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

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## TITLE: COMMERCIALIZATION PROGRESS IN THE GLOBAL TT&C MARKET. AN UPDATE OF THE STATE OF COMMERCIAL TT&C SERVICES FOR SATELLITE OPERATIONS

## Abstract

As government and commercial satellite missions continue to evolve and expand, the requirement for flexible, operationally responsive ground-based communications solutions must evolve as well to accommodate missions. This presentation will focus on current and future requirements for ground-based telemetry, tracking and command (TTC) services by; evaluating past utilization of government and commercial ground-based assets, their successes and lessons-learned; evaluating the current mission models of United States and European government space agencies and how those models are currently supported through commercial and government assets; and, finally, by looking to the future of ground-based services toward a hybrid of government and commercial networks and the advantages that such a network of networks would provide.

Specific focus will be placed on solving the technical and programmatic challenges while evaluating the costs, benefits, and any disadvantages to this concept. The Scope of this presentation is the Global TTC industry with a specific focus on how this industry is preparing for the future requirements for operationally responsive space applications.