



Mars Robotic Exploration Programme: European & International building blocks

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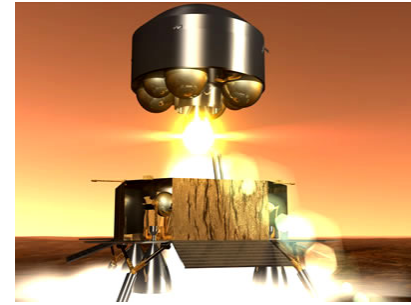
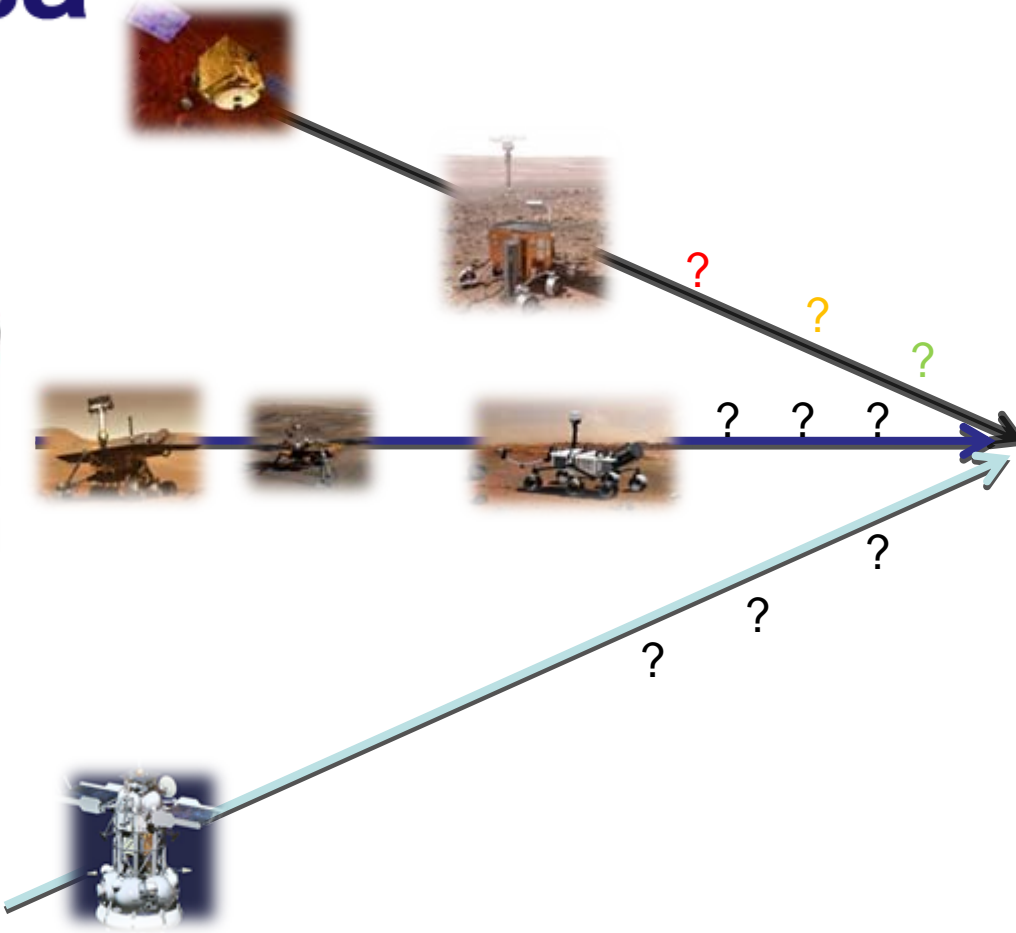
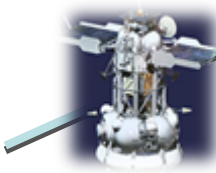
An ambitious programme of robotic exploration of Mars is a venture that can only be achieved through international collaboration. This was stated by the European Ministers at their last meeting. The main partners, for the time being, are, in order of importance and keenness:

US-NASA

Europe-ESA

Russia-RSA

Further contribution on the medium long term can obviously come from other major space fairing countries/organisations. No clear commitment for the time being.





A successful ExoMars mission is the condition to implement a collaborative programme with NASA and RSA.

Successful means passing the envelope milestone at the end of the calendar year and passing PDR: in other words we need to consolidate a realistic budget (higher than 850) and a sound technical implementation scenario which includes a Meaningful but realistic scientific payload.

