

Services for Embedded Software Optimization

Typical Project Situations

We support you when:

- existing hardware needs to be used more efficiently.
- a hardware change is difficult to justify due to cost, availability, certification, or SWaP-C requirements.
- throughput, timing, code size, or memory requirements are not met.
- software needs to be ported to new target hardware or prepared for processor variants.
- multicore, SIMD/vector, or accelerator units are not fully utilized.
- development, analysis, or build tools need to be modernized, integrated, or made maintainable.

Service Portfolio

Assessment Before Optimization

Structurally evaluate complexity, bottlenecks, resource requirements, and technical risks.

Potential and Platform Evaluation

Make optimization potential, hardware limits, and cost-benefit factors transparent.

Target Hardware Optimization

Adapt C/C++ software to the processor, memory, compiler, and platform resources.

Performance, Timing, Code Size

Measurably improve and track runtime, memory usage, and code size.

Multicore, SIMD, Accelerators

Make parallelism and specialized compute units usable without losing maintainability.

Tool and Toolflow Modernization

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

Build, Test, and CI Workflow

Integrate tools and toolflows into modern build, test, and CI processes.

Validation and Integration

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

Why emmtrix?

- Deep expertise in embedded architecture, compilers, static analysis, and hardware-related optimization.
- Broad experience with C/C++, model-generated code, runtime analysis, vectorization, parallelization, and complex toolflows.
- Traceable results as a basis for hardware decisions, make-or-buy decisions, integration effort, and project prioritization.



Schedule an appointment for an initial technical and commercial assessment.

Rainer Heim
rainer.heim@emmtrix.com | +49 170 447 2986
www.emmtrix.com