

DRIMAES

DRIMAES is Mobility Ecosystem Developer

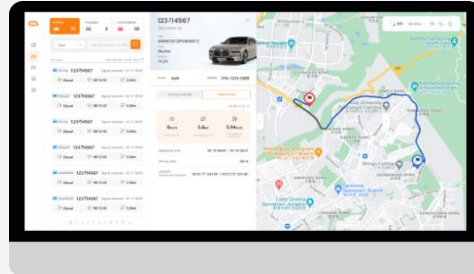
Company introduction

Connecting with DRIMAES

Specialist of **mobility ecosystem development**



In-Vehicle Infotainment



ACCESS(Cloud Infra)



Automotive OTA



SDV

IVI (In-Vehicle Infotainment)

DRIMAES IVI supports various operating systems including Linux, Android and other automotive OS simultaneously using Container-based virtualization. Additionally, it features its own automotive web platform (Chromium), offering a variety of third-party services, including vehicle management, convenience, news, web surfing, and entertainment.

Qualcomm SoC

SA6155 / SA8155



Automotive Grade UI

Absorption of vehicle physical buttons via CAN data connection



Web browser



Virtualization

LXC Container Management



DA OS

Android12 /
AGL based OS



External Stereo
Speaker



USB Storage



GPS

CSRG0531 / SiFRstar V5ea

Bluetooth® 5.2

12.8"

TFT LCD display



RAM 32G / UFS 128GB

12V

Power



OTA



WiFi / LTE

-30° ~ +85°

Working Temp

IVI
(In-Vehicle Infotainment)

One-chip, Multi-OS : DRIMAES IVI

Based on Container technology, Operate multi-OS In single device



Contents Area

- Android Automotive OS
- Web browser(Chromium)

Automotive Info. Area

- Automotive Grade Linux



IVI
(In-Vehicle Infotainment)

Container based efficient architecture

Based on Container technology, Operate multi-Displays In single Chip



Key Solution

One-chip, Multi-Display

Container Virtualization
Multi OS - AAOS, Linux, Web

Optimized OTA Solution

FOTA, SOTA via IVI

Car-to-Cloud Solution

FMS, remote control, various services to IVI

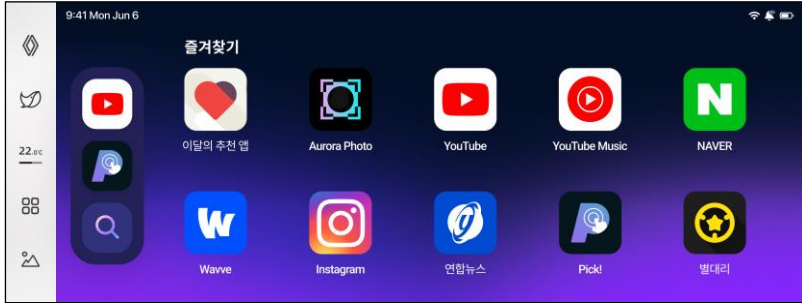
Web platform

Provides web-based 3rd party services

IVI
(In-Vehicle Infotainment)

3rd party services on Web Platform

DRIMAES-Naver Whale co-developed Automotive Web platform



Based on Global leading web browser Whale browser
DRIMAES provide various web-based services customized for Automotive OS

Main features	Description
Web surfing / view	Display web page for user, reading URL information
Searching engine	User can get information to input the keyword or move to web page using URL in single search bar
Favorite list	access the web page directly from the home screen through URL information registered
Web services	Connect to web-based services such as Youtube, SNS, etc. (Customize based on customer requirement)

ACCESS cloud infra (Car-to-Cloud)

ACCESS solution is a cloud infrastructure for connected cars and connectivity services. ACCESS collects real-time vehicle data through CAN protocol and transfer to DRIMAES cloud infra. With rich data pool from vehicles, DRIMAES provides efficient API set which can minimize data transfer based on own data collection and analyzation algorithm to various connectivity services



