



WIND FARM

OFFSHORE WIND FARMS
BEACONING SOLUTIONS

Generating **safe ways**



Expertise & reliability in **Offshore Wind Farm marking solutions**

MSM Offshore is the MSM division specialised in **Aids to Navigation equipment for marking Offshore Wind Farms** to guarantee safe navigation around them.

Offshore Wind Farms require good visibility for the safety of maritime traffic and aviation with **specific AtoN equipment** for marking meteorological masts, wind turbine generators and offshore sub-stations.

With **more than 15 years of experience** in the maritime signalling sector, we join innovation, high technology and expertise to offer **reliable solutions** strictly following international standards.

Our commitment to safety and the maritime community has led us to be an **industrial active member of the IALA-AISM** since 2008.



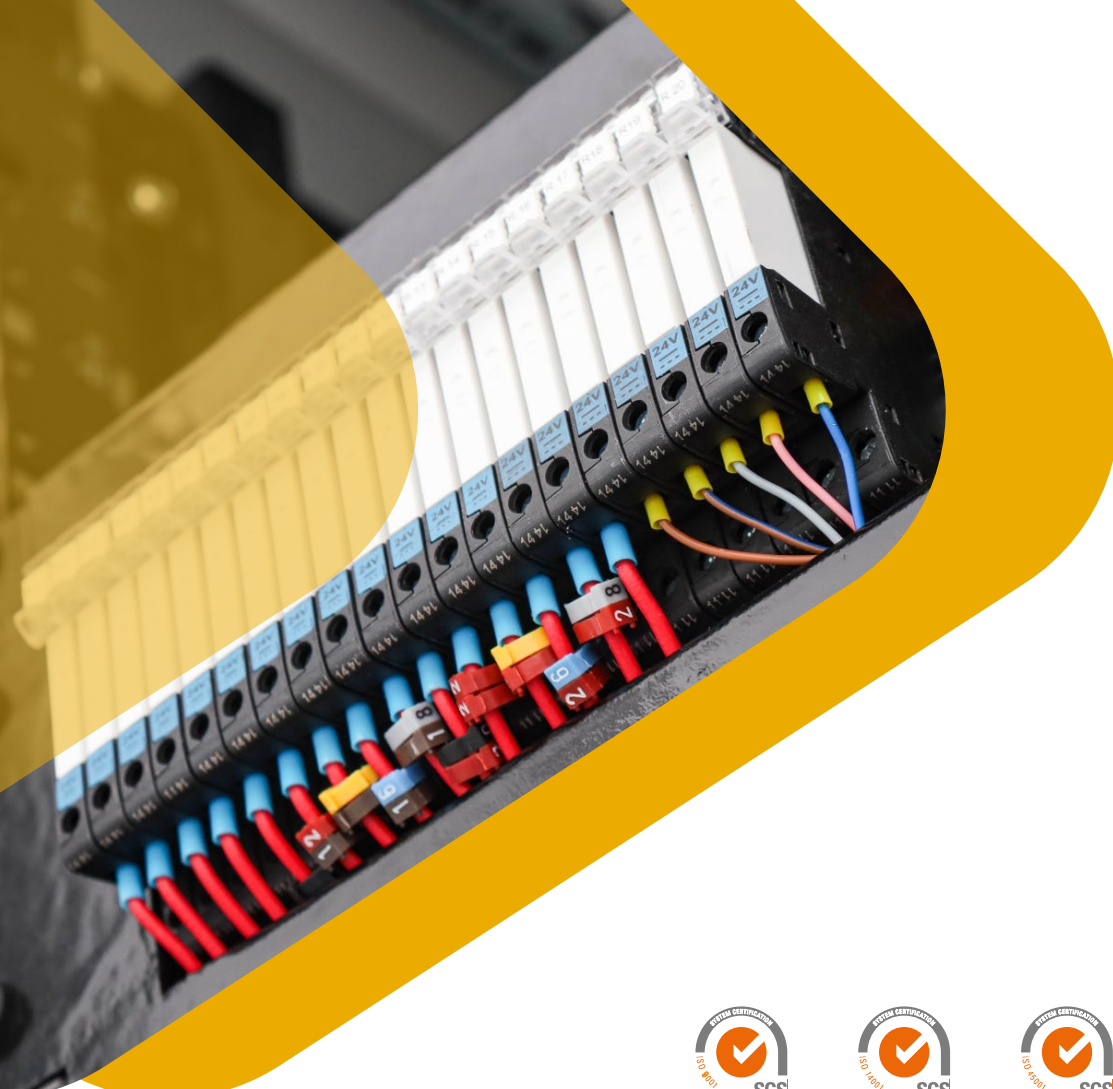
DemoSATH - Saitec Offshore Technologies

We comply international **Standards & certifications**

MSM Offshore Wind Farm products are designed according to **IALA Recommendations & International Standards** (IEC, ICAO).

