



PORT 
GDAŃSK


Port of Gdansk
safety and security
improvement projects

INTRODUCTION

To ensure the safety and security of the port, its users and calling vessels, many years ago the Port of Gdansk Authority SA implemented the International Convention for the Safety of Life at Sea and the International Ship and Port Facility Security Code, and has ever since successfully applied measures to ensure the stability and efficiency of its integrated safety and security management system by employing specialised fire safety, technical rescue, environmental safety as well as personal and property security units.

Since safety and security are prerequisites for the operation of a sea port, the Port of Gdansk Authority SA launched, in 2015, an initiative „Port of Gdansk safety and security improvement projects” and, as of today, has completed 4 projects as part of it, funded from the 2007 - 2013 Infrastructure and Environment Operational Programme, Priority VII, Environment-friendly transport, Measure 7.2: sea transport development.

Two of them concerned the purchase of vessels intended to provide safety at the port, another one involved the modernisation of the Strazak 6 fire and rescue vessel, while the fourth project concerned the organisation of a specialist new PGA SA Rescue Centre, which is supposed to function as the Coordination and Rescue Centre bringing together all of the services responsible for safety at the port.

This document discusses all four projects covered by the two grant agreements. The first agreement covered the supply of a quick-response environmental safety and rescue boat, as well as a hydrographic survey and inspection motor boat. The other covered the upgrade of a fire and rescue vessel Strazak 6, and of the PGA SA Rescue Centre's equipment.

This publication presents in detail the scope of works involved in each of the projects, and discusses the impact of the respective projects on port safety and security. The photos included in this publication display the products of the project-related actions and are indicative of the broad range of changes taking place in this respect at the Port of Gdansk, where mitigation of hazardous and harmful incidents as well as prevention and preparedness for responding to actual threats constitute a foundation for the sustainable development of the port and continuous improvement of its service quality.



