



TechTalk **CLOUD SOLUTIONS & SECURITY**

Cloud Solutions and Security

Agenda



Welcome

10:05
am

The car as part of the IoT – Implications for the automotive industry
Dr. Wolfgang Bernhart, Global Co-Head Advanced Technology Center, Roland Berger

10:30
am

Unlocking automotive transformation with Amazon Web Services
Jon Allen, Director, Automotive Professional Services, AWS

10:55
am

IoT Ecosystem Architecture Transformation
Michael Hülsewies, Senior Vice President Architecture & Software, Continental

11:20
am

Security for Automotive Ecosystems
Dr. Mathias Dehm, Cyber Security Expert, Continental

Closing



“The Car as part of the IoT – Implications for the Automotive Industry”

Dr. Wolfgang Bernhart, Roland Berger

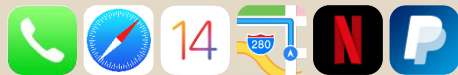
As cars become software-enabled, cloud-connected data devices, digital services are expected to become new revenue streams also for Automotive players

Applying the idea of connected devices to Automotive

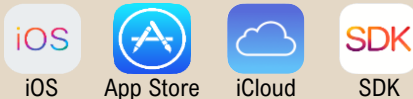
Smartphone architecture



Apps



Software platform and tools



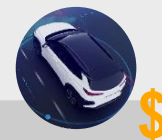
Device hardware

HMI/sensors



- > **Monetization of SaaS, 3rd party applications and user data**
- > **Core functionality provided as application or service**, based on a device-cloud software platform and respective tools
- > **Decoupled hardware and software life cycles**
 - **Forward compatibility of hardware** to enable future SW upgrades
 - **Backward compatibility of SW** to utilize HW over (long) lifetime

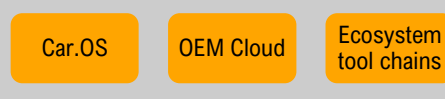
Vehicle architecture



Features & services

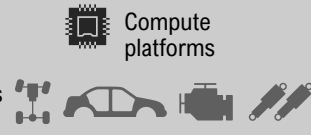


Software platform and tools



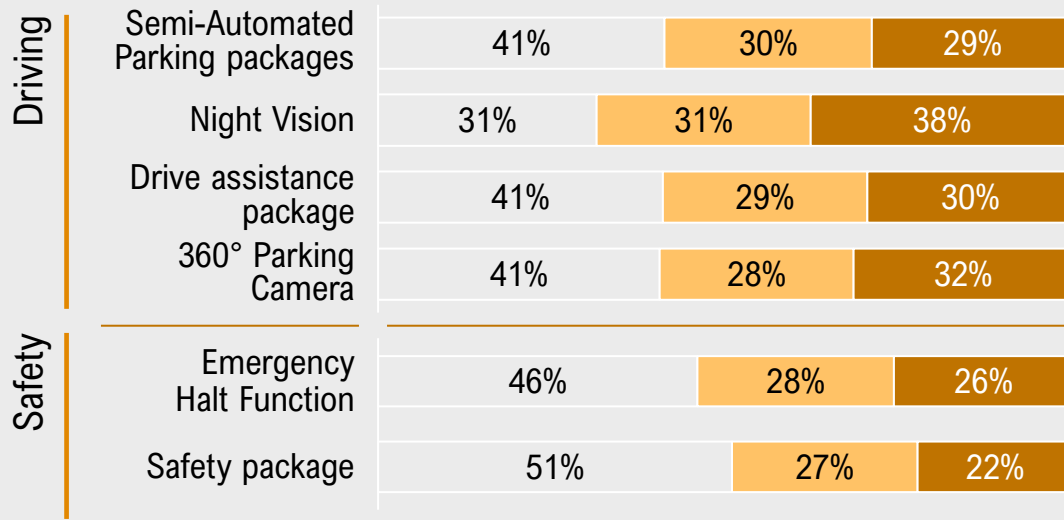
Device hardware

HMI/sensors & Actuators



Subscription-based payment schemes seem to be accepted by customers - about 60% of people globally are ready to buy features "on demand"

Customer acceptance for subscription-based digital services – example ADAS features



> Overall, no clear preference for monthly subscription or "pay per use"

> Higher preference for pay per use schemes in rural areas and among older populations

> Safety packages seem to be preferred upfront

Upfront
 Monthly subscription
 Pay per use

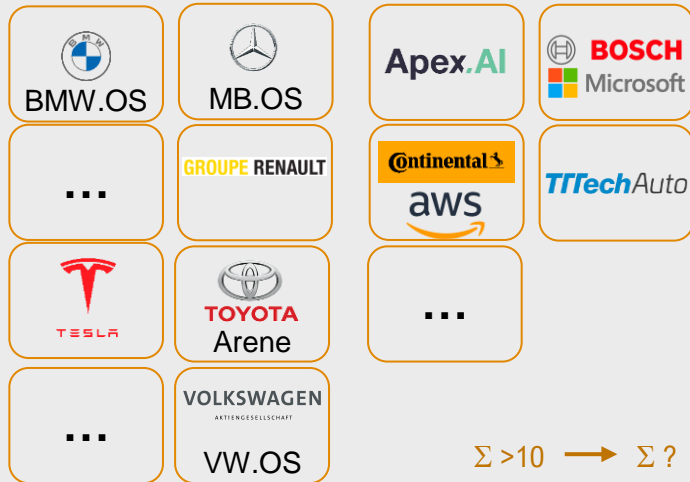
Source: RB online survey January 2021: 18,250 participants from 18 countries – www.automotive-disruption-radar.com

The software platform is the basis for digital services – for mobile devices, only two platforms / ecosystems remained

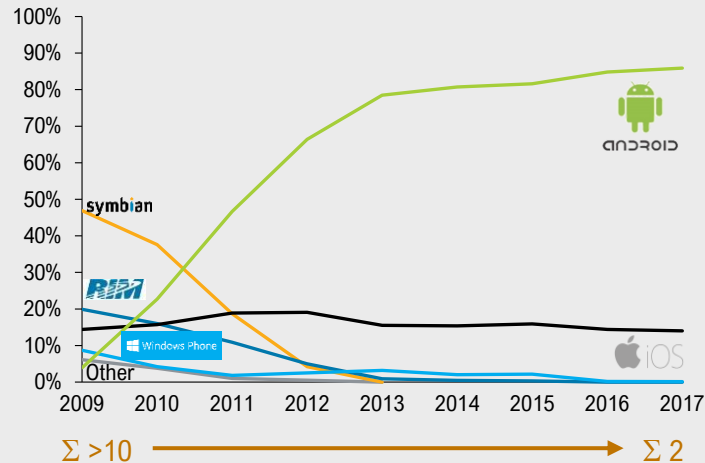
Automotive software platform developments - Mobile device software platform development

Automotive OEMs

Suppliers



Smartphone OS market shares



Drivers of consolidation :

- Development tools for 3rd parties
- Large developer ecosystem
- Open source model for usage of base SW platform

Common SW platforms will still allow for functional differentiation via "SW-only" or via "SW with OEM-specific HW"

Differentiating vs non-differentiating software

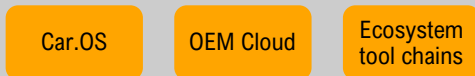
Vehicle
architecture



Features & services



Software platform and tools



Device hardware



Compute
platforms

HMI/sensors
& Actuators



Differentiating software

- > **Unique functionality** for specific OEMs, models, regions, customer groups, etc.
- > **OEM needs: Economies of scope** to provide best support/expertise

Non-differentiating software

- > **Common functionality** required of all vehicles regardless of brand, OEM, trim level, etc.
- > **OEM needs: Economies of scale** for most competitive cost position

(Selected) Differentiating hardware: "unique" (incl SW)

Non-differentiating hardware: "standardized", high volume

Speed is crucial - new or updated features and services need to be realized within days/weeks, not months/years

Requirements of customers and OEMs

What end customers want

Differentiating customer features...



I want to be excited and WOWed!

I have a joyful and smooth riding experience



I always receive the newest functions over-the-air



I can easily upgrade my vehicle computers



I engage in side activities while my car is driving and parking



I get personalized content/ services as anticipated by my AI assistant



I want an easy-to-use and intuitive interface



I share my data anonymously and safely to receive added values



I use most of my mobile device apps in my car without additional costs



What OEMs need

Motion
Brand-specific driving differentiation

SW updates
Brand-specific functions over lifecycle

HW upgrades
Meeting target costs of brands/OEMs

ADAS/ ADAP
Minimized L3+ costs with maximized re-use

Intelligent cockpit
Different UX/UI concepts with brand-differentiating attributes

HMI

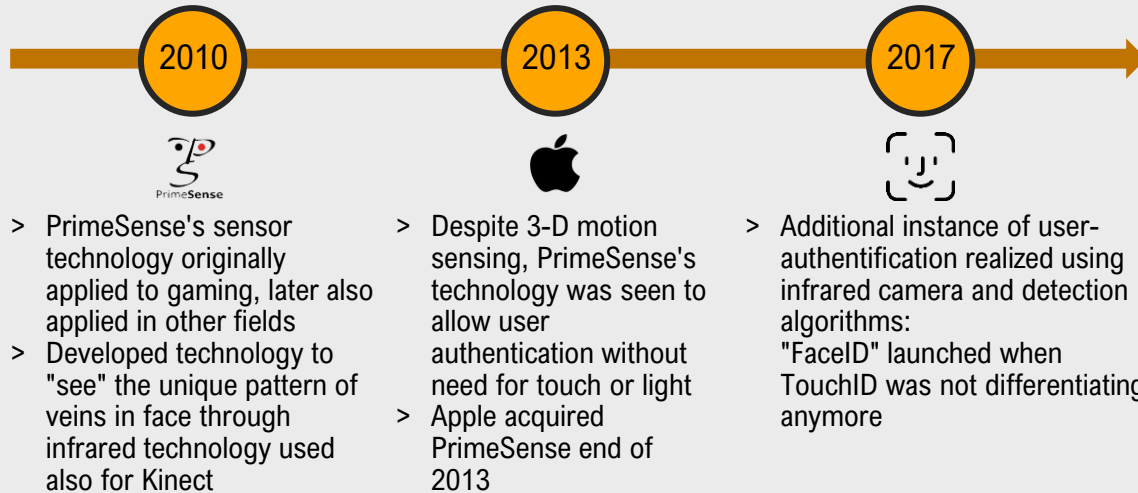
Data
Feedback to optimize customer offerings

