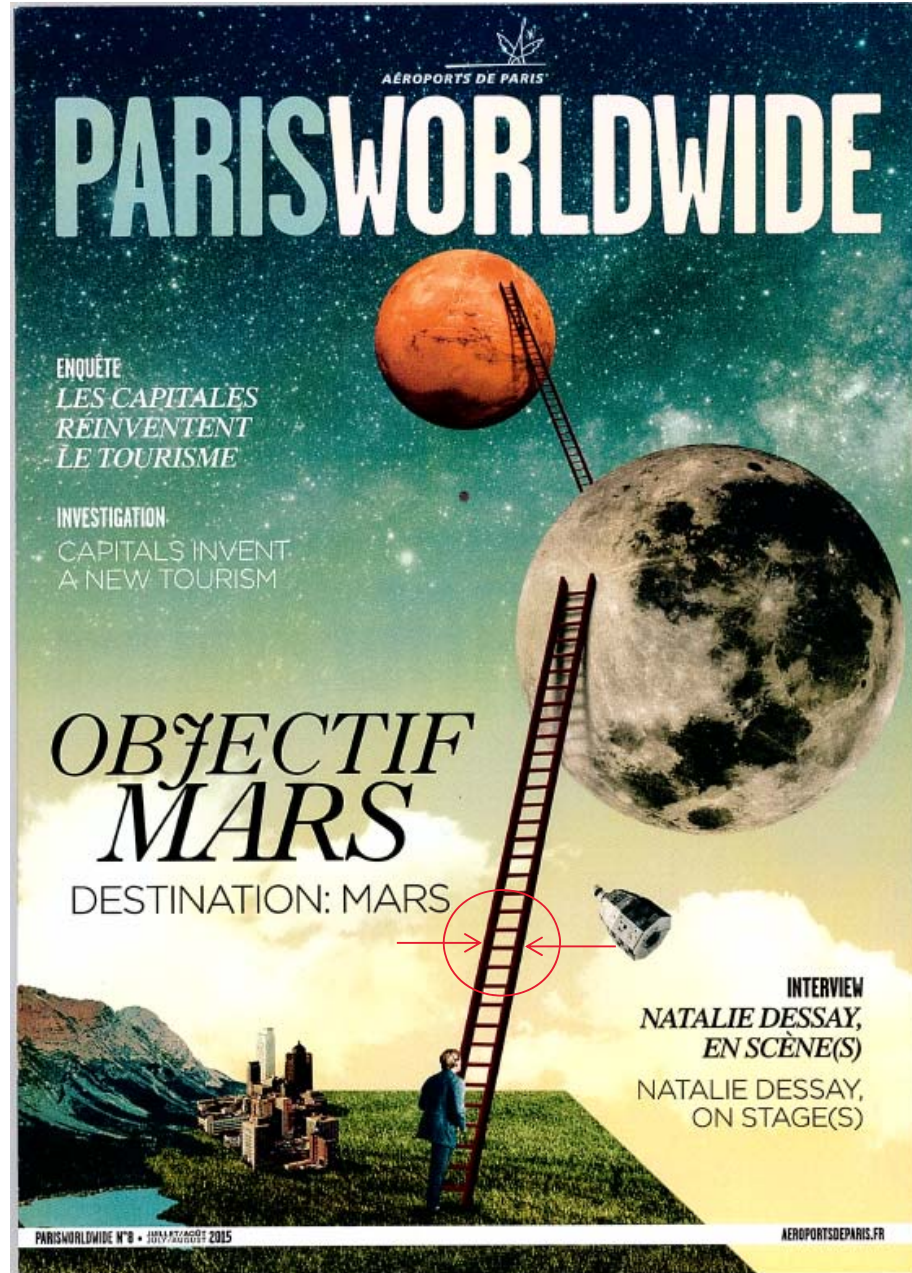


Moon 2020 – 2030 Symposium

LUNAR EXPLORATION MISSIONS: STATUS AND RECENT DEVELOPMENTS AT AIRBUS DS GMBH

Thomas Diedrich, Rodrigo da Costa
16 December 2015

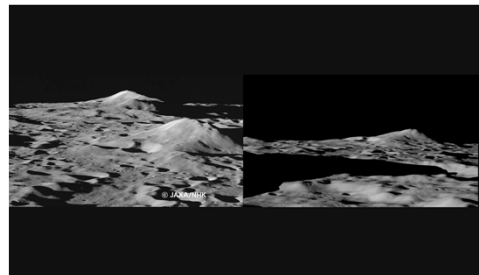
Introduction



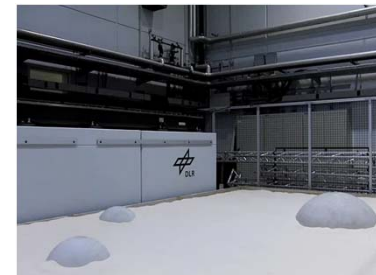
Past Activities



Hot Firing Testing



Absolute and Relative Navigation



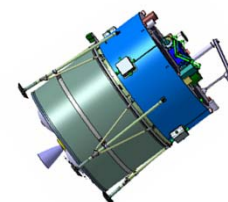
Landing System Testing



Lunar Lander Phase B1 Study

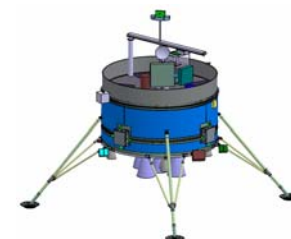
Lunar Lander for science at the South Pole
Development of the baseline concept for the
European Lunar Lander to be launched in late 2018
Breadboarding activities for key technologies