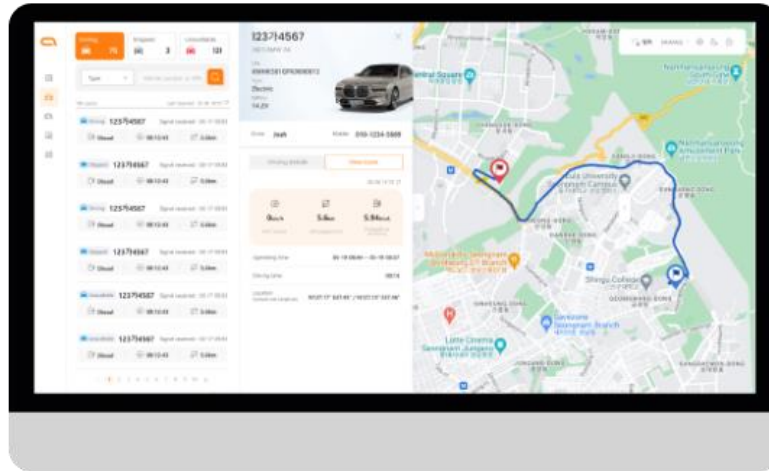
Admin Web Portal



Platform as a Service



Remote Control App



EV OEMs



Fleet Company



Core Cloud Infrastructure



FMS Developer

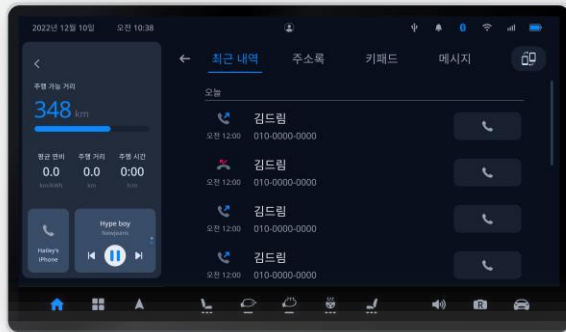
ACCESS cloud infra
(Car-to-Cloud)

Cloud based Car-2-Cloud infrastructure

Developed connectivity data infra between vehicle and cloud

DRIMAES Infra

Infotainment



- Collecting the vehicle CAN data from SoC system
- Delivering the vehicle control commands to SoC and control the hardware components (ex. Trailer Lock, Refrigerator- adjustment, etc.)

Send raw data

Cloud



[Data Bank]

- Collect Vehicle data
- Refine & Analyze data

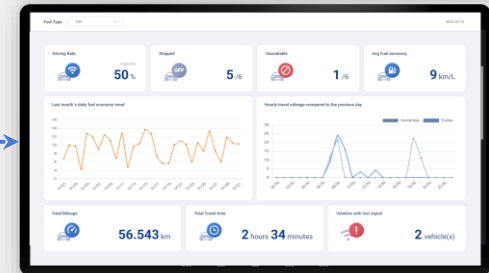
[Cloud environment]

- AWS, Azure, Oracle

Send Analyzed data

DRIMAES Platform

Fleet Management Service



[Feature]

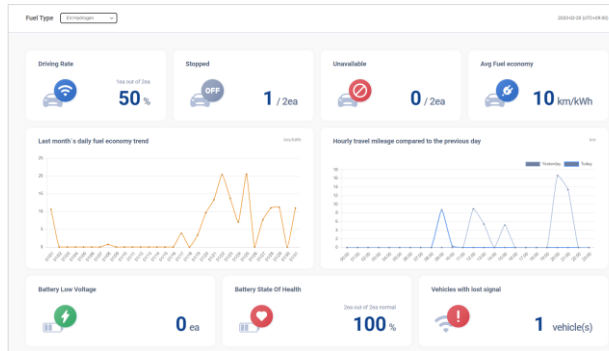
1. Logistics tracking
2. Trailer management by Logistics condition
3. Asset monitoring (Real-time location, Driving history)
4. Remote vehicle control (Temperature, Lock, etc.)
5. Remote vehicle diagnosis (Engine, Tire, etc.)

ACCESS cloud infra
(Car-to-Cloud)

