

SRtP ASSIST

SHIPBOARD OPERATOR SMART ASSISTANT
for Safe Return to Port

Venezia, 01/12/21



SEA INNOVATORS

Agenda

- 1) CETENA as research center of Fincantieri
- 2) SRtP main requirements
- 3) CETENA Role in Safe Return to Port process
- 4) Operational Manuals
- 5) ASSIST SOLUTION

Who we are



TEAM

CETENA was born in 1962 and it's a Fincantieri Company. It operates in the research and engineering consultancy field and counts 90 employees, 70% of which are engineering graduates.



SKILLS

Its technical-scientific competences and skills work together to find tailored solutions.



NETWORK

It develops research projects with Ministry, University, Industry, National and European research Centers.

Mission

APPLIED RESEARCH



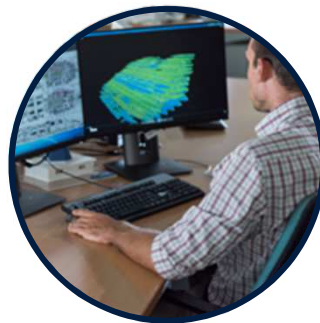
BASIC RESEARCH

INDUSTRY

Activity



**INNOVATION
PROJECTS**



**ENGINEERING
CONSULTANCY**



**EXPERIMENTAL
ACTIVITIES**



PRODUCTS



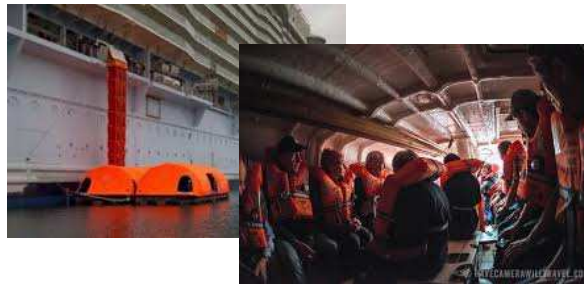
**TRANSFER OF
TECHNOLOGY**

Background - SAFE RETURN to PORT philosophy

DAMAGE SCENARIO



The **passenger ship** is its **own best lifeboat** capable of providing a “safe area for passengers until “return to port”.



Minimum requirements as given by MSC.1/Circ. 1369

SHIP SERVICE

- Fire protection
- Indefinite survivability (afloat and upright)
- Availability of relevant function and systems (navigation, propulsion, communication)

PASSENGERS SERVICE

- Safe area
- Sanitation
- Water & Food
- Medical care
- Shelter from the weather
- Preventing heat Stress
- Light
- Ventilation



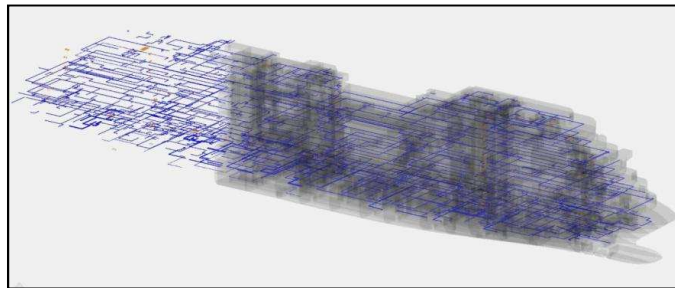
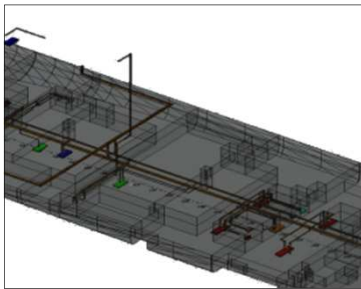
CETENA
S.p.A.
a FINCANTIERI company



