

# Why Our Customers Work with Us



Automation Tools for Better Code



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## Contact Us

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or

**Book a Tech Chat**

[Setting up a chat](#)



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# Services for Automotive Software

Analyze. Optimize. Automate.

[www.emmtrix.com](http://www.emmtrix.com)



”  
Impressive code  
and compiler  
expertise

”  
They help find  
unexpected  
bottlenecks and  
code  
inefficiencies

”  
Only emmtrix  
provides  
runtimes for  
Simulink blocks

”  
Their solution  
address a wide  
range of issues  
and use cases

”  
Integrating their  
products was  
dead easy

# Our Services

# OBD Signal Flow Documentation

Focus on  
Real World Use Case



## Optimizing Code

### Performance Optimization

Code adaptation for accelerators and custom hardware

### SIMD Vectorization

Identify & implement vectorization, auto-vectorization & training

### Code Size Reduction

Loop restructuring, algorithm refactoring, compiler tuning

### Floating-Point Accuracy

Numerical optimization, ULP/error analysis & precision guidance

### Multicore Programming

Parallelize code for multicore, workload mapping, safe concurrency



## Tool Development

### Continuous Integration

Automated build, test, analysis & optimization in CI/CD pipelines

### Source-to-Source Compilers

Transform C applications into optimized code for target hardware

### Static Source Code Analysis

Timing estimation (min - max), signal flow analysis, compliance reporting (CI)

### AUTOSAR

ARXML parsing, RTE generation, calibration & diagnostics

### Transpilers

Cross-language transpilers: C++ to C, C to Rust, MATLAB to C



## Expertise

### Processor Architecture & Timing

Timing models, WCET analysis & platform tuning

### C/C++ Standard Compliance

Portability audits, migration to modern C/C++ standards & developer training

### Compiler Qualification & Certification

DO-178C & ISO 26262 support, verification, tests & evidence

## Customer

German Premium OEM

## Challenge

Trace and document all emission-relevant signals in a complex AUTOSAR-based software stack for certification by CARB, KBA and so on.



## Our Support

- ✓ Static signal flow analysis of source code
- ✓ Mapping to AUTOSAR variables, ASL/DCM
- ✓ CI/CD integration for automated compliance tracking
- ✓ Solution customization for evolving requirements

## Outcome

- ✓ Fully automated comprehensive documentation for auditing purposes
- ✓ Efficient work flow, reduced review report
- ✓ Detailed analysis to provide data for current and future requirements