Rapidise Automotive Capabilities

RAPIDISE
QUALITY DELIVERED

A Joint Venture of
Napino & Teksun

Rapidise Automotive Industry Expertise :

Automotive Expertise:

- ADAS
- DMS
- Dash Camera
- ECU Development
- Infotainment system
- Instrument Cluster
- Connected Vehicles
- Vehicle telematics

Rapidise Automotive Capabilities :

For over a decade, the Rapidise team has supported automotive companies globally with advanced technology driven solutions to automate critical processes, enhance decision-making, identify new opportunities, and deliver real business value across the automotive value chain.

Automotive services include:

- Firmware Development with Automotive Protocols (CAN,LIN & Ethernet)
- Automotive Grad PCB Design
- Sensor and Actuator Integration(LiDAR, RADAR, cameras, and other sensors)
- Hardware Validation and Testing (HIL testing, EMI/EMC compliance, and ISO 26262 safety certifications)
- Product Certification
- Electronics Manufacturing (ITAR, AS9100, ISO 9001)
- Full Product Assembly
- Rapid Prototyping & Blackbox Testing

Why Rapidise For Automotive?

Rapidise serves as a complete **Offshore Development Center** (ODC) in the automotive sector, offering an exclusively engineered team with niche expertise in technology-driven automotive solutions. Their skills are specialized in the domains of **IoT and AI-driven** product design and development, systems integration, and manufacturing of automotive-grade electronics that promise cutting-edge innovations and smooth execution of requirements by OEMs and Tier 1 suppliers.

Key Differentiators :

Strategic Automotive Technology Partner: Rapidise collaborates with automobile companies on long-term innovation, hence ensuring that it has the most enduring relationship to match the evolving industry needs.

End-to-End Automotive Product Development Expertise: A team of more than 300 engineers support the full lifecycle of automotive product development from design to system integration and certification up to manufacturing.

360-Degree Automotive Solutions: Vertically integrated services, customized to create technical, business and commercial value for automotive OEMs and Tier 1 suppliers.

Advanced Manufacturing & Managed Services: Offering continuous support after design, specialized electronics manufacturing and managed IT services for automotive applications.

Optimized Delivery Model for Automotive Innovation: Blended onshore-offshore operations ensure access to world-class talent and cutting-edge automotive technologies at competitive rates.

ADAS (Advanced Driver Assistance System) :

Rapidise offers Advanced Driver Assistance Systems (ADAS) as a service to help drivers and vehicles sense, perceive, and respond to the environment around them. Our ADAS solutions can help improve safety, reduce driver fatigue, and enhance the overall driving experience. As the demand for ADAS grows, Rapidise is increasingly offering ADAS as a service to our customers, providing them with a range of solutions to ensure the accurate functioning of ADAS systems, and maintaining their optimal performance over time.

Our Offerings

Use Cases

- Lane Keeping Assistance
- Forward-Collision Warning
- Lane Departure Warning
- Lane Change Decision Aid
- Intelligent Speed Assistance
- Traffic-Sign Recognition
- Traffic Light Recognition
- Blind Spot Assist

Services

- EE Architecture Design
- Hardware Prototyping
- Camera Driver Integration
- CAN Encoder / Decoder
- AI Model Development And Deployment
- System Integration
- System Testing

Technology We Use

DMS (Driver Monitoring System) and In Cabin Intelligence :

Rapidise designs advanced Driver Monitoring Systems (DMS) solutions to enhance driver safety and comfort. Our comprehensive design and development services include accurate sensor placement, algorithm design and optimization, and system integration. Our DMS solutions utilize advanced technologies to monitor the driver's behavior, detect signs of drowsiness or distraction, and alert the driver to take action, ensuring they remain focused on the road and enhancing overall safety and driving experience.

