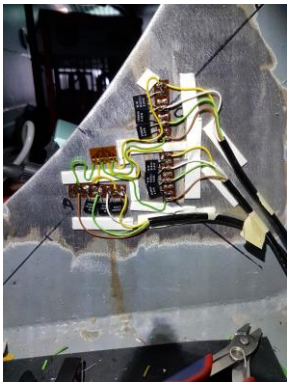
1 PROJECTS

A small summary of the projects of TARKA-SYSTEMS for marine/offshore/salvage/wind/civil applications:
More info on www.tarka-systems.nl

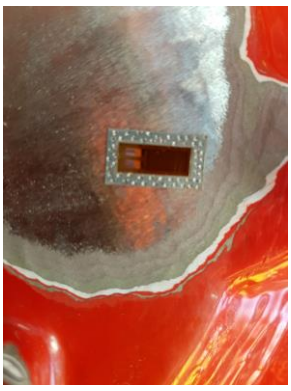
2018 MONITOTING OF STRESSES ON SUPPORT VESSEL

INSTALLATION OF LONGBASES SENSORS AND SPECIAL STRAIN GAUGE ON SHIP.



2018 OFFSHORE CRANE

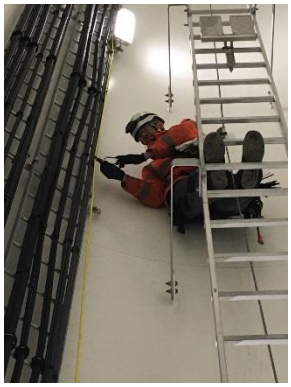
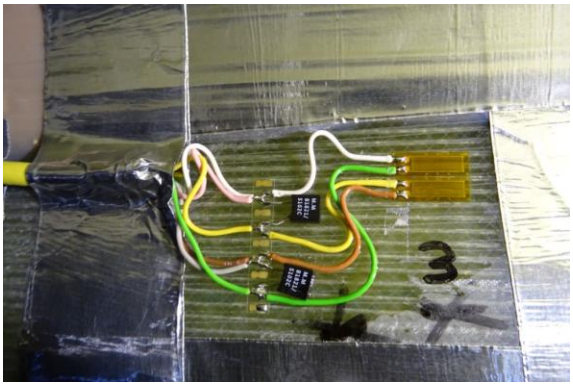
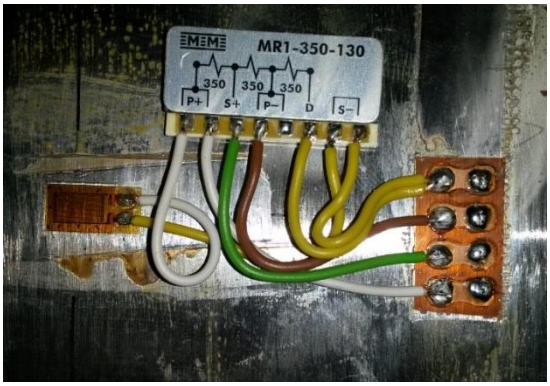
INSTALLATION OF WELDABLE STRAINGAUGES TO DETERMINE STRESSES IN CRANE ARM.



2018 WIND ENERGY

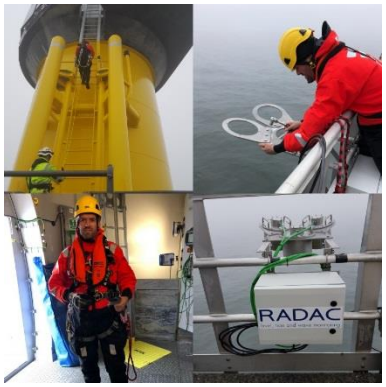
INSTALLATION AND ASSISTANCE WITH MONITORING SYSTEM IN WIND TURBINE.

Installation of strain gauges in wind-turbine-blades and inside turbine for large monitoring campaign

2018 OFFSHORE

INSTALLATION AND SETUP OF WAVE HEIGHT SENSORS ON OFFSHORE STRUCTURES

2017 SALVAGE

MONITORING SYSTEM ON THE CASUALTY "INS BETWA" IN INDIA.

Monitoring system was placed on casualty to measure and display the angles (Roll&Pitch) during operation

2016 CIVIL

LONG TERM POWER SUPPLY BY FUEL CELL SOLUTION

With a standalone battery solution with fuel cells a monitoring system of the client can be powered for a period longer than a month.

