

# KPI1

22<sup>nd</sup> October 2019

One-click authoring  
meets Adaptive Autosar  
and HPC in Diagnostics



# Why separately maintain ODX- and DEXT-Files?

Current Status



Two departments using two toolchains

- (Aftersales-) Diagnostic with ODX
- ECU development with AUTOSAR.

Data Creation done by different persons at different points of time

Validation of implementation in ECU against Aftersales Tester

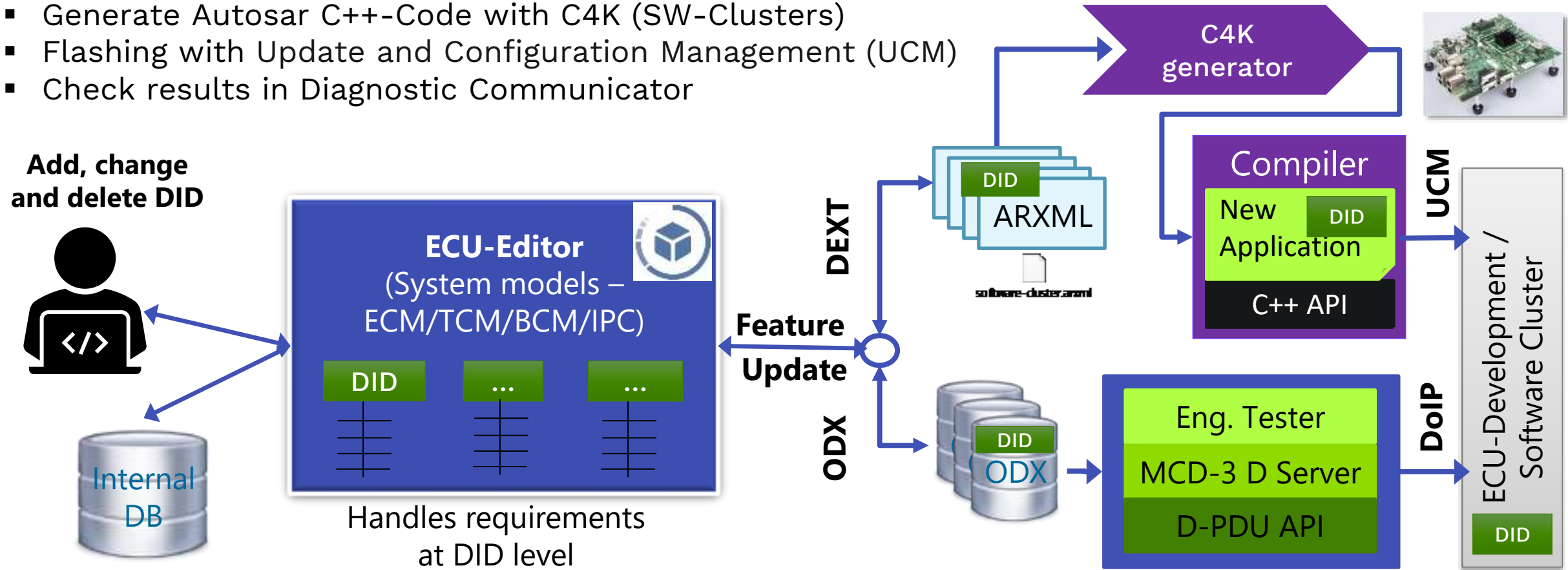
- Takes time
- Issues hard to fix

- Software Cluster DEXT creation using ECU Diagnostic Editor
- Offboard ODX generation using ECU Diagnostic Editor
- Diagnostic Manager Design & Implementation for communication with Adaptive Platform applications
- Variability and Variant-Management in one common Database with one Tool

# AUTOSAR + Off board-Diagnostics with 'One Click'

## Workflow

- Add, change and delete DID 0x1139 in ECU Editor
- Create ODX and DEXT
- Generate Autosar C++-Code with C4K (SW-Clusters)
- Flashing with Update and Configuration Management (UCM)
- Check results in Diagnostic Communicator



