

www.bluetraker.com

BlueSenz





Optimize your fisheries with real-time fishing activity data.

OVERVIEW

BlueSenz IoT for Fisheries is revolutionizing the way that FMCs manage their fish stocks and marine reserves. By receiving precise, accurate fishing effort data directly from the seas, FMCs can form a more accurate picture of how to sustainably manage their fisheries.

Fishing experts understand the importance of real-time accurate fishing effort data, so we created BlueSenz for Fisheries. BlueSenz is a collection of wireless sensor devices mounted directly to the fishing gear (winches and nets) allowing an FMC to track and monitor fishing activities of any of the vessels in their fleets (wherever they might be). BlueSenz transmits precise data back to the FMC granting them the ability to make more informed decisions and manage their marine resources more effectively. It removes any uncertainty about the fishing activities of your vessels, whether they are 3, 30 or even 300 miles from the shore!

Accurate Winch Activation Data

BlueSenz sends an alerts when a winch is active. It counts the number of revolutions and rotation direction.

Precise net Deployment and Haul Locations

FMCs are able to view when and where a net is deployed in the sea, allowing them to determine when a vessel is fishing.

Self-installable by Fishermen

Fishermen are able to attach the GearSenz by themselves (no tools needed).

No Wires or Cables

Wireless communication minimizes interference with other fishing gear or fishermen on board.

Data & Device Security

Designed according to advance encryption standards, the sensors data are protected and cannot be spoofed or jammed.

Ready for Machine Learning

Developed with a vision of being able to validate or completely replace human observers on fishing vessels by creating labelled datasets ready for machine learning tasks.

BlueSenz System Building Blocks



GearSenz is a wireless sensor device that is mounted on the winch; it counts the number of revolutions that a reel or net drum makes (clockwise or anti - clockwise direction). This allows the FMC receiving the data to determine whether a fishing net is being deployed or hauled from the sea (i.e. the vessel is fishing) and it also measures the length of the net deployed.



NetSenz is a wireless sensor device that can be easily mounted on almost any type of fishing net (on the headline or footrope); it detect exact positions and time of start and end of the fishing session and also record the exact time-depth profile that the net passed.



WirelessGate is a Radio Frequency (RF) communication device. It collects data from the various sensors on-board the ship (e.g. GearSenz, NetSenz) and then transfers this data via the BlueTraker VMS device to the database server on land.

Technical Specifications

WirelessGate **Electrical** 9 VDC to 36 VDC Power supply voltage: Average power: 1 W 0,5 A Maximum current: **Environmental** Temperature – Operating: -25°C → +60°C -25°C → +70°C Temperature – Storage: Ingress Protection Level: IP68, IP69K (tested, not certified) RF - ISM 868.3 MHz Frequency: Max. Transmitting Power: 0,025 W Physical Product Weight: 198 x 198 x 67 mm Dimensions ($L \times W \times H$):

NetSenz	
Part dimensions	
NetSenz ($L \times W \times H$)	110 x 110 x 182 mm
Weight	
NetSenz	840 g
Environmental	
Operational temp. range Storage temp. range Operating depth Maximum depth: Device autonomy	-20°C → +60°C -25°C → +70°C up to 300 m 500 m 2 years
RF Parameters	
RF band: Max. Transmit. Power:	868 MHz ISM 0,025 W
Installation	

On headline or footrope with diameter up to 50 mm.

Part dimensions	
GearSenz (L x W x H)	123 x 10 x 150 mm
Weight	
GearSenz	210 g
Environmental	
Operational temp. range Storage temp. range Humidity range Dust and Water Ingress Lifetime is limited to	-20°C → +60°C -25°C → +70°C 10% RH → 100% RH IP68 2 years
RF	
RF band: Max. Transmit. Power:	868 MHz ISM 0,025 W
Installation	







Better Oversight Over Fishing Activity

GearSenz and NetSenz are sensor devices that collects and transfers detailed fishing activity data to FMC. This allows FMC to see which fishing gear was used, time and place of gear deployment and haulage, and other important data.

Latest Technology

Wireless communication minimizes interference with other fishing gear or fishermen on board.

