

Innovation in Mobile Hydraulics – From the Ground to the Cloud

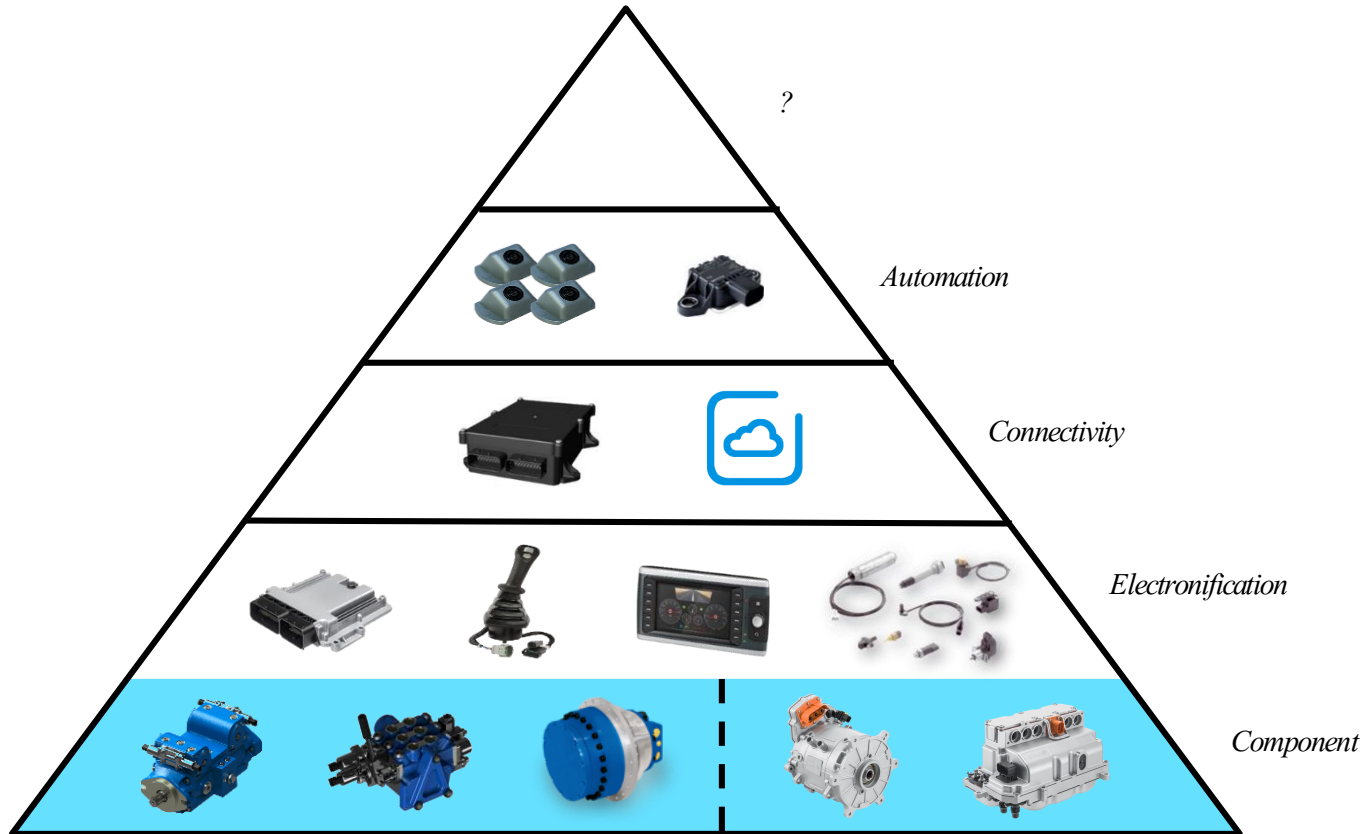
FPMC 2017: Industry Panel

Dr. Uwe Neumann

Sarasota, FL, Oct 16-19

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Market Trends



Driven By: Cost | Fuel Efficiency | Productivity | Noise | Safety

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Electronification

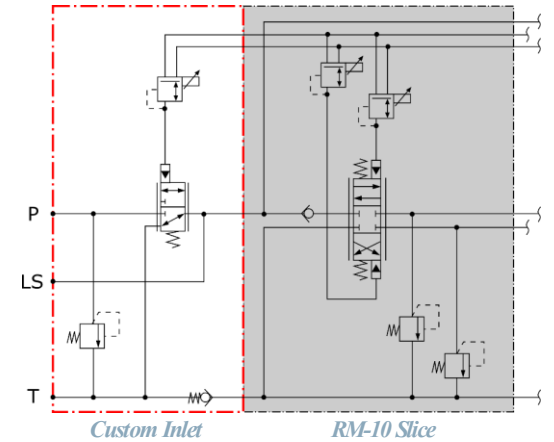
- Cost
- Dynamics
- Efficiency
- Complexity
- Ready for automation

