

SPACE SYSTEMS SYMPOSIUM (D1)  
System Engineering Tools, Processes and Training (2) (6)

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AN APPROACH TO THE DEVELOPMENT OF THE VLM-1 FIRST STAGE PYROTECHNIC  
SUBSYSTEM**Abstract**

This paper aims to present a systematic approach to the development of the first stage pyrotechnic subsystem for the Microsatellite Launch Vehicle – VLM-1. The VLM is a three stages rocket dedicated to carry payload into low orbit and suborbital reentry platform, for example the German experiment of reentry called SHEFEX III. To accomplish the success of the mission many elements should be considered in the development of the product life cycle. The approach to the development of the product here described is a systems engineering approach. This approach enables to capture the elements that should be considered to accomplish the mission. This approach takes in consideration to anticipate requirements to the beginning of the product development. It is carried out by the stakeholder analysis, requirements analysis, functional analysis and the implementation analysis. It is realized throughout the product life cycle. Logical models representing the product in each scenario is deployed from the process life cycle. Results are the benefits of creating a logical architecture to drive a CAD model before the physical implementation of the product. Rework, unnecessary effort in engineering and waste of time to impact the program schedule is avoided.