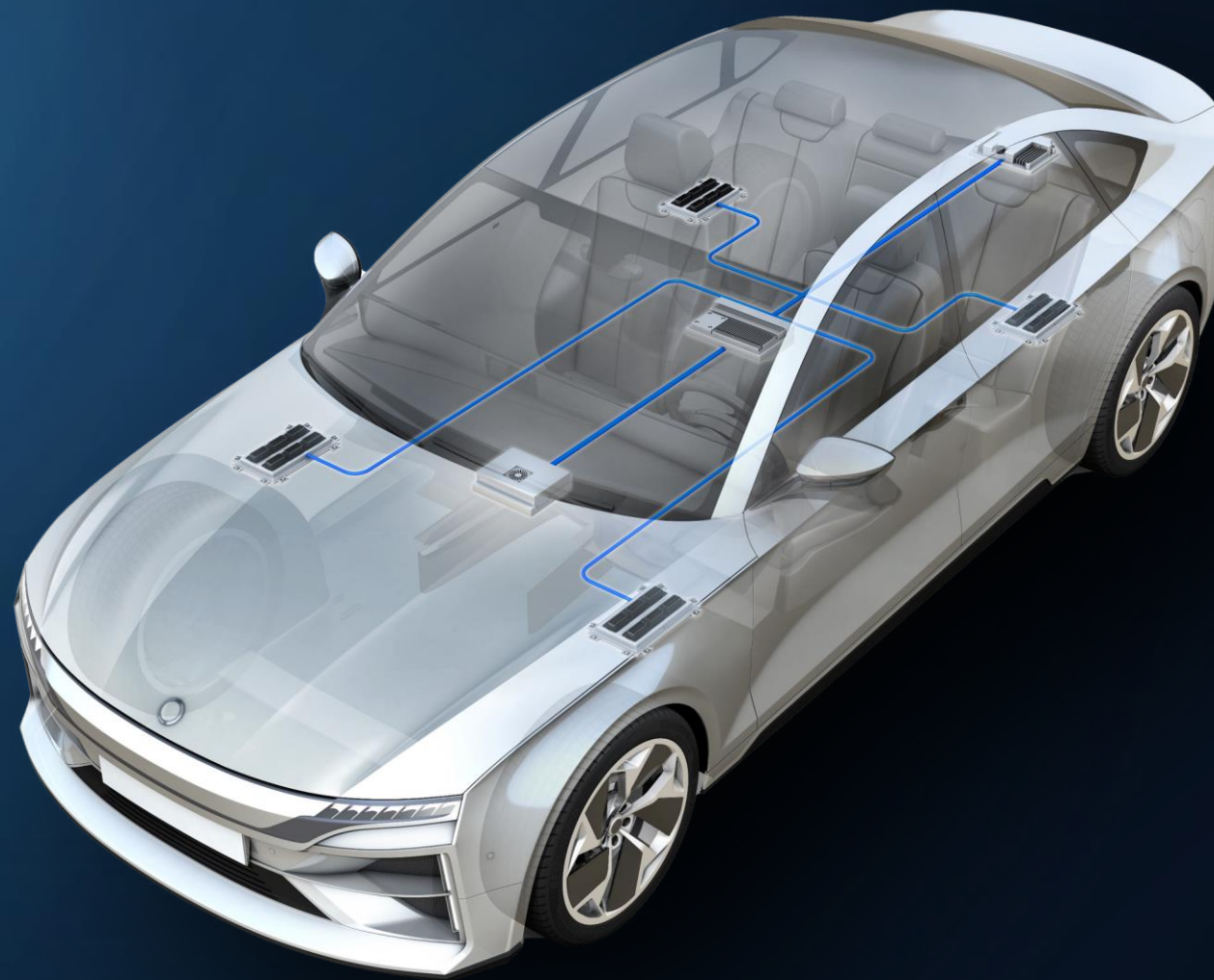
**AUTONOMOUS  
DRIVING**



**CONNECTED  
VEHICLE**



**INFOTAINMENT**



# DATA CONNECTIVITY SOLUTIONS FOR AUTONOMOUS DRIVING



## LiDAR

### Link requirements\*

- Differential
- Up to 5 Gbps

### Typical protocol

Ethernet

CLICK ON SECTION!