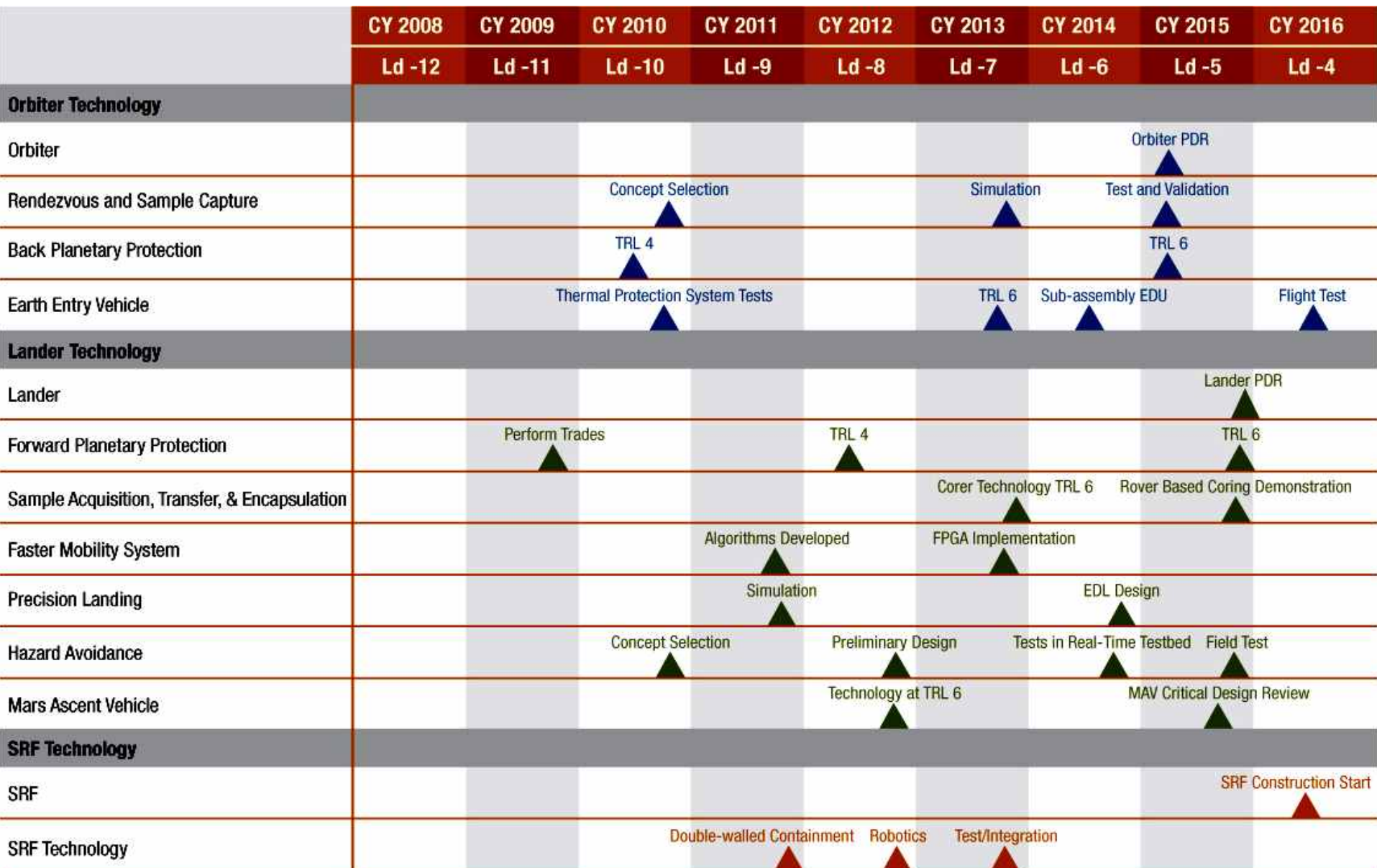
In order to achieve the above the following parameters have been used to drive the ExoMars reformation:

- meeting a realistic budget by reducing technical complexity;
- decreasing the scientific ambition of the mission by sticking to the high priority objectives;
- meeting the IPDR requirements, in particular the 20% system mass margin;
- achieving a robust schedule for a 2016 launch

The Building Blocks of the New Programme



Associated Technology Maturation Plan





Strategy for the building of the programme

-Strong collaboration with NASA on ExoMars:

Atlas 5, science instruments, equipments

-Intense planning effort with NASA for 2018 & 2020 launch opportunities:

2018 NASA led but 300-400Kg available to ESA

2020 totally open, leadership depending on funding and science priorities

-On going negotiations with Roscosmos:

ESA to support operations of Phobos-Grunt

RSA to provide Proton and RHU on non commercial bases as a back up for EXM

possible baseline for 2018-2020

Goal of this workshop are:

- to review collaboration and reciprocal responsibilities on ExoMars

- to provide guidelines for the 2018-2020 launch opportunities

- to provide guidelines on development of supporting technologies