2016 OFFSHORE/MARINE

MOSS MOTION MEASUREMENT ON WIND INSTALLATION VESSEL



Three systems for three separate ships to monitor the motions during transport

2016 OFFSHORE

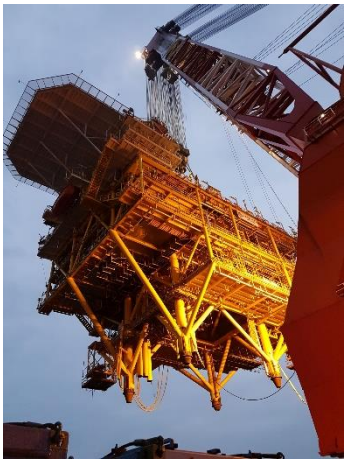
MOTION and ENVIRONMENT

Complete measurement system for gathering data for MOTIONS & ENVIRONMENT during installation of two topsides in China South Sea



Successful installed 2 topsides.
Measured the following parameters:

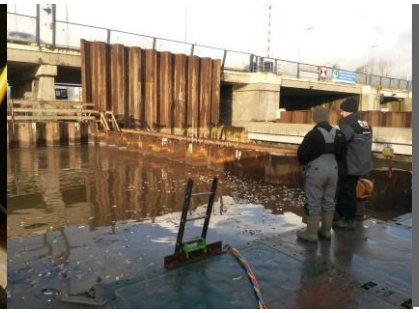
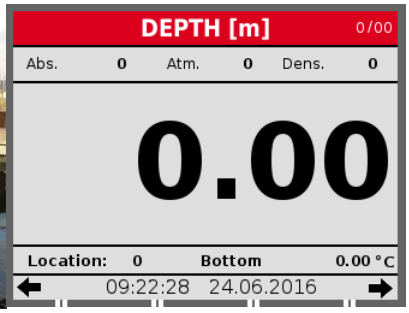
- RTK-base station
- GPS
- Current
- Wind
- Waves
- Motion
- Tide
- Wireless data links




2016 MOSS DEPTH

DEPTH MEASUREMENT OF DIVER OR OBJECT

Determine the depth of a diver of an object with multiple pressure sensors connected to the MOSS.
Ideal for civil projects to determine depths in excavation pits.

Many other application could be possible.

2016 REMOTE BATTERY SUPPLY

BATTERY-BOXES and SOLAR POWER

The request for battery-boxes for projects at remote locations or stand-alone solutions is increasing.
Battery boxes are delivered as stand-alone systems to power an applications for a certain period. Additional to rugged and waterproof battery-boxes solar panels can be added to the battery-boxes for recharging to increase operational time.




Type and size of battery-boxes and solar panels are determined with client to get best solution for each project.

2016 MOSS CIVIL

PRESSURE and TEMPERATURE

MOSS unit with multiple inputs (2xtemp, 1xpressure, 1xmA) for pressure testing on pipelines

MOSS unit used for hydrostatic testing on pipelines.

Measurement settings are pre-set by EXCEL program and after measurement data is read by same EXCEL program for direct report generation.

2015 NES OFFSHORE

FLOATOVER and MOTIONS

Q2-Q3 2015: Installation and start-up on site

Sensors : Motions, GPS, Wireless-datalink, IRIDIUM Tracker, Flow sensor, RTG-GPS, Tidal sensor

2015 NES OFFSHORE
FLOATOVER and MOTIONS

Q2 2014: Preparation and assembly of complete Motion Monitoring System on barge for motions GPS and wireless link to tugs. Boxes powered by battery supply.
Software: Mlab to collect and present all sensor data
Sensors : Motions, GPS, Wireless-datalink, IRIDIUM Tracker.

Q4 2014: Preparation and assembly
Q2 2015: Installation and start-up on site

2014 – 2015 RESOLVE MARINE SALVAGE
MOTIONS and WIRELESS DATALINK

Q4 2014: Preparation and assembly of complete Motion Monitoring System with two separate stand-alone motion boxes with wireless link to Control Office. Boxes powered by battery supply.
Software: Mlab to collect and present all sensor data
Sensors: Motions, GPS, Tide, Wireless-datalink, IRIDIUM Tracker.