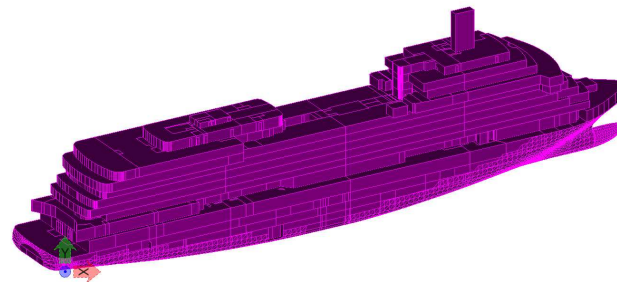
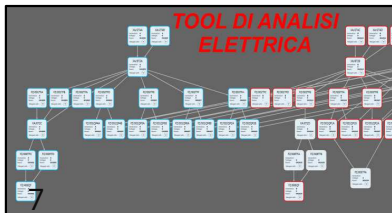
CETENA SRtP Tool

All the systems that have to be maintained in operation after a SRtP casualty (with the level of performance required by SOLAS) are modeled inside the ship volume. This allows to carry on a detailed topographic FMEA analysis for each SRtP casualty.

Physical level



Functional level



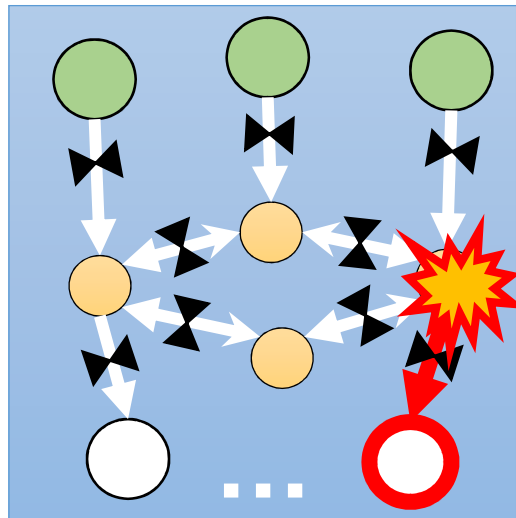
property



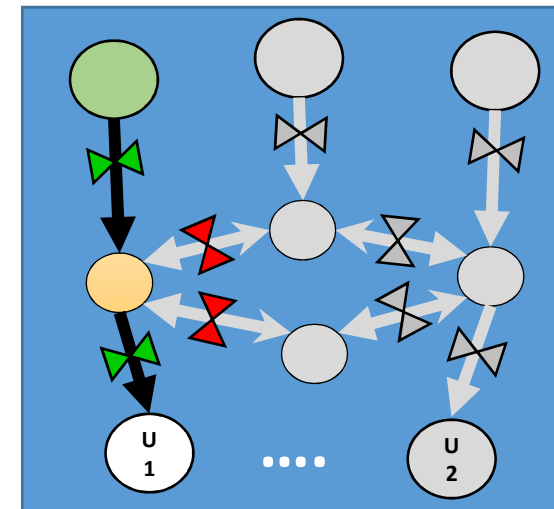
CETENA SRtP Tool

Our tool is able to simulate any SRtP casualty scenario, evaluate the effect and verify the restore procedure foreseen by designer to guarantee the system functionalities after any fire / flooding scenarios defined by SOLAS.

