

Over ProZero & Van Dyke Marine

De ProZero-serie van Tuco Marine staat voor toonaangevende kwaliteit en maatwerk in high-performance werkboden en crew transfer vessels. Elke boot wordt ontworpen op basis van uw operationele eisen, met een doordacht design en bewezen technologie. Het resultaat: maximale snelheid, brandstofefficiëntie en veiligheid, zelfs onder de zwaarste omstandigheden.

Van Dyke Marine is vertegenwoordiger van ProZero in de BeNeLux en begeleidt klanten volledig: van eerste advies en ontwerp tot levering, onderhoud en service.



VAN DYKE MARINE

Vertegenwoordiging in de
BeNeLux van

PROZERO
WORK BOATS

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PRO:ZERO

The ProZero series is a range of fast boats designed specifically for professional use. They are built to endure the harsh conditions of operations on open sea while providing the operator with an ideal work environment.

With advanced design and sophisticated application of composite materials, the ProZero series offers the customer significant commercial benefits and enhance overall vessel performance and energy efficiency. The ProZero range covers Offshore, Workboats and vessels for Security & Defense.

#weloveworkboats

MODULAR WELL-PROVEN USVS IN SIZES FROM 6 TO 16 METERS

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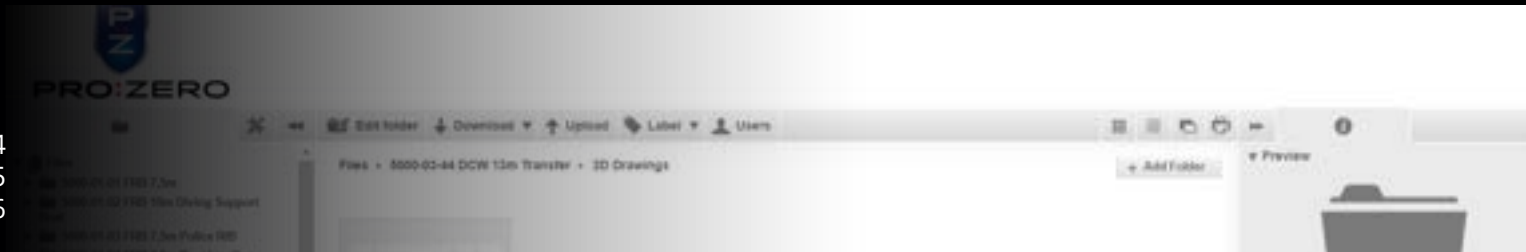
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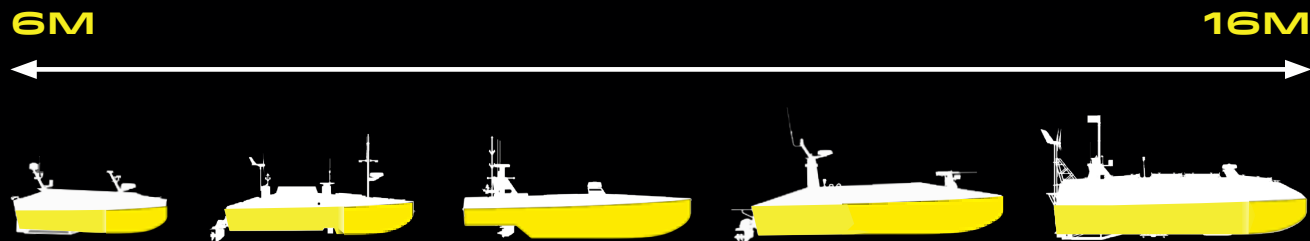


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PRO:ZERO



USV RANGE

MODULAR PROZERO USV TECHNOLOGY

The ProZero USV series is a robust and versatile platform shaped by many years of real-world offshore operations and developments. Built on Tuco's long-proven composite hull technology, the vessels offer exceptional structural integrity, reliable long-duration performance, and predictable behaviour at sea, providing a stable foundation for advanced sensor integration and demanding unmanned missions.

Each USV is designed for autonomous or remote-controlled missions and can be equipped with sensors, communication systems, and specialized payloads for surveillance, inspection, environmental data collection, and security operations. The modular design enables rapid configuration to different mission profiles while maintaining a compact and highly durable construction.

ProZero USVs have demonstrated exceptional operational endurance and stability during extended offshore deployments, proving their capability to deliver consistent, high-quality data under harsh weather conditions. The platform draws on Tuco's experience from international innovation programmes, resulting in a well-proven, scalable USV solution ready for professional users worldwide.



EXTREME ENVIRONMENTS

The 8m USV is based on the well proven ProZero hull platform, built in composite materials and features a double engine installation for maximum redundancy. The vessels feature specialized technology and remote-controlled deck equipment that enables the vessels to operate at sea without humans onboard for several months.

The ProZero USV's have exceptional track records of harsh environment operations, such as the 8m ProZero USV operating from Dec. 2021 to May 2022 in the Danish "Kattegat" and in the period effectuated 6x 30days 24/7 data collection circles, of DNV certified data. - Well proven USV concept from 6 to 12 meters.

Remarkably the period saw two major storms in Denmark. 29-30th of January 2022 the Storm Malik, reached 40ms pr second and closed major bridges and coursed severe flooding of large areas in Denmark. On the 18th of February 2022 the storm NOAH reached Denmark with 37,4ms and in "Kattegat" the 8m ProZero USV operated right through these storms.



PRO:ZERO



PRO:ZERO



8M PROZERO ENDURUNS USV

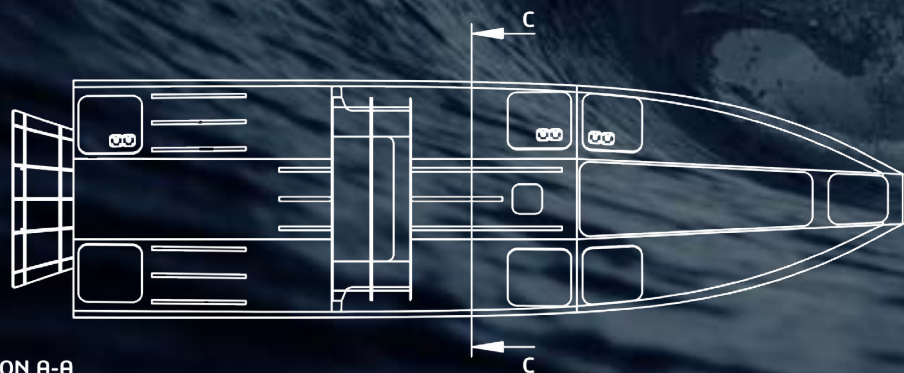
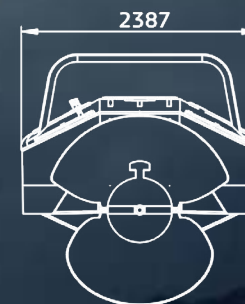
The ProZero 8m ENDURUNS USV, a groundbreaking unmanned surface vessel developed through the EU-funded ENDURUNS research and development project. This innovative ProZero hullled, USV incorporates cutting-edge hydrogen fuel cell technology to unlock unprecedented capabilities for extended operations at sea.

The ENDURUNS research and development project brought together a consortium of leading experts, and organizations to develop the hybrid USV and AUV system that is powered by high-energy density hydrogen fuel cells. This breakthrough allows the ProZero 8m USV to operate autonomously for in extended periods offshore, revolutionizing marine missions by enabling multiple tasks to be accomplished within a single launch sequence.

The ProZero 8m USV is equipped with a range of advanced features that ensure seamless integration with the ENDURUNS AUV system. It serves as a vital companion, facilitating geotagging, communication, and command transmission between the AUV and the RMCC. This dynamic collaboration allows for real-time updates and mission adjustments, ensuring optimal performance and flexibility in any environment.

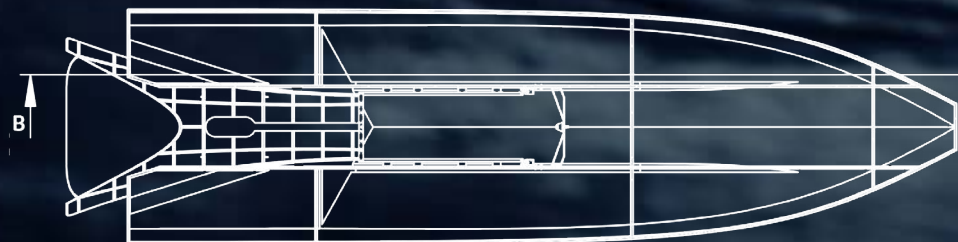
USV RANGE 8M ENDURUNS PROJECT





SECTION C-C

SECTION A-A



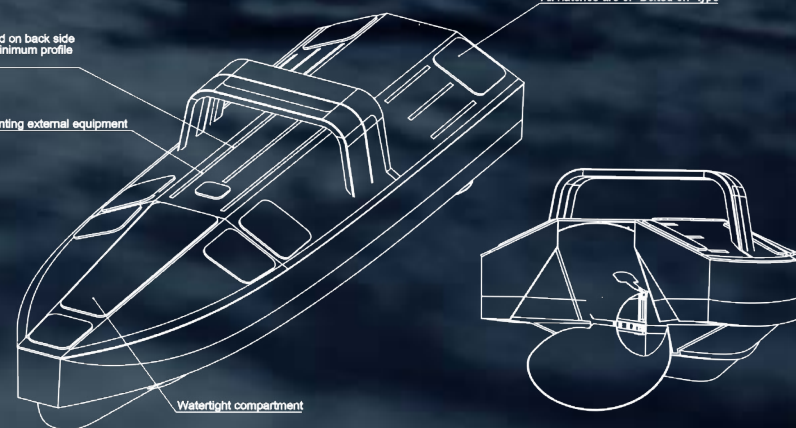
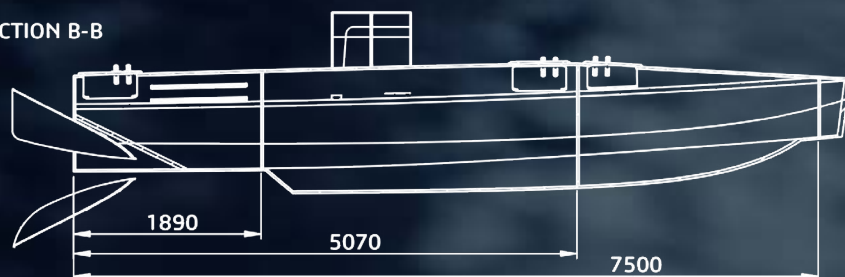
B

Reinforced on back side with Aluminum profile 8x40mm

Areas for mounting external equipment

All hatches are of "Bolted on" type

SECTION B-B



PRO:ZERO



MAPPING THE OCEANS

The ENDURUNS team in July 2023 completed the first demonstration of the ProZero 8m USV in the picturesque Venice Lagoon. The successful tests included infrastructure inspection and seabed mapping, captivating the attention of locals and tourists alike. The docking and undocking of the AUV with the USV were flawlessly executed, showcasing the exceptional performance of this groundbreaking platform.

The technical objectives of the ENDURUNS research and development project have been meticulously achieved within the duration of the project, encompassing the implementation of a hybrid AUV design.



