

SPACE PROPULSION SYMPOSIUM (C4)
Propulsion Technology (1) (3)

Author: Mr. Ulrich Gotzig
Airbus Safran Launchers, Germany, ulrich.gotzig@airbusafran-launchers.com

GREEN OPTIONS FOR ORBITAL PROPULSION

Abstract

State of the art for storable upper stages and orbital propulsion is chemical hydrazine based technology that is well-known, reliable and has a large portfolio of commercially available components. In order to avoid risk for operators and environment these toxic propellants require specific and costly handling in a strictly controlled manner. In order to fulfill the cost and performance requirements of future propulsion systems alternative technologies are investigated that can offer significant technical and economic benefits. This paper gives an overview over recent trends, requirements and potential technologies for the different application areas. It describes the following main development activities currently performed at Airbus Safran Launchers with internal but also additional EU or ESA fund:

- The maturation and extension of ADN based technology for European systems
- The development of Hydrogen Peroxide based monopropellant propulsion systems
- The development of Hydrogen Peroxide based bipropellant / hybrid systems
- The development of water propulsion systems