Our Offerings

Use Cases

- Driver Fatigue: Eye Blink
- Driver Drowsiness: Yawn
- Mobile Phone Usage Detection
- Seat Belt On Detection
- Drivers Vital Signs Detection
- Occupancy Detection
- Child/Pet Presence Detection
- Driving Score On CAN Data

Services

- EE Architecture Design
- Hardware Prototyping
- Camera Driver Integration
- CAN Encoder / Decoder
- AI Model Development And Deployment
- System Integration
- System Testing

Technology We Use

Digital Cockpit / IVI :

Rapidise's Digital Cockpit Solutions are designed to make driving safer and more comfortable. We offer comprehensive design and development services, integrating components like displays, touch screens, HMI, and infotainment systems to create an intuitive and user-friendly cockpit. Our solutions utilize advanced technologies like AI, machine learning, and computer vision to offer customized functionalities and intelligent features such as voice control, gesture recognition, and personalized settings.

Our Offerings

Use Cases

- Instrument Cluster
- HVAC
- Infotainment Systems.
- Head-Up Display
- Navigation
- Bird Eye View
- Reverse Parking Assist
- Gesture And Voice Control

Services

- EE Architecture Design
- Hardware Prototyping
- Camera Driver Integration
- Display Driver Integration
- UI/UX Design
- App Development
- AI Model Deployment
- System Testing

Technology We Use

Rear Seat Entertainment :

Rapidise's Rear Seat Entertainment solutions offer an enhanced in-car experience for passengers. Our design and development services integrate displays, touch screens, and infotainment systems, utilizing advanced technologies like AI, machine learning, and computer vision for customized functionalities such as gesture recognition and voice control. Our solutions can be customized with various screen sizes, resolutions, and connectivity options, seamlessly integrating with existing vehicle systems.

Our Offerings

Use Cases

- Access To Premium OTT Content
- Games
- Hdtv And Radio Tuner Support
- Remote Access To Head Unit Application
- Microsoft Office Suit Integration
- Remote Climate Control
- Control Home Devices

Services

- EE Architecture Design
- Hardware Prototyping
- Display Driver Integration
- Satellite Radio Interfacing
- Connectivity Establishment With Other Displays
- Android Auto/Carplay Integration

Technology We Use

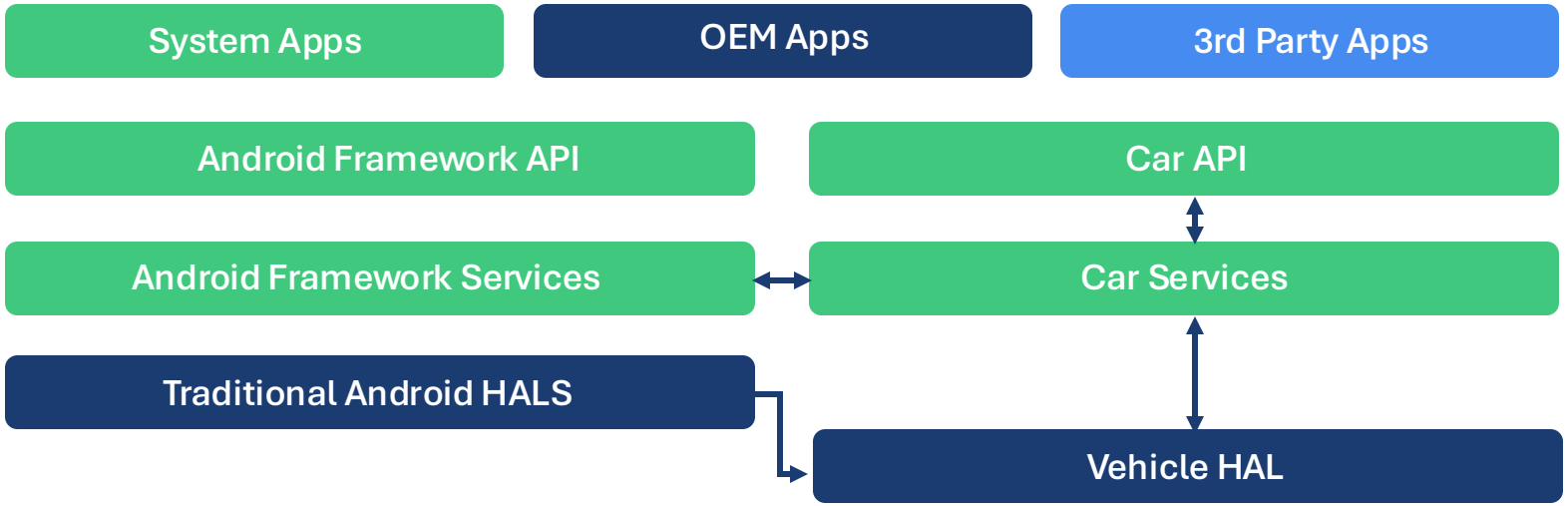
Automotive Android :