USV RANGE

8M PROZERO ENDURUNS USV

ENDURUNS USV/AUV

One of the standout features of the ProZero 8m USV is its ability to connect with the AUV when needed and return to port as a single unit. This streamlined operation not only enhances efficiency but also facilitates accurate geotagging of the areas mapped or inspected by the AUV, providing invaluable data for various applications.

To extend operational autonomy, the ProZero 8m ENDURUNS USV integrates a hybrid power bank comprising a hydrogen fuel cell, battery pack, and photovoltaic panels.



PRO:ZERO



MULTI DOMAINE SURVEILLANCE

The USV provides persistent Maritime Domain Awareness (MDA) in strategically important maritime areas, supporting naval, allied, and coalition forces with continuous surveillance of key transit routes and potential grey-zone actors.

Capable of operating at speeds above 20 knots, the platform is designed for long-endurance patrols and sustained tracking missions in congested and contested waters. This enables continuous monitoring and rapid repositioning where conventional assets are constrained by cost, availability, or risk.

During operations, the USV conducts autonomous patrols to establish and maintain a comprehensive maritime baseline using integrated AIS, radar, and EO/IR sensors. Anomalies, non-cooperative behavior, and deviations from established patterns are detected and assessed in near real time, enabling early identification of suspicious activity below the threshold of armed conflict.

As an operational example, the USV can be tasked to identify and shadow selected vessels transiting narrow and heavily trafficked waters such as the Danish straits. In this scenario, the platform is able to maintain continuous contact over distances exceeding 400 nautical miles as vessels transit through Danish waters under continuous surveillance.

SEARCH AND RESCUE

The USV provides search and rescue (SAR) relay and localization capabilities, supporting naval, allied, and coalition forces in rapidly detecting and responding to distress situations in remote and challenging maritime environments.

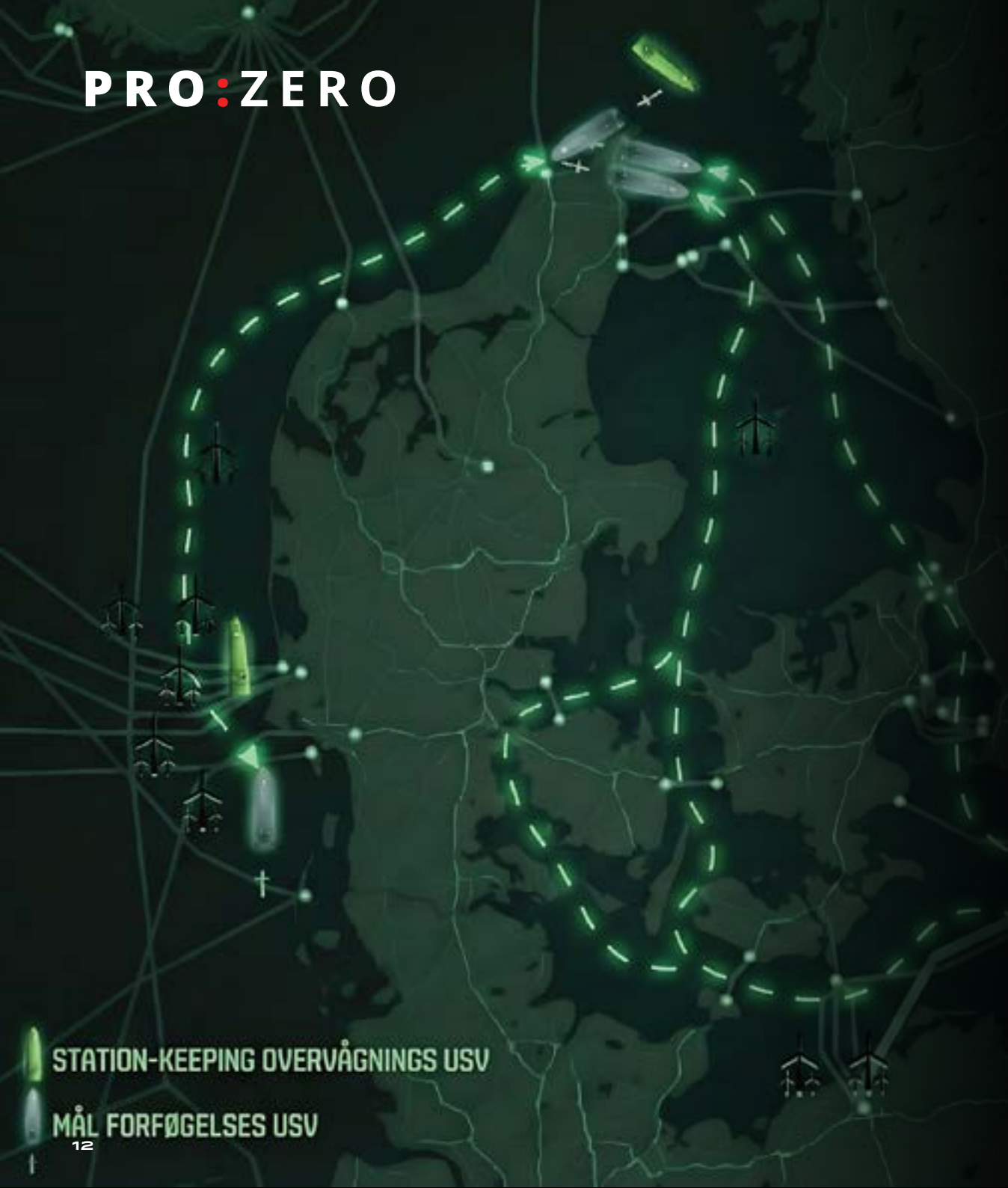
Equipped with EO/IR sensors, AIS-SART, and VHF communication systems, the platform can be deployed forward to detect emergency signals, locate vessels or persons in distress, and transmit verified position data directly to rescue coordination and command elements. This significantly reduces response times and enhances situational awareness during time-critical SAR operations.

In sparsely populated maritime regions—where vast distances, harsh weather conditions, and limited infrastructure can delay crewed aircraft and surface vessels—the USV acts as persistent eyes and ears at sea. Its unmanned nature enables continuous presence in high-risk or hard-to-reach areas, extending the effective reach of SAR forces.

PRO:ZERO



PRO:ZERO



STATION KEEPING

The USV delivers persistent maritime surveillance through long-endurance station-keeping, enabling armed forces to maintain continuous situational awareness in critical maritime areas without permanent crewed presence.

Designed for long-range operations and equipped with a modular ISR sensor suite, the platform functions as a forward-deployed surveillance asset. By maintaining a fixed maritime position for extended periods, it continuously detects, classifies, and monitors activity, establishing a reliable baseline and enabling early identification of emerging threats.

Onboard data processing and automated anomaly detection support near real-time intelligence generation. Deviations from established patterns and indicators of suspicious or hostile behavior are identified early and transmitted directly to command and control systems, enabling faster, better-informed operational decisions.

The capability can be scaled through the coordinated deployment of additional mobile USVs, expanding coverage, increasing resilience, or responding to evolving operational requirements. Together, these assets form a distributed and persistent maritime sensor network.

Acting as digital watchtowers at sea, the USV significantly reduces cost, risk, and manpower requirements compared to crewed platforms, while enhancing maritime domain awareness, force protection, and operational endurance across a wide range of mission profiles.

STATION-KEEPING OVERVÅGNINGS USV

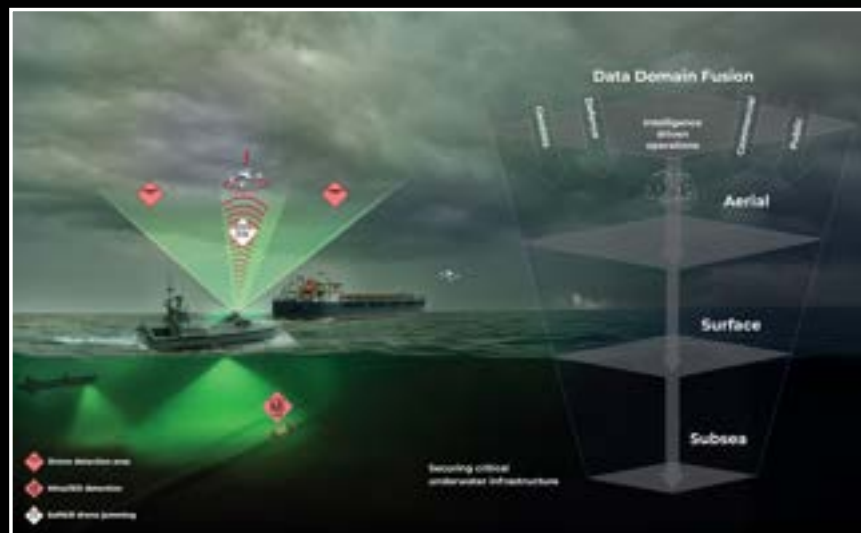
MÅL FORFØGELSE USV

CIP / SABOTAGE DETECTION

The USV supports naval, allied, and coalition forces in protecting critical offshore infrastructure against sabotage, hybrid threats, and grey-zone activities below the threshold of armed conflict.

Equipped with a modular and mission-adaptable sensor suite—including towed sonar, EO/IR sensors, and electronic support measures—the platform provides persistent surveillance of subsea assets such as pipelines, offshore energy installations, and undersea communication links. This enables continuous monitoring of areas that are increasingly targeted by covert and deniable actions.

Sensor data is processed in near real time to establish behavioral baselines and detect anomalies associated with hostile reconnaissance, interference, or sabotage preparation. Automated alerts support early warning and allow command authorities to assess intent and initiate proportionate responses before escalation occurs.



Securing critical
underwater infrastructure

PRO:ZERO



PROZERO 8M SENTINEL USV

The ProZero 8M ISR USV is the ultimate solution for Intelligence, Surveillance, and Data Acquisition operations. This state-of-the-art unmanned vessel is specifically designed and expertly crafted to perform complex missions in any marine environment. With custom masts arrays using all of the antennas, radars etc specified by the client, this will be perfect for any and all use case requirements.

Whether you're monitoring a coastal border, a maritime asset, or conducting survey operations, this vessel is your go-to tool for precise and timely data collection.

ProZero 8m ISR USV is engineered to handle even the most adverse conditions with ease. Its advanced propulsion system, combined with precise manoeuvring capabilities, ensures that it can operate in any type of marine environment, providing a comprehensive view of the surroundings.

Built to last, the ProZero 8m ISR USV is constructed using the latest in composite materials, making it highly durable and low-maintenance. Its sleek and innovative design also allows for customization to meet your specific needs, making it the perfect solution for all your survey operations.

