中国汽车技术研究中心有限公司
China Automotive Technology and Research Center Co ., Ltd.

# Introduction on V2V data interaction
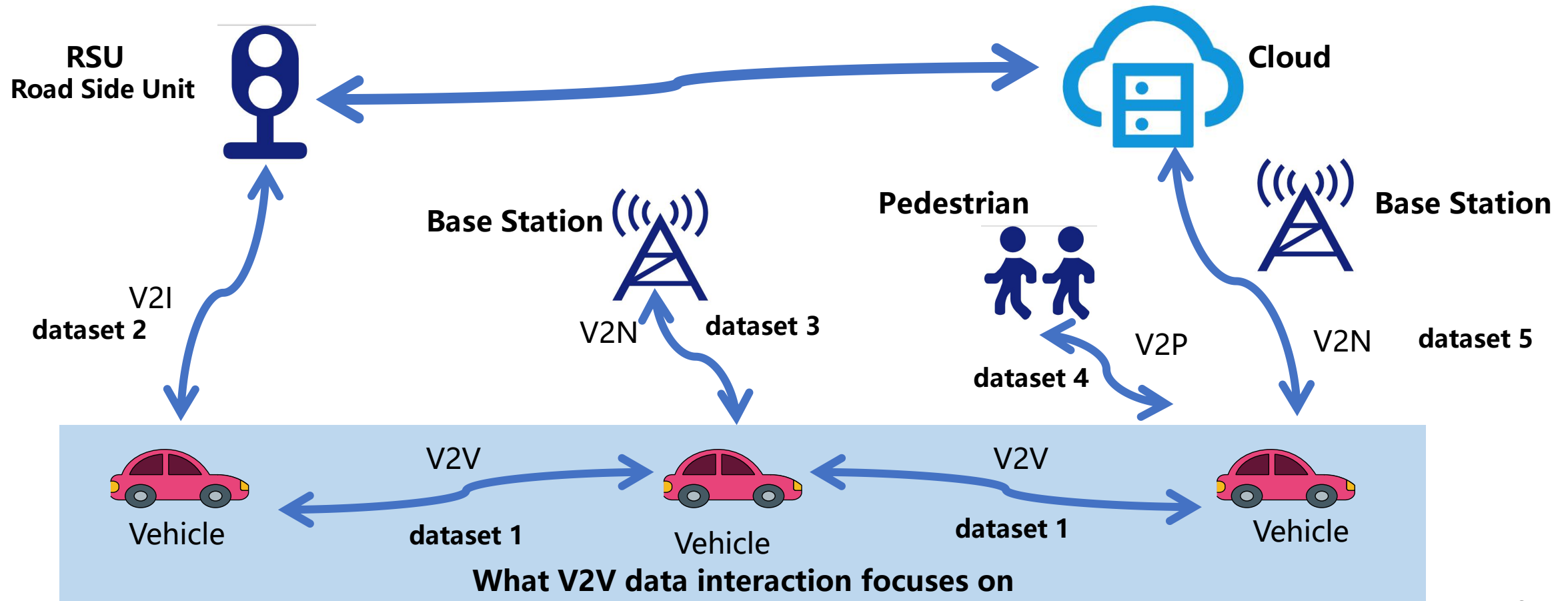
**5th session of the IWG on ITS**
**China**

**January 17, 2023**

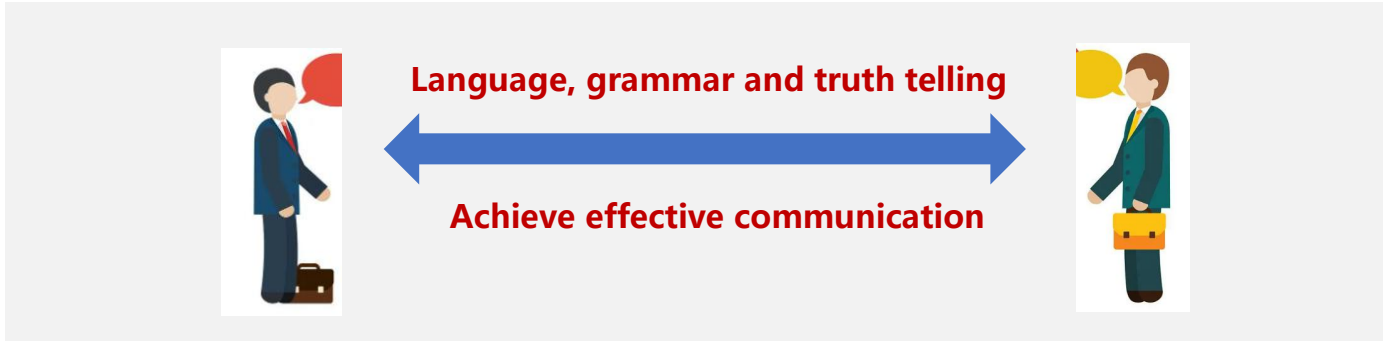# 01 V2V data interaction foucs on communication between vehicles

