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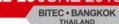
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Content	
1	Introduction to ETAS
2	ECU development
3	EV ECU
4	Tools for EV testing

















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Leading Provider of Solutions and Services for Embedded Systems

- ETAS with over 850 associates is part of the Bosch Group
- ETAS is truly international with 23 offices in 13 countries around the world
- ETAS subsidiary ESCRYPT is a specialist for embedded systems security

ETAS Customers and Domains

Trusted by OEMs, tier one and ECU suppliers, as well as engineering service providers:

Commercial Vehicles
Automotive Heavy Duty Engines
Railway Powertrain
Construction Machines
Consumer Electronics

Off-Highway

ESCRYPT Customers and Domains

The ESCRYPT customer base includes:

Automotive

Mobile Machines & Transportation Energy

Consumer Electronics Mobile Devices
Industrial Automation
Financial & Government Logistics

Health Care

















Software Engineering

Test and Validation

Measurement, Calibration, Diagnostics **Embedded Security**

escrypt Embedded Security by ETAS Real Time Applications

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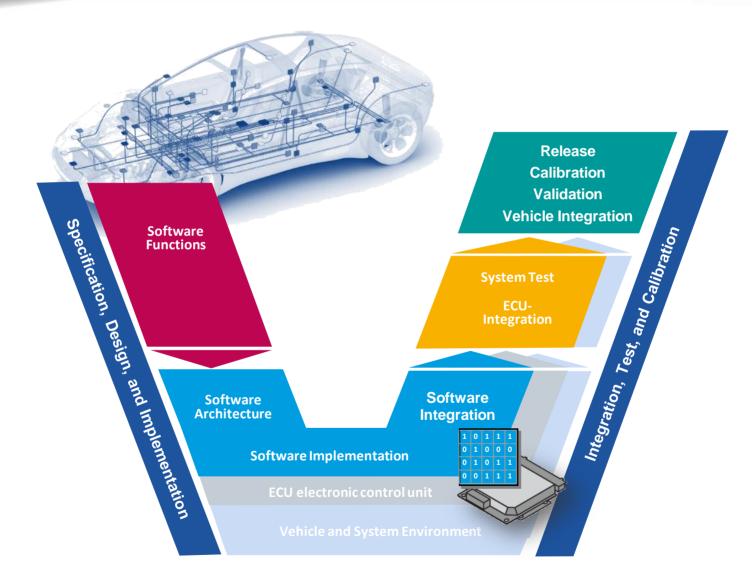




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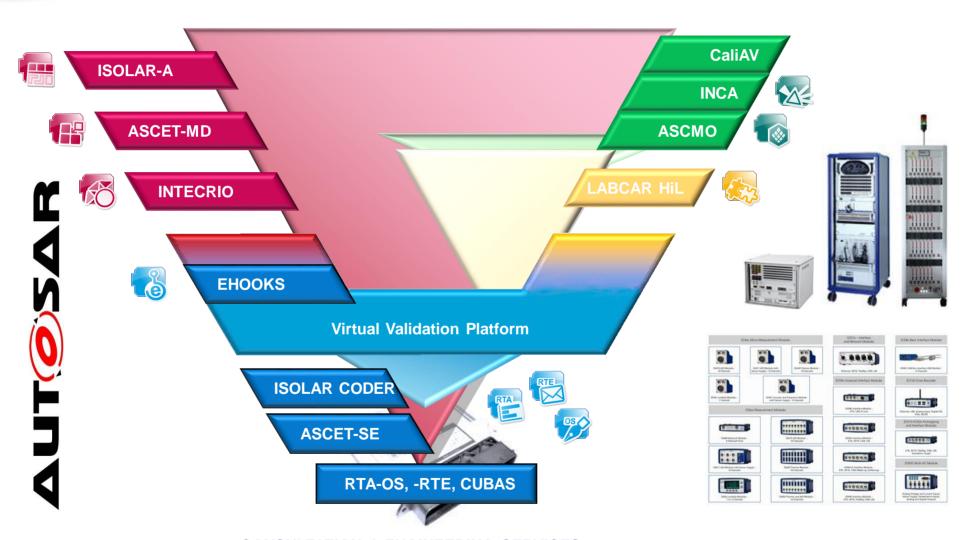












