

IAF MATERIALS AND STRUCTURES SYMPOSIUM (C2)
Space Structures I - Development and Verification (Space Vehicles and Components) (1)

Author: Dr. Jochen Albus
ArianeGroup, Germany, jochen.albus@ariane.group

Dr. Steffen Beyer
ArianeGroup, Germany, steffen.beyer@ariane.group

Mr. Vincent Coipeau-Maia
ArianeGroup, France, vincent.coipeau@ariane.group

Dr. Gerald Hagemann
ArianeGroup, Germany, gerald.hagemann@ariane.group

Mr. Thierry Pichon
ArianeGroup, France, thierry.pichon@ariane.group

Mr. Marco Prampolini
ArianeGroup, France, marco.prampolini@ariane.group

Mr. Markus Quadt
ArianeGroup, Germany, markus.quadt@ariane.group

ARIANE 6 ARCHITECTURE AND FUTURE EVOLUTIONS FROM A STRUCTURES AND
MATERIALS POINT OF VIEW

Abstract

The Ariane 6 launcher provides an unprecedentedly flexibility, modularity and competitiveness and can serve any mission to any orbit at any time. This paper presents the architecture of the Ariane 6 launcher and its foreseen evolutions from a structures and materials point of view. Focus will not only be put on primary structures and propellant tanks, but as well on some specific equipment and on the propulsive systems. The structural design, the materials used and the steps taken to the successful qualification will be briefly addressed. As in the past developments, ArianeGroup is continuously improving the launch vehicle system in order to adapt to the marked needs. A short outlook to the future evolutions and their challenges will be presented. This concerns the near term evolution of Ariane 6 focusing on further performance increase, the Upper Liquid Propulsion Module improvements, the development of the ASTRIS Kick-Stage and the aspects of manned space missions with Ariane 6.