

MORE&LESS

*MDO and REgulations for Low boom
and Environmentally Sustainable
Supersonic Aviation*



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Progress Meeting #4

19-20-21 December 2022 – Hybrid Meeting – CIRA, Capua, Italy

Agenda of the Meeting

Venue of the Meeting:

CIRA, Italian Aerospace Research Centre
Via Maiorise snc, 81043 Capua (CE), Italy



Italian Aerospace Research Centre

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DAY 1 (Monday, 19th of December 2022)

9.00 -9.30 Registration and Coffee Break

9.30 -10.00 **Welcome and Introduction to the fourth MORE&LESS Progress Meeting** (S. Borrelli, CIRA and N. Viola, POLITO)

10.00-11.30: **WP1: Project Management, dissemination, communication and exploitation**

- 10.00 – 10.45: Task 1.1 - Project Management (POLITO)
- 10.45 – 11.00: Task 1.2 - Project Dissemination and Communication (POLITO/ ECATS)
- 11.00 – 11.30: Task 1.3 - Innovation Exploitation (ECATS)

11.30-11.45: **WP1: Q&A**

11.45-12.30: **WP7 Guidelines for an update of the Regulatory Framework (ENVISA)**

- 11.45 – 11.55: WP7 Management (ENVISA)
- 11.55 - 12.10: Task 7.1 - Current Regulatory Framework: Pollutant and Noise emissions regulations (ENVISA/DLR/TUHH)
- 12:10 – 12.20: Task 7.2 - Analysis of current and future envisaged operational procedures (POLITO/ENVISA)
- 12.20 – 12.30: Task 7.3 - Recommendations for a Future Regulatory Framework (ENVISA/Boom/BOEING/TuDelft/TUHH/POLITO)

12.30-12.45: **WP7 Q&A**

12.45-14.15: **Lunch Break**

14.15-17.15: **WP2 – Case studies definition: Configuration, Performance and Operations**

- 14.15 – 14.45: WP2 Management (POLITO)
- 14.45 – 15.30: Task 2.2 - Mach 2 supersonic aircraft and operations (POLITO)
- 15.30 – 17.15: Task 2.3 - Mach 5 high supersonic aircraft and operations (REL/POLITO/VKI/CIRA)
 - 15:30 – 16.15: Task 2.3.1 - Configuration and Performance Assessment of Mach 5 experimental flight research and development vehicle platform with liquid hydrogen (REL)
 - 16:15 – 17.15: Task 2.3.2 - Configuration and Performance Assessment of Mach 5 supersonic aircraft with liquid hydrogen (POLITO/CIRA/VKI)

17.15 – 17.30: **WP2 Q&A**

17.30-17.45: **Coffee Break**

17.45 – 18.30: **WP3 Aerodynamics and Aeroacoustics: prediction models and test campaigns (Part#1)**

- 17.45 – 18.00: WP3 Management (CIRA)
- 18.00 – 18.30: Task 3.6 – Sonic-Boom Test Campaigns (ISL/CIRA)

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DAY 2 (Tuesday, 20th of December 2022)

9.00 -9.30 Registration and Coffee Break

9.30-12.35: WP3 Aerodynamics and Aeroacoustics: prediction models and test campaigns (Part#2)

- 9.30 – 9.35: WP3 Resume (CIRA)
- 9.35 – 10.05: Task 3.1 – Aerothermodynamic Modelling (CIRA/INCAS/VKI/FICG/POLITO)
- 10.05 – 10.45: Task 3.2 – Aerodynamic Test Campaigns (CIRA/INCAS/VKI)
 - 10.05 – 10.25: Task 3.2.1 – Aerodynamic Test Campaigns at INCAS Trisonic Facility (INCAS)
 - 10.25 – 10.45: Task 3.2.2 – Aerodynamic Test Campaigns at IVKDF H3 Hypersonic Wind Tunnel (VKI)
- 10.45 – 11.15: Task 3.3 – Jet Noise Modelling (CIRA/VKI)
- 11.15 – 11.45: Task 3.4 – Jet Noise Test Campaign (VKI)
- 11.45 – 12.15: Task 3.5 – Sonic-Boom Modelling (TUHH/CIRA/ISL/VKI)
- 12.15 – 12.35: Task 3.7 – Noise Assessment at Airport Level (CIRA/POLITO)

12.35-12.50: WP3 Q&A

----- 12.50-14.15: Lunch Break -----

14.15-17.45: WP5 - Air Quality, Ozone Layer and Climate impact prediction models

- 14.15 – 14:30: WP5 Management (DLR)
- 14:30 – 15.15: Task 5.1 – Atmospheric models, simulation set-up and inventories (TuDelft/CNRS/DLR/ENVISA/TUHH)
- 15.15 – 16.00: Task 5.2 – Air Quality prediction at local and regional scale (ENVISA/TuDelft)
- 16:45 – 17.00: Task 5.3 – Impact of supersonic aircraft on global atmospheric composition (CNRS/DLR/TuDelft/BOEING)
- 17.00 – 17.45: Task 5.4 – Greenhouse gases, climate impact, and overall assessment (DLR/CNRS/TuDelft/BOEING)

17.45-18.00: WP5 Q&A

----- 18.00-18.15: Coffee Break -----

18.15 – 19.00: Splinter Meetings

Splinter Meeting	Topic	Chair	Participants
#1	WP2: MR5 configuration	POLITO	IVKDF, CIRA, INCAS
#2	WP3: jet-noise activities (3.3, 3.4)	CIRA	IVKDF, POLITO
#3	WP4: propulsive system modeling	IVKDF	CIRA, POLITO, REL
#4	WP6: how to proceed	POLITO	POLITO, ENVISA, DLR, TuDelft, CNRS, TUHH
#5	AOB		

It is suggested the participation of one expert for each involved partner to the Splinter Meetings.

----- Evening Event -----

20.15 – 23:00: Dinner at Restaurant/Pizzeria “A’ Luna Rossa”

Via Antonio Vinciguerra 106, 81041, Bellona (CE), Italy
+39 0823 966858

https://www.tripadvisor.it/Restaurant_Review-g1060092-d1894288-Reviews-Ristorante_A_Luna_Rossa-Bellona_Province_of_Caserta_Campania.html

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DAY 3 (Wednesday, 21st of December 2022)

9.00 -9.30 Registration and Coffee Break

9.30-12:45 WP4 Propulsion and pollutant emissions: prediction models and test campaigns

- **9.30 – 9.45:** WP4 Management (VKI)
- **9.45 – 10.30:** Task 4.1 - Propulsive System modelling (VKI/CIRA)
- **10.30 – 11:15:** Task 4.2 - Bio-fuels combustion and emissions modelling (LUND/CIRA/VKI)
- **11.15 – 12:00:** Task 4.3 - Hydrogen fuel combustion and emissions modelling (CIRA/LUND/VKI)
- **12:00 – 12:45:** Task 4.4 - Combustion and Pollutant emissions test campaign (DLR/CIRA/LUND/VKI)

12:45 – 13:00: WP4 Q&A

----- **13.00-14.30: Lunch Break** -----

14.30-14.45: WP6 - Holistic framework for environmentally sustainable supersonic aviation (POLITO)

14.45-15.45: General discussion and comments from Advisory Board

15.45-16.00: Conclusions and next actions (N. Viola, POLITO)

----- **16.00-16.30: Coffee Break** -----