



Tuesday 17 October

8h Registration

9h15 Welcome addresses

Jean-Marc Astorg,
CNES Director of Launchers
Symposium President

09h30-12h00

Plenary - Session 1

9h30-10h30 Plenary session 1

9h30 1.1 ARIANE 6 new Launch Pad at Guiana Space Center : an overview

Marie Jasinski
CNES, France

10h00 1.2 – Kennedy Space Center - Apollo to Multi-User Spaceport

Philip Weber
NASA, United States

10h30-11h00 Coffee Break

11h00-12h00 Plenary session 1

11h00 1.3 Ground space infrastructure of the «Vostochny» Cosmodrome

Aleksey Romashkin
State Space Corporation ROSCOSMOS, Moscow, Russia

11h30 1.4 – Ground stations network for H3 rocket

Takashi Hamasaki
JAXA, Japan

12h00-14h00 Lunch

14h00-18h00

Launch Range Facilities - Session 1 - Space port architecture- Operations

14h00 LR1.1 Launch Bases and Spaceports, at the crossroad of a new era

Laura Appolloni
CNES, France

14h30 LR1.2 New Jupiter 2 Control Center: Operations will never be the same

Joan Garrido
GTD Sistemas de Información, Spain

15h00 LR1.3 CSG Future Operations Center

J.N Hourcastagnou
CNES, France

15h30 LR1.4 Planification for the launch base activities: Eyes everywhere

Joël Egalgi
CNES, France



16h00 Coffee Break

16h30 LR1.5 Airborn Launcher Base Selection And Architecture Design

Eduard Diez Lledo

GTD, Spain

17h00 LR1.6 Reusable rocket propelled, high flight rate, vehicle ground infrastructure: case of a space-plane Lox/Methane propulsion

Fabrice Devignes

Airbus Safran Launchers, France

17h30 LR1.7 Airports to operate suborbital vehicles from France and Europe

Philippe Coué

Dassault Aviation, France

14h00-18h00

Launch Complex - Session 1 – Launch pad

14h00 LC1.1 Introduction of Launch facilities for Epsilon Launch Vehicle

Shigeru Shimose

JAXA, Japan

14h30 LC1.2 VEGA launch pad design solutions to reduce acoustic levels on payload

David Palmieri

ESA, Italy

15h00 LC1.3 Flow Simulation of launcher plume in flame trench for design optimization

Thierry Figeac

CNES, France

15h30 LC1.4 Launch Environment Water Simulation

Alberto Provasi

Telematic Solutions, Italy

16h00 Coffee Break

16h30 LC1.5 Flame exhaust protection on Ariane Launch Pad

Gilles Revel

SEGULA, France

17h00 LC1.6 Vibration and Acoustic on Ariane Launch Pad - Calculation, Feedback and Design for Rooms and Equipment

Jean-François Niccolai

CNES, France

17h30 LC1.7 Heat flux & temperatures analyses for Ariane 6 launch table and deflector

Andrea Tromba

Bertin Technologies, France



14h00-18h00

Tests Facilities - Session 1 – Description and general characteristics

14h00 TF1.1 NASA's Rocket Propulsion Test Program, Test Asset Management and Unique Capabilities

Roger Simpson

NASA, United States

14h30 TF1.2 Adaptations - Modifications of test benches for Ariane 6 development

Laetitia Le Sciellour

Airbus Safran Launchers, France

15h00 TF1.3 P5.2 Test Bench for testing the Ariane 6 Upper Liquid Propulsion Module

Jürgen Reinhold

German Aerospace Centre (DLR), Institute of Space Propulsion, Germany

15h30 TF1.4 Test facilities for H3 developments in JAXA Kakuda

Makoto Kojima

JAXA, Japan

16h00 Coffee Break

16h30 TF1.5 Performance of Vinci tests at PF52 test bench

Olivier Lagnel

Airbus Safran Launchers, France

17h00 TF1.6 Construction and Operation Status of KSLV-II Upper Stage Engine Test Facility

Kwang-Jin Lee,

Korea Aerospace Research Institute, South Korea

17h30 TF1.7 IHI Lox/Methane test facility in Aioi, Japan, for new space-plane rocket engine turbopump testing