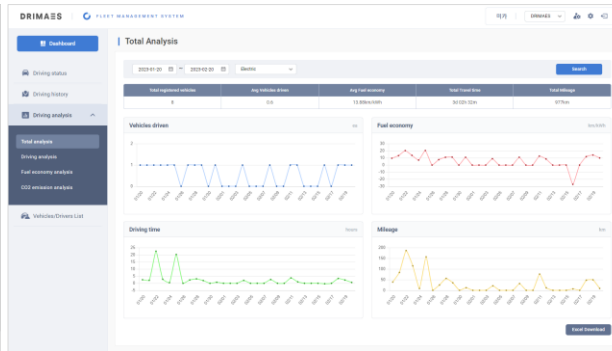
Use cases – FMS & Remote control app

Developed FMS and remote control App. Based on ACCESS infrastructure

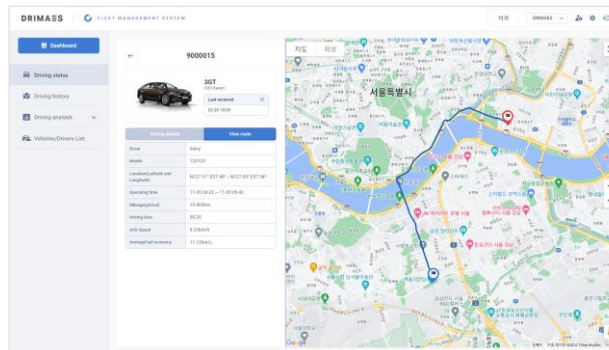
FMS web portal



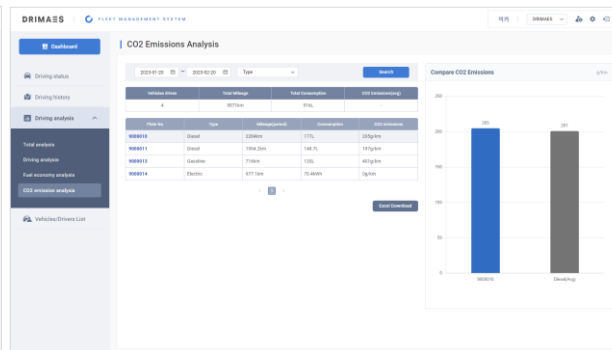
Dashboard



Driving analysis



Driving status/history

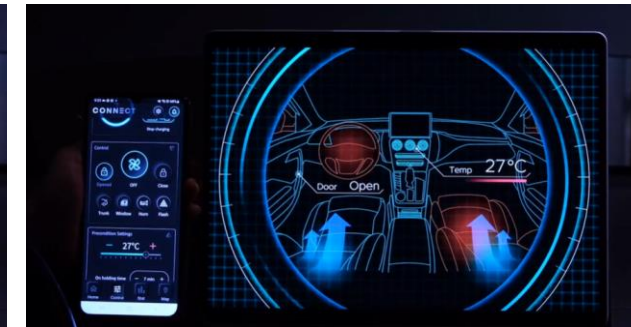


Driving analysis detail

Remote control APP



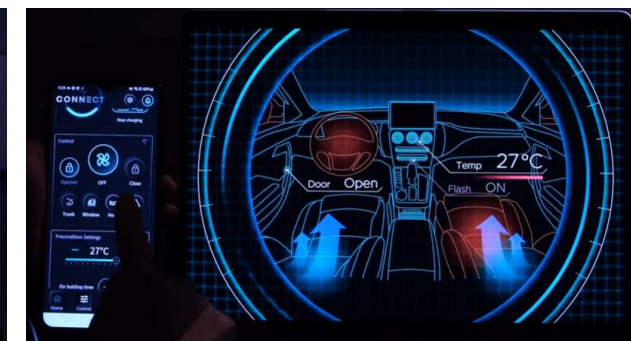
Remote door open



Remote control temperature



Remote horn ON



Remote flash ON

ACCESS cloud infra
(Car-to-Cloud)

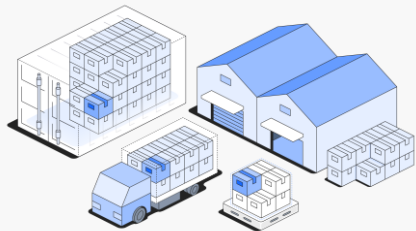
Use cases – Coldchain FMS platform

Developed smart fleet management platform with Willog which provides cold chain platform Cold Chain

Cold chain monitoring solution



Cold-Chain Fleet Company



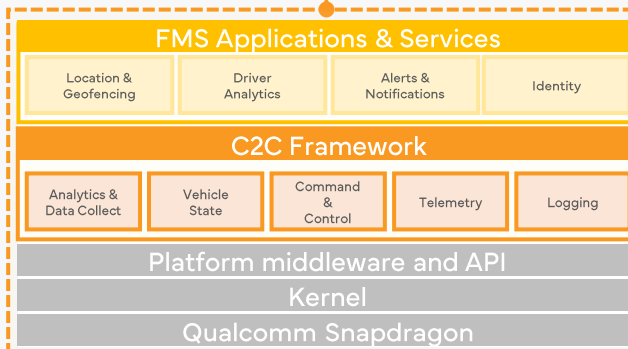
Willog's 'product condition monitoring solution' that enables fresh delivery of products whose conditions are important, such as medicines and fresh foods.

Willog needs for a smart logistics control system. Due to the lack of information in the logistics/transportation area.



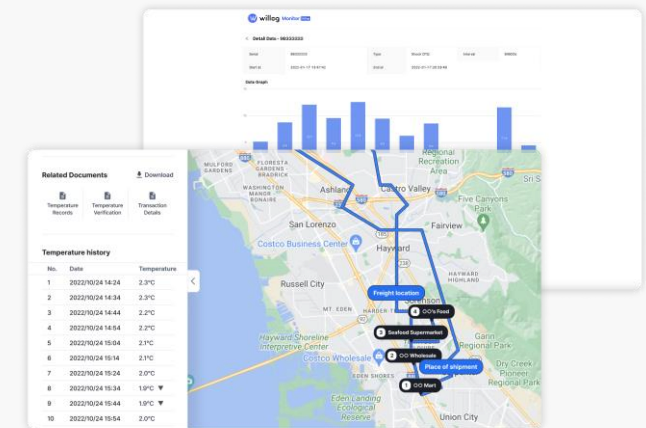
Building smart logistics Infrastructure

Building infrastructure for smart logistics control systems by utilizing existing Willog's logistics asset



Update Willog's fleet management Platform

Additional Development of Logistics Control System on Willog's Admin Web Portal



Automotive OTA (Over-The-Air)

With its own Differential SW package generation technology, DRIMAES OTA can provides efficient F-OTA and S-OTA update solution with minimized compressed package which can reduce cost and time of data transfer. Furthermore, based on Key-based authentication and cloud based ochestrator, Administrators can easily deploy and manage OTA packages with safety.



