

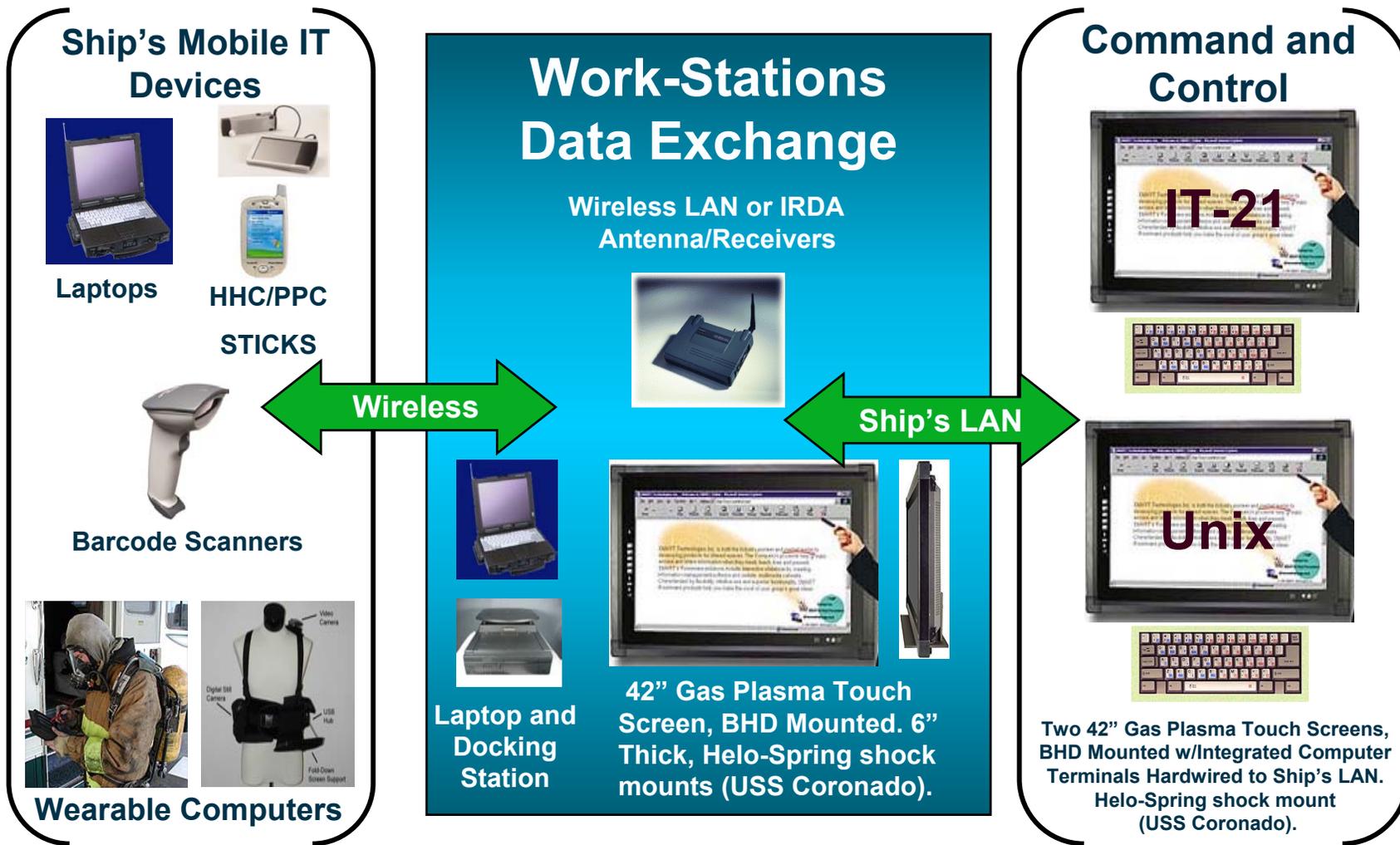
IT at the Site of Work



The “WFFE”



Shipboard Data Exchange System



Long Reach Ethernet (IRCWS)