Q1 2015: Installation and start up on-site in South America

2014 BARGE MASTER NEW BUILT T40

Q3 2014: For new built product T40. Assembly of a portable measurement flight-case to be able to carry out measurement on-site. Case has modular setup for universal sensor inputs. Development of special measurement software.

Software: Mlab to collect and present all sensor data, connection with SIEMENS plc.
Sensors : Motions, GPS, Force, PLC

2013-2014 HEEREMA BARGE H851

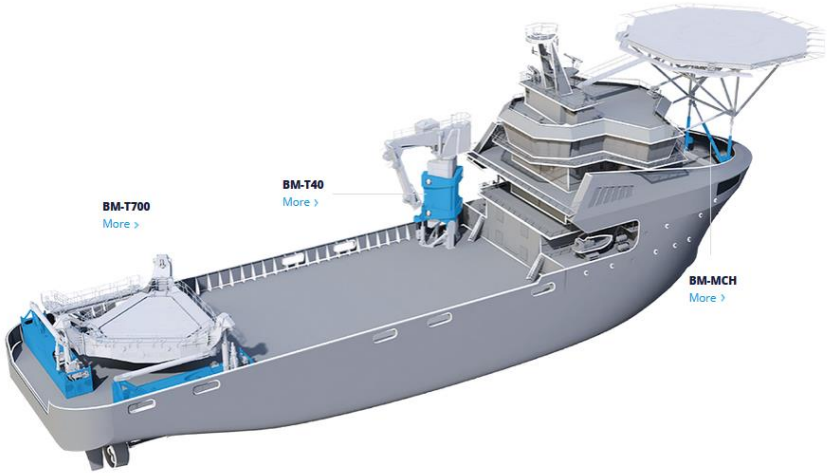
Q2-Q3 2013: Preparation and assembly of hardware and software for complete monitoring system on the largest barge of the world. System consists of the following sensors:
Motion, DGPS, IRIDIUM Tracker, Tide, Wind, Flow, Wireless datalink with three tugs.

FLOAT-OVER: Barge was used to install ARKUTUN-DAGI topside
Q3 2013: Extension of SOW with strain-gauges in water ballast tanks. 15 sensors in 3 tanks
Q1 2014: Installation on-site in Korea and China
Q2 2014: Extension of SOW with extra strain-gauges in ballast tanks, 10 sensors in 2 tanks
Q3 2014: Installation on-site in Korea and China
Q1 2015: Barge is prepared for new float-over project

2013 BARGE MASTER NEW BUILT T700

Q3 2014: For new built product T700. Assembly of a complete measurement system to gather all incoming signals. Development of special measurement software for test during sea-trails

Software: Mlab to collect and present all sensor data, connection with SIEMENS plc.
Sensors : Motions, GPS, Force, PLC, Wave Buoy



2013 MAMMOET SALVAGE

Q1 2013 : Complete monitoring system for wreck salvage for subsea monitoring of rotations and accelerations during salvage operation. System includes also a wireless video buoy and a wireless data buoy.

System used for projects in Malaysia, Canada, Irak

Software : Mlab to collect and present all sensor data.
Sensors : Motions, GPS, Wireless video buoy, wireless data buoy

2013 HEEREMA TRANSPORT

Q2 2013 : Complete monitoring system for motion and location monitoring during transport

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Projects carried out as Lead Instrumentation Engineer at Maritime Research Institute Netherlands (MARIN). (Period 1998 -2011, average of 100 days a year abroad for installation en measurement activities)

- **US Coast Guard,** site manager and full installation of measurement system on Coast Guard cutter BERTHOLF. (USA)
- **BLUEWATER – FPSO GLASDOWR**, Installation and maintenance on fatigue life system.(Scotland, South Africa, Singapore)
- **ANADARKO – TLP MARCO-POLO**, motion monitoring system for tow-transport (Golf of Mexico)
- **FSPO – USAN,** Installation of complete measurement system (Angola)
- **Cruise ship – MILLENNIUM,** installation of sensors and system for research project.

References from clients:

Barge Master: http://www.tarka-systems.nl/images/pdf/2492015134736_TARKA_Offshore_Barge_Master.pdf
United States Coast Guard: http://www.tarka-systems.nl/images/pdf/2492015133240_USCG_Recommendation.pdf
MAMMOET: http://www.tarka-systems.nl/images/pdf/2492015133206_MAMMOET_Recommendation_TARKA.pdf

Brief summary of projects and portable solutions: