

From 2006 onwards : a PSA experience for the development and exchange of AUTOSAR applications

9th AUTOSAR Open Conference



Executive Summary

1. Introduction

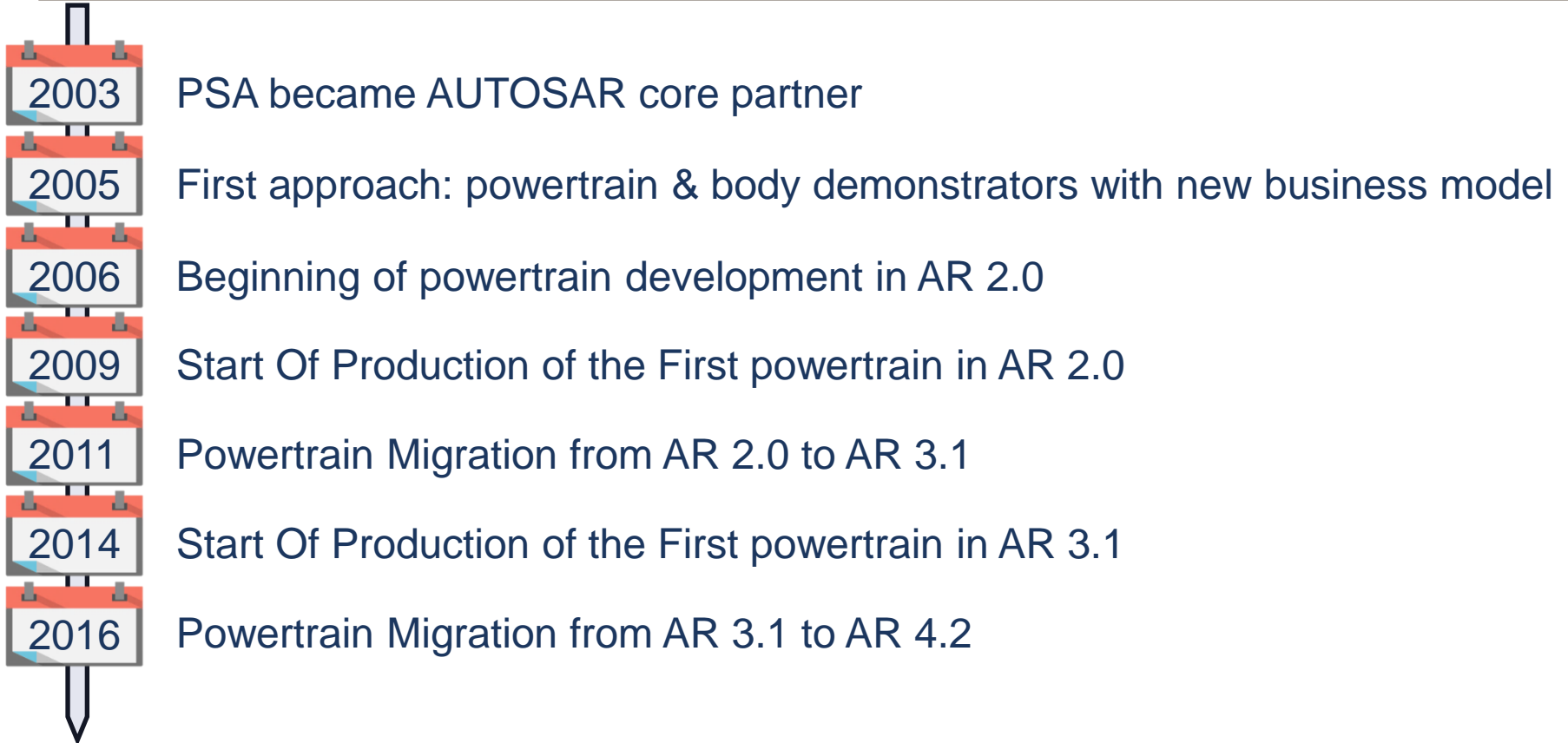
2. Process

3. Evolution

4. Future for AUTOSAR in PSA Powertrain



Introduction



Powertrain Process

Macro-Module (MM)

