



ASC ENGINEERING FACT SHEET

... AN ENGINEERING SUCCESS STORY

Crew Station Evaluation Facility



F-22 Simulator Cockpit

DESCRIPTION

The Crew Station Evaluation Facility (CSEF) designs and conducts surveys, studies, and evaluations of crew station designs. The CSEF can also compare alternatives or tradeoffs. These studies are conducted either in a part task or full mission environment using crews as evaluators. The CSEF then creates a report and briefs the user, System Program Office, and Contractor Team on the results and recommendations. This can be done at any point in the design process, but is best done as early as possible.

SUMMARY

PROBLEM:

- Consideration of the crew system in the aircraft design process is often limited to paper inputs and representations. Frequently, it is only towards the end of the process that the engineers and users are able to make informed evaluations of realistic or actual systems. This is when mature system integration laboratories, training simulators, and test aircraft become available. Inevitably, faults are found, but redesign of the crew system at this point is expensive or impossible.

SOLUTION:

- The Crew Station Evaluation Facility of ASC/EN builds and operates mockups and simulators for the system program offices (SPO) or contractors. Using these mockups and simulators in the design process aids the SPO or contractors in envisioning the design, evaluating alternatives, and obtaining informed user input. This can be done early on.

The CSEF's staff consists of ASC/EN human factors and crew station engineers and active duty and reserve pilots and crew. The CSEF gets direct support from its experienced contractor, L3 Communications. The CSEF designs, builds, operates, and maintains mockups and simulators. The CSEF uses these mockup and simulator tools to place the engineers, testers, and users in a realistic system and environment. These tools are often effectively used to support Crew Station Working Group efforts. This effectiveness is a result of the inherent low cost and quick turn around capabilities of mockups and simulators. The CSEF staff and tools can also independently and scientifically test and evaluate the crew system prior to or during developmental test and evaluation and operational test and evaluation.



F-16 Simulator Cockpit

The CSEF has been in operation for over 30 years. It is entirely SPO or contractor funded, so it must meet its customer's needs or it goes out of business. The CSEF has stayed in business by offering its customers excellent return on their investment by preventing or minimizing expensive crew station redesign. Often, the design is improved as a result of the CSEF's efforts as part of the program team. This is the CSEF's market niche.

For more information, contact:

*Mr. William G. Kalman
ASC/ENFC-CSEF*

Wright-Patterson AFB, OH 45433

(937) 255-4258

DSN 785-4258

email: william.kalman@csef.wpafb.af.mil

For additional ASC/EN Engineering Directorate literature, contact ASC/ENOX at (937) 255-3979.

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