> V2X involves V2V(Vehicle to Vehicle), V2I(Vehicle to Infrastructure), V2N(Vehicle to Network), V2P (Vehicle to Pedestrian),etc.

> GRVA is recommended to discuss V2V data interaction as a special topic.



**RSU Road Side Unit**

**Cloud**

**Base Station**

**Pedestrian**

**Base Station**

V2I dataset 2

V2N dataset 3

V2P dataset 4

V2N dataset 5

V2V dataset 1

V2V dataset 1

**Vehicle** **Vehicle** **Vehicle**

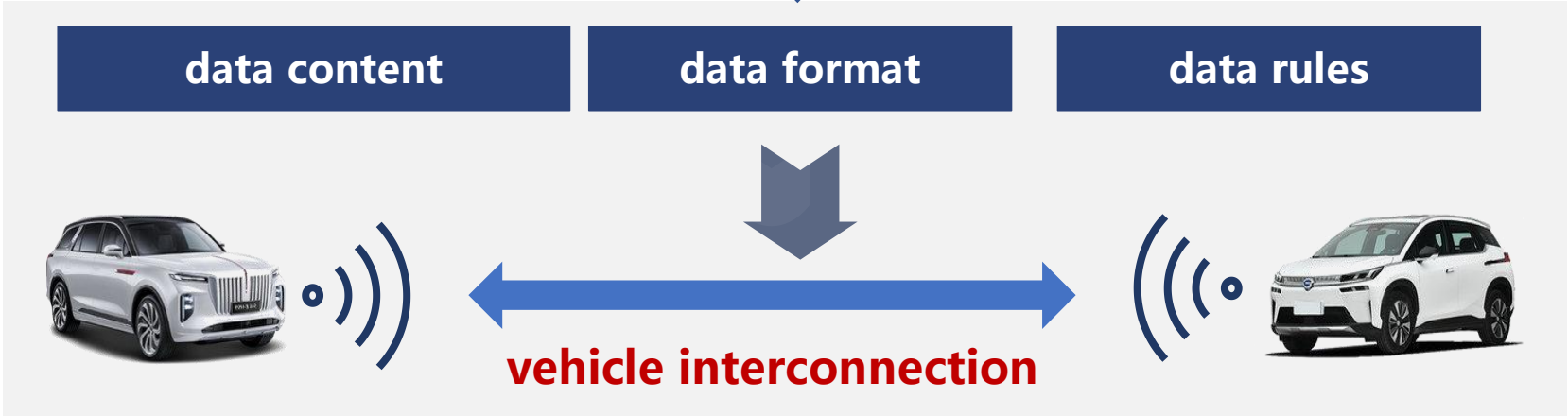**What V2V data interaction focuses on**

# 02 Data interaction improves driving safety

- **Promote the connectivity of world vehicles.** Whether the vehicle can send and receive data accurately is an important factor for the vehicle to realize connection function.
- **Improve traffic safety.** Based on the V2V data interaction, vehicles can realize the fuction such as fault vehicle warning, forward collision warning, emergency braking warning, and improve traffic safety.