- In-situ re-configurable wireless system to 11Mbps
- Uses SPP infrastructure to 5000 ft
- System integration and process consisting of
 - CMOTSed CISCO LRE equipment
 - BIW wearable computer systems for
 - Fire fighting
 - Damage control
 - Tele-maintenance
 - Security and Force Protection
 - Ship-check



Afloat Force Protection System

A non-lethal 500 yard zone incorporating: WCS, HSS, language translation, LRaD and wireless networking





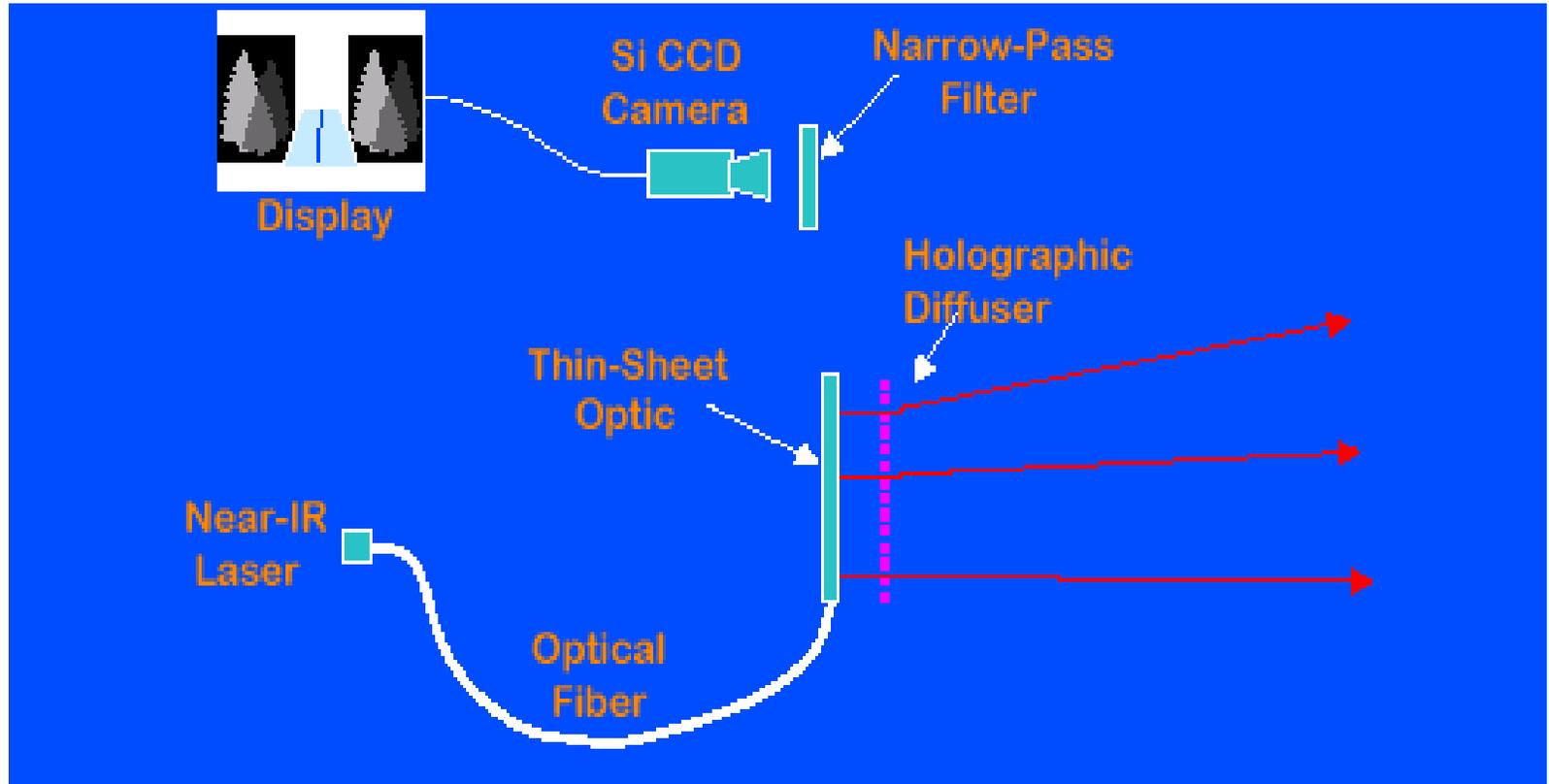
Active Night-Vision Using Diode Laser Illumination

