LDRA

Software Technology

MISRA-C++:2008 Checking with LDRA Testbed®

Guidelines for the use of the C++ language in critical systems

Why adopt the MISRA-C++:2008 standard?

The expansion in the use of software in the automotive sector has led to an expansion in the number of programming languages being used during system development. C++ is one such language, and, given its wide user base, it is expected to become a major player in future automotive projects.

In view of the above developments, MISRA® (Motor Industry Software Reliability Association) has produced a set of guidelines to assist in the use of C++ in critical systems which it has called MISRA-C++:2008.

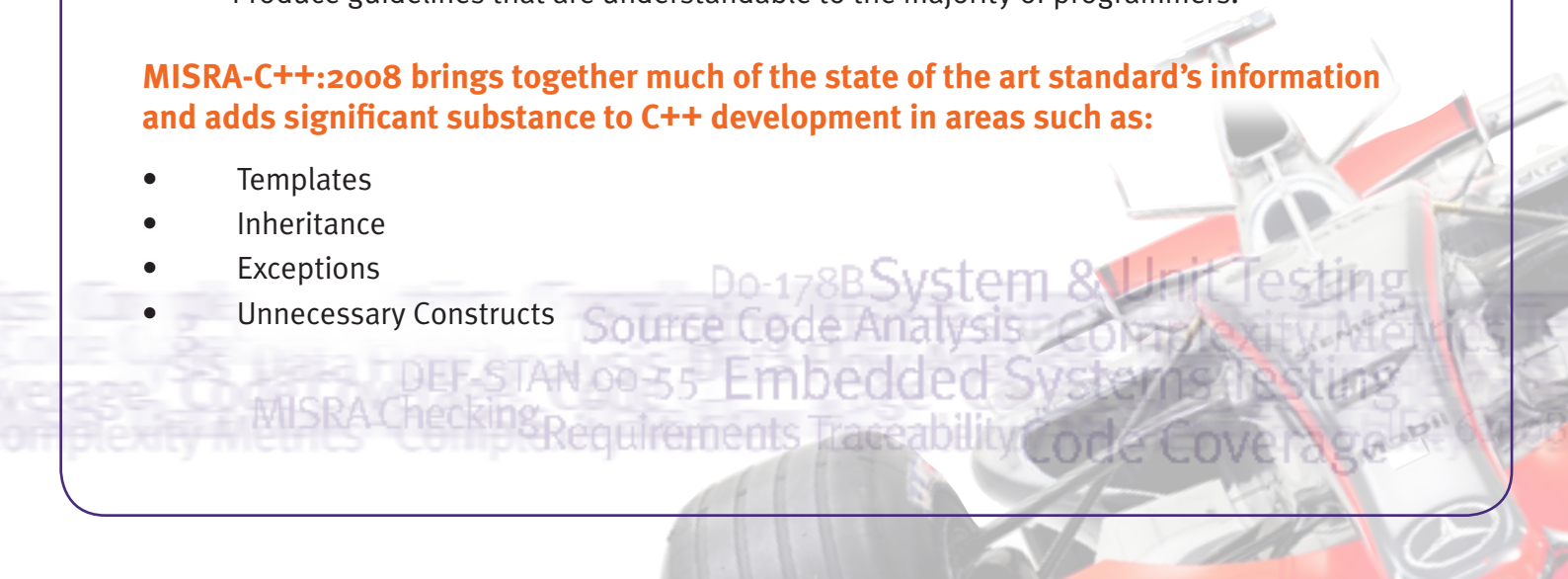
MISRA-C++:2008 Objectives

The main objectives of MISRA-C++:2008 are to:

- Produce a subset of the C++ language suitable for use in critical systems.
- Produce a subset of C++ using techniques similar to those within MISRA-C:2004.
- Gather existing C++ guidelines from many diverse sources into a single repository.
- Add new guidance so as to significantly enhance the state-of-the-art.
- Establish a single, generic set of guidelines for the use of C++ in critical systems.
- Produce guidelines that are understandable to the majority of programmers.

MISRA-C++:2008 brings together much of the state of the art standard's information and adds significant substance to C++ development in areas such as:

- Templates
- Inheritance
- Exceptions
- Unnecessary Constructs



Conformance to the MISRA-C++:2008 standard can be automatically checked using LDRA Testbed.

MISRA-C++:2008 has been developed by industry experts and tool vendors working in partnership. As a leading supplier of MISRA compliance software analysis tools LDRA participated in this collaborative exercise and has extended its proven tool suite to encompass the new MISRA-C++:2008 guidelines.

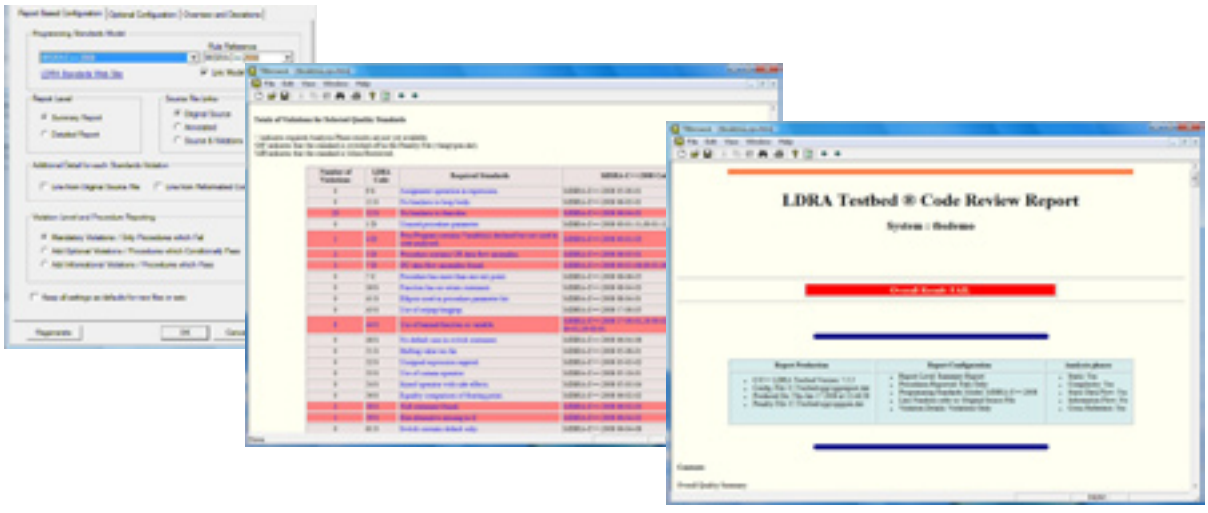
LDRA's Programming Standards Track Record

Already within the scope of the C++ language we have worked with Lockheed Martin in developing the JSF++ AV standard, as well as being able to enforce the High-Integrity C++ Coding Standard* and the LM Train Control Program (LMTCP) standard.

MISRA-C++:2008 Conformance with LDRA Testbed

This process can be undertaken during unit, system and integration testing to ensure compliance throughout the software development life-cycle.

LDRA Testbed locates and highlights areas of code that do not conform to the guidelines, to aid documentation and modification. Meaningful reports and graphical displays enhance understanding of the source code, leading to improvements in testability and maintainability in line with the MISRA-C++:2008 guidelines.



LDRA Testbed can be configured for compiler dependant features for host/target testing.

LDRA's products & services are widely used by companies whose names are synonymous with embedded automotive electronic systems including: DENSO, Delphi, Paragon, Yaskawa, Ford, Continental and Actia.

* High-Integrity C++ Standard: © The Programming Research Group

For more information or a demonstration contact LDRA.

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