Ecosystem
Ability to monetize data and services (B2C and B2B)

.. deployed within days/weeks, not months/years – leveraging automated SW-SW-/SW-HW-Integration

"WOW" features/functions often also include hardware, and require to be integrated in the software platform

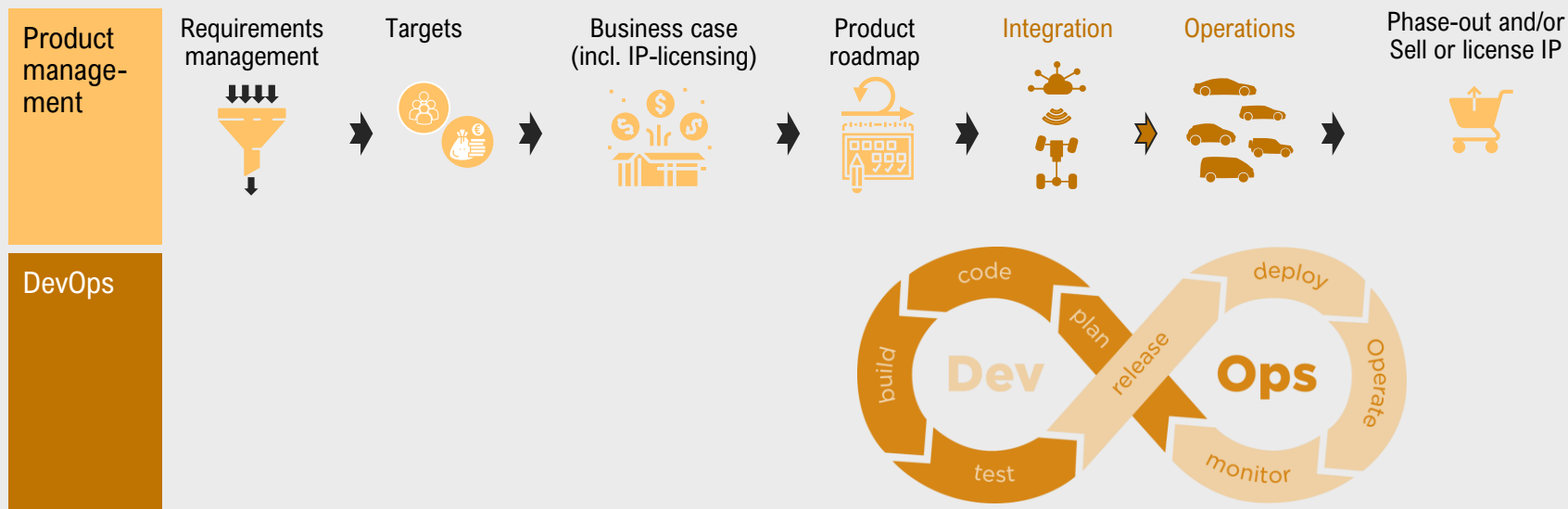
Example Apple: "Face-ID"-Technology and learnings for Automotive



- Customers will not ask for "WOW" features – **"Technology push" becomes more important than "Customer pull"**
- SW-platform needs to include **vehicle hardware abstraction layer** and **allow to automate hardware-independent integration processes**
- Whether a **function** is **differentiating is not static, but dynamic** over time

Continuous SW product and IP management is required to ensure management of differentiating functions and monetization of non-differentiating ones

Product management and DevOps

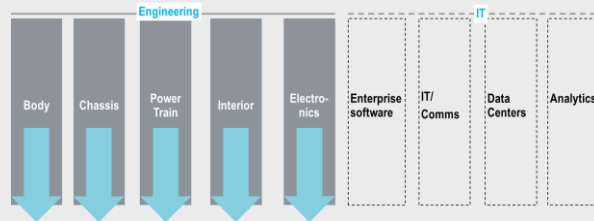


The biggest hurdle for the industry is probably not the technology – but the organizational transformation

From a hardware-centric to a software-centric organization

Conventional model:

Organization and vehicle design around hardware verticals and components



- > Organizational structures along components: Technical "tunnel vision" or "silo thinking"
- > Risk of losing customer-orientation in terms of functionality / customer value add
- > Vehicle based budgets, sometimes for modular kits (vehicle hardware), software budgeted for specific vehicles/ platforms



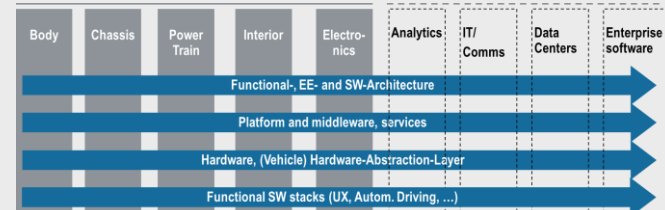
"Organizations which design systems ... are constrained to produce designs which are copies of the communication structures of these organizations."



Melvin Conway,
Computer scientist, 1967

Functional orientation:

Abstraction of vehicle on functional level in horizontal organization



- > **Organization** needs to **reflect architecture and functions**
- > **Centralized responsibility** for **platform** and **tool chain**, **End2End DevOps responsibility** for **customer features & services**
- > **Budgeting** of central controllers, platform software and SW stacks, software upgrades and updates after SOP **independent from vehicle projects**

QUESTIONS?





Continental AWS TechTalk

Unlocking Automotive Transformation

Jon Allen

Director, Automotive Professional Services, AWS



Agenda

Welcome

AWS in Automotive

AWS Business Outcomes

Amazon Web Services

› The world's premier public cloud

Largest global scale

- 15+** Years as world's first, most comprehensive, & broadly adopted cloud platform
- 216** Points of presence in 84 cities across 42 countries to scale connected vehicle and digital applications globally
- 1M+** Active customers, per month, the most of any cloud provider
- 90%** of Fortune 100 companies utilize AWS Partner Network (APN)

Highest security

-  AWS was designed to meet the most stringent security requirements for the world's most risk sensitive organizations
- 203** Security, compliance, and governance services—the most of any cloud provider
-  AWS supports the most security standards and compliance for virtually every regulatory agency around the globe
-  AWS customers retain complete ownership and control of their data and brand experience

Relentless innovation

- 200** Services to support any automotive workload, such as ML, IoT and edge computing, data lakes, security, etc. The most service, by far
- 200+** AI/ML features and capabilities, with 10,000+ customers are using AWS machine learning to reimaging customer experiences
- 90%** of AWS innovation comes from what our customers ask for

“ Most mature, enterprise-ready provider, with the strongest track record of customer success and the most useful partner ecosystem.”

