

Code Size



Memory



Performance



Optimization



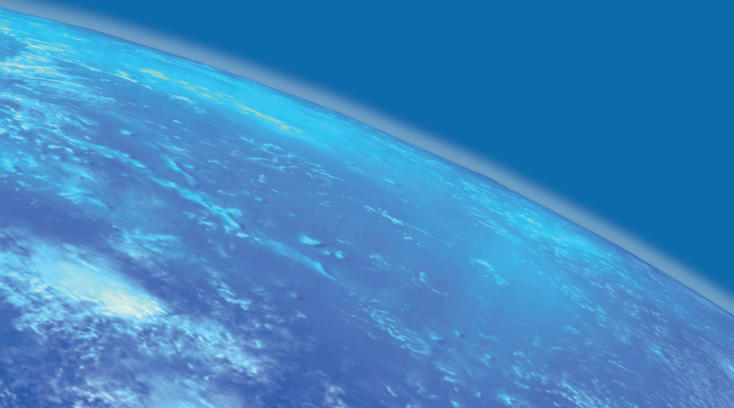
# Embedded Software Optimization Services for Space Systems



# Typical Project Situations

We support you when:

- Trained AI models need to be integrated into embedded software and adapted to the constraints of the target processor.
- Legacy software needs to be migrated to modern frameworks, programming languages, or development environments.
- Existing hardware needs to be used more efficiently.
- A hardware replacement is difficult to justify due to cost, availability, certification, or SWaP-C requirements.
- Performance, timing, code size, or memory requirements are not being met.
- Software needs to be ported to new target hardware or prepared for new processor variants.
- Existing development, analysis, or build tools need to be modernized, integrated, or made more maintainable.



# Our Service Portfolio

## Embedded AI Deployment

Generate analyzable C implementations from trained AI models, integrate them into existing software, and adapt them to the target architecture.

## Legacy Software Modernization

Migrate existing codebases to modern frameworks, programming languages, toolchains, and development environments.

## Analysis before Optimization

Assess complexity, bottlenecks, resource requirements, and technical risks in a structured way.

## Target Platform Assessment

Identify optimization opportunities, hardware limitations, and cost-benefit trade-offs.

## Build, Test, and CI Integration

Integrate tools and workflows into modern build, test, and continuous integration processes.

## Target Hardware Optimization

Adapt C/C++ software to processors, memory architectures, compilers, and platform resources.

## Performance, Timing, and Code Size Optimization

Improve and track execution time, memory usage, and code size.

## Tool and Toolflow Modernization

Analyze, adapt, and automate legacy tools, third-party tools, and development workflows.

## Validation and Integration

Verify optimizations through testing, simulation, measurements, and documentation.



Working with emmtrix was  
very productive.

Their expertise in  
automated testing and  
compiler optimization  
helped us  
accelerate integration of  
new functionality  
while ensuring high reliability.

**TASKING Germany GmbH**



**Take the Next Step!**  
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**Request a Technical Discussion**  
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# Why emmtrix

- Compiler technology and engineering experience for model-to-C conversion, generated C code and embedded target integration.
- Combination of architectural expertise, compiler know-how, static analysis, and practical implementation experience.
- Specialized in challenging embedded optimization problems and low-level optimization of performance-critical embedded software written in C/C++ and model-generated code.
- Extensive experience in execution time estimation, vectorization, parallelization, engineering tools, and toolflows – from legacy modernization to CI integration.
- Reliable and transparent results: Sound decision support for make-or-break decisions, hardware migration, optimization scope, and project prioritization with reviewable integration into existing development workflows.



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