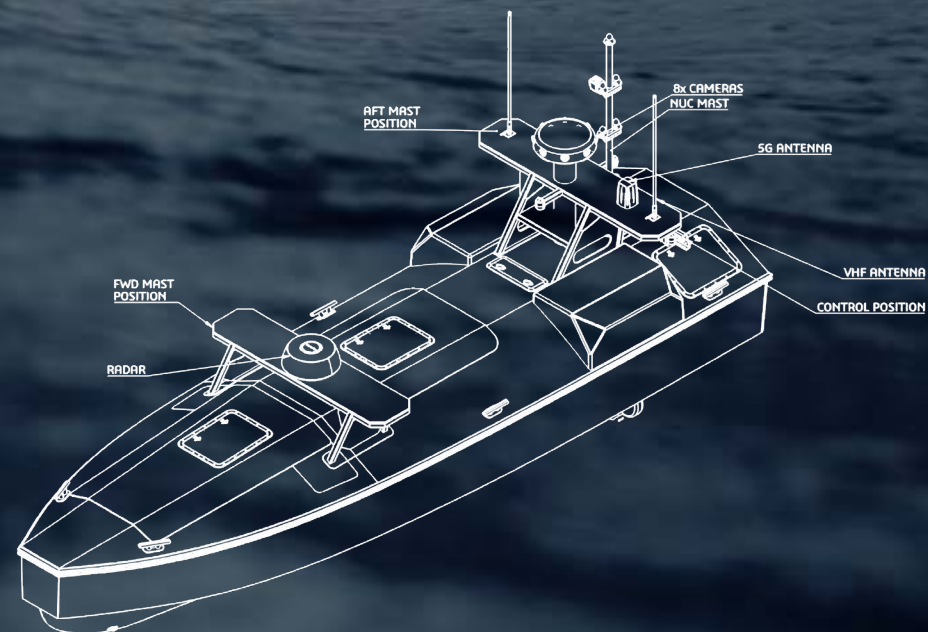
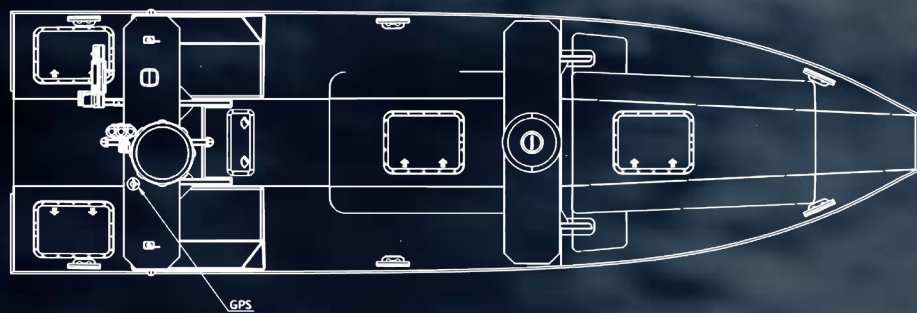
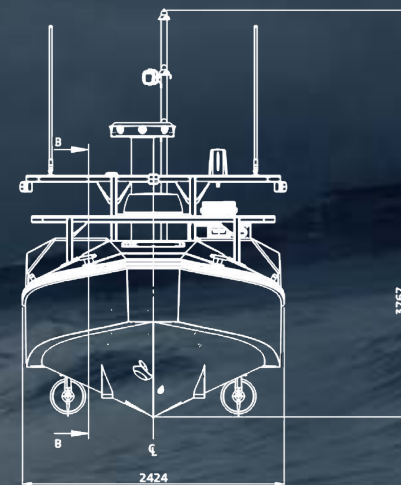
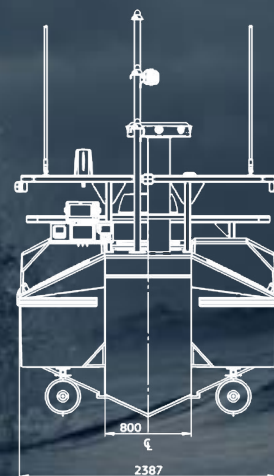
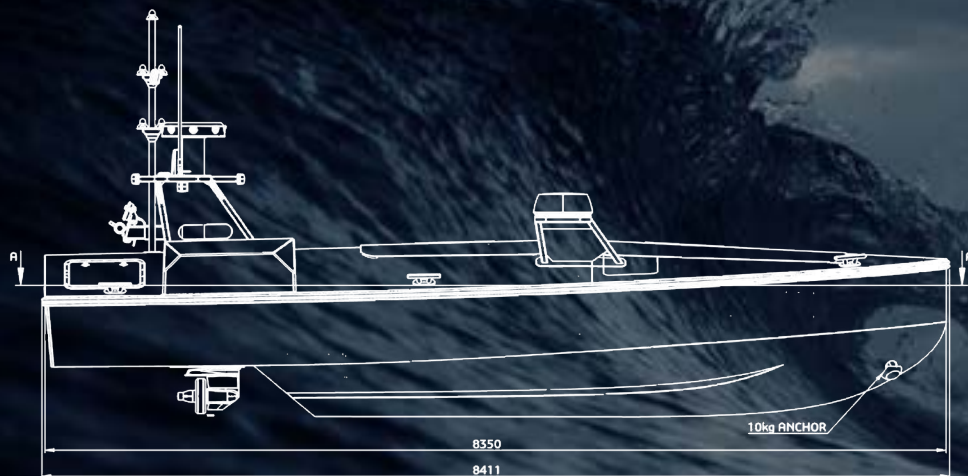
Ready for launch and recovery of autonomous underwater vehicles, enabling true multi-domain operations.



Low weight
Cutting weight and adding value.
Low weight design lifts the value chain.

8M USV SERIES

8M PROZERO SENTINEL USV



PRO:ZERO



8M USV SERIES

8M PROZERO SENTINEL USV



USV MARINE SECURITY

As maritime security challenges intensify, from grey zone incursions to bigger hybrid threats Unmanned Surface Vessels (USVs) are emerging as essential assets for modern naval and coast guard operations. These autonomous or remotely operated platforms are much more than just tools for data collection.

Traditional ISR at sea relies on a mix of manned patrol vessels, maritime patrol aircraft, coastal radar, and satellites. Each of these has strengths, but also critical limitations. Patrol vessels are resource-intensive. Aircrafts have very limited endurance. Satellites only offer snapshots, not any persistence.



RAPID RESPONSE

In the event of an incident, whether an anchor strike, or some deliberate attack, speed matters. Pre-positioned USVs can be redeployed immediately to the affected area, transmitting live data, imagery, and sonar readings back to command centres.

Just as manned patrols deter unlawful activity, the presence of USVs above or near CUI sends a clear signal that these assets are under watch. The ability to remain on station for extended periods means that any suspicious activity can be detected early, assessed in real time, and responded to quickly.



PRO:ZERO



PRO:ZERO 8M PROZERO SENTINEL USV





Design: 2023 | 5000-01-35-5
Length overall, approx.: 8,2 m
Beam overall, approx.: 2,3 m
Shallow draft, approx.: 0,8 m
Maximum load: 2.000 kg
Engines: 2 x Inboard diesel / electric

BENEFITS:

PProZero 8M ISR USV – the ultimate solution for Intelligence, Surveillance, and Data Acquisition operations. This state-of-the-art unmanned vessel is specifically designed and expertly crafted to perform complex missions in any marine environment. With custom masts arrays using all of the antennas, radars etc specified by the client, this will be perfect for any and all use case requirements.

Whether you're monitoring a coastal border, a maritime asset, or conducting survey operations, this vessel is your go-to tool for precise and timely data collection.

The ProZero 8m ISR USV is engineered to handle even the most adverse conditions with ease. Its advanced propulsion system, combined with precise manoeuvring capabilities, ensures that it can operate in any type of marine environment, providing a very comprehensive view of the surroundings.

Built to last for years, the ProZero 8m ISR USV is constructed using the latest in composite materials, making it highly durable and low-maintenance. Its sleek and innovative design also allows for customization to meet your specific needs, making it the perfect solution for all your survey operations.

OPERATIONAL FEATURES:

Speed max.: 12 kt
 Speed (survey): 5 kt
 Range: +500 nm

DESCRIPTION:

The boat has been built to meet the requirements from the competent authorities.

HULL, DECK AND SUPERSTRUCTURE:

The boat is made of a combination of glass-and carbon fibre as sandwich construction with PVC as core material. This core material acts as a natural buoyancy reserve material, due to its lightweight and zero water-absorption. Moreover, the sandwich construction avoids the use of internal stiffeners, increasing the usable internal space and offers a natural insulation capability.

FENDER:

The fender is constructed from heavy duty D-Runner profiles. Damage is strictly cosmetic keeping crew safe. Fender system absorbs major impacts and retains integrity and shape.

DECK:

Twin masts for optimum position of observation module.
 Large deck hatches allowing fast replacement of main components.
 Platform on aft for protection of propulsion system (optional).

SUPERSTRUCTURE:

The superstructure is designed to handle adverse weather and provide a high and stable platform for enhanced line of sight equipment, such as cameras, radars etc. Further-more, ensuring able installation space for various equip-ment inside, minimizing clutter top side.

ENGINES, PROPULSION, STEERING etc.

Diesel or electric engines
 Autonomous and remote operations

TANKS:

Independent diesel tank with hatch and filling protection.

ELECTRICAL SYSTEM & LIGHTING:

All electrical wiring in marine cable.

12/24-volt DC electrical system.

Separate battery systems for start, navigation and consumption.
 Navigational lights.



PRO:ZERO

PROZERO 8M ISR USV

The ProZero 8m ISR is the ultimate solution for Intelligence, Surveillance, and Reconnaissance operations. This state-of-the-art unmanned vessel is specifically designed and expertly crafted to perform exceptional missions in any marine environment. With a custom Mast array carrying all of the antennas, radars etc specified by the client, this will be perfect for any and all use cases required. Whether it is for monitoring a coastal border, a maritime asset, or conducting reconnaissance missions, this vessel is a go-to tool for precise and timely data collection.

The ProZero 8m ISR is engineered to handle even the toughest conditions with ease. Its advanced propulsion system, combined with precise maneuvering capabilities, ensures that it can operate in any type of marine environment, providing a comprehensive view of the surroundings.

