

"Automotive Software Factory"

Impulsvortrag

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seerene

Roland
Berger





Time to produce Model T...



12.5 hours (1909)



Assembly line



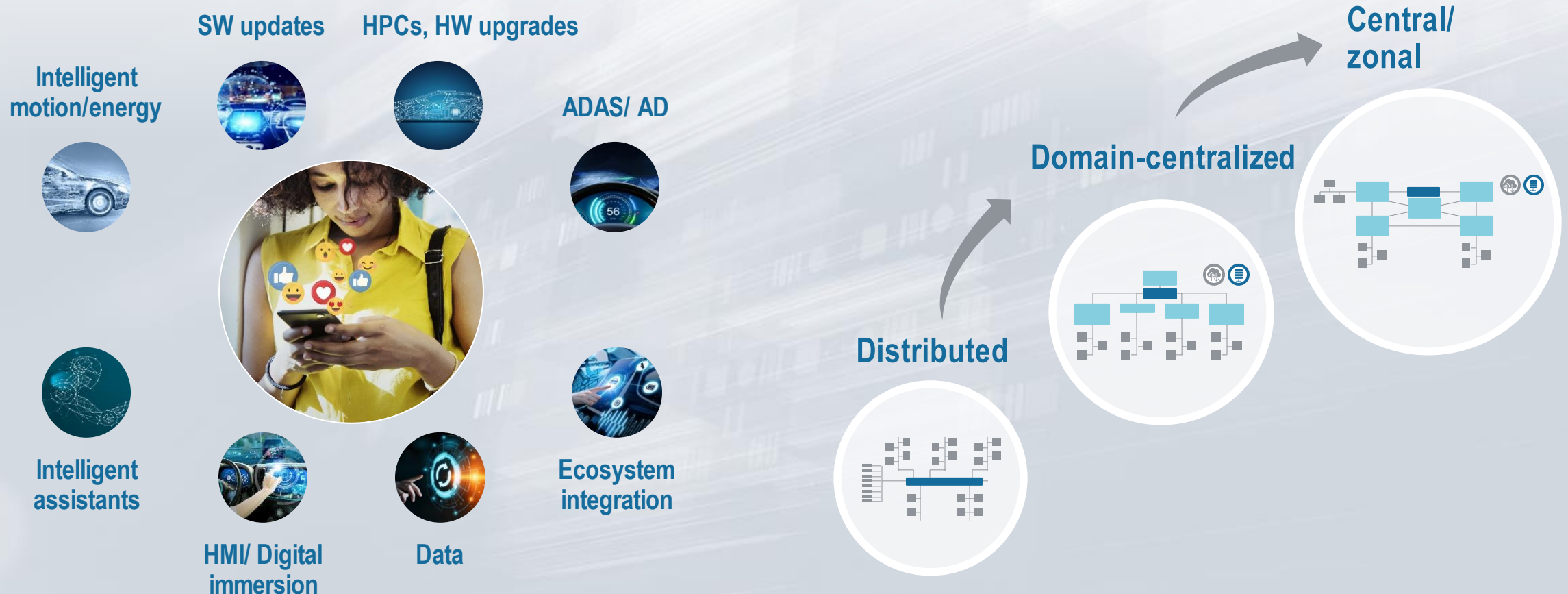
1.5 hours (1913)

Ctrl+C, Ctrl+V for SW?

OEMs are implementing new E/E architectures to address increasing software and feature requirements

Push of technologies and use cases...

...lead to new E/E architectures



With higher software and feature demand in vehicles, requirements for OEMs in SW-development have increased