DA OTA Agent

Gateway API for Autosar based OTA



Seamless Update



SOTA Software OTA



FOTA Firmware OTA



Differential SW Pkg Generation



Partnership



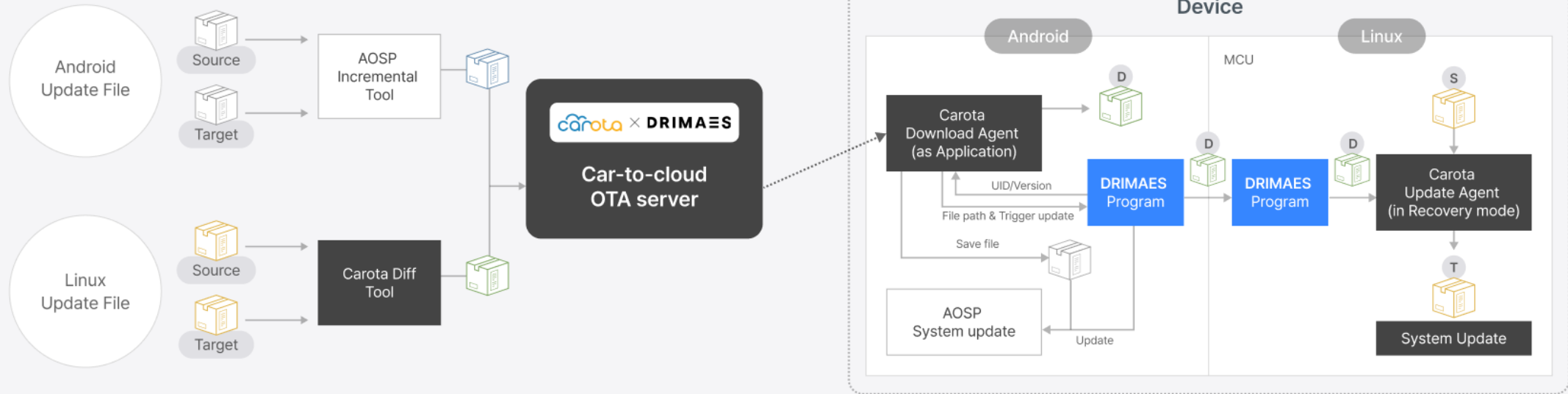
Key-based Authentication

Automotive OTA (Over-The-Air)

Reliable OTA features based on original diff. tool

With Carota Partnership, applied Differentiation tool that provides data efficient maximum 90%

OTA system architecture



SDV (Software-Defined Vehicle)

DRIMAES is ready to assist customers in transitioning to SDV by leveraging AUTOSAR dev. capabilities and an ECU simulator. DRIMAES utilize major AUTOSAR platform such as Elektrobit, ETAS and Mobigene. Also, the ECU simulator supports the development of AUTOSAR-based ECUs by virtualizing vehicle ECUs and driving environments.



