

EMBITEL'S IOT SOLUTIONS

END-TO-END SOLUTION

EMBITEL'S OTA FIRMWARE UPDATE ACCELERATOR

SEAMLESS UPDATES, ENDLESS PERFORMANCE



PIONEERING
AUTOMOTIVE
FOTA UPDATES

 **embitel**
A CARIAD GROUP COMPANY



The Power of OTA Firmware Update

Today, automotive upgrades are increasingly being **driven by OTA firmware update solutions**.

Everything from **infotainment OS security patches** to **ECU updates** are orchestrated and executed through such solutions.

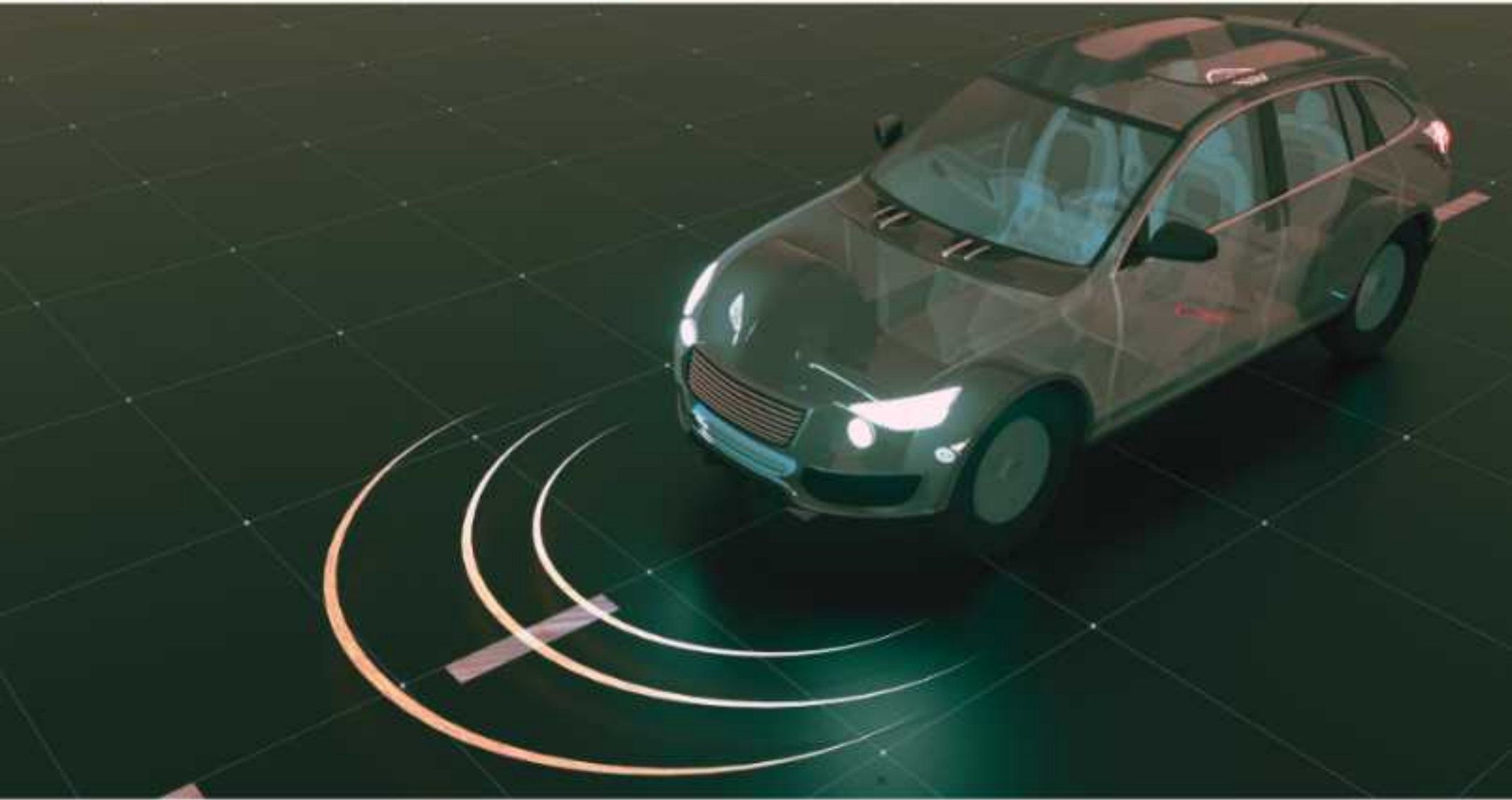
OTA firmware update has given **connected vehicles** the super-power of being able to **continuously upgrade** and increment in value!