DAMAGE SCENARIO

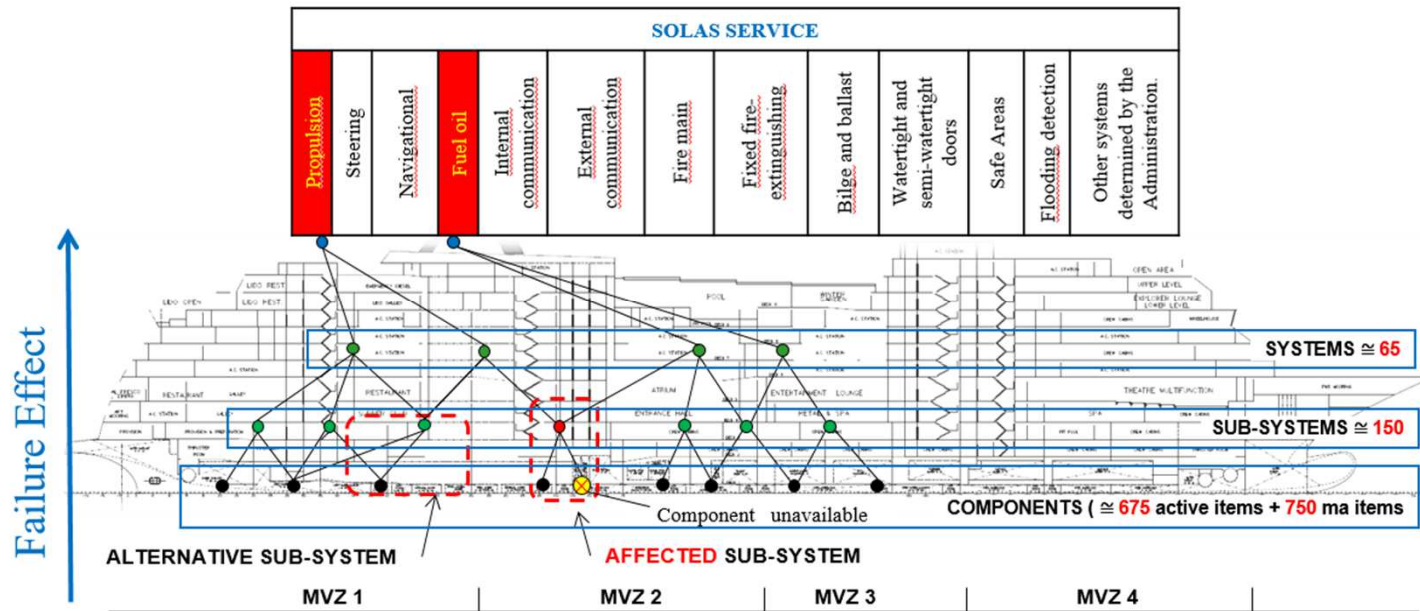


RESTORE SYSTEM



Essential System Analysis

To perform an SRtP assessment, systems are decomposed using a top - down approach by considering their critical components.



SRtP Onboard documentation

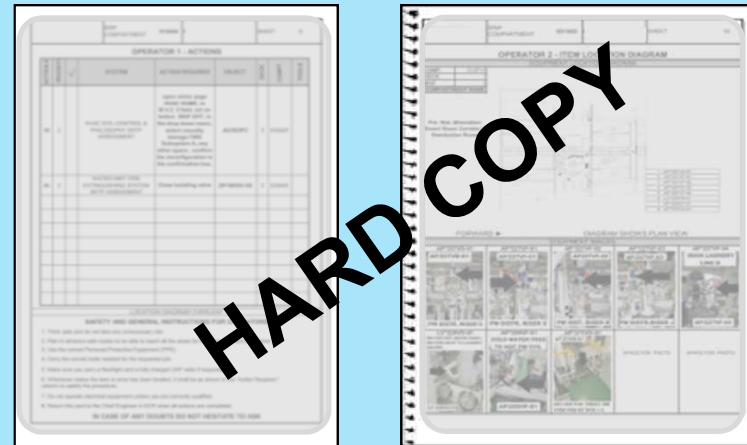
- SHIP'S DESCRIPTION
- OVERALL ASSESSMENT OF ESSENTIAL SYSTEMS' REPORT
- DETAILED ASSESSMENT OF CRITICAL SYSTEMS' REPORT



DEMONSTRATION THAT
SHIP IS DESIGN
ACCORDING TO SRtP
REQUIREMENTS

- OPERATIONAL MANUALS

".. OPERATIONAL MANUAL for fire and flooding casualty cases and safe return to port operation, including details of any manual action required to ensure operation of all essential systems, availability of safe areas including provision of basic services therein (e.g., closing/opening of valves, shutting down/start of equipment/fans, etc.).."