Thanks to our constant commitment to quality and environmental management, MSM has ISO 9001, ISO 14001 and ISO 45001 Certifications.

On the other hand, we are **partners of the Spanish Wind Energy Association (AEE)**, as we are committed to the development and implementation of the offshore wind power. A sustainable energy model that we consider key in the energy transition towards a decarbonized economy.

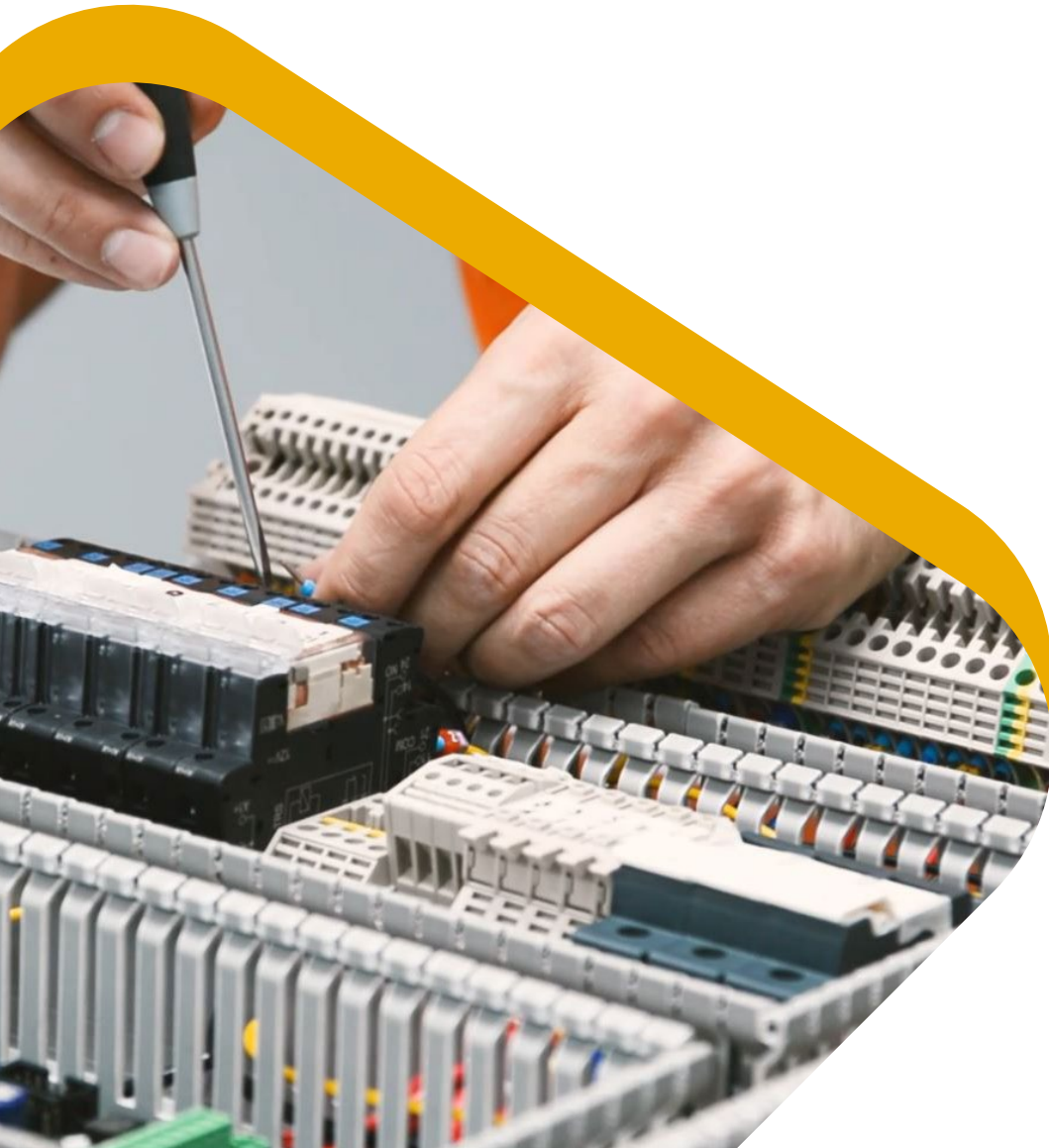


Design & manufacturing of high-quality AtoN equipment

We design and manufacture our own Aids to Navigation equipment at our facilities. We have the most advanced technical means to carry out both precision work in our electronics laboratory and different machining processes such as welding, milling, injection, cutting, etc.

We have our own optical measurement laboratory that strictly complies with IALA-AISM Recommendations.

Thanks to a large team of specialized technicians, we offer our clients a large manufacturing capacity and the possibility of designing customised projects with the highest quality standards in record time.



Aids to Navigation for Offshore Wind Farms

We have an extensive range of products for the comprehensive marking of Offshore Wind Farms according to G1162 IALA-AISM Recommendation.

From floating aids such as elastomer buoys, high efficiency lighting equipment such as LED marine lanterns, self-contained LED lanterns, floodlights and obstruction lights; audible alert signals such as fog horns and visibility sensors; radar beacons (racon) and control panels, among others.