**Language, grammar and truth telling**

**Achieve effective communication**

**similar**

| data content | data format | data rules |
| --- | --- | --- |

**vehicle interconnection**
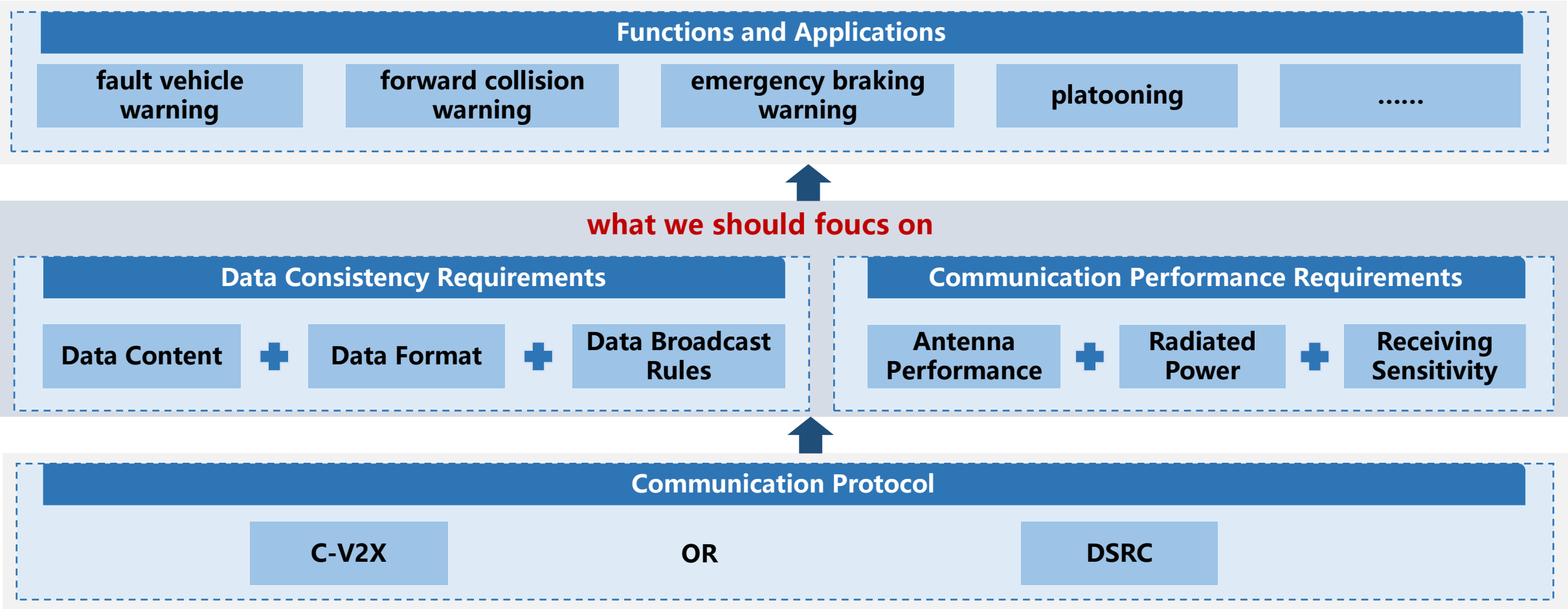
**reminder of secondary accident**

**forward collision warning**

# 03 Propose to carry out research on V2V data interaction content and format

Data transmission can be realized through different communication protocols, what functions are realized based on those data shall be decided by OEMs, therefore, only the data necessary for communication between vehicles need to be specified

## Functions and Applications

| fault vehicle warning | forward collision warning | emergency braking warning | platooning | ...... |

**what we should foucs on**

## Data Consistency Requirements

Data Content **+** Data Format **+** Data Broadcast Rules

## Communication Performance Requirements

Antenna Performance **+** Radiated Power **+** Receiving Sensitivity

## Communication Protocol

C-V2X          OR          DSRC

**04** **Proposals with preliminary thoughts with regard to this item**

## How to solve the privacy problem of V2V data interaction

- The existing V2V security mechanisms in various countries consider privacy issues such as anonymity and anti-tracking.
- On the other hand, V2V data security issues can be jointly studied with CS/OTA working group

## How to view the relationship between regulations and penetration rates

- V2V data interaction has the communication attribute. In the communication field, there are generally standards first and then products, which is different from the automobile industry
- V2V data interaction involves connectivity issues. Regulations should be formulated first and then D&R according to regulations

## Considerations on the implementation of regulations

- The implementation of regulations is conducive to promoting mutual recognition of vehicle data interaction between different contracting parties. Trade between different contracting parties only requires protocol level authentication

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