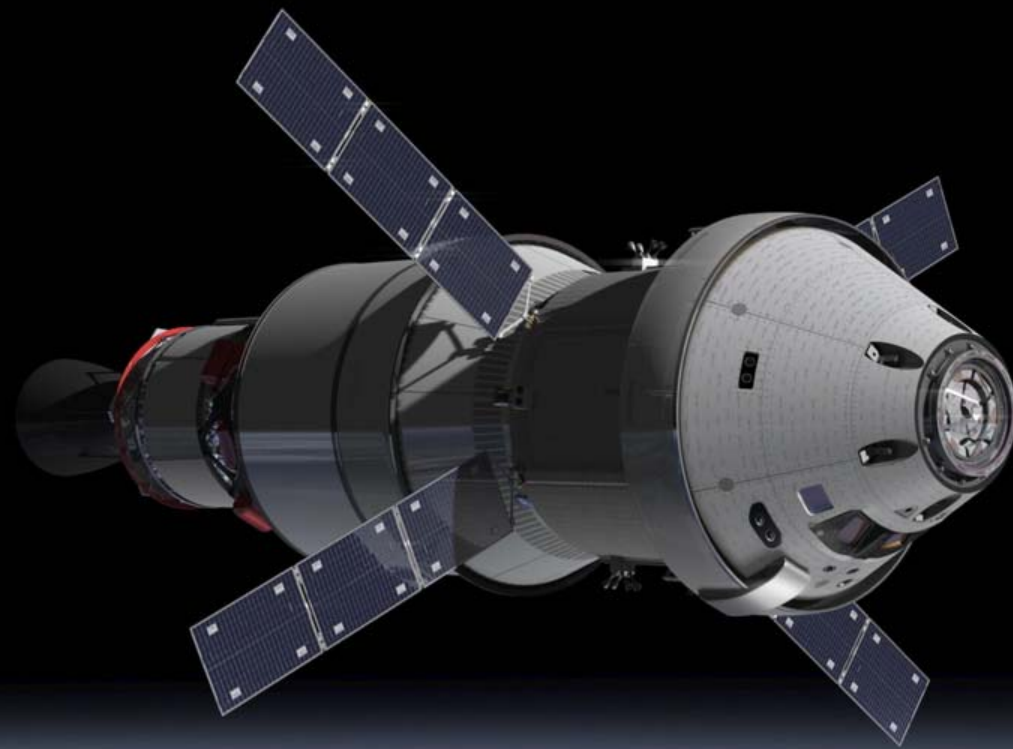


The Role of Industry in Space Exploration

UN-OOSA, Vienna, Austria

15 February 2016



Transformation of our business environment

Geopolitical Challenges

- Stagnating European institutional budgets lead to cancellation, reduction or flattening of new and on-going programs
- US sanctions are having business consequences and push all parties to review their cooperation policy
- China is investing into LEO & robotic exploration, offering a new cooperation platform
- Economy instability penalizes long term commitment in new and existing space initiatives



Industrial Policy Landscape

- Ongoing consolidation wave of sizeable space players as well as expansion of geographical footprints of industrial peers
- US export regulations and vanishing geographical market borders are challenging Europe's industrial competitiveness
- Tense political and budgetary situation on European programs and stricter procurement regulations at ESA are reshuffling role for system primes



Competitive Environment

- European peers strive for growth relays in US markets: TAS for Cygnus (Orbital/ATK); MT-Aerospace for SLS (Boeing); RUAG for fairing (ULA)
- 'NewSpace' initiatives are challenging traditional players by promoting new products/services, business models and organizational structures



Where is Europe today?

- Rosetta mission has generated an incredible wealth of scientific data
- ExoMars is on the verge of an epic journey
- Vision of “Moon Village” to be substantiated at the next C-MIN



- Lunar Mission 1: private initiative aiming at reaching Moon’s south pole to leave a time capsule under ground

Enable LEO marketplace development

- ISS beyond 2020: go/no go decision @ end 2016
- ESA CFI “Space Exploration as a driver for Growth & Competitiveness”

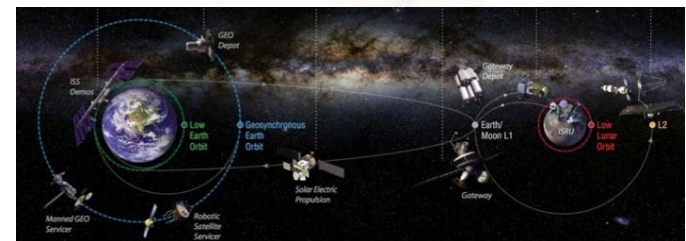
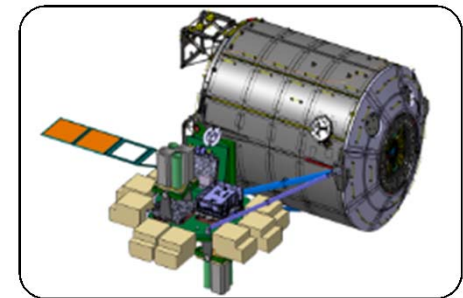
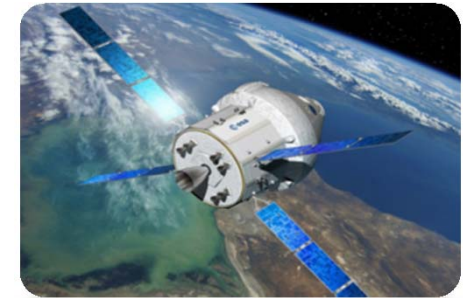


European Industry: Airbus DS

- European space industry, and Airbus Defence & Space in particular, has been watching/analyzing all these points with interest
- Airbus DS had an active role in idea submittal to the ESA CFI providing more than 40% of the business proposals that are candidate for pilot phase implementation
- It is part of Airbus DS strategy to:
 - Confirm its leadership role in human & robotic space exploration
 - Shape (post-) ISS mission architecture in LEO

Airbus DS Road Map

- Continue MPCV-ESM development and industrialize its production line
- Offer cost effective solutions to customers' exploration ambitions
- Develop business cases that can foster utilization demand of private sector developed space infrastructure
- Develop infrastructure/services instrumental to the Governments space exploration ambitions



Public, private sector collaboration

- Exploration is funded by international publicly-funded contracts with some matched private sectors investments (maybe with some pathfinder private proprietary developments)
- In the long term, demonstrated technological capabilities and market potentials will attract more and more privately-funded initiatives, leading to the commercialization of the cis-lunar space
- We observe with interest the same developments in the LEO market. Success in LEO marketplace development will provide additional momentum for the outer space commercialization