All our products are designed to provide a long lifespan in the harshest maritime conditions, also requiring minimal maintenance thanks to the excellent resistance of their materials and the high reliability of their electronic systems.

A photograph of a yellow and white navigational aid (AtoN) mounted on a yellow metal platform over the ocean. The aid has a cylindrical body with a grid pattern and a clear lens at the top. A large yellow graphic shape overlaps the right side of the image.

Discover our wide-range
of **AtoN equipment**



Temporary & Permanent LED Marine Lanterns

Short & Medium range lanterns, with a great optical efficiency and low consumption.

Obstruction Lights

Solutions for an efficient light and compact obstacle signalling.



Floodlights & Identification Panels

Lights specifically designed to provide homogenous illumination on the identification panels.

Control Panels

Enclosures with different sizes and configurations for different applications such as lighting distributions panels and power distribution panels.

Fog Systems

Visibility sensors and audible signals specifically designed to be installed in environments with thick fog.

Racons

Frequency-agile Radar Beacons with advanced Side-Lobe Suppression System and response on X & S bands.

AIS

Compact AIS AtoN device to provide automatic information on the GPS position of the AtoN.



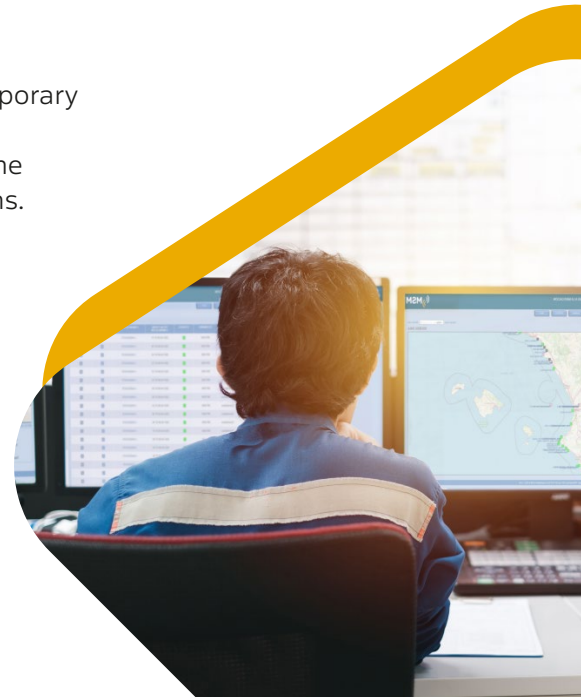
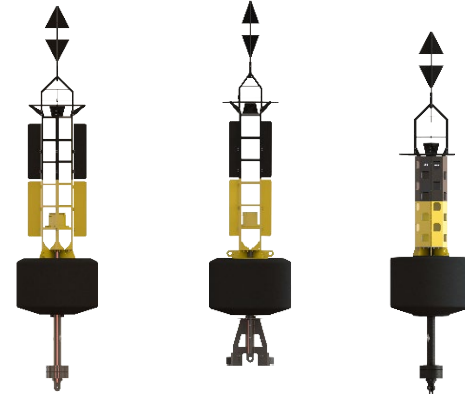
Software & Communications

Our Software Global Netcom 5 combines monitoring and VTS, offering different communications channels: GSM, UHF, SAT, AIS and MODBUS.



