





MARP and RASWG

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- In the context of new ATS structure, existing working groups and committees are being re-organized
- A technical committee (**ATS common technologies technical board**) replacing CO3 is under definition, with several spin-off working groups.
- These WGs report to the Technical Board, which reports to a **Strategy Board**
- Among the WGs, one working group on reliability/availability is foreseen – **RASWG**, aiming to embed the functions of the ‘old’ RASWG, the AWG and MARP
- The proposal is to have A. Apollonio as chair (TE-MPE) and B. Todd as co-chair (SY-EPC) + V. Schramm (BE-CEM) as scientific secretary
- RASWG will report to the Technical Board and to relevant committees (LMC, IEFC, HL-LHC TCC, FCC,...)
- Participation list to be revised

- A mandate to reflect the functions of the new RASWG should be prepared
- Relevant topics (to be discussed):
 - **Analysis of electronic systems reliability**
 - Definition of a common workflow/guidelines for the reliability analysis (collaboration with BE-CEM), including methods (FMECA, Fault Trees, etc.) and tools (Isograph, AvailSim4, etc.)
 - Definition of design checklists (initiated by B. Todd and others)
 - ECR chapter on reliability (similar to what done in the past for R2E compliance)?
 - Formal verification methods (collaboration with HSE, BE-ICS)
 - Organization of internal design reviews for critical systems (?)
 - Testing methodologies and facilities

- Relevant topics (to be discussed):
 - **Analysis of (higher-level) systems reliability** - other than electronics
 - systems engineering approach, with similar methods to electronic systems (FMECA, FT) and tools (Isograph, AvailSim4)
 - Possibly extend to definition of testing strategies, reliability runs, etc.
 - **Fault tracking**
 - Organization of weekly meetings with machine coordinators (LHC will also participate for Run3) for the fault review
 - Maintain data in AFT
 - Gather requirements and drive further developments of AFT
 - Prepare reports and presentations for relevant committees (LMC, IEFC, Chamonix WS, ...)

- Relevant topics (to be discussed):
 - **HL-LHC studies:**
 - Coordinate reliability/availability studies for HL-LHC systems
 - Prepare predictions for HL-LHC performance as a function of the estimated availability
 - Report to HL-LHC TCC when applicable
 - Develop methods for project risk assessment
 - **Consolidation project:**
 - Refine consolidation forms for quantitative risk assessment
 - Take part in arbitration?

- Relevant topics (to be discussed):
 - **Collaborations and trainings:**
 - Coordinate collaborations with other sectors at CERN (e.g. HSE)
 - Coordinate collaborations with external institutes/universities
 - Organize trainings on selected topics of interest (e.g. formal verification)
 - Organize workshops at CERN (~1/year?) and with the accelerator community (e.g. ARW, 1/2years)
 - Coordinate participation in European projects

