

SPACE SYSTEMS SYMPOSIUM (D1)  
Space Systems Architectures (4)

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COST EFFICIENT APPROACH TO DESIGNING A RELIABLE SATELLITE PLATFORM.

**Abstract**

There is a trend in the space sector aiming at reducing development and production costs of space hardware and generally, satellite platforms. This becomes even more relevant for future mega constellations, which must be cost effective to provide competitive services.

On the other side, mission performance requirements may result in a very complex and expensive payload putting more reliability requirements on the platform. Very often reliable space hardware means expensive hardware, leading to overpriced solutions and later to overpriced missions.

This paper discusses a cost efficient approach to designing a satellite, which based on reliable architecture, simple solutions, usage of industrial components and vertical engineering process.

As an example of such an approach, some latest results of the Yaliny project are presented, including a description of the architecture defined for the YaSat-1. The article includes an overview of subsystems and development process involved.

The platform characteristics and budgets are discussed with respect to the LEO telecommunication application.