Our Offerings

- Customised HMI Hardware/Software (IVI)
- Platform architecture
- Multi-modal HMI with touch, gesture, steering wheel and voice control
- HMI Widgets Design
- Custom Launcher Development
- Car Parameter accumulation and analytics
- Operator centric UI/UX design
- Edge AI for Voice and Vision
- Migration to Automotive Android from Legacy platform
- FOTA - Security and Functional Updates
- Support and Maintenance
- Automotive Android

Rapidise IPs

- TEJAS SOM: 625/210/610/410/605
- Tejas 5G SoM
- TEJAS HMI
- TEJAS Car Infotainment



Digital Mobility Enabled through Digital Key :

Rapidise's Digital Mobility solutions provide passengers with a connected and seamless experience across different modes of transportation. Our comprehensive design and development services integrate advanced technologies such as IoT to optimize routes and minimize travel time. Our solutions offer customized functionalities like location-based services, voice and gesture control, and personalized content delivery. We support various mobility services including ride-sharing, car-sharing, and public transportation to ensure a hassle-free journey for all commuters.

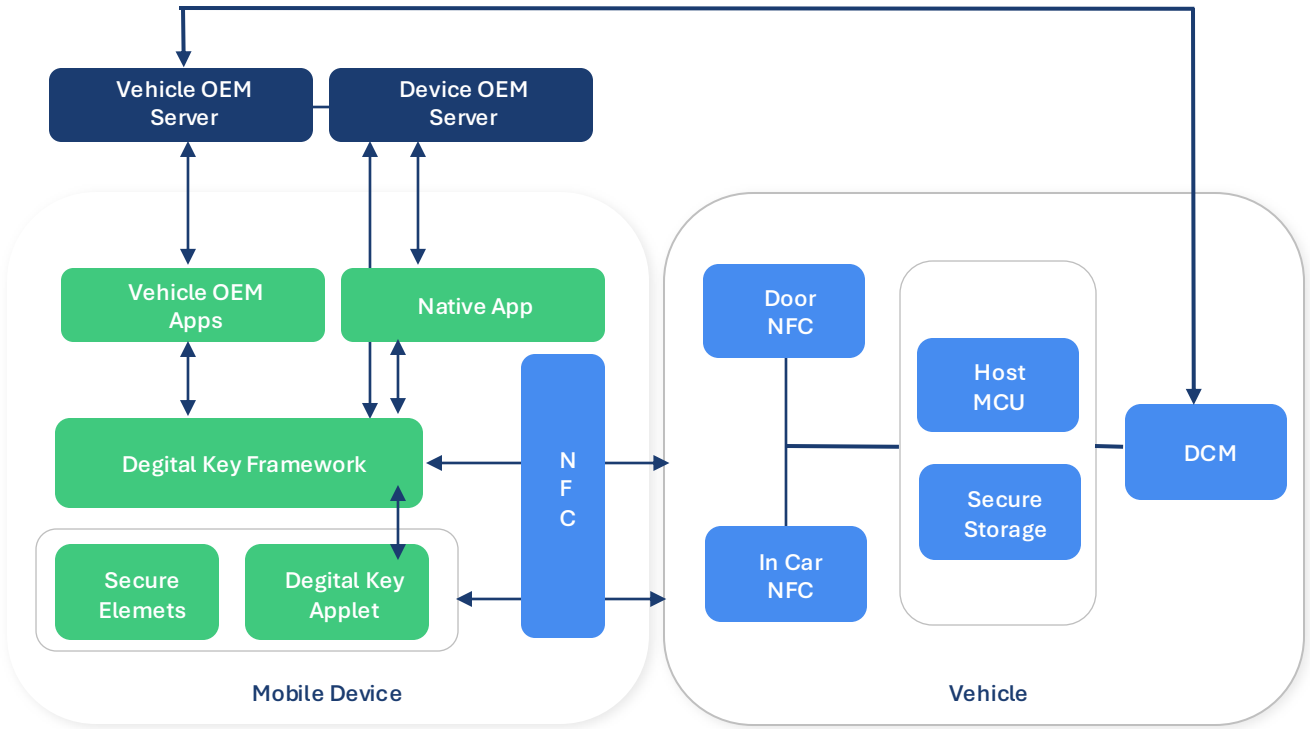
Our Offerings

Use Cases

- Location Based Services
- Multi-modal transportation integration
- Personalised In car experience
- Remote locking and unlocking
- Keyless Entry
- Assign Time-limited Access
- Voice and Gesture Enabled Control

Services

- Software Architecture
- Hardware Based Security
- NFC and UWB Integration
- Mobile Application
- Over-The-Air Updates
- Vehicle Control
- Face and Voice Recognition through AI
- Digital Identity Server Setup



Technology We Use

Predictive Maintenance

Rapidise's expertise in Edge AI implementation offers a range of business services to the automotive industry, including Predictive Maintenance to detect faults in crucial vehicle components such as Engine, Gearbox, Suspensions, Brake System, Electric Power Steering, and Tyre Parameters. Our AI-powered Car Service Assistance Bot provides customers with automated service assistance and personalized recommendations. We enable our customers to improve vehicle safety, reduce downtime, and enhance the overall customer experience.

