USE CASE · THRESHER MKI

Underwater drone for harbour and hull inspection

Harbour water is often murky, and a hull, a jetty pile or an intake is hard to check from the surface. A tethered underwater drone, called an ROV, lets a pilot on the jetty or the boat look at each of them on live video, with lights and sonar for the times a camera alone cannot see.

IN SHORT

- A tethered underwater ROV lets a pilot inspect hulls, berths, intakes and moorings on live video; the Star INXS Thresher MKI is rated to 300 m and dives for 8 hours continuously.
- Thresher MKI carries a 4K camera with 30x optical zoom, lights of up to 6,000 lumens and a 600-1200 kHz side-scan sonar that resolves 2 cm out to 150 m per side.
- It weighs 35 kg, so a small crew can launch it from a boat, a jetty or a ship's side on its 600 m fibre-optic hybrid tether.
- For autonomous survey of a harbour on planned lines, an autonomous underwater vehicle is the other option; ask us about it through official channels.



WHAT TO SPECIFY

FIGURE	WHY IT MATTERS IN A HARBOUR	THRESHER MKI
Depth rating	Covers berths, channels and deeper approaches	300 m
Dive time	A full hull or a row of berths in one dive	8 h continuous dive
Main camera	Detail on plates, welds, propellers and intakes	4K UHD colour, 30x optical zoom; 360° pan, 90° tilt
Second camera	A picture in low light	1080p HD + low-light monochrome
Lights	Murky water	Up to 6,000 lumens, variable
Sonar	Finding objects when the camera cannot see	600-1200 kHz side-scan; 150 m per side, 2 cm resolution
Navigation	Knowing where the vehicle is	DVL 1 MHz, bottom track to 100 m; USBL tracking to 5,000 m

HOW AN INSPECTION DIVE WORKS

1. **Plan the dive.** Agree the hull, berth or structure to be checked with the harbour master or the ship's staff, and the position of the surface station.
2. **Set up the station.** Place the surface control console and the tether drum on the jetty, the boat or the ship's side.
3. **Launch.** The vehicle weighs 35 kg, so a small crew lowers it into the water with the tether on its automatic drum.
4. **Inspect.** The pilot flies the vehicle along the hull or structure on live 4K video, using the lights, the low-light camera and the side-scan sonar where the water is dark.
5. **Track and record.** DVL and USBL give the vehicle's position, so each finding can be noted against a place.

COMMON QUESTIONS

Who makes the Thresher MKI?
Star INXS Solutions Pvt Ltd. The Thresher MKI is designed and built in India.

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