



The slide features a blue background with a circular graphic on the left containing icons for an aircraft, a satellite, a radar screen, a ship, and a submarine. A curved banner around the graphic reads "FROM UNDERSEA TO OUTER SPACE TO CYBERSPACE". The Northrop Grumman logo and "Sperry Marine" are in the top right. The main title "IBS Training" is in large yellow letters, followed by "Integrated Bridge Systems – The Way Forward!" and "Norshipping June 7, 2005". The name "Jan T. Hansen" is in the bottom right.

**NORTHROP GRUMMAN**  
DEFINING THE FUTURE

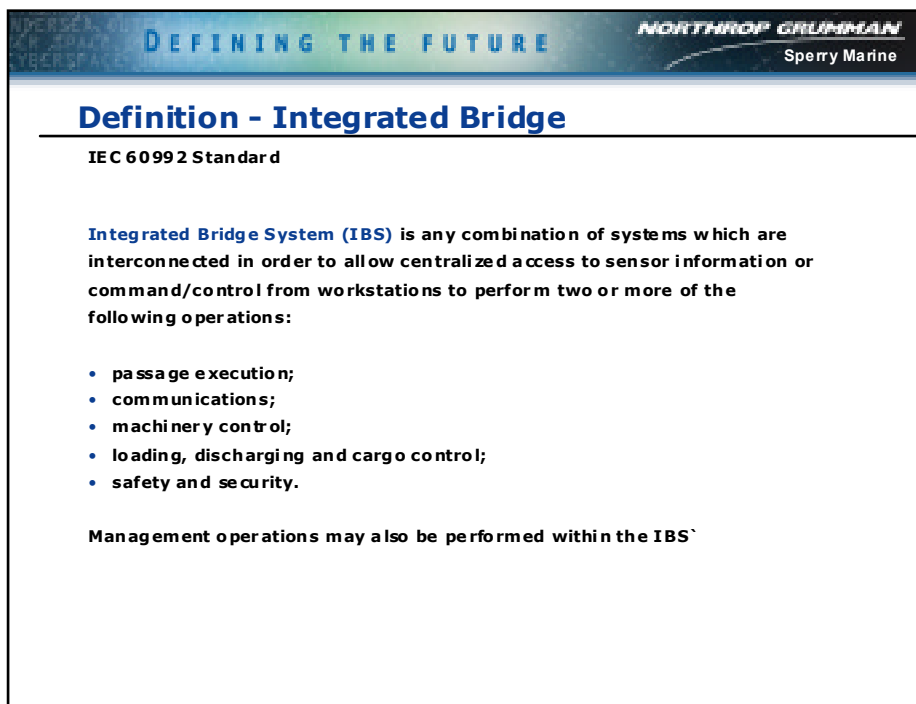
Sperry Marine

# IBS Training

## Integrated Bridge Systems – The Way Forward!

Norshipping June 7, 2005

Jan T. Hansen



The slide has a blue header with "DEFINING THE FUTURE" and "NORTHROP GRUMMAN Sperry Marine". The main title is "Definition - Integrated Bridge". Below it is the "IEC 60992 Standard" and a definition of IBS. A bulleted list of operations follows, and a note states that management operations may also be performed within the IBS.

**DEFINING THE FUTURE** **NORTHROP GRUMMAN**  
Sperry Marine

### Definition - Integrated Bridge

IEC 60992 Standard

**Integrated Bridge System (IBS)** is any combination of systems which are interconnected in order to allow centralized access to sensor information or command/control from workstations to perform two or more of the following operations:

- passage execution;
- communications;
- machinery control;
- loading, discharging and cargo control;
- safety and security.

Management operations may also be performed within the IBS`

### Comparison of Bridge Watch Duties

#### Traditional Bridge Watch

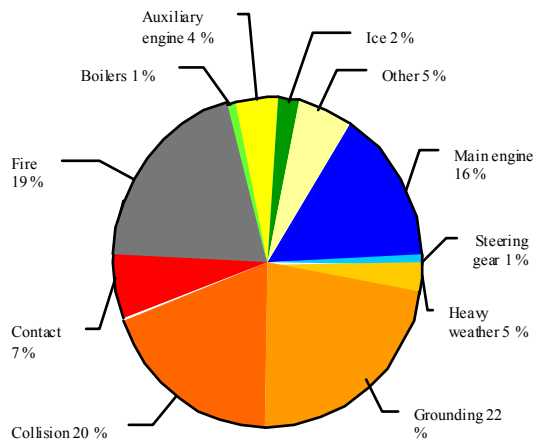


#### Bridge Watch with Integrated Bridge



### Casualties Hull & Machinery

#### Divided by cost of claims



Statistics based on the contents of The Swedish Club's claims database

### Casualties 1995 - 2000

In this period:

