Next Research Area

- Motivation
- Case Study (ACC)
- Next Steps

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I. Motivation
Automotive System Trend

1990 - 202x

Stand Alone Systems
Networked Sub-systems
Integrated Vehicle Systems
Service Integrated Systems (Vehicle and Infrastructure)

Control Systems

Methodology

Code-based Development
Component-based Development
Model-based Development
Platform-based Development

Next Research Area

Environment
Safety
Comfort
Convenience
I. Motivation

AUTOSAR Status and Next Research Area

- **AUTOSAR Status**
  - VFB was implemented.

- **New issues**
  - Feature interaction system
  - Increased Safety Demand
    - ISO26262

- **Challenges**
  - To fill in the gap between requirements and VFB

- **Key Technologies**
  - ADL (Architecture Description Languages)
  - SOA
Ⅱ. Case Study (ACC)
ACC Overview
Ⅱ. Case Study (ACC)

Case Study Steps

■ Objectives

■ To manage relations requirements and SW-C with ADL
■ To check the compatibility with AUTOSAR.

■ Steps

■ Step 1: Requirements and Feature Analysis
■ Step 2: Logical Architecture Modeling
■ Step 3: Exports AUTOSAR XML
II. Case Study (ACC)

Step 1: Function requirements and Feature Analysis

- we tried to manage relations requirements and features with EAST-ADL and our DSL (Domain Specific Language).
II. Case Study (ACC)
Step 2: Logical Architecture Modeling

- Feature implementation
  - This is the simple case of mapping one feature to one system.
Ⅱ . Case Study (ACC)
Step 4: Exports AUTOSAR XML
Ⅲ. Next Steps

- Case study consideration (conclusion)
  - We confirmed
    - the compatibility of ADL and AUTOSAR.
  - But this case study (ACC) is not feature interaction system.

- Next Steps
  - To investigate feature interaction system development with SOA.
END
I. Motivation

(Back up) ISO26262

- ISO26262 has been constructed. Because we will explain safety demand in the IEC61508.