Gartner, 2019

\$59B run rate, 37% YoY growth



The automotive value chain

› Data Silos are slowing down innovation



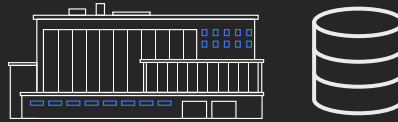
Product design and innovation

Accelerate development of Connected, Electric & Autonomous Vehicles



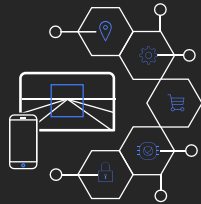
Manufacturing & supply chain

Optimize manufacturing and logistics operations, match supply & demand



Sales and marketing

Immerse customers with data driven shopping and retail experiences



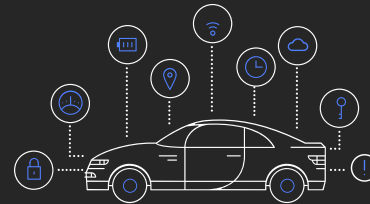
End customer services and apps

Develop innovative applications and new mobility business models



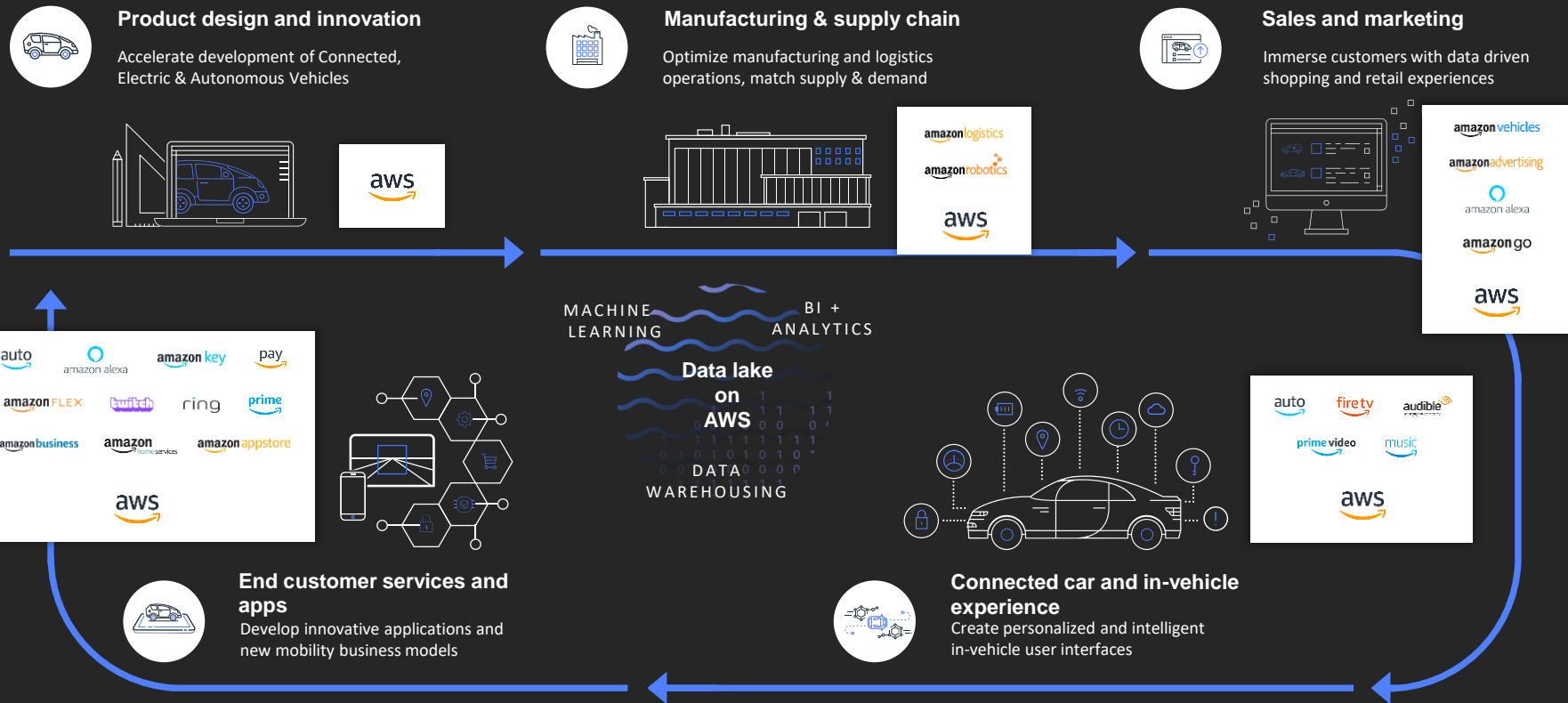
Connected car and in-vehicle experience

Create personalized and intelligent in-vehicle user interfaces



The future automotive value chain

› Data driven innovation



Amazon Web Services

› At the forefront of automotive innovation

Select AWS Automotive customers

OEM's

VOLKSWAGEN
GROUP

BMW
GROUP



Tiered
Suppliers



Mobility
Providers



Auto Tech



AWS Automotive business outcomes

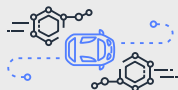
› The business benefits you can expect



**Manufacturing
& supply chain**

VOLKSWAGEN
GROUP

Connecting
122 factories
and
1,500 suppliers



**Connected car,
in-vehicle
experience**

BMW
GROUP

Scaling solution
up or down by
**2 orders
of magnitude**



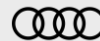
**Product design
and innovation**

Continental

Simulating **1M KM**
of driving miles
enabling the
future of ADAS



**Sales and
marketing**



+66% user
engagement
+10% online
conversion



**End customer
services and apps**

lyft

Saves up to
75% per month
for
testing
processes



TechShow Around the World
Public





VOLKSWAGEN GROUP

Optimizing global production and logistics operations

“ The Volkswagen Group, with its global expertise in automobile production, and AWS, with its technological know-how, complement each other extraordinarily well. With our global industry platform we want to create a growing industrial ecosystem with transparency and efficiency bringing benefits to all concerned.”

Oliver Blume, Member of Board of Management of Volkswagen Aktiengesellschaft responsible for ‘Production’





Manufacturing & supply chain

Increase uptime with predictive maintenance

Improve shop floor automation with edge computing to increase operational effectiveness

Connect machines, systems, plants and suppliers securely using AWS IoT and data lakes

Synchronize supply and demand signals using analytics and machine learning

Globally scale operations across manufacturing facilities and suppliers

Use connectivity, analytics and ML to optimize manufacturing and supply chain operations

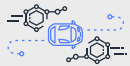


Select customers

VOLKSWAGEN
GROUP

WAISIN AW

JABIL



Connected car, in-vehicle experience

BMW GROUP

Create Innovative Connected Vehicle Experiences

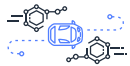
“ With AWS, we were able to create a cloud-native ecosystem with real-time access and advanced Machine Learning capabilities to power innovations for our customers and insights to create business value.”

VP Connected Vehicle, Digital Backend, Big Data, BMW Group



TechShow Around the World
Public





Connected car, in-vehicle experience

Actualize your data using advanced analytics to uncover insights

Monetize connected mobility services through secure data sharing

Store all structured and unstructured data as-is, at any scale

Deliver insights to the business that drive strategy decisions and business outcomes

Collaborate across business units, geographies and systems to create a single view of the customer

Unlock the power of your data to create business value



Select customers

**BMW
GROUP**

**VOLKSWAGEN
GROUP**





Create solution to develop, test and integrate automotive products and services at scale with the Continental Auto Edge Platform

“Software is at the forefront of innovation in cars”
Michael Hülsewies, Senior Vice President Architecture
& Software, Continental





Product Design and Innovation

Integrate tooling, data and processes, with sensors, to reduce turnaround times for software and hardware design and meet security and compliance requirements

Build new Conti solutions, test and deploy them in one solution stack and be able to manage and test them over years

Track & Store all designs, code, executed tests and delivered artifacts to provide consistent audit

Global Reach maintaining data collection and data generation in 3 regions to continuously optimize products and services

Collaborate & Experience orchestrate cross-organizational teams and increase developer productivity and experience. Easy onboarding with manufacturer's new series development

Integrate Software, Data & Processes; Provide great developer experience

Collect, Ingest or generate Data



Data Lake



Design & Develop



Process and Tool automation



Simulation & Training

Deploy to edge



KPI Reporting & Optimization

QUESTIONS?





IoT Ecosystem Architecture Transformation

Michael Hülsewies, SVP Architecture & Software, Continental AG

1

Changing Stakeholder Requirements

2

Business & Architecture Transformation

3

Continental Automotive Edge Platform

4

Development Kits & Use Cases

IoT Ecosystem Architecture Transformation

Changing Stakeholder Requirements



Addressing Stakeholder Needs

- › Continuous Evolution (Digital Lifecycle)
- › V2X & Cloud Integration
- › Time2Market
- › Integration of 3rd party SW
- › Safety, Security & Privacy



Impact to Architecture

- › Decoupling Hardware from Software & Services
- › Compute Centralization
- › Separate I/O from Compute
- › Cloud / IoT Integration
- › Platform & Interface Standardization



Drivers, Differentiators & Portfolio

- › Driven by customer experience
- › Software as main differentiator, innovation driver & asset
- › Ability to provide solutions and integrate across IoT stack
- › Scalable platforms and re-usable building blocks

IoT Ecosystem Architecture Transformation

Paradigm Shift in Multiple Dimensions



Dimension

Paradigm shift



Business

How we create value



Component Lifecycle
HW & function coupling
SW treated like HW

RFQ SOP EOP EOL



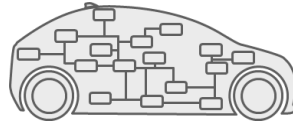
Digital Lifecycle
(HW / SW / Services until EOL)

RFQ SOP EOP EOL



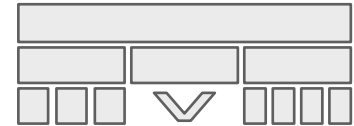
Architecture

How we structure HW & SW



Process / Organization

How we work & organize

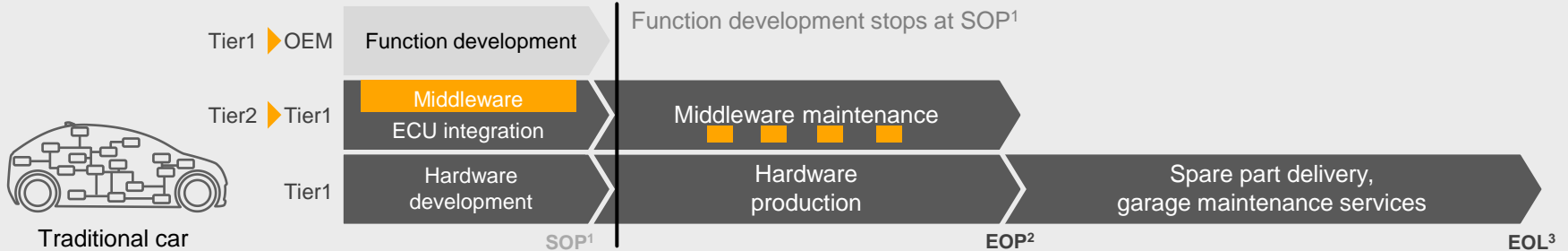


IoT Ecosystem Architecture Transformation

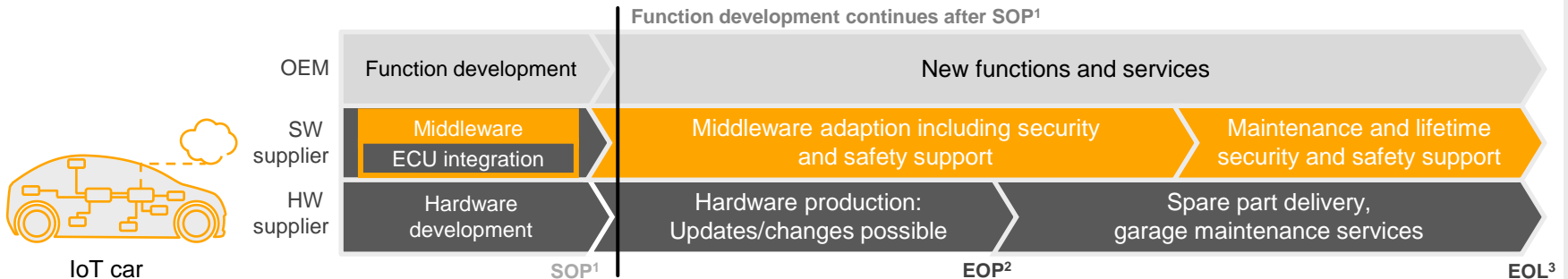
Trust-based Collaboration & Partnership Models



