



EUR 175-24 / WG129-03
RTCA Paper No 109-24/SC244-003

Saint-Denis, 14 May 2024
Washington, 14 May 2024

**EUROCAE WG-129 “Take-off Performance Monitoring System Strategy”
and
RTCA SC-244 “Take-off Performance Monitoring System Strategy”**

Kick-off Meeting Minutes of Meeting

Date	30 April 2024 (11:30 am to 6:30 pm CEST/5:30 am to 12:30 pm EDT)
Place	EUROCAE HQ + Microsoft Teams Online
Venue	EUROCAE 9 rue Paul Lafargue 93210 Saint Denis (France)
Hosted by	EUROCAE

Minutes of Meeting:

- **Presentation of EUROCAE and RTCA policies, introduction and processes, WG-129 Terms of Reference and WG leadership.**



WG-129%20SC-244
%20KOM.pptx

- **Presentation of the UK CAA (materials to be shared):**
 - Description of typical events that should be addressed by a TOMS. AAIB highlights that 42 events have been recorded since 2018 (refer to Bulletin 27895).
 - Recognition that low acceleration or wrong position on the runway are difficult to be detected by the crews.
 - Jeffrey Meyers (FAA) reminds that management of take-off speed is already addressed in the AC2515 (Policy Statement on the Certification of Flight Management Systems (FMS) that Include Takeoff or Approach Reference-Speed Calculations) https://drs.faa.gov/browse/excelExternalWindow/9EA4BB63B9A9FB3486257593006AAA_CE.0001
 - Stephen Hoare (AAIB) clarified that AAIB recommendation is aiming at a system looking at low acceleration.
 - Yasuo Ishihara (HWL) reports that their TLAM system does this monitoring, but that this monitoring is independent from the daily aircraft performance.
 - Reminder on the existing SAE standard: TAKE-OFF PERFORMANCE MONITOR (TOPM) SYSTEM, AIRPLANE, MINIMUM PERFORMANCE STANDARD FOR AS8044 => seems to be “out-of-date”.
 - Reminder about the conclusions of the Eurocae WG-94 TOPM:

- 3 Levels of protection were introduced
- Standardization not feasible at that time for various causes (add the link the conclusion report)



TOPMJan24 with
KHA changes v6 (Eurc



Review of available
TOPM docs.pdf

- **Presentation AVIX Aero (Kirk Nance) on WB balance solution** (already mentioned in the BIS released in 2024). Information provided on the accuracy (~60kg at 60T, CG at ~1%) and the reliability of the system. Weight and CG available at the gate and during taxi.



EUROCAE - RTCA -
Avix Presentation.pdf

- **Discussion about the scope of the WG-129:**

- The analysis of the scenarios to be covered and the operational gaps is already covered by the on-going EASA RMT (rule making task).
- The UK CAA confirms the interest of releasing a standard / TSO because it makes the life easier for avionics suppliers to demonstrate compliance to the regulation.
- Xavier Vergez (EASA) asked for clarification of such standardization: is it to define objectives rather than to be technically prescriptive within the standard? (Action 1.1 – Chairperson).
- Xavier agreed to provide an update to RMT.0741 so that no work done by this WG129 is repeated from what EASA has already carried out. (Action 1.5 – EASA, Xavier Vergez).

- **Round table of the available technologies deployed by each industrial actors (avionics supplier and OEMs):**

- Garmin: Difficulty is the willingness of the OEMs they are working with
- Honeywell: TLAM description. Low acceleration threshold alert, designed to detect major error. Performance models from OEM would be needed.
- Collins: TLAf description. Incorporates real time accel monitoring, OEM performance data are also needed.
- Discussion about the runway state to be considered: Airbus confirms there is no difference of take-off run between Dry and Wet.
- Boeing: 2 checks are implemented:
 - Check the remaining distance on the runway (when TOGA is set)
 - Check at 70kt the A/C acceleration wrt theoretical speed profile
 Additional work on-going on prototype on 787.
- Embraer: Highlight of 2 patents:
 - Auto-RTO
 - T/O monitoring system (continuous monitoring of the A/C accel) from 20kt to V1
 The second solution has been put in priority (considered more useful).
 FAA agreed to provide their policy on ZFW to the group (Action 1.4 – FAA - Jeff Meyers)
- Gulfstream: solution based on the measured acceleration, covered by a patent.
- Textron: solution based on A/C performance, but at the early stage of the design.
- Airbus: slides shared with the different solutions (already certified):
 - Several checks of the FMS input in preflight & during taxi (TOS)
 - Check after thrust setting (TOS)
 - Check between 30kt and 90kt of the acceleration (TOM)
 A synthesis is provided based on the event list identified in the BIS: which event is covered by which check.
- Following the presentations of the solutions, UK CAA agrees to update the list of input that should be considered to add the A/C position. To be noted that the output of the ToR shall be updated as well. (Action 1.2 Chairperson to draft an update to the ToR and provide to EUROCAE).
- Discussions around the AC-20138 and the DO-283.

Way forward:

- UK CAA: which format for internal report? UK CAA propose the structure of the Internal Report (section and §). (Action 1.3. Chairperson to draft an internal report template structure for the group)
- Brian Roberts (UK CAA) volunteered to take the role of chairperson for the WG-129.
- Objective: provide an internal report to inform the EUROCAE / RTCA technical committees of the current Technology assessment (feasibility) of the TOMS by the end of September 2024.
- Next meeting: 4th and 5th of June in Washington (2 half days, afternoon for European time)

EUROCAE / RTCA / Chairperson to propose an agenda for the next meeting.

- Virtual meeting will be organized between June and September in sub-groups

List of Actions

Action No.	Question	Assigned to	Response
1.1	Xavier Vergez (EASA) asked for clarification of such standardization: is it to define objectives rather than to be technically prescriptive within the standard?	Chairperson	
1.2	Update the list contained in the ToR to include aircraft position errors. Chairperson to draft an update to the ToR and provide to EUROCAE	Chairperson	
1.3	Propose the structure of the Internal Report (section and §). Chairperson to draft an internal report template structure for the group)	Chairperson	
1.4	Provide FAA policy on incorrect Zero Fuel Weight (ZFW)	FAA – Jeff Meyers	
1.5	Provide progress statement on EASA RMT.0741.	EASA – Xavier Vergez	

Participants

Nom	Organization
Esther Hoyas	EUROCAE
Joscha Kurz	DLR
Kevin Hallworth	UK CAA
Karan Hofmann	RTCA
Kirk Nance	Avix Aero
Daniel Lopez	Airbus
Ishihara, Yasuo	Honeywell

Meyers, Jeffrey	FAA
Ross Godwin	Boeing Safety
Hahn, Ed	ALPA
PEREZ GARCIA Marino	EASA
Gary Wade	UK CAA
Helen Carvosso-White	UK CAA
Erek Barhoum	Boeing
Tran, Eric	Garmin
Xavier Verguez	EASA
Fenton, Bryce	TXTAV
Ryan Smelser	Collins Aerospace
Hoare, Stephen	AAIB GOV
Brian Roberts	UK CAA
PAULO EDUARDO CYPRIANO SILVA MAGALHAES	Embraer
Alexandre Buisson	Airbus
ANDRE LUIZ CHIOSSI FORNI	Embraer
BAYARD, BASTIEN	ATR Aircraft
Olmstead, Dayne	ALPA
Tom Jacky	NTSB gov
CLAVIERE, GUILLAUME	ATR Aircraft
ROBERTO DIAS PEREIRA	Embraer
Landers, Tom	Gulfstream
Brown, Troy A (FAA)	FAA
Rebecca Morrison (Externe)	RTCA