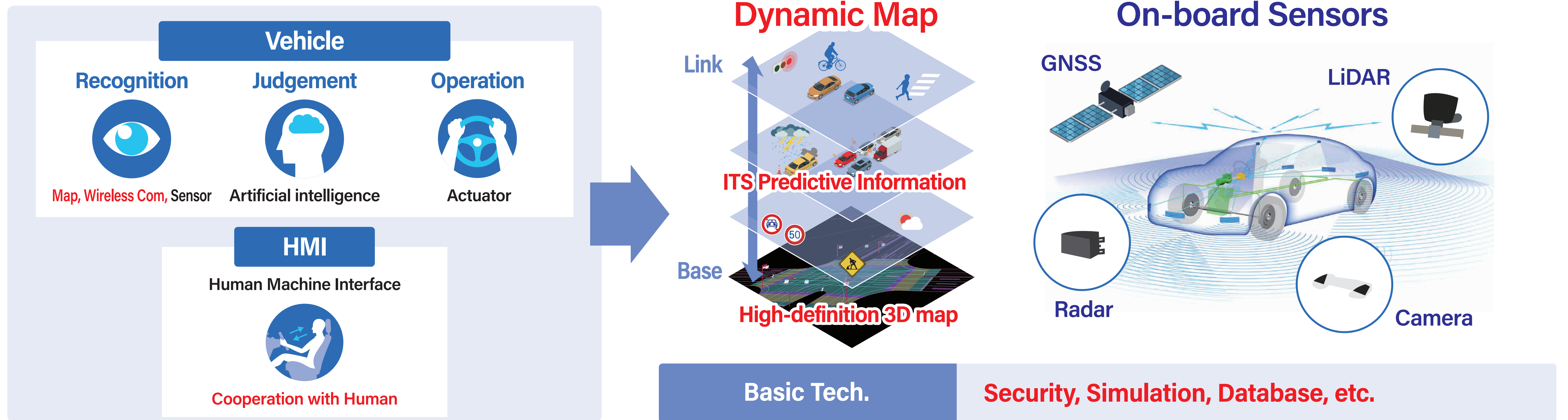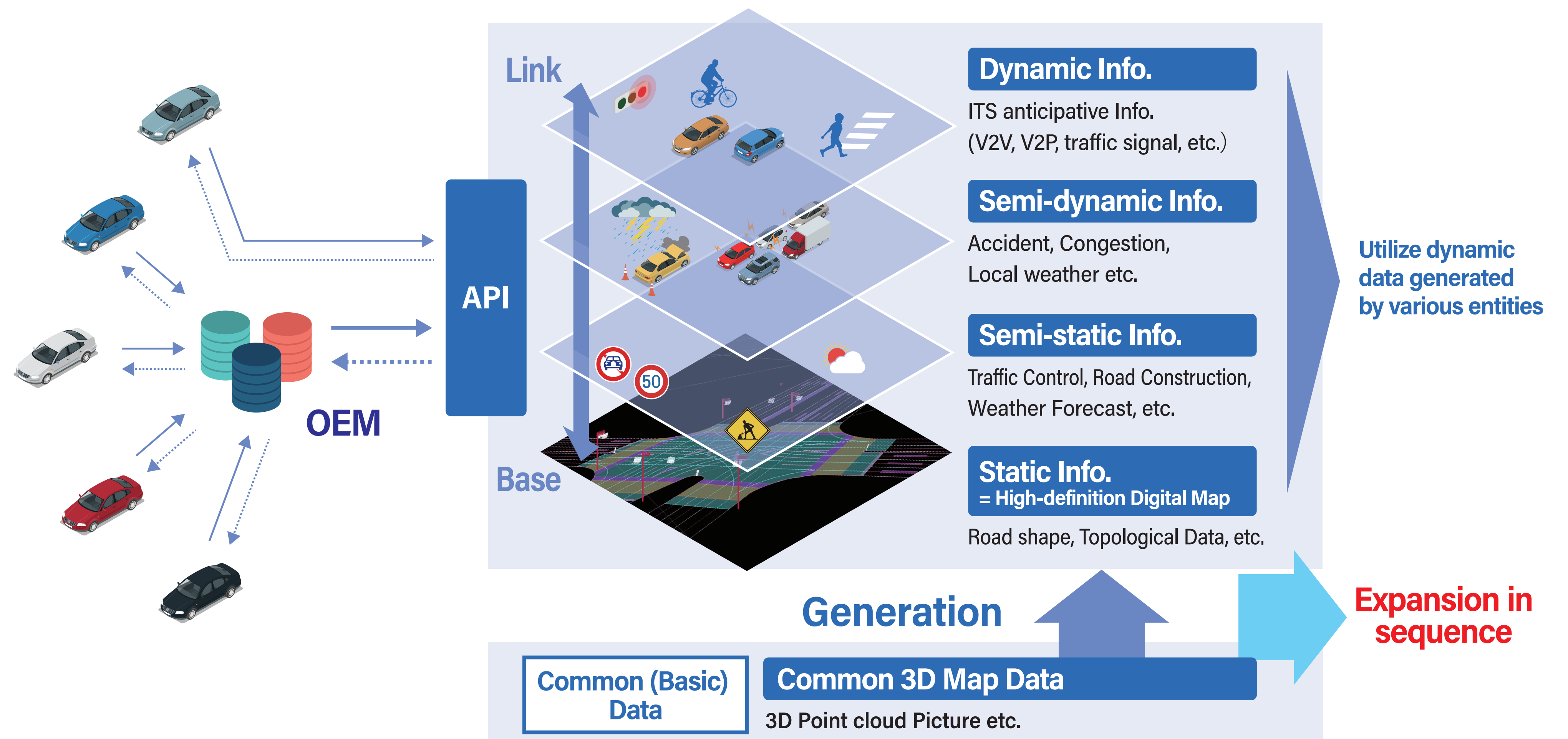# SIP-adus R&D Activities (1)

Technologies for Automated Driving Systems

SIP-adus focuses on the R&D in Cooperative area with Industry, Academia and Government
In Red : Area of Cooperation (Scope of SIP-adus)

Vehicle

Recognition — Map, Wireless Com, Sensor
Judgement — Artificial intelligence
Operation — Actuator

HMI
Human Machine Interface
Cooperation with Human

Dynamic Map

Link
ITS Predictive Information
Base
High-definition 3D map

On-board Sensors
GNSS
LiDAR
Radar
Camera

Basic Tech. — Security, Simulation, Database, etc.

Dynamic Map

Use dynamic map not only as a precise map for automated driving vehicle but also as an advanced traffic info. DB for every vehicle.

API
OEM

Link

Base

Dynamic Info.
ITS anticipative Info.
(V2V, V2P, traffic signal, etc.)

Semi-dynamic Info.
Accident, Congestion,
Local weather etc.

Semi-static Info.
Traffic Control, Road Construction,
Weather Forecast, etc.

Static Info.
= High-definition Digital Map
Road shape, Topological Data, etc.

Utilize dynamic data generated by various entities

Generation

Common (Basic) Data

Common 3D Map Data
3D Point cloud Picture etc.

Expansion in sequence

HMI（Human Machine Interface）

1. Effects of system information on drivers' behavior.
2. Effects of driver state on his/her behavior in transition.
3. Effective ways to functionalize AV to be communicative.

Society

Surrounding road users

Driver

Interaction

Automated system/vehicle Levels 2, 3 and 4