2013



NEXT Lunar Lander Phase A Study

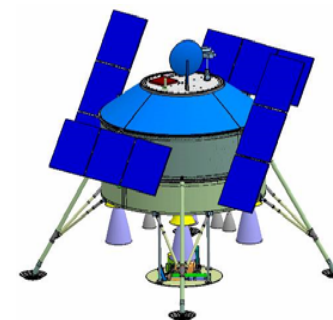
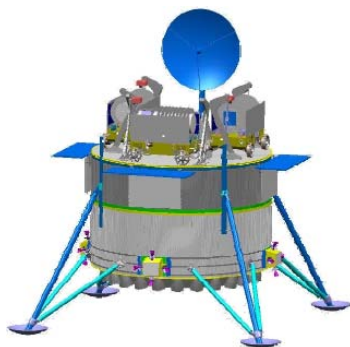
Lunar Lander for science at the South Pole
Soyuz/Ariane 5 launch scenarios



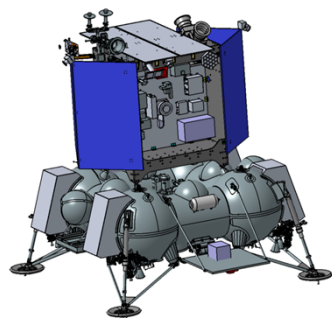
2006

National Lander Studies ESA Lunar Infrastructure Concept Study

Landing concepts for build-up of large lunar infrastructures
Small Lunar Lander for science at the South Pole
Concept study of lunar mission with Vega launcher



Current Activities



Luna Resurs

Visual Navigation and Hazard Detection & Avoidance Development Study

GSTP Study for the development of a Visual Navigation and Hazard Detection & Avoidance System for the Russian Luna Resurs mission

Further Development of Landing Systems

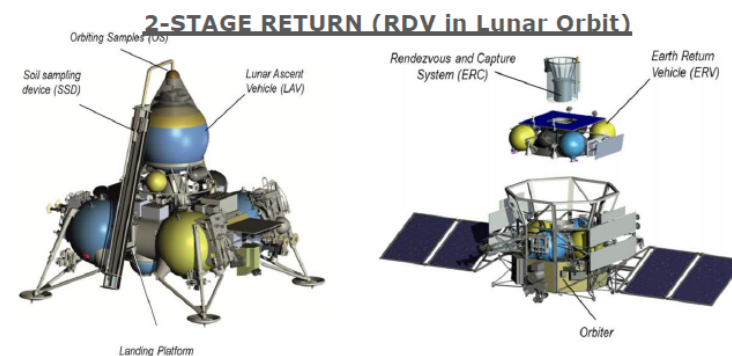
National funded technology studies for the extension of landing system developments based on landing legs to Mars applications

2014

2016

Lunar Polar Sample Return Mission and System Study Assessment

Feasibility study for the European contribution for the Luna Grunt mission:
Sample Container, Lunar Ascent Vehicle, Earth Return Vehicle & Entry Capsule, Lunar Orbiter

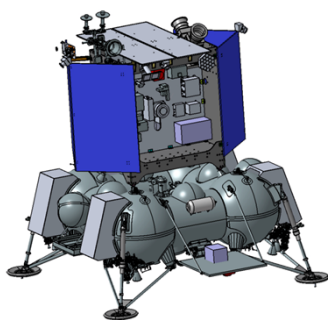


Credit: ESA (Industry Workshop 2014)

Future Activities

Precise and Intelligent Landing using Onboard Technologies (PILOT)

Development of the PILOT System for the Luna Resurs Mission
Development of a Camera demonstrator potentially to be part of the Luna Glob mission.



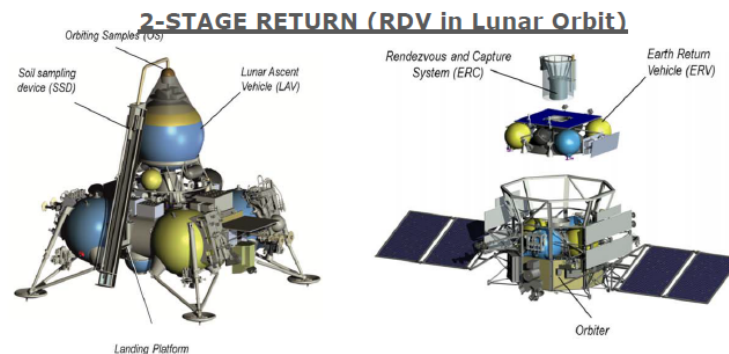
Luna Resurs

2016

2017

Lunar Polar Sample Return

Finalisation of feasibility study for the European contribution for the Luna Grunt mission & preparation of the next steps after MC 16



Conclusion

