

# Software comes first – a software company's POV

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# Three major challenges for the industry to overcome

**01**

Technology evolution

**02**

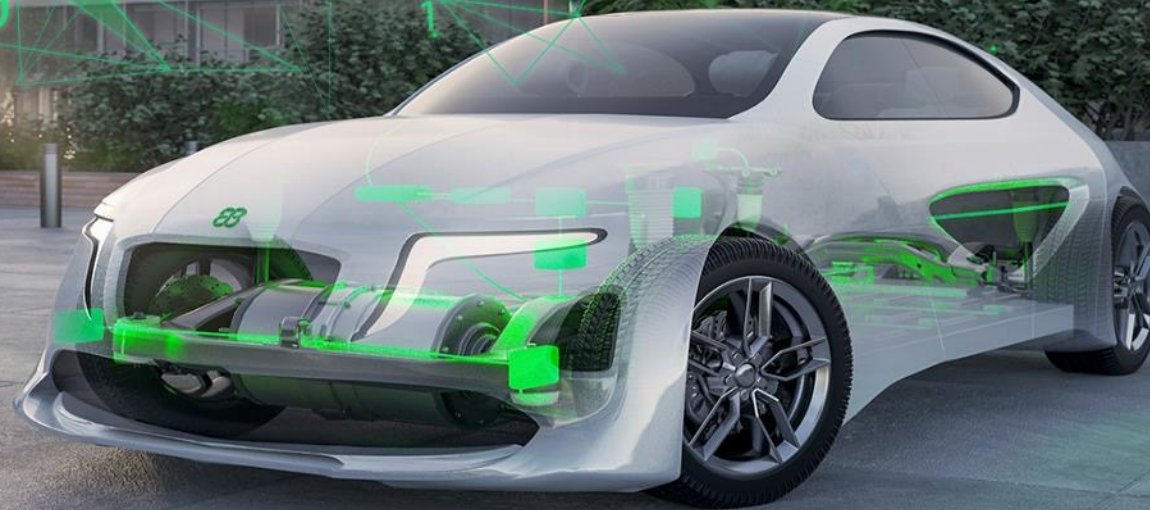
Competition for talent

**03**

Need for [dev] speed

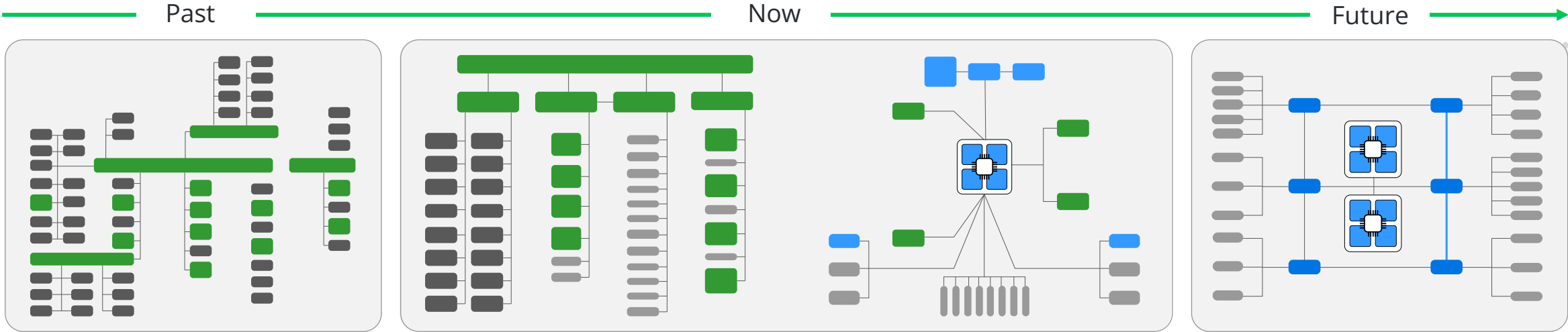


# Challenge: Technology evolution



# Fundamental shift – vehicle infrastructure architecture

Today: 100s of loosely connected ECUs      Future: coordinated, inter-connected domain controllers