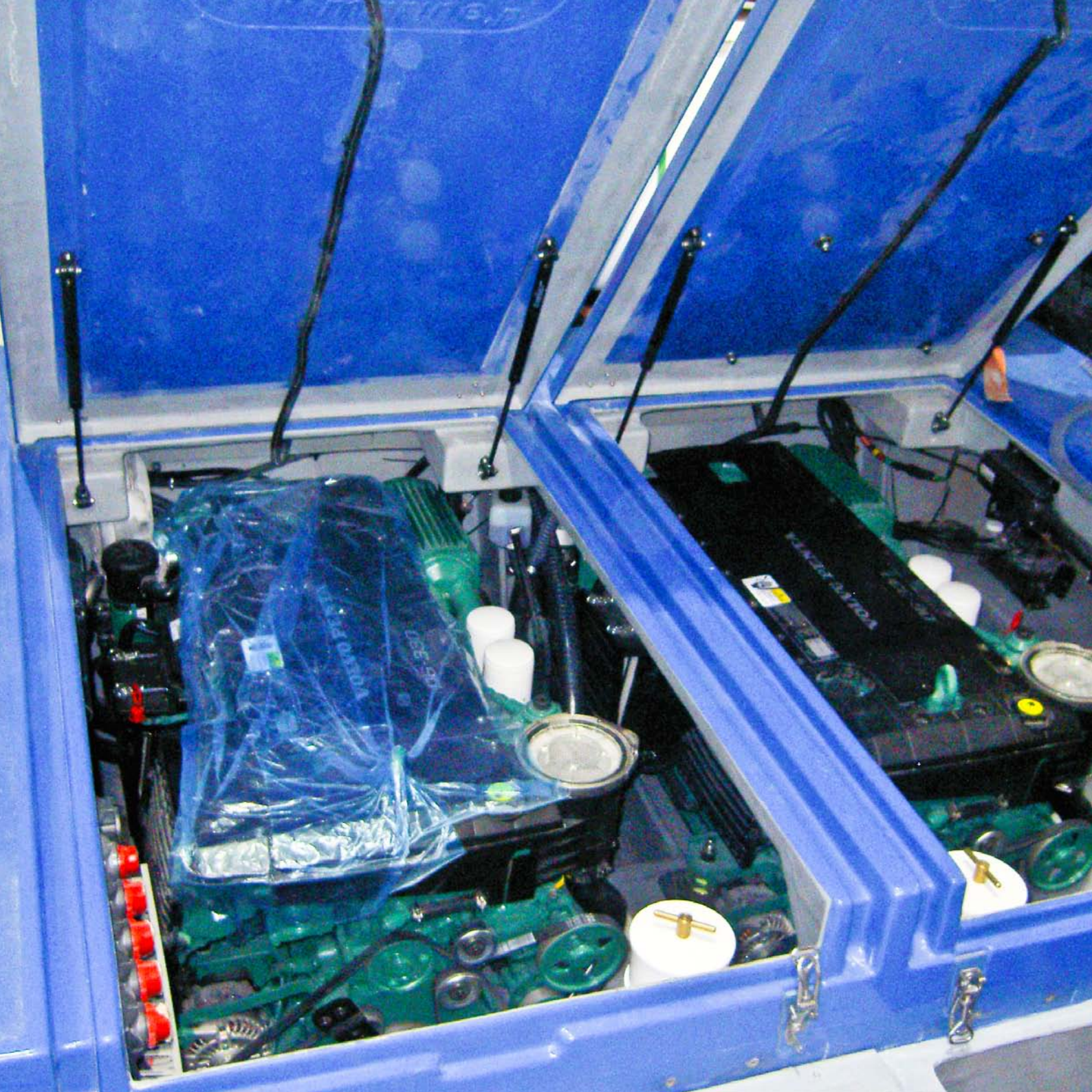


SUPPLY OF QUICK-RESPONSE ENVIRONMENTAL AND RESCUE BOAT

Within the project stipulating the replacement of the port's stock of vessels, covered by the grant agreement under the 2007 - 2013 Infrastructure and Environment Operational Programme, Priority VII, Environment-friendly transport, Measure 7.2: sea transport development, the Port of Gdansk Authority SA purchased a quick-response environmental and rescue boat for patrolling and environmental safety and rescue works at the Port of Gdansk, whose equipment and performance parameters allow for speedy interventions that mitigate or eliminate the effects of quickly spreading environmental, technical or fire incidents.

The boat is designed to perform the following functions:

- patrolling - for environmental patrols and preventive actions to protect the port infrastructure and hydro-engineering facilities,
- removal and neutralisation of navigation obstacles beneath and above the water's surface,
- fire suppression - the boat will facilitate a quick response to fire incidents at the port and ensure a shorter start-up and arrival time to each location at the port owing to its equipment and design speed,
- evacuation and rescue - the boat will respond to potential cases of emergency, where casualties or persons in danger need to be evacuated,
- medical rescue - pre-medical first aid,
- reconnaissance - quick and easy arrival at the scene of the incident,
- intervention - providing first-response assets to deal with an emergency,
- auxiliary, management, command and emergency centre function for complex actions,
- assistance and prevention,
- preparation of source materials for the documentation of port incidents.





Boat parameters and equipment:

Length overall: 10.85 m

Width: 3.65 m

Draught: 0.8 m

Drive train: 2 Volvo Penta D6 330 Diesel engines (2 x 242.6 kW)

Crew: 2 members

Passengers: 8 persons

PRS *bKM III pat x L grade - which means the boat can be used in coastal sea waters at a distance of 20 nautical miles from the shore as a maximum

Equipment:

- fire gun, 70 m in range, and 1,900 l/min in capacity
- fire pump, 2,450 l/min in capacity
- foaming agent tank, 300 l in capacity
- rescue equipment



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SUPPLY OF HYDROGRAPHIC SURVEY AND INSPECTION MOTOR BOAT

Within the project stipulating the replacement of the port's stock of vessels, covered by the grant agreement under the 2007 - 2013 Infrastructure and Environment Operational Programme, Priority VII, Environment-friendly transport, Measure 7.2: sea transport development, the Port of Gdansk Authority S.A. purchased a hydrographic survey and inspection motor boat for sounding works at the Port of Gdansk, including for the following tasks:

