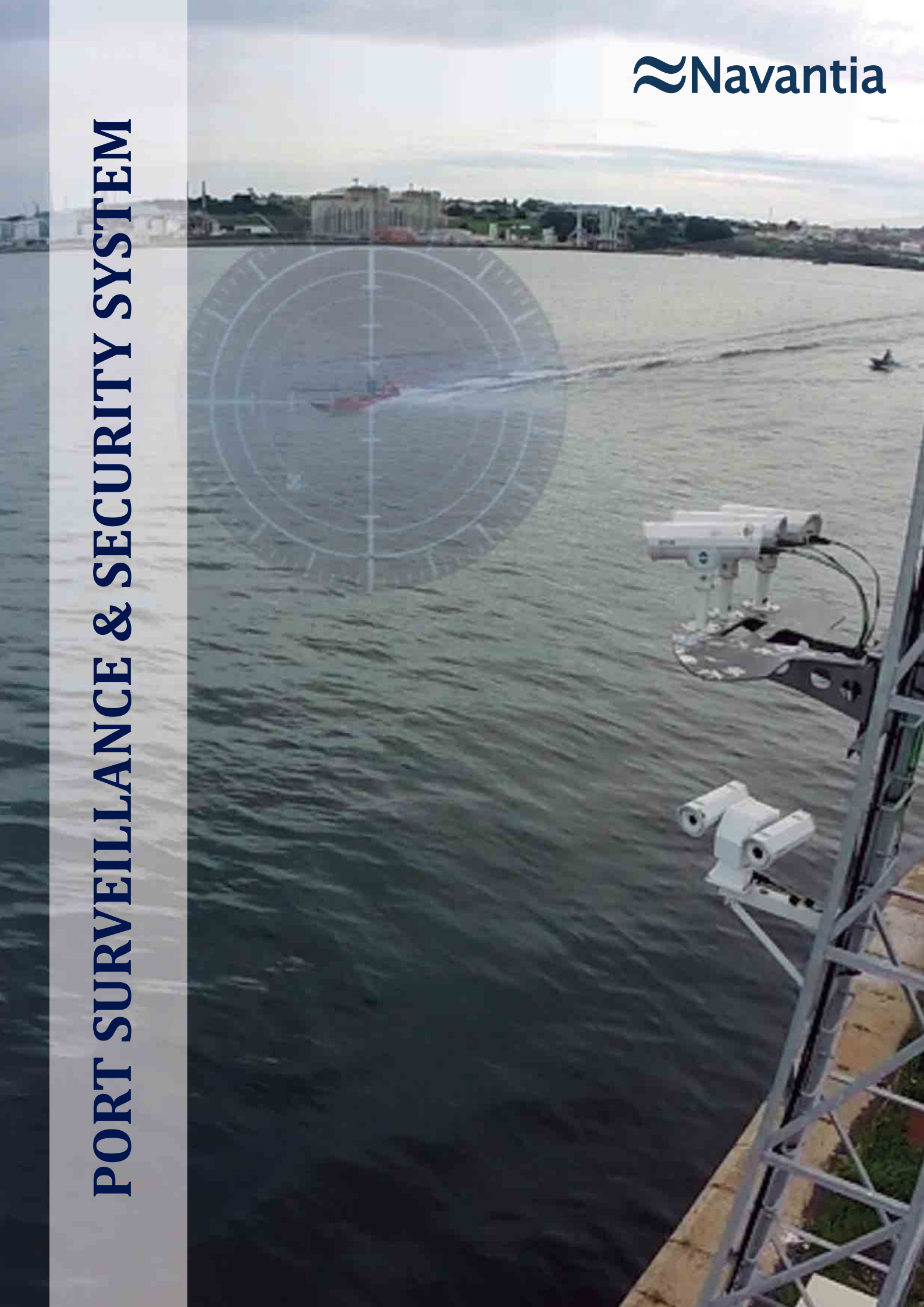


PORT SURVEILLANCE & SECURITY SYSTEM

 Navantia





NAVANTIA'S PORT SURVEILLANCE & SECURITY SYSTEM

REGULATIONS

Navantia's Port Surveillance & Security System (SVAP) meets the requirements of the International Ship and Port Facility Security Code (ISPS) by providing protection from threats coming from the sea.

WHAT IS SVAP?

SVAP is a system that provides surveillance, environmental protection and vessel traffic management to waters close to critical infrastructures such as ports and off-shore platforms and wind farms.

MODULAR

SVAP is an integrated modular system, in which the following modules can be installed together or independently:

- Vessel Traffic Service (VTS) module.
- Environmental surveillance module.
- Security module.
- Un-manned Surface Vehicle (USV) module.