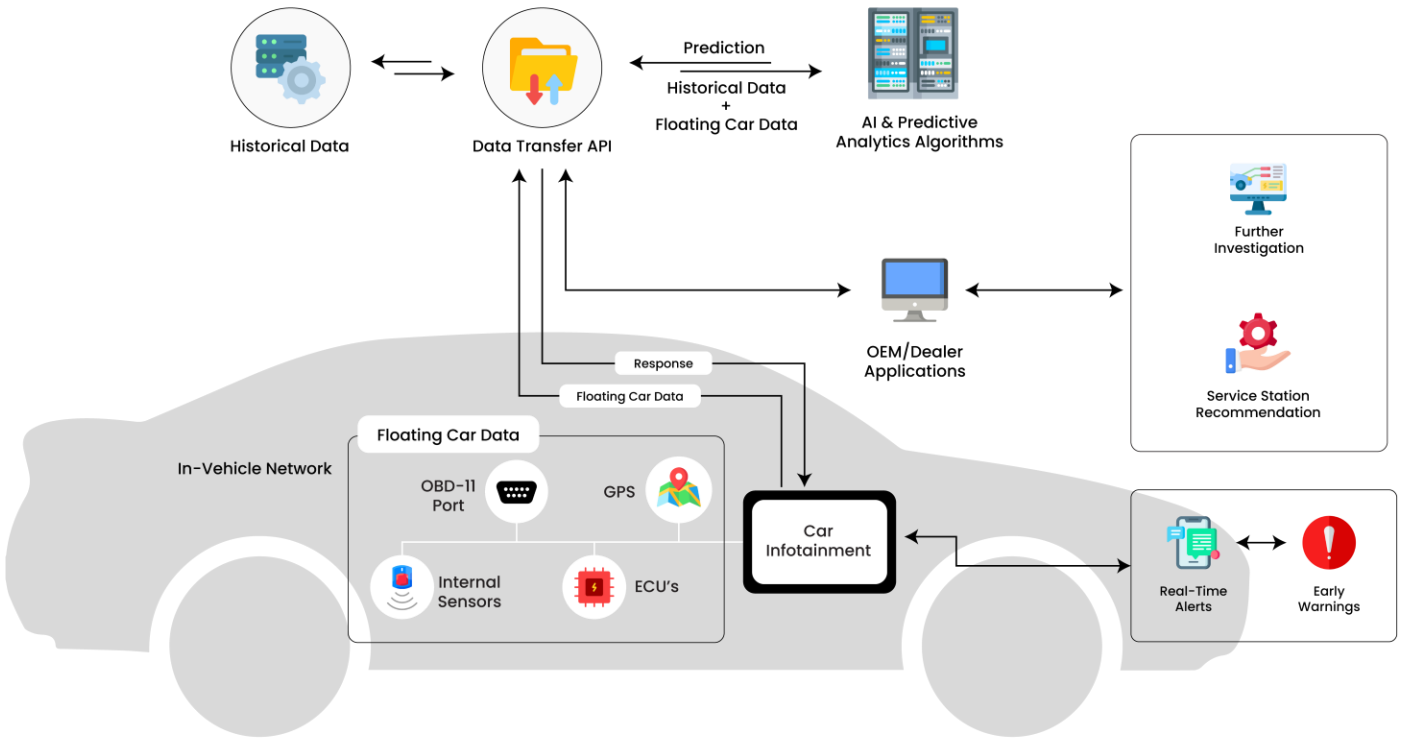
Our Offerings

Use Cases

- Automatic Fault Detection
- Type Pressure and wear Monitoring
- Fuel consumption Pattern Identification
- Smart Battery Monitoring
- Service and Spare Part Recommendations

Services

- Software Architecture Design
- Vehicle Network Interfacing
- Sensor Data Conditioning
- AI Models Development
- AI On Edge and Cloud
- Cloud Interface for Vendors
- Alerts On The IVI
- Remoneddation On The IV



Technology We Use

Vehicle Telemetry and V2X :

Rapidise's Vehicle Telemetry solutions offer a comprehensive fleet management solution, enabling businesses to track their vehicles in real-time, monitor fuel consumption, and optimize operations. Our solutions provide remote access to vehicle location and video data, improving fleet security and reducing the risk of theft. With our customized dashboard and analytics, businesses can gain valuable insights into driver behavior, vehicle performance, and operational efficiency.

Our Offerings

Use Cases

- Fleet Management
- Location Tracking
- On Demand Video Access
- Over The Air Updates
- Asset Environment Tracking
- Fuel Monitoring
- Parking Management
- Road Safety Compliance
- Tailgating and Speed Alert

Services

- Vehicle Network Interfacing
- Sensor Data Conditioning
- AI On Edge and Cloud
- Mobile application and Web Portal
- 5G and Ad Hoc Wireless Network Interfacing
- Multi MNO Profile
- Peer to Peer Video Streaming

