



INTRA MARE is pleased to announce the representation with **Light Structures** for **Greece & Cyprus**.

Light Structures AS is a Norwegian maker of **Hull Stress Monitoring Solutions (HSM)** offering a complete suite of hull and structure condition monitoring systems with decision support functions. Range includes;

- **SENSFIB Hull Stress Monitoring** system (HSM)
- **SENSFIB Ice Load Monitoring** system (ILM)
- **SENSFIB Sloshing Monitoring** system (SMS)
- **SENSFIB Integrated Marine Monitoring** system (IMMS)
- **Active Fatigue Management** services (AFM)

Founded in 2001, Light Structures is the **world leading supplier of Fiber Bragg Grating (FBG) technology** of hull and structure monitoring systems. Main office is located in Oslo, Norway and product sales & technical support is provided through a dedicated network of partners and agents worldwide.

Ships that will benefit from HSM include:

- Tankers, Crude carriers and LNG carriers
- Bulk carriers
- FPSOs
- Container carriers
- High speed ferries and cruise ships
- Naval & Coast Guard vessels



Benefits of FBG technology for HSM:

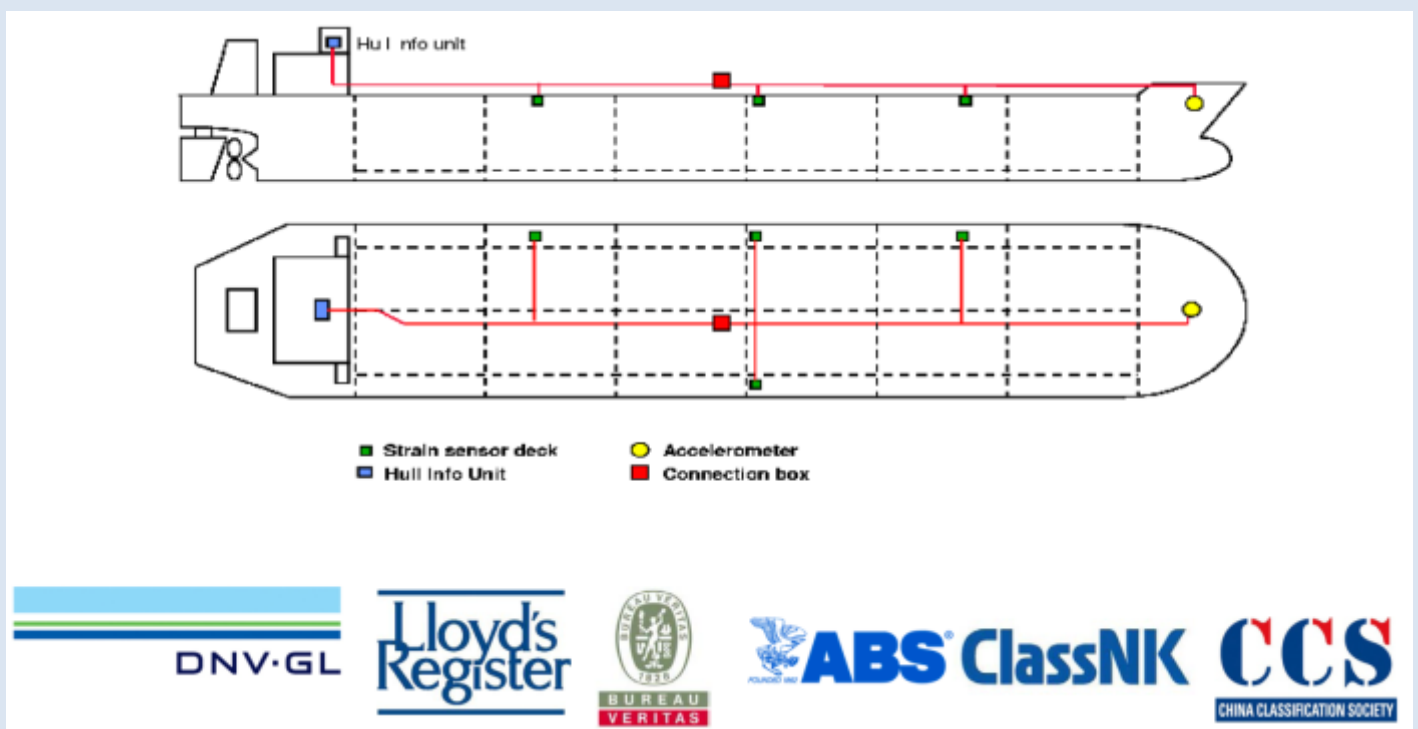
SAFETY - Fiber optic Hull Stress Monitoring systems can be configured with absolutely **no electrical components** in hazardous areas. The low optical power means the system is intrinsically safe, even without engaging Zener barriers.

RELIABILITY - Fiber optic solutions are **immune to electromagnetic disturbance**, which provides a stable, high-quality signal. With maker's well-tested installation technique, the short-gauge sensors perform flawlessly without service, year after year. The system reliability has been optimized by the use of the **Linux operating system**, which is becoming the software of choice among computer professionals. All these factors contribute to systems high reliability and redundancy.

ACCURACY - Measurements are made using the wavelength of light, which enables **high precision monitoring** of stress. The precision is maintained all the way to the data logging, as the fiber optic signal is not affected by electromagnetic interference from adjacent signal or power cables. The accuracy is maintained over time by the use of an online reference in the signal receiver.

COST EFFICIENCY - There is a small cost premium compared to alternative systems at the new building stage, but this is countered through a **significantly reduced maintenance cost**, which overall gives a lower system life-cycle cost compared to conventional systems. On LNGCs, there are even savings already during installation, as no welding is required for sensor mounting and the sensors do not require bulky casings.

FLEXIBILITY - Sensors can be mounted on deck, on girders, submerged in ballast tanks or in void spaces. Systems can be configured in basic systems with **only four strain sensors**, or **expanded** to include fatigue monitoring sensors in the waterline, sensors in the bow for ice monitoring or local sensors for sloshing monitoring on tank walls. Light Structures systems are **fully certified by all major classifications societies**.



www.lightstructures.no

We look forward to receiving your inquiries for **Hull Stress Monitoring solutions**, as per our maker **Light Structures**.

Best regards,

INTRAMARE

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