Hardware and function coupling – Software treated like hardware



Software-defined vehicle needs a software platform partner throughout vehicle lifecycle



¹ SOP: Start of production, ² EOP: End of production, ³ EOL: End of life

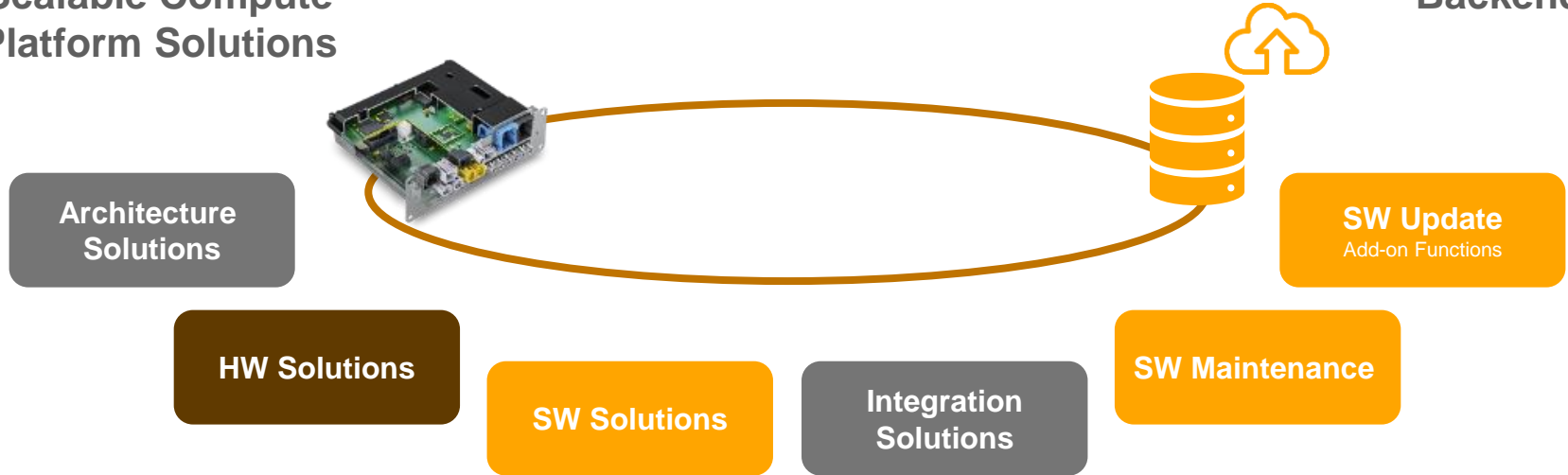
IoT Ecosystem Architecture Transformation

New Opportunities for **Value & Product Creation**



Scalable Compute
Platform Solutions

Backend



System solutions

HW Solutions

SW and Service Solutions

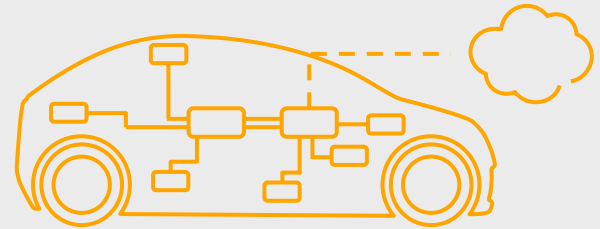
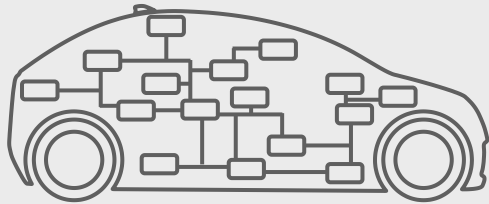
IoT Ecosystem Architecture Transformation

Scalable Compute Platforms – Enabler for Smart IoT Mobility

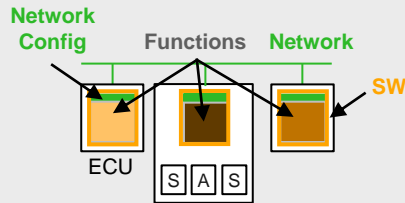


Up2now

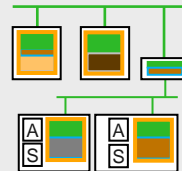
Going forward



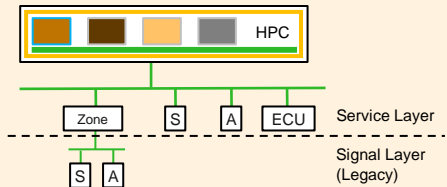
Distributed



Domain-Centralized



Scalable Compute Platform



ADAS

Safety & Motion

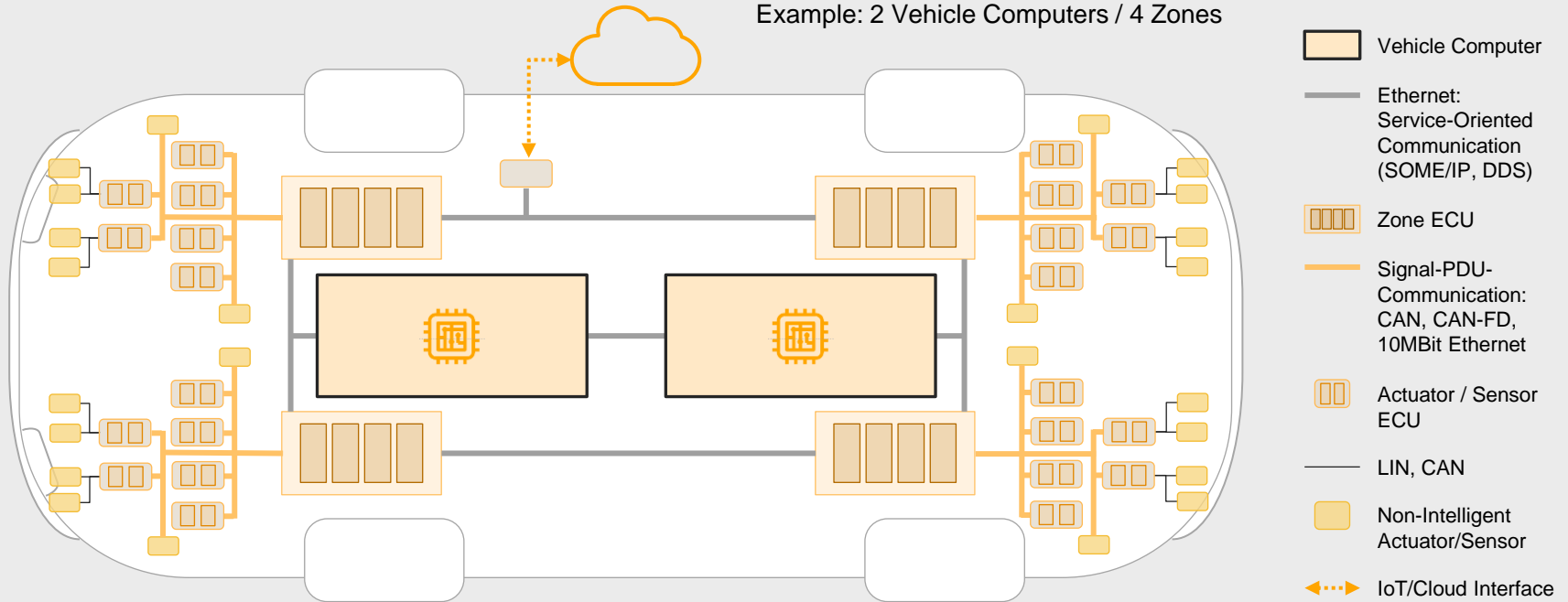
Cockpit

Body

IoT Ecosystem Architecture Transformation

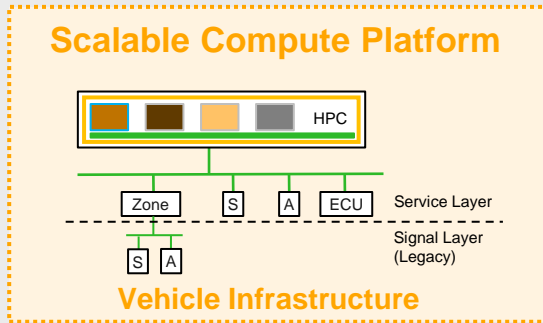
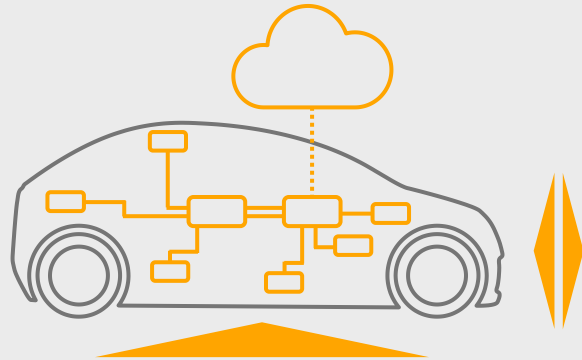
Server / Zone Architecture, Networking & Connectivity