Designed according to advance encryption standards, the sensors data are protected and cannot be spoofed or jammed.

Ease out Work for FMC

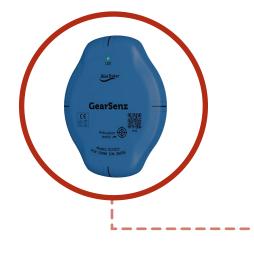
Fishermen are able to attach the wireless sensors by themselves (no tools needed). FMCs can now demand almost immediate accountability from their captains if fishermen engage in illegal or improper fishing activities on the sea.

BlueSenz IoT for Fisheries

BlueSenz WirelessGate

The WirelessGate device provides signal coverage on the vessel and nearby sea for communication with the sensors to detect any fishing gear in use. It then transmits the data collected from the sensor devices to the BlueTraker VMS terminal.

GearSenz is installed on the side of the flange of the winch, so any winch activity is closely monitored e.g. net is deployed into the sea or hauled from the sea.



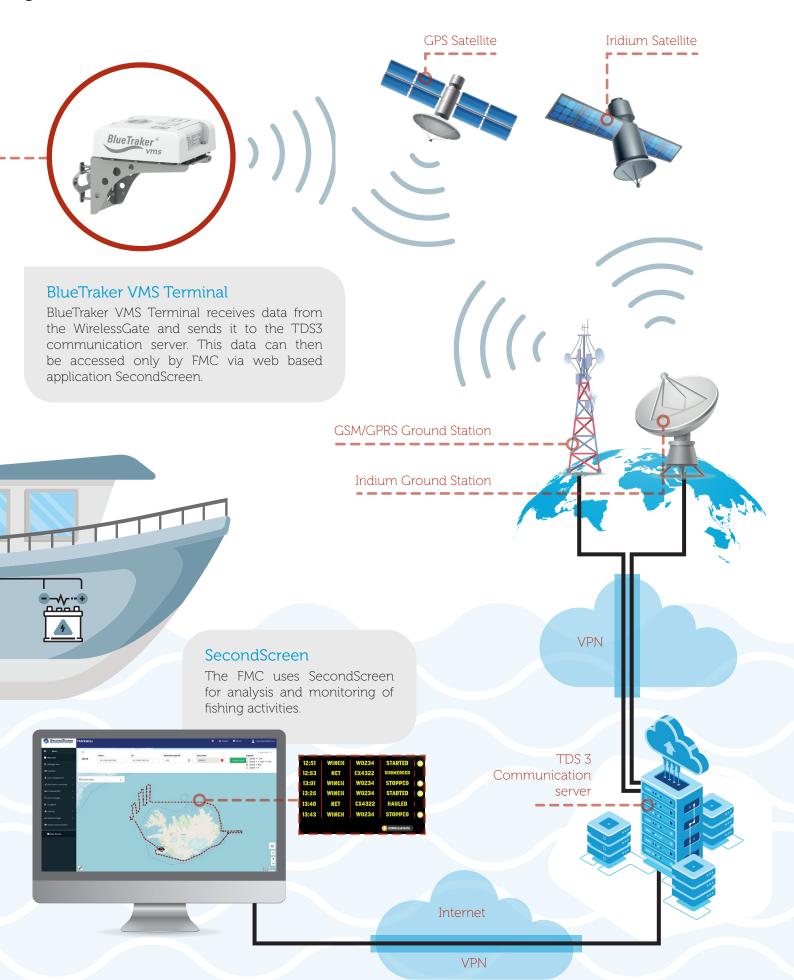


NetSenz is installed on the headline or footrope of fishing net, and collects data of complete fishing activity (from fishing net deployment to fishing net haulage) at predefined intervals.



ConBox is a wiring box purposely designed for fisheries monitoring applications, and provides a wide range of features including alert triggering, fishing activity reporting, and much more.

System Overview



Digitizing the World's Fishing Activity

www.bluetraker.com

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- EMA d.o.o., Teharje 7B, SI-3000 Celje, SLOVENIA
- +386 3 42 84 800
- sales@bluetraker.com
- www.bluetraker.com

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