Safety & security requirements
WP.29, ISO 26262



Modern SW development methods
Agile, SAFe, DevOps



Increased standardization
ASPICE, AUTOSAR



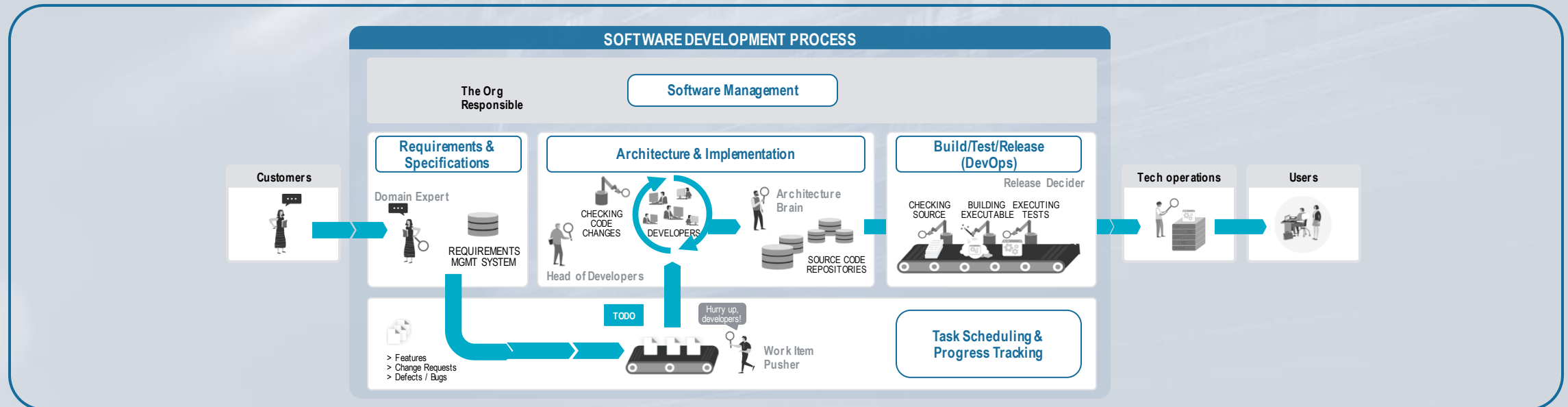
Need for highly skilled labor
"War" for SW talents



SW development costs
Budget controlling



Software Factory



Traditional sourcing model for ECUs is being disaggregated into multiple elements – What is the role for a tier-1?

Traditional tier-1 business model



Tier-1 fully responsible for HW+SW

New reality

3rd party SW	OEM SW	SW stack engineering & integration services
OEM-directed hardware (e.g., chip sets)	Hardware engineering services	HaaS
E ² MS	SaaS	...

No, few, many roles for a tier-1

For a successful transformation towards a SW-enabled company, OEMs and tier-1s need to undertake major changes within their organization



New Mindset

SOP = "Version 1.0"



SW Organization

Reorganization
of EE and SW



SW as a Product

Business Models
Monetization

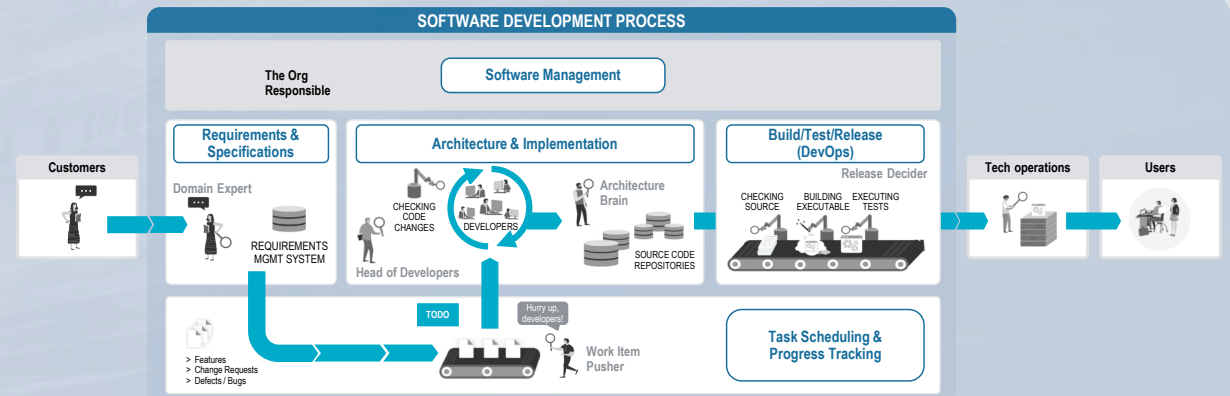


Make-Buy-Partner

Value proposition
IP strategy
Ecosystem

SW factory

Digital Boardroom
Processes and tools
SW KPIs





RB's Advanced Technology Center and Seerene

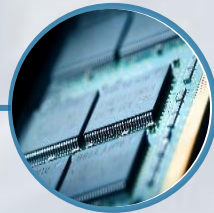
wish you lively discussions and a wonderful time at our event!

Our expertise at the Advanced Technology Center

SW architectures & applications



HW architectures, boxes & boards



Semiconductors & low level software



Sensors, actuators & controls



Energy storage technologies



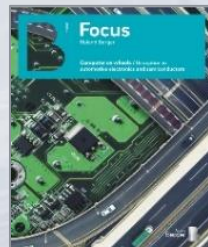
Quantum tech., photonics & optics



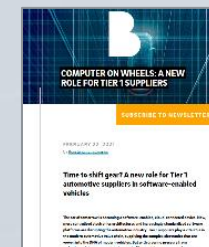
Our recent publications on Automotive software



Computer on wheels 1:
Disruption in automotive electronics and semiconductors



Computer on wheels 2:
SW-enabled vehicles require SW-enabled OEMs



Computer on wheels 3:
A new role for Tier 1 suppliers