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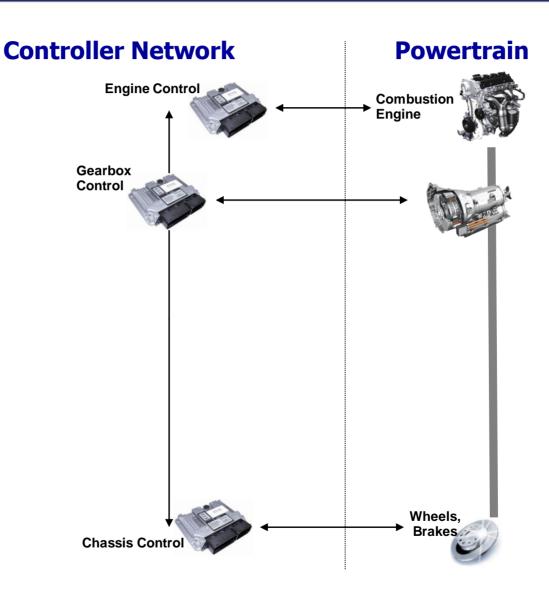






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Electrical Power Mechanical Power

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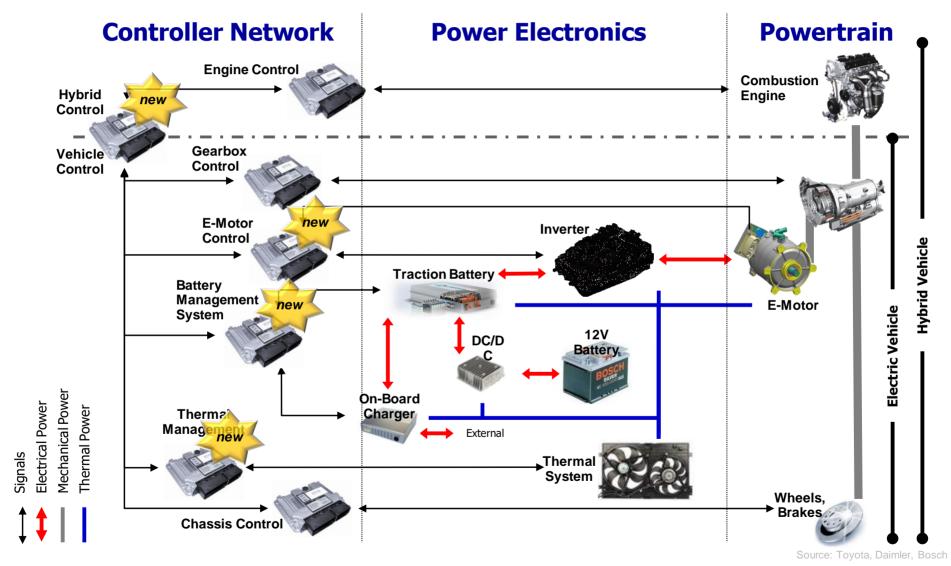








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Tools for EV testing

- E-Motor Simulator
- Battery Cell Simulator
- High Voltage/Current Measurement Module



