### LiDAR

### Radar

### Autonomous Driving Camera

### Interior Camera

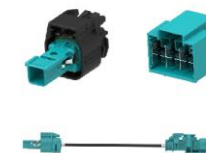
### Satellite Camera



### GEMnet

### Multi-Gigabit Differential Connector System

Enabling 15 GHz and up to 56 Gbps



### MATEnet

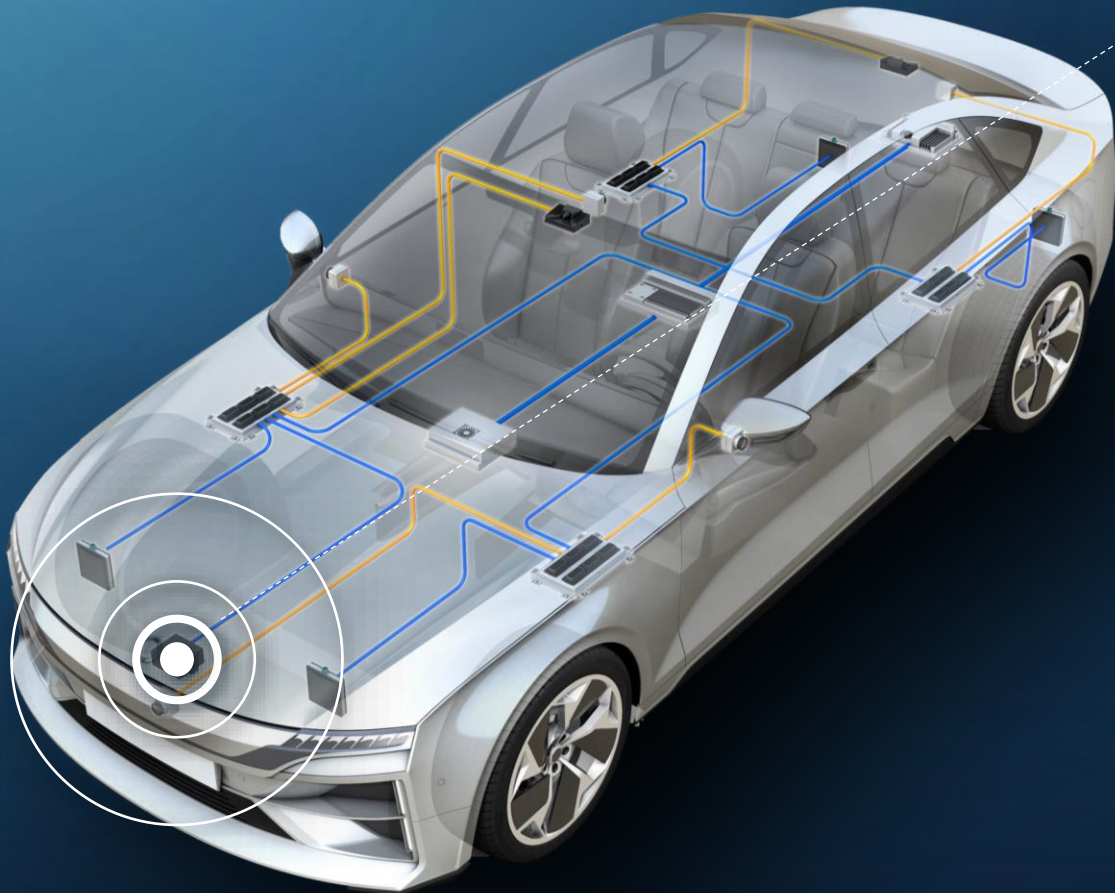
### Miniaturized Automotive Ethernet Connector System

Enabling up to 1 Gbps (100BASE-T1 and 1000BASE-T1) and 4 Gbps with alternative technologies)

Coaxial link

Differential link

\*Based on 2028 requirements



# DATA CONNECTIVITY SOLUTIONS FOR AUTONOMOUS DRIVING



## Radar

### Link requirements\*

- Differential
- 1 Gbps

### Typical protocol

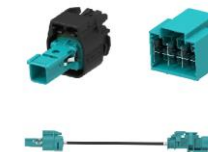
Ethernet



### GEMnet

#### Multi-Gigabit Differential Connector System

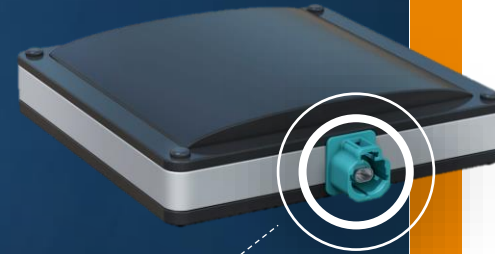
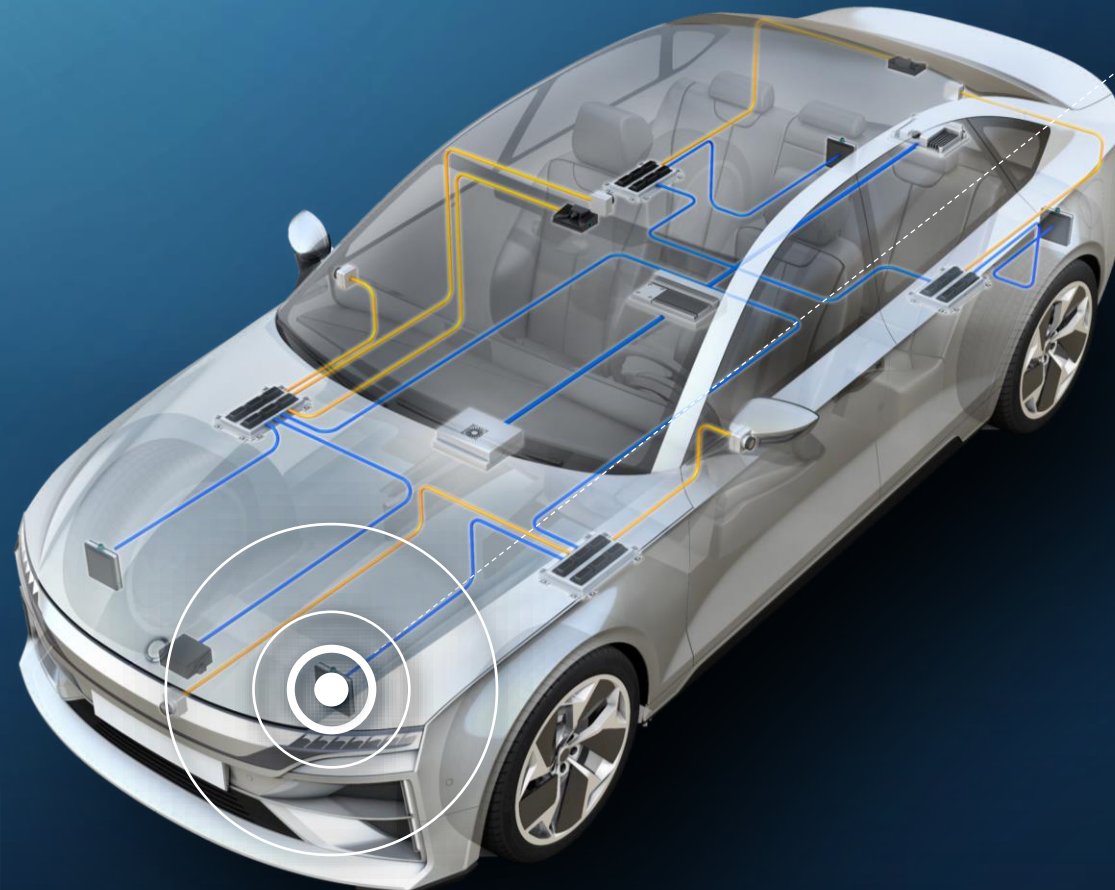
Enabling 15 GHz and up to 56 Gbps



