# MISRA C Liaison Report
## to ISO/IEC JTC1/SC22/WG14
### 21st-25th October 2019

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# Introduction

- The MISRA C Working Group presents this liaison report to WG14

- Although the Liaison Representative is unable to attend, the MISRA C Working Group is represented.

- This report summarises the activity within the MISRA C Working Group, and offers opinion on WG14 proposals.

# The Team

The MISRA C Working Group has representation from:

- The UK

- Germany

- Italy

- Poland

- The USA

In addition the MISRA C Working Group has strong support from the MISRA Study Group in Japan.

# Liaison

The MISRA C Working Group has formal liaison with:

- ISO/IEC JTC1/SC7/WG26        Software Testing (via BSI delegate)

- ISO/IEC JTC1/SC22/WG14        The C Language

- ISO/IEC JTC1/SC22/WG23        Language Vulnerabilities

# MISRA C SitRep – Summary

■ Issued

  - MISRA C:2012 (3rd Ed. 1st Rev)        Published Feb 2019


  - MISRA C:2012 Addendum 1              MISRA-C:2004 v MISRA C:2012
  - MISRA C:2012 Addendum 2 (2nd Ed)    Coverage against "C Secure"
  - MISRA C:2012 Addendum 3            Coverage against "CERT-C"


  - MISRA C:2012 Amendment 1            Additional security guidelines
  - MISRA C:2012 Tech. Corr. 1


■ Issued, but ongoing...

  - Exemplar Suite                      In GitLab

# MISRA C:2012 (3rd Edition, 1st Revision)
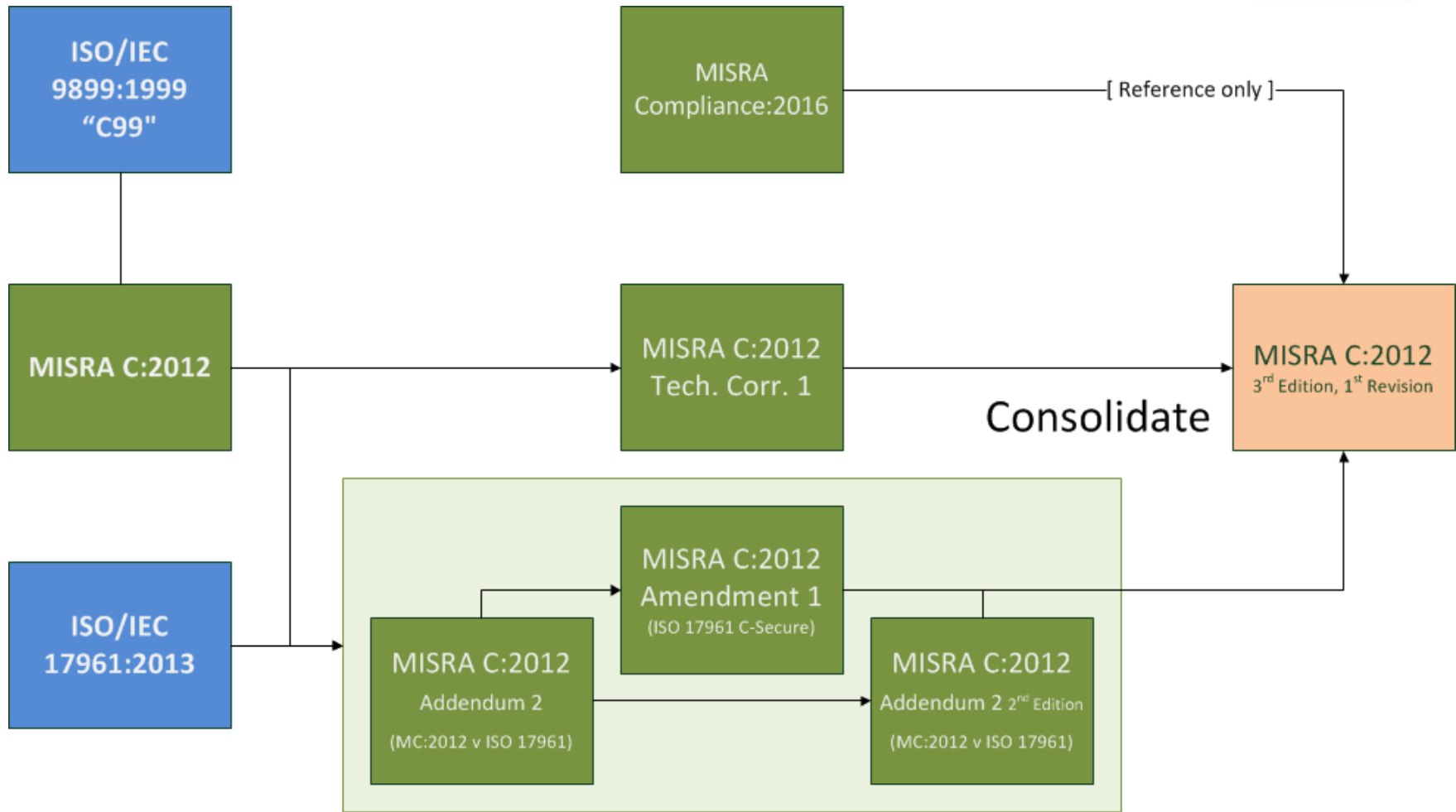
# MISRA C SitRep – Road Map

■ Work In Progress

- MISRA C:2012 Amendment 2          Update for C11/C18 core functionality
- MISRA C:2012 Amendment 3          Update for C11/C18 new functionality

■ Under Consideration

- Coverage of Standard Library          Enhance, esp. wrt hosted implem's?
- Coverage of ISO/IEC TR 24772          Produce coverage matrix?