Automotive SW/HW
Development



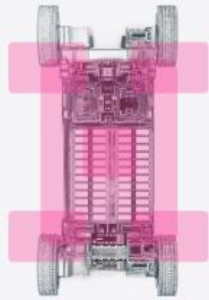
ECU SW/HW Development



Co-simulation middleware

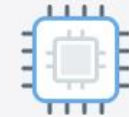


Container &
Hypervisor



Zonal Control

DRIMAES SDV Solution



Firmware

AUTOSAR



DA OS

Classic & Adaptive
Autosar

ASAM



Virtual ECU



CI/CD

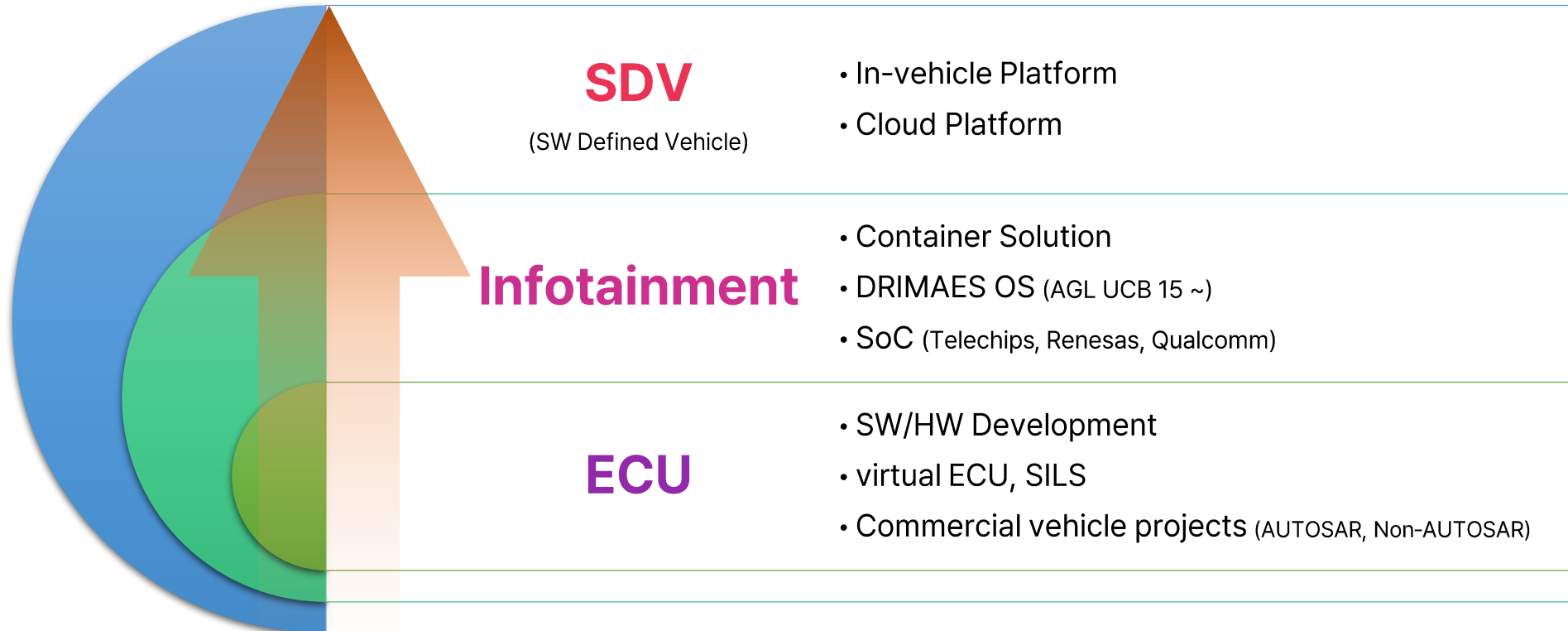
Continuous Integration
Continuous Delivery

fmi Functional
Mock-Up
Interface

SDV
(Software-Defined Vehicle)

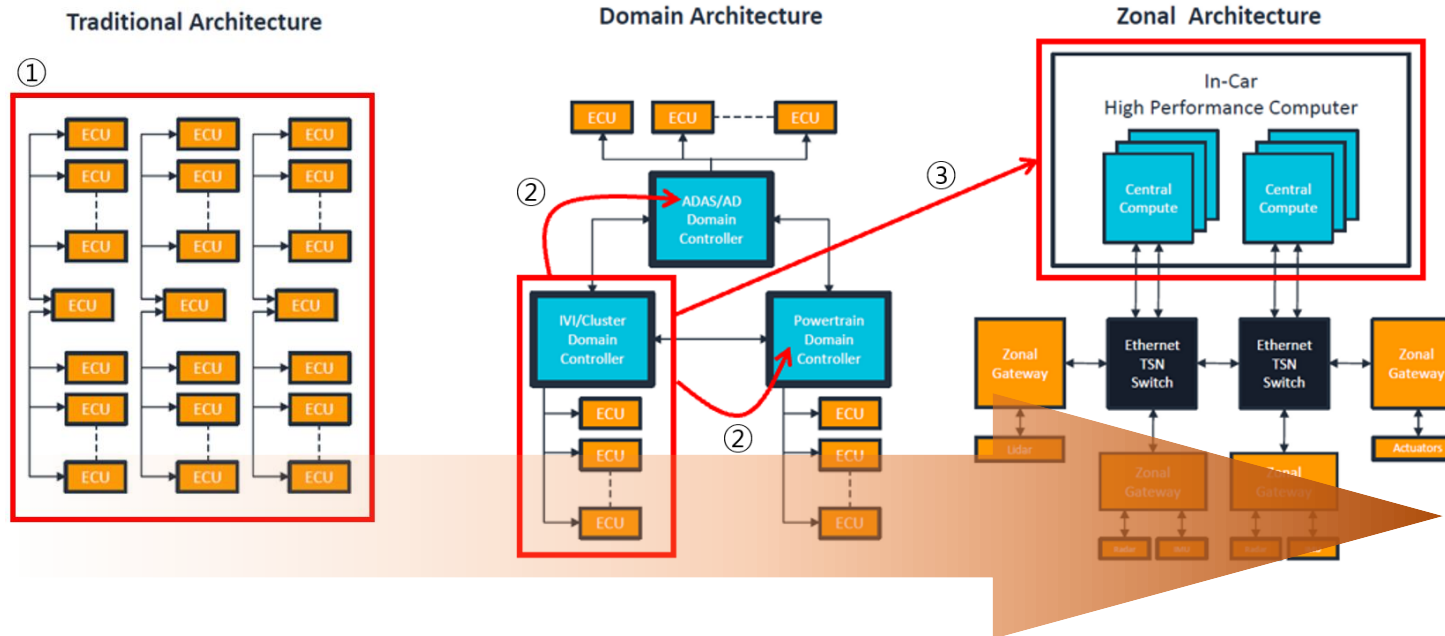
DRIMAES SDV Roadmap

Wide embedded vehicle portfolio from controller, infotainment to SDV solution



DRIMAES SDV Roadmap

Based on embedded development capability, DRIMAES continues R&D for domain and zonal controller of SDV