*A Partnership Initiative with Ford Motor Company and
Bath Iron Works
an Investigation of --
Alternative Business and Financial Strategies for
Accelerating the Incorporation of Technology into Naval
Systems*

Active Night-Vision Using Diode Laser Illumination

- A diode laser illumination source permits the use of a narrow-pass filter centered on the laser wavelength in front of the CCD camera. This prevents 'blinding' of the camera due to the headlamps on on-coming vehicles
- More compact, robust, energy efficient, longer lifetime than incandescent source
- Daimler-Benz demonstrated laser-based night vision in a 1999 SAE paper
- Ford Motor Company developed custom optics that allows the diode laser illuminator to meet eye-safety requirements

Schematic of Laser-Based Night-Vision System



Features

- High efficiency-many times that of incandescent and LED
- Very high power in beam
- Compact and light weight
- Very long life-more than 10,000 hours
- Wide range of narrow band wavelengths available
- Can be made eye safe at all distances
- Relatively inexpensive

Comparison with Incandescent-based Illumination System

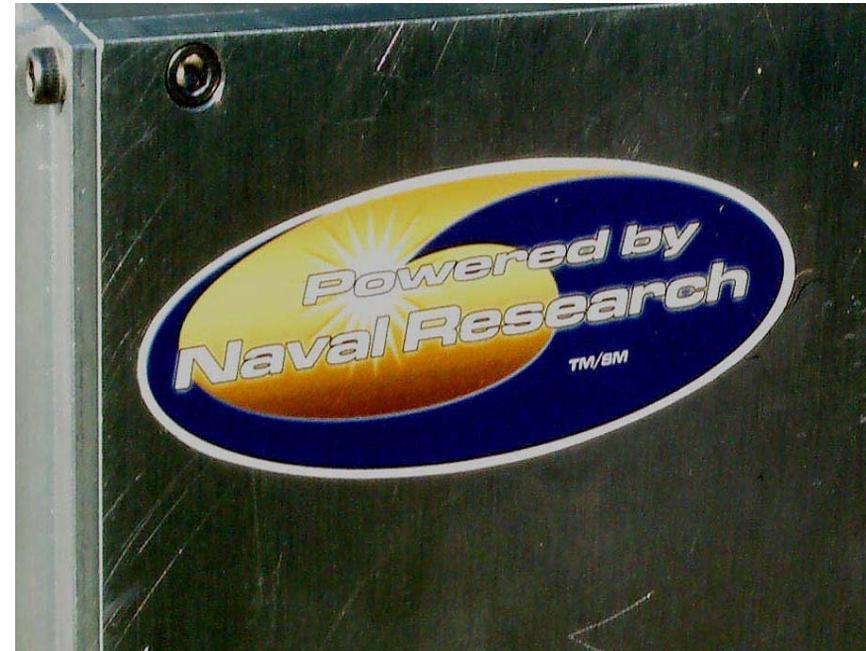
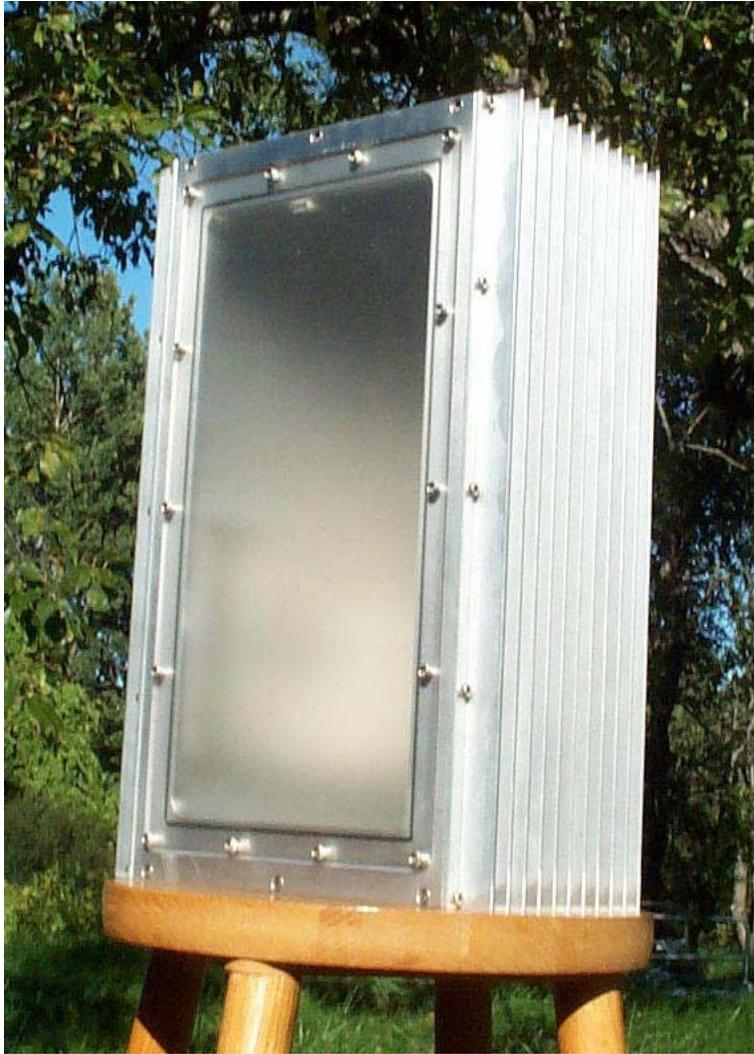