- port basin depth sounding,
- hydroacoustic trawling inside the port and in the Gulf of Gdansk,
- quality testing of port quay sheet piling,
- search, identification and spotting of underground obstacles and other structures,
- detection of threats to the water environment, such as mechanical objects, physical and chemical threats,
- monitoring of public-access shores, including mooring and fender lines,
- specification of hydrological conditions in the areas covered by hydrographic works,
- collection, processing and analysis of data from hydrographic surveys required to produce and update port basin maps.

The hydrographic survey and inspection motor boat purchase project was launched with a long-term objective in mind, i.e. to benefit the long-term port infrastructure projects developed and planned by the Port of Gdansk Authority SA for the years to come, including, among others, the redevelopment and repair of a dozen or so quays, deepening the fairway, or development of handling infrastructure and breakwaters, all of which will require ongoing support by a hydrographic survey boat of this type.





Yet another reason for the purchase of the hydrographic survey and inspection boat was the projected robust growth in handling volume at the port, a natural consequence of which in the coming years will lead to an increased demand for inspection and hydrographic, patrolling, protection and environmental actions.

Of importance here, too, is the legislation which imposes certain obligations on port authorities resulting, among others, from the Convention on Biological Diversity, or from the statutory duty to test the environmental parameters of the port's waters by the port authority. Considering the above duties, as well as in the context of implementation of the International Convention for the Control and Management of Ships' Ballast Water and Sediments, it was required to equip the Port of Gdansk with a vessel capable of reviewing the condition of the basins administered by the Port of Gdansk Authority, and conducting the relevant tests of the biological, physical and chemical parameters of the pelagic waters and bottom sediments in preparation to achieving compliance with the Convention.

The Port of Gdansk Authority, as the administrator of port areas that cover both land and water, is also required to ensure the navigability of fairways and port channels by identifying navigational obstacles above and below the surface. This can be accomplished using the appropriate sounding instruments included as equipment on the new boat. In addition, the vessel and its varied instruments will contribute to a better identification of habitats within NATURA 2000 sites as well factors that impact the living conditions for species in protected areas within the Port of Gdansk.





Boat parameters and equipment:

Length: 14.95 m

Width: 4.7 m

Draught with propeller - 1.5 m

Drive train: 2 Volvo Penta D5 1600 Diesel engines (2 x 117.7 kW)

Crew: 2 members

Passengers: 10 persons

PRS *bKM III rob L grade - which means the boat can be used in coastal sea waters at a distance of 20 nautical miles from the shore as a maximum

Specialised hydrographic and environmental survey equipment for the vessel, such as:

- STD/CTD device with software for temperature, conductivity, salinity, depth, density, suspended solids, chlorophyll and dissolved oxygen testing,
- waterproofed device for pH measurement with an electronic probe and automatic temperature compensation,
- bathometer for sample collection to check for the presence of metals,
- phytoplankton and zooplankton nets, etc.





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Motor boat and quick-response boat value:

Eligible expenses: PLN 8,001,540

Grant awarded: PLN 3,200,616 (the remaining public funding will be granted under separate agreements on the financing of the beneficiary's own contribution)

Project development cost: PLN 9,853,887

UPGRADE OF FIRE SAFETY AND RESCUE VESSEL STRAZAK 6

Another project launched by the Port of Gdansk Authority SA to improve safety standards at the port was the upgrade of the “Strazak 6” fire safety and rescue vessel under the grant agreement covered by the 2007 - 2013 Infrastructure and Environment Operational Programme, Priority VII, Environment-friendly transport, Measure 7.2: sea transport development.