PROCEDURES FOR RECOVERING SHIP
CAPABILITIES AFTER A SRtP CASUALTY

Operational Manual

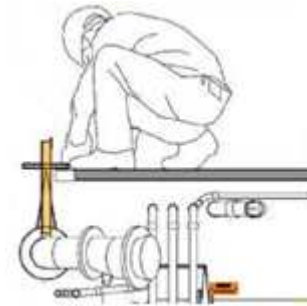
Up to 1000
(2 copies)
MANUALS



Up to 1000
ITEMS



Up to 300
**MANUAL
ACTIONS**



10-30
OPERATORS



spread in more than
70 ROOMS



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Disadvantages of the hard copy of the Operation Manual

BULKY



Storage requires a lot of space



Additional weight onboard



Increased fire load

ROOM 1
FIRST COPY



ROOM 2
BACKUP COPY



COSTLY



Expensive Life cycle



Not eco-friendly



Copious documents to be managed under SMS/ISM

PAPER OPERATIONAL MANUALS

example





Shipboard Operator Smart Assistant for Safe Return to Port

Safe Return to Port shipboard operator smart assistant is the next generation guide for operators/crew.

Designed to actively assist crew members in performing complex team recovery tasks after an SRtP situation.

ASSIST Solution

ASSIST is based on a set of rugged portable devices interacting with each other, running an app developed to provide an exhaustive amount of information useful to fully describe the SRtP procedures and to keep track of the tasks completed.



The app is developed with ergonomics and human centered design philosophy to reduce **human errors** and **fatigue (MSC.1/Circ.1598)**.

