GLOBALSTAR AUTOMOTIVE
Connecting Cars Everywhere

FEATURES

Global coverage

Increased resilience

No roaming required

Two-way data messaging service

Hybrid Satellite & Terrestrial Network

Optimized routing of content and services

Globalstar's next generation global, hybrid network service is designed to leverage both satellite and terrestrial technologies to connect cars.

GLOBAL CONNECTIVITY

Optimized routing of content and services for lower recurring costs and improved SLAs.

- **Telematics**: increase coverage and reliability for ACN/eCall, roadside assistance, vehicle tracking and telemetry. Pull data from vehicle for remote diagnostics, condition-based maintenance, and preventative analytics.

- **Managed Security**: secure link for global certificate and key management, audits and compliance monitoring. Enables service to patch vulnerabilities, update firewall and IDS systems.

HIGHLY SCALABLE BROADCAST / MULTI-CAST NETWORK

Delivers common content to multiple users with virtually unlimited scalability.

- **GNSS augmentation:** enhanced Global Navigation Satellite System (GNSS) accuracy and integrity with protection levels. Increase safety and reliability of autonomous driving systems.

- **OTA Updates with acknowledgment**: efficient and secure broadcast service for critical security patches, and Over-the-Air (OTA) updates to software and firmware in Telematics Control Units (TCUs), Electronics Control Units (ECUs), and Head Units (HUs), as well as map tile and map layer data.

- **Datacasting of common-interest content:** traffic, weather, hazards, and other alerts.
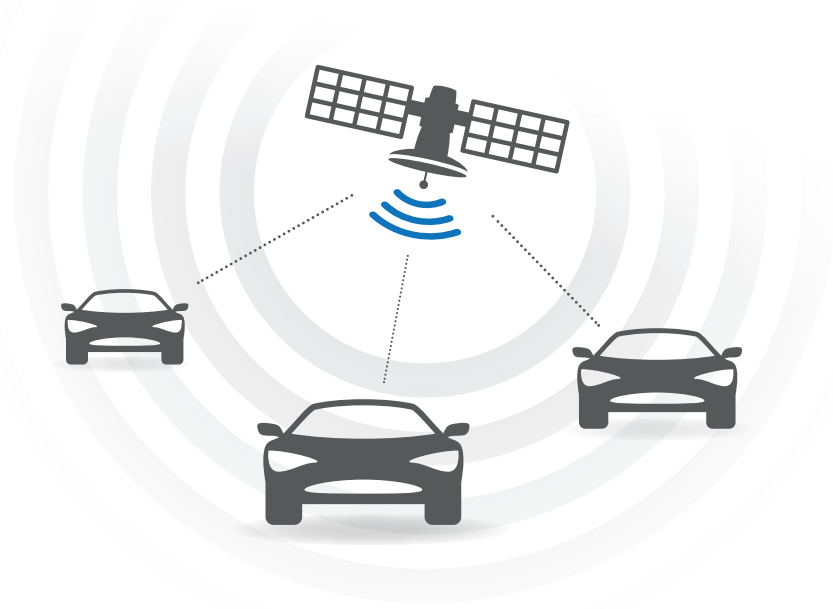
AVOID COSTLY RECALLS

