



ASAM standards in automotive production enable “plug-and-play-like” operations

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Future requirements

Most innovations happen in automotive electronics.

Prof. Dr. F. Piëch

- increasing number of car models every year
- increasing number of production locations
- decreasing amount of time for market cycles
- decreasing production periods
- lean production with a high quality output

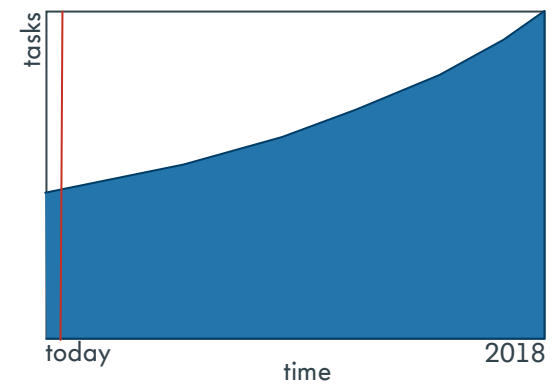


The outcome

for electronic testing & calibration in assembly/finish area of production

- less time for preparing projects
- production turntable: same products in several locations
- increasing number of product mutants
- increasing complexity

➔ increasing tasks with falling manpower



The strategy

for automation – programming in production

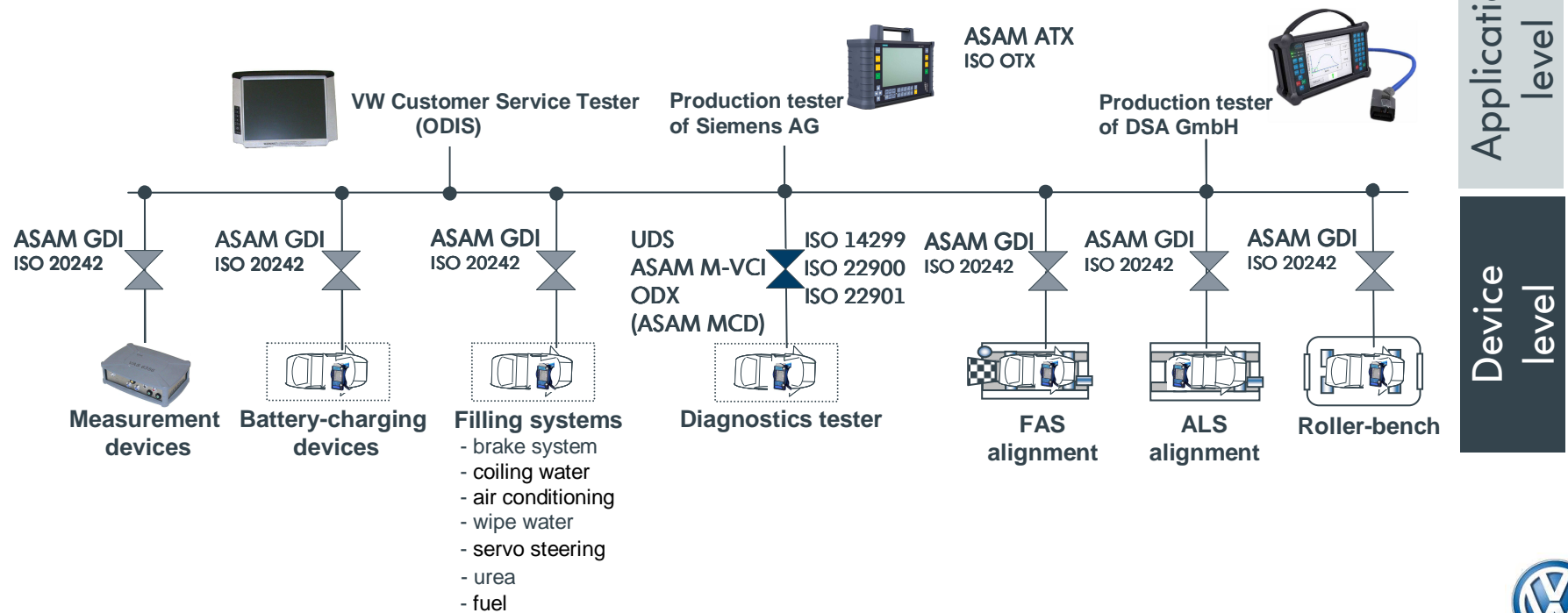
- **Compatible technology for electronic testing and calibration**
Use standardised and competitive technical solutions
- **Internal Processes**
Avoid duplicating efforts
- **Reusable programs for electronic calibration-processes**
Approved programs increase software quality and shorten commissioning time
- **Approved programming concepts**
Rapid development – usage of software modules
- **Use of established standards for maximum of sustainability**
ISO & ASAM standards
- **Competition in the market**
Best prices and best practice