However, when we talk about the update of critical vehicle functions, over the air, the need for **supreme security and reliability** is inevitable.

EMBITEL'S OTA FIRMWARE UPDATE ACCELERATOR IS A CUSTOMISABLE STACK THAT FAST-FORWARDS THE DEVELOPMENT TIME OF A SECURE AND SCALABLE FOTA SOLUTION.

WITH THIS SOFTWARE STACK, YOU CAN CUT DOWN THE DEVELOPMENT TIME OF YOUR FOTA SOLUTION BY 50%.

Embitel's OTA Firmware Update Accelerator



Our OTA update accelerator solution enables cloud-based firmware updates for devices and vehicles.

It features a **Multi-Tenant Architecture** designed for scalability and deployed on AWS Cloud.

Key modules include:

- User Management
- Device Management for FOTA
- Campaign Management for FOTA
- Telematics Data Management

Customers can purchase individual modules based on their specific needs.

WHAT MAKES OUR SOLUTION STAND OUT FROM THE REST?



QUICK TIME-TO-MARKET AND MODULAR

OUR ACCELERATOR, CAPABLE OF SERVING A WIDE RANGE OF INDUSTRIES COMBINES THE POWER OF SEVERAL REUSABLE COMPONENTS. THE MODULAR COMPONENTS CAN BE SELECTED BASED ON YOUR PROJECT NEEDS.



EASILY PORTABLE TO OTHER PLATFORMS

WE CAN PORT THE DEVICE-SIDE MICRO-STACK TO OTHER PLATFORM(S) AND HARDWARE WITH QUICK TURN-AROUND TIME.



SCALABLE SOLUTION

YES, WE ARE TALKING ABOUT MILLIONS OF VEHICLES BEING UPDATED AND TRACKED SEAMLESSLY FROM A SINGLE PLATFORM!



MULTITENANT, MULTI BRANDING SOLUTION DEPLOYED IN AWS CLOUD

IF NEEDED, MULTIPLE BRANDS OF AN AUTOMOTIVE OEM CAN USE THIS SOLUTION INDEPENDENTLY, WITHOUT EXCHANGE OF DATA.

