



Optimized Software-defined Car ARchitectures

## Platform for Researching Architecture Variants in Software-Defined Vehicles

### Project Overview

The project aims to develop an innovative platform that explores various architecture variants for software-defined vehicles. The main features are:

- Universally applicable test environment across Industries – Automotive, Robotics, Avionics, Medical, Cloud
- Platform-independent programming
- Use of artificial intelligence for optimization

### Benefits and Goals

1. **Improved energy balance** in the vehicle through AI-optimized architecture solutions
2. **Reduction of development costs by 50%** through more efficient testing procedures
3. **Contribution to climate protection** through CO2 savings up to 30%
4. **Cost efficiency** through focus on AI optimization and WebAssembly technology the OSxCAR project pursues an innovative approach with minimal implementation costs, as the main savings are achieved through intelligent optimization of vehicle architecture and the use of modern technologies such as WebAssembly



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### Overview

- 5 Partners
- Total Budget: 7 Mil €
- Total Grant: 5 Mil €
- Funding rate Aptiv: 2.2 Mil € (65% of Total Costs)
- Duration: 3 years
- 01 Jun 2024 – 31 May 2027

### Universities:

- Bergische Universität Wuppertal
- Universität Bielefeld

### Industrial Organisations:

- Aptiv Services Deutschland GmbH

### SME

- paraXent GmbH
- CETEQ GmbH



Universität Bielefeld

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paraXent

CETEQ  
SOFTWARE CONTROL

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Ministerium für Wirtschaft,  
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## The Team





Optimized  
Software-defined  
Car ARchitecture



### Revolutionizing Software-Defined Architectures

<b>Unified Platforms across Industries</b> Automotive, Robotics, Avionics, Medical and Cloud	<b>Reduced Development Costs &amp; Time-to-Market</b> Software reuse up to 100% Savings up to 50%	<b>SW Reconfigurable Test Bench</b> From months to minutes - scalable SDV architecture setup
<b>AI Optimization</b> Intelligent software module placement & network configuration	<b>Carbon Footprint Reduction</b> Through AI optimization & web assembly – up to 20%	<b>W3C Standards</b> Enabling a unified approach to software development

**Dieses Projekt wurde aus Mitteln der Europäischen Union im Bereich Innovation und Forschung gefördert.**



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