RM-10

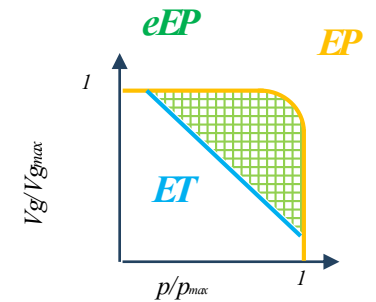
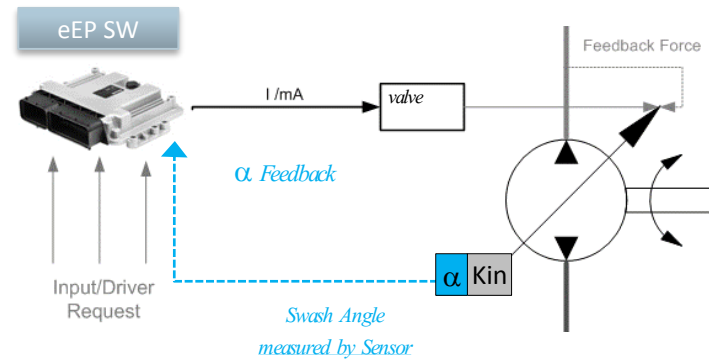
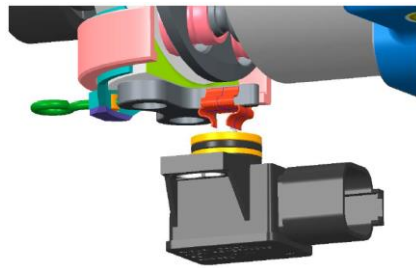


Rexroth
Bosch Group
RM-10 with Electronic
Flow Management

- Electronic **LS-pump** control
- Software-managed flow distribution (no sensors required)
- All functions are **pressure compensated in single operation mode**
- Oil flow **independent from engine speed**
- **Small pressure drop** for high-flow attachment