Comparison with Cadillac (Thermal Night Vision) System



Active night vision provides more intuitive images that clearly show lane markings, signs, and other roadside objects; i.e. mailboxes, posts, etc

Navy Demo/ Prototype

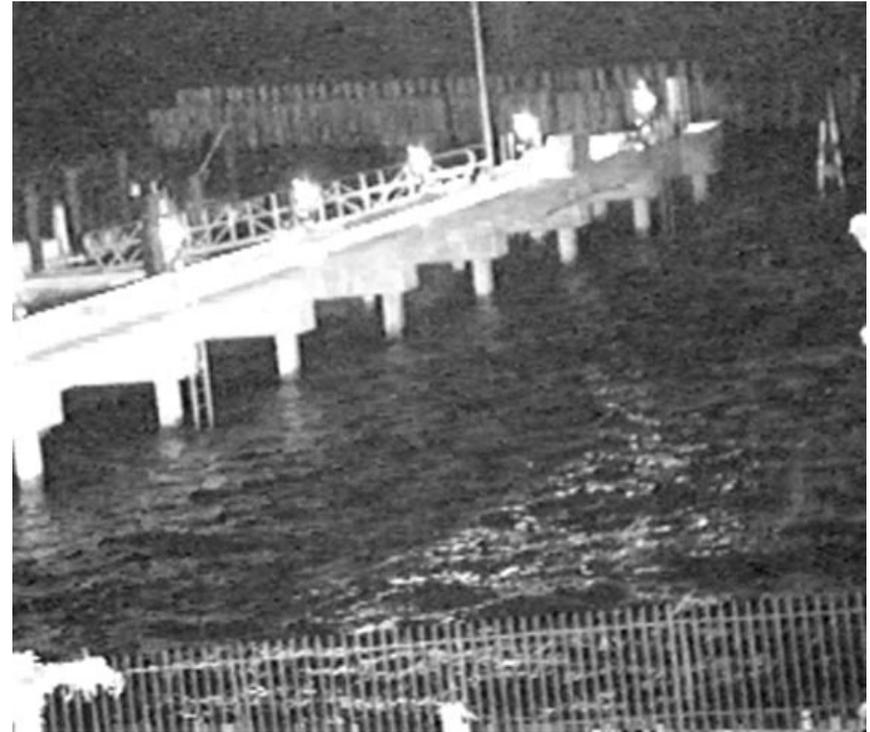


Technology Comparison: NVG vs Illum

Low light camera alone



420 ft to end of pier



High Background light

Low light camera alone



People on breakwater at 1300 ft