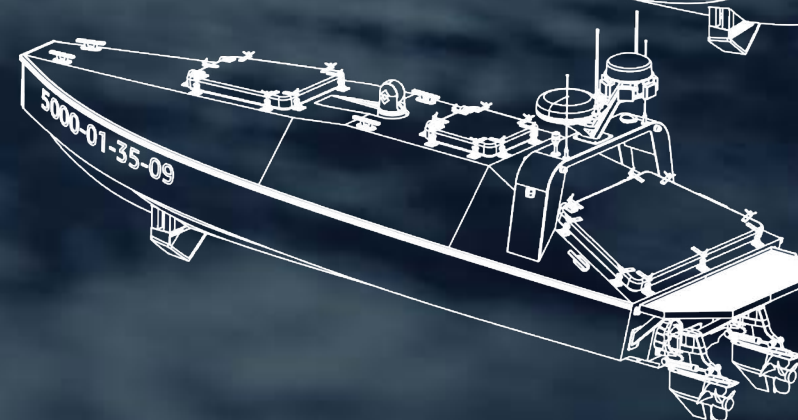
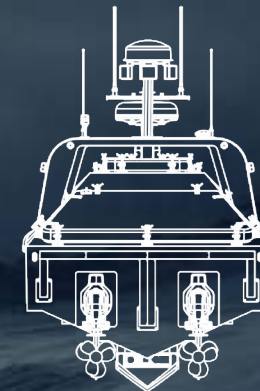
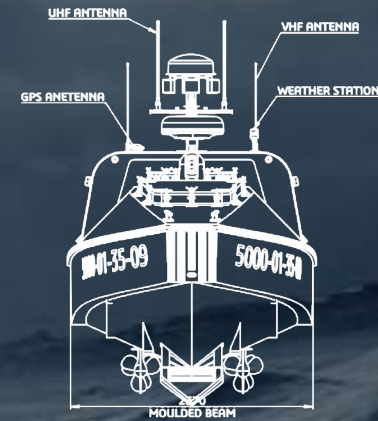
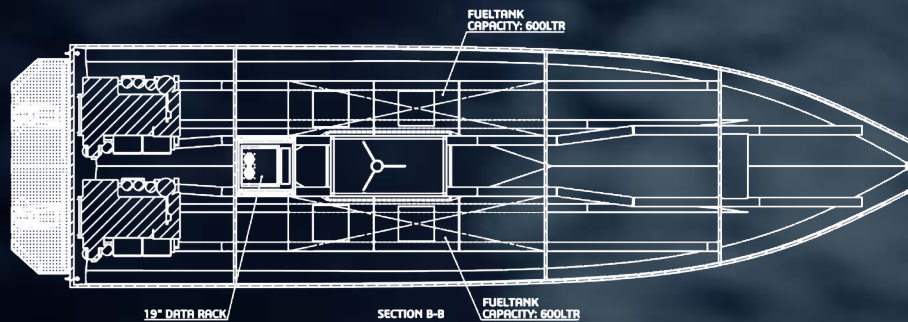
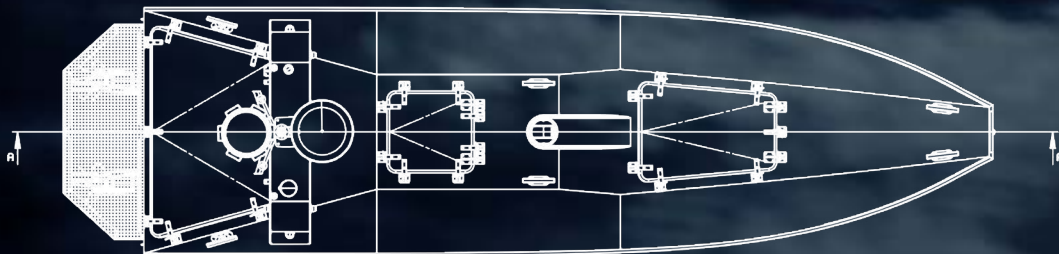
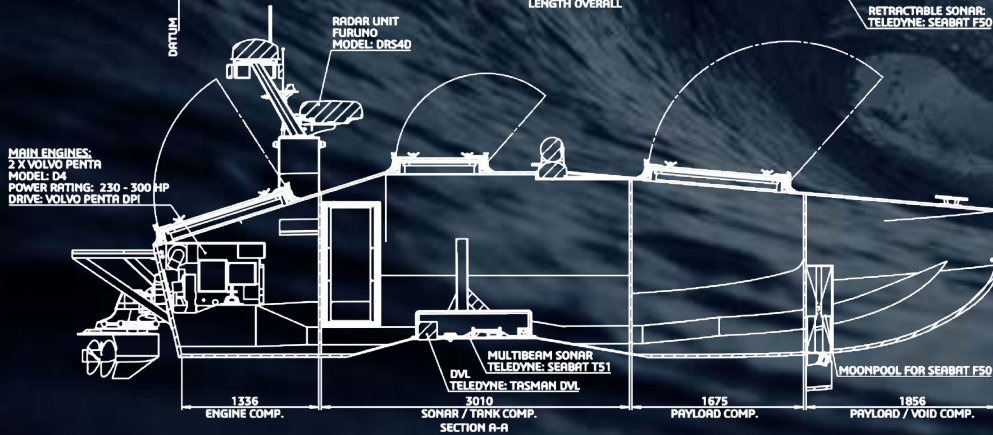
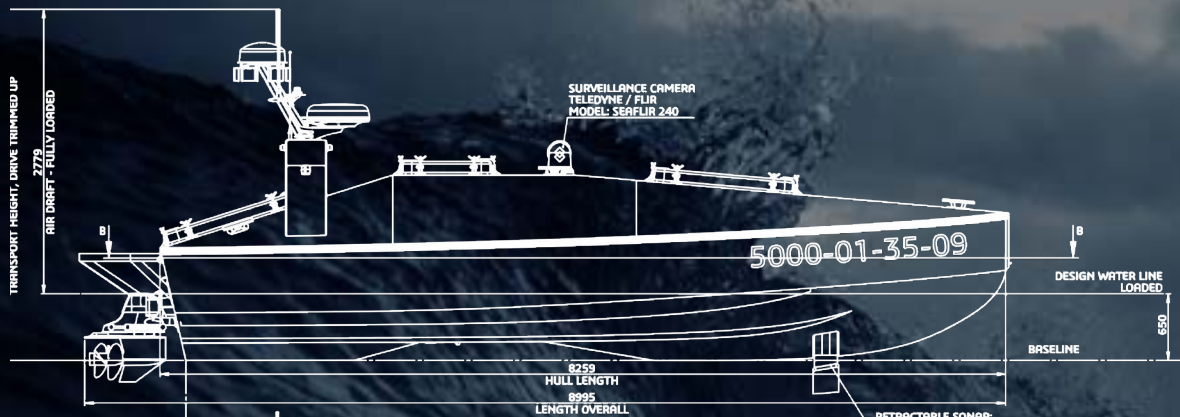
Built to last, the ProZero 8m ISR vessel is constructed using the latest in composite materials, making it highly durable and low-maintenance. Its sleek and innovative design also allows for customization to meet specific needs, making it the perfect solution for all ISR operations.



Low weight
Cutting weight and adding value.
Low weight design lifts the value chain.

8M USV SERIES

8M PROZERO ISR USV



PRO:ZERO 8M PROZERO ISR USV



OPTIONAL OUTBOARD ENGINES





Design: 2023 | 5000-01-35-7
Length overall, approx.: 8,2 m
Beam overall, approx.: 3,3 m
Shallow draft, approx.: 0,8 m
Maximum load: 2.000 kg
Engines: 2 x Inboard diesel engines

BENEFITS:

The ProZero 8m ISR USV is the ultimate solution for Intelligence, Surveillance, and Reconnaissance operations. This state-of-the-art unmanned vessel is specifically designed and expertly crafted to perform exceptional missions in any marine environment. With a custom Mast array carrying all of the antennas, radars etc. specified by the client, this will be perfect for any and all use cases required. Whether it's monitoring a coastal border, a maritime asset, or conducting reconnaissance missions, this vessel is a go-to tool for precise and timely data collection.

ProZero 8m Naval Intelligence USV is engineered to handle even the toughest conditions with ease. Its advanced propulsion system, combined with precise maneuvering capabilities, ensures that it can operate in any type of marine environment, providing a comprehensive view of the surroundings.

Built to last, the ProZero 8m Naval Intelligence unmanned surface vessel is constructed using the latest in composite materials, making it highly durable and lowmaintenance. Its sleek and innovative design also allows for customization to meet the specific needs, making it the perfect solution for all ISR operations.

OPERATIONAL FEATURES:

Speed max.: 12 kt
 Speed (Cruise): 8 kt
 Range at Cruise speed: 2350 nm

DESCRIPTION:

The boat has been built to meet the requirements from the competent authorities.

HULL, DECK AND SUPERSTRUCTURE:

The boat is made of a combination of glass-and carbon fibre as sandwich construction with PVC as core material. This core material acts as a natural buoyancy reserve material, due to its lightweight and zero water-absorption. Moreover, the sandwich construction avoids the use of internal stiffeners, increasing the usable internal space and offers a natural insulation capability.

FENDER:

The fender is constructed from heavy duty D-Runner profiles. Damage is strictly cosmetic keeping crew safe. Fender system absorbs major impacts and retains integrity and shape.

DECK:

Central placed mast for the most optimal position of observation module.
 Deck and cabin are self-bailing.
 Large deck hatches allowing fast replacement of main components.
 Bar on aft for protection of engines.

SUPERSTRUCTURE:

The superstructure is designed to handle adverse weather and provide a high and stable platform for enhanced line of sight equipment, such as cameras, radars etc. Furthermore, ensuring able installation space for various equipment inside, minimizing clutter top side.

ENGINES, PROPULSION, STEERING etc.

2 x inboard diesels Autonomous and remote operations

TANKS:

Independent diesel tank with hatch and filling protection.

ELECTRICAL SYSTEM & LIGHTING:

All electrical wiring in marine cable.
 Shore power with control lamp, marked fuses, earth connection.
 Isolation transformer with earth plate for protection of galvanic corrosion.

24-volt electrical system.
 Main switches with separate battery systems for start, navigation and consumption.
 Battery charger with indicator.
 Navigational lights.
 Floodlights on the deck by request
 Searchlight on request.

NAVIGATION & ELECTRONIC EQUIPMENT:

Complete engine instruments supplied by engine manufacturer.
 Direction finding antenna.
 6x CNM Antenna
 Monitoring Antenna
 Spare Antenna
 Portable turnkey quad channel
 Other passive/active sensors and equipment can be fitted on request.
 Control panel for all lighting and other electrical equipment.

SECURITY EQUIPMENT:

Bilge pumps.
 Fire extinguisher in Technical compartment.
 Automatic fire extinguisher system in engine room.

Further equipment can be fitted on request.

PRO:ZERO



10M PROZERO METOCEAN USV

The ProZero 10M MetOcean USV is a cutting-edge unmanned surface vessel, meticulously designed for robust performance and versatility. With an overall length of 10.5 meters and a hull width of 2.4 meters, this vessel combines compact dimensions with exceptional functionality. The total width measures 3.1 meters, accommodating a variety of equipment and operational needs. The design draft is set at 1.0 meter, ensuring optimal balance and stability, with a deck height from the keel of 2.4 meters.

