SELECTION CRITERIA FOR A CORE SET OF GUIDELINES

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LÄUFT DIE SOFTWARE, FÄHRT DAS AUTO.

SOLUTIONS FOR INTEGRATED QUALITY ASSURANCE OF EMBEDDED AUTOMOTIVE SOFTWARE

☐ Challenge:

- More than 500 public guidelines (MATLAB)

- Some public guidelines (UML)

- Nearly no public guidelines exist

- Additionally customer specific guidelines may exist

☐ How to choose a proper set of guidelines?

SELECTION CRITERIA

- ☐ Priority
  - ■ Mandatory/required
  - ■ Strongly recommended
  - ■ Recommended

- ☐ Model phase
  - ■ Functional model
 - ■ Implementation model

- ☐ Topic related aspects
  - ■ Toolchain
  - ■ Layout and design
  - ■ Model documentation
  - ■ Naming conventions
  - ■ Strong data typing
  - ■ …

ISO26262-6/T1: Modeling and coding guidelines

Topics	ASIL			
	A	B	C	D
1a) Enforcement of low complexity	++	++	++	++
1b) Use of language subsets	++	++	++	++
1c) Enforcement of strong typing	++	++	++	++
1d) Use of defensive implementation techniques	o	+	++	++
1e) Use of established design principles	+	+	+	++
1f) Use of unambiguous graphical representation	+	++	++	+
1g) Use of style guides	+	++	++	++
1h) Use of naming conventions	++	++	++	++

ISO26262-6/T8: Modeling and coding guidelines

Topics	ASIL			
	A	B	C	D
1a) One entry and one exit point in subprograms and functions	++	++	++	++
1b) No dynamic objects or variables, or else online test during their creation	+	++	++	++
1c) Initialization of variables	++	++	++	++
1d) No multiple use of variable names	+	++	++	++
1e) Avoid global variables or else justify their usage	+	+	++	++
1f) Limited use of pointers.	o	+	+	++

QUESTIONS
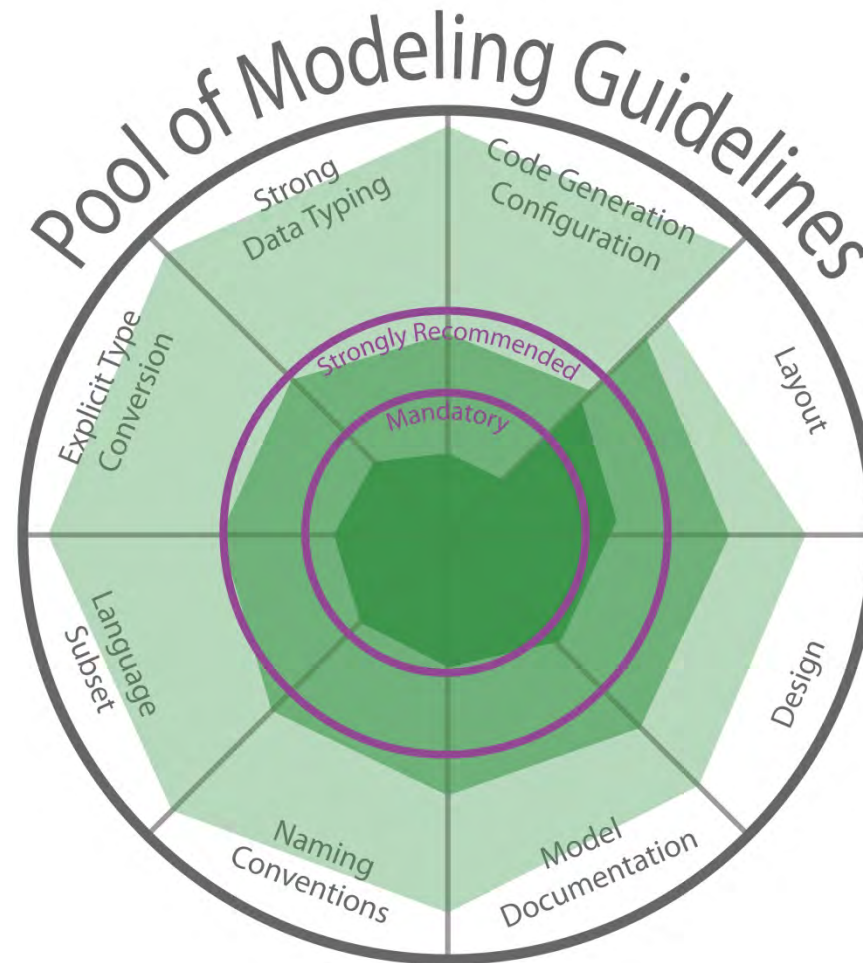
☐ How did you start working with guidelines?