The upgrade works included, replacement of pumps and fire guns, including the upgrade of the water-based fire safety systems for new equipment (new pumps with the capacity of 13,300 l/min, guns with the capacity of 8,000 l/min, automatically controlled from the captain’s bridge), and replacement of power generators. Ancillary to the vessel upgrade, its service grade was renewed, combined with the necessary refurbishment to meet the requirements of the Classification Society - Polski Rejestr Statkow S.A.

The following were also purchased and installed:

- hybrid boat, 3.1 m long, with a motor and accessories,
- spill boom with a reel and accessories, 700 running metres long, to enable water protection against spills of hazardous substances,
- oil separator to pre-treat polluted water collected during a rescue operation.

In addition, in order to improve navigation safety, the vessel was provided with an anchor windlass, navigation plotter, and the Automatic Identification System.

The refurbishment for Strazak 6 vessel grade renewal included:

- dock and deck works,
- inspection of decks and superstructure, including steel sheeting verification
- machinery-related works,
- inspection of the main engine’s main transmission gear





- tank survey
- fire safety system survey, including electrical works.

The ongoing increase in the volume of hazardous substances handled in the overall cargo volume supported at the Port of Gdansk, and the resultant growing number of vessels calling at the port, requires the port administrator to increase its preventive efforts, including assistance to ships calling at the port.

The possibility of unforeseen incidents occurring, such as fires, spills of hazardous substances, or increased water pollution requires the administrator of port areas (including its water bodies) to ensure the highest safety standards.

To that end, the Port of Gdansk Authority SA decided to launch this project to upgrade its stock of vessels used to perform key port safety tasks, such as:

- fire protection cover for the handling of hazardous materials and all hot works,
- fire protection cover for vessels and port facilities,
- spill protection for the port basins,
- rescue and recovery in the event of a fire, calamity and other events,
- removal of POL spills on water and in port quays,
- removal or navigation obstacles,
- water and technical rescue,
- fire suppression in the waters administered by PGA SA.

Strazak 6 parameters:

length overall: 22.00 m;

width: 5.80 m;

maximum draught: 2.04 m;