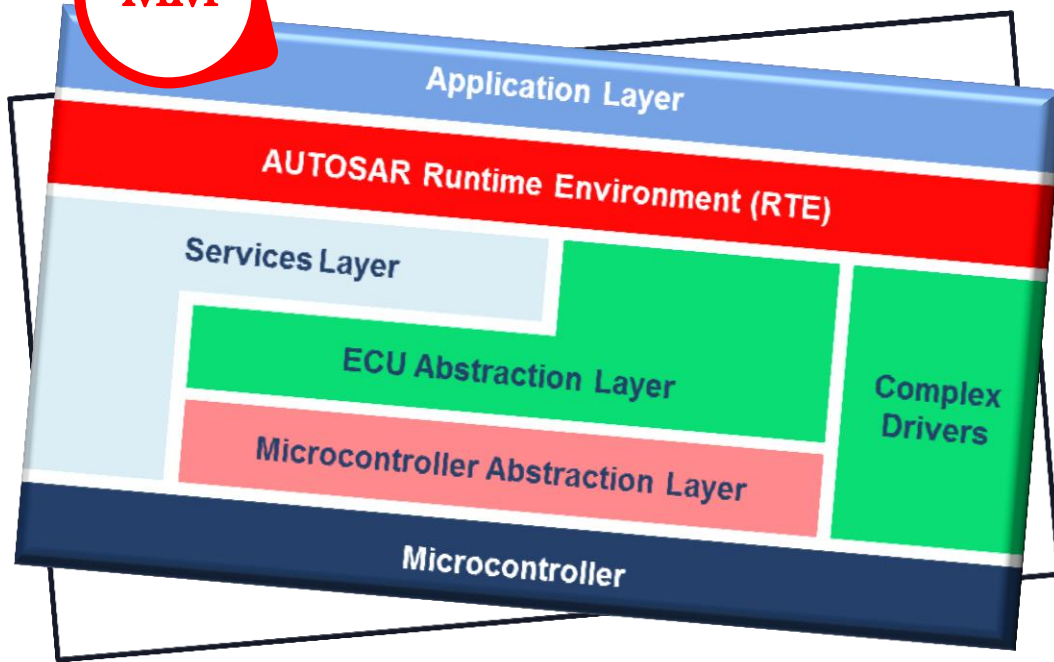


Function 1

Function 2

Function 3

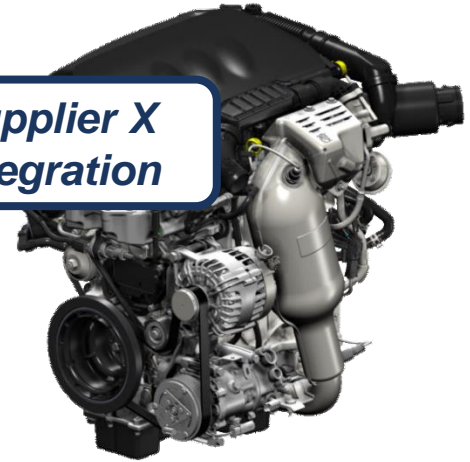
MM



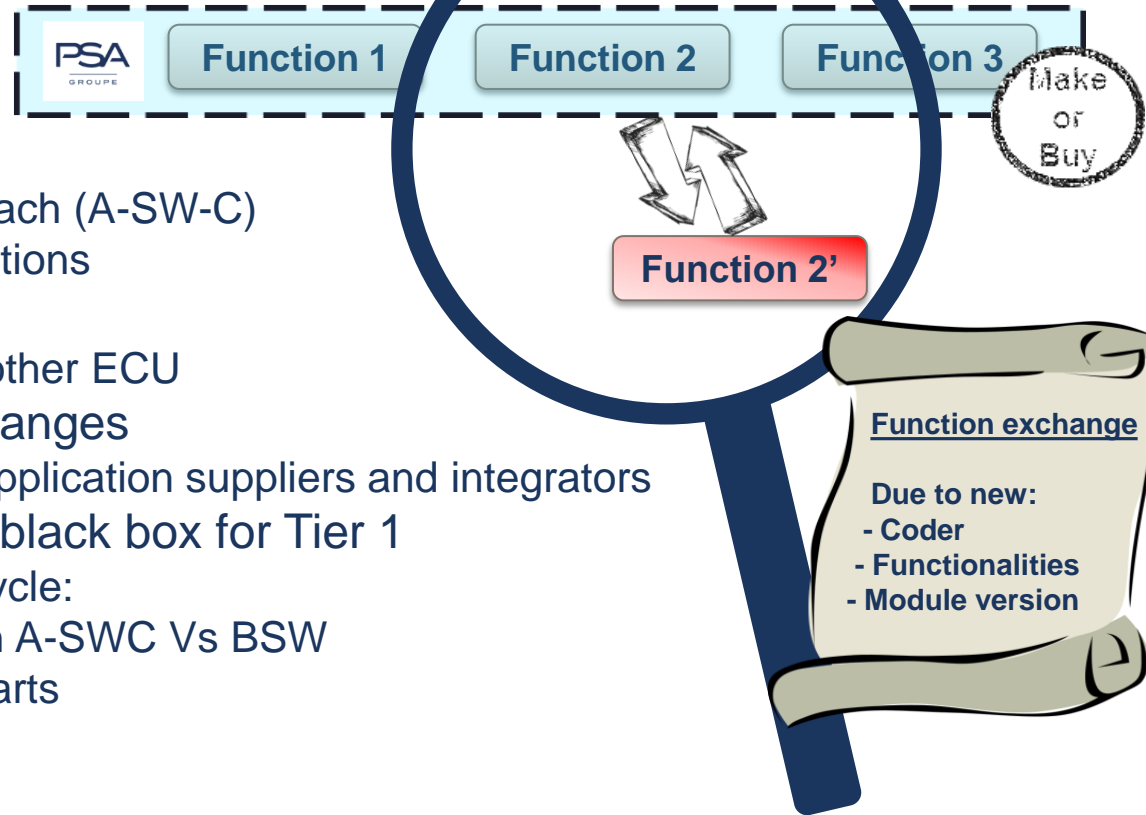
AR Composition

Includes the entire PSA application requirements of command control laws

**Supplier X
Integration**

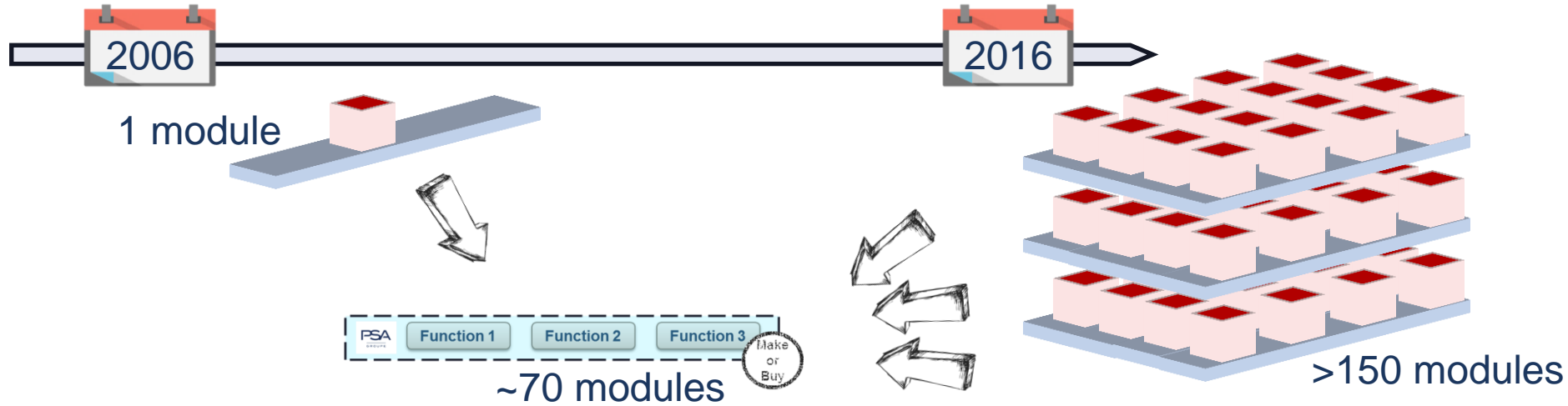


Powertrain Process



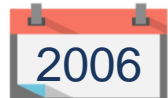
- New business model:
 - AUTOSAR modular approach (A-SW-C)
 - Plug & Play Modules/Functions
 - Generic Modules
 - Diesel, Gasoline, Hybrid, other ECU
 - Confidential Aspect for exchanges
 - Possibility to have many application suppliers and integrators
 - PSA applicative becomes a black box for Tier 1
- Needs for the development cycle:
- Describe interfaces between A-SWC Vs BSW
 - Describe system dynamic parts

Powertrain Process



- More than 80% for powertrain applicative software for next generation
 - Applicative module size increase every year
- ➔ Modularity eases the introduction of new functions