PRINCIPAL FUNCTIONS

- Detection and Tracking of:
 - Security threats
 - Oil spills and toxic clouds
 - Vessel traffic
- Reconnaissance and Identification of:
 - Vessels (surface and sub-surface) and persons
 - Contamination
- Dissuasion and Reaction against:
 - Threats from the sea
 - Leaks, spills and toxic clouds
 - Breach of navigation rules
- Recording, Archive and Documentation

COST REDUCTION AND RETURN ON INVESTMENT

- Integration within existing platforms providing immediate benefits
- Integration with existing equipment and use of COTS equipment
- Low maintenance
- High reliability
- Multi-functional use of the USV module



Fixed and mobile command and control centres:

- Administration and Electronic Chart software in accordance with International Hydrographic Organisation (IHO) standards
- Human Machine Interface (HMI) with all chart types using IHO S52 presentation library standards, including S63 encrypted charts and S57 Edition 3 non-encrypted charts
- Data base administration and exploitation management systems
- Automatic target detection and tracking (radar & optronic)
- Intelligent Video Analysis (IVA)
- Track management, correlation and fusion
- Alarm generation, management and application of rules
- Video and data recording

SENSORS

Integration of sensors from leading OEMs:

- Electro-optical (EO) systems
- Radars
- Sonars
- Automatic Identification Systems (AIS)
- Radio Direction Finding (RDF)
- Weather stations
- Electronic Warfare (COMINT, ELINT)

UN-MANNED VEHICLES

Multiple missions, both military and civilian, including:

- Protection of ports and off-shore platforms and wind farms
- Search, localization and rescue of maritime disasters
- Environmental protection against leaks and spills to protect water quality
- Mine warfare, surveillance and anti-terrorism
- Control of illegal immigration, trafficking and contraband

The principal characteristics of Navantia's USV are:

- Adaptable to customer requirements (e.g. size, power, materials)
- Equipment selected to meet missions and functions
- 3 types of operation: piloted, remote control, autonomous
- Artificial Intelligence: Dynamic Positioning, COAS (Collision Avoidance System), COLREG (Convention on the International Regulations for Preventing Collisions at Sea)
- Automatic mooring and un-mooring

DISSUASION ELEMENTS

Automatic and manual control of:

- Searchlights
- Loudhailers
- Water cannons
- Sound cannon
- Soft-kill weapons
- Hard-kill weapons
- Un-manned vehicles
- Anti-Drone Systems



SVAP REFERENCES



Spanish Naval Base & Navantia Shipyard,
Ferrol, Spain



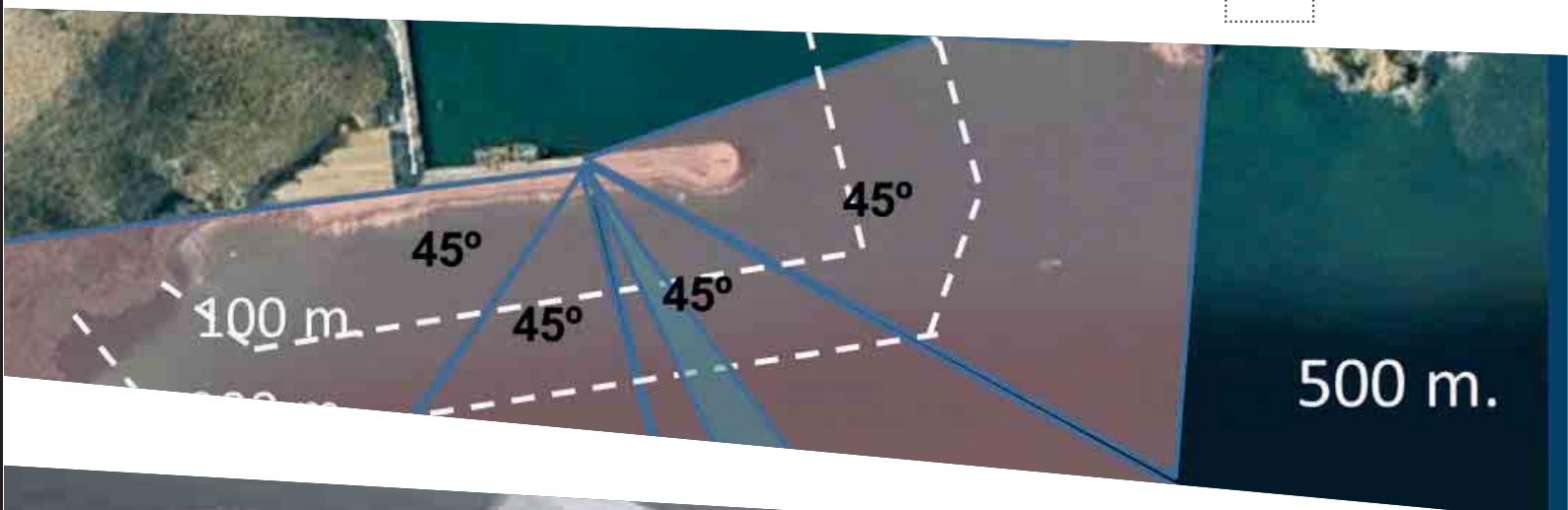
Spanish Naval Base & Navantia Shipyard,
San Fernando, Spain



Spanish Naval Base & Navantia Shipyard,
Cartagena, Spain



Port of Ceuta, Spain



ABOUT NAVANTIA

Navantia is a Spanish Government Owned Company and is an Industrial Group with the following Business Lines:

- Naval shipbuilding and design.
- Systems.
- Ship repairs and conversions.
- Diesel engines, gearboxes and power generation.
- Through Life Support.
- Transfer of Technology solutions
- Offshore merchants and wind energy

Command and Control systems
Integrated Platform Management Systems
Surveillance systems
Gun Fire Control Systems
Naval guns
Communications systems
Navigation systems
Simulators and training



More than
20
countries...

...with
offices
worldwide

 Navantia

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