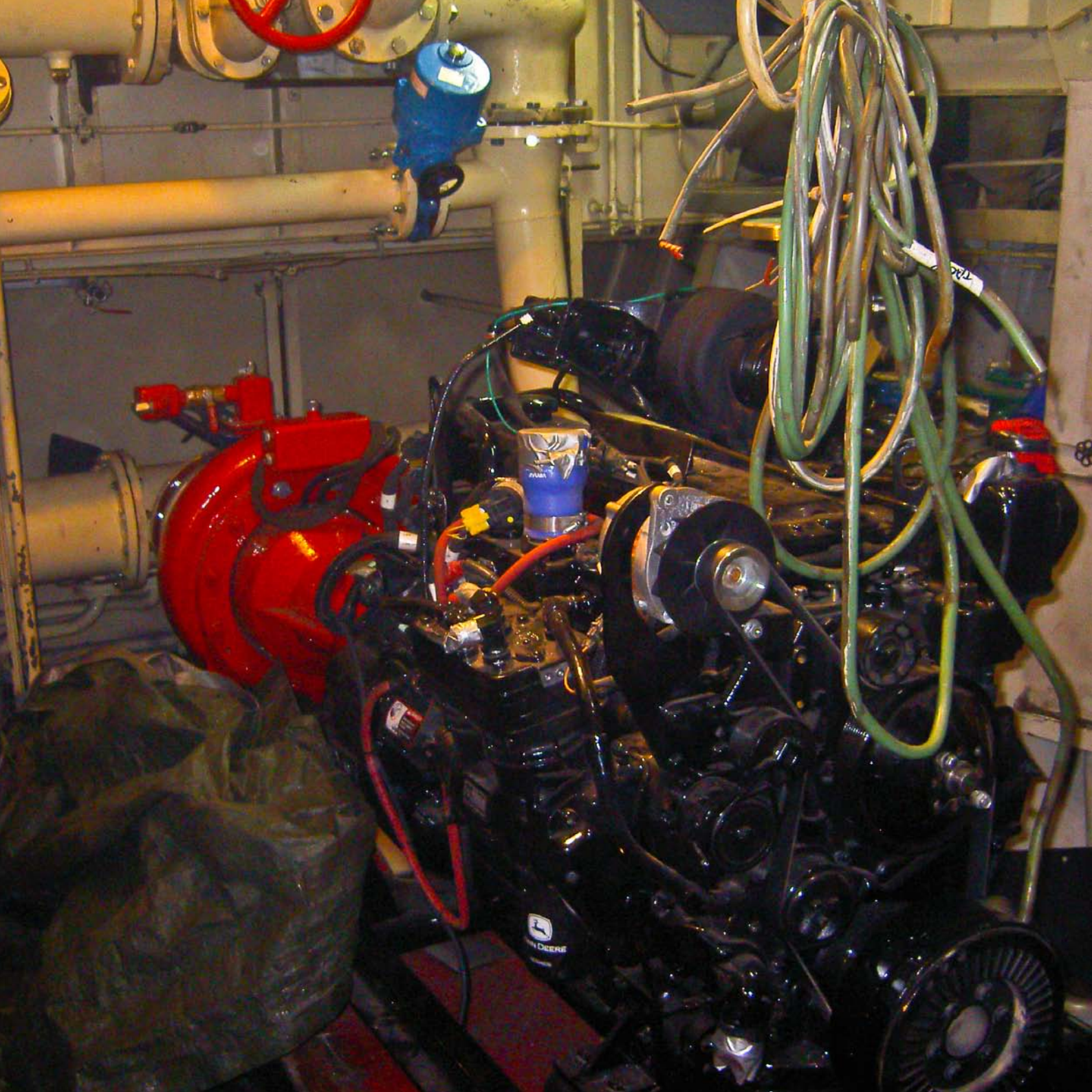
speed - 8 knots

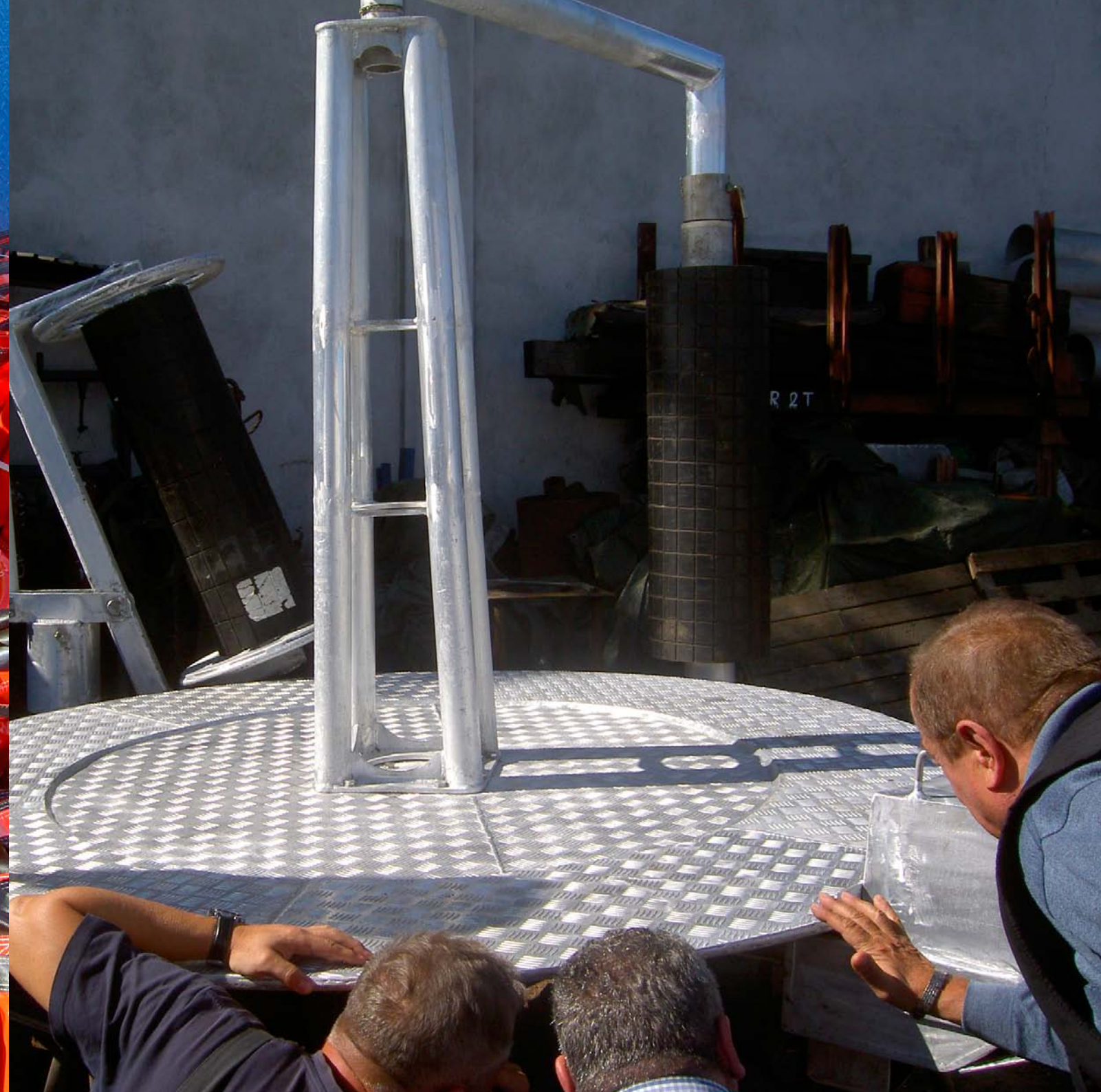
Main engine - BOLNES 5NL - 257KM - 475 rev./min

