Transportable tracking stations developments

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ABSTRACT

The evolution of the launchers tracking stations is strictly dependent on the needs and criticalities of launchers monitoring and controls.

In particular the LEOP (Launch and Early Orbit Phase) is one of the most critical phases of a mission. Currently, up to a half dozen fixed ground stations operated by ESA/CNES are called in to support communications during LEOP. However, they don’t allow covering all range of satellites orbit during LEOP, especially taking into account the diversity of upcoming mission profiles.

A transportable ground station with a very quick and fast deployment has the great advantage to reduce time, cost and mission risks.

This paper will describe the progress made on transportable ground stations, taking several examples with particular attention on the IXV Naval Station. This one directly involved Telematic Solutions during all project phases giving the opportunity to understand the strong and weak points related to transportability aspects.

Starting on the IXV experience, further improvements, including research for innovative materials and advanced control technologies, have been then analysed and the idea of an optimized and competitive solution will be presented.

It is the result of the preliminary outputs of a study leaned out by a joint collaboration between Telematic Solutions and CIRA which is currently under investigation.