ASSIST CONFIGURATION



← MASTER
TABLETS

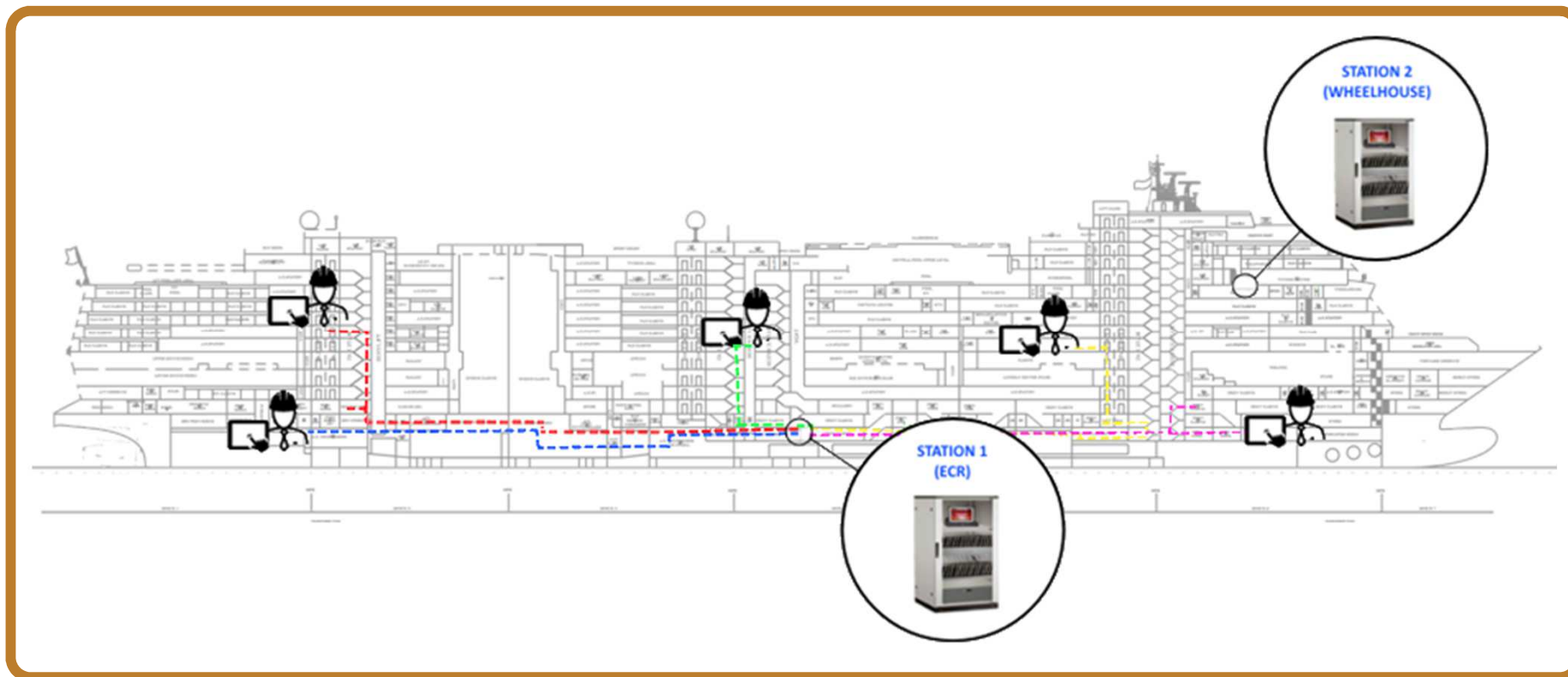
← CLIENT
TABLETS

← RACK

← DRAWER

- **MASTER TABLET**
CENTRALIZES TABLES SRtP SETUP PROCEDURES
- **RUGGED TABLETS**
DESIGNED FOR HARSH ENVIRONMENT
- **RACK**
SAFELY CONTAINS TABLETS AND MEETS MARINE STANDARDS
- **BLUETOOTH CONNECTION**
PROVIDE CLOSE RANGE CONNECTION AMONG TABLETS, IS AVAILABLE IN CASE OF BLACKOUT AND ENSURE A NEGLIGIBLE CYBER-RISKS

ASSIST CONFIGURATION



ASSIST BENEFITS

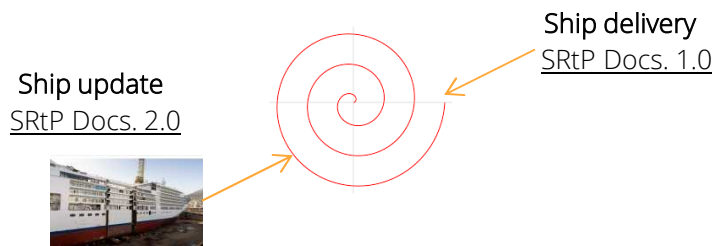
CERTIFIED:

Lloyd's Register certified and recognized in principle also by many State Flag Administration as effective support for SRtP.



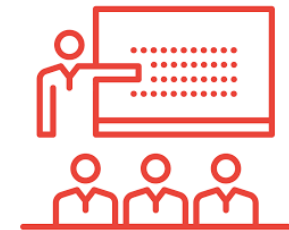
COST-EFFICIENT LIFECYCLE:

Easily to update after any ship modification.



TRAINING / FAMILIARIZATION TOOL:

Enhances training effectiveness (engaging and traceable) for improving crew skills with a modern cost effective training approach.