Perimeter Elastomer Buoys

Unsinkable buoys for the permanent or temporary beaoning of offshore wind farms. They are specially designed to offer high stability in the harshest marine conditions and great depths.



Marking an Offshore Wind Farm



1 EBM Buoy



2 MCL360 Self-contained



3 MOL-MB Obstruction Light



4 MOL10-A Obstruction Light



5 MBL160 Marine Lantern



6 MFL Floodlight



12



7 RBM04 Racon



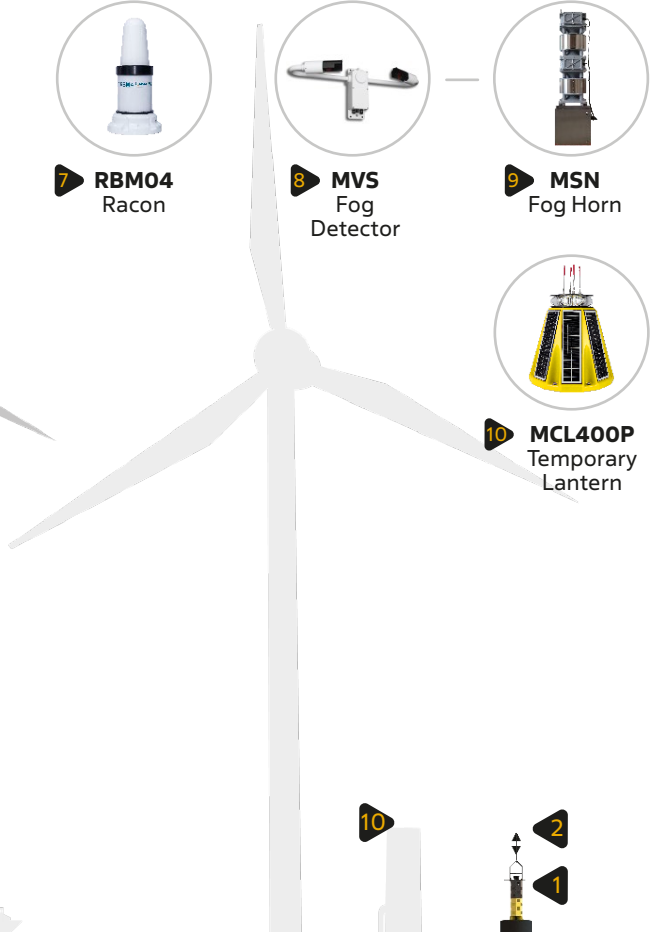
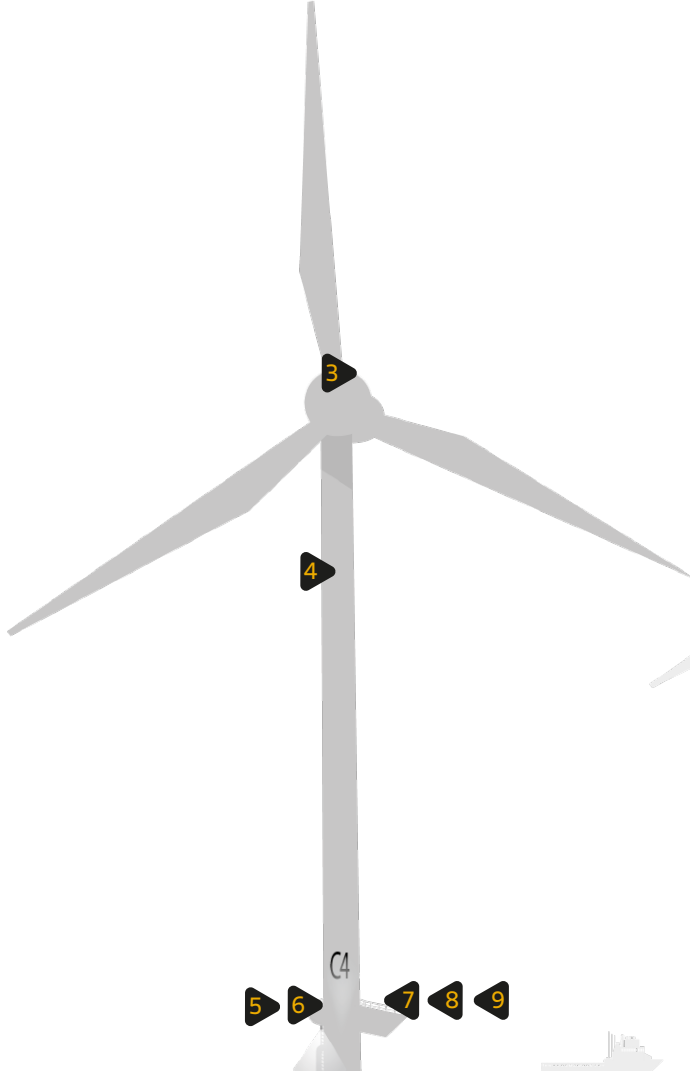
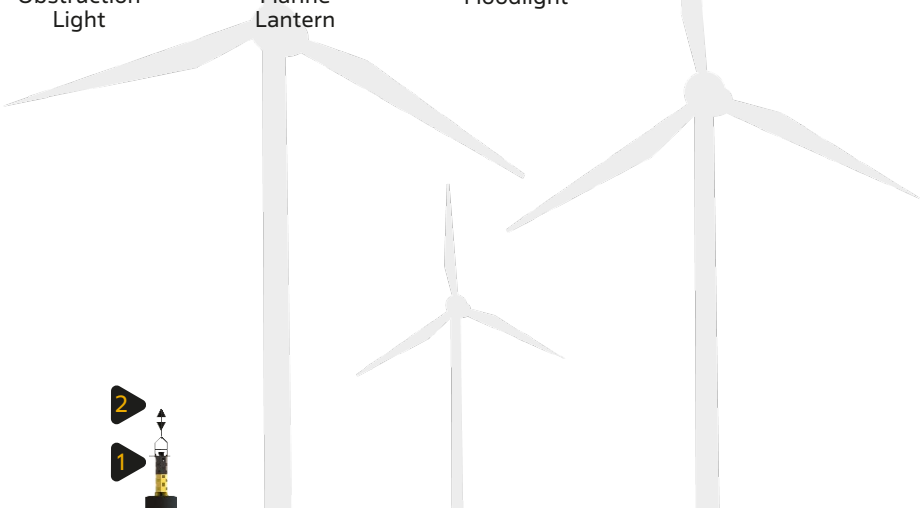
8 MVS Fog Detector

