

Launch and Landing Effects Ground Operations (LLEGO) Model



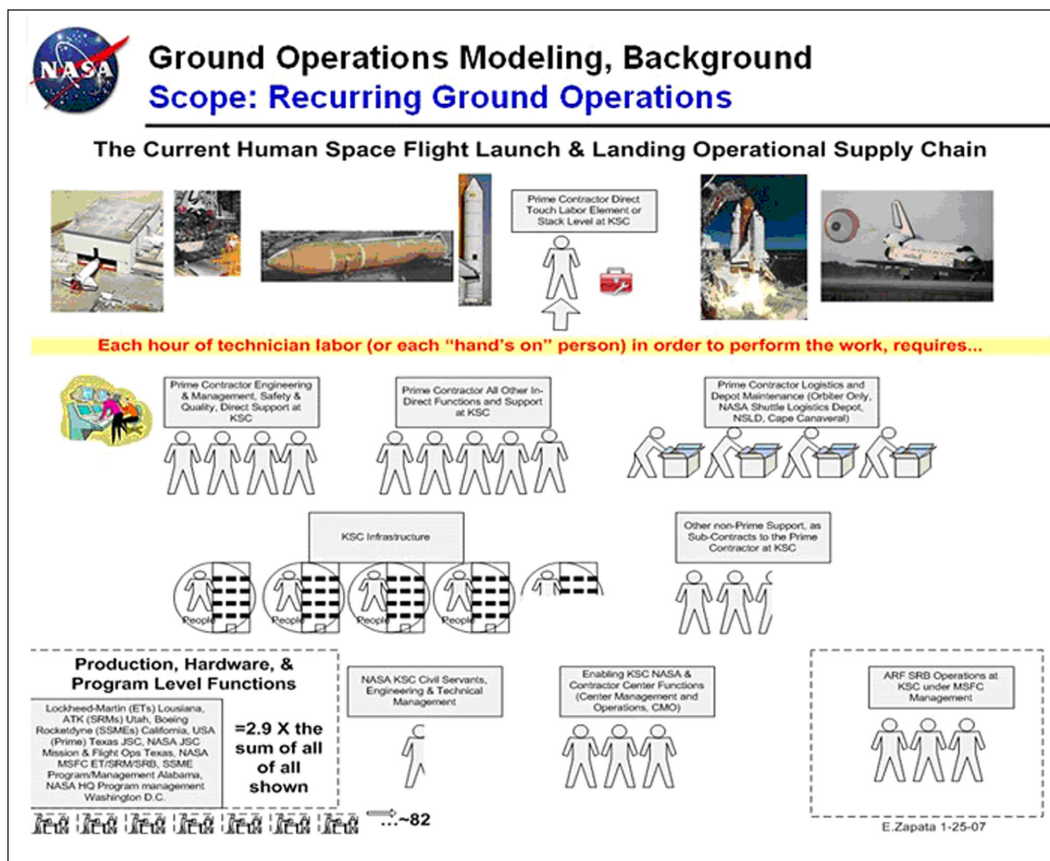
Decision/Data
Models and
Analysis

LLEGO is a model for understanding recurring launch and landing operations costs at Kennedy Space Center for human space flight. Launch and landing operations are often referred to as “ground processing,” or “ground operations.” Currently, this function is specific to the ground operations for the Space Shuttle Space Transportation System within the Space Shuttle Program.

The Constellation system to follow the Space Shuttle consists of the crewed Orion spacecraft atop an Ares I launch vehicle and the uncrewed Ares V cargo launch vehicle. The Constellation flight and ground systems build upon many elements of the existing Shuttle flight and ground hardware, as well as upon existing organizations and processes. In turn, the LLEGO model builds upon past ground operations research, modeling, data, and experience in estimating for future programs. Rather than to simply provide estimates, the LLEGO model’s main purpose is to improve expenses by relating complex relationships among functions (ground operations contractor, subcontractors, civil service technical, center management, operations, etc.) to tangible drivers. Drivers include flight system complexity and reliability, as well as operations and supply chain management processes and technology. Together these factors define the operability and potential improvements for any future system, from the most direct to the least direct expenses.

Contact: Edgar Zapata <Edgar.Zapata@nasa.gov>, NASA-KSC, (321) 867-6234

Participating Organization: Blue Frog Technologies, Inc. (Dr. Alex J. Ruiz-Torres)



The human space flight supply chain at Kennedy Space Center and beyond.