Elektrobit

ENABLE SHORT UPDATE CYCLES

2017
19.4
million units

2023
145.8
million units
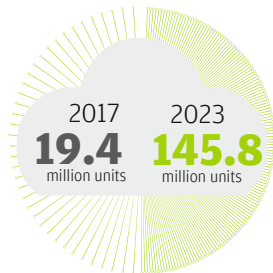
Number of cars connected to a cloud server

MITIGATE SOFTWARE RELATED RECALLS

1999
→ 0,05 %

2017
→ **89 %**

Rate of software related recalls

ENTER NEW BUSINESS

< 35 %

$

> 65 %

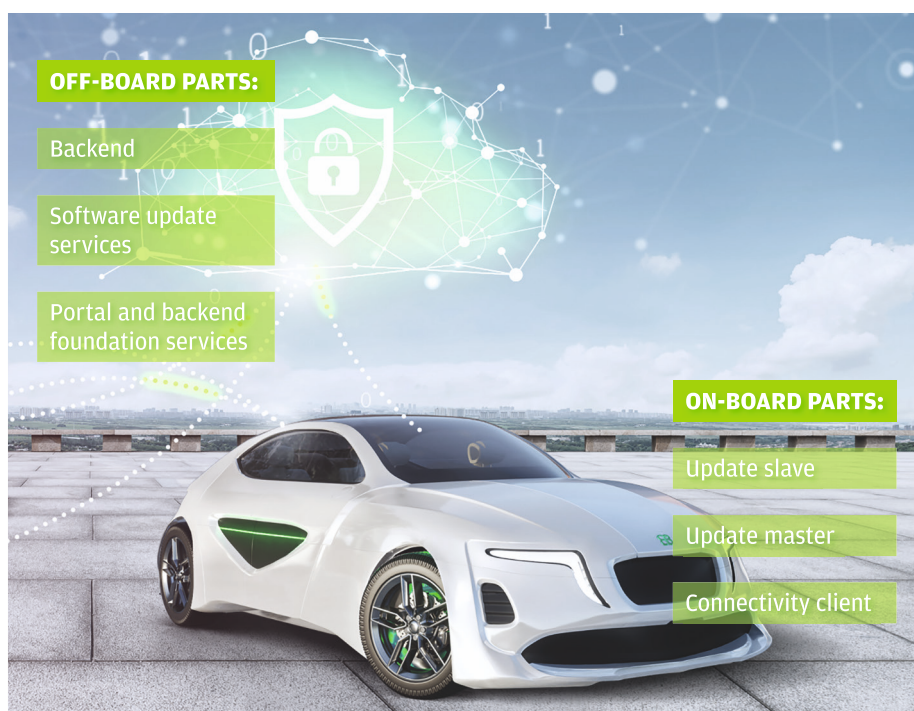Percentage of people who are willing to pay for new features if they enhance their vehicle

Source: IHS Markit

OEMs need to continuously improve car functions and react fast on security issues. That requires short update cycles which can be achieved through software updates over the air (OTA).