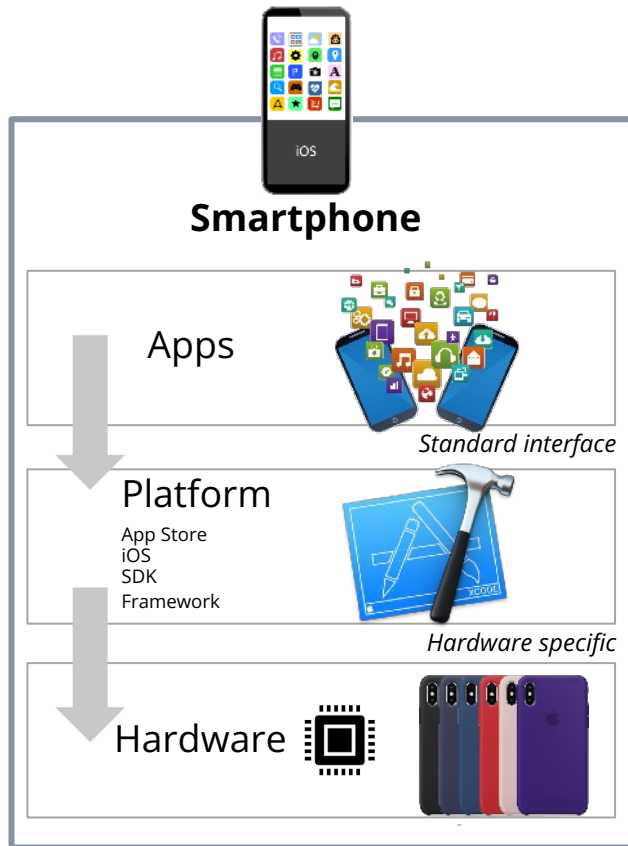
Classic ECU

Performance/Safety/Zonal ECU

Sensor/Actuator

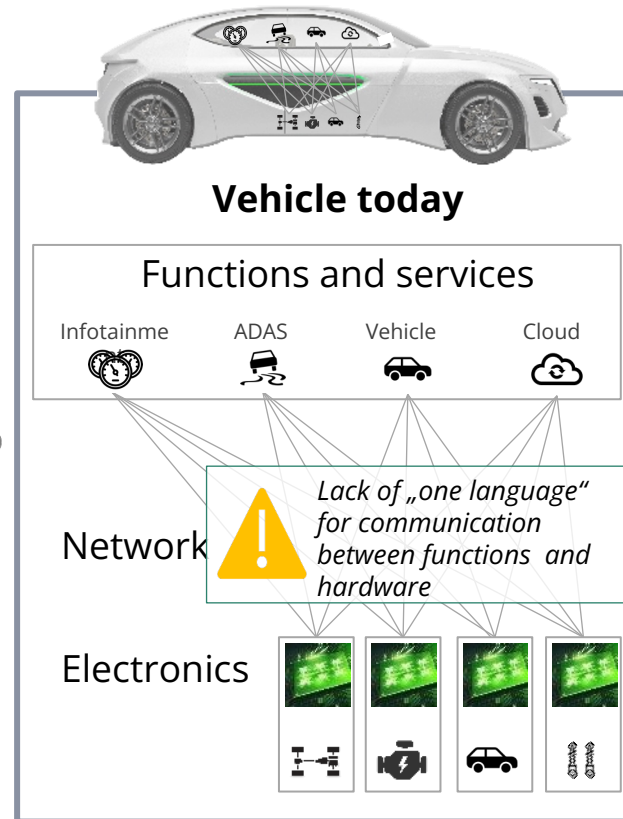
High-performance controller

# The evolution of the software defined vehicle

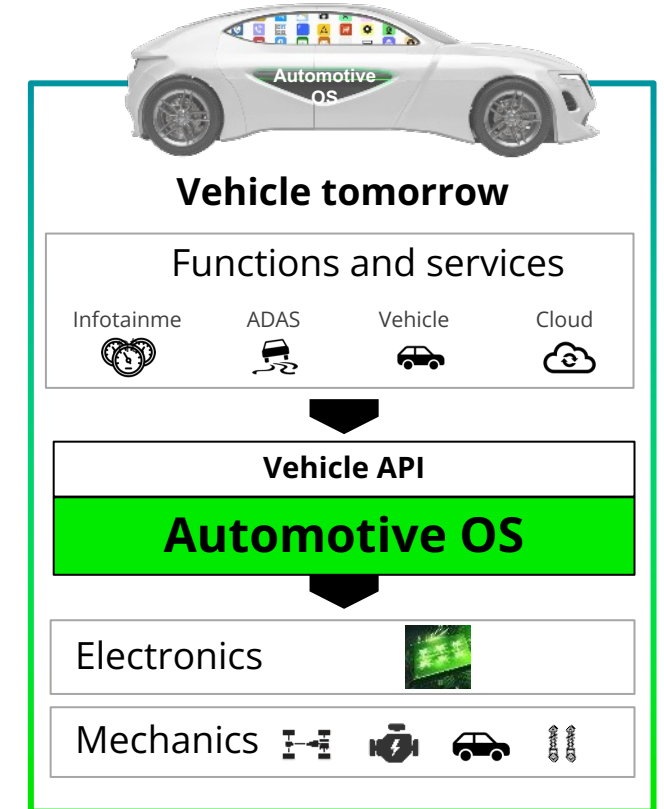


Example Smartphone

VS.



Current vehicle software architecture



Future vehicle software architecture

Development of functions decoupled from cycle of hardware development

# Re-use of software

Why re-invent the wheel?

60 %

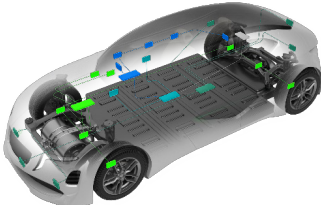
Non-differentiating software<sup>1</sup>

40 %

Differentiating software<sup>1</sup>



**Common functionality**  
required of all vehicles, regardless  
of brand, OE, trim level, etc.



**Unique functionality**  
for specific OEs, models,  
regions, customer groups, etc.



**Products and Engineering Services**

<sup>1</sup>: Differentiating and non-differentiating software from an OEM point of view  
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# Software platform and Automotive OS for next-gen E/E architectures

Jaguar Land Rover is pushing the boundaries of innovation by a radical transformation

Elektrobit's Automotive OS offering:

- ✓ Scaled down complexity in ECU development
- ✓ Raised operational efficiency
- ✓ Set JLR on the road to standardization, driven by Elektrobit software products, tooling, and support team