Example: 2 Vehicle Computers / 4 Zones

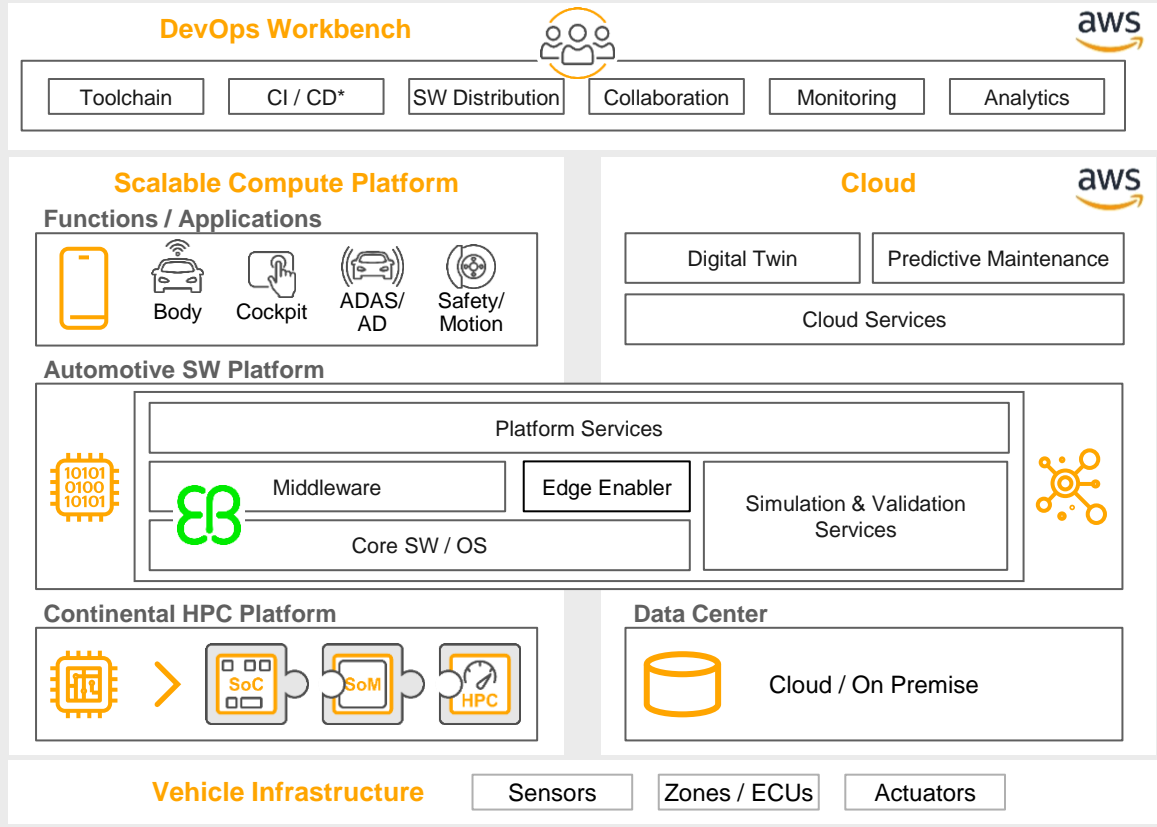


IoT Ecosystem Architecture Transformation

Continental Automotive Edge - Our Full-Stack IoT Architecture Solution

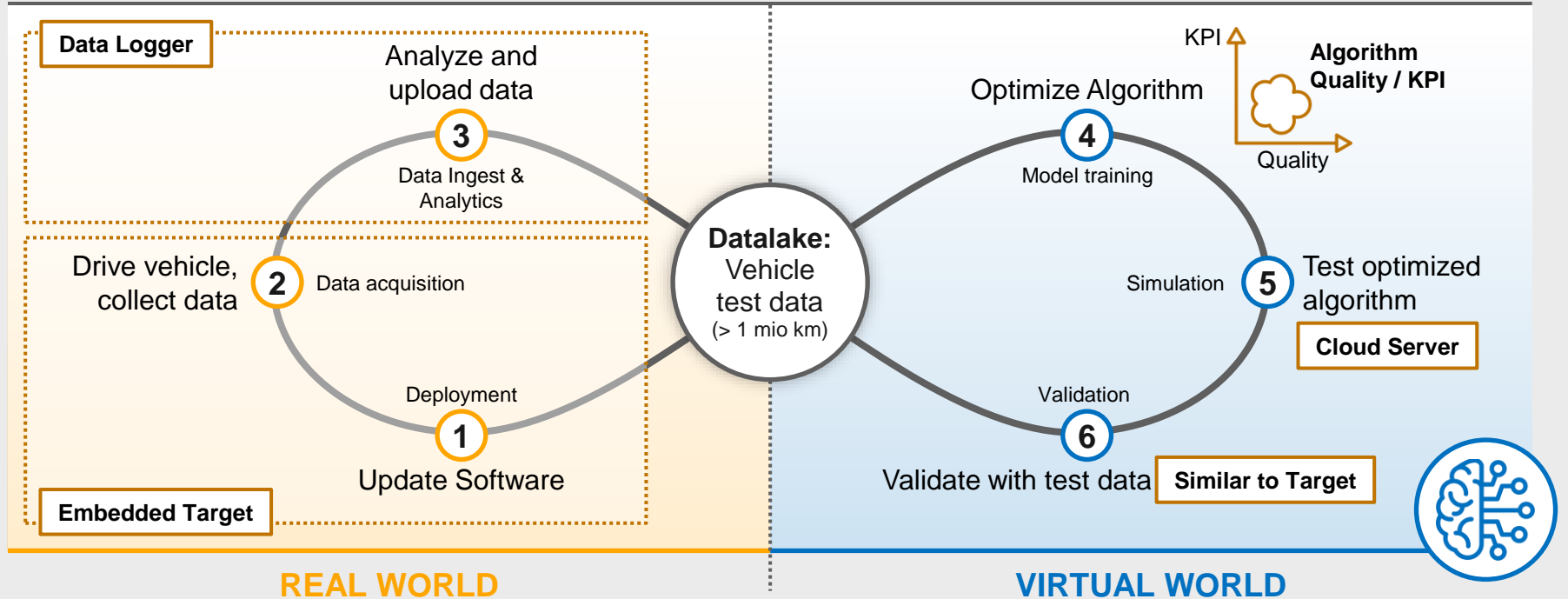


Note: Size of the boxes does not reflect the size or complexity of the software.



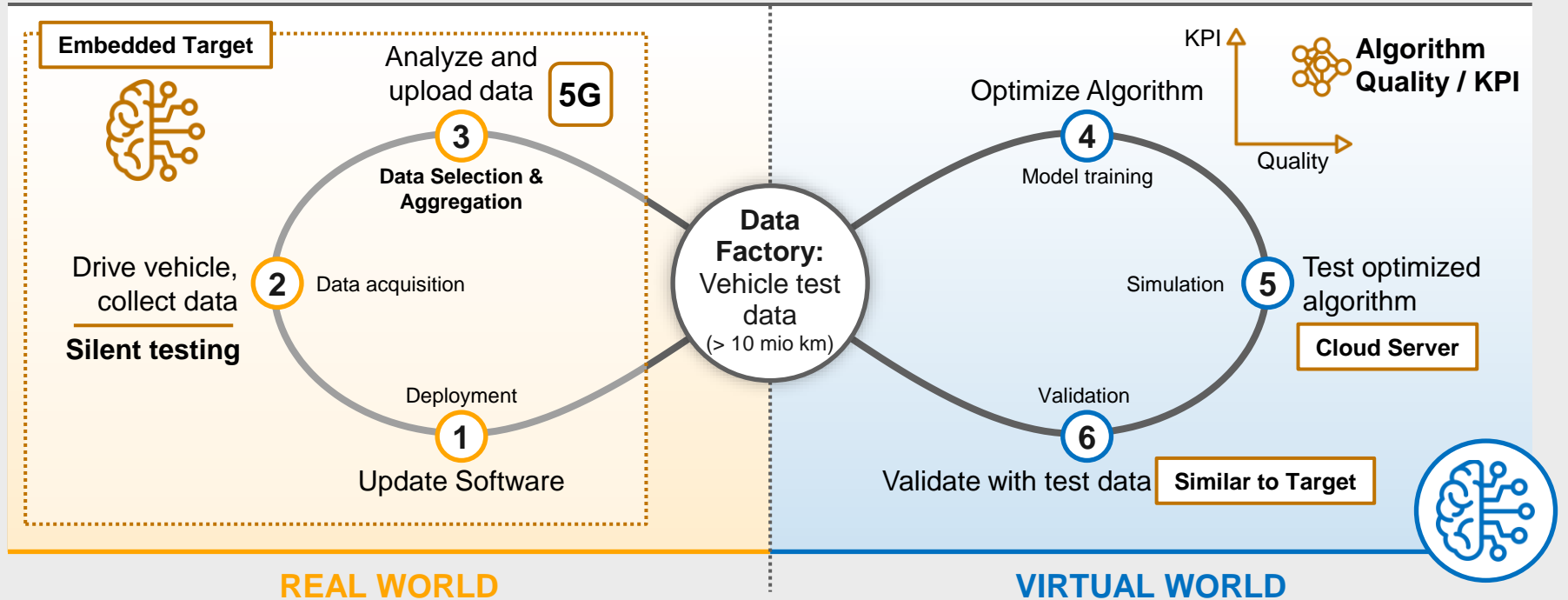
IoT Ecosystem Architecture Transformation

Use Case: **Validation of ADAS/AD Functions** (Field Op. Test)



IoT Ecosystem Architecture Transformation

Evolution Towards Data Driven Ecosystem



IoT Ecosystem Architecture Transformation

Development Kits – Enabling Efficient Product Development



- › **Harmonize** development and integration of distributed services & applications
- › **Provide** a platform solution, clear interfaces & development environment
- › **Enable** seamless development of service-oriented IoT ecosystem architectures

SCP = Scalable Compute Platform; ZCU = Zone Control Unit

IoT Ecosystem Architecture Transformation

Summary



Ecosystem Transformation is happening... Now!

- › **Stakeholder** requirements and **expectations** are **shifting**
- › Traditional **domain barriers dissolve**
- › Trust-based **Collaboration & Partnership** Models evolving
- › New **business models** and **value streams** establishing

Consequences to Architecture, Business & Processes

- › **Complexity** & functional growth **reaching its limits**
- › Need to **master the transformation** with a **holistic** approach...
...covering the **full** development and product **lifecycle**
- › Enabler of **Data Driven Ecosystem**
- › **Platform approach** to optimize re-use, time-2-market and cost
- › **Development kits** to support quick-start and “fail & learn fast”
- › Scaling Software **Skills & Competence**

QUESTIONS?



