

SPACE SYSTEMS SYMPOSIUM (D1)
System Engineering Tools, Processes & Training (3)

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DEVELOPMENT OF A NASA INTEGRATED TECHNICAL WORKFORCE CAREER
DEVELOPMENT MODEL ENTITLED REQUISITE OCCUPATION COMPETENCIES AND
KNOWLEDGE (THE ROCK)

Abstract

The purpose of this paper is to share the findings of NASA's Integrated Learning and Development Program (ILDP) in its effort to reinvigorate the HANDS-ON practice of space systems engineering and project management through focused courseware, learning opportunities, on-the-job learning and special assignments. Our findings were validated via a series of nine focus groups with senior space systems engineers and project managers from industry and government, validated with over 17 space-related organizations, at an estimated cost of over 300,000(US). *The resulting competency (capabilities) aligned career development model reintroduces relevant programs and training programs have evolved to fulfill the need of these practitioner communities based upon the results*

Prior to March 2005, agency-level responsibility for the development of the NASA technical workforce (defined as the program and project manager, systems engineering, and discipline engineering communities) was executed by two organizations working in parallel at NASA Headquarters; the Academy of Program and Project Leadership (APPL) and NASA Engineering Training (NET). In March 2005 the NASA Chief Engineer, pursuant to agency-wide changes prompted by the Columbia Accident Investigation Board report [CAIB, 2003], directed that these parallel organizations be merged. The resulting program – ILDP – was chartered to implement a single integrated competency-based development model capable of preparing the men and women who are facing the challenges associated with the Vision for Space Exploration initiative [White House, 2004]... returning humans to the moon and then extending that presence to Mars. This paper reports the ILDP results and products developed during a period of unprecedented collaboration between the ILDP Team and NASA Field Centers. In its tenure, this program developed the vision, procedures and processes that resulted in definition of the agency's first fully integrated technical workforce development model known as the Requisite Occupation Competencies and Knowledge (the ROCK). Critical processes and products are presented including: the incorporation of "validation" techniques to guide model development, the Design-A-Curriculum (DACUM) process, and creation of the agency's first systems engineering body-of-knowledge.

The following members of the ILDP Team contributed to the success of this effort: Dr. Kathleen van Scoyak, Dr. Linda Morris and Dr. Gary Yale.

We certify this information has not been presented at another conference. Both authors will be present at the symposium.