### MATEnet

#### Miniaturized Automotive Ethernet Connector System

Enabling up to 1 Gbps (100BASE-T1 and 1000BASE-T1) and 4 Gbps with alternative technologies)



CLICK ON SECTION!

LiDAR

Radar

Autonomous Driving Camera

Interior Camera

Satellite Camera

Coaxial link

Differential link

\*Based on 2028 requirements



# DATA CONNECTIVITY SOLUTIONS FOR AUTONOMOUS DRIVING



## Autonomous Driving Camera

### Link requirements\*

- Coaxial
- Up to 12 Gbps+

### Typical protocol

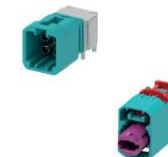
SerDes



### Camera Connection

#### Fixed and floating coaxial connector solutions

Supports cameras with 12 megapixels / 60+ fps



### MATE-AX

#### Miniaturized Automotive Coax Connector System

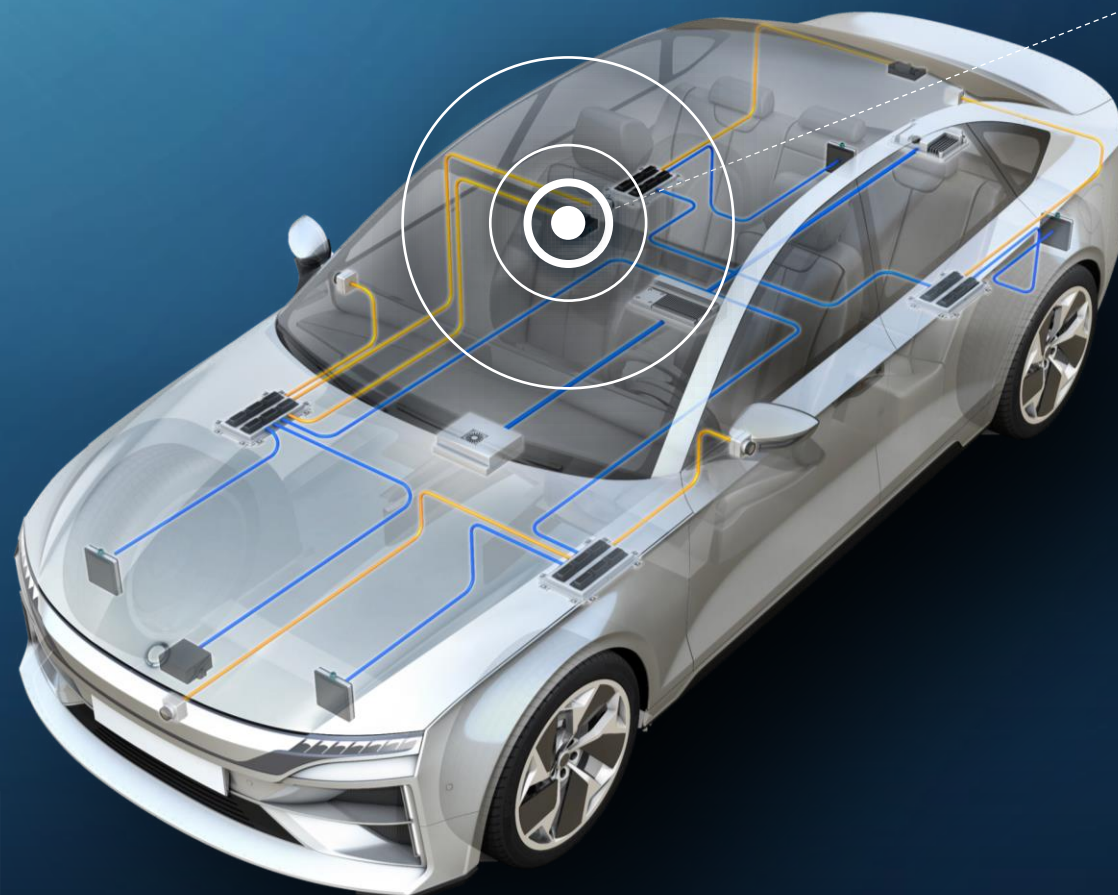
Enabling up to 9 GHz RF performance



### FAKRA

#### Coaxial Connector System

Enabling RF performance up to 6 GHz



CLICK ON SECTION!

