



Daimler Integra Standards for Robotics

Ali Akcay, TG/MAD, Birmingham / UK, 30.11.2016

Mercedes-Benz
Trucks you can trust

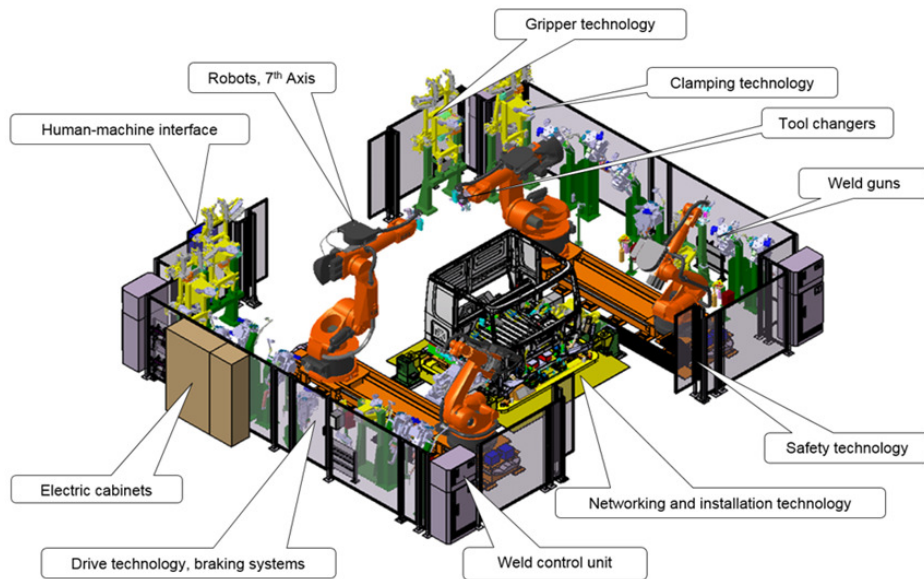


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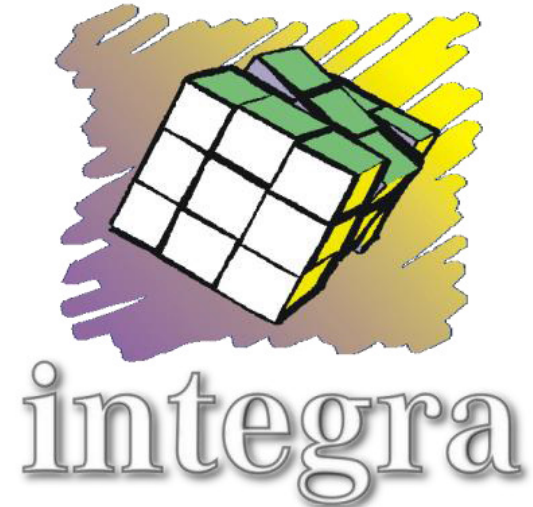
What is Integra?

Integra is a Daimler Standard for the manufacturing technologies (hardware, software) which are used in most of the Daimler plants world wide.