The technical solution

1. Standardised Interfaces

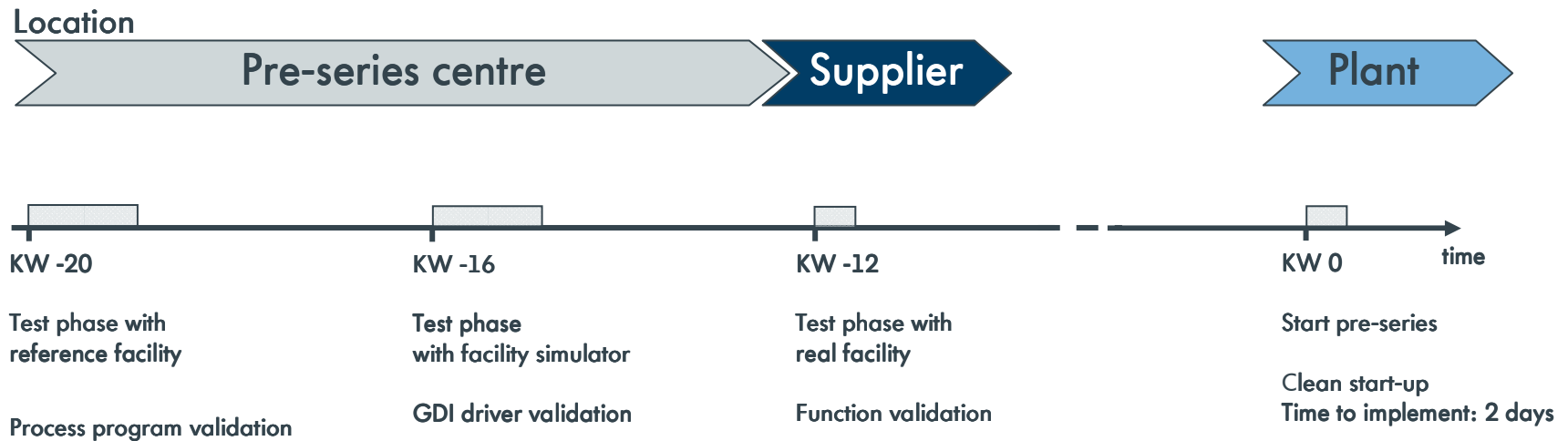
- The ASAM GDI and ASAM MCD standard guarantee the same implementation method in the automation system.
- The accompanying device for functions and processes guarantee the independence of technical solutions in the devices.
- Still open... programming description language (OTX, ASAM ATX)



The technical solution

2. Standardised front-loading processes

- Finding problems in the device and software at an early stage
- Local preparation and short commissioning



Implementation

- ASAM GDI / ASAM M-VCI has been stable and productive for 1½ years.
- At least 2 suppliers for each device have implemented these standards.
- So far, standards work in 5 plants. Next implementation in China.
- Savings in costs and efforts are verified.
- Technical partners like *Siemens AG* have experiences with these standards.
- Please have a look...