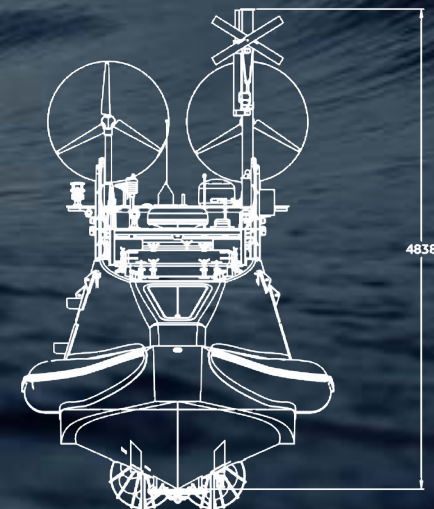
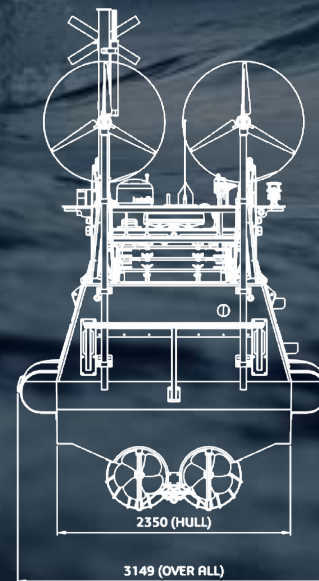
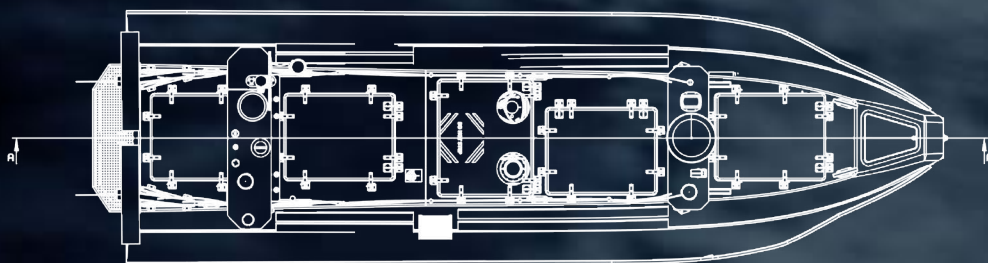
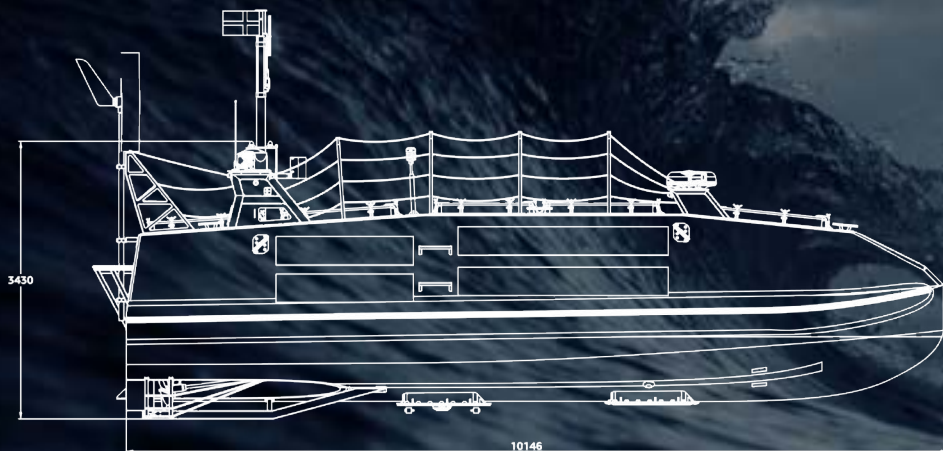
The height above the waterline, including all masts, antennas, and equipment, reaches up to 4.0 meters, while the minimum height above waterline is 2.3 meters. For transportation purposes, the total height can be reduced to 3.3 meters by removing the GRP mast and turbines.

The ProZero 10M MetOcean USV is equipped with a 3,200-liter fuel tank and features an advanced battery setup that includes 8 pieces of 12V batteries, ensuring reliable and long-duration operations. The vessel's lightweight is 8,966 kg, supporting a dead weight of 5,833 kg, which includes fuel and anchoring equipment. The displacement stands at 14,799 kg, indicating its substantial carrying and operational capability.



USV RANGE

10M PROZERO METOCEAN USV



PRO:ZERO



USV RANGE

10M PROZERO METOCEAN USV



USV CAPABILITIES

The hull of the ProZero 10M MetOcean USV is crafted from solid laminate for durability, with both the deck and internal structures utilizing composite materials for strength and lightness. The vessel's GRP structure is integral to its integrity, emphasizing the need for specialized maintenance and modifications with manufacturer consultation.

For operational efficiency, the vessel features double engines with advanced fuel supply management, including quick-close valves and filter selection valves, all integrated into the vessel control system. Bilge management is sophisticated, with each compartment equipped with both primary and high-capacity pumps, alongside level sensors for comprehensive fluid management.

The engine room benefits from efficient ventilation via the hydraulic oil cooler fan, essential for maintaining optimal operating conditions. Technical and payload compartments are outfitted with double dehumidifiers and dedicated AC units to ensure equipment functionality and longevity. Additionally, the vessel boasts five seawater intakes for cooling various systems, emphasizing the importance of regular maintenance for optimal performance. The vessel's adaptability is further enhanced by the ability to lower or remove masts and deck equipment.

SAFETY SYSTEMS

Safety is paramount on the ProZero 10M USV, featuring a fixed firefighting system that encompasses aerosol generators, temperature sensors, and heat detectors across key compartments. This comprehensive system ensures rapid response to any fire incidents onboard.

Overall, the ProZero 10M MetOcean USV represents a huge achievement in unmanned surface vessel design, offering both advanced technology, operational flexibility, and safety features for a wide range of maritime applications.

PRO:ZERO



PRO:ZERO

PROZERO 10M ENFORCER USV

The ProZero 10m Enforcer USV is built for dependable reconnaissance and powerful protection in confined maritime security zones, the ProZero 10m Enforcer USV delivers a modular, mission-ready platform that gives operators confidence in safeguarding their assets at sea, with the gyro stabilized gun in the front.

Its proven hull design excels in harsh conditions, and when paired with advanced propulsion, integrated munitions, modern navigation systems, and autonomous control, the vessel becomes a formidable force within any naval toolkit.

The superstructure is designed to handle adverse weather and provide a high and stable platform for enhanced line of sight equipment, such as cameras, radars etc. Further-more, ensuring ample installation space for various equipment inside, minimizing clutter top side, and reducing radar signature.

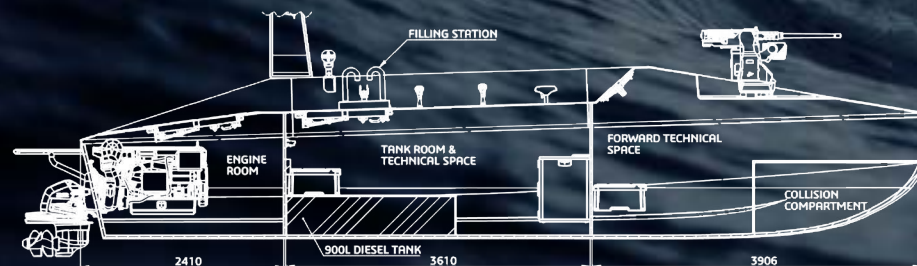
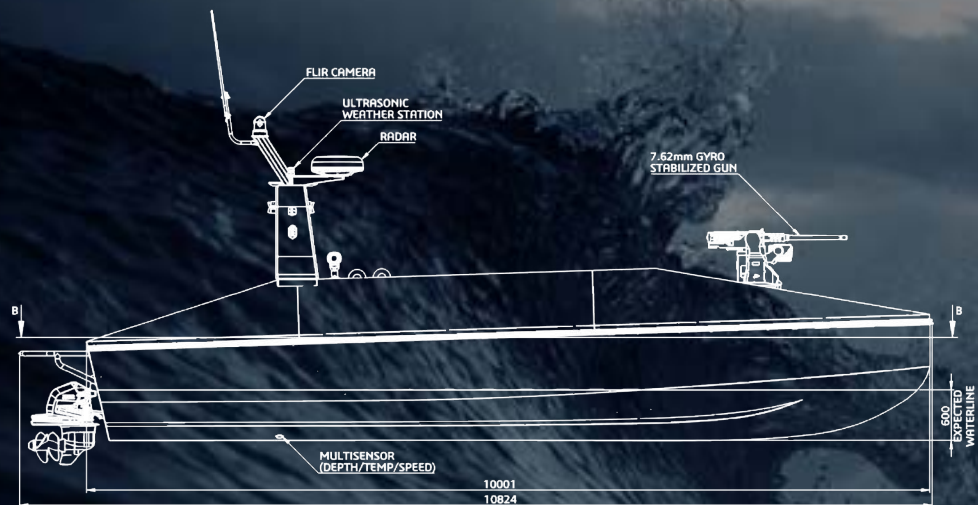


Low weight

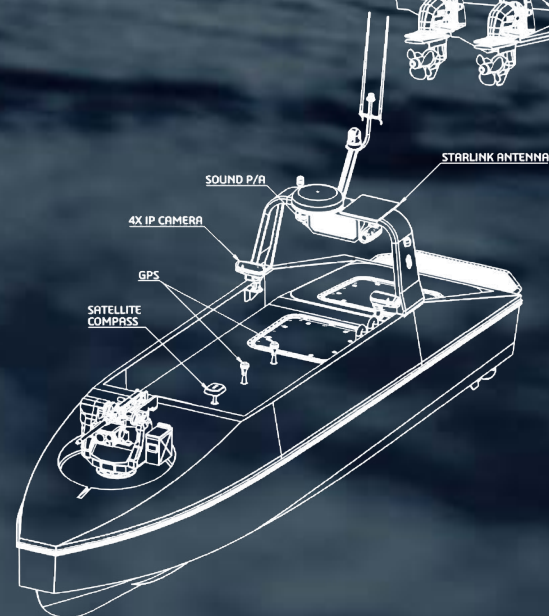
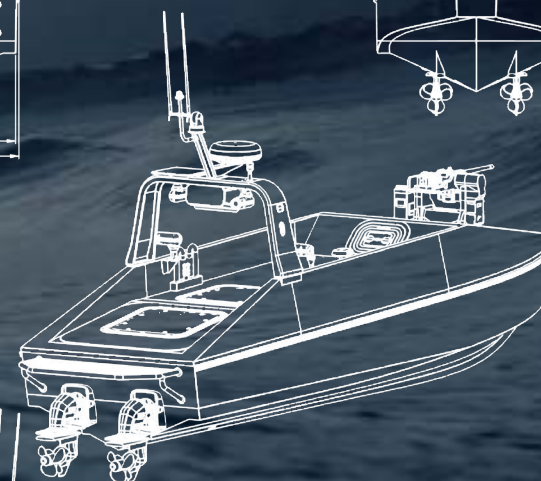
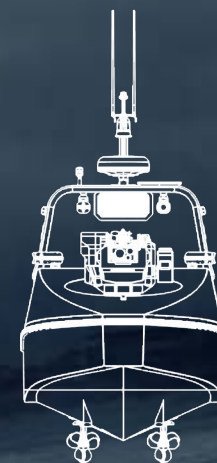
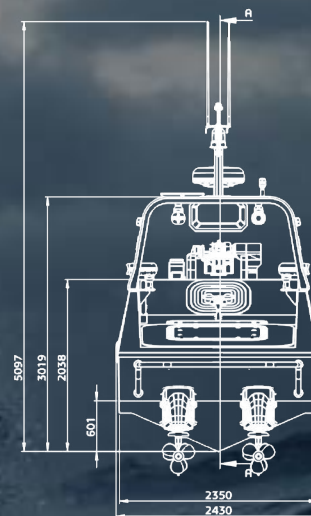
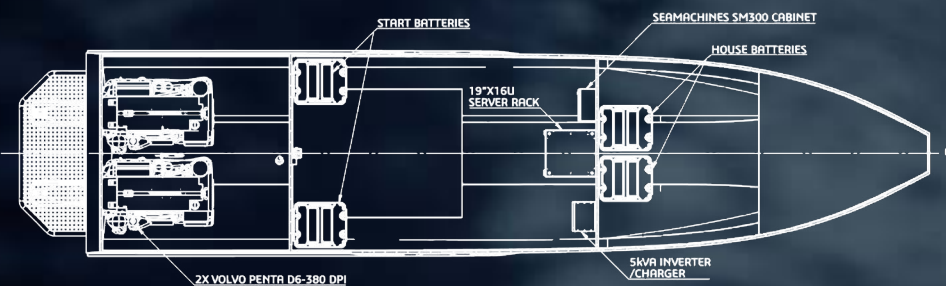
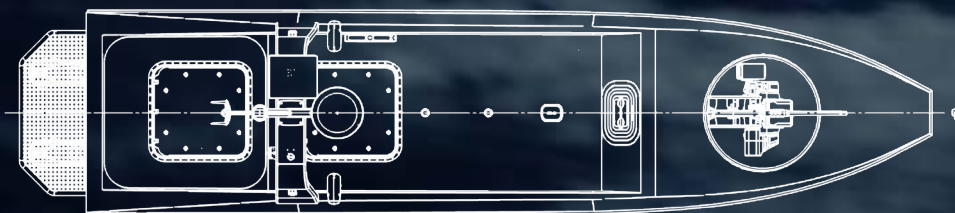
Cutting weight and adding value. Low weight design lifts the value chain.

