Part One
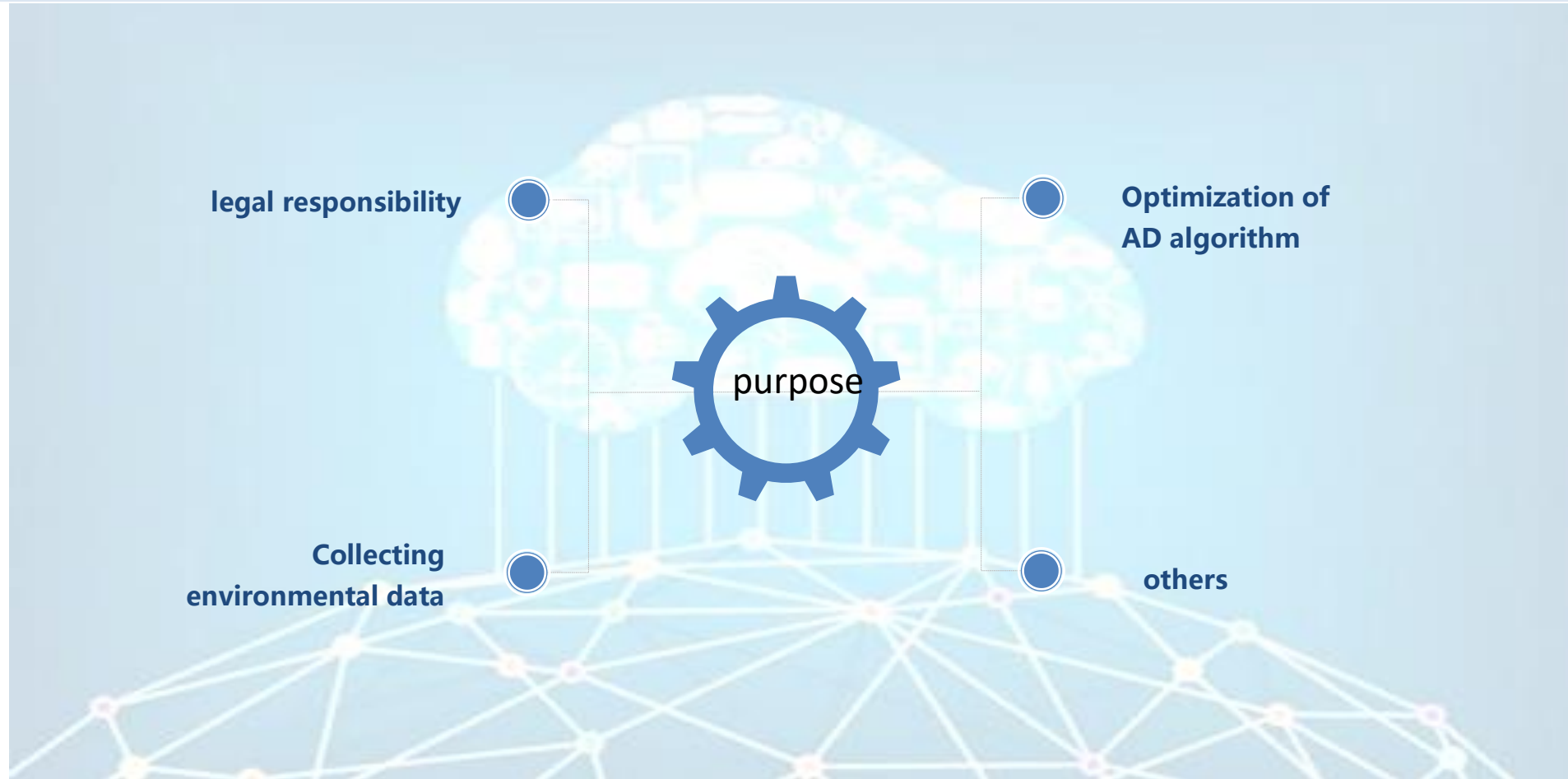
What is DSSAD

The main function of the DSSAD is to monitor the status of vehicle fitted with automated driving System and to collect, record and store the driving state of the vehicle while the automatic driving system is running or requesting the takeover.

legal responsibility

Optimization of AD algorithm

purpose

Collecting environmental data

others

Differences between DSSAD&EDR

|	EDR	DSSAD
scope	M1	vehicles with ADs
function	Monitor, collect, and record data of the status of vehicle and occupant protection systems before, during, and after a collision event.	monitor the status of vehicle fitted with automated driving System and to collect, record and store the driving state of the vehicle while the automatic driving system is running or requesting the takeover.
purpose	legal responsibility affirmation，Accident analysis and construction	legal responsibility affirmation, Optimization of AD algorithms, Collecting environmental data
trigger	EDR trigger threshold	automatic driving system is running or requesting the takeover

