



Advanced Propulsion Prospective Group

Hyderabad Meeting Minutes
October 2007

Members Present :

Zinner	Walter	Astrium
Chang	I-Shih	The Aerospace Corp
Micheletti	Dave	MSE Techn Applications
Valentian	Dominique	Snecma
Caisso	Philippe	Snecma
Blott	Richard	Space Enterprise
Gorshkov	Oleg	KeRC
Bonhomme	Christophe	Cnes
Forde	Scott	Aerojet
Parsley	Randy	P&W
Berend	Nicolas	Onera
Bruno	Claudio	La Sapienza
Bonnal	Christophe	Cnes
Napior	John	Aerojet
D'Andrea	Bruno	Avio
Guéry	Jean-François	SNPE
Shimada	Toru	JAXA
Sekino	Nobohiro	IHI
Broquère	Bernard	SPS
Calabro	Max	The Inner Arch

Introduction

The Chairman of the group Max Calabro- reminded that all the work done will be with free access on the IAA net

- First step: some papers in a special session “emerging technologies “IAC Glasgow
- If successful, review and completion , edition of a booklet
- Research of sponsors for printing

The scope of the work will be:

- Propulsion requirements inputs
 - For manned missions
 - For unmanned missions
 - Sensitive payloads
 - Insensitive payloads
 - Propulsion technologies and roadmaps
- From Earth to orbit; including sub orbital tourism
- From LEO to GEO or Moon
- For Far Space (planetary, Interstellar Missions)



The work done will include

- Main Evolution of Propulsion from Sputnik to 2007
- Road map Synthesis
- Priority Axis for R&D, Synergies to cultivate
- Conclusion: 2007 Dawn of a revolution???

Main decisions

The group decided to present some papers, trying to fill the session C4-1 "Emerging technologies" in Glasgow

1. Missions requirements for propulsion: "From suborbital Tourism to Interstellar Travels"
Paper giving some figures for the panel of identified interesting missions
Identification of the need of new technologies,

Group including Cnes, JAXA, NASA, ESA

This group is under the responsibility of Christophe Bonnal

2. Chemical propulsion

2.1 Solid propulsion

2.2 Liquid Propulsion

2.3 Hybrid propulsion

3. Electric Propulsion

The coordinators will be for these groups respectively JF Guery, Ph.Caisso , Max Calabro
and for the electric Richard Blot

From the short to the long term: evolution and possible breakthrough

Identification of possible benefits from others breakthroughs (materials and processes mainly)

4. Non-Chemical /Non Nuclear propulsion

4.1 Advanced concepts

Sails

Beamed energy

Rail guns

Tethers

(Non limitative list)

4.2 Inventory of Breakthrough Physics

For this group , it will be animated by Nicolas Berend with some special contribution from
Greg Matloff on sail and to Bozic for rail guns