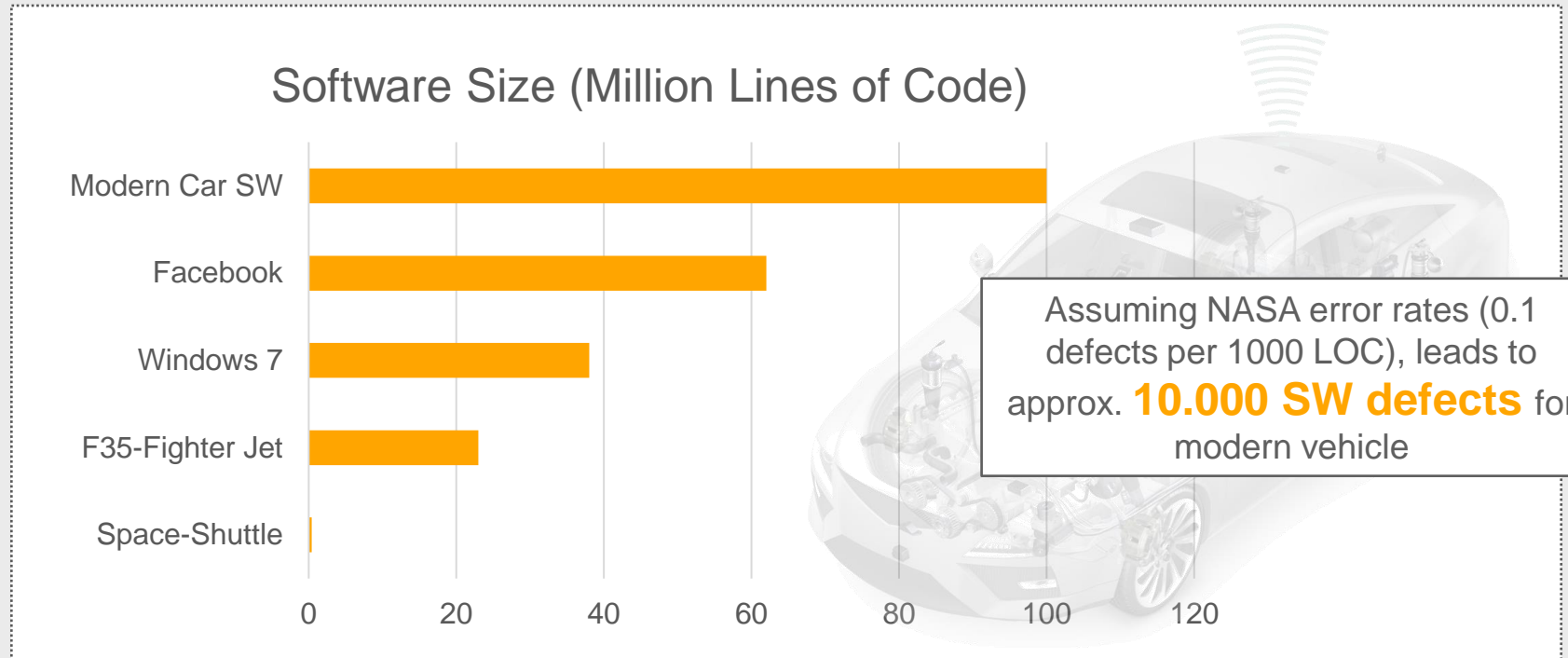


Security for Automotive Ecosystems

Mathias Dehm, Cyber Security Expert, Continental AG

Automotive Software

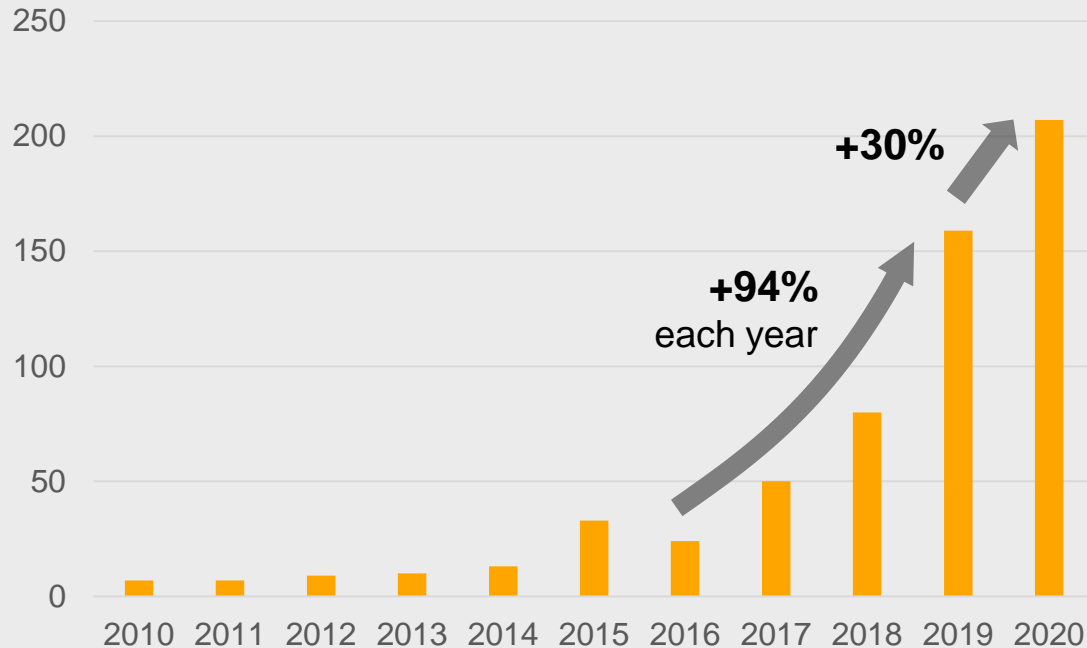
Lines of Code (LOC) in a Vehicle



Data source: <https://informationisbeautiful.net/visualizations/million-lines-of-code/>

Security Attacks on Automotive

Nearly doubled each year since 2016



- › **Cyber Security** incidents / attacks nearly doubled each year from 2016 - 2019
- › Increase in **Black Hat Hackers**
 - 49% Black Hat,
 - 46% White Hat,
 - 5% other hackers
- › ~80% of all attacks were **remote** (short-range or long-range) between 2010 and 2020

Source: https://info.upstream.auto/hubfs/Security_Report/Security_Report_2020/Upstream%20Security-Global_Automotive_Cybersecurity_Report_2020.pdf

Prominent Attacks / Vulnerabilities Selection



Hackers Remotely Kill a Jeep on the Highway

<https://www.wired.com/2015/07/hackers-remotely-kill-jeep-highway/>
21.07.2015



Tesla App hacked Car Stolen

<https://promon.co/security-news/hacking-tesla-app-stolen-car/>
23.11.2016



Arbitrary Messages to Engine Control Unit by remote Attack

<https://www.cvedetails.com/cve/CVE-2018-9318>
31.05.2018



Vulnerabilities in Real-time Operating System: BlackBerry QNX

<https://us-cert.cisa.gov/ncas/alerts/aa21-229a>
17.08.2021

Holistic Concept

Security by design and privacy by default



UNECE R.155 & R.156 – Regulation on Cybersecurity & SW Update

- › **Two new regulations** enforce vehicle manufactures to establish a
 1. Cybersecurity Management System (CSMS) along the product lifecycle incl. the supply chain
 2. SW Update Management System (SUMS)
- › Regulation effective **07/2022 for new vehicle type in EU, Japan, Korea** – further may follow⁽¹⁾
- › ISO/SAE 21434 as CSMS reference implementation & ISO 24089 for SUMS

(1) China 1-3 years and US soon

Data Privacy Regulation

- › 66% of countries worldwide have a regulation about data protection and privacy legislation*

Overview

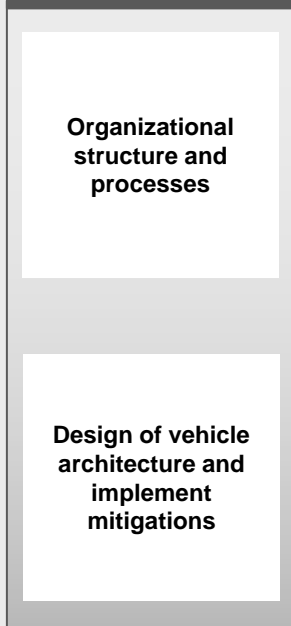
- › EU: EU General Data Protection Regulation
- › USA: hundreds of privacy and data security among its 50 states and territories e.g. California Consumer Privacy Act
- › China - e.g. PRC Cybersecurity Law
- › Russia – e.g. Data Protection Act

⇒ **Impact along the whole lifecycle of the product – from design, operation until disposal.**

UN Regulation on Type Approval

Requirements on CSMS and Vehicle Type

Goals



UN Regulation on Cybersecurity



- › Processes for Development, Production and Operations
- › Risk Management
- › Sufficient Resources and Staffing



...



- › Cyber-risk should be **EVALUATED, PRIORITIZED** and **TREATED throughout the value chain and lifecycle**
- › Implement appropriate cyber security measures
- › Need for **DETECTION, PREVENTION** and **RESPONSE** backed up by quick remediation cycles for new threats
- › Comprehensive list of Cybersecurity Threats and Mitigations to be considered

Our Combined Value

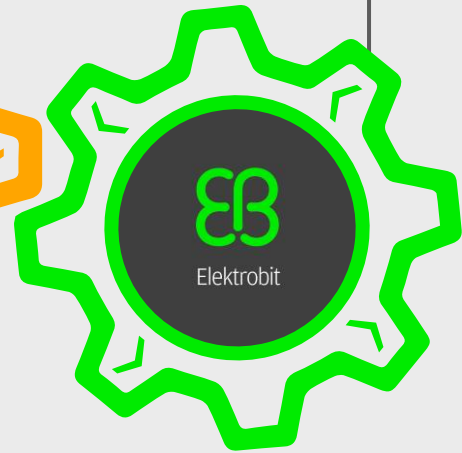
- › World Class Research Team
- › Holistic Security Offering



- › Leading Automotive Supplier with ~150 Years Automotive Experience
- › Advanced Cyber Security Research
- › Central product security team since more than a decade

Continental

- › Automotive security leader for more than 16 years
- › EB's software powers over 1 billion devices in 100+ million vehicles



A pre-integrated combination of Continental leading products, Argus cyber security, and EB automotive software!

