

IAF SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)
Advanced Space Communications and Navigation Systems (1)

Author: Mr. Fabio Curreli
OHb System AG-Bremen, Germany, fabio.curreli@ohb.de

Dr. Alejandro Gimeno-Martin
OHb System AG-Bremen, Germany, alejandro.gimeno-martin@ohb.de

Dr. Marco De Tata
OHb System AG-Bremen, Germany, marco.detata@ohb.de

Dr. Alexander Schneider
OHb System AG-Bremen, Germany, alexander.schneider@ohb.de

FLEXIBLE PAYLOAD CAPABILITIES IN ELECTRA

Abstract

This paper describes the concept of the Digital Payload, a solution to the market demand for the so called "flexibility in Space".

The satellite telecommunication market has identified in the last years an increasing trend from the final User, where data and video streaming on demand services are overtaking the classical DTH service.. This service enables the User to read/watch/play whatever, whenever and wherever wanted, thus revolutioning the Telecommunication payload design that for so many years has provided TV broadcasting services to millions of house holders.

The Digital Payloads will serve in the future the individuals needs, making possible a very high flexibility, when compared to the classical bent-pipe payload, for frequency re-allocation among users, bandwidth allocation and at the same time optimising the power consumption of the spacecraft. All this will be possible by the use of a centralised OnBoardProcessor that will be able to channelize and also to regenerate on board the communication channels. The Digital Payload concept includes the availability of an Array Antenna that will provide the necessary coverage flexibility.

Combining all these elements together, and accommodating them onto a flexible platform like ELECTRA, OHb will present an innovative and appealing Satellite concept that can be a solution for all types of telecom missions.