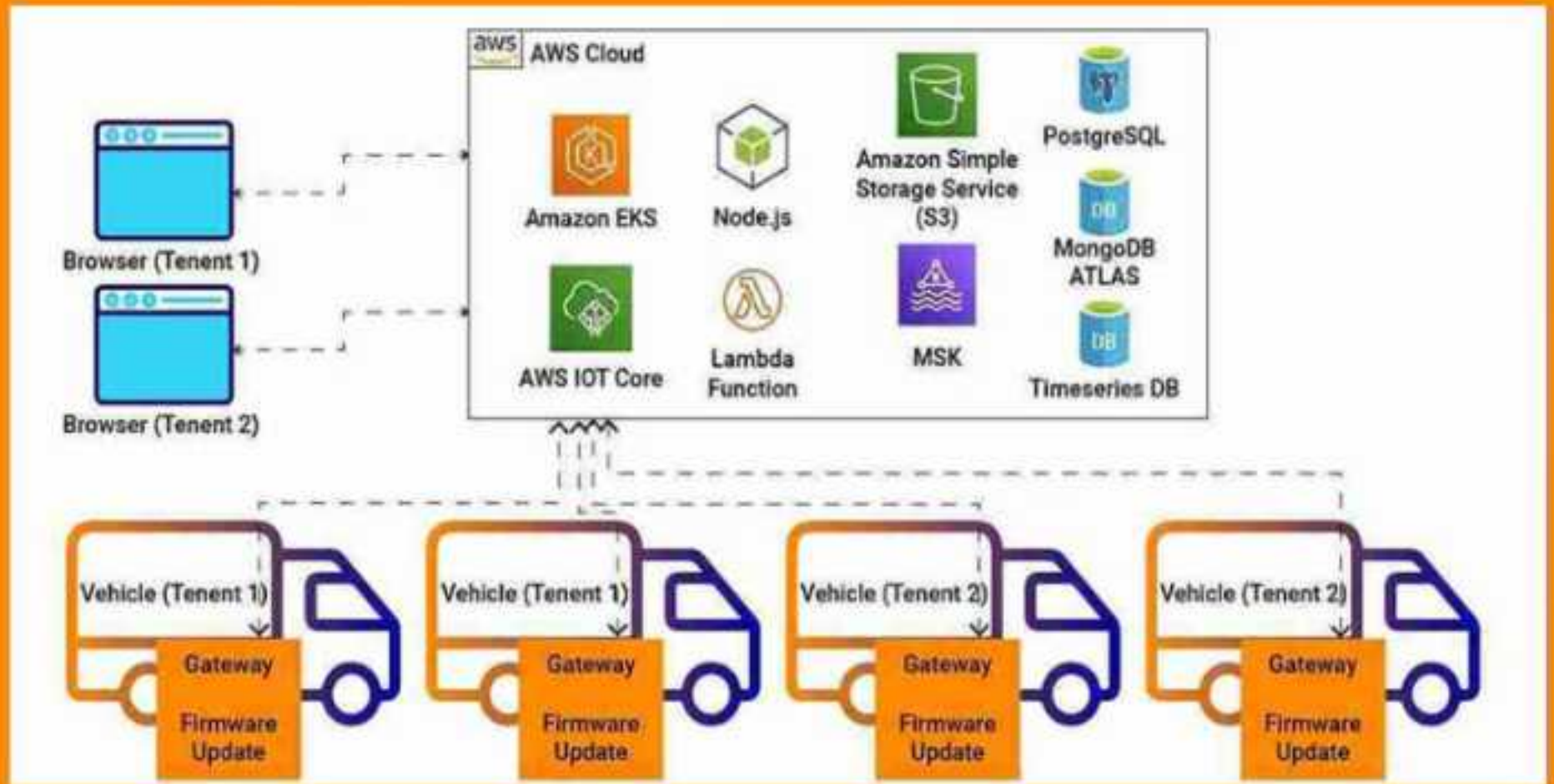


UPTANE-READY DESIGN

THIS GUARANTEES SUPREME SECURITY OF TRANSMITTED DATA AND ADDRESSES VARIOUS THREAT MODELS, ALONG WITH AWS STANDARD DATA SECURITY.

System Overview

Multi-tenant Architecture



Key Features of Our OTA Update Solution



CAMPAIGN WORKFLOW FOR UPDATING THE FIRMWARE IN VEHICLES



CLOUD DEPLOYMENT WITH TERRAFORM SCRIPTS



DISPLAY OF VEHICLE DATA (TELEMATICS) IN GRAFANA DASHBOARD



USER MANAGEMENT AT SCALE BASED ON AWS COGNITO (ROLE BASED ACCESS CONTROL)



