



REMOTE VEHICLE UPDATING SERVICE (OTA)

A reliable, convenient, secure and economical way to update vehicle software

HARMAN Remote Vehicle Updating Service (OTA) enables automakers and Tier-I suppliers to adapt to an evolving market landscape by securely managing all in-vehicle software components, including firmware, applications, configurations, settings and maps on head units, TCUs (Telematics Control Units) and ECUs (Electronic Control Units); anywhere and at any time – whether on the production line, at dealer lots or on car owners’ driveways. The solution is comprised of both backend server components that can either be installed on the customer’s IT premise or hosted by HARMAN, and device side client software components that are installed by the device (TCU/HU/ECU) manufacturer.

Key features of the solution include:

- 100% field-proven Smart Delta update technology successfully deployed in more than two billion automotive, IoT and mobile devices to date. It allows update of any software component via the smallest possible, connectivity-, storage- and cost-efficient payloads, regardless of OS, chipset and device resource constraints, and with uncompromising security.
- Device Management capabilities enable manufacturers and carriers to easily deliver device settings and configuration updates, via a range of backend facilities. These include a scalable Device Repository and a Device Settings module, a Settings Orchestrator, which ensures device eligibility and compatibility, and coordinates configuration updates, and a Protocol Engine, which handles seamless and secure delivery over a range of device management protocols.
- The granular Software Catalog, part of the solution’s extensive enterprise backend infrastructure, enables manufacturers to manage and maintain a library of firmware and software versions of any size and intricacy, for a huge array of diverse connected devices.
- Over-The-Air (OTA) orchestration of firmware updates, software updates, and data collection can also be enabled using HARMAN SmartAuto, an aftermarket hardware “OBD-II dongle” device that plugs into OBD-II port of any car.

Top-line Benefits

- Reduces Software recall- and warranty-related costs via OTA updates
- Provides high reliability and accuracy for navigation and ADAS (Advanced Driver Assistance Systems) via ongoing map updates
- Offers uncompromising protection against car connectivity-related cyber security threats
- Makes it easy to add new features and functionality post-production
- Maintain and improves ongoing relations with car owners

Why HARMAN?

Shortening Time-to-Market

Shorten your time from concept to delivery using our best practices, turn-key delivery models and rich talent pool.

Cross-platform

Take advantage of our experience in multiple industry verticals and leading platforms to rapidly exploit new market opportunities.

Global delivery footprint

Our skilled, talented engineers deliver solutions to companies like yours from centers throughout the world.

Solution accelerators

Get access to leading edge innovation and best practice by using our solution accelerators and global pool of partnerships.

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Features and Benefits

Class-leading Smart Delta technology

- Patented Smart delta technology from HARMAN enables device manufacturers to deliver the latest firmware, OS, applications, maps, settings and configuration updates to connected cars over the air via the smallest possible payloads.
- The technology does not replace the entire files or software images. It is capable of determining any changes in code, then applying them to target components to create desired software images with full bit-for-bit integrity.

A powerful backend for end-to-end automotive portfolio management

- A versatile backend infrastructure accommodates comprehensive automotive software catalogs and diverse car component inventories, and is capable of faithfully modeling and helping to monitor all in-car technology assets.
- A proven solution that enables effective management of anything from individual configuration and setting files, through map and delta updates, and all the way to full software version images.
- It is designed to quickly and easily integrate with existing PLM (Product Lifecycle Management), parts management, licensing and reporting systems, for the fastest possible time-to-market, and offers operator-grade reliability and scalability.

Cost-efficient "in place" updating - Optimizes the manufacturing and maintenance costs.

All software updates are performed "in place," within available memory. Helps avoid potentially costly ROM upgrades or BOM (Bill of Materials) expansions.

100% failsafe delivery

In the event of connectivity failures, sudden power outages or any other unforeseen challenge during software updates in progress, the update commences and is completed successfully as soon as the power or connectivity is back.

Campaign management and reporting

Powerful reporting functions providing information and insights on the success rate of device update campaigns.

Uncompromising security

- Hazardous viruses, malware and hacking attempts may compromise car functionality, facilitate owner identity theft and even endanger driver safety. This solution addresses these risks via digitally signed and fully authenticated Smart Delta OTA update packages, delivered directly to connected cars under the strictest compliance with OMA-DM protocols.
- HARMAN Automotive Cyber Security (TowerSec) intrusion detection and prevention systems ensures rapid identification, reporting and mitigation of malicious network activity.

Partner with an industry expert

HARMAN (harman.com) designs and engineers connected products and solutions for automakers, consumers, and enterprises worldwide, including connected car systems, audio and visual products, enterprise automation solutions; and services supporting the Internet of Things. With leading brands including AKG®, Harman Kardon®, Infinity®, JBL®, Lexicon®, Mark Levinson® and Revel®, HARMAN is admired by audiophiles, musicians and the entertainment venues where they perform around the world. More than 50 million automobiles on the road today are equipped with HARMAN audio and connected car systems. Our software services power billions of mobile devices and systems that are connected, integrated and secure across all platforms, from work and home to car and mobile. HARMAN has a workforce of approximately 30,000 people across the Americas, Europe, and Asia. In March 2017, HARMAN became a wholly-owned subsidiary of Samsung Electronics Co., Ltd.

Visit our website at harmanconnected.services/remote-vehicle-update-OTA