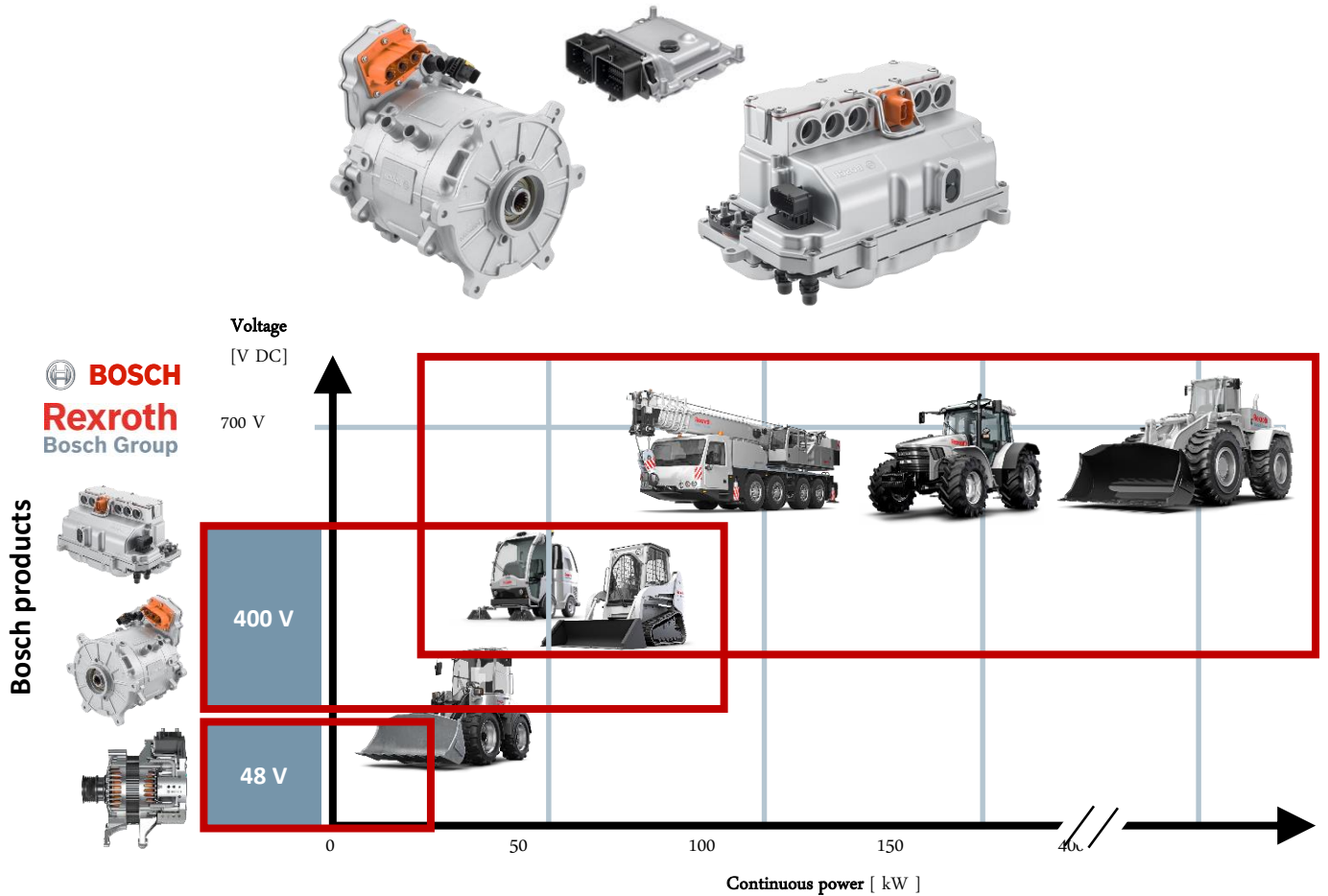
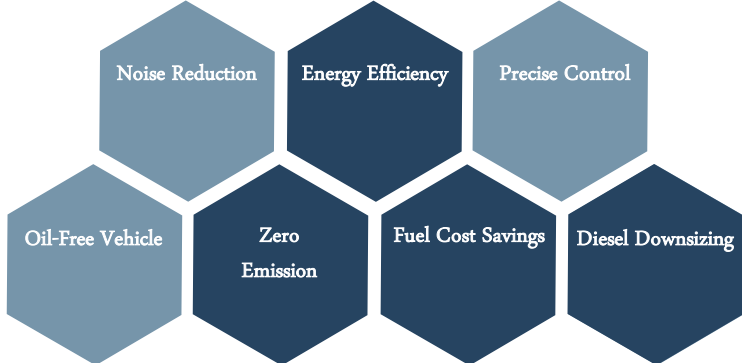


eEP



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Electrification – One Solution for Every Power Range