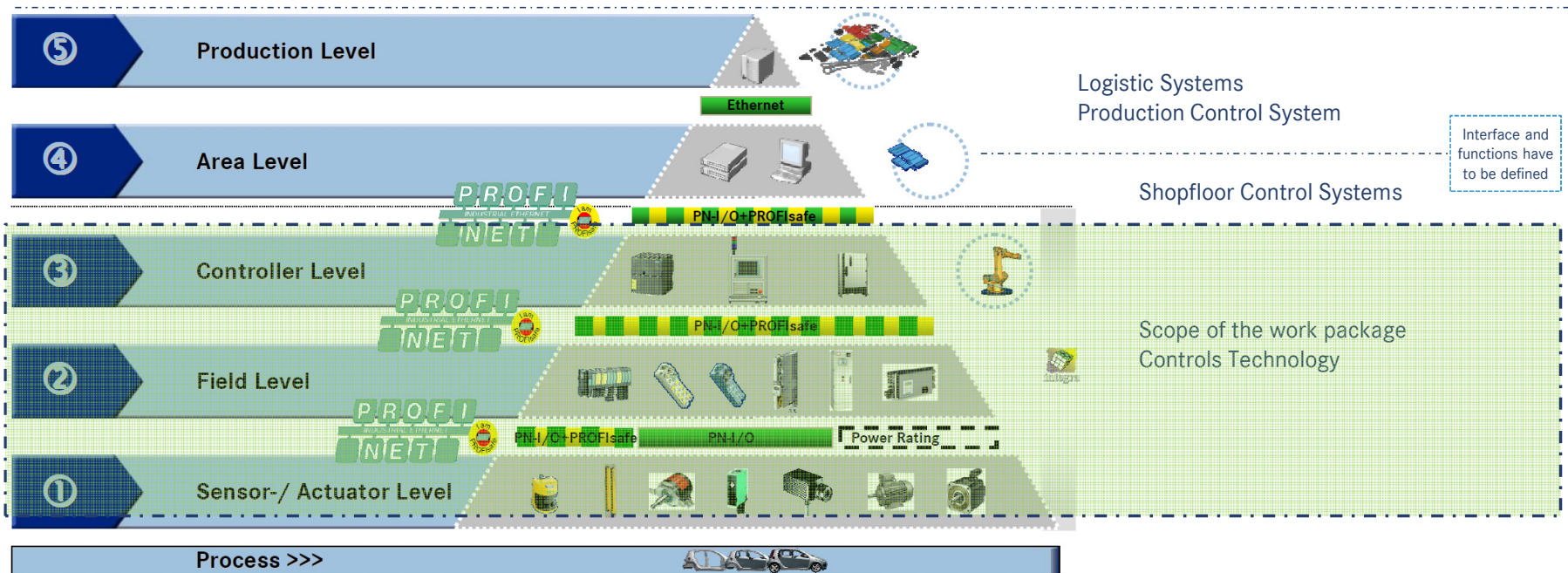
List of Major Guidelines

- Technical Documentation
- Numbering and Labeling
- Machine Safety
- Buy off procedure
- Bill of material
- Qualification Measures
- Computer systems
- Pneumatics / Hydraulic
- Converter Technology
- Communication Technology
- Production control
- Identification Technology
- Control Technology
- Robot Technology
- Further Production Technologies...



Integra Control Architecture - Automation Levels

The automation pyramid is the classification of techniques and systems for controls and provides the different levels in production areas. The scopes of the control technologies are the levels of sensors-/actuators (level 1), fields (level 2) and controller (level 3).



Source: ECM B3.026.01_integra5_Overview Controls_EN_V50.06

Daimler Integra Standard - Benefits

Benefits

- Tested processes, applications and interfaces
 - Standardization department keeps awareness about the processes
- Same infrastructure in all center/shops
 - Known Hardware and software used
 - Reduced amount of used hardware
 - Same HMI and operating concept (look and feel)
- Integrated is a software environment for free to administrate, to maintain and to visualize the plant facilities.



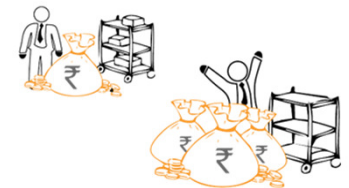
- Quotations are comparable due to common rules
 - Independence of supplier
 - Reduced costs due to product partnership
 - Reduced costs for Engineering (Templates)



- Integra Standard - Network
 - “Know-how” transfer with Daimler
 - Support by other plants → Knowledge base
 - Exchange of urgent spare parts



- Reduced variety and stock of spare parts



Standardization helps to reduce costs over the whole lifecycle. Integra was made to be operations and maintenance friendly

Source: TG/MAD

Daimler Integra Standard - Efforts

Efforts

- More effort to train the suppliers (in case of first time)
 - PLC, HMI and Robot training
 - Documentation rules



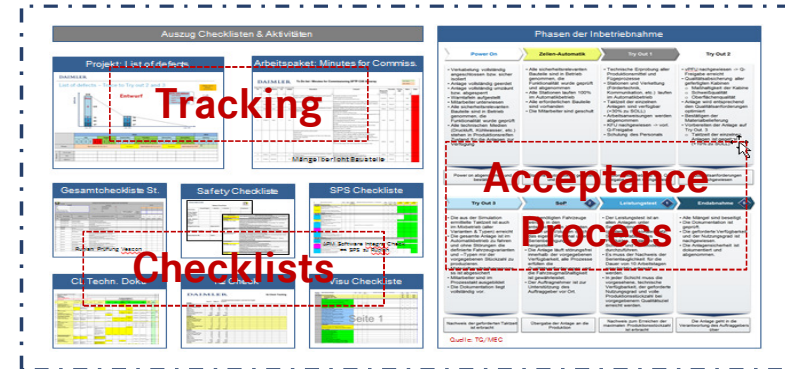
- More effort for acceptance tests
(therefor benefit for Quality!)