LiDAR

Radar

Autonomous Driving Camera

Interior Camera

Satellite Camera

Coaxial link

Differential link

\*Based on 2028 requirements



# DATA CONNECTIVITY SOLUTIONS FOR AUTONOMOUS DRIVING



## Interior Camera

### Link requirements\*

- Coaxial
- 3 Gbps

### Typical protocol

SerDes



### Camera Connection

#### Fixed and floating coaxial connector solutions

Supports cameras with 12 megapixels / 60+ fps



### MATE-AX

#### Miniaturized Automotive Coax Connector System

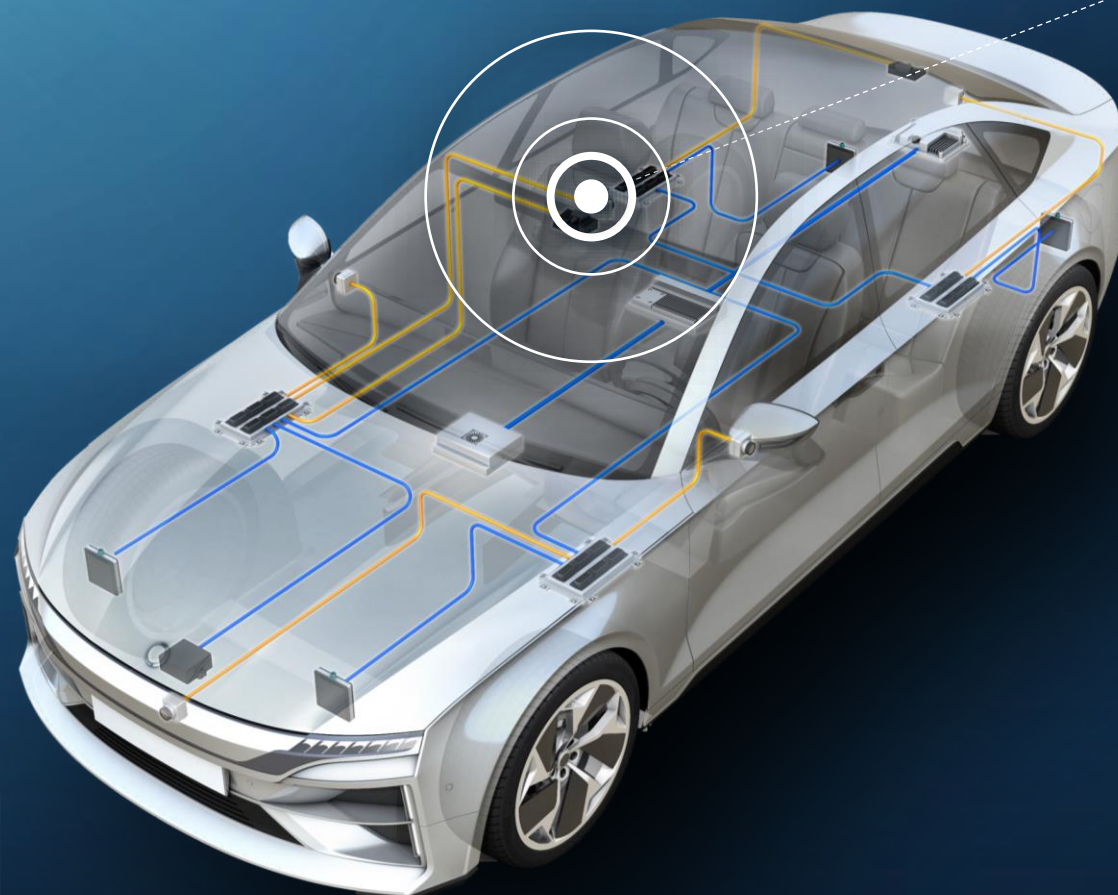
Enabling up to 9 GHz RF performance



### FAKRA

#### Coaxial Connector System

Enabling RF performance up to 6 GHz



CLICK ON SECTION!

