



Tuesday 17 October

8h Registration

9h15 Welcome addresses

Jacques Bertrand

**CNES Assistant Director of the Ground facilities development
Chairman**

09h30-12h00

Plenary - Session 1 (Room Cassiopée)

Chair: Jacques Bertrand (CNES)

9h30-10h30 Plenary session 1

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

Pierre Guilhem

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

Takashisa Long Sato

JAXA, Japan

12h00-14h00 Lunch

14h00-17h30

Launch Range Facilities - Session 1 - Space port architecture- Operations (Room Ariane 1)

Chairs: Françoise Perrel (CNES) and Jan Droz (CNES)

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

Pierre Chadoutaud

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 Airports to operate suborbital vehicles from France and Europe

Philippe Coué

Dassault Aviation, France

14h00-17h30

Launch Complex - Session 1 – Launch pad (Room Cassiopée)

Chair: Patrick Lucet (Arianespace)

14h00 LC1.1 Reusable rocket propelled, high flight rate, vehicle ground infrastructure: case of a space-plane Lox/Methane propulsion

Fabrice Devignes

Airbus Safran Launchers, France

14h30 LC1.2 Flow Simulation of launcher plume in flame trench for design optimization

Thierry Figeac

CNES, France

15h00 LC1.3 Launch Environment Water Simulation

Alberto Provasi

Telematic Solutions, Italy

15h30 LC1.4 Flame exhaust protection on Ariane Launch Pad

Guy Turzo

CNES, France

16h00 Coffee Break

16h30 LC1.5 Vibration and Acoustic on Ariane Launch Pad - Calculation, Feedback and Design for Rooms and Equipment

Jean-François Niccolai

CNES, France

17h00 LC1.6 Heat flux & temperatures analyses for Ariane 6 launch table and deflector

Andrea Tromba

Bertin Technologies, France



14h00-17h00

Tests Facilities - Session 1 – Description and general characteristics (Room Spot)

Chairs: Klaus Schäfer (DLR) and Frédéric Munos (CNES)

14h00 TF1.1 Adaptations - Modifications of test benches for Ariane 6 development

Laetitia Le Sciellour

Airbus Safran Launchers, France

14h30 TF1.2 P5.2 Test Bench for testing the Ariane 6 Upper Liquid Propulsion Module

Jürgen Reinhold

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

15h00 TF1.3 Test facilities for H3 developments in JAXA Kakuda

Makoto Kojima

JAXA, Japan

15h30 TF1.4 Construction and Operation Status of KSLV-II Upper Stage Engine Test Facility

Kwang-Jin Lee

Korea Aerospace Research Institute, South Korea

16h00 Coffee Break

16h30 TF1.5 IHI Lox/Methane test facility in Aioi, Japan, for new space-plane rocket engine turbopump testing

Hiroyuki Sakaguchi

IHI Corporation, Japan



Wednesday 18 October

8h45-12h30

Launch Range Facilities - Session 2 – Communication – Tracking Stations (Room Ariane 1)

Chairs: Jacques Barbier (CNES) and Joël Egalgi (CNES)

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

Massimiliano BRANCA
Telematic Solutions Srl, Italy

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

Grégory Blanc
Zodiac Aerospace, France

10h45 Coffee Break - Sponsored by TechnipFMC

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

Alain Dominique Thomas
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 (Room Cassiopée)

Chairs: Didier Coulon (ESA) and Jacques Bertrand (CNES)

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 - Sponsored by TechnipFMC

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

8h45-12h00

Test Facilities - Session 2 – Subsystems and technics (Room Spot)

Chairs: Serge Saubadine (CNES) and Gherard Kruehsel (DLR)

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 - Sponsored by TechnipFMC

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

Joachim Sender
German Aerospace Centre (DLR), Germany

11h30 TF2.6 Performance of Vinci tests at PF52 test bench

Olivier Lagnel
Airbus Safran Launchers, France

12h30-14h00 Lunch



14h00-15h30

Launch Range Facilities - Session 3 - Environment and Regulation (Room Ariane 1)

Chairs: Michel Starozinski (CNES) and Pierre Chadoutaud (CNES)

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 (Room Ariane 1)

Chairs : Fr d ric Munos (CNES) and Fran ois Peyraud (Arianegroup)

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 (Room Cassiop e)

Chairs: Didier Coulon (ESA) and Jacques Bertrand (CNES)

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

Amaya Gamarra
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 (Room Cassiopée)

Chairs: Didier Coulon (ESA) and Jean-François Nicolai (CNES)

16h00 LC4.1 Ariane 6 Cryogenic Arms History

Gilles Triay

LATECOERE Services Groupe ADF, France

16h30 LC4.2 ARIANE 6 - ULPM Cryogenic arms and LLPM MANG Boxes

Guy Turzo

CNES, 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 (Room Spot)

Chair: Thierry Figeac (CNES)

14h00 TF3.1 Test campaign operations on engine test facilities

Peter Lutz

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 (Room Spot)

Chair: Thierry Figeac (CNES)

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 (Room Cassiopée)

Chairs: Françoise Perrel (CNES) and Jacques Bertrand (CNES)

9h00-10h00 Plenary session 2

9h00 2.1 Conception of H3 rocket ground facilities

Hattori Akito

JAXA, Japan

9h30 2.2 – NASA's Rocket Propulsion Test Program, Test Asset Management and Unique Capabilities

Roger Simpson

NASA, United States

10h00 Coffee Break

10h30-11h30 Plenary session 2

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

Inseok Yeo

Korea Aerospace Research Institute, South Korea

11h00 2.4 CSG New Generation

Jan Droz

CNES, France

11h30-12h00 Closing

Jacques Bertrand

CNES Assistant Director of the Ground facilities development

Chairman

12h00-14h00 Lunch



POSTER EXHIBITION

Launch Complex

P01 - Water _ Hammer _ Simulation

Alberto Provasi

Telematic solutions, Italy

Tests Facilities

P02 - EUROPEAN RESEARCH AND TECHNOLOGY TEST FACILITY P8. 20 YEARS RESEARCH EXPERIENCE

Andreas Haberzettl

Germany Aerospace Center (DLR), Germany

P03 - CRYOFENIX: microgravity sounding rocket experiment and launch pad adaptation

Sébastien Bianchi

Air Liquide Advanced Technologies, France

P04 - On - ground LOX and LCH4 sloshing experiment

Patrick Couderc

Air Liquide Advanced Technologies, France

Launch Range Facilities

P05 - Critical elements of the Telemetry reception link for launch vehicles

Philippe Klaeyle

Zodiac Aerospace, France

P06 - Payload Preparation Facilities (EPCU) at the Guiana Space Centre

Didier Manzoni

APCO Technologies, Switzerland

P07 - Manufacturing operations and logistics: an evolutionary approach to launch Base 4.0

Gaetano Del Bufalo

Vitrociset, Italy