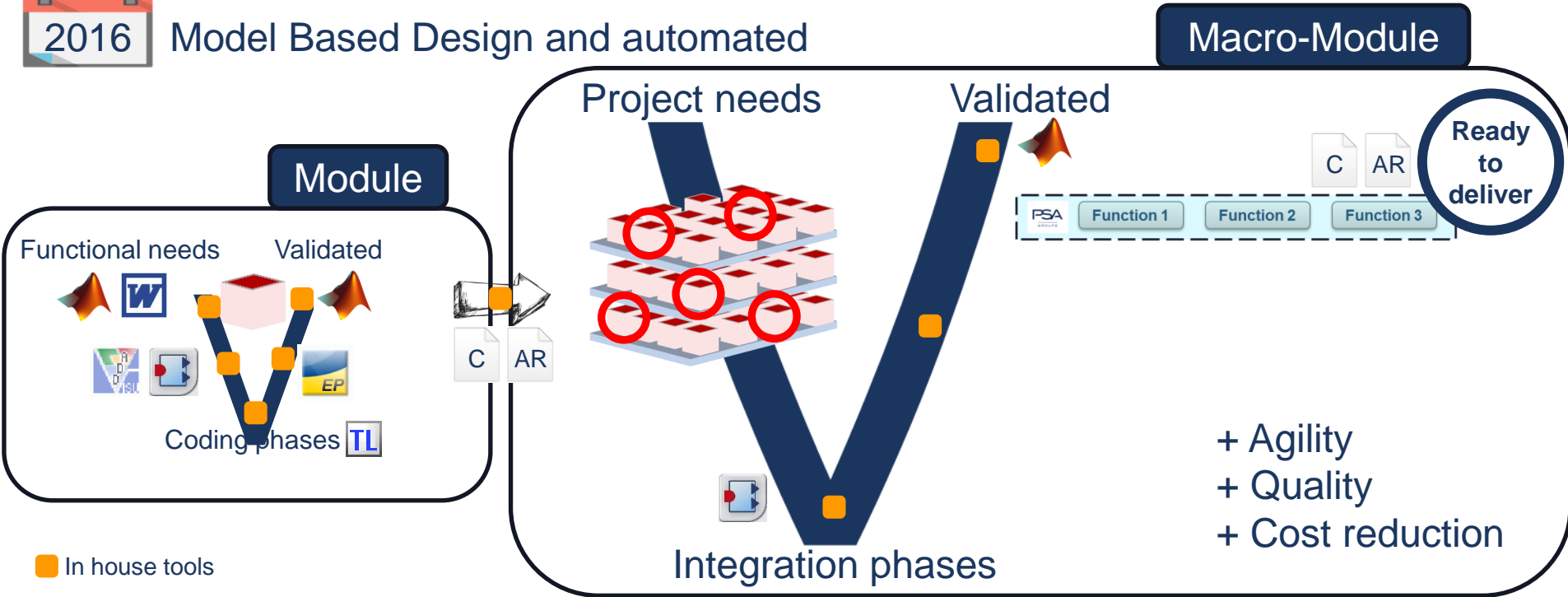
Powertrain Process



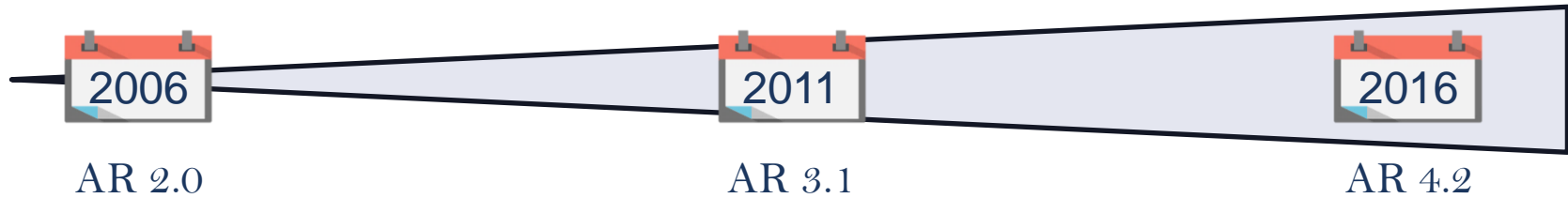
2006 Manual



2016 Model Based Design and automated



Evolution



Version migration of powertrain Macro-Module made twice

Integration of Macro-Module onto platform :

- With different AR version (Possibility to mix AR versions under certain conditions)
- Without AR

Easy to integrate and migrate it

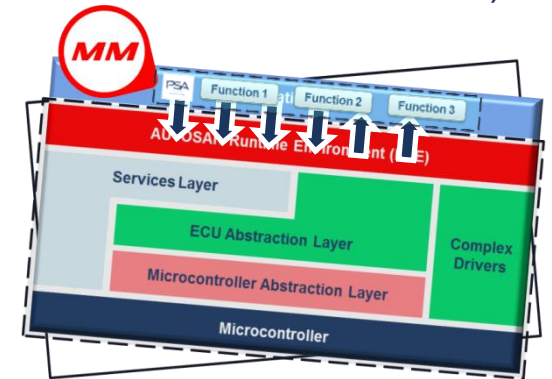
Only Applicative part

Automatically Conversion possible

Few Client-Server interfaces

No functional code modification

No full functional validation required



Enlarge our Macro-Module Size

Modules number, functional perimeter, applicative software part

Benefit from AR for messaging exchanges

Improve our modelization to be closer to AR.

Model Based Design ready for complete automatic code

AR needs to be taken into account as soon as possible in our V Cycle

Best DCM exchanges approach

Try to eradicate all non AR design

MM fully designed for AR multicore