USV RANGE

10M PROZERO ENFORCER USV



SECTION A-A



PRO:ZERO 10M PROZERO ENFORCER USV





Design: 2025 | 5000-01-35-18
Length overall, approx.: 10,8 m
Beam overall, approx.: 2,43 m
Draft (full load), approx: 0,6 m
Maximum load: 2.000 kg
Engines: 2 x Inboard diesel engines

BENEFITS:
 ProZero 10m Enforcer USV - Built for dependable reconnaissance and powerful protection in confined maritime security zones, the ProZero 10m Enforcer USV delivers a modular, mission-ready platform that gives operators confidence in safeguarding their assets at sea. Its proven hull design excels in harsh conditions, and when paired with advanced propulsion, integrated munitions, modern navigation systems, and autonomous control, the vessel becomes a formidable force within any naval toolkit.

OPERATIONAL FEATURES:
 Speed: 40+ kt.
 Speed (Cruise): 25 kt.
 Fuel capacity: 1x900L

DESCRIPTION:
 The boat has been built to meet the requirements from the competent authorities.

HULL, DECK AND SUPERSTRUCTURE:
 The boat is made of a combination of glass-and carbon fibre as sandwich construction with PVC as core material. This core material acts as a natural buoyancy reserve material, due to its lightweight and zero water-absorption. Moreover, the sandwich construction avoids the use of internal stiffeners, increasing the usable internal space and offers a natural insulation capability.

FENDER:
 The fender is constructed from heavy duty D-Runner profiles. Damage is strictly cosmetic keeping vessel structure safely. Fender system absorbs major impacts and retains integrity and shape.

DECK:
 The Deck is self-bailing.
 Deck consists of a recessed zone to provide area for mounting equipment without affecting radar cross section. Large hatches allow for easy access to compartments located below the main deck to ensure easy serviceability and mission adaptation,
 An aft platform protects the propellers and drives from astern.

SUPERSTRUCTURE:
 The superstructure is designed to handle adverse weather and provide a high and stable platform for enhanced line of sight equipment, such as cameras, radars etc. Further-more, ensuring able installation space for various equipment inside, minimizing clutter top side, and reducing radar signature.

ENGINES, PROPULSION, STEERING etc.
 2 x Volvo Penta D6-380 DPI
 Remote control via SeaMachines SM300 Control system.

TANKS:
 Structural diesel tank with hatch and filling protection.

WEAPONS:
 1x 12.7mm Gyro Stabilized Gun with remote controls.

SECURITY EQUIPMENT:
 Bilge pumps.
 Automatic fire extinguisher system in engine room.

ELECTRICAL SYSTEM & LIGHTING:
 All electrical wiring in marine cable.
 Shore power with control lamp, marked fuses, earth connection.
 Isolation transformer with earth plate for protection of galvanic corrosion.
 24-volt electrical system.
 Main switches for battery systems for start, navigation, and consumption.
 Battery charger with indicator.
 Navigational lights
 CANBUS integrated two pole electrical system for coherent integration into autonomy system.

NAVIGATION & ELECTRONIC EQUIPMENT:
 Complete engine instruments supplied by engine manufacturer.
 Fuel gauge.
 1x Weather Station
 1 x Through-hull Transducer
 1x Radar.
 1 x Satellite Compass.
 1x AIS Class-B.
 4x IP Cameras.
 1x Infrared Camera.
 1x Heading Sensor.
 1x Starlink data connection.
 1x SeaMachines SM300 Control System.
 1x LRAD -450XL Loud Hailer.

PRO:ZERO



PROZERO 10M ISR USV

ProZero 10m ISR Unmanned Surface Vessel - the ultimate solution for Intelligence, Surveillance, and Reconnaissance operations. This state-of-the-art unmanned vessel is specifically designed and expertly crafted to perform exceptional ISR missions in any marine environment.

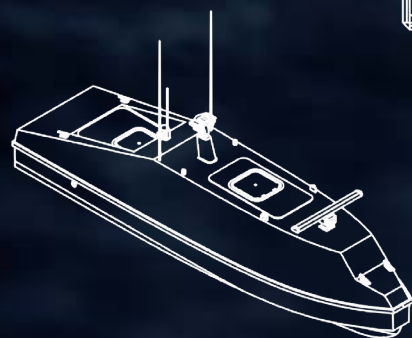
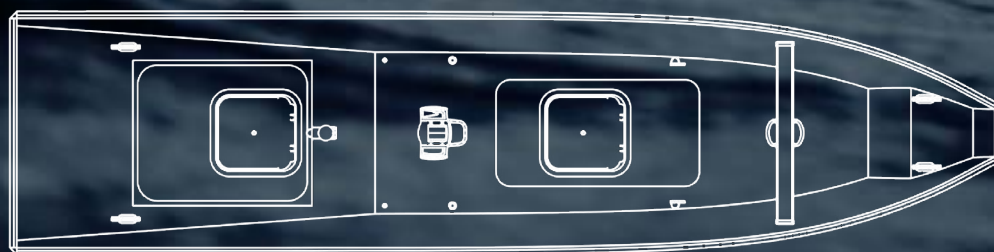
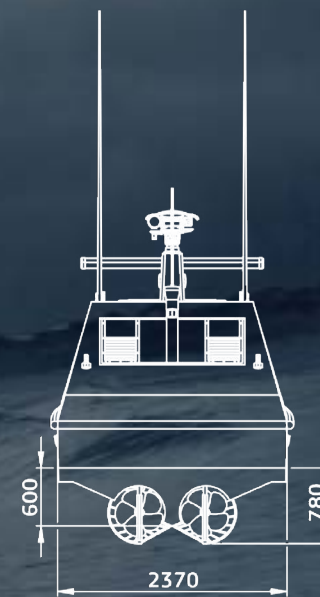
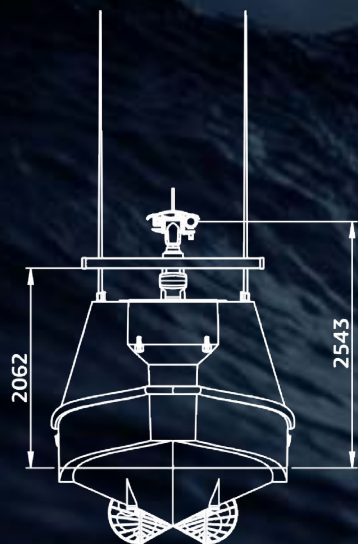
With advanced sensors, cameras, and communication systems, the ProZero 10m ISR-USV can collect, process, and transmit vital information in real-time, providing you with the intelligence needed to make informed decisions. Whether it's monitoring a coastal border, a maritime asset, or conducting search and rescue missions, this vessel is a go-to tool for precise and timely data collection.

The ProZero 10m ISR-USV is engineered to handle even the toughest conditions with ease. Its advanced propulsion system, combined with precise maneuvering capabilities, ensures that it can operate in any type of marine environment, providing a comprehensive view of the surroundings. Built to last, the ProZero 10m unmanned surface vessel is constructed using the latest in composite materials, making it highly durable and low-maintenance. Its sleek and innovative design also allows for customization to meet your specific needs, making it the perfect solution for all ISR operations.



Low weight
Cutting weight and adding value. Low weight design lifts the value chain.

USV RANGE 10M PROZERO ISR USV



PRO:ZERO 10M PROZERO ISR USV





Design: 2022 | 5000-01-35-4
Length overall, approx.: 10,10 m
Beam overall, approx.: 2,50 m
Capacity: Unmanned
Pay load: 2.000 kg
Range: 800 nm
Engines: 2 x Inboard diesel engines

BENEFITS:

ProZero 10m ISR Unmanned Surface Vessel - the ultimate solution for Intelligence, Surveillance, and Reconnaissance operations. This state-of-the-art unmanned vessel is specifically designed and expertly crafted to perform exceptional ISR missions in any marine environment.

With the advanced sensors, cameras, and communication systems, the ProZero 10m ISR-USV can collect, process, and transmit vital information in real-time, providing you with the intelligence you need to make informed decisions. Whether you're monitoring a coastal border, a maritime asset, or conducting search and rescue missions, this vessel is your go-to tool for precise and timely data collection.

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OPERATIONAL FEATURES:

Speed max.: 12 kt
 Speed (Cruise): 8 kt
 Range @Cruise speed: 800 nm
 Shallow draft of 0,8 meters

DESCRIPTION:

The boat has been built to meet the requirements from the competent authorities and operators demands.

HULL, DECK AND SUPERSTRUCTURE:

The boat is made of a combination of glass-and carbon fibre as sandwich construction with PVC as core material. This core material act as a natural buoyancy reserve material, due to its lightweight and zero water-absorption. Moreover, the sandwich construction avoids the use of internal stiffeners, increasing the usable internal space and offers a natural insulation capability. The sandwich construction also functions in effect as a double skin hull. Hull can be fitted with integrated tanks on request.

FENDER:

The fender is built from a hard rubber holed D profile fender.

DECK:

Central placed mast for optimum position of observation module.
 Deck is self-bailing.
 4 mooring bites.
 Recces on aft deck for protection of air intake.
 Large deck hatches allowing fast replacement of main components.
 Small and lockable inspection hatches.

SUPERSTRUCTURE:

The superstructure is designed to handle adverse weather and provide a high and stable platform for enhanced line of sight equipment, such as cameras, radars etc. Furthermore, ensuring able installation space for various equipment inside, minimizing clutter top side.

ENGINES, PROPULSION, STEERING etc.

2 x Inboard diesel engines for redundancy.
 Autonomous and remote operations
 Propellers protected against debris and grounding.
 Complete propulsion and steering system integrated into hull for added protection.

TANKS:

Independent diesel tank with hatch and filling protection.

ELECTRICAL SYSTEM & LIGHTING:

All electrical wiring in marine cable.
 Shore power with control lamp, marked fuses, earth connection.
 Isolation transformer with earth plate for protection of galvanic corrosion.

24-volt electrical system.

Main switches with separate battery systems for start, navigation and consumption.
 Battery charger with indicator.
 Navigational lights.
 Floodlights on the deck by request
 Searchlight on request.

