



A strong European component of an internationally coordinated exploration programme: Yes, we can!

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In the summer of 2006 ESA asked ESSC-ESF to initiate a broad consultation to define a science-driven scenario for “Aurora”, Europe’s technology-driven exploration programme. Following this consultation a final report was published in February 2008, in which numerous recommendations were formulated to help ESA and Europe better define its own challenging but realistic roadmap for solar system exploration. The report recommended that Europe’s overarching goal of this programme should be called “Emergence and co-evolution of life with its planetary environments”, and should focus on targets that could ultimately be reached by humans, with robotic missions as first steps. Mars was recognised as the focus of that programme, for which Europe should position itself as a major actor in defining and leading Mars sample return missions.

Where is Europe standing regarding its exploration programme over one year and one ESA ministerial conference after the publication of that report? The ESA Ministers agreed to support an enhanced ExoMars mission concept to be launched in 2016 but part of the necessary funding must still be secured by the ESA Director General. Beyond ExoMars, nothing substantial has yet been agreed upon in terms of further robotic missions or human exploration activities. The Agency was granted some 60 million euro until 2012 for related preparatory activities (transportation, human spaceflight, Mars robotic exploration preparation), and the aim of revisiting that segment of Europe’s exploration programme was postponed to the next ministerial conference in 2011.

And yet, European scientists and European industry could contribute a strong European component of an internationally coordinated programme. A European architecture has been developed, emphasising the commonalities and synergies that could be derived from pooling up European and international resources, but also singling out those niches of European unique expertise in science and technology. Indeed, to strengthen the non-dependence of Europe, several critical technologies must be developed. Furthermore ESA and NASA have undertaken the task of drafting a comparative architecture assessment to identify the contributions of each partner in a coordinated manner. Nevertheless it seems clear that Europe cannot afford major efforts in all these directions simultaneously. Priorities will therefore have to be established regarding which direction to take, and a clear strategic guidance must be provided to Ministers in 2011.