Taiichi Motomura

IHI Corporation, Japan



Wednesday 18 October

8h45-12h30

Launch Range Facilities - Session 2 – Communication – Tracking Stations

8h45 LR2.1 Objective evaluation of the telemetry quality before H0 to guarantee transmission during launch

Tangi Le Bournault
Zodiac Aerospace, France

9h15 LR2.2 Multiple Antennas for Trajectory Acquisition

Clément Baron
CNES, France

9h45 LR2.3 Transportable tracking stations developments

Marta Cametti
Telematic Solutions Srl, Italy

10h15 LR2.4 Telemetry quality improvement solutions for satellite launchers

Grégory Blanc
Zodiac Aerospace, France

10h45 Coffee Break

11h00 LR2.5 New-Norcia ESOC ground station up-grade for ESA launchers tracking

Marc Thiry
CNES, France

11h30 LR2.6 A Study about a Software Define Radio Solution implementation for a 100 Mbits/s OQPSK real time demodulator on Mid-End Server

Jean-Marc Leveau
Zodiac Data Systems, France

12h00 LR2.7 Mobile radio communication system for launch range and launch complex

Christophe Gaulhet
CNES, France

8h45-12h30

Launch Complex - Session 2 – Fluids and Mechanical Systems

8h45 LC2.1 LCH4 supply scheme

Jean-Michel Camus
Air Liquide Advanced Technologies, France

9h15 LC2.2 ARIANE 6 Fluid Ground Segment - Operation and Maintenance Costs reduction

Franck Cantie
CEGELEC Projets Espace, France

9h45 LC2.3 Analytical Model for a leak detection system on Ariane 5 launcher cryogenic interfaces

Marco Cencetti
CNES, France

10h15 LC2.4 Technologies for cryogenic propellants sub-cooling and their benefits

François Lagoutte
Air Liquide Advanced Technologies, France



10h45 Coffee Break

11h00 LC2.5 Movable launcher for H3 launch vehicle

Wataru Sarae

JAXA, Japan

11h30 LC2.6 GST-3 (Groupe de Servitudes en Transfert-3)

Didier Manzoni

APCO Technologies, Switzerland

12h00 LC2.7 Numerical Analysis and Test Procedure to Verify the Performance of Vehicle Holding Device for KSLV-II

Yang Seongpil

Korea Aerospace Research Institute, South Korea

8h45-12h30

Test Facilities - Session 2 – Subsystems and technics

8h45 TF2.1 Material and component characterisation under cryogenic conditions with hydrogen and methane

Thomas Sirtl

ET EnergieTechnologie GmbH, Germany

9h15 TF2.2 Liquid Oxygen Supercooling System of Engine Combustion Test Facility for 75-tonf Liquid Engine Development

Seo Daeban

Korea Aerospace Research Institute, South Korea

9h45 TF2.3 Advanced Altitude Simulation Platform at P8

Gerhard Kruehsel

German Aerospace Centre (DLR), Germany

10h15 TF2.4 SILA Project: Side Loads and Acoustics at DLR Lampoldshausen test facilities

Chloé Génin

German Aerospace Centre (DLR), Germany

10h45 Coffee Break

11h00 TF2.5 Economic and technical aspects of subscale tests for rocket engine development programs

Dmitry Suslov

German Aerospace Centre (DLR), Germany

11h30 TF2.6 Proposals for High Precision Thrust Measurement Methods at the P3.2 High Pressure Test Facility

Volker Kraft

German Aerospace Centre (DLR), Germany

12h00 TF2.7 Development of an Hydrogen-Oxygen Pilot Burner for Rocket Engine Test Facilities

Eugeni Costa Ruiz

German Aerospace Centre (DLR), Germany

12h30-14h00 Lunch



14h00-15h30

Launch Range Facilities - Session 3 - Environment and Regulation

14h00 LR3.1 Consideration of Environmental Protection by the Ariane 6 French Guiana Ground Facilities Programme: Beyond Eco-Design?