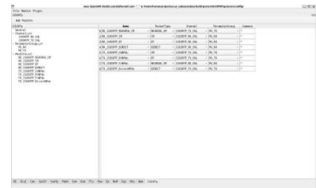


- Phase 1** Traditional Architecture R&D – Commercial project for AUTOSAR & Virtual ECU, SILS
- Phase 2** Expansion from Infotainment Domain of domain architecture to ADAS, Power Train, etc.
- Phase 3** Develop the Zone control unit for zonal architecture

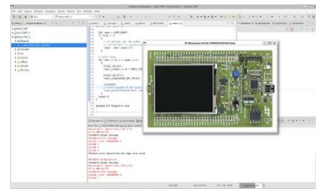
SDV (Software-Defined Vehicle)

Use case – Virtual ECU based SILS (Software In the Loop Simulation)

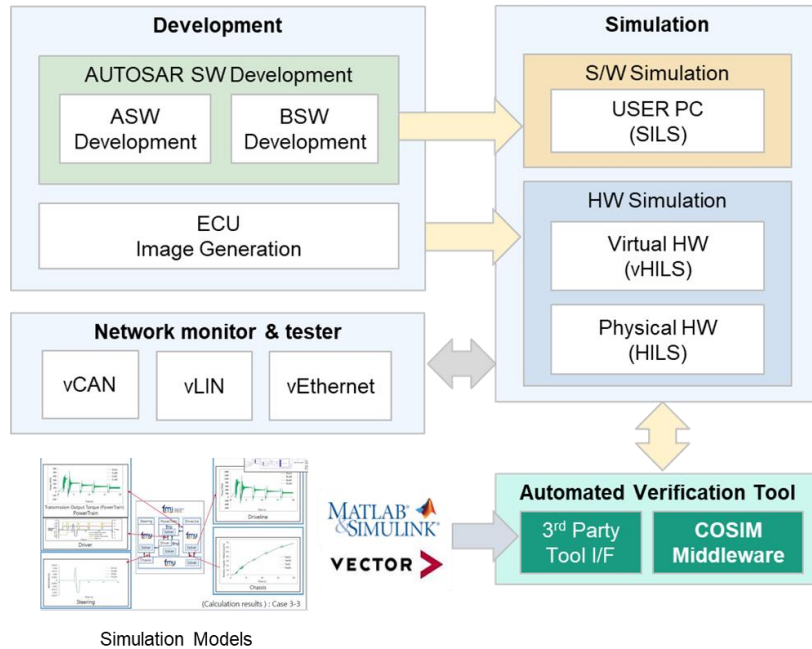
DRIMCAVE : virtual test environment based on AUTOSAR, virtual ECU



Configuration & Code Generation

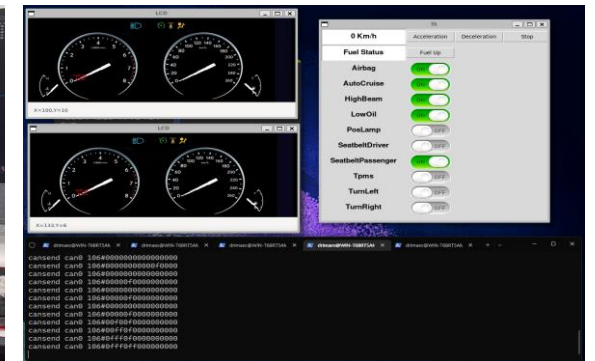
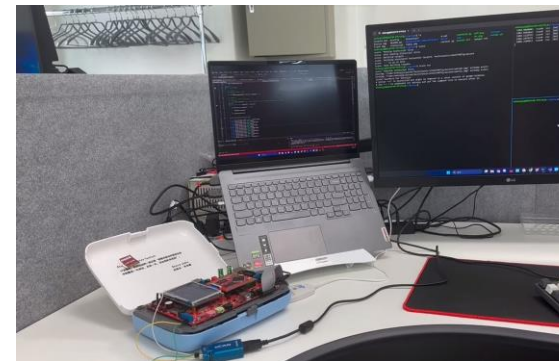
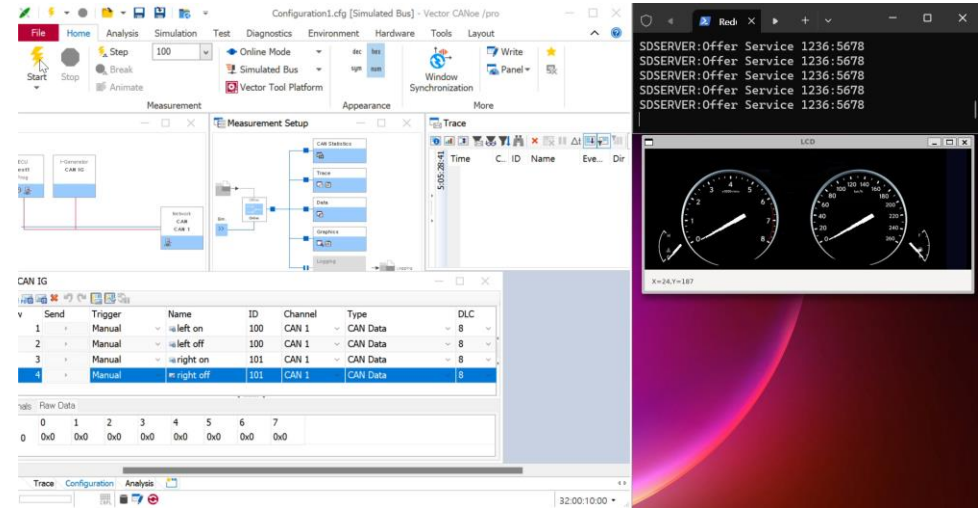