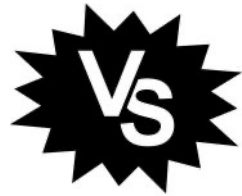


# Challenge: Competition for talent





# Can automotive SW compete with FAANG?

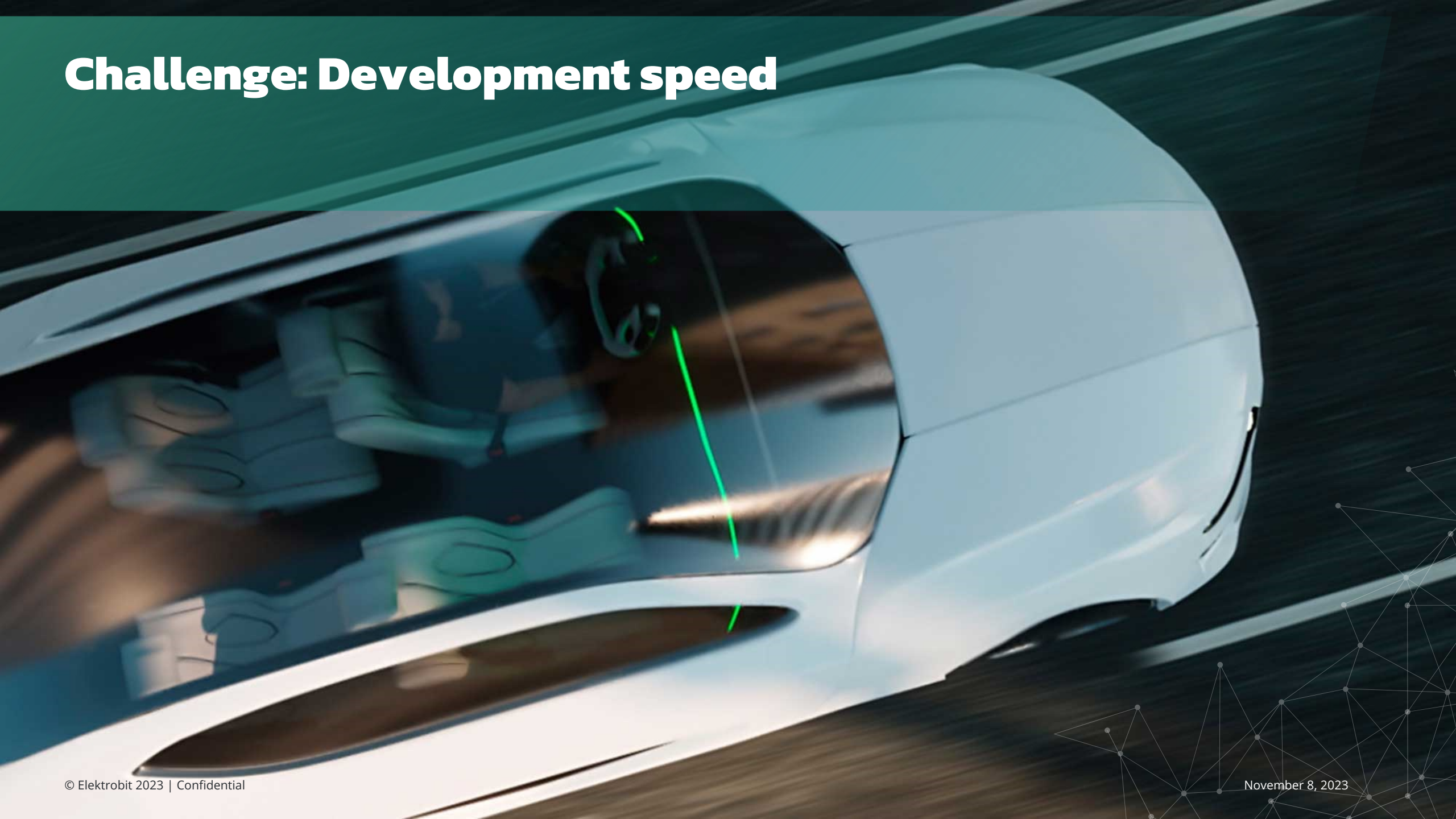




# **An innovative environment attracts software talents**



# Challenge: Development speed

