# MICROSAR Memory

## Agenda VectorAcademy

**Duration:** 1 day
**Target Group:** ECU developers with focus on configuration and integration of a memory stack
**Prerequisites:** Participation in the training program "AUTOSAR 4 in Practice" or a good AUTOSAR knowledge
**Goal:** Definition of sensible Memory partitions, correct handling of typical problems, dimensioning and optimization, usage of memory solutions for bootloader interaction

### 1 | Principles of NV memory

- Principles of the memory technologies Flash and EEPROM
- MICROSAR.MEM basic software modules NVM, FEE, FLS, EA, EEP

### 2 | Memory Handling

- Process for writing and recovering data
- NV Block at NVM level, FEE/EA level
- FEE and EA

### 3 | NvBlock Software Components

- Motivation and Concept
- NV Data Ports
- Implementation
- NV Block Descriptors

### 4 | MICROSAR MEM FEE concept

- Walking Concept/data organization
- Dynamic memory administration/Sector Switch
- Reset robustness
- Sector Overflow
- Critical Data Blocks
- FEE partitions

### 5 | Error recovery

- Handling of under-/overvoltage conditions
- Resets during writing processes
- Problems with automatic block copying during a sector switch
- Data recovery strategy in case of a sector overflow
- Securing critical data blocks

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### 6 | Configuration

- Fundamentals
- General configuration and integration hints
- Fee Optimization Assistant and "Flash Endurance" Calculation
- Updateability of the Vector Fee

### 7 | Debugging and Production Error Reporting

- Production Errors in the Memory Stack
- Debugging
- MICROSAR NVM
- MICROSAR FEE
- MICROSAR EA