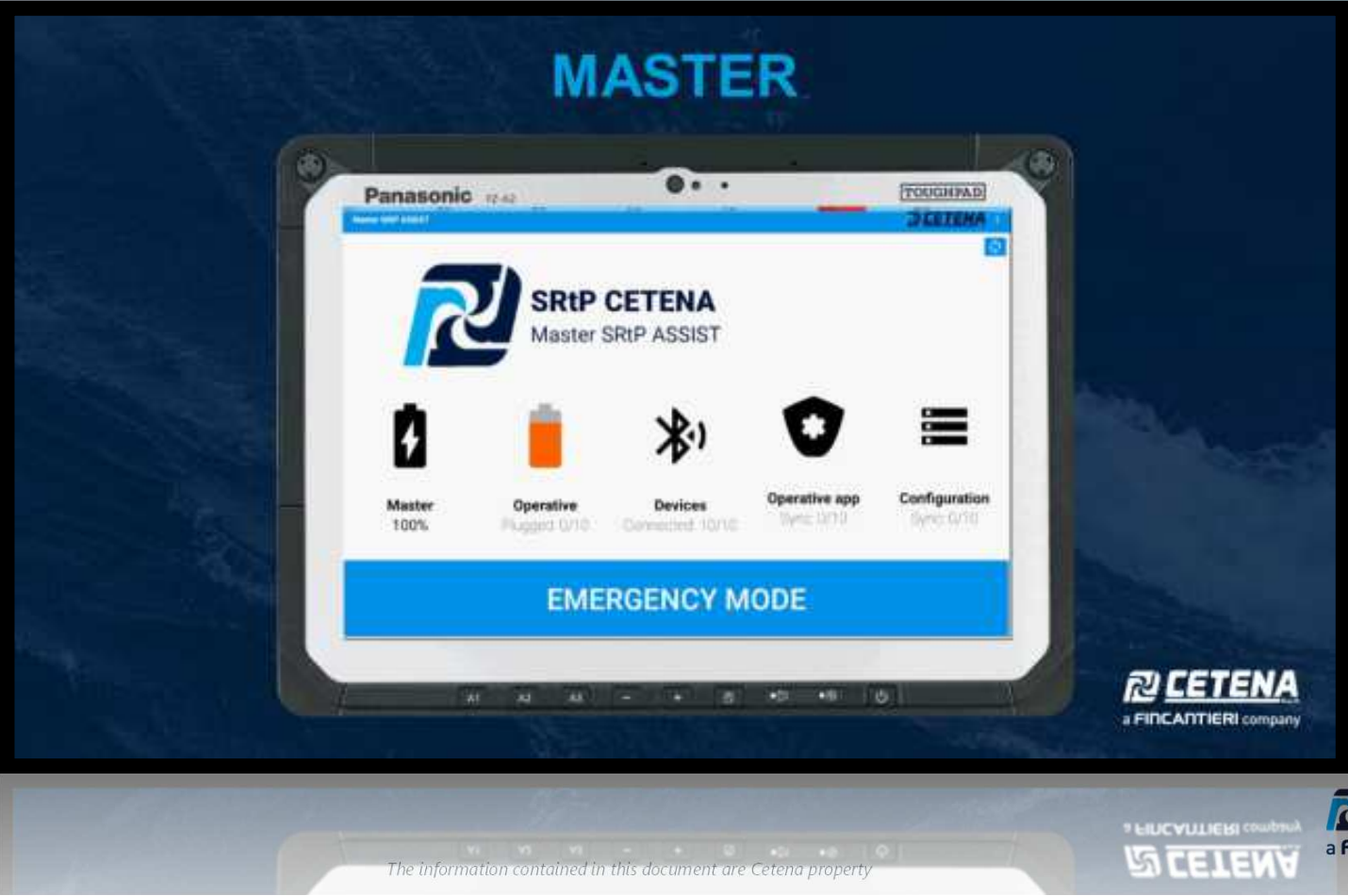


INTERACTIVE:

interacts with ship systems by means of technologies such as the QR code or augmented reality; can be connected to digital network (WI-FI) to exchange information with ship in real time.



ASSIST Video



Contacts

Thanks for the attention

CONTACTS :

Alessandro Bonvicini

Head of Engineering & Technical Consultancy

Mob. +39 334 3457488

E-mail: alessandro.bonvicini@cetena.it

Dario Cangelosi

Engineering & Technical Consultancy - Design for Safety B.U.

Tel. +39 040 319 4654

E-mail: dario.cangelosi@cetena.it

Giuseppe Previti

Engineering & Technical Consultancy - Design for Safety B.U.

Tel. +39 040 319 4654

E-mail: giuseppe.previti@cetena.it

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