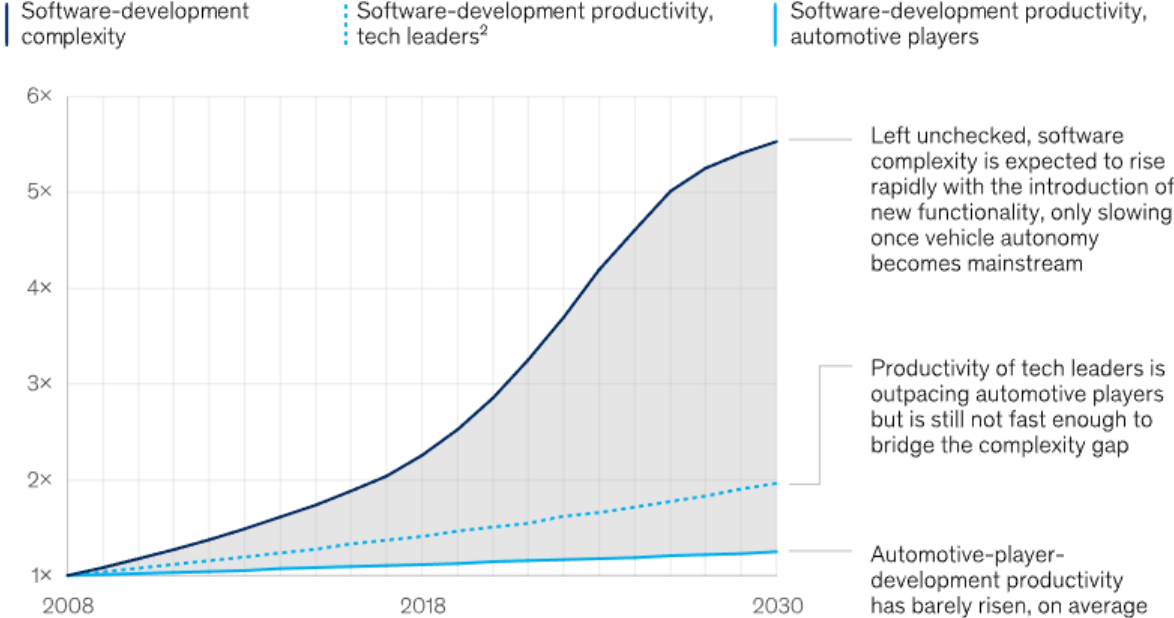


# Complexity impacts productivity

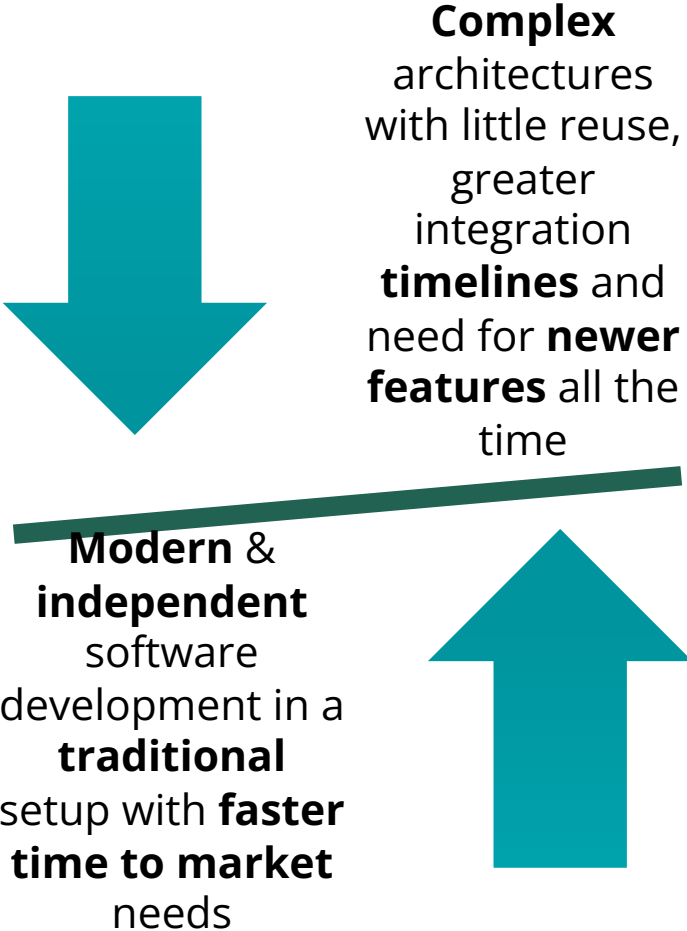
## Today's challenge

The automotive industry is confronting a widening and unsustainable gap between software complexity and productivity levels.