LiDAR

Radar

Autonomous Driving Camera

Interior Camera

Satellite Camera

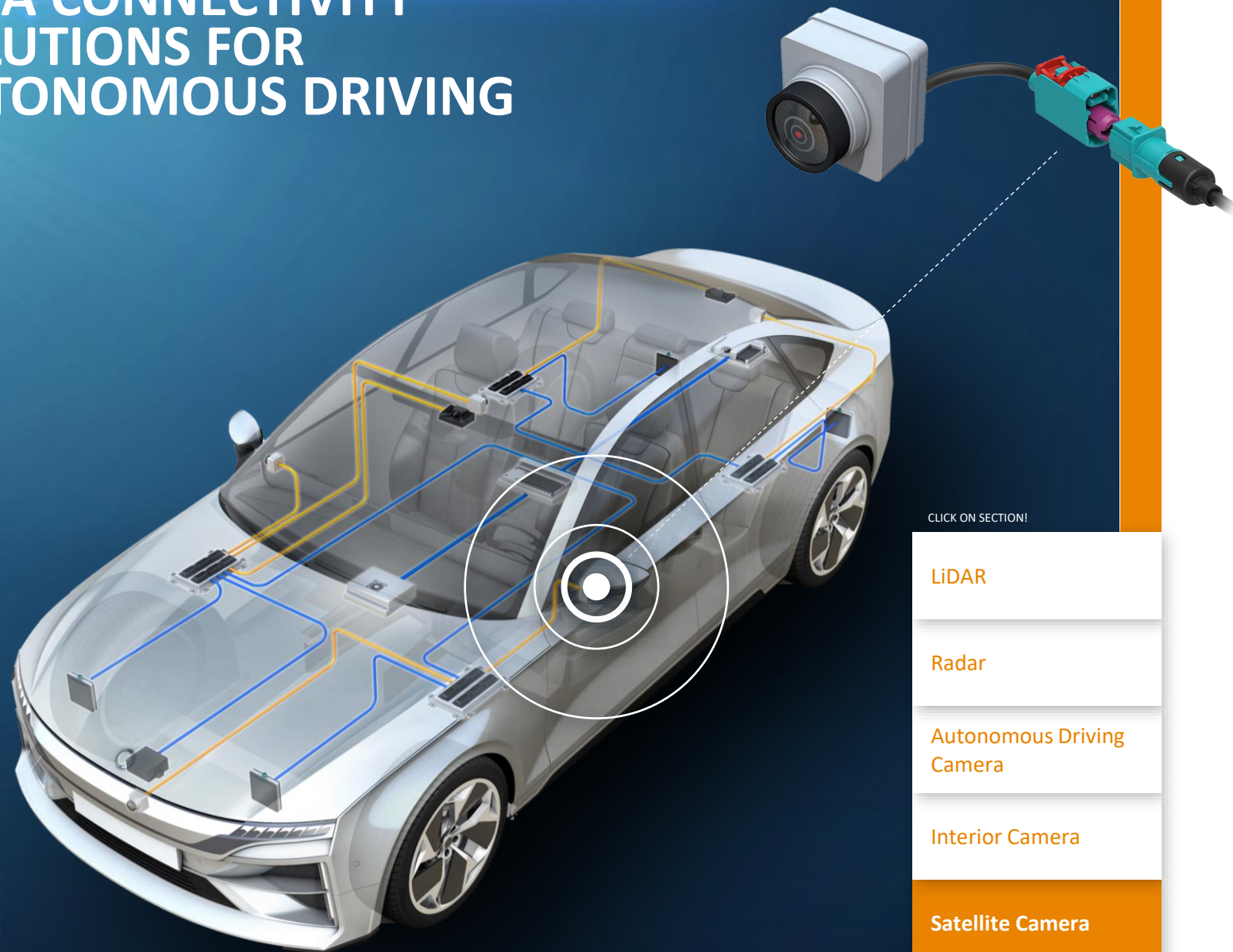


Coaxial link

Differential link

\*Based on 2028 requirements

# DATA CONNECTIVITY SOLUTIONS FOR AUTONOMOUS DRIVING



CLICK ON SECTION!

LiDAR

Radar

Autonomous Driving Camera

Interior Camera

Satellite Camera

## Satellite Camera

### Link requirements\*

- Coaxial
- 8.5 Gbps

### Typical protocol

SerDes



**Camera Connection**  
**Fixed and floating coaxial connector solutions**  
Supports cameras with 12 megapixels / 60+ fps