Cyber Security & Privacy Philosophy



Prevent

Make it as hard as possible to attack / steal data



Governance

Processes, policies, rules, risk management

3 Pillars of End-to-End Security

Respond

Mitigate the damage and immunize the fleet in hours with software updates over-the-air or handle data breach



Detect

Know you are being hacked and how, in real time



Measures For Each Phase of the Lifecycle

Continuous processes along the vehicle lifetime



Development

Production

Post-Production

VEHICLE CYBER-RISK MANAGEMENT



ONGOING MONITORING, ANALYSIS



RESPONSE CAPABILITIES (e.g. SW UPDATE)



Continuous SW development & security monitoring throughout the vehicle lifetime

In-Vehicle Security

Scalable defense-in-depth



IVI



ADAS



Tachograph



Intelligent Antenna



Telematics

Connected Components



General ECUs



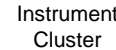
BCM



Gateways Domain Controllers



Switch



Instrument Cluster



HPC

Network



PREVENT

Secure Boot

System Limiter

ECU Firewall

Control Flow Integrity

Secure diagnostics

Identity & access mgmt

Cryptography & Post Quantum Crypto

Hardware security modules

CAN

CAN Firewall

Network Integrity

Secure Updates

Ethernet

Ethernet Firewall



DETECT & RESPOND

Threat Detection

Security Logger

Remote Diagnostics

CAN IDPS

OTA Updates

Ethernet IDPS

Board Technologies

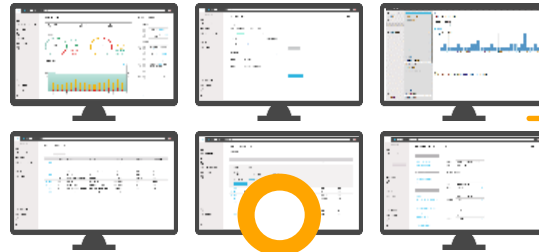
Insights from Big Data Analysis Engines



Cross Fleet Data & Remote
diagnostics



Additional Data
Sources



Vehicle Security Operations Center
(VSOC)

ARGUS
CYBER SECURITY



DETECT &
UNDERSTAND



- › Enable OTA Incident Response & Configuration Update
- › OTA Software Update

ARGUS
CYBER SECURITY

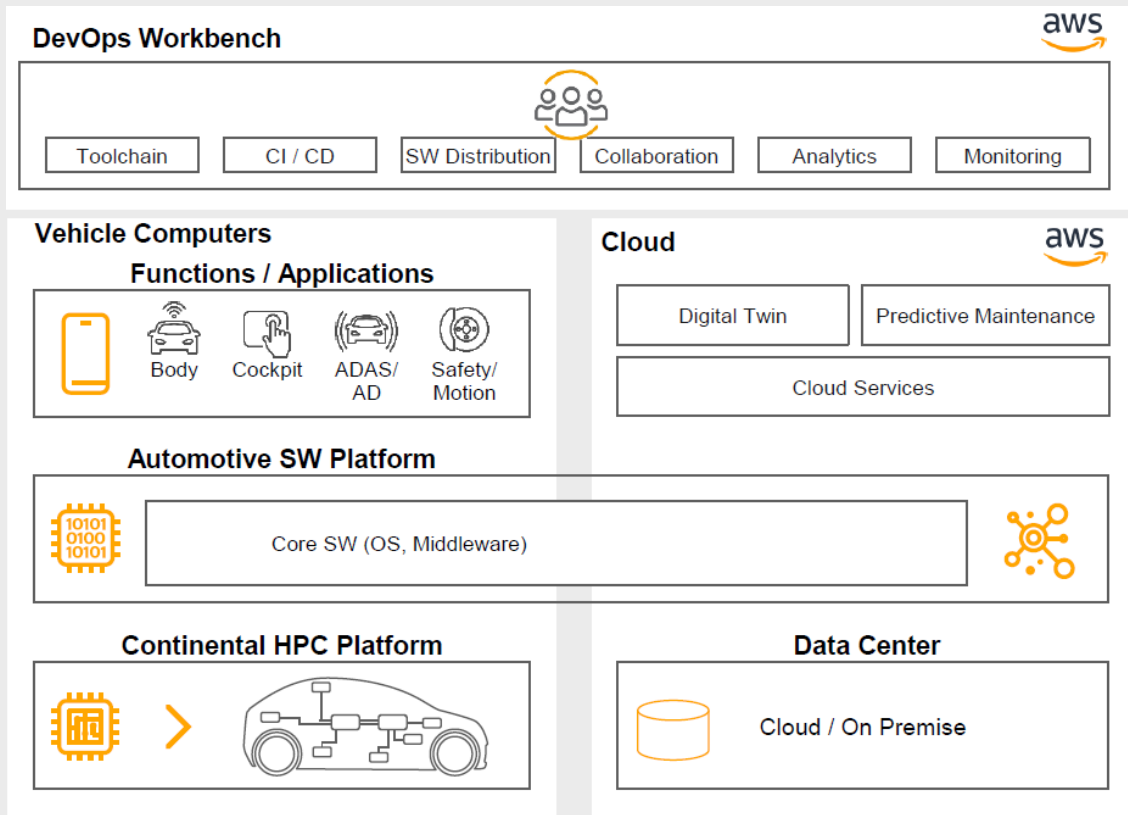
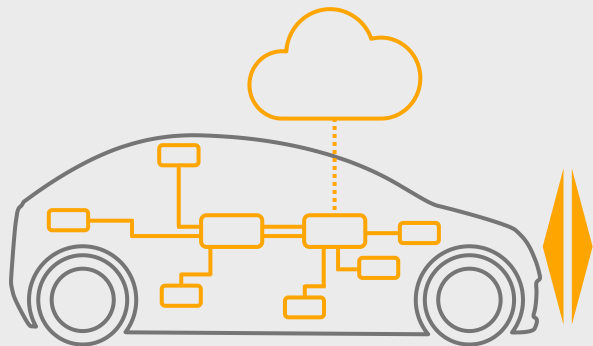


Elektrot



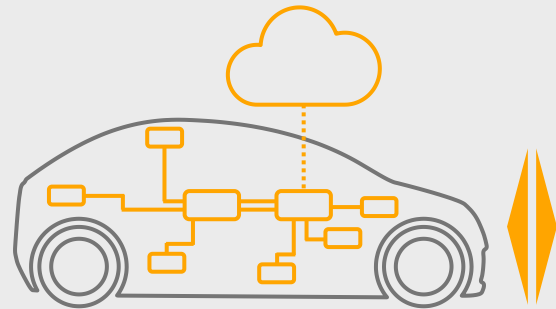
RESPOND

Continental Automotive Edge Platform Architecture



Continental Automotive Edge Platform

Selection of Security & Privacy Elements



DevOps Workbench



Vehicle Computers

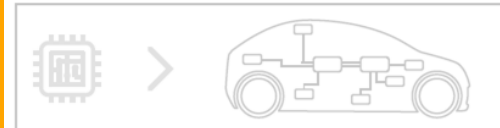
Functions / Applications



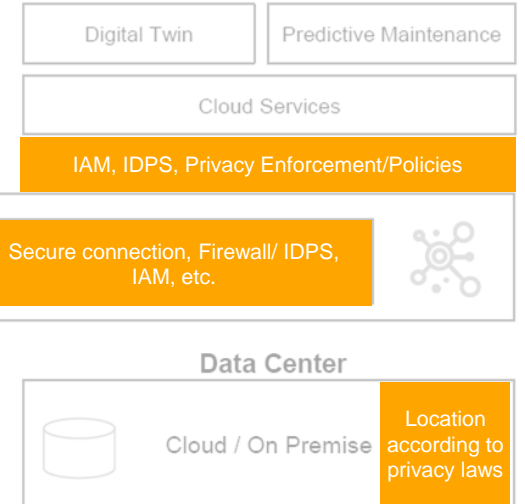
Automotive SW Platform



Continental HPC Platform



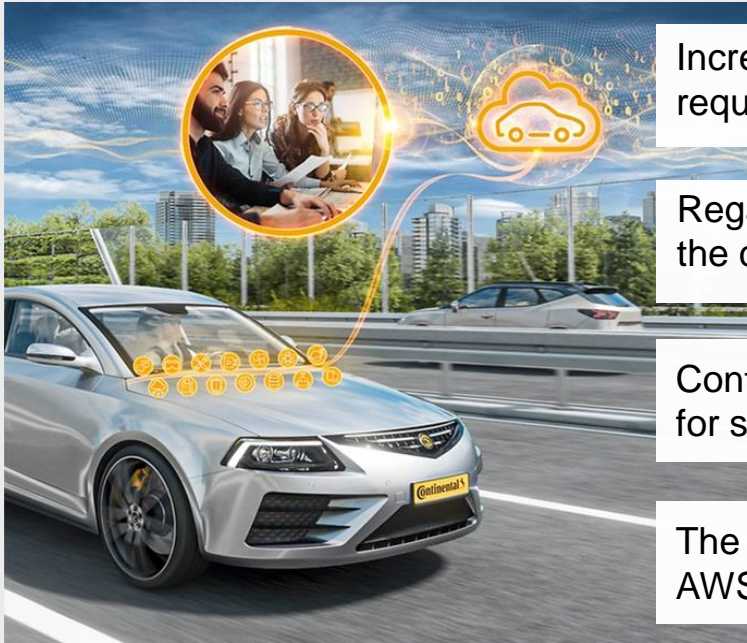
Cloud



Component Protection (Secure Boot, Auth. Messages, Privacy Agent, IDPS/Logging etc.)

