



2024
Annual **INCOSE**
international workshop
HYBRID EVENT
Torrance, CA, USA
January 27 - 30, 2024

AWG & SaSIWG,
Mon 29, Jan 11:00-12:30 PST

Inter-WG exchanges about Systems and Software Interface in the Automotive domain



Description in IW24 event schedule

- *AWG and SaSIWG will meet for the first time, even if some members have been participating to the 2 groups for a long time. We shall go through several SaSIWG recent work products, discuss how to refine their automotive content and create other, and review more widely several potential common interest topics.*

(after Tom Haggerty presented the FireSky scenario during last AWG monthly meeting)



Agenda

- Welcome, introduction
- For several SaSIWG recent work products
 - Presentation
 - Discussion, if necessary, in order to:
 - Create or refine their automotive content?
 - create & elaborate any others ?
- Review more widely several potential common interest topics.



SaSIWG existing scenarios for today discussion

- Firesky scenario (*A fictional company providing aviation maintenance software to firefighting helicopters*) : SaSIWG reaching domain WGs (Automotive & other)
- Automotive scenario n°1 (*NewAir, an aircraft manufacturer, wins its first government contract to build navigation software for a semi-autonomous ground vehicle*) : in the eBook
- Automotive scenario n°2 (*Autonomous Vehicles Inc. is an automotive company specializing in autonomous vehicles for package delivery*) : « eBook bonus »

the targeted people for those scenarios can be diverse, sometimes System actors sometimes Software actors, and also both “general audience” or “domain specific”, it obviously depends on the scenario



Agenda

- Welcome, introduction
- For several SaSIWG recent work products
 - Presentation
 - Discussion, if necessary, in order to:
 - Create or refine their automotive content?
 - create other?
- Review more widely several potential common interest topics.

Preliminary list of potential SaSI topics in the Automotive area (1/)



- Create other stories supporting relevant messages, examples :
 - for Systems : do not make hypothesis on your own about software architecture, neither on allocation of functions to software components
 - For Software : take opportunity of System deliveries, not only requirements : for instance functional architecture, for both:
 - Better understanding (synthetic diagram vs 100 Reqs)
 - Enhanced traceability (MBSE ← MBSW)

Preliminary list of potential SaSI topics in the Automotive area (2/)



?

- « Software Defined Vehicle » :
 - Beyond the “claim”, which usage(s)?
 - Clarifying content of SDV wrt "non SW" topics,
 - Risks, good practices,
 - other “SDx” in other industries, ...

Preliminary list of potential SaSI topics in the Automotive area (3/)



- « Tuning » (calibration activities, teams, parameters, ...) has a great importance in automotive engineering, in-between:
 - System & Software
 - Design and V&V

=> Why such an importance compared to other domains ?

=> Good practices, impact/opportunities of MBSE,
...

Preliminary list of potential SaSI topics in the Automotive area (4/)



- When software uses « SOA » (Service Oriented Architecture)
 - Impact on System architecture (think « System services »?, at least functional architecture should adapt ? ...)
 - Which limits ? (vs safety ? vs time criticality ? ...)

Preliminary list of potential SaSI topics in the Automotive area (5/)



- Many software teams (OEM, Tier1s, OEM-IS/IT, Partners-IS/IT, ...) to support a single modern automotive feature !

=> List the risks and good practices :

- Overall process,
- Feature & Systems specification, V&V activities, version control,
- « Software choices » compatible with all involved teams
- ...

List of Potential SaSI topics in the Automotive area



=> potential activities SaSIWG – AWG

=> How to proceed ?

- Discuss
 - Feedback in both WG periodic meetings,
 - Select topic(s? 1 to start with?) (current « consultation » in AWG about 2024 topics? same on SaSIWG? Other way ?)
 - Identify pilot(s), cross-WG team, ...



Roundtable