**MATE-AX**  
**Miniaturized Automotive Coax Connector System**  
Enabling up to 9 GHz RF performance



**FAKRA**  
**Coaxial Connector System**  
Enabling RF performance up to 6 GHz

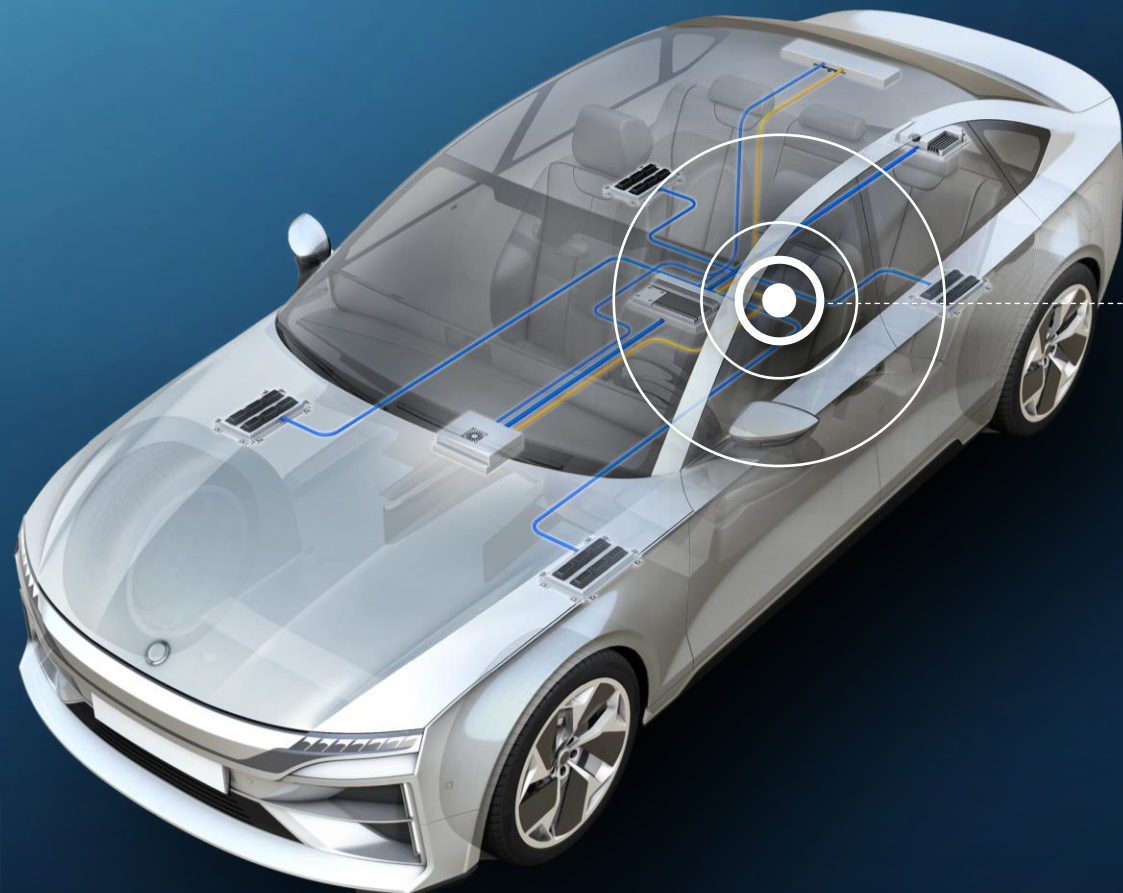
Coaxial link

Differential link

\*Based on 2028 requirements



# DATA CONNECTIVITY SOLUTIONS FOR CONNECTED VEHICLE



1.

2.

CLICK ON SECTION!

**High Performance Computer (HPC)**

**Integrated Antennas**

## HPC

### Link requirement\*

- Differential / up to 10 Gbps
- Coaxial / up to 12 Gbps+

### Typical protocol

Ethernet / SerDes

### 1. Discrete solution



**GEMnet**  
**Multi-Gigabit Differential Connector System**

Enabling 15 GHz and up to 56 Gbps



**MATEnet**  
**Miniaturized Automotive Ethernet Connector System**

Enabling up to 1 Gbps (100BASE-T1 and 1000BASE-T1) and 4 Gbps with alternative technologies)



**MATE-AX**  
**Miniaturized Automotive Coax Connector System**

Enabling up to 9 GHz RF performance

### 2. Multi-Hybrid Solutions



**NET-AX+**  
**Modular Hybrid Data Connector**

Supports high-speed differential and coaxial data connectivity as well as signal and power connections within a single connector assembly.



