



Star International
Worldwide marine and offshore services

Narwhal Star USV

An unmanned piracy detection and surveillance solution for shipping and cruise operators



The Narwhal Star Unmanned Surface Vessel (USV) is an automated Rigid Inflatable Boat (RIB), designed for use as a reconnaissance and surveillance vessel.

The technology used allows a vessel to be controlled remotely via a Ground Control Station (GCS), or navigate on an autonomous basis, with an operating range of up to 300 nautical miles.

The USV serves as an extremely effective anti-piracy tool, allowing shipping operators to undertake reconnaissance missions ahead of a parent vessel, identify potential threats and provide the real time intelligence needed to take evasive action without putting any personnel at risk.

Key benefits:

- Provides the ability to actively identify piracy threats.
- Informs evasive actions and improves threat response times.
- Improves safety for passengers and crew.
- Safeguards vessels, cargo and other valuable assets.
- Fully configurable to meet operator requirements.



The USV is designed for speed and manoeuvrability in open ocean environments and offers a highly cost-effective solution to unmanned surveillance requirements at sea.

Key operating features:

- Up to a 300 nautical mile range / 30 hour run time.
- Multiple piloting options; remote, manned, semi-autonomous and autonomous.
- Fast mobilisation at sea using a davit / crane.
- Marine grade, gyroscopic cameras (35km viewable range).
- Infrared cameras (night vision).
- Laser range finder.
- Laser dazzler.
- Configurable sensor and communication array options, including LIDAR, AIS and satellite links.
- Optional extras including smoke / flare cannons, robotic arms (for deploying instruments), and towing decoys.

A military-grade solution to marine surveillance

Star International has partnered with leading automation specialists UTEK and RIB manufacturer Narwhal to develop the Narwhal Star USV. The vessel offers a highly reliable and economic solution to unmanned maritime patrol. The technology behind the USV is highly reliable and effective, having been successfully used in military operations by navies in Europe and the Middle East.

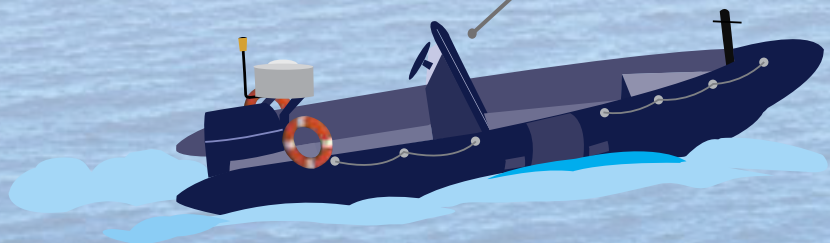
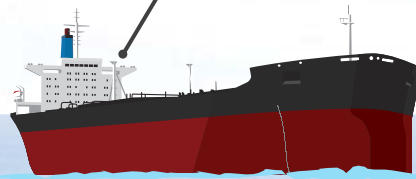
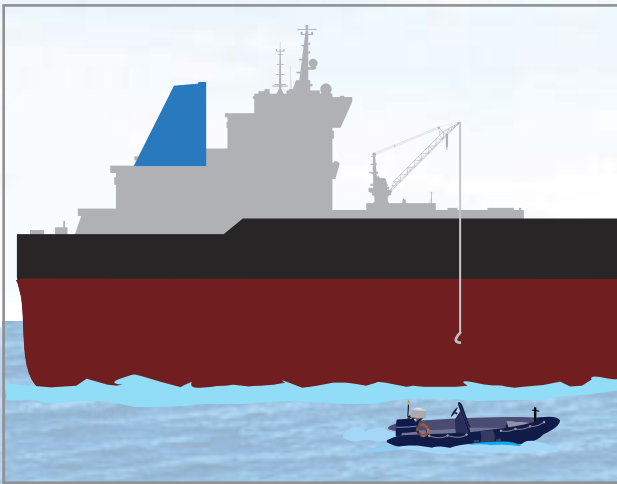


How the USV works

The Narwhal Star USV is an extremely effective anti-piracy tool, allowing ship operators to complete reconnaissance missions ahead of a parent vessel, identify potential threats and take evasive action without putting personnel at risk.

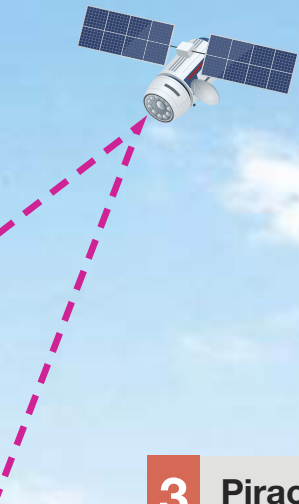
1 Deployment

The Narwhal Star USV can be quickly deployed at sea to scout ahead of its parent vessel.