EB cadian Sync – Secure software updates over the air

Elektrobit has developed EB cadian Sync, a reliable, scalable, flexible, and secure toolchain for software updates over the air. It enables OEMs to perform firmware updates on ECUs and supports various operating systems such as AUTOSAR, Adaptive AUTOSAR, Linux, or QNX. Software updates for applications that run on ECUs or on a hypervisor in virtualized environments are also enabled.
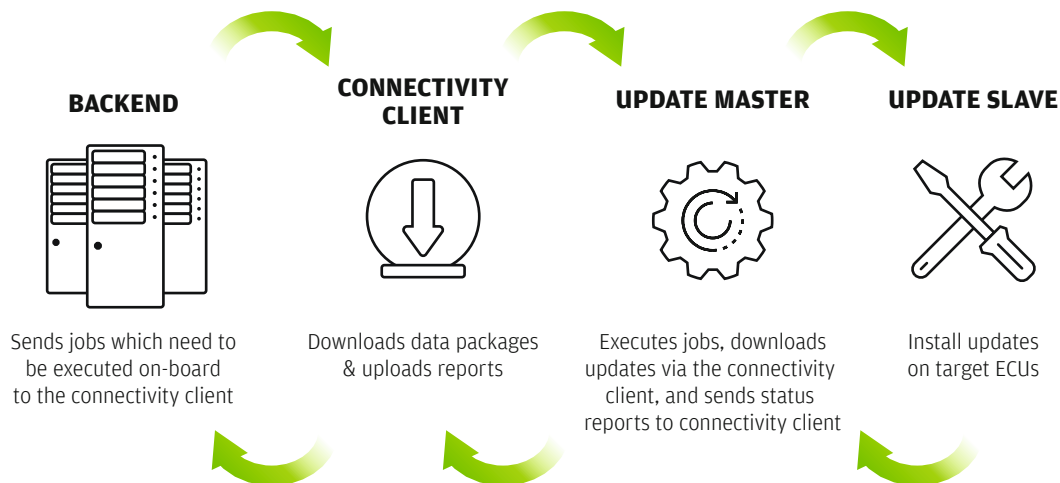
EB's decade-long experience in AUTOSAR, automotive security, backend operations, and vehicle diagnostics are the cornerstones of this solution.

OFF-BOARD PARTS:

Backend

Software update services

Portal and backend foundation services

ON-BOARD PARTS:

Update slave

Update master

Connectivity client

MORE THAN A DISTRIBUTION PLATFORM

EB's backend is a **service platform**. The scalable, modular, and agnostic solution includes software version management, campaign management for defining and processing update campaigns as well as fleet management for managing the targeted vehicles. The backend also provides interfaces for third-party software, e.g. to directly feed software updates into the system for distribution to the vehicle fleet. EB's backend can be optionally extended by additional services such as EB cadian Analytics for remote diagnostics or EB security products.

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EB cadian Sync - The update process

BACKEND

Sends jobs which need to be executed on-board to the connectivity client

CONNECTIVITY CLIENT

Downloads data packages & uploads reports

UPDATE MASTER

Executes jobs, downloads updates via the connectivity client, and sends status reports to connectivity client

UPDATE SLAVE

Install updates on target ECUs

Features:

- Ready-to-use software distribution platform
- Platform-independent, modular, on-board components for over-the-air software updates
- Standard diagnostic protocols for updates
- Scalable backend

- Secure end-to-end communication and data storage
- Differential updates and data compression
- Ad-hoc updates upon request
- User interface (UI) for vehicle, campaign, and software management

Benefits:

- Add new functions to vehicles on the road as an additional source of revenue
- Save warranty costs by mitigating the impact of software-related recalls and security issues
- Increase drivers' trust due to reliable data protection
- Flexible deployment of on-board software components

A PROACTIVE APPROACH TO CYBER SECURITY

In the area of security, EB is partnered with ARGUS to prevent cyberattacks in vehicles. By joining forces, we make it easier for car manufacturers to take a proactive approach to cyber security.

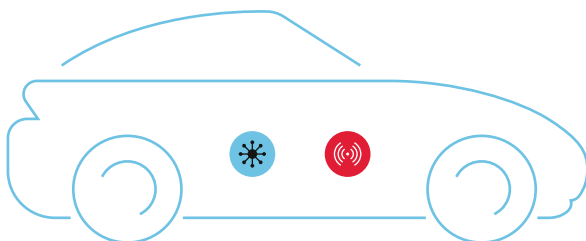## ARGUS cyber security offering

Stand alone in-vehicle solutions

In-Vehicle Network Protection

Prevents, detects, and responds to attacks on the in-vehicle network by monitoring network communication from a central location.

Connected ECU Protection

Prevents, detects, and responds to attacks on all connected and high-performance ECUs.

Out-of-vehicle solutions

Fleet Protection

Provides situational awareness of the cyber health of the fleet and the ability to secure vehicles throughout their lifespan through analytics, forensics and software updates over-the-air (OTA). Works with Argus in-vehicle solutions and stand alone.

Professional Services

Expert automotive cyber security team provides threat analysis and risk assessment, vulnerability analysis, penetration testing & more.

End-to-end modular offering based on over 50 granted and pending automotive cyber security patents supporting all vehicle components.

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