Tools for EV testing

- E-Motor Simulator











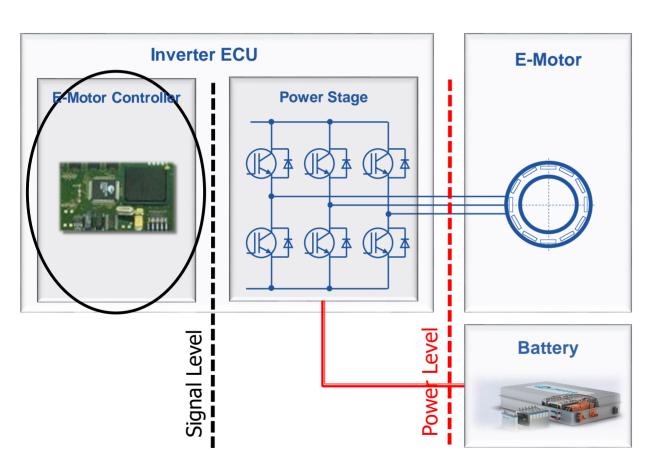


ETAS – Solutions for EV/HEV Development



Solutions for E-Motor Controller Testing

Testing at Signal Level & Power Level







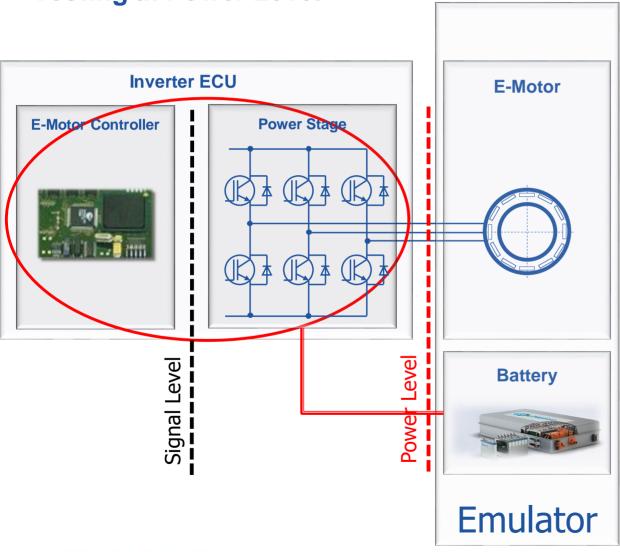


ETAS – Solutions for EV/HEV Development

ETAS

Solutions for E-Motor Controller Testing

Testing at Power Level

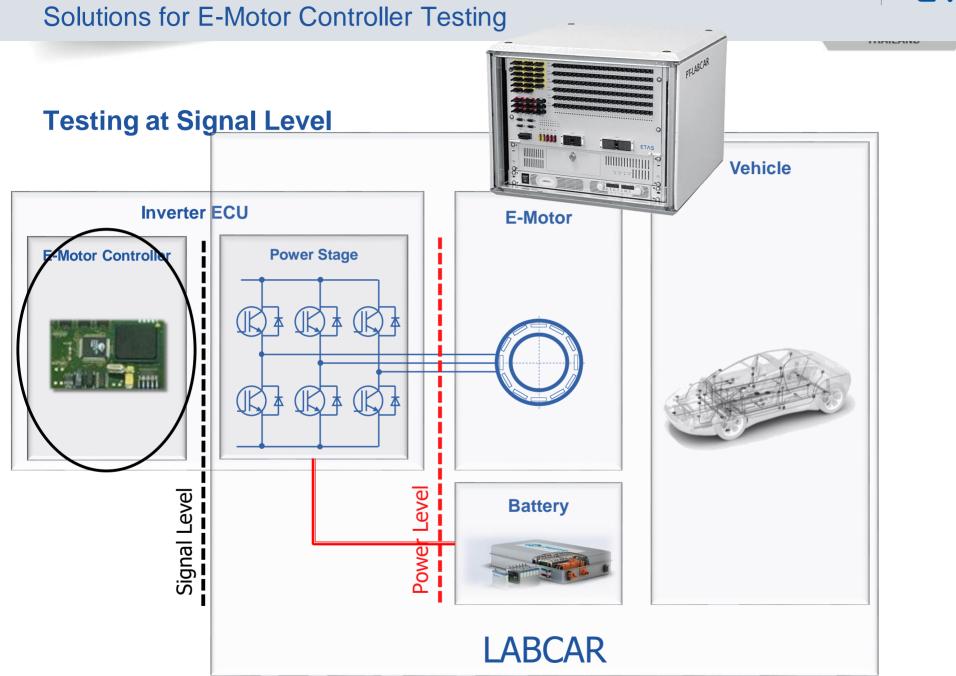
















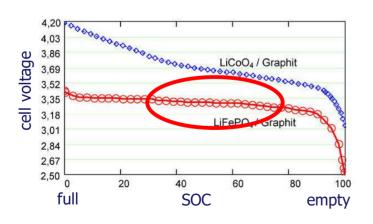






Tools for EV testing

- Battery Cell Simulator
 - "State-of-Charge" Estimation
 - Cell Balance Function
 - Safety Function























Tools for EV testing

- High Voltage/Current Measurement Module



ES41x Enable to measure high Voltage/Current

High Voltage Cable +/- 840 V



- High Current +/- 1000 A

















Thank you

Q & A

Thanawai Srisompong

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