Quantity of foaming agent - 4 tonnes

PRS skM1 grade - suitable for navigation in the Gulf of Gdansk.









ESTABLISHMENT OF PGA SA RESCUE CENTRE

To attain the overarching objective of ensuring the highest safety standards in the Port of Gdansk, the Port of Gdansk Authority SA resolved to establish a new Rescue Centre to perform the role of Coordination and Rescue Centre combining all port safety and security services, such as the port dispatcher, commander of the Port Security Service, dispatcher of the Port Fire Department.

The project will be mostly funded from the Port of Gdansk Authority SA's own funds, apart from the professional equipment for the centre, 85% funded by the grant agreement under the 2007 - 2013 Infrastructure and Environment Operational Programme, Priority VII, Environment-friendly transport, Measure 7.2: sea transport development.

The establishment of the Rescue Centre required structural conversion works, including adaptation of the facility to meet technical requirements and fire safety regulations to enable efficient operation of the centre and to establish the conditions for the proper coordination from a single Command Post of rescue procedures and direct cooperation between port services and medical, environmental and technical rescue services, as well as fire-fighting squads.

The extensive scope of works involved with this project covered demolition, erection and installation work. The rooms of the centre were provided with new plumbing, HVAC, electrical and ICT, as well as emergency power supply systems. The completed erection and installation works render the Rescue Centre compliant with the operating standards for integrated rescue and coordination services.

The project-related work commenced in 2014, and building permission for the project was granted in mid-2015. Soon thereafter, on 29 July 2015, construction work started, continuing until 2 December 2015. The contractor for the work was Przedsiębiorstwo Budowlane KANBUD.







The primary objective of the Rescue Centre, contacted on emergency phone number 111, was to reduce the time spent collecting details of an event to ensure effective life saving and environmental rescue and to immediately proceed to rescue operations owing to full coordination between the port services and the Harbourmaster's Office, the Fire Department, the Police and the Medical Emergency services, and in effect to ensure effective and reasonable utilisation of all available assets and resources of intervention teams, vehicles and fire-fighting vessels.