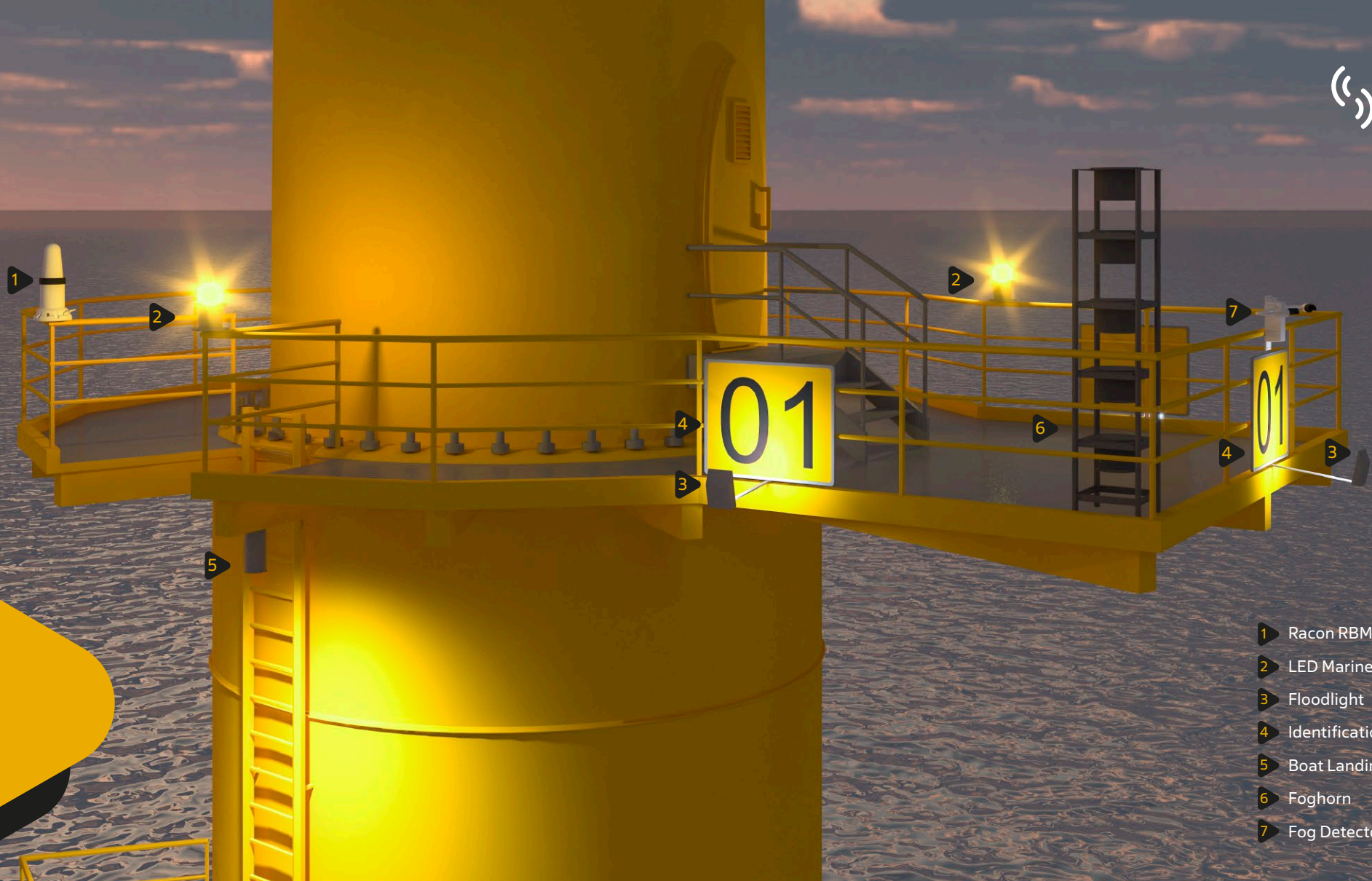


9 MSN Fog Horn

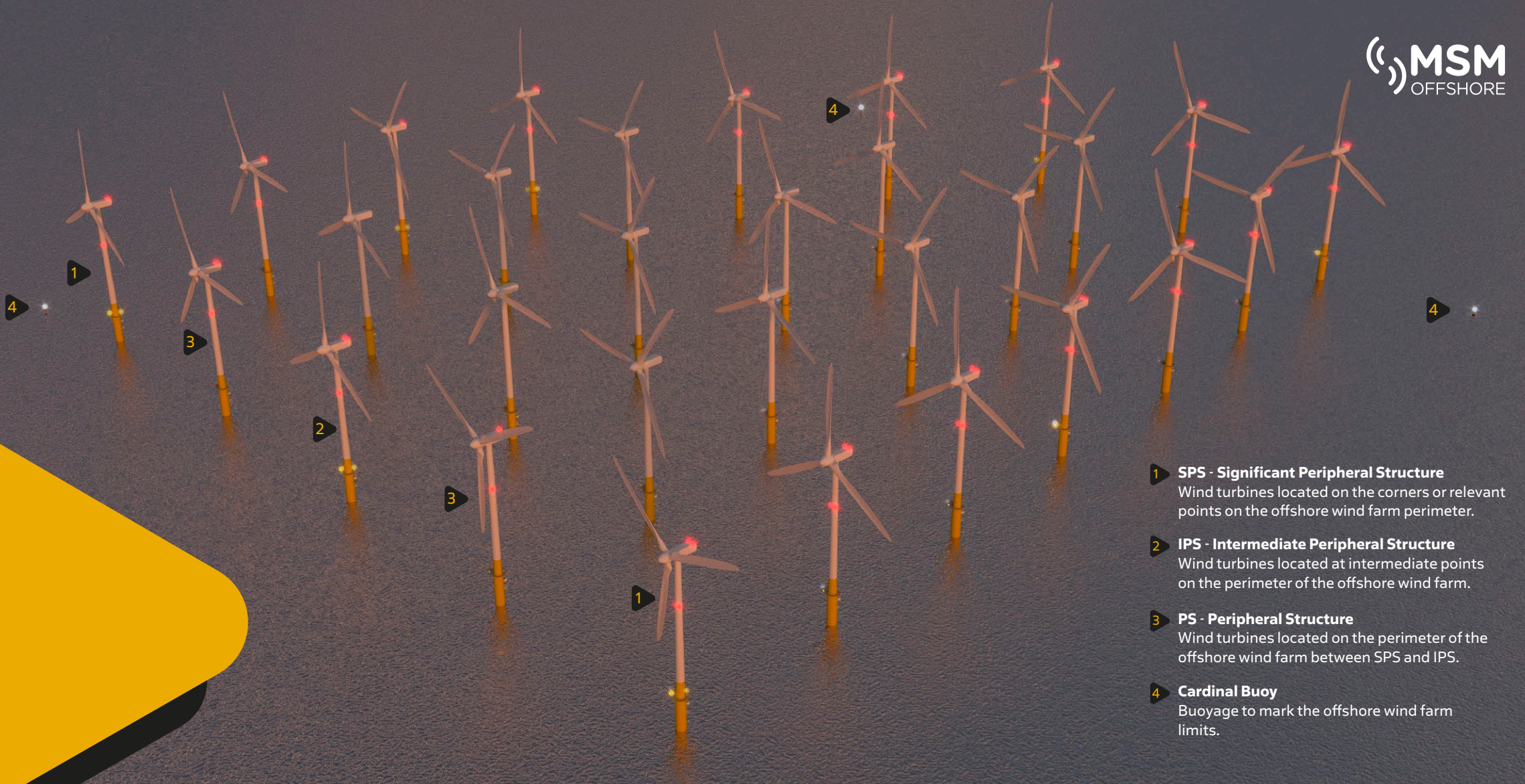


10 MCL400P Temporary Lantern






- 1 Racon RBM4
- 2 LED Marine Lantern
- 3 Floodlight
- 4 Identification Panel
- 5 Boat Landing Light
- 6 Foghorn
- 7 Fog Detector



- 1 SPS - Significant Peripheral Structure**
Wind turbines located on the corners or relevant points on the offshore wind farm perimeter.
- 2 IPS - Intermediate Peripheral Structure**
Wind turbines located at intermediate points on the perimeter of the offshore wind farm.
- 3 PS - Peripheral Structure**
Wind turbines located on the perimeter of the offshore wind farm between SPS and IPS.
- 4 Cardinal Buoy**
Buoyage to mark the offshore wind farm limits.

A photograph of an offshore wind farm in a calm sea under a blue sky. Three wind turbines are visible in the distance, a small boat is in the middle ground, and a sailboat is in the foreground. A large yellow and white graphic element is on the left side of the page.

As maritime signaling experts and IALA-AISM member, we offer our clients **several services for their project.**

Comprehensive services: **consulting, training & maintenance**

Design of comprehensive maritime marking projects

We accompany our clients during all phases of the project: from installation, through commissioning, to dismantling, following IALA-AISM Recommendations.

Consulting Services

We guide our clients by exhaustively analyzing the requirements of their project to offer optimized and reliable solutions, guaranteeing the safety of navigation.

Training

We carry out training actions on how to mark offshore wind farms according to IALA-AISM Recommendations, in addition to offering specific training on the operation of our equipment. In addition, MSM, as ATO (Accredited Training Organization) to teach IALA Level 2 International Certification Courses, organise courses since 2017 for technical professionals in AtoN.

Maintenance

Good maintenance is synonymous with correct operation, that is why we offer maintenance services for our equipment.



DemoSATH - Saitec Offshore Technologies

Contact us

MSM Offshore

www.msloffshore.com

offshore@msloffshore.com





MSM Offshore

P.I. Mas de Tous - Calle Oslo, 12

46185 La Pobla de Vallbona

Valencia **SPAIN**

+34 96 276 10 22

www.msloffshore.com
offshore@msloffshore.com