Cloud Solution Protection (e.g. data at rest protection)

Take-Away Messages



Increasing attack surface & growing number of attacks requires **active measures**

Regardless of the regulations, **cyber security is a MUST** in the connected mobility world

Continental Automotive Edge Platform provides the environment for security by **design & privacy by default**

The **combination of Argus, EB & Continental** together with AWS offers SW, security, automotive, and cloud expertise

Continental is THE partner of choice for connected & SW defined vehicles due to our **comprehensive portfolio, holistic understanding & partnerships.**

QUESTIONS?



As cars become software-enabled, cloud-connected data devices, digital services are expected to become new revenue streams also for Automotive players

Applying the idea of connected devices to Automotive

Smartphone architecture

Apps



Software platform and tools



Device hardware

HMI/sensors



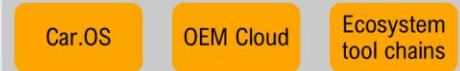
- > **Monetization of SaaS, 3rd party applications and user data**
- > **Core functionality provided as application or service**, based on a device-cloud software platform and respective tools
- > **Decoupled hardware and software life cycles**
 - **Forward compatibility of hardware** to enable future SW upgrades
 - **Backward compatibility of SW** to utilize HW over (long) lifetime

Vehicle architecture

Features & services

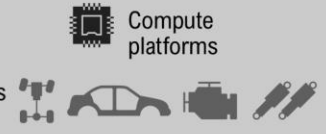


Software platform and tools



Device hardware

HMI/sensors & Actuators



AWS Automotive business outcomes

› The business benefits you can expect



**Manufacturing
& supply chain**

VOLKSWAGEN
GROUP

Connecting
122 factories
and
1,500 suppliers



**Connected car,
in-vehicle
experience**

BMW
GROUP

Scaling solution
up or down by
**2 orders
of magnitude**



**Product design
and innovation**

Continental

Simulating **1M KM**
of driving miles
enabling the
future of ADAS



**Sales and
marketing**



+66% user
engagement
+10% online
conversion



**End customer
services and apps**

lyft

Saves up to
75% per month
for
testing
processes

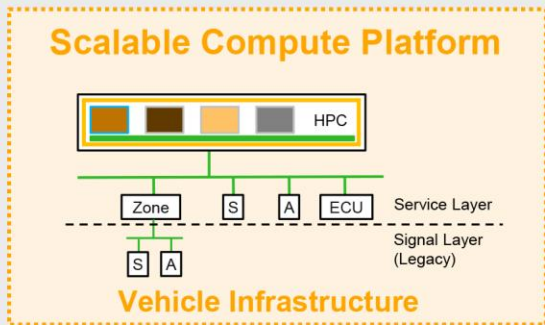
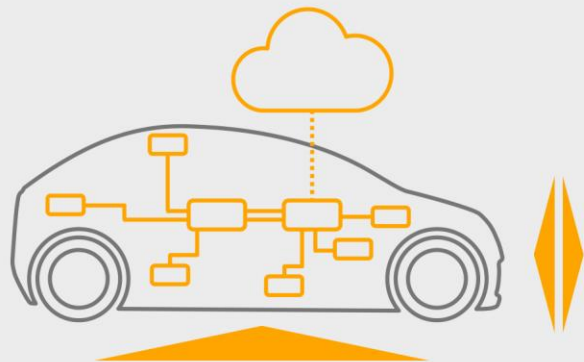


TechShow Around the World
Public

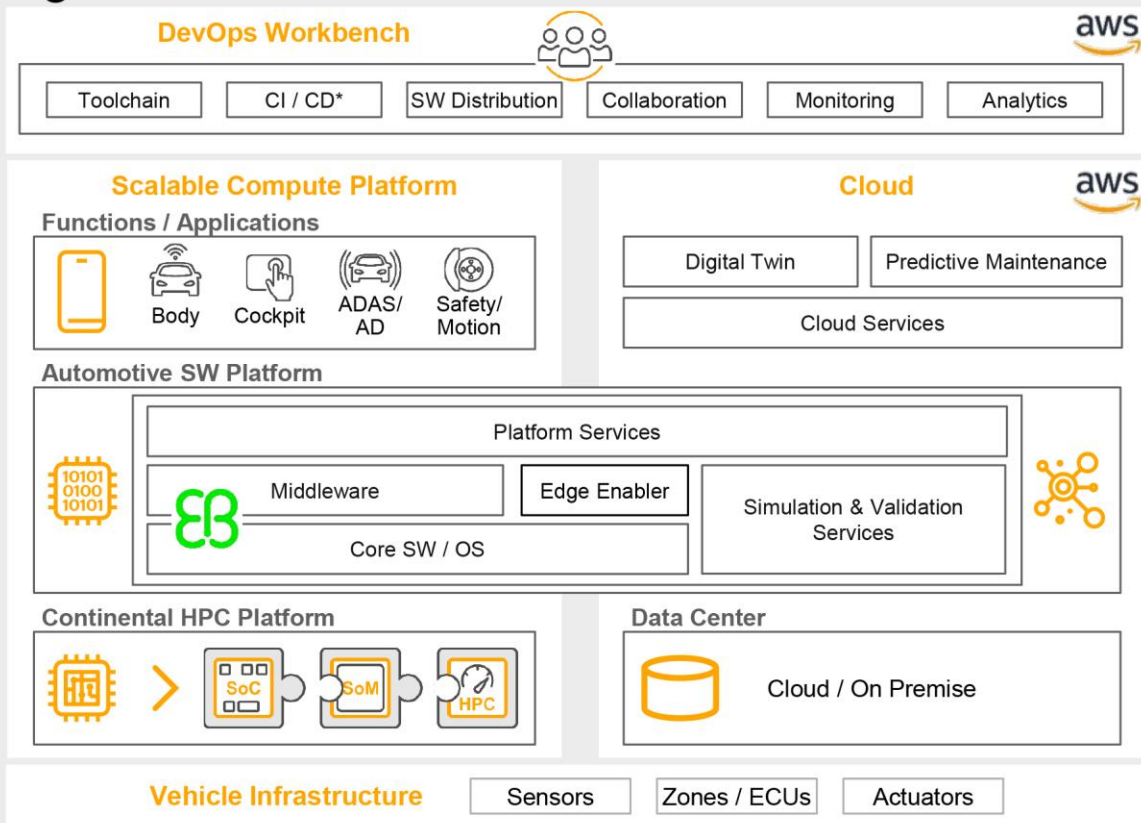


IoT Ecosystem Architecture Transformation

Continental Automotive Edge - Our Full-Stack IoT Architecture Solution



Note: Size of the boxes does not reflect the size or complexity of the software.



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Summary



As cars become software-enabled, cloud-connected data devices, digital services are expected to become new revenue streams also for Automotive players

Applying the idea of connected devices to the car



Smartphone architecture

Apps

Software platform and tools

Device hardware


Compatibility of hardware enable future SW upgrades

Backward compatibility of SW to utilize HW over (long) lifetime

Source: Roland Berger
TechShow Around the World

AWS Automotive business outcomes

The business benefits you can expect



Manufacturing & supply chain

Connected car in-vehicle experience

Sales and marketing

End customer services and apps

Connecting 122 factories and 1,500 suppliers

Scaling solution up or down by 2 orders of magnitude

+60% user engagement

+10% online conversion

Saves up to 75% per month for testing processes

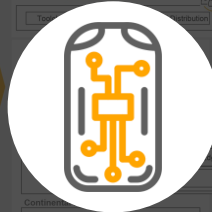
Continental

TechShow Around the World Public

aws automotive

IoT Ecosystem Architecture Transformation

Continental Automotive Edge - Our Full-Stack IoT Architecture Solution



DevOps Workbench

Cloud

Scalable Compute Platform

Vehicle Infrastructure

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TechShow Around the World

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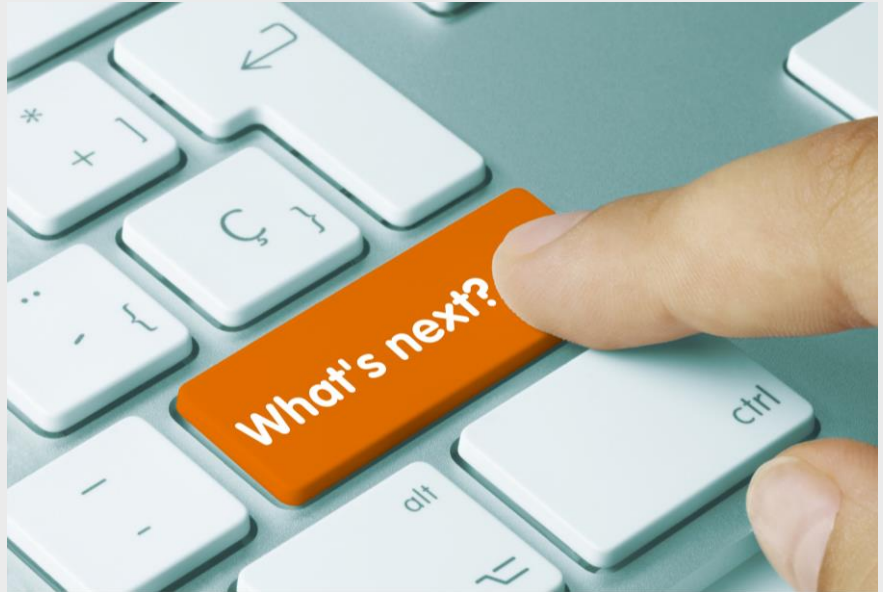
TechShow 2021

TechShow Around the World

Thank you and Good-bye



- › Materials & recording will be available on TechShow Website
- › Your feedback is highly welcome:
ilona.tzudnowski@continental-corporation.com
- › Stay tuned for our upcoming events:
 - › CVS TechTalk on Smart Mobility
October 22, 2021



THANK YOU!

Continental 