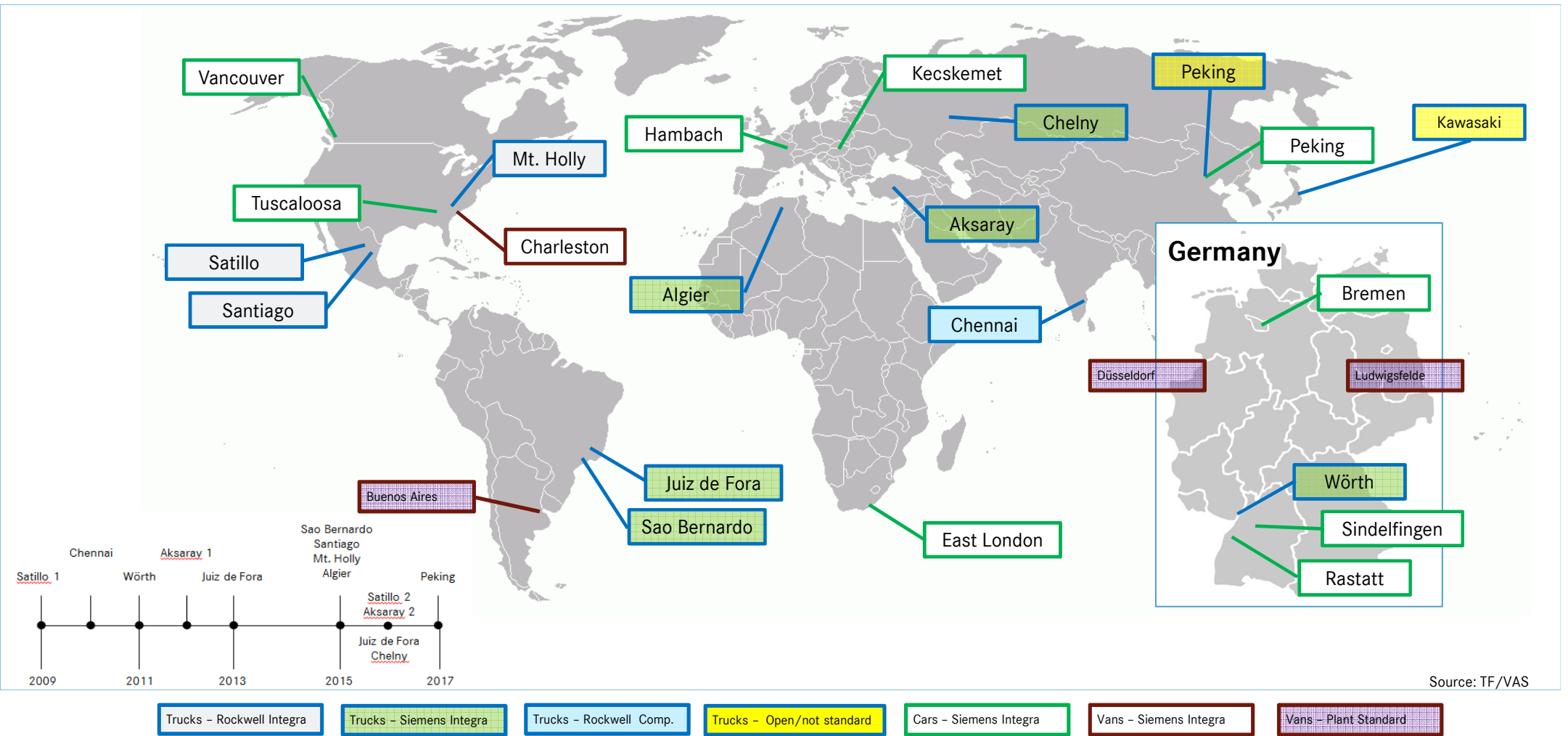
- In individual case oversized in small projects

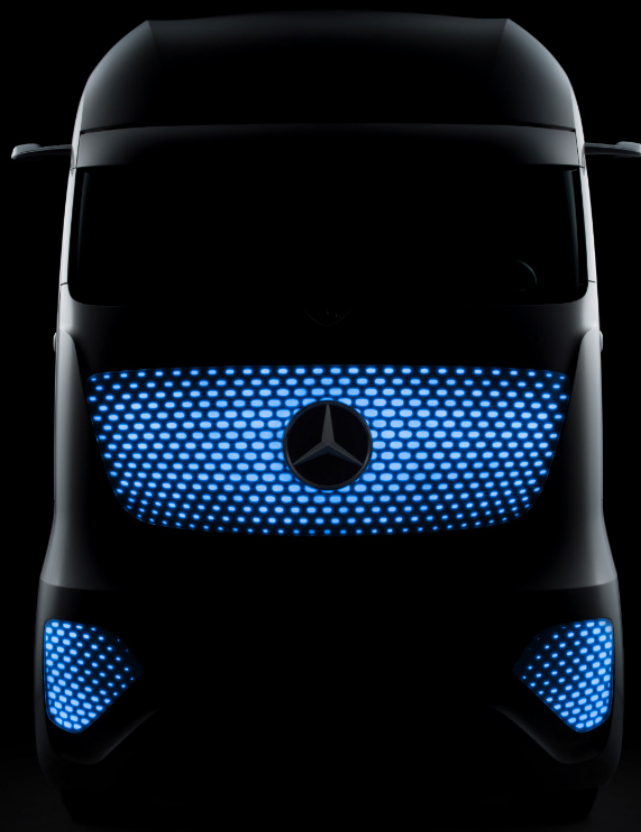


From Commissioning to Final Acceptance



Daimler Integra Controls Standards around the world (Assembly Plants)





Thank you for your attention.