

SPACE EXPLORATION SYMPOSIUM (A3)
Space Exploration Overview (1)

Author: Dr. Juergen Hill

Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany, juergen.hill@dlr.de

Mr. Friedhelm Claasen

Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany, friedhelm.claasen@dlr.de

Mr. Norbert Henn

Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany, norbert.henn@dlr.de

Dr. Tim van Zoest

Deutsches Zentrum fuer Luft- und Raumfahrt (DLR), Germany, tim.zoest@dlr.de

Mr. Johannes Weppler

Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany, Johannes.Weppler@dlr.de

DLR'S EXPLORATION PLANNING IN THE CONTEXT OF GLOBAL PARTNERSHIPS

Abstract

DLR remains one of the major facilitators of space activities within Europe. However, DLR acknowledges that major exploration missions are beyond the capabilities of its national space programme within the current priorities. In fact, as exploration missions and challenges become more complex, all international space agencies engage in a coordinated discussion on cooperative future robotic and human exploration scenarios. This discussion is mainly held in the International Space Exploration Coordination Group (ISECG), where DLR is active participant and contributor to the international planning effort, as well as in bilateral exchange with our partner agencies on European and global level.

DLR outlines and fosters a stepwise exploration approach with a strong robotic component and the Moon as a first step. This interest is motivated by the promising technological, scientific, industrial and political impact of exploration. Throughout the past years, a broad diversity of exploration oriented projects and mission elements design has been accomplished with universities and industries in the national space programme. These activities include preparatory studies for lunar exploration elements as well as selected technology developments and instrumentation concepts. They have built and maintained an industrial base and research capabilities that prepare Germany for an important role and strategic partnerships within future robotic and human exploration missions.

Within Europe, in consequence of the ESA ministerial council in 2012, DLR is currently discussing the next steps and priorities in exploration with ESA and the member states. Internationally, several mission opportunities are outlined or already in development by our partners that allow for and invite German participation. This paper will provide an overview of the German exploration planning and DLR's ongoing national activities. It will highlight those developments and hardware elements, where Germany – through DLR – is preparing its contribution to international missions. Furthermore, the paper will sketch DLR's position and orientation within the European and global planning efforts in order to provide an outlook for future priorities and applications of the national capabilities.