



KONGSBERG

FPSO

Confidence in your position and attitude



www.kongsberg.com

We maximize marine performance by providing the Full Picture



Our mission

We shall earn the respect and recognition for our dedication to provide innovative and reliable marine electronics that ensure optimal operation at sea. By utilising and integrating our technology, experience and competencies in positioning, hydroacoustics, communication, control, navigation, simulation, and automation, we aim to give our customers The Full Picture. The Full Picture yields professional solutions and global services that make a difference enabling you to stay ahead of the competition.



Our philosophy

Our success depends on the success of our customers. Actively listening to our customers and truly understanding their needs, and then translating these needs into successful products and solutions is central to achieving our goal.

Our people are the key to our success and we empower them to achieve. Working together in a global network of knowledge, guided by our values, engenders innovation and world class performance. Every day we have to think a little differently, because every client is unique.

We aspire to translate the imagination and dedication of our staff into successful technologies and solutions. Our commitment is to add value to your operations by providing you with The Full Picture.

Stay ahead with operational efficiency

In tight cooperation with our customers we always strive to improve our offerings with one aim for the eye; to always support our customers with solutions that increases operational efficiency independent of operational areas and conditions.

With a proven record of installations and deep knowledge of various applications, Kongsberg Seatex has a unique know-how incorporated in the products, know-how that are beneficiary to you as a customer when you choose solutions from us.

Solutions for today and tomorrow

As one of the major players in the maritime domain for satellite positioning products, Kongsberg Seatex plays an active role in the development of tomorrow's infrastructure in space to secure efficient and available solutions.

Products for all operations

Our product range embrace products for attitude determination of vessel in various type of operation and applications to high-level positioning solutions utilising GNSS infrastructure ore microwave technology. Our uniqueness lies in the combination of these different technoplogies.

Unique Support Services for demanding customers

By utilising Kongsberg Maritimes support centres, Kongsberg Seatex is always available when you are in need of support. This is to secure your operation whenever and wherever you are.





Vessel Motion Monitor (VMM)

The Vessel Motion Monitor (VMM), is a sophisticated vessel motion monitoring solution from Kongsberg Seatex, is set to improve the safety and efficiency of operations where accurate vessel motion data is critical. This unique attitude determination solution is the first of its kind and is made possible through decades of position and motion reference experience from demanding offshore marine operations. The VMM 200 is a decision support tool for marine operation like light well intervention, offshore crane operations, module handling on deck and for moonpool, and launch & recovery of ROVs.



RADius relative positioning reference System

RADius is developed for applications in need for a robust and reliable relative positioning system. With a wide range of different easy deployable transponders, a wide range of applications can benefit from RADius in operations. The flexibility of the system allows for independent deployment of the sensor heads (Interrogators) on the vessel.

Typical use of RADius is as a reference system to DP operated vessels.



Differential, Absolute and Relative Positioning Sensor (DARPS)

The DARPS product line of Differential Absolute and Relative Positioning Sensors combines high-performance sensors to allow reliable and accurate absolute and relative positioning of two vessels such as a shuttle tanker and an FPSO / FSU. The DARPS has proven itself over and over again in harsh environments worldwide.

Key features of all DARPS models are multiple source capability for differential corrections, removal of ionospheric effects and increased availability due to the use of all available GNSS infrastructure.



Motion Reference Unit (MRU)

Since the introduction of the Motion Reference Unit in 1992, the MRU has become the de-facto standard for attitude determination in maritime applications. The accuracy of the MRU has evolved from an initial 0.3° in roll/pitch to the current 0.01°. The utilisation of MEMS technology secures long life and stable performance over time.