IDE support development & debugging



Simulation Models

DRIMCAVE architecture

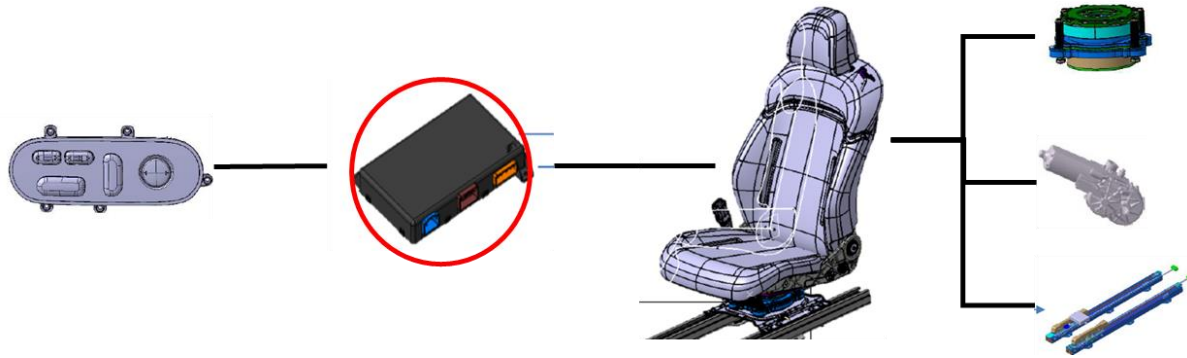


Developed AUTOSAR SW package and virtual ECUs for simulation

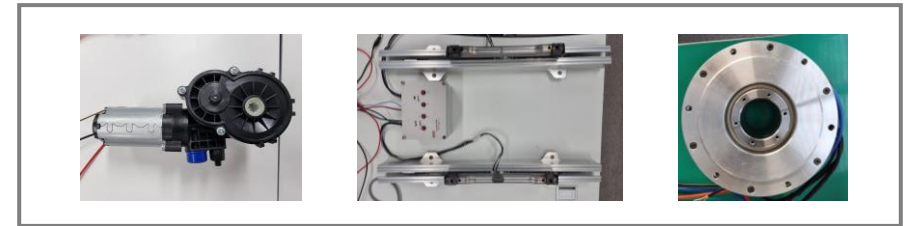
Use case – Controller (non AUTOSAR)

Seat control module & Armrest Touch screen

Seat Control module (MCU : NXP S32K, BLDC motor control, CAN, etc.)



[Seat Controller Ass'y]

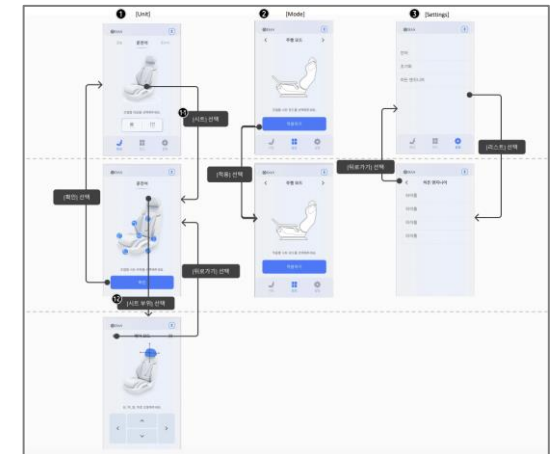


[Load is controlled by Seat Controller]

Arm rest Touch Screen (MCU : Microchips)



[App (Android)]