# What can an engineer do in 15 Minutes in AUTOSAR and ODX?

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1) Create DID 0x1139 for Battery Voltage with 2 Byte-DOP (Low Resolution)

```
REQ: [17:18:40.061] 22 11 39
RES: [17:18:40.061] 62 11 39 03 C5
  Service ID: 0x62
  dataIdentifier: Battery Voltage
  dataRecord: 1
    Battery Voltage: 12.062 V
    RecordDataIdentifier Check: 11 39
```

62 11 39 02 C5

2) Change DID 0x1139 for Battery Voltage to 4 Byte-DOP (High Resolution)

```
REQ: [17:40:07.389] 22 11 39
RES: [17:40:07.389] 62 11 39 00 92 7C 04
  Service ID: 0x62
  dataIdentifier: Battery Voltage
  dataRecord: 1
    Battery Voltage: 12.000005
    RecordDataIdentifier Check: 11 39
```

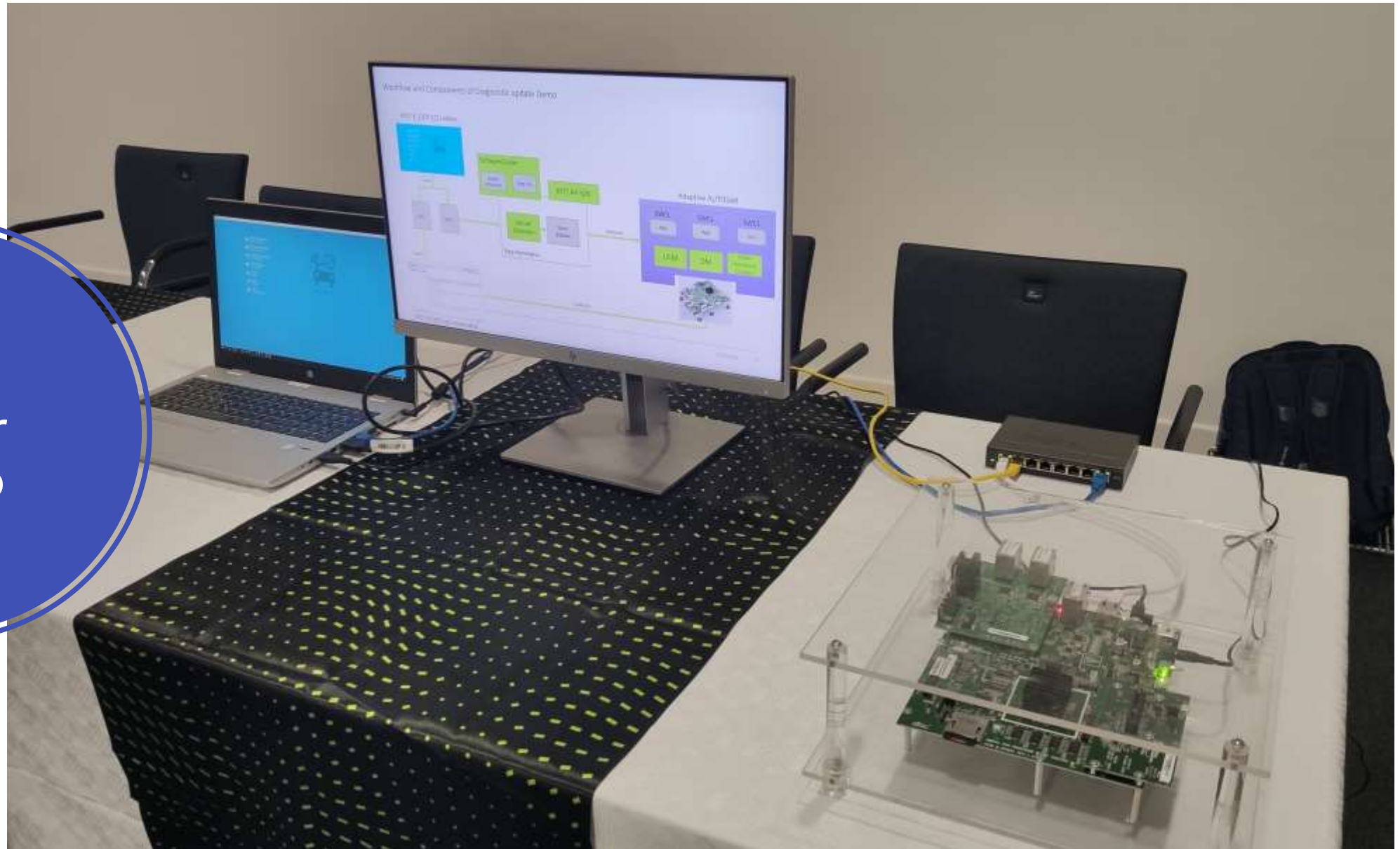
62 11 39 00 92 7C 04

3) Delete DID 0x1139 for Battery Voltage

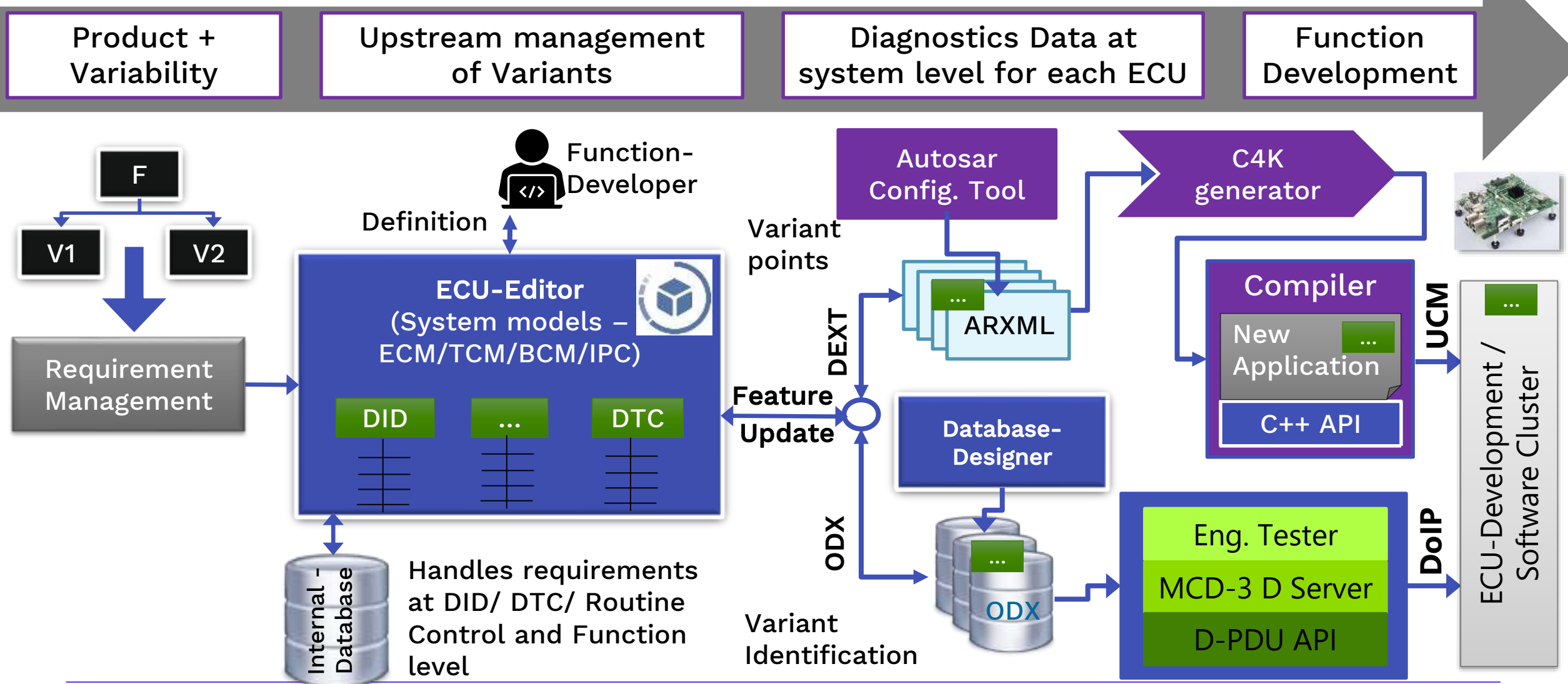
```
REQ: [12:16:51.378] 22 11 39
RES: [12:16:51.378] 7F 22 31
  Negative Service ID: 127
  Request Service ID: Read Data By Identifier
  NRC (interpreted): requestOutOfRange
  Request Service ID Check: 22
```

