# Solid Sands extends SuperGuard C++ Core with comprehensive support for C++ multithreading qualification

**Amsterdam, 17 June 2026** – Solid Sands B.V., the world-leading provider of testing and qualification technology for compilers and libraries, has announced a major update to SuperGuard C++ Core, extending its library qualification capabilities with comprehensive coverage of the multithreading facilities of the C++ standard library.

The latest SuperGuard update adds qualification support for the key multithreading facilities of the C++ standard library, including:

- `<thread>` header for thread creation and management
- `<condition_variable>, <mutex>, and <shared_mutex>` headers for synchronization and mutual exclusion
- `<atomic>` header for low-overhead, lock-free thread coordination and signaling.

Marcel Beemster, CTO of Solid Sands, comments: “Mobile systems in particular benefit from aggregated compute power: a single high-end SoC provides flexibility through multiple CPUs, vector and GPU for efficient sensor processing, and an NPU for resilient control. Making effective use of these resources depends on reliable multithreading support throughout the software stack, which in turn places greater demands on the correctness and quality of the underlying C++ library implementation.”

The tests in SuperGuard are designed to be portable and actively create contentious situations where resource conflicts need to be resolved correctly. By actually measuring that these conflicts have occurred, SuperGuard helps build trust in the correctness of the implementation and provides objective evidence for qualification activities.

Marcel Beemster adds: “Multithreading primitives are notoriously difficult to implement and test because of their inherent non-determinism. Their behavior may appear to be correct in the lab, only to fail when subjected to real-world conditions. This makes it essential to verify the quality of the C++ toolchain implementations. With this update, SuperGuard extends qualification support for an important part of the C++ standard library that developers increasingly depend on.”

The latest release continues the expansion of SuperGuard as a comprehensive qualification solution for C and C++ standard libraries, helping developers generate objective evidence that library implementations behave according to specification.

For more information about SuperGuard, visit www.solidsands.nl.

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**About Solid Sands**
Since Amsterdam's earliest days, its buildings have stood on deep foundation piles - driven through clay and peat to reach solid sand. At Solid Sands, we take the same approach to software reliability. Our mission is to ensure that safety-critical software is built on a solid foundation. Our world runs on code, powering everything from medical robotics and autonomous vehicles to aerospace systems and railway networks. But software is only as strong as the trust behind it. That's why we created SuperTest™ and SuperGuard™, the world's most rigorous compiler validation and library test suites. By eliminating uncertainty and ensuring quality, we give our clients more than just testing tools; we give them Confidence by Design.
More information on the company's products and services is available at www.solidsands.nl.
You can follow Solid Sands on LinkedIn and YouTube.



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