NAVIGATION & ELECTRONIC EQUIPMENT:

Fluxgate/Gyro/satellite compass
 High-definition radar
 Multibeam sonar
 Visual observation module, with range finder and thermal camera.
 Data transfer module
 Satellite communication
 Radio wave remote control
 Other passive/active sensors and equipment can be fitted on request.
 Complete engine instruments supplied by engine manufacturer.
 Control panel for all lighting and other electrical equipment.

SECURITY EQUIPMENT:

Bilge pumps
 Fire extinguisher in engine room
 Fire extinguisher in technical compartment

Further equipment can be fitted on request.

PRO:ZERO



PROZERO 10M OSR USV

ProZero 10m Oil Spill USV - the ultimate solution for autonomous oil spill response operations. This state-of-art unmanned surface vessel is specifically designed and expertly crafted to collaborate with other vessels and perform the most efficient offshore oil spill response missions.

Equipped with a powerful propulsion package, including a Power Take Off (PTO), the ProZero 10m USV can supply power to skimmers and other equipment, making it an essential tool for oil spill response operations. With maximum bollard pull, it will tow oil-boom equipment, enabling it to efficiently contain and clean up the spill.

The ProZero 10m unmanned surface vessel is engineered to work in tandem with other vessels in the fleet, communicating seamlessly with other autonomous systems to ensure a coordinated response. With its advanced sensors and communication systems, it can autonomously navigate to the spill site and operators can assess the situation in realtime. Mission control center can quickly and accurately identify the size and location of the spill and provide critical data to other vessels in the fleet, enabling them to respond effectively and efficiently. Built to last, the ProZero 10m unmanned surface vessel is constructed using the latest in composite materials, making it highly durable and low maintenance.

USV RANGE

10M PROZERO OSR USV



Low weight
Cutting weight and adding value.
Low weight design lifts the value chain.



PRO:ZERO 10M PROZERO OSR USV





Design: 2022 | 5000-01-35-3
Length overall, approx.: 10,10 m
Beam overall, approx.: 2,50 m
Capacity: Unmanned
Pay load: 2.000 kg
Range: 250 nm
Bollard pull: 5.000 kg
Engines: 1 x Inboard diesel engine

BENEFITS:

ProZero 10m Oil Spill USV - the ultimate solution for autonomous oil spill response operations. This state-of-the-art unmanned surface vessel is specifically designed and expertly crafted to collaborate with other vessels and perform the most efficient offshore oil spill response missions.

Equipped with a powerful propulsion package, including a Power Take Off (PTO), the ProZero 10m USV can supply power to skimmers and other equipment, making it an essential tool for oil spill response operations. With maximum bollard pull, it will tow oil-boom equipment, enabling it to efficiently contain and clean up the spill.

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Built to last, the ProZero 10m unmanned surface vessel is constructed using the latest in composite materials, making it highly durable and low maintenance. Its innovative design also allows for customization to meet specific operational needs of our clients.

OPERATIONAL FEATURES:

Speed max.: 10 kt
 Speed (Cruise): 8 kt
 Range @cruise: 250 nm
 Draft of 1,5 meters

DESCRIPTION:

The boat has been built to meet the requirements from the competent authorities and operators demands.

HULL, DECK AND SUPERSTRUCTURE:

The boat is made of a combination of glass-and carbon fibre as sandwich construction with PVC as core material. This core material act as a natural buoyancy reserve material, due to its lightweight and zero water-absorption. Moreover, the sandwich construction avoids the use of internal stiffeners, increasing the usable internal space and offers a natural insulation capability. The sandwich construction also functions in effect as a double skin hull. Hull can be fitted with integrated tanks on request.

FENDER:

The fender is built from a hard rubber holed D profile fender. The fender is bolted to the hull and protects the hull all around.

DECK:

Central placed mast for optimum position of observation module. Deck is self-bailing. 4 mooring bites. Recces on aft deck for protection of air intake. Large deck hatches allowing fast replacement of main components. Small and lockable inspection hatches. Remote release single point lifting system. Remote release painter hook.

SUPERSTRUCTURE:

The superstructure is designed to handle adverse weather and provide a stable platform for towing operations. Furthermore, ensuring able installation space for various equipment inside, minimizing clutter top side. The superstructure can be fitted with further hatches for couplings to hydraulic PTO for powering external equipment. The great volume of superstructure allows for added equipment such pumps, winch and other equipment demanded.

ENGINES, PROPULSION, STEERING etc.

1 x Inboard diesel engine.
 Ducted propeller with bollard of 5 ton
 Propeller protected against debris and grounding.
 Remote operations
 Complete propulsion and steering system integrated into hull for added protection.
 Hydraulic PTO for skimmer and other relevant equipment.
 Transfer pumps and further equipment available on request.

TANKS:

Independent diesel tank with hatch and filling protection. Further tanks available on request. Tanks can be free standing or integrated GRP tank in the hull.

ELECTRICAL SYSTEM & LIGHTING:

All electrical wiring in marine cable.
 Shore power with control lamp, marked fuses, earth connection.
 Isolation transformer with earth plate for protection of galvanic corrosion.
 24-volt electrical system.
 Main switches with separate battery systems for start, navigation and consumption.
 Battery charger with indicator.
 Navigational lights.
 Floodlights on the deck by request
 Searchlight.

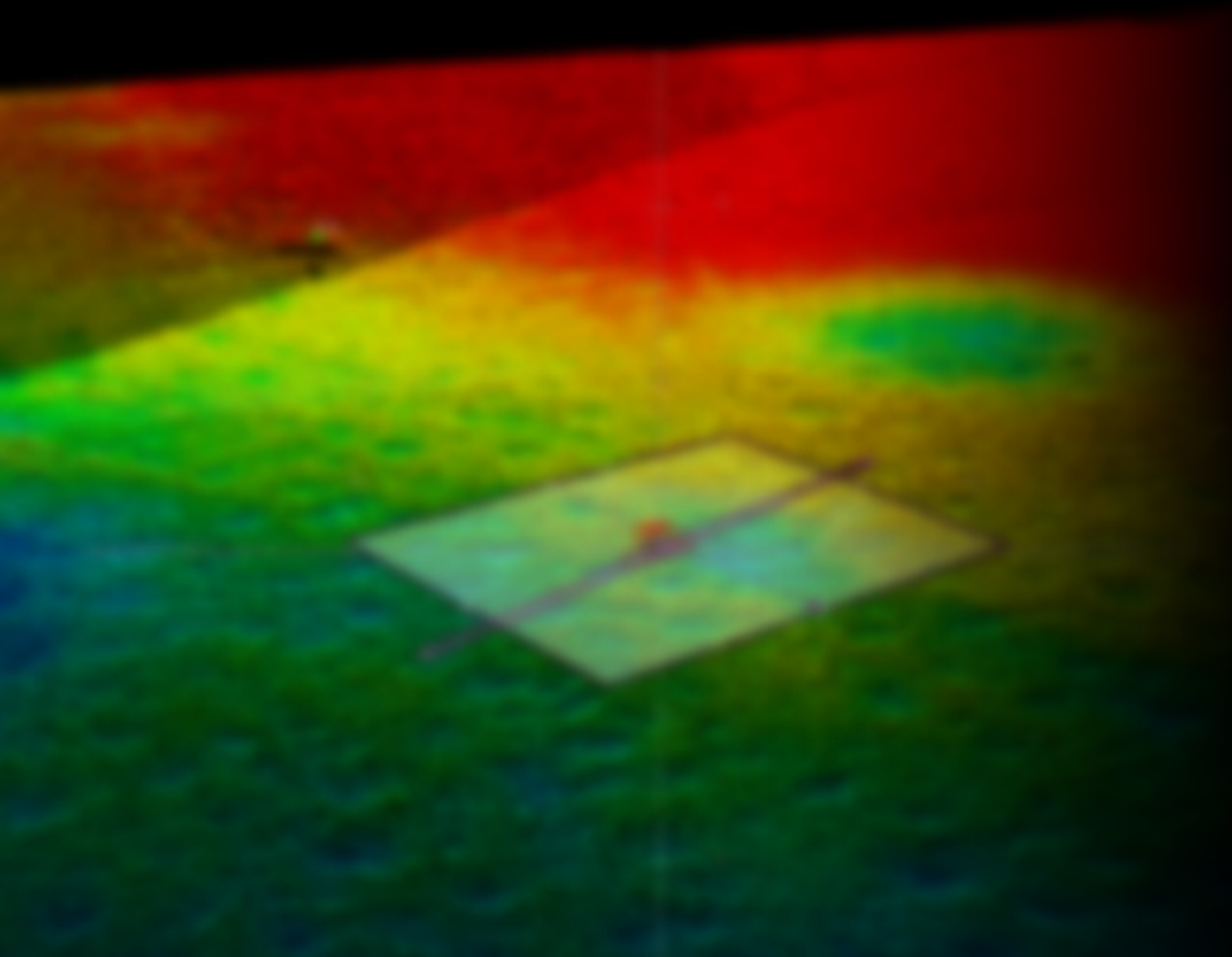
NAVIGATION & ELECTRONIC EQUIPMENT:

Fluxgate/Gyro/satellite compass
 Radar
 Radio wave remote control
 Other passive/active sensors and equipment can be fitted on request.
 Complete engine instruments supplied by engine manufacturer.

SECURITY EQUIPMENT:

Bilge pumps
 Fire extinguisher in engine room
 Fire extinguisher in technical compartment
 Further equipment can be fitted on request.

PRO:ZERO



PROZERO USV SENSOR PACKAGE

EQUIPMENT

The integration of advanced technologies has revolutionized survey, mapping, and object detection operations. A comprehensive equipment suite, designed for these tasks, incorporates cutting-edge drones equipped with sonar systems, sophisticated software solutions, and specialized training programs, ensuring operations are efficient, accurate, and secure.

For sonar capabilities it features the SeaBat T51 for flush mounting below the vessel, allowing for continuous scanning of the sea floor. The SeaBat F50, an imaging sonar, is designed for both self-protection and the detection of objects. It includes a deployment system that enables the vessel to transit at high speeds and deploy the sonar for operational use. This ensures an agile response to varying survey conditions and requirements.

Each component has been selected not only for its individual capabilities but also for how it integrates into a seamless operational workflow, emphasizing efficiency, safety, and effectiveness in a variety of marine environments.

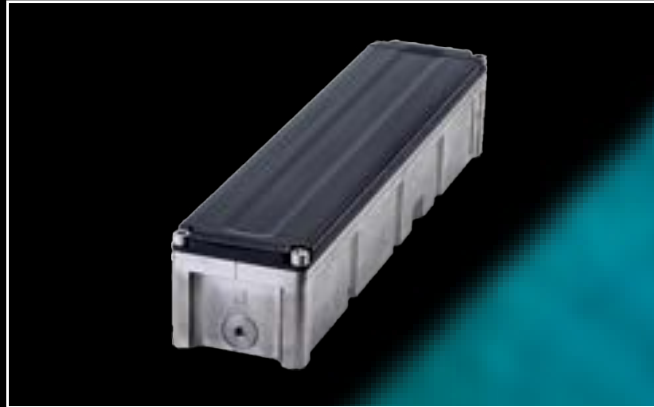


TASMAN DVL

SENSORS

The vessel has the SeaFLIR 240, an EO/IR camera tracking system, and an image rendering system with Computer Aided Detection, enhancing the detection and tracking of objects under diverse conditions.