☐ What are the must have guidelines/categories?

☐ How did you structure guideline documents?

□ Interested? Register your participation at *LinkedIn*

- MES at embedded world 2016 in Nuremberg

23.-25.02.2016

- Exclusive champagne reception hosted by MES for MGIGroup at embedded world 2016

24.02.2016

- Third online meeting via WebEx of the MGIGroup

22.06.2016

06./07. Oct. 2016

- Next MES User Conference to meet face-to-face, share experiences, have discussions…
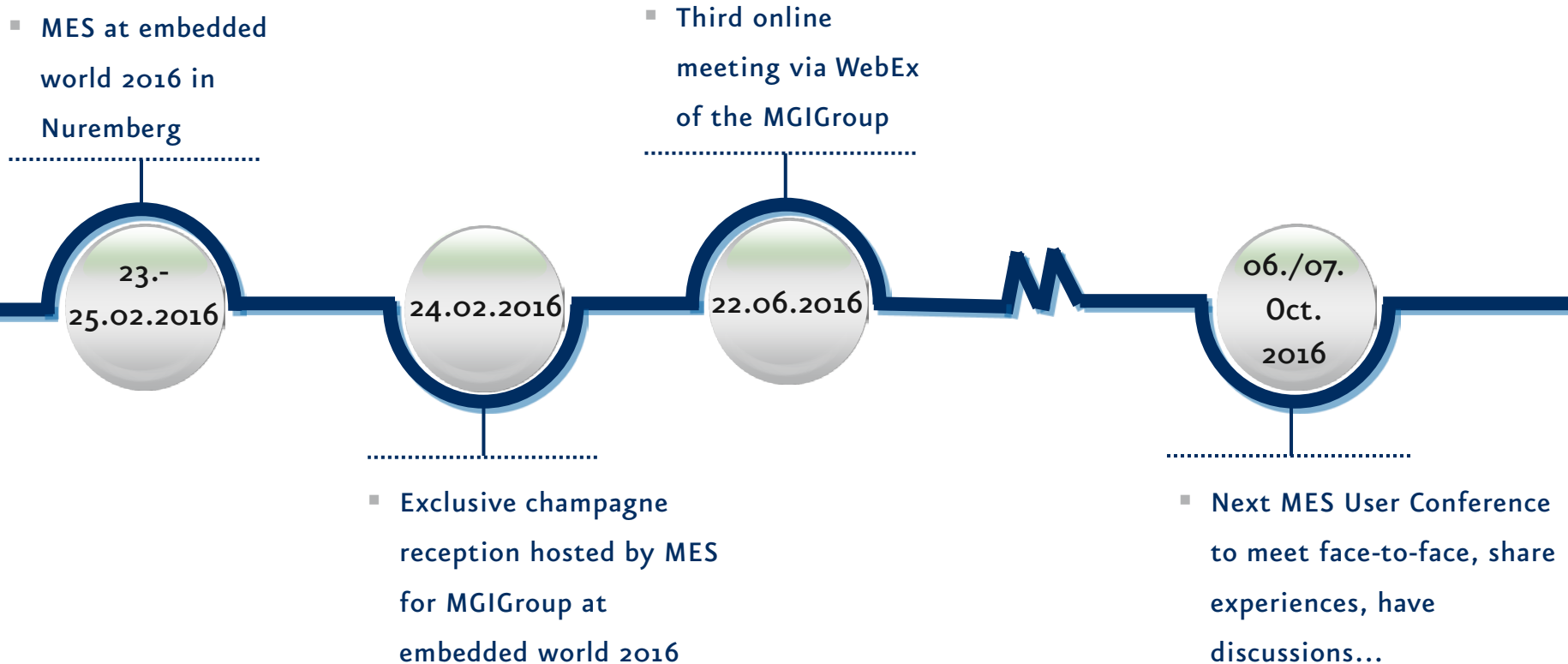
Visit MES at <u>embedded world 2016</u> in Nuremberg!

☐ Exclusive champagne reception hosted by MES for MGIGroup

- **Location:** <u>booth 515, hall 4, Exhibition Center, Nuremberg</u>
- **Date:** Wednesday, February 24, 2016
- **Time:** 5-6 p.m.

JOIN IN THE DISCUSSION!

We look forward to welcoming you!

☐ October 06-07, 2016

- **Venue:** Soho House, Torstraße 1, 10119, Berlin (Germany)
- **Registration fee:** € 220
- Limited number of participants, please register in advance by September 20, 2016

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