Benefits - Experience-Based, Value-Driven

- **Affordable.** PC-based training is far less expensive than training on actual equipment or simulators...software re-use keeps development costs strikingly low.
- **Improved Student Performance and Retention.** Students gain more hands-on time with their system...willingly practice their skills...and qualify sooner.
- **Reduced Training Costs.** Lower cost per training hour per student...reduced need to invest in instructors and equipment.
- **Improved use of Training Resources.** PC-based systems augment or replace tactical equipment trainers...enable more effective use of instructors...more efficient use of facilities and equipment.
- **Realistic.** Robust CTTAS software ensures high fidelity, real-world scenarios and training in PC environments.
- **Flexible.** CTTAS backbone allows rapid, cost-effective development of applications tailored to training and analysis needs.
- **Proven.** Training systems and analysis tools successfully serve military and industry organizations...nearly 40 years of experiences and training leadership.

CTTAS, PORTS & SEAS
a proven record of delivering cost-effective training, analysis and wargaming solutions.

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Increase Training Performance, Reduce Training Costs

For nearly 40 years, Northrop Grumman has developed high-fidelity training systems and analysis tools for the U.S. Armed Forces. Our software provides synthetic environments for:

- Training
- Modeling and simulation
- Test and evaluation
- Wargaming

Designed for standard PCs, our open architecture solutions make sophisticated capabilities cost-effective and easy to use for organizations worldwide.

CTTAS™ - The Proven Application Backbone

Common to all our solutions is CTTAS™, the Combined Tactical Training and Analysis System™. As the backbone for all our products, CTTAS simplifies scenario creation and execution for the customer’s various applications.

A licensed product of Northrop Grumman, CTTAS enables us to develop robust yet flexible training and analysis applications - at far lower costs and with increased performance. CTTAS presents realistic warfighter situations to trainees, all directed from an intuitive Instructor Station. Open architecture increases application capabilities by allowing connectivity with other models, simulations and data sources.

CTTAS’ central services run many widely used training and analysis applications.

PORTS – PC-based Open-architecture Re-configurable Training System

The PORTS family of trainers has become the foundation of U.S. Navy tactical and operator training, improving both student performance and through-

PORTS Applications include:

- LCS Mine Countermeasure (MCM) Mission Module Trainer
- Tactical Data Link Trainer
- Spy-1 Radar Set Controller Trainer
- Missile System Supervisor Trainer
- Tactical Action Officer Trainer with Intelligent Tutoring
- Gunfire Support Trainer
- SQQ-89 Acoustic System Trainer
- Unmanned Vehicle Systems Trainer
- Multi-Mission Tactical Team Trainer

put, these highly efficient trainers reduce equipment and instructor costs while increasing student time on the trainer.

SEAS – Synthetic Environment for Analysis System

Designed for wargaming and analysis, SEAS has been used to analyze equipment, assess operations and test strategies for both the U.S. Navy and industry. Powered by CTTAS, SEAS is a robust, low-cost way to assess problems ranging from individual engagements to strategic confrontations. SEAS was used extensively in the development of the DDG 1000 destroyer and for the Naval Warfare Development Command’s Concept for the Navy After Next Study.