Sandrine Richard
CNES, France

14h30 LR3.2 Launch base and energy transition

Didier Cauquil
CNES, France

15h00 LR3.3 European Spaceport Insurance: a stakeholder's common approach

G rard Deilles
CNES, France

15h30 Coffee Break

16h00-18h00

Launch Base - Session 4 - Operations

16h00 LB4.1 Overview of operation of the H3 rocket's ground systems

Hironori Takeda
Mitsubishi Heavy Industries, Ltd, Japan

16h30 LB4.2 ELS exploitation in French Guyana

Jean-Pierre Barlet
Arianespace, France

17h00 LB4.3 Baikonur Proton Launch Operations

James Youdale
ILS - International Launch Services Europe, France

17h30 LB4.4 Ariane 6 Kourou Operational Concept

Patrick Lucet
Arianespace, France

14h00-15h30

Launch Complex - Session 3 – Electrical systems

14h00 LC3.1 From classic lightning protection to a smart lightning protection system

Fran ois Issac
ONERA, France

14h30 LC3.2 Ariane 6 Control Bench Family: cost efficient monitoring and control system for the next 30 years

Ricardo Bennassar
GTD Sistemas de Informaci n, Spain

15h00 LC3.3 Principles and architecture for renewal of the sensors measurements SAPHIR Digital recorders

Christine Cornier
CNES, France

15h30 Coffee Break



16h00-18h00

Launch Complex - Session 4 – Ground launcher interfaces and AIT

16h00 LC4.1 ARIANE 6 - ULPM Cryogenic arms and LLPM MANG Boxes

Guy Turzo
CNES, France

16h30 LC4.2 Ariane 6 Cryogenic Arms History

Gilles Triay
LATECOERE Services Groupe ADF, France

17h00 LC4.3 Design-to-Cost & parallel engineering applied for GSE of the Lox/Methane Rocket Propulsion of a Spaceplane

Jean-Philippe Dutheil
Airbus Safran Launchers, France

17h30 LC4.4 Functional Test Facilities - Industrial Reference Platform

Nicolas Lefebvre
Airbus Safran Launchers, France

14h00-15h30

Test Facilities - Session 3 – Operations and maintenance

14h00 TF3.1 Test bench technology 4.0

Wolfgang Stuchlik
German Aerospace Centre (DLR), Germany

14h30 TF3.2 Ensuring data availability; Reliability and quality on computer systems for control of ARIANE test

Buth Thorsten
Werum Software & Systems AG, Germany

15h00 TF3.3 Operation of Test Facilities for Thrust Chambers: Component Test Facility P3.2

Jan Böning
German Aerospace Centre (DLR), Germany

15h30 Coffee Break

16h00-18h00

Test Facilities - Session 4 – Subsystems and Technics

16h00 TF4.1 Exhaust System P5.2: Optimizations of Acoustical Attenuation Conditions

Philipp Kallina
German Aerospace Centre (DLR), Germany

16h30 TF4.2 Low Pressure Test Cell P8.3 for Test Facility P8 at DLR Lampoldshausen

Daniela Hoffmann
German Aerospace Center (DLR), Germany

17h00 TF4.3 Vacuum solutions for ion thruster testing

Stefan Lausberg
Leybold, Germany

17h30 TF4.4 Test Facility for Electric Propulsion Testing at Airbus Safran Launchers – Lampoldshausen

Hannes Fulge
Airbus Safran Launchers, Germany



Thursday 19 October

09h00-11h30

Plenary - Session 2

9h00-10h00 Plenary session 2

9h00 2.1 Conception of H3 rocket ground facilities

Hattori Akito

JAXA, Japan

9h30 2.2 – Plesetsk Angara 1.2 Launch Operations

James Youdale

ILS - International Launch Services Europe, France

10h00 Coffee Break

10h30-11h30 Plenary session 2

10h30 2.3 Introduction of KARI's New Launch Complex for KSLV-II

Kang Sunil

Korea Aerospace Research Institute, South Korea

11h00 2.4 CSG New Generation

Jan Droz

CNES, France

11h30-12h00 Closing

12h00-14h00 Lunch