OVER THE AIR UPDATE IS CUSTOMIZABLE BASED ON CUSTOMER NEEDS



DEVICE-SIDE FIRMWARE DOWNLOAD SOLUTION USING INTEGRATED AWS SDK



AND MANY MORE



Our OTA Firmware Accelerator Meets the End-To-End Cloud Needs



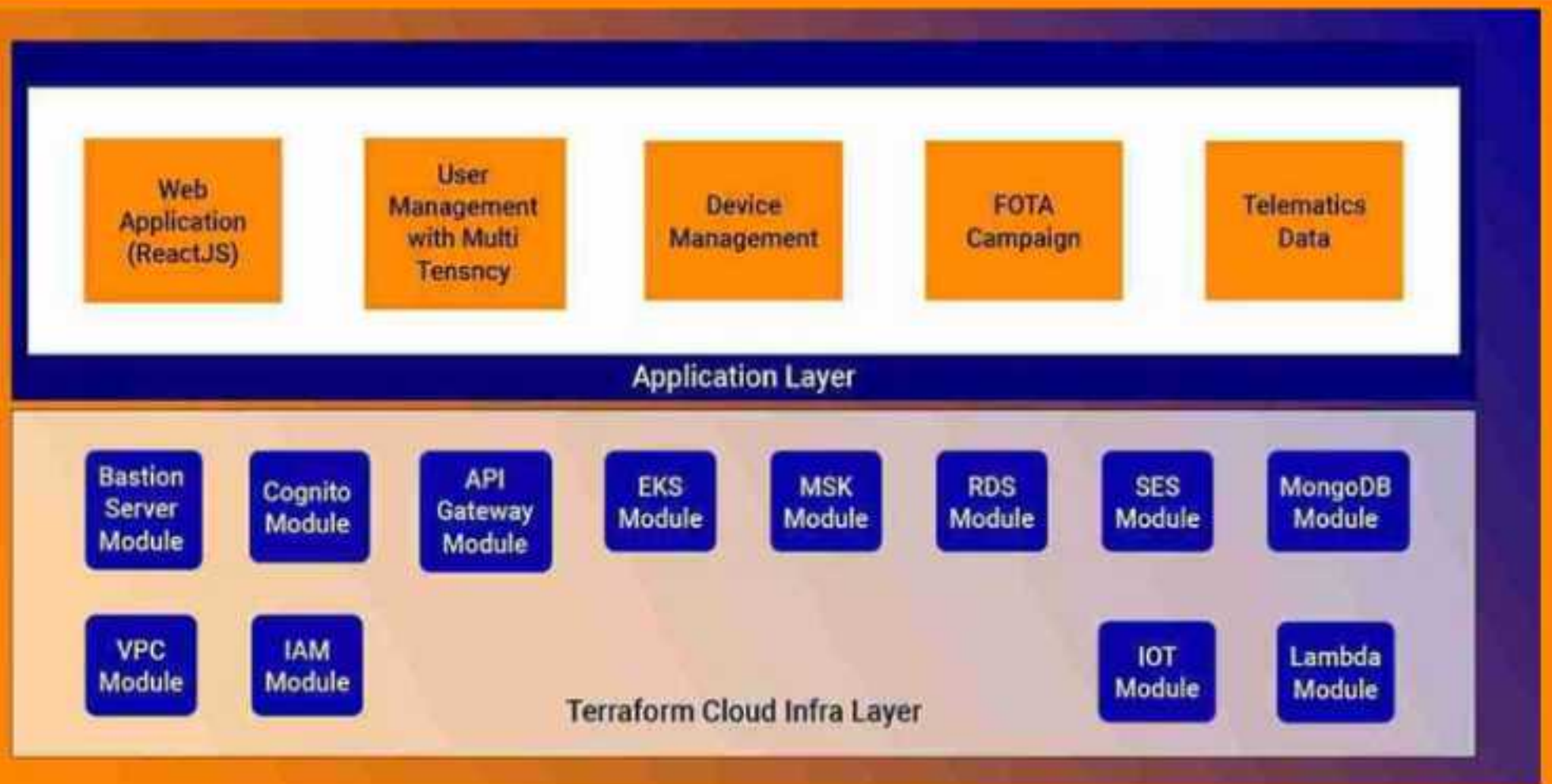
CLOUD PLATFORM



DEVICE PLATFORM

Although this solution was developed for automotive OTA and telematics, this can be tailored for non-automotive use cases as well!

