

2nd International Symposium: “Hypersonic Flight: from 100.000 to 400.000 ft”

National Central Library

Rome, Italy, 30 June-1 July 2016

Thursday 30 June 2016

08.30-09.00 Registration/coffee

09:00–09:25 OPENING REMARKS

Welcome by G. Sciandra, President, Italian Air Force Association

Welcome by N. Cardinali, Director, CESMA

Introductory notes by G. Cornacchia, Coordinator, CESMA

09.25-09.40 KEYNOTE ADDRESS – F. Giacotti, Deputy Chief of Staff of the Italian Air Force

Hypersonic Flight and Space Policy: Approach and Perspectives

Technical Framework, Enabling Technologies – Chairman: F. Langella, Director, ARMAEREO

09.40-11.00 *How Cooperation Preserves and Expands Capability at NASA Plum Brook Station*, D. Stringer, Director, NASA Plum Brook Station, USA

Ultra High Temperature Ceramics for Space Propulsion, G. Cao, University of Cagliari, Italy

Theoretical Considerations on Ducted Rockets as High-speed/High-altitude Propulsion Devices, F. Maggi, Politecnico di Milano, Italy

Photonic Sensors for Hypersonic Vehicle Guidance/Control and Structural Health Monitoring, M.N. Armenise, Politecnico di Bari, Italy

Plasma Wind Tunnel Tests on Flexible, Foldable and Inflatable Structures, L. Battocchio, Aero Sekur, Italy

11.00-11.20 Coffee break

11.20-11.40 KEYNOTE ADDRESS – R. Battiston, President, Italian Space Agency

Italian Contribution to Innovative Space Propulsion & Re-entry Missions

11.40-12.40 *In-orbit and Hypersonic Re-entry Control by Deployable Technologies*, S. Mungiguerra, Università Federico II di Napoli, Italy

Numerical Approaches to Damage Tolerance of Carboceramic and Carbon/Carbon Materials, G. Sala, Politecnico di Milano, Italy

A First Performance Assessment for a Throttleable Ducted Rocket Powered Lower Tier Interceptor, G. Kurth, MBDA, Germany

Regulatory framework – Chairman: B. Marasà, D. Director, ENAC

12.40-13.00 *The Development of a Regulatory Framework for Suborbital Flight Operations in Italy, G. Di Antonio, ENAC, Italy*

13.00-14.30 Buffet lunch

14.30-15.00 *Development of a Commercial Spaceport and Associated Ground Segment Driven by Specific Spaceplane Vehicle and Mission Operation Requirements, F. Santoro, ALTEC, Italy*

Evolving Air Traffic Management Towards an Efficient Integration of Hypersonic Air Transportation, S. Kaltenhäuser, F. Morlang, T. Luchkova, J. Hampe, Dirk-Roger Schmitt, DLR, Germany

15.00-15.20 KEYNOTE ADDRESS: R. Vittori, Space attaché, Embassy of Italy in Washington, DC

Ten Years of Experimental Activities: from Suborbital to Hypersonic. A US Perspective

15.20-15.50 Regulatory framework (resume)

Aeromedical Challenges of Commercial Suborbital Space Flight, F. Torchia, Italian Air Force

Safety of Commercial Suborbital Human Spaceflight, T. Sgobba, International Association for the Advancement of Space Safety, The Netherlands

15.50-16.10 Coffee break

Hypersonic flight programs – Chairman: N. Cardinali, Director, CESMA

16.10-17.50 *Overview on Activities of the European Space Agency, G. Saccoccia, Head, Propulsion & Aerothermodynamics Division, ESA/ESTEC, The Netherlands*

HEXAFLY-INT Project: Design of a High Speed Flight Experiment, S. Di Benedetto, CIRA, Italy

Conceptual Design of a VTOL Hypersonic Transportation System Aimed at Performing Parabolic Flights, N. Viola, Politecnico di Torino, Italy

Hyplane: a Low Hypersonic Suborbital Capability, G. Russo, Trans-Tech, Italy

IXV Program and Mission Overview, A. Denaro, Thales Alenia Space-Italy

17.50-18.00 Closing Remarks

Friday 1 July 2016

08.30-09.00 Registration/coffee

09.00-09.20 KEYNOTE ADDRESS: G. Nield, Ass. Administrator, Federal Aviation Administration-Commercial Space Transportation (FAA-AST), USA

Commercial Space Transportation: Challenges and Opportunities

09.20-09.55 KEYNOTE ADDRESS: B. Marasà, Deputy General Director, Italian Civil Aviation Authority (ENAC), Italy

Hypersonic Flight: Preparing for the Future of Air Transport

Hypersonic flight programs (resume)– Chairman: N. Cardinali, Director, CESMA

09.55-10.50 *SPACE RIDER, the Reusable Orbital and Re-entry Vehicle for Europe*, F. Massobrio, Thales Alenia Space-Italy, G. Rufolo, CIRA, Italy

SpaceLiner Project, M. Sippel, DLR, Germany

Research on Hypersonic Transport Aircraft and Hypersonic Pre-Cooled Turbojet Engine, H. Taguchi, JAXA, Japan

10.50-11.10 Coffee break

11.10-12.50 Round table: Promoting synergies and cooperation - Chairman: G. Alegi, Journalist

Participants:

M. Cosmo, Director, CIRA, Italy

C. Di Martino, MBDA, Italy

G. Candotti, Head 3rd Dpt, Aerospace Planning, Italian Air Force Staff

A. Prokhorov, Central Institute of Aviation Motors, Russia

R. Provera, Director, Human Spaceflights and Transportation Programs, Thales Alenia Space-Italia

C. Romanelli, Director, ALTEC, Italy

G. Russo, DAC Campania/CNS, Italy

M. Sippel, Head, DLR-Department Space Launcher Systems Analysis, Germany

D. Stringer, Director, Plum Brook Management Office, NASA, USA

12.50 – 13.10 Closing remarks