- Casualties were reported on 13 421 vessels,
  - Average 2237 ship casualties pr year.
- Total compensated amount = **906 759 000 USD**
  - Nautical casualties represented = **481 735 000 USD**

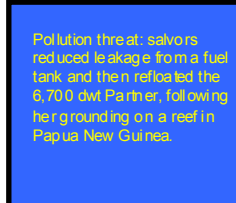
Source : UNITAS

### Nautical Casualties

- **50 %** of ships accidents is caused by *"ships proceeding on wrong course and speed in relation to waters and traffic"* causing **65%** of oil spill from ships.
- *"If the watch keeping officer had obtained proper information, the casualties would most likely not have happened"*

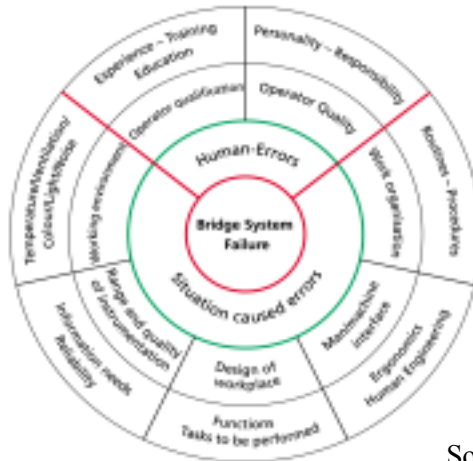


**Sergio Zakariadze:** grounded whilst entering San Juan, Puerto Rico, in November 1999. Salvors lightered 10,000 tonnes of cargo and then refloated the casualty.



Pollution threat: salvors reduced leakage from a fuel tank and then refloated the 6,700 dwt Partner, following her grounding on a reef in Papua New Guinea.

## Bridge System Failures



Source : DNV

## The Bridge System

The Bridge System comprises:

- **Mariner**
- **Technical system**
- **Man-machine interface**
- **Operational procedures**

PERSEA  
K. ADAM  
YBER & PAUL

DEFINING THE FUTURE

NORTHROP GRUMMAN  
Sperry Marine

---

## The Bridge System

The Mariner

**Ability:**

- to evaluate
- to decide
- to execute

**Safe bridge operations.**

PERSEA  
K. ADAM  
YBER & PAUL

DEFINING THE FUTURE

NORTHROP GRUMMAN  
Sperry Marine

---

## The Bridge System

The Technical System

**Designed:**

- for information's
- for controls

**Supporting safe operation of the bridge system.**

## The Bridge System

---

The Man-machine interface

**Ensuring:**

- a human
- a mental
- a physical

**Operation of the technical system.**

## The Bridge System

---

Operational procedures

**Ensuring:**

- the performance
- the safety limits

**Under all operational conditions.**

## Advanced Systems need Advanced Training



**The best technology is only as good as the operator's ability to use it!**

## Quality Training = Safe, Efficient Navigation



*A Modular, Flexible and Professional Approach to Training*



**Training Programs**

**Classroom Training** -

- ✓ 40 hour, USCG approved course of instruction
- ✓ Meets STCW -95 requirements as by IMO model 1.27
- ✓ Highly experienced instructional staff - USCG Approved
- ✓ Train-the-Trainer<sup>73</sup>

**Exportable Training** -

- ✓ Train at the customer's site or location of convenience
- ✓ Provide Dockside and At-Sea training support both operator and maintenance



## IMO/STCW-95 Approval

- **Global Training Centers**
  - Charlottesville, USA
  - New Malden, UK
  - Copenhagen, DK
  - Hamburg, GER
  - Mobile Classroom
- **At Sea Training**
  - Sperry Star
  - Customer Ship



IMO/STCW-95 Approved ECDIS course  
USCG Certified

## Summary IBS Training

- **Guarantees confidence and effectiveness**
- **Assures safe and efficient navigation of the vessel**
- **Valuable for the ship officers and any personnel involved with writing bridge procedures**
- **Can improve vessel operations ranging from fuel efficiency to safe passage of the vessel**
- **Protects your investment and keeps you fully operational**

- **Sperry Marine Training Experience**
  - Over 300 courses completed
  - Over 3000 officers trained