Mission and operating rules of the Rescue Centre with respect to fire protection:

- receipt, recording and archiving of reports concerning fires, calamities, technical, chemical and environmental accidents, as well as other threats within the port,
- deployment of assets and resources on stand-by, coordination of rescue action within the port,
- directing rescue action during incidents,
- participation in the establishment of the rescue action centre,
- ongoing analysis of the situation in the port in terms of existing threats and measures to counteract them,
- dispatching units and vessels for fire protection during the handling of hazardous materials and hot works,
- receiving and recording reports about the status of assets and resources of the rescue and fire safety system at the port,
- cooperation with the port dispatcher, Port Security Service, technical services of the ports and Harbourmaster's Office in counteracting existing threats and recovering from their effects,
- notifying superiors about threats at the port,
- maintaining operating communication with the participants of the rescue system and the emergency command centre for the city.

The delivery of such a wide range of tasks will be facilitated by the state-of-the-art dispatching communication equipment used by the Rescue Centre, and by working with the available communication channels from a single operator's console, showing the availability of all communication channels.

The new system also enables the recording and retention of the entire voice communication maintained by the operators. The ultimate goal, upon obtaining the relevant permits from other services, is to ensure integration of the communication with the Fire Department and the Police, which will markedly improved safety and security of port operations.

The entire equipment that integrates communication and configures intervention paths (or notification scenarios) will be manufactured and supplied by DGT, who is also the manufacturer and supplier of equipment for, among others, the nationwide 112 emergency number dispatching systems for the Police and Fire Department, the Polish Armed Forces, Polish medical rescue, which confirms that the Rescue Centre will be in an excellent position to perform its tasks from the systemic point of view.

In addition, to ensure the highest support standards and smooth operation of the centre, the monitoring centre for electronic protection and video surveillance systems has been established and provided with emergency power supplies.

The monitoring centre was provided with:

- video surveillance system that supervises fixed cameras spanning the area managed by the Port of Gdansk Authority,
- video surveillance system supervising mobile cameras located on patrol cars,
- perimeter security surveillance system,
- monitoring system for intrusion/panic alarm systems,
- telecom well protection system.







In the future, the monitoring centre of the Rescue Centre will also be provided with a new CCTV system, currently at the design stage. It is intended to provide smart image analysis capability and deploy technologies dedicated to limited-visibility conditions, which will ultimately reduce the time of response to threats and help to alleviate their adverse effects. The first stage of the project will cover the entrance gates to the port.

The cost of the fire safety and rescue vessel upgrade and Rescue Centre equipment:

Eligible expenses: PLN 4,814,872.90

Grant awarded: PLN 4,092,642

Project development cost: PLN 4,933,188



ACKNOWLEDGEMENTS

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Centrum Umow Projektow Transportowych for their support in applying for EU funds for the projects,

Techno Marine Sp. z o.o. and Enamor Sp. z o.o. for smooth and efficient completion of the construction and furnishing of the quick-response environmental and rescue boat „Piorun”, and of the hydrographic survey and inspection motor boat „Portowiec”,

ZRUO Sp. z o.o. for effective and speedy refurbishment and upgrade of the fire and rescue vessel „Strazak 6”,

*Przedsiębiorstwo Budowlane KANBUD for the conversion of rooms of the PGA SA Rescue Centre,
designer of the Rescue Centre - Linia Pracownia Architektoniczna Danuta Szafranska, for design work,*

DGT Sp. z o.o. for their total professionalism and the supply of the best quality dispatching communication equipment for the PGA SA Rescue Centre,

the staff of the Port of Gdansk Authority SA, whose contribution was invaluable in the development of the professional Port of Gdansk Rescue Centre, and replacement and upgrade of the stock of vessels of PGA SA that ensures the safety of us all, and in the sourcing of funds to achieve that objective.

*The Port of Gdansk Authority SA wishes to express its thanks and gratitude for the effort expended for the benefit of our common good,
that is- THE SAFETY AND SECURITY OF THE SEA PORT OF GDANSK.*



ZARZĄD MORSKIEGO PORTU GDAŃSK SA