Trigger Condition of DSSAD

Trigger Condition

ON

- DSSAD will be activated from Ignition-On, since we need to monitor the transition between manual driving and automated driving.
- Data will be collected and buffered in temporary storage and the data will only be recorded once there is transition from manual driving to automated driving and during automated driving mode, if there is pre-defined AD-event happening, data will be recorded in permanent storage. Some overlap with manual mode in order to cover transition phases may be included.
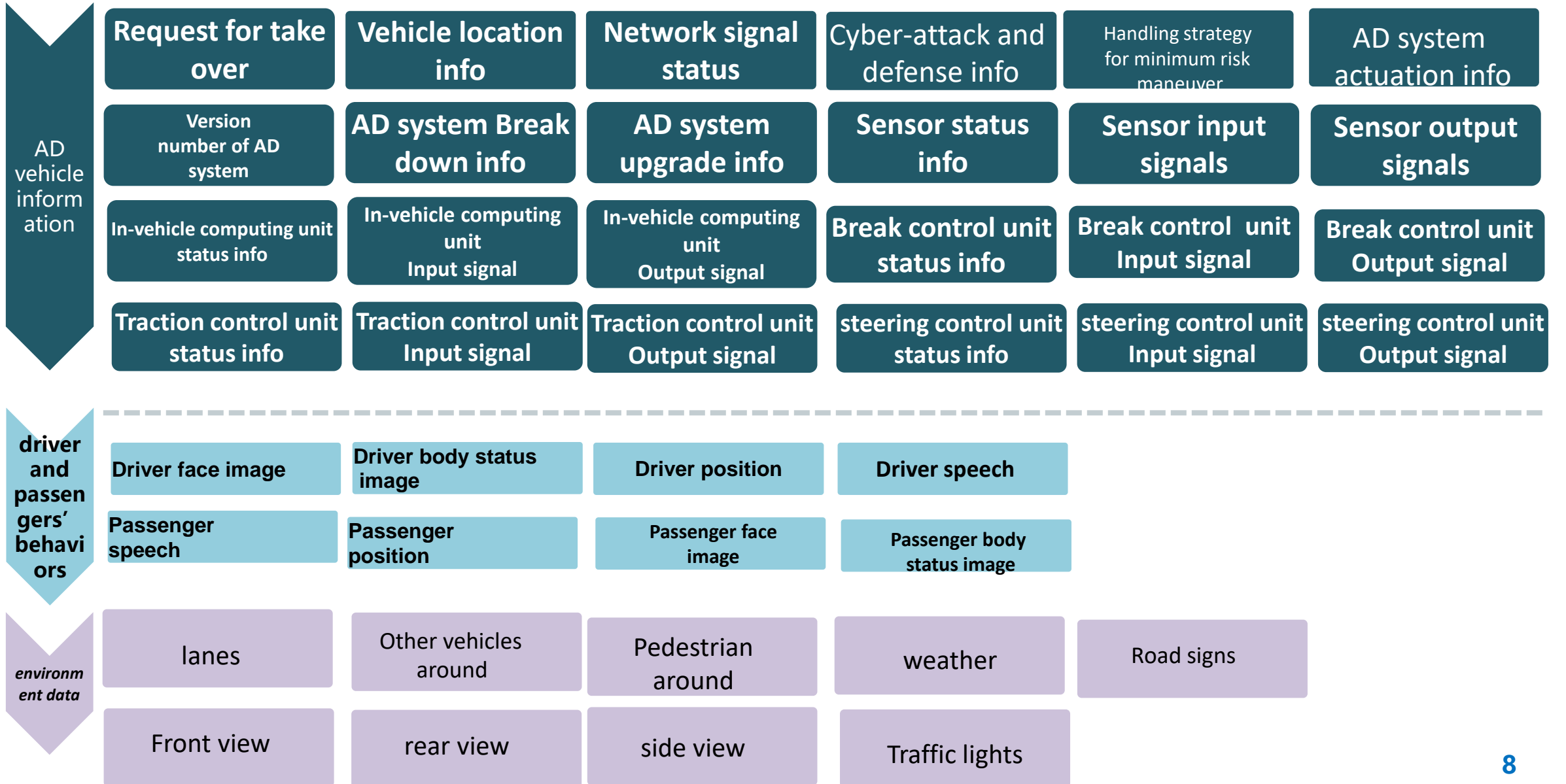
OFF
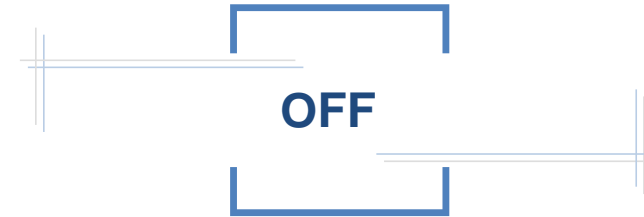
- It is not allowed to switch off the monitoring and recording of DSSAD in AD mode.
- In manual driving mode, manual shutdown could be allowed (system monitoring is also recommended in manual mode).

Data Elements of DSSAD

DATA ELEMENTS

AD vehicle information

Request for take over	Vehicle location info	Network signal status	Cyber-attack and defense info	Handling strategy for minimum risk maneuver	AD system actuation info
Version number of AD system	AD system Break down info	AD system upgrade info	Sensor status info	Sensor input signals	Sensor output signals
In-vehicle computing unit status info	In-vehicle computing unit Input signal	In-vehicle computing unit Output signal	Break control unit status info	Break control unit Input signal	Break control unit Output signal
Traction control unit status info	Traction control unit Input signal	Traction control unit Output signal	steering control unit status info	steering control unit Input signal	steering control unit Output signal

driver and passengers' behaviors

Driver face image	Driver body status image	Driver position	Driver speech
Passenger speech	Passenger position	Passenger face image	Passenger body status image

environment data

lanes	Other vehicles around	Pedestrian around	weather	Road signs
Front view	rear view	side view	Traffic lights	

Part Four

Data Storage of DSSAD

Data format

1

- Provides for a uniform data format to facilitate data transmission and analysis. Partition storage for different types of data, and timestamp synchronization is required.

Local storage

2

- Local storage is necessary to ensure data can be stored even if the network condition is poor/not available.

online transmission

3

- The online transmission scheme and the local storage scheme complement each other.

Encryption

4

- Stored data needs to be encrypted. The encryption level depends on the specific data.

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