FINCANTIERI
DELFI ILS
ShipView 2.0

Presented by
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Agenda

- Company Overview
- ShipView 2.0
- ShipView 2.0 & OSIsoft PI System
- Future plan and next steps
- Conclusions
Company Overview
Fincantieri – The sea ahead

- One of the largest shipbuilding groups in the world
- Leader in the construction of cruise ships, large ferries and naval vessels
- Fincantieri strategic asset is to invest substantial resources in R&D not just to meet customer requirements but also to anticipate them
- SHIPVIEW is part of Fincantieri Digital Transformation
Our mission: achieve the best operational availability with a cost-effectiveness approach

Ship Integrated Logistic Support from the initial project phases throughout the whole service life

Products and services

- LOGISTICS STUDIES
- TECHNICAL PUBLICATIONS
- SPARE PARTS MANAGEMENT
- TRAINING
- ON-SITE SERVICES SUPPORT
- SYSTEM DESIGN
Portfolio – Results

- FREMM Fregates for ITALIAN NAVY
- CAVOUR Aircraft Carrier for ITALIAN NAVY
- Patrol Vessels for TURKISH COASTGUARD
- Patrol Vessels for IRAQI NAVY
- Patrol Vessels for UAE NAVY
- Fleet tankers for INDIAN NAVY
- Nuclear waste Carrier for RUSSIAN NAVY
- Landing Ship for ALGERIAN NAVY
Portfolio – Current challenges

Italian Navy Fleet
- 7 Offshore Patrol Vessels
- 1 Landing Platform Dock
- 1 Logistic Support Ship
- 4 additional FREMM Frigates

Quatar Navy fleet
- 2 Offshore Patrol Vessels
- 1 Landing Platform Dock
- 4 Corvettes

Other Navys
- 4 Patrol Vessel - Bangladesh Coastguard
- 1 Polar Vessel for Norwegian Navy
SHIPVIEW

Matching physical reality with virtual reality
Market target

• Help crew during maintenance
• Improve familiarization with new ships
• Improve impact of training courses
• System monitoring and failure simulation
• All-in-one document and media repository

SHIPVIEW
Overview

- Developed for the operators training and crews familiarization with new ships
- An immersive virtual navigation on board of the vessel
- Interactive contents available during the walk
- Remote monitoring of ship parameters
- Remote maintenance assistance
Virtual world ILS contents

Common resources
- Technical manuals
- Functional diagrams
- Spare parts catalogue

Additional information
- Videos of operating instruction
- Maintenance procedures videos
- 3D drawings and exploded views
- Operating parameters
- Maintenance simulation
- Online assistance from shore
Training - Today

- Topics to cover on a system
  - What is?
  - Where is?
  - How it works?
  - Maintenance
  - Troubleshooting

- Training plan
  - Lessons in classroom
  - Photos
  - Diagrams
  - On board visit
  - Usually it is not allowed to operate real equipment
Training - Tomorrow

- Fully immersive and interactive experience
- Virtual simulation of onboard operations and maintenance with real historical parameters
- Manuals and media available during the operations
- Train every crew with the same tool
Onboard maintenance

Today

▪ Technical publications
▪ Photos
▪ Diagrams and drawings
▪ Poor expertise shore support

Tomorrow

▪ Digitalized resources
▪ Explaining video
▪ Real time parameter monitoring
▪ Exploded 3D views
▪ Expertise shore support
▪ Possibility to show outfitting
▪ All in one tool to get ship data
Main strengths

- Improve the effectiveness of the training and familiarization courses offering a realistic and fully immersive experience
- Mapping the vessels during the mounting phase to support the troubleshooting and the maintenance activities for the whole life cycle
- Real time ship parameter monitoring
- Training cost reduced
- Train infinite crews with the same tool
SHIPVIEW & OSIsoft PI
PI for SHIPVIEW

- Realtime data view on ship virtual model
- Maintenance procedures docs on events
- Equipment Simulation
- Operating Procedure review and Failure Data Analysis based on historical data
- Remote technical support
  - Augmented/Virtual Reality
  - realtime 3D view
SHIPVIEW
Simulation Model

Event Driven Simulator

Actor

Actor

Event Bus over http

Event Bus over http

Verticle

http

[SHIP AUTOMATION]

OSISoft Interfaces

PI System

REALTIME DATA SILOS

tcp/jdbc

tcp

PI Vision

[DISPLAYS]

http
Provide operators and maintainers a
all-in-one tool

**Challenge**

- Training / Familiarization
- Real time data
- Defects analysis and prediction
- Document repository
- Technical support
SHIPVIEW integrated with the OSIsoft realtime data asset platform:

- High quality 360° pictures with vessel’s layout model
- “Behind the scenes” mode to show outfitting
- Technical documentation linked with every equipment
- 3D interactive model for every equipment/plant
- Augmented Reality through visor and controllers
All in one system able to provide all information to support

Training / Familiarization
Maintenance
Trouble shooting
Outfitting
Real time data monitoring

Results
Focused on modeling, simulation and analysis based on real time data.

- Items and system real time recognition
- AI support during maintenance
- Remote Support from naval base
- Operational data sharing with onshore expertise
- Failure data analysis
Summary

COMPANY and GOAL
DELFI ILS has to support the logistics in a highly complex system delivery adopting SHIPVIEW as a single, scalable and extensible platform.

CHALLENGE
A single tool to manage all the information

- Data fragmentation & heterogeneity
- Ship automation integration
- Simulation functionalities

SOLUTION
SHIPVIEW: 3D Localized Multi Media Asset Manager

- Visual reference to reality
- Embedded real-time data as well as data support to simulation
- Visual reference to technical docs

RESULTS
Entire ship information assets in one place ready to use

- Process data (real-time and for simulation)
- 200 operative manuals
- 40K spare parts
- 10K operative procedures video
- 6K technical drawings
Contact Information

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