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Connectivity

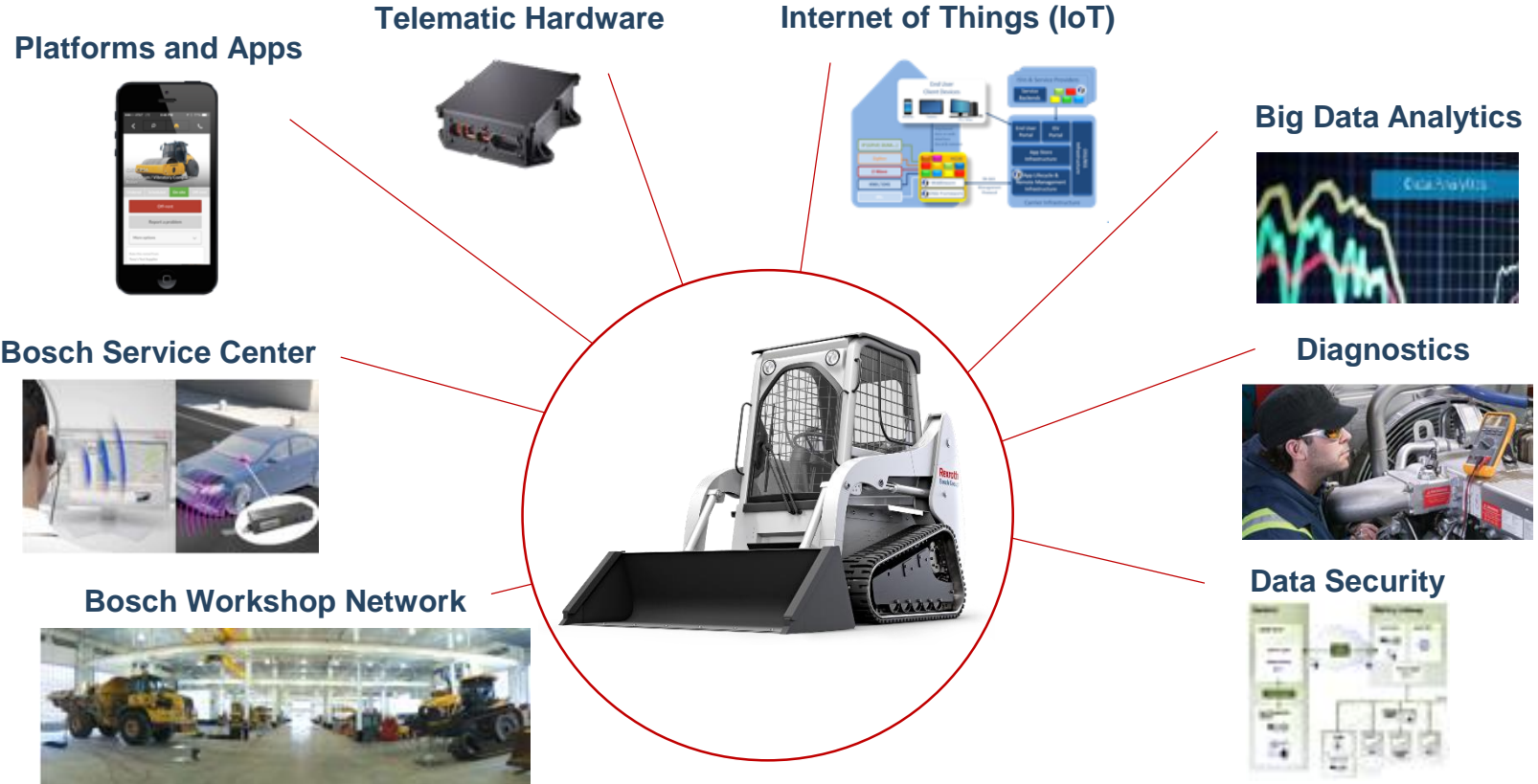
BOSCH IoT Cloud



4G / LTE

Connectivity Unit

CAN Bus

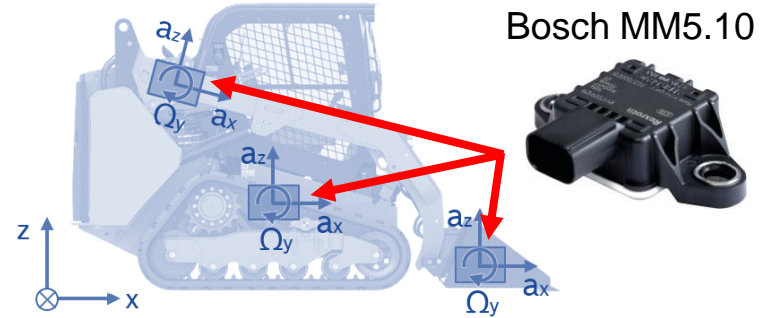


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Automation

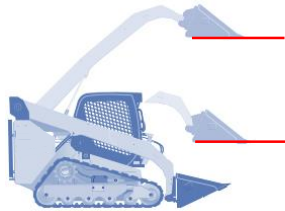
Electro-Hydraulic Functions Portfolio

- Proprietary algorithm to **estimate implement positions** with Bosch inertia sensors
- Three inertia sensors (Carrier, Boom, Bucket) to realize several electrohydraulic functions.



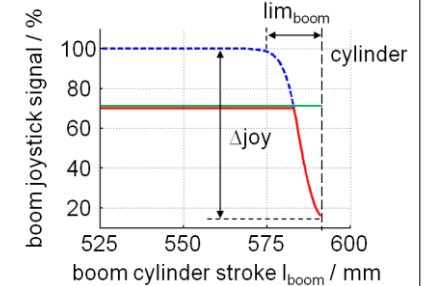
Active Tool Leveling

Keeps attachment leveled to the ground if implement moves



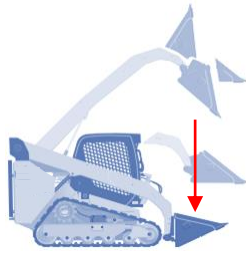
Cylinder End-Stroke Damping

Prevents cylinder from impacting the end stroke



Return to Position

Brings implement back to a saved position with the push of a button



Straight Travel

Measures vehicle yaw rate and compensates to bring machine back to straight travel