Since 2015 vehicle recall rate increased to 46%, with four major carmakers setting aside a combined $20 billion in 2015 in warranty reserves. Close to one-third of those from last year could have been addressed over the air, saving carmakers at least $6 billion.
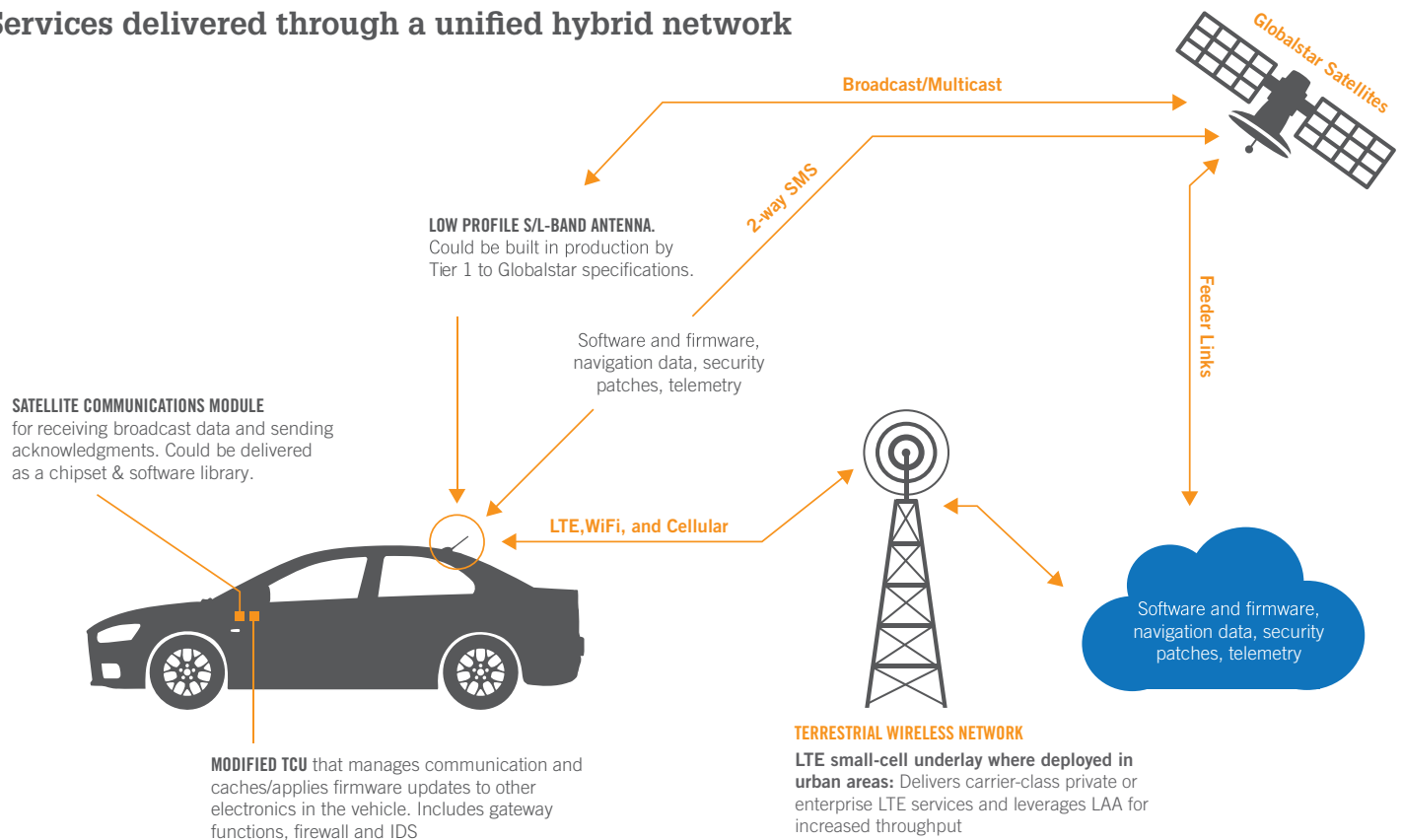
ABI Research

KEEP CARS UP TO DATE

Automakers will save $35 billion from over-the-air updates in 2022, up from $2.7 billion in 2015. Those savings would come from 10.9 million map updates, plus 42.5 million telematics updates, 34.4 million infotainment updates and 13.2 million updates to safety critical control units.

IHS Automotive

GLOBALSTAR AUTOMOTIVE

SATELLITE SOLUTION EMBEDDED IN THE CAR

Services delivered through a unified hybrid network

Globalstar Satellites

Broadcast/Multicast

2-way SMS

Feeder Links

LOW PROFILE S/L-BAND ANTENNA.
Could be built in production by
Tier 1 to Globalstar specifications.

Software and firmware,
navigation data, security
patches, telemetry

SATELLITE COMMUNICATIONS MODULE
for receiving broadcast data and sending
acknowledgments. Could be delivered
as a chipset & software library.

LTE, WiFi, and Cellular

Software and firmware,
navigation data, security
patches, telemetry

MODIFIED TCU that manages communication and
caches/applies firmware updates to other
electronics in the vehicle. Includes gateway
functions, firewall and IDS

TERRESTRIAL WIRELESS NETWORK
**LTE small-cell underlay where deployed in
urban areas:** Delivers carrier-class private or
enterprise LTE services and leverages LAA for
increased throughput

BENEFITS

- Global broadcast services deliver common content to
  multiple users with unlimited scalability (10s to 100s of millions).
- Intelligent routing over satellite and terrestrial wireless
  networks selects best option based on application, least cost
  delivery, QoS and / or availability.
- Existing S- and L-band satellite technology supports antenna
  that fits within an existing 'shark fin' or can be embedded in the
  roof of a vehicle.
- S- and L-band satellite connectivity is easily integrated into an existing
  TCU, head unit or communications module.
- Improved OEM ROI:
  - Operational and cost efficiencies from automating updates and
    reducing recalls.
  - Improved customer retention and increased revenue from new services.

TECHNICAL INFORMATION

- S- and L-band satellites provide global broadcast and messaging
  capabilities to very small, embedded, low power terminals.
- Satellite communications module for receiving broadcast data and sending
  acknowledgments could be delivered by Globalstar as a chipset and
  software library.
- Low cost S- and L-band antenna can be built in production volumes by
  OEM and Tier 1s to Globalstar's specifications.
- Multiple deployment and interface options for Tier 1s and OEMs.

DELIVERED THROUGH AUTOMOTIVE ECOSYSTEM

Solution leverages capabilities
of partners working across the
value chain.

Globalstar: Next generation
satellite communications

Automotive Ecosystem: OEMs,
Tier 1 Suppliers, Platform
Providers, and Network Operators

www.Globalstar.com/automotive

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