— Coaxial link

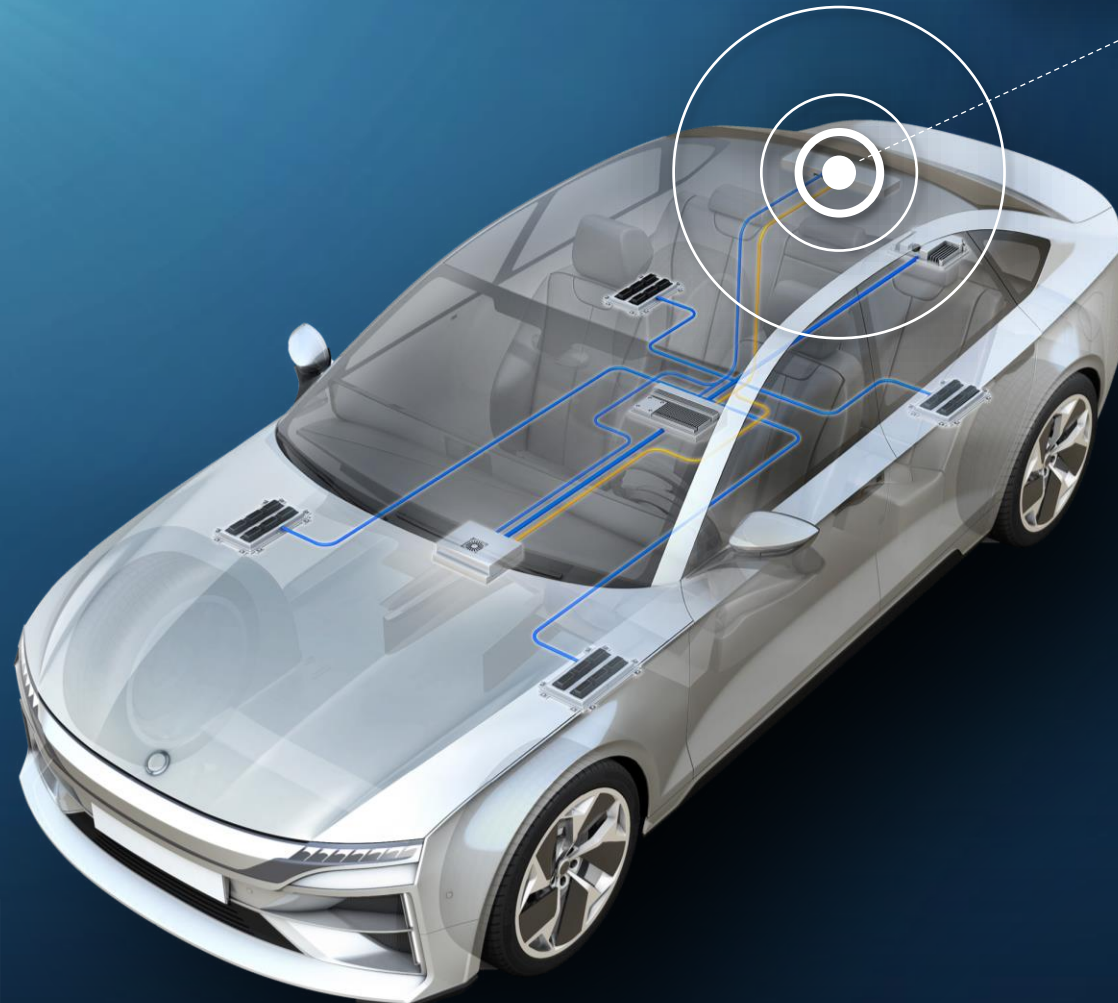
— Differential link

\*Based on 2028 requirements



# DATA CONNECTIVITY SOLUTIONS FOR CONNECTED VEHICLE

## Integrated Antennas



CLICK ON SECTION!

High Performance Computer (HPC)

Integrated Antennas

### Link requirement\*

- Coaxial / 12 Gbps+
- Differential / Up to 10 Gbps

### Typical protocol

Ethernet, Analog



### FAKRA

#### Coaxial Connector System

Enabling RF performance up to 6 GHz



### MATE-AX

#### Miniaturized Automotive Coax Connector System

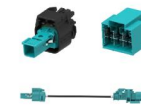
Enabling up to 9 GHz RF performance



### GEMnet\*\*

#### Multi-Gigabit Differential Connector System

Enabling 15 GHz and up to 56 Gbps



### MATEnet\*\*

#### Miniaturized Automotive Ethernet Connector System

Enabling up to 1 Gbps (100BASE-T1 and 1000BASE-T1) and 4 Gbps with alternative technologies)\*\*

— Coaxial link

— Differential link

\*Based on 2028 requirements

\*\* only used for smart antennas





# DATA CONNECTIVITY SOLUTIONS FOR INFOTAINMENT



## Displays

### Link requirement\*

- Differential / Up to 10 Gbps
- Coaxial / 20 Gbps+

### Typical protocol

Ethernet / SerDes



### GEMnet

#### Multi-Gigabit Differential Connector System

Enabling 15 GHz and up to 56 Gbps



### MATEnet

#### Miniaturized Automotive Ethernet Connector System

Enabling up to 1 Gbps (100BASE-T1 and 1000BASE-T1) and 4 Gbps with alternative technologies)



### MATE-AX

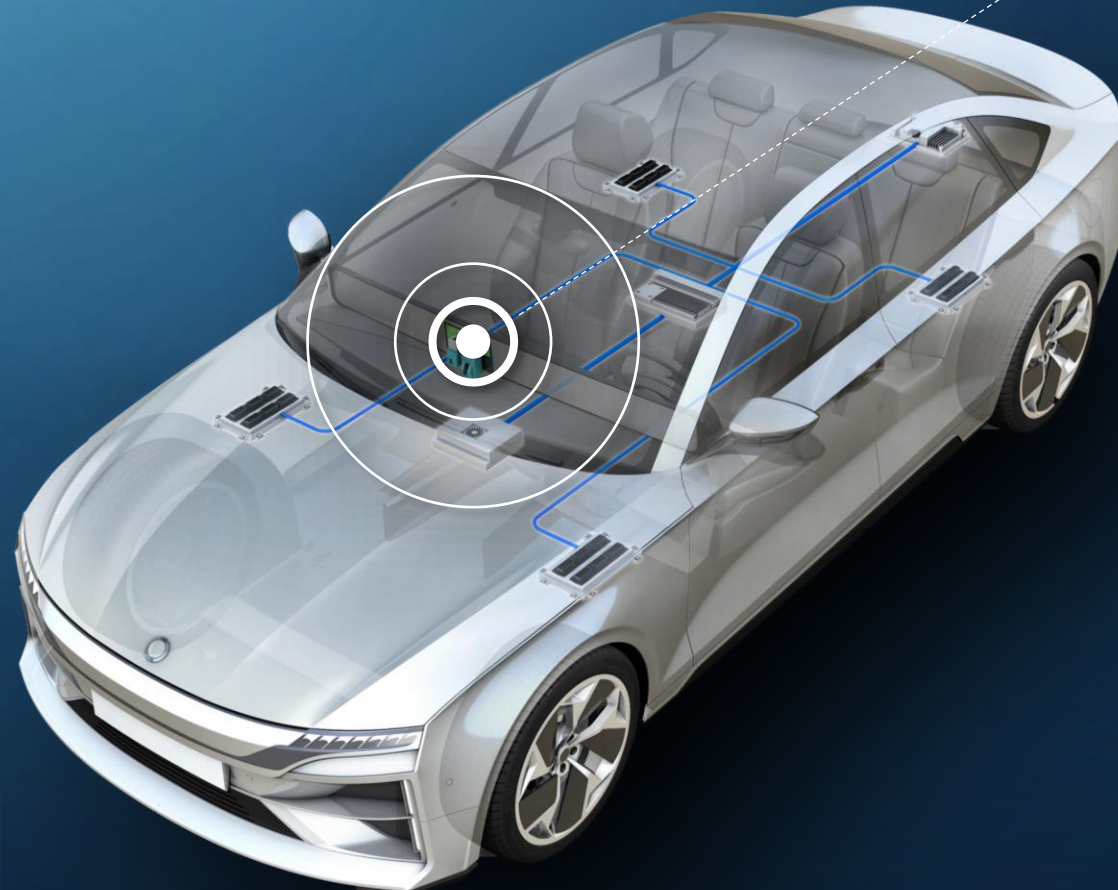
#### Miniaturized Automotive Coax Connector System

Enabling up to 9 GHz RF performance

Coaxial link

Differential link

\*Based on 2028 requirements



CLICK ON SECTION!