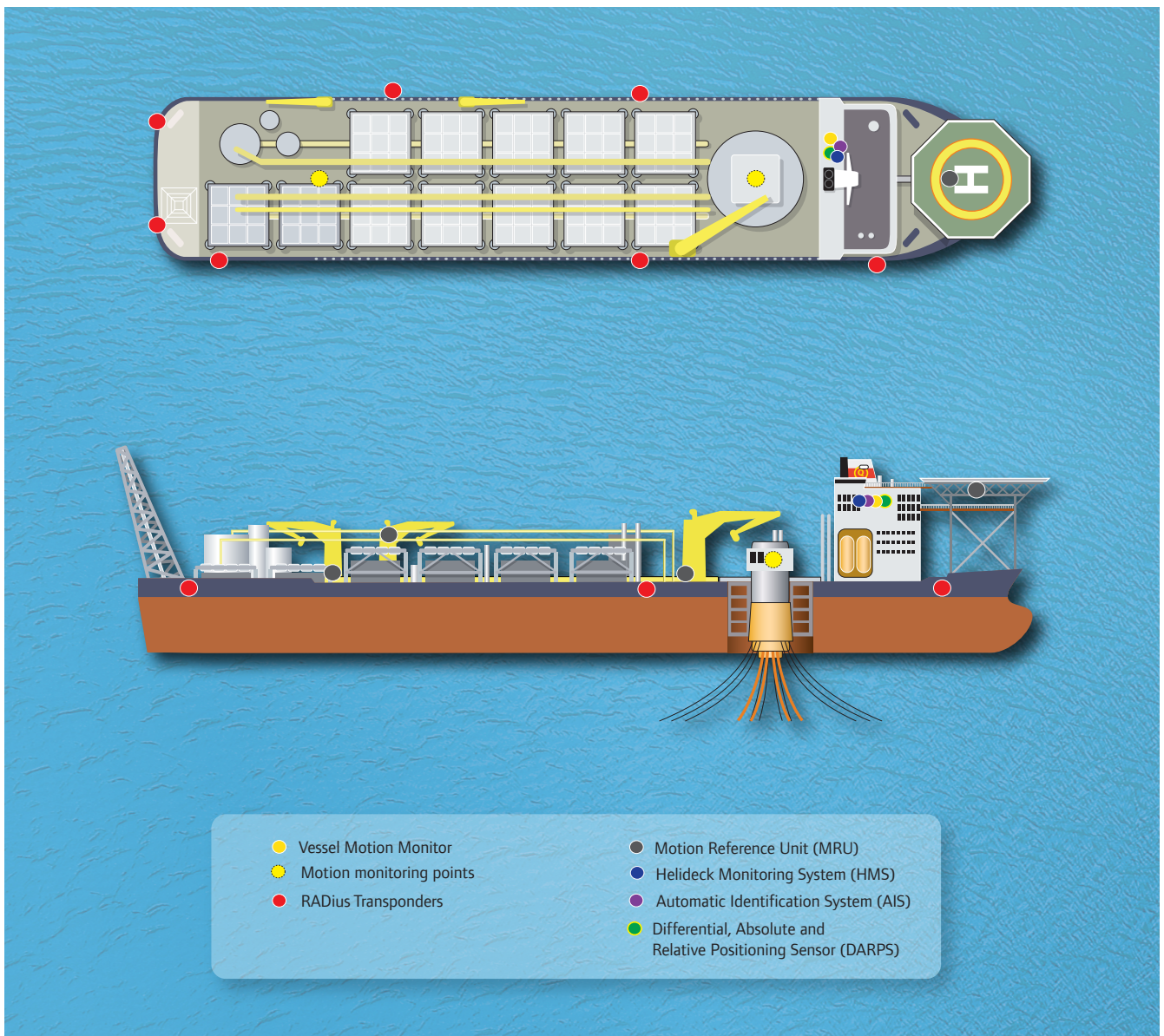
Typical applications for the MRU are DP, Active Heave Crane Compensation, Helideck Motion Monitoring, Antenna stabilisation, Heave compensation for hydro acoustic reference systems.



Helideck Monitoring System (HMS)

The Helideck Monitoring System is used to monitor motion and meteorological conditions on the helideck to improve safety in hostile weather conditions. The HMS monitors attitude and vertical velocity, wind speed and direction, air temperature and barometric pressure as well as humidity to indicate landing conditions.

The HMS is typically used offshore on floating production and storage vessels (FPSO) and seismic vessels, and meets all prevailing regulations from civil air traffic authorities.



A reference vessel with typical configuration

| | | |
|----------------------|--------------|----------------------------|
| Type of Vessel: FPSO | DP Class: II | Operating area: World Wide |
|----------------------|--------------|----------------------------|

| Equipment | Model | Comment |
|---|-----------------------|--|
| DARPS - Differential, Absolute and Relative Positioning Sensor | DARPS 132 + DARPS 200 | Redundant, well proven and tailored to DP and Offloading operations. Utilises GPS and GLONASS. |
| Vessel Motion Monitor | VMM 200 | Motion monitoring of any point on the vessel. A decision tool for secure and efficient operations. |
| RADIUS Relative reference system | 600 X or 700 X | ATEX-certified transponders. Battery operated (700 X) or fixed power (600 X) available. |
| Motion Reference Unit | MRU 2, 5, H | The de facto standard for attitude determination in the maritime market. |
| Helideck Monitoring System | HMS 100 | Compliant to all prevailing requirements from major operators, authorities and helicopter companies. |
| Automatic Identification System | AIS 200 | Kongsberg Seatex AS provides standard AIS stations. |



Automatic Identification System (AIS)

In accordance with IMO requirements all SOLAS ships in international traffic above 300 gross tons must have Automatic Identification Systems (AIS) installed onboard. We offer a wide range of different AIS for use onboard ships (AIS mobile stations) tailored to different requirements. All mobile stations are in accordance with the IMO regulations.

In addition Kongsberg Seatex AS also offers the full range of infrastructure components for national AIS chains as well as standalone components for local installation.

We are always there, wherever you need us

KONGSBERG customer services organisation is designed to provide high-quality, global support, whenever and wherever it is needed. We are committed to providing easy access to support and service, and to responding promptly to your needs. Support and service activities are supervised from our headquarters in Norway, with service and support centres at strategic locations around the globe – where you are and the action is. As part of our commitment to total customer satisfaction, we offer a wide variety of services to meet individual customers' operational needs. KONGSBERG support 24 is a solution designed to give round-the-clock support. For mission-critical operations, KONGSBERG support 24 can be extended to include remote monitoring. We can adapt the level of support needs by offering service agreements, on-site spare part stocks and quick on-site response arrangements.

Global and local support

We provide global support from local service and support facilities at strategic locations world wide. Service and support work is carried out under the supervision of your personal account manager, who will ensure that you receive high-quality service and support where and when you need it. Your account manager will ensure continuity and work closely with your personnel to improve and optimise system availability and performance. Under the direction of your account manager, and with a local inventory of spare parts, our well-qualified field service engineers will be able to help you quickly and effectively.



Solid competence reduces cost

We have always recognised the importance of supporting our products and systems with professional training.

A wide range of courses are therefore offered to ensure that you achieve the goal of full system utilisation with safe and efficient operation.

Upgrading that pays

Product and system upgrades can improve your vessel's operations and reduce your overall maintenance costs. We will ensure that existing products and systems can be extended or upgraded based on standard upgrade kits.



Support 24

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WORLD CLASS - through people, technology and dedication