

# (Special Session Proposal) Regulatory Aspects of Condition Based Maintenance

With aircraft maintenance contributing significant portions to the overall operating expenditures for an airline, the introduction of Condition Based Maintenance (CBM) strategies promises substantial cost saving potentials. These will mainly be achieved by avoiding unscheduled maintenance events due to unforeseen failures and reducing scheduled maintenance efforts such as repetitive inspections or functional checks. Consequently, the development of technical capabilities for an automated condition monitoring, fault diagnosis, and failure prognosis has received much attention over the last decades. However, still, the application of these technologies often is limited to non-safety-critical functions and typically does not allow to substitute scheduled, manual maintenance work. While the need for change in the regulatory framework has been recognized by industry and regulatory bodies, only first ideas for a potential pathway for these changes exist yet, e.g., IP180, IP 211, AC43-218. Thus, there is still a lack of standardized guidance for developers of CBM technologies how to ensure regulatory compliance. Therefore, this session aims to collect insights

- from industry about their needs towards adapted regulations to support their CBM development efforts,
- about existing regulations and best practices that can serve as a basis for future developments, and
- from standards bodies such as SAE on how to support these regulatory changes with standardized frameworks on the development and evaluation of CBM technologies.