Technology We Use

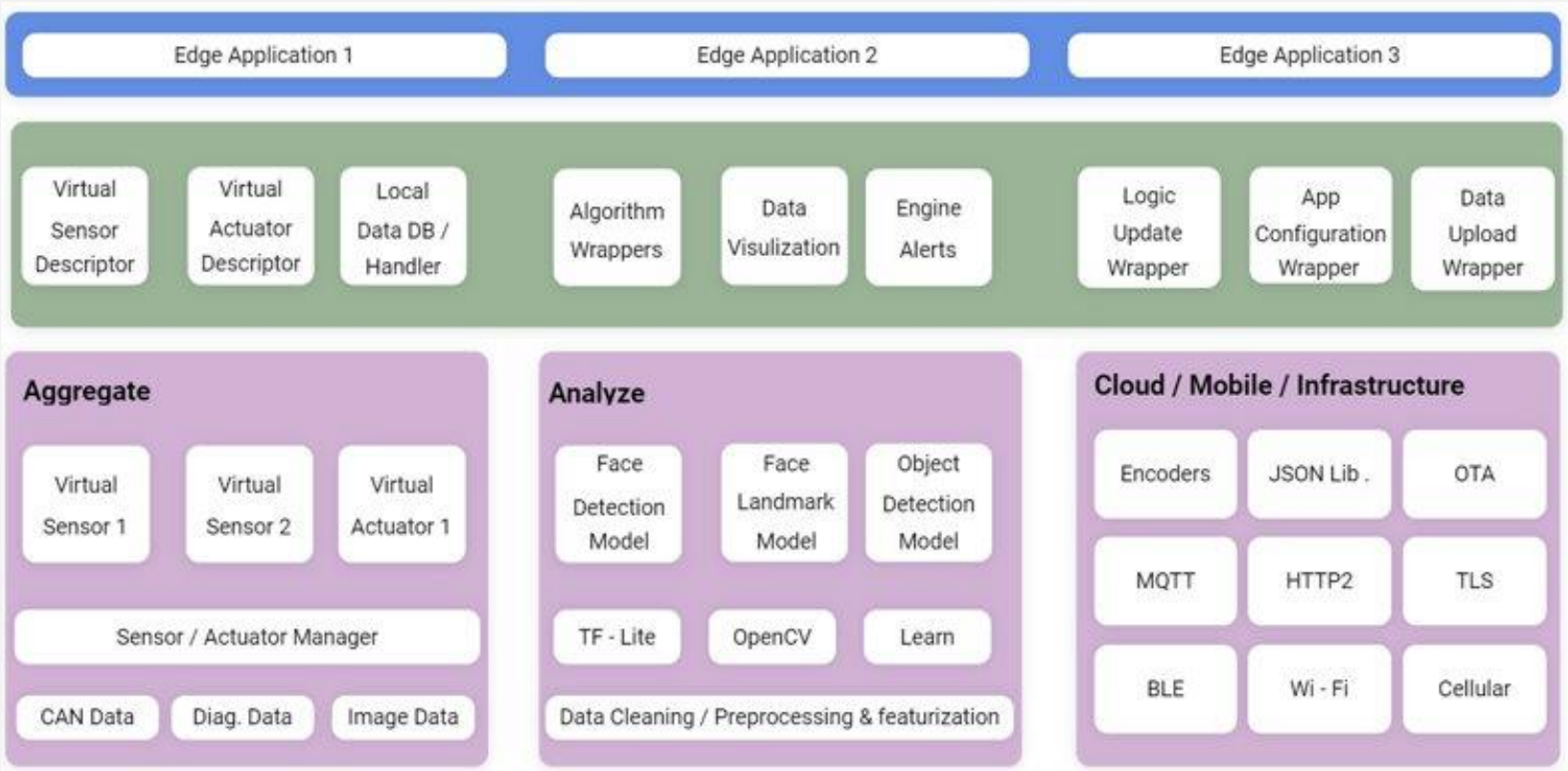
QUALCOMM NXP RENESAS ublox 5G WebRTC

Vehicle Edge AI Framework

Rapidise's Edge AI Framework enables modular development for Vehicle Telemetry solutions, providing real-time tracking of vehicle location, fuel consumption monitoring, and remote access to video data. Our framework incorporates advanced AI algorithms, enabling edge computing for faster processing and optimized performance. With our customizable dashboard and analytics, developers can gain valuable insights into vehicle behavior and operational efficiency.

Our Offerings

- Architecture Development
- Low Level Driver Interfacing
- External Infrastructure Connectivity Management
- Data Visualization
- Soft Sensor Based Implementation to Provide abstraction and Security.
- Edge application development
- Custom SDK Development
- Remote Firmware and Logic Updates



Technology We Use