Displays

Consumer Interface



# DATA CONNECTIVITY SOLUTIONS FOR INFOTAINMENT



## Consumer Interface

### Link requirement\*

- Differential / 5 Gbps (USB 3.2 Gen)
- Differential / 20 Gbps (USB 3.2x2 / USB 4)

### Typical protocol

USB 3.2, USB 3.2X2, USB 4



### HSD/HSL

#### Data Connector System

Enabling up to 6 Gbps and 1 Gbps respectively



### GEMnet

#### Multi-Gigabit Differential Connector System

Enabling 15 GHz and up to 56 Gbps

CLICK ON SECTION!

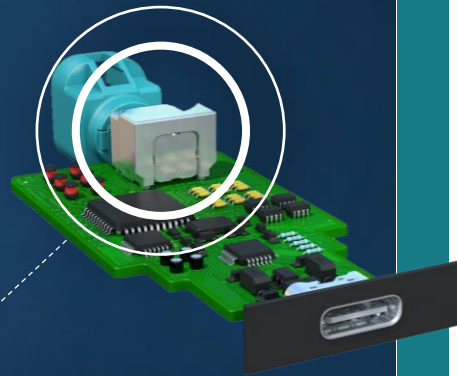
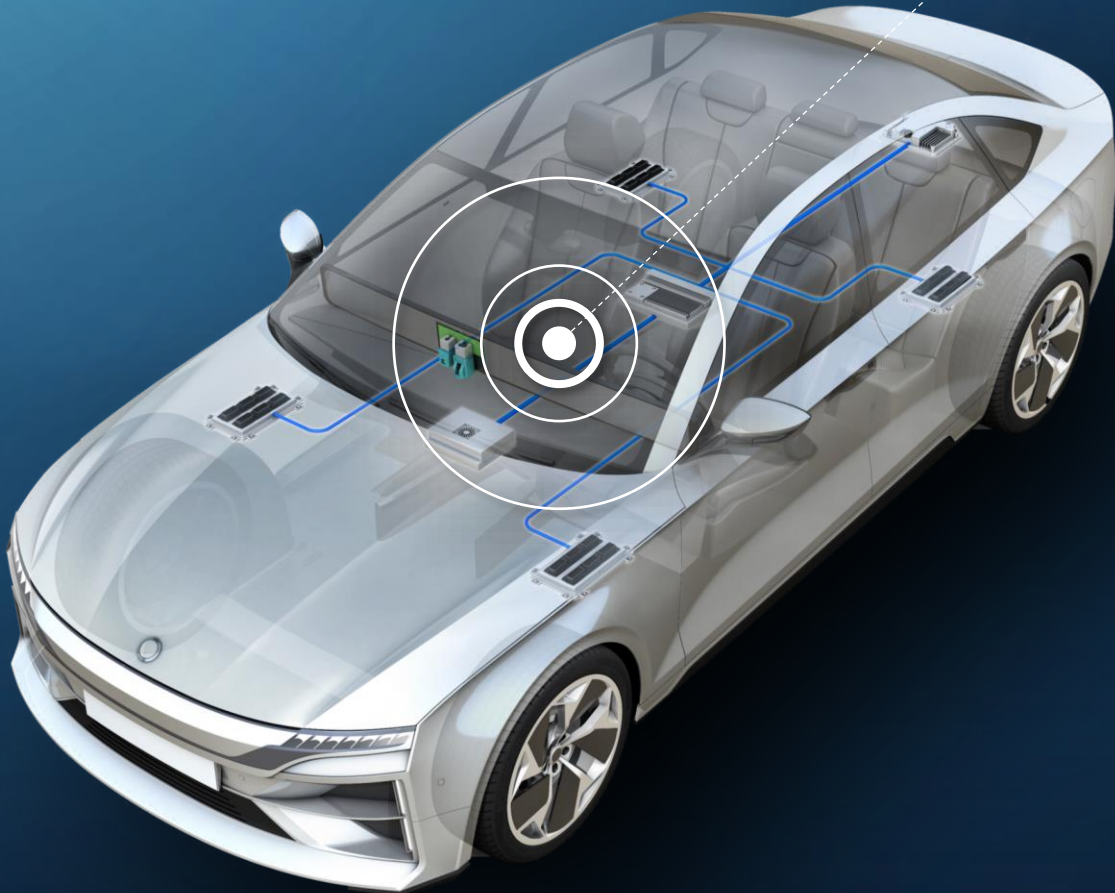
Displays

Consumer Interface

Coaxial link

Differential link

\*Based on 2028 requirements



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**CONNECT  
LIKE THE WORLD  
DEPENDS ON IT.  
BECAUSE IT DOES.**

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**EVERY CONNECTION COUNTS**



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