Relative growth over time, for automotive features,<sup>1</sup> indexed, 1 = 2008

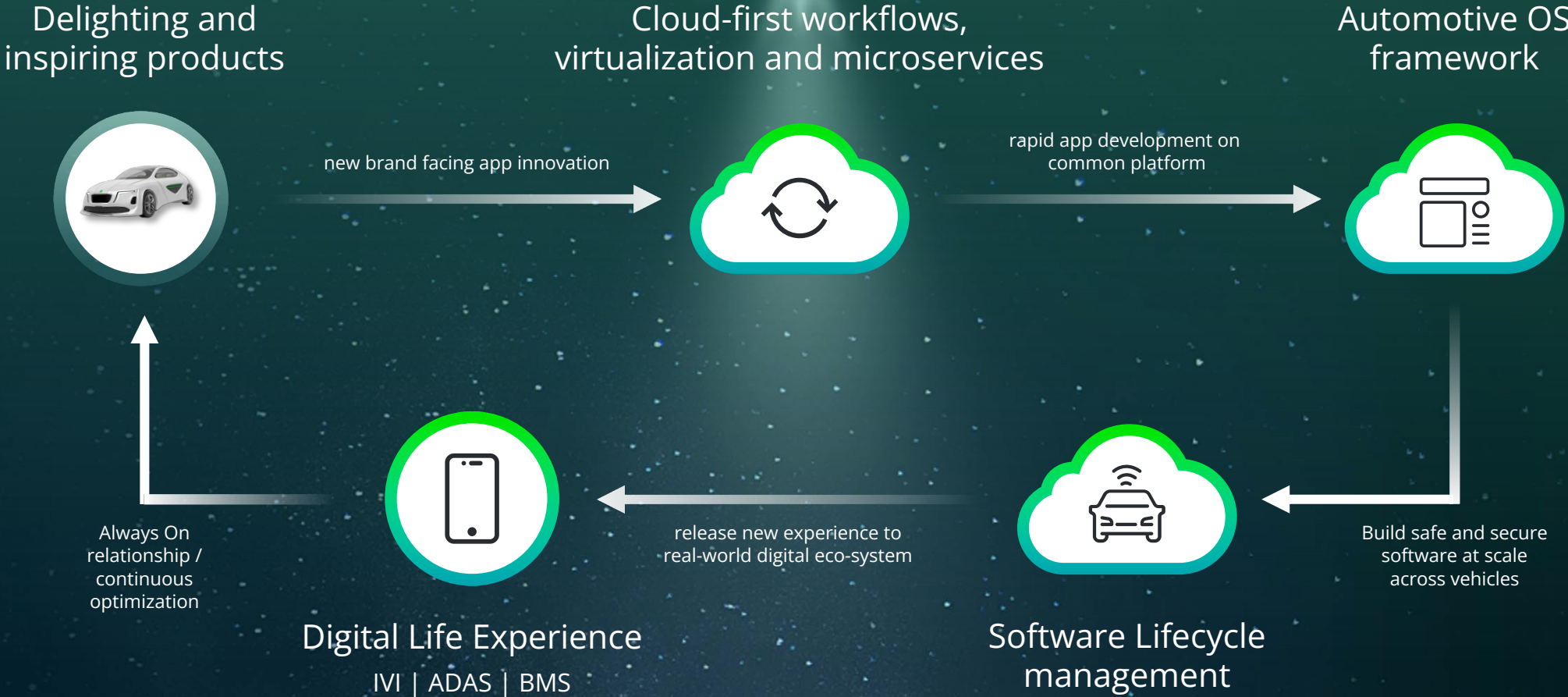


<sup>1</sup>Analysis of >200 software-development projects from OEMs and from tier-1 and tier-2 suppliers.  
<sup>2</sup>Top-performing quartile of technology companies.  
 Source: Numetrics by McKinsey



# Optimized value stream speeds up development

Value stream with cloud workflows and Automotive OS



# **Strong partnerships will matter**

Innovation through collaboration – Scale, Scope, Speed



# Innovation through collaboration: Elektrobit x Sony Honda Mobility



# Determining factors for Sony Honda Mobility's AFEELA

Software comes first



## Speed & flexibility

agility at its core



## Software-defined

already on the system level;  
End2End approach



## User experience excellence

from consumer and from automotive  
Complete cockpit developed from scratch  
w/ focus on the user



## Trustful partnership & Co-creation

one-team approach w/ deep know-how in  
software architecture, consumer experience,  
system design, hardware design, and integrati



## Courage

to go new ways



# Thank you



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