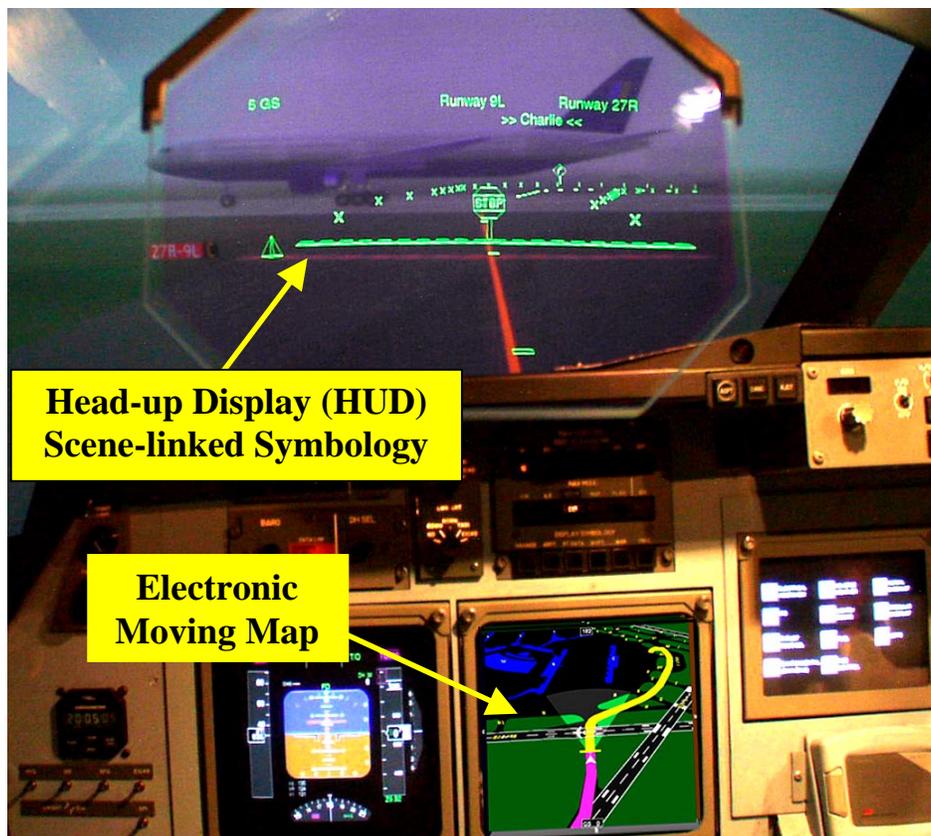


T-NASA: Taxiway Navigation and Situation Awareness System



T-NASA is a suite of cockpit displays designed to increase the safety and efficiency of airport surface operations. T-NASA was developed using a human-centered design process, composed of a task analysis, information requirements analysis, iterative part-task and full-mission simulations, and a flight test. The cleared taxi route, and clearance holds are displayed using "scene-linked symbology" on the HUD. The airport layout, ownship position, taxi route, clearance holds, and traffic information are supplied on a head-down electronic moving map.

For more information and reference papers on the T-NASA displays, contact:

Dr. David C. Foyle
Human Factors Research & Technology Division
NASA Ames Research Center (MS 262-4)
Moffett Field, CA 94035-1000
(650) 604-3053
e-mail: dfoyle@mail.arc.nasa.gov
T-NASA URL: <http://olias.arc.nasa.gov/ihi/tnasa>

Research studies have shown that T-NASA:

- Eliminated hold location errors and failure to hold errors (compared to ~20% errors without T-NASA)
- Allowed increased taxi speeds (~16% faster with T-NASA than without T-NASA)
- Eliminated taxi navigation errors in low-visibility and night conditions (compared to ~ 17% errors without T- NASA)
- Enabled better awareness of airport traffic
- Improved pilot-ATC communication of clearance
- Improved Captain-First Officer intra-cockpit pilot communication
- Helped determine basis for cockpit SOPs (standard operating procedures) for surface operations