Some work is jointly with MISRA C++ to ensure consistent approach!

# MISRA C:20xx Road Map
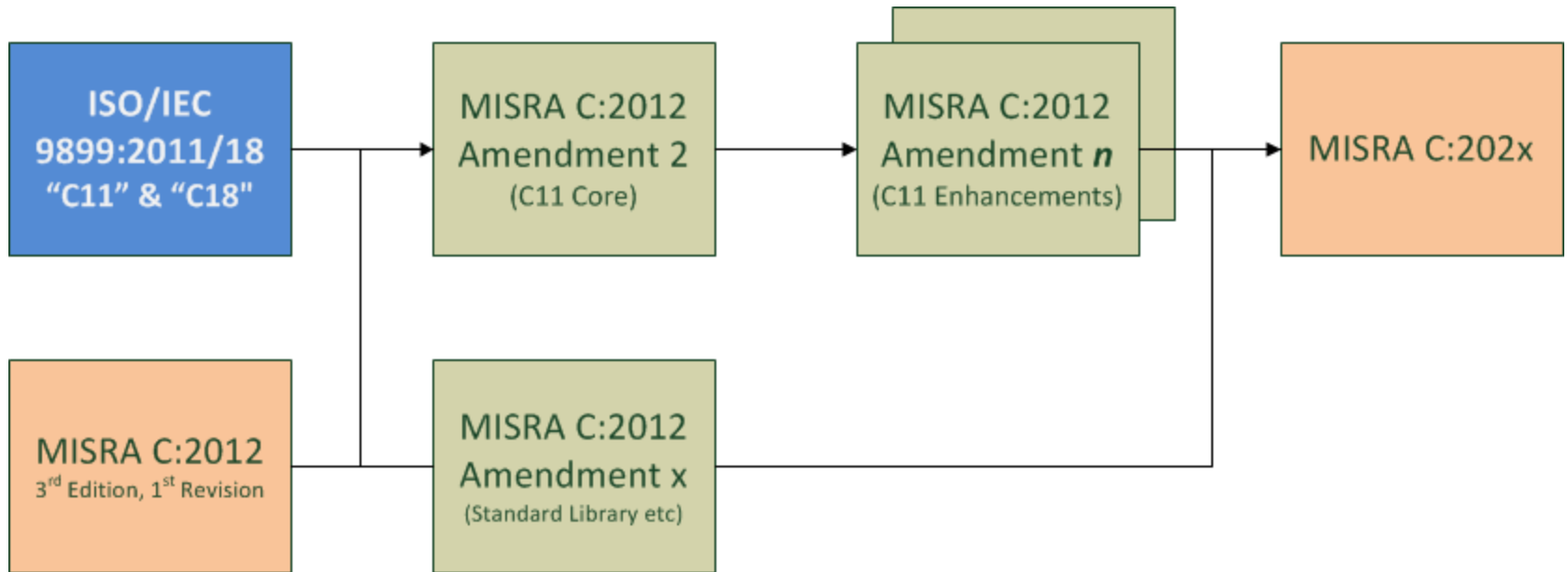
# MISRA Related Proposals

- **N2008   Pygott        enum Representation Type**
  - Listed in SD3.
  - MISRA C are keen to see this progressed
- **N2112   Banks        Enumerating & Cross-referencing Annex J**
  - Adopted... See N2427 for progress (thanks)
- **N2258   Banks        Proposal for "defensive" attribute**
  - Further work on the proposal required, by MISRA C.
  - Hopefully can re-submit ahead of the Freiburg meeting

# WG14 Proposals

- N2393   Gustedt      Make false and true first-class language features
  - MISRA C support the proposal

- N2394   Gustedt      Introduce the nullptr constant
  - MISRA C support the proposal

- N2408   Ballman      The [[fallthrough]] attribute
  - MISRA C support the proposal in principle
  - Question the need for a null statement though?

- N2410   Ballman      The [[noreturn]] attribute
  - MISRA C support the proposal

- N2411   Ballman      Querying attribute support
  - MISRA C support the proposal

# WG14 Proposals

■ N2417    Gustedt        Modernize time.h functions v.2x

- MISRA C support the proposal in principle... And vote "Yes" except for:

- Q5: No... Fixing the problem is trivial!

- Q9, Q10, Q11, Q12, Q25: No

    o Better to add *buf* as an <u>optional</u> extra parameter to the base function (with default 0) rather than creating another function.

    o Can deprecate the non-use of the extra parameter?

# WG14 Proposals

- N2419   Rytarowski  Add methods for setting and getting the thread
    - MISRA C support the proposal

- N2427   Gusted       change bullet points in annex J ...
    - MISRA C acknowledge the progress made.  Thanks.

# WG14 Proposals

- N2429    Gustedt      Function failure annotation

  - MISRA C support the proposal in principle

- N2430    Meneide      [[nodiscard("should have a reason")]]

  - MISRA C support the proposal

- N2432    Gustedt      Remove support for function defns with identifier lists

  - MISRA C support the proposal

- N2438    Stoughton    Realloc with size 0 ambiguity

  - MISRA C support the proposal in principle

  - MISRA C are of the view that all (*x*)alloc(0) functions should always return *null* and an error.