OTA Firmware Update Accelerator – Cloud Platform

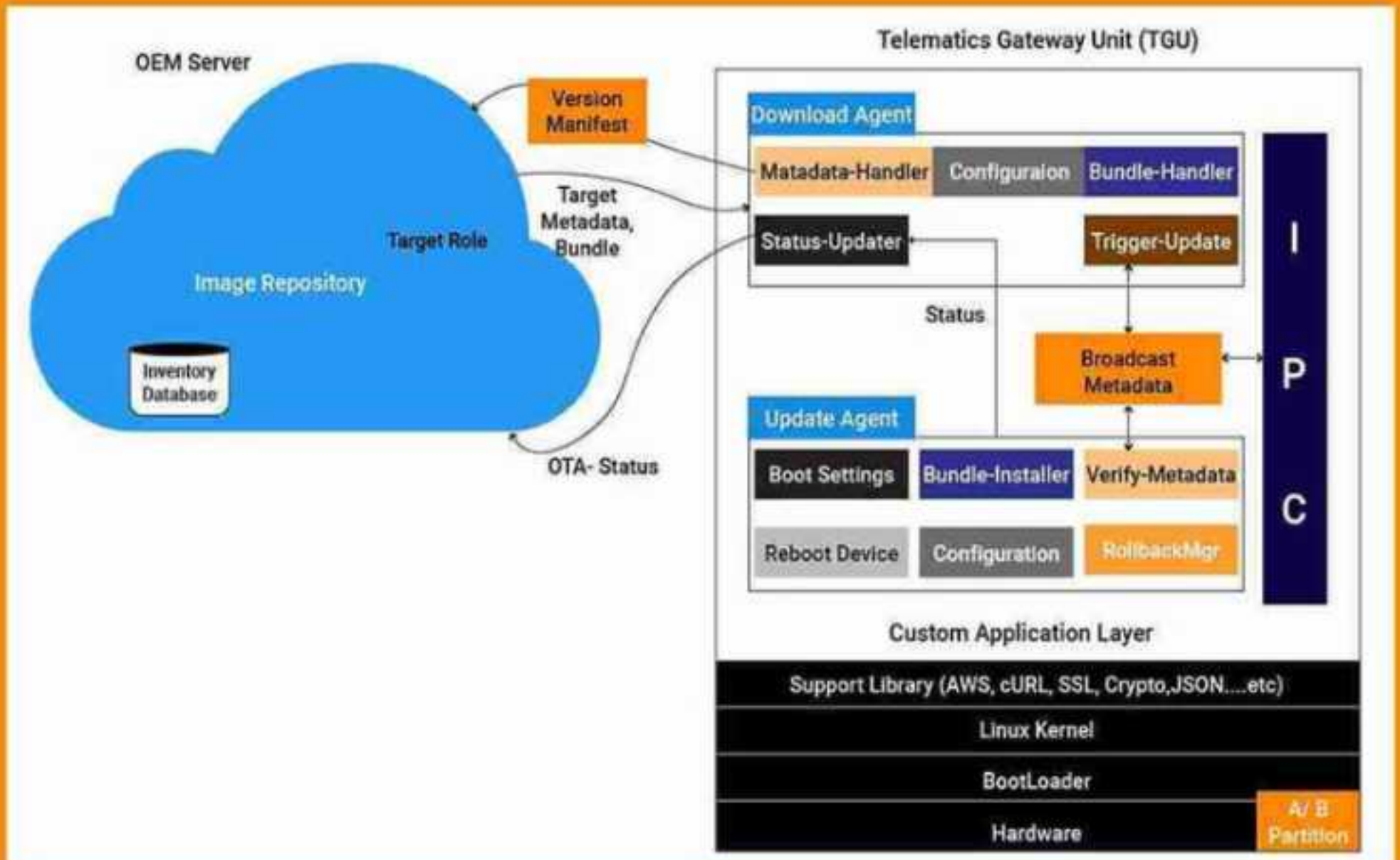


The layered architecture of this solution in the cloud is shown above.

Our OTA update solution is conceptualized and implemented by our team of cloud and device-side engineers.

Apart from **FOTA update** and **telematics** capabilities, our cloud team is proficient in **DevOps architecture** and **deployment, cloud migration**, implementation of **IoT cloud services**, **multi-industry cloud application development**, and more.

OTA Firmware Update Accelerator – Device Platform



Our OTA update solution enables customers to scale their OTA and telematics functionality to millions of devices or vehicles. To test this on the cloud, we developed a device-side solution.

We created a device embedded with an AWS application that communicates with the cloud for OTA updates.

AWS provides the device-side SDK, and the FOTA application on the device, a Telematics Gateway Unit (TGU), is built using this SDK.

Uptane Readiness of Our OTA Firmware Update Accelerator



Uptane is the first automotive software update framework that protects vehicles from an extensive range of security attacks and makes them resilient to partial compromises as well.

Our OTA firmware update accelerator is **Uptane-ready** for specific features/functionalities. It can support full Uptane compliance, if required by the customer, as we have the necessary infrastructure to achieve this.

Why Choose Embitel?



We are an **industry-recognized group of technology professionals** with deep domain expertise in IoT and automotive technology.



We are **agile, transparent and flexible** - all at once!



Our suite of **reusable, proprietary software stacks** expedites automotive project development significantly.



We have been developing cutting-edge IoT solutions for our **global customers** for more than 17 years.



Our unwavering commitment to **data safety and delivery quality** sets us apart from competition

THANK YOU!

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Uptane Readiness of Our OTA Firmware Update Accelerator

System	Uptane Feature	Uptane Ready	Uptane Compliance
OEM Cloud Server	Version Manifest - Verification	Yes	Yes
	Image Repository - Target Role	Yes	Yes
	Director Repository Roles	No	Yes
	Image Repository Roles	No	Yes
	Secure Time Server (Optional)	No	Yes