

## *Vision Spaceport Visualization Module*

The Vision Spaceport Project conducted at the Kennedy Space Center by the Spaceport Synergy Team is an innovative, five-year Joint Sponsored Research Agreement (JSRA) partnership. The JSRA aligns interests, experience and resources from NASA (Kennedy Space Center and Ames Research Center), industry (Boeing, Lockheed Martin, Command and Control Technologies, Science Applications International Corporation and Quantum Technologies Services International) and academia (Institute for Simulation and Training at UCF).

The team's goal is to develop revolutionary spaceport architectures and space launch operations capability needed for affordable space transportation.

The team developed a core model of spaceport operations that provides output data describing future space vehicle and spaceport operations concepts. This core model is meant to be a generic design and planning tool with a host of uses at facilities beyond Kennedy Space Center.

UCF's Institute for Simulation and Training created the visualization module that helps people gain increased understanding of data output from the core model. Graphic representation of the data encourages collaboration on development of future spaceport concepts.

IST developed a proof-of-principal visual module application that provides a 3-D graphical representation of the core model. Basic functions of the application are described in the illustration. Follow-on enhancements will enable the application to run in a PC environment, add networking capability and evaluate group interaction and collaboration using 3-D visual representation.

### *IST Project Team members*

The IST members of the partnership include Art Cortes, general manager of the Visual Laboratory with Ron Hofer as principle investigator.

Glenn Martin and Greg Schumaker are in charge of technical design and implementation of the visualization model. Graduate research assistants Jason Hupenbecker, Chris Kachurak, Bryan Kline, Sean Waldon and Jason Daly participated on the IST project team.

### Vision Spaceport Visualization Module



#### **Visualization Increases Understanding of Core Model Concepts**

- Core Model Interface
- Explore concepts at multiple levels of detail
- 300 Visual Object Library
- Navigate concept from ground infrastructure or core model functional perspective
- Compare between two concepts
- Core Model Data Hypertext display window

#### **Contact:**

**Art Cortes**  
(407) 882-1337  
cortes@ist.ucf.edu

**Ron Hofer**  
(407) 882-1304  
rhofer@ist.ucf.edu