7F 22 31

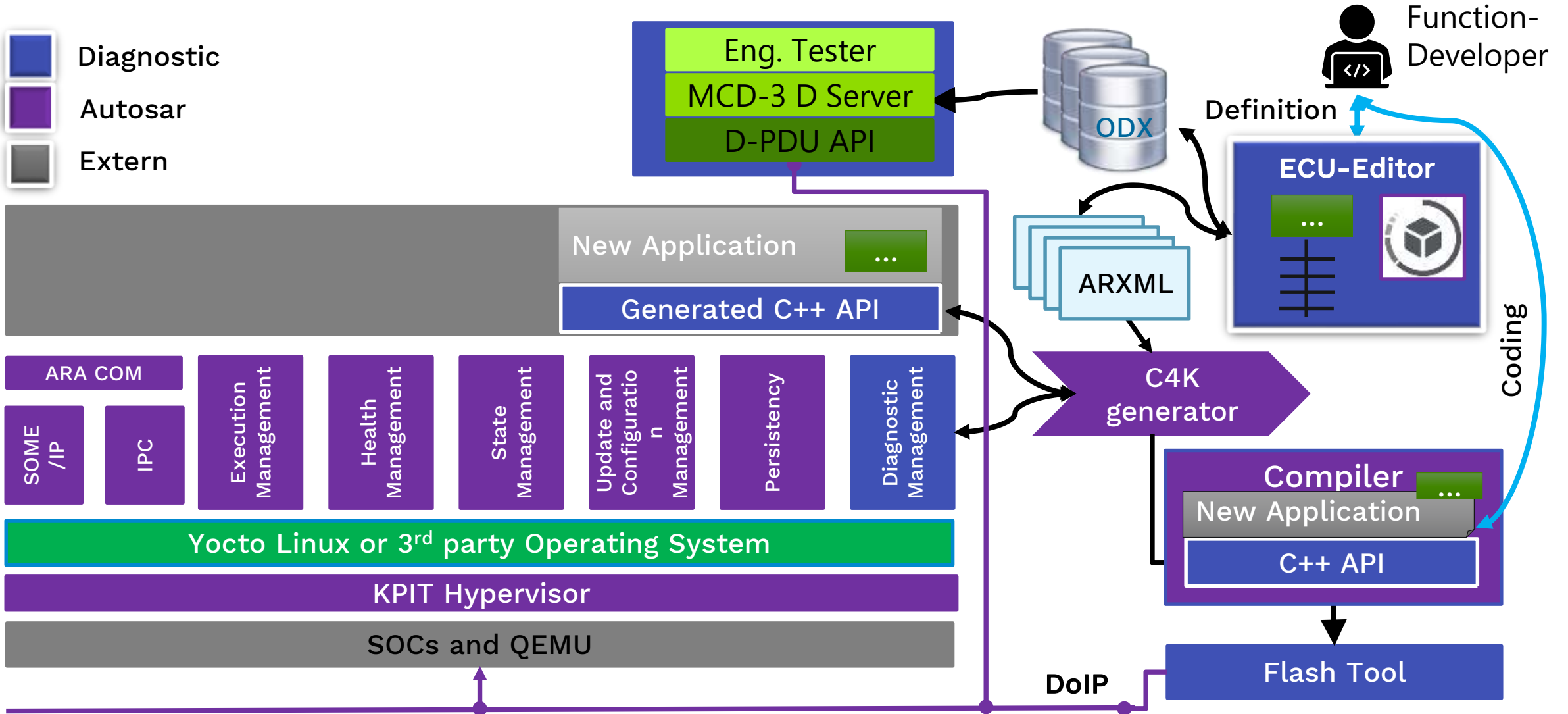
# ECU- Editor Demo



# High Level Workflow for ODX + ARXML with ECU-Editor



# ECU-Editor combines AUTOSAR and Diagnostics





High efficiency &  
Do it once!



No inconsistency &  
do it right!



One tool fits all –  
& never do it again!

## Product overview

- add, modify and delete all data related to Signals, Measurements (DID, PID) / fault codes (DTC) for Off-board / On-board for existing ECU's in Vehicles.
- initial configuration / templates done by using the Database Designer (ODX) and C4K for ARXML.