Optional equipment from Teledyne Raymarine, such as the Navigation Radar system and onboard cameras, further expands the operational capabilities of the drone, offering comprehensive coverage and situational awareness.



SEABAT F50



SEABAT T51



SEAFLIR 240

PRO:ZERO

PRO:ZERO

MOVE FORWARD
YOU CHOOSE HOW

PROPULSION OPTIONS

The ProZero Daughter Crafts can be delivered with different propulsion systems according to customer needs.



IPS



Water Jet



Sterndrive

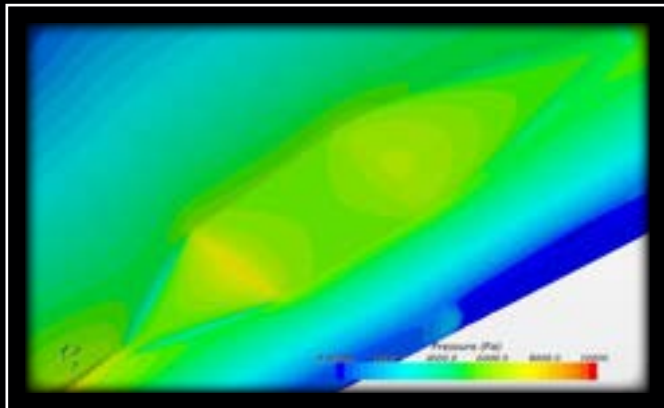
Further propulsion options are available:

Shaft drives

Outboards

DETAILED HULL ANALYSIS

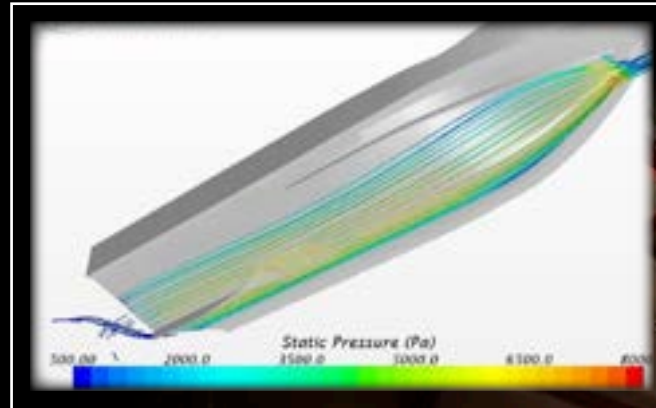
Acquisition of high-quality hydrographic data requires optimal conditions. Consequently, special attention has been paid to obtain a hull profile which reduces or eliminates hydrodynamic phenomena that affect the sonar equipment. The enemy is cavitation bubbles and sweep-down of bubbles from the bow that become entrained under the hull. Computational analyses carried out by Hauschildt Marine A/S, Copenhagen, helped to reveal the best hull design before the vessel was put into production.



* Velocity Lines and pressure lines on existing hull at 10 knots

"The 14m ProZero Subsea Survey vessel exceeded all expectations and contractual demands when being able to do more than 14 kts without any disturbance and air-bubbles in the sonar area. This is way better than the contractual requirements when contracting the vessel with Tuco Marine."

- Preben Thuren Larsen, Project Manager



* Velocity Lines and pressure lines on existing hull at 10 knots

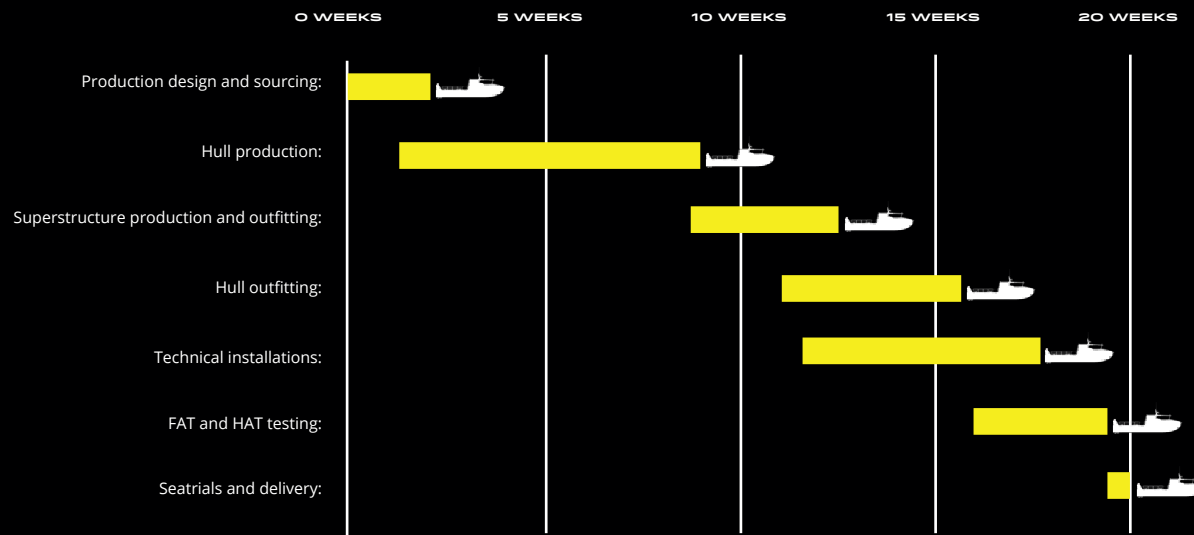
PRO:ZERO



INNOVATIVE HULL DESIGN

HULL MOUNTED SONAR

PRO:ZERO



SERIAL PRODUCTION

Merging unparalleled quality with cost-efficiency and prompt delivery

Construction with fiber-reinforced composites is highly suited for serial production. Tuco has developed an exceptionally efficient modular production method to fully exploit the advantages inherent in composite materials.

To guarantee product excellence and quality uniformity across our range of vessels, female moulds are applied in the production of all ProZero hulls. This permits a very high degree of accuracy and consistency in the manufacturing process so that every single hull lives up to our rigorous quality standards. Production using high quality moulds outperforms any other building technique in terms of cost-effectiveness.

Our modular production method enables us to integrate specific design requests and we cooperate closely with all involved stakeholders to deliver uncompromising quality and excellent products without sacrificing short delivery times.



SHORT LEAD TIME

EFFICIENT PRODUCTION PLATFORM

REFERENCES



*To the above comes a large number of businesses within Renewable Energy and Offshore that are covered by Non-Disclosure agreements

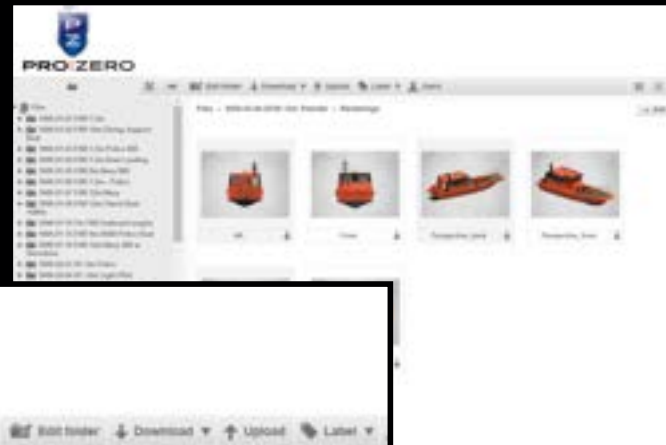
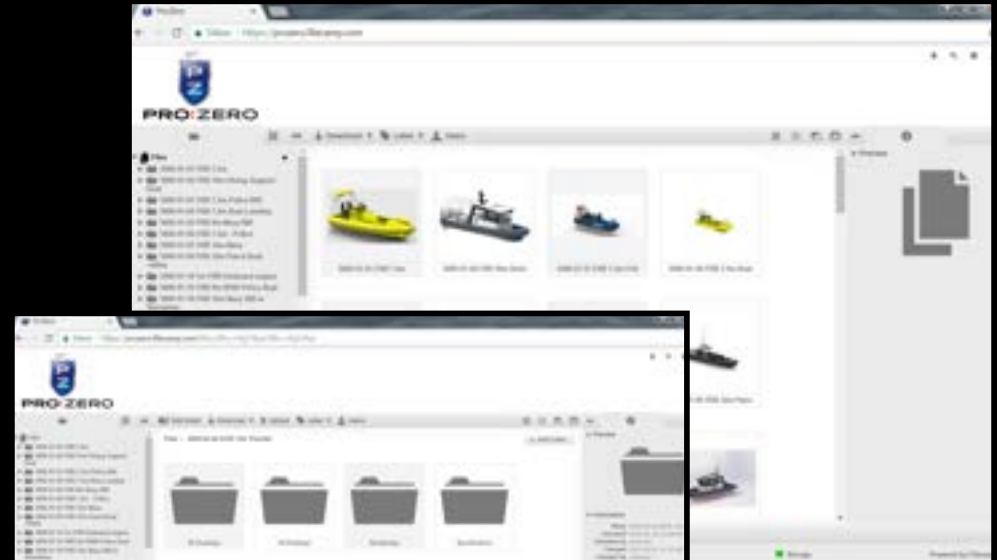
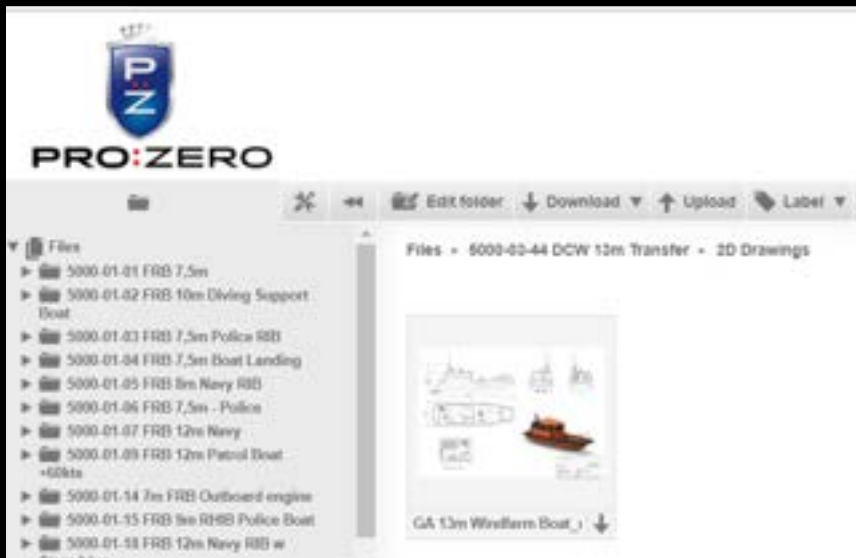
ACCESS TO DRAWINGS AND 3D FILES

Easy decisions – exploit our design library and save time

As a service for naval architects and users, Tuco has launched a design library containing drawings and renderings for our range of ProZero vessels.

The Filecamp library provides an efficient and convenient way for naval architects to access the ProZero designs. The comprehensive Filecamp data can support and facilitate planning, eliminate superfluous procedures and help in reaching informed design choices.

PRO:ZERO



FILECAMP EASY INTEGRATION