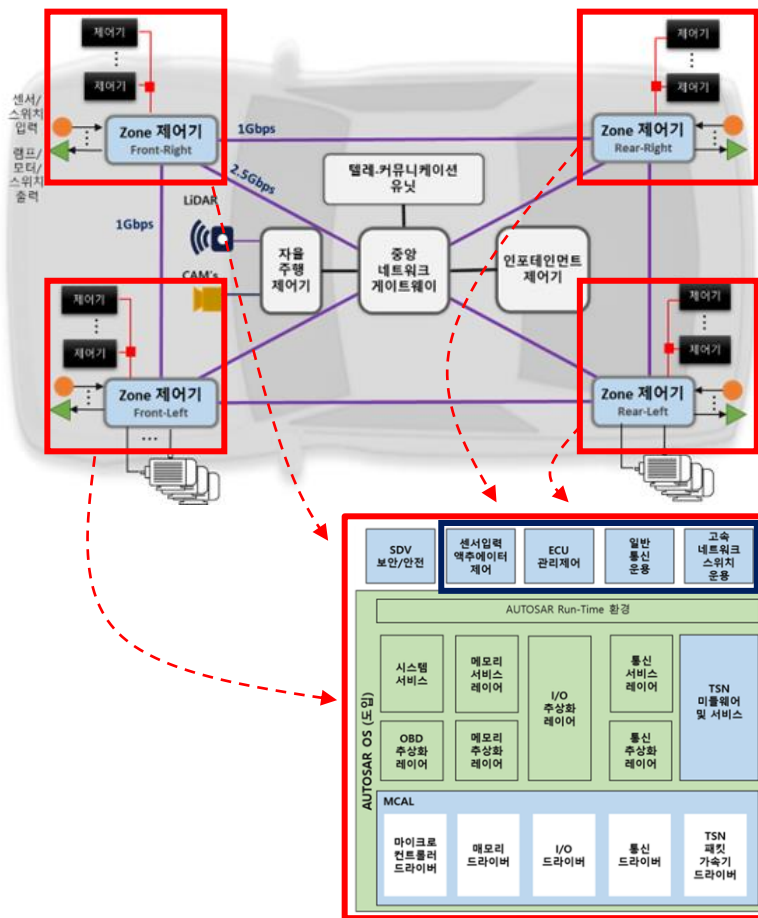


[App. Func. & Mode Scenario]

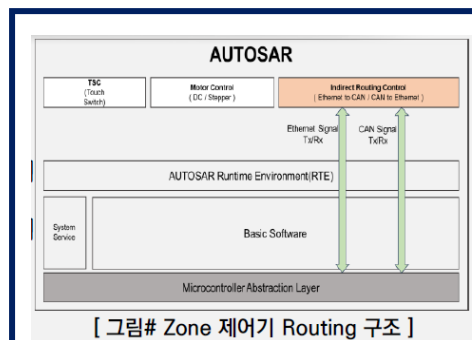
Use case – Zonal Architecture R&D

Network switching controller R&D for zonal Architecture

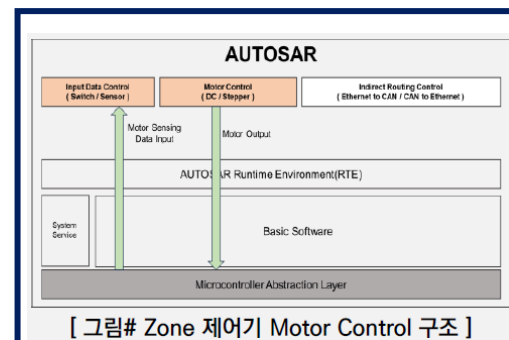
MCU supports that 4.5Gbps network switching technology for Future vehicles' E/E architecture (July 2023~Dec. 2026)



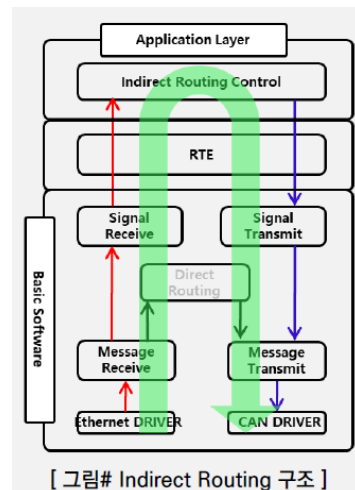
DRIMAES



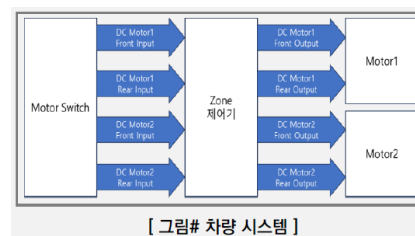
[그림# Zone 제어기 Routing 구조]



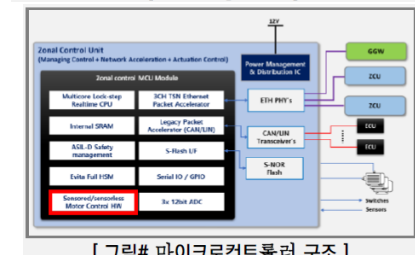
[그림# Zone 제어기 Motor Control 구조]



[그림# Indirect Routing 구조]



[그림# 차량 시스템]



[그림# 마이크로컨트롤러 구조]

Thank you

Contact

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