

IAF SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Future Space Transportation Systems (4)

Author: Mr. Carlo Cassi

Thales Alenia Space Italia, Italy, carlo.cassi@thalesaleniaspace.com

Dr. Flavio Bandini

Thales Alenia Space Italia, Italy, flavio.bandini@thalesaleniaspace.com

Dr. Mauro Pasquinelli

Thales Alenia Space Italia, Italy, mauro.pasquinelli@thalesaleniaspace.com

SPACESTART, THE SOLUTION FOR SPACECRAFT SERVICES AND TRANSPORTATION IN
SPACE.

Abstract

The most attractive solutions to reduce costs of future space missions are linked to the possibility of increasing spacecraft life through on-orbit maintenance, finding resources in space for production of propellant and the on-orbit capability to build-up and assembly parts of the spacecraft, possibly using materials produced outside the Earth. To increase life of spacecraft a vehicle with capability to perform services and maintenance is needed; for assembly on-orbit, a robotic work station, evolution of a vehicle that perform services and maintenance, is necessary, while a transport system is mandatory to transfer raw materials from area where it is mined to the factory where it is transformed into propellant or spacecraft parts. Thales Alenia Space, with its unique heritage on transportation, exploration and development of satellites for science, navigation and telecommunication, is working to develop a multipurpose spacecraft that can answer above requests setting up a new frontier for robotic and human exploitation of the space for a better life on Earth. The purpose of this paper is to provide an overview of the spacecraft design together with its intended usage for the improvement of the space missions.