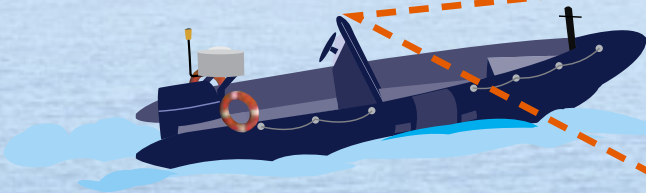
2 Remote surveillance

The USV is controlled remotely / operates autonomously from a Ground Control Station (GCS) on-board the parent vessel.



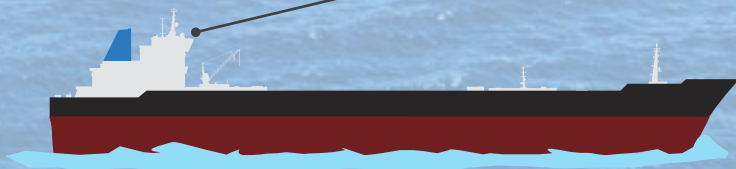
3 Piracy detection

The USV's payload includes day and night vision cameras with a range of up to 35km, allowing pirate vessels to be identified without putting the USV or parent vessel in harm's way.



4 Evasive action

Images of the piracy threat are transmitted to the parent vessel where they can be assessed, and its location triangulated. If necessary, evasive action can be taken and authorities informed.



A fully configurable solution, combining ocean going performance with military-grade surveillance technology.

Technical specification

The Narwhal Star USV is typically supplied as a 6.7 metre heavy duty RIB with unmanned / remote control capability. Other configurations are also available, please speak to our team to discuss your requirements.

Vessel datasheet

Length overall	675 cm
Inside length	525 cm
Beam overall	270 cm
Inside beam	148 cm
Maximum depth	100 cm
Maximum tube Ø	57 cm
Chambers	5+1
Maximum engine power	225 HP

Recommended engine power (4S)	150 HP
Maximum engine weight	290 kg
Engine shaft type	XL
Max. authorized PAX no.	16/8
Maximum authorized load	1530 kg /1450 kg
Approx. weight of boat	490 kg
Approval	C/B



Payload specification

Recommended payload includes high-performance surveillance and navigational equipment, together with two-way communications capability. The vessel's payload can be configured to operator requirements.

Electro-optical system			
Day camera and thermal camera	Yes		
Transmitter of acoustic signals	Yes		
Laser range finder	Yes		
Laser dazzler	Yes		
Day camera	Optical zoom, 30x continuous. Digital zoom, 12x continuous field of view .63° to 2.3° in HD mode and 47.8° to 1.7° in SD video mode Resolution of thermal camera: 2mpx Auto focus		
Target: 2.3x2.3m	D (2TVL) >20km R (6TVLines) >6km I (10TVLines) >4km		
Target: 5x5m	D (2TVL) >31km R (6TVLines) = >10km I (10TVLines) >6km		
Thermal camera	640HD 75mm		
LWIR	8 – 14µm		
Uncooled	Yes		
Pitch 17µm	Yes		
NETD 50 moK @ f/1.0, 30Hz	Yes		
Resolution	640x480		
Angle of view	18° to 5.9°		
		Target 2.3m x 2.3m	D (2TVL) >9.5km R (6TVLines) > 1.75km I (10TVLines) >1km
		Target 5.5m x 5.5m	D (2TVL) = 10km R (6TVLines) > 3.3km I (10TVLines) >2km
		Laser finder	Range: 1.5km / resolution 0.5m
		Laser dazzler	Power 5000mW I Wavelength: 520nm Beam diameter: 3m @ 500m
		Gimbal characteristics	360° turn Elevation -90° to +90° Three-way axis giro stabilisation, c/w, enhanced video stabilisation >0,1mrad / sec Vertical speed: >1,0rad / sec or larger Horizontal speed >1,0red / sec
		Radar	Marine grade >32nm Tracking >50 targets. Rpm 24/48
		AIS	Possibility to connect with radar for data function
		Cameras for navigation assistance	4HD cameras with real time information transmitted to Ground Control Station (GCS)
		Video recorder	Continuous operation

About Star International – Worldwide marine and offshore services

Star International is an established supplier to the maritime sectors, servicing a diverse client base that includes leading cruise and ferry operators, shipping companies, shipyards, commercial ports, and military organisations.

Key areas of provision include LSA liferaft service and repair, refrigeration, marine chemicals, firefighting and fire suppression, water treatment, marine fuel testing and treatment, marine safety, medical equipment, pyrotechnics, Rigid Inflatable Boats (RIBs), welding, calibration gases, high pressure jet washers and lorry loader and quayside services.

Key products and services:

- Calibration gases
- First aid and medical
- Fuel stewardship
- Leisure boats
- Lorry loader and quayside services
- Marine chemicals
- Marine firefighting
- Marine gas detectors
- Marine safety
- On-board water treatment
- Pressure washers
- Refrigeration and air conditioning
- Welding and cutting
- Work, rescue and unmanned boats

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