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COMMUNICATIONS SATELLITE TO SUPORT A BORDER COUNTRY MONITORING SYSTEM

Abstract

The goal of this work is to presents a systems engineering approach according to the methodology standardized by INCOSE - International Council on Systems Engineering. The traditional scope of engineering embraces the design, development, production and operation of physical systems, and systems engineering, as originally conceived, falls within this scope. "Systems Engineering", in this sense of the term, refers to the distinctive set of concepts, methodologies, organizational structures (and so on) that have been developed to meet the challenges of engineering functional physical systems of unprecedented complexity. Systems engineering signifies only an approach and, more recently, a discipline in engineering. The use of the term "system engineer" has evolved over time to embrace a wider, more holistic concept of "systems" and of engineering process. So this paper aim to provide the best solutions for integrating the communication between local border monitoring facilities and the Operational Command Center, where we will analyzes the scenarios of the Organization in Development; Organizations not in Development; Product in Operation and Product not in Operation. The proposed approach addressed the deficiencies of traditional methods, such as, product focus, operation and development focus, and part focus. The paper described the approach as a way to perform stakeholder analysis, requirements analysis, functional analysis and implementation architecture, simultaneously, for the product and organization elements of a system at every layer of the system breakdown structure.This is necessary to address all complexity factors that are inherent to complex product development. Conclusions are that impact, traceability and hierarchy links promote the anticipation of life cycle process requirements to the early stages of systems architecting. Late changes are avoided; development costs are dramatically reduced while satisfaction of stakeholders over product life cycle is increased.