

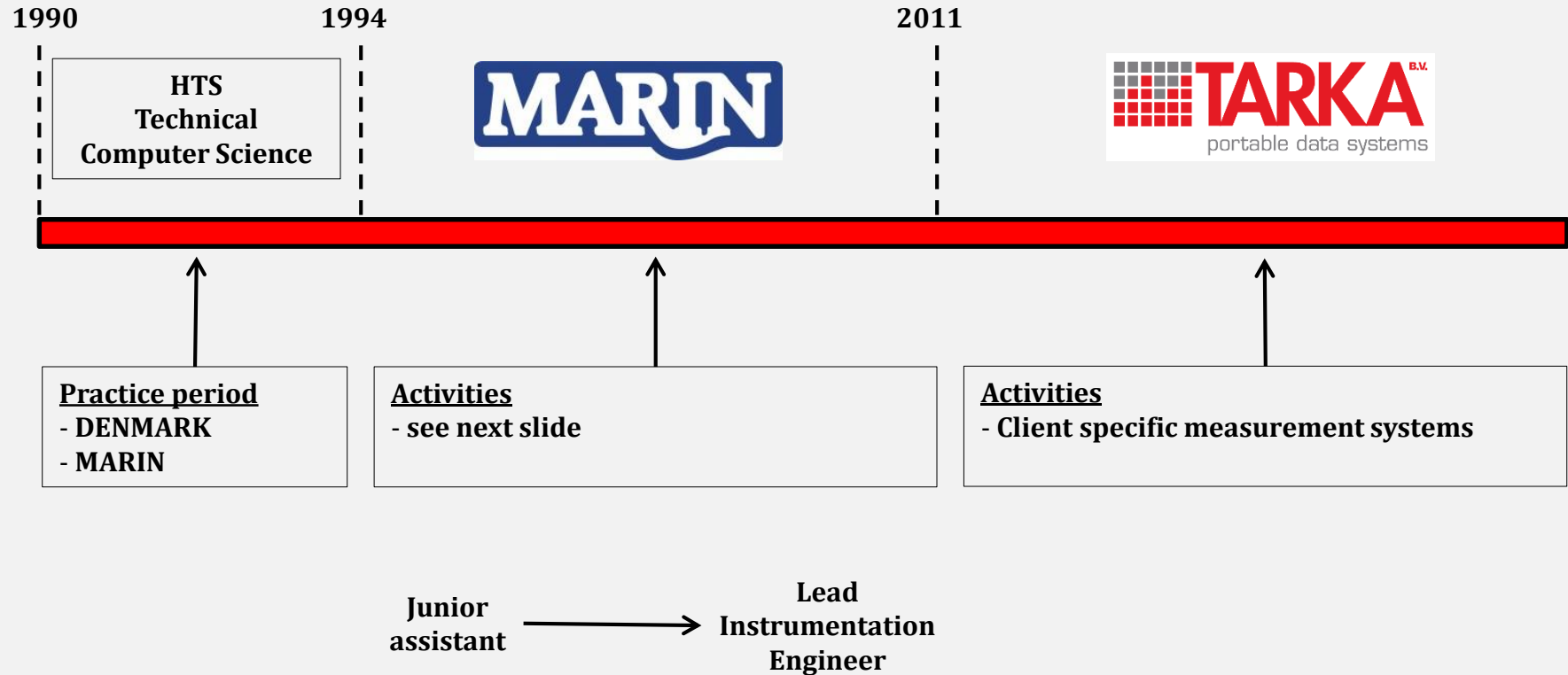


# TARKA-SYSTEMS BV

PRESENTATION 2017

- **BACKGROUND**
- **TARKA-SYSTEMS**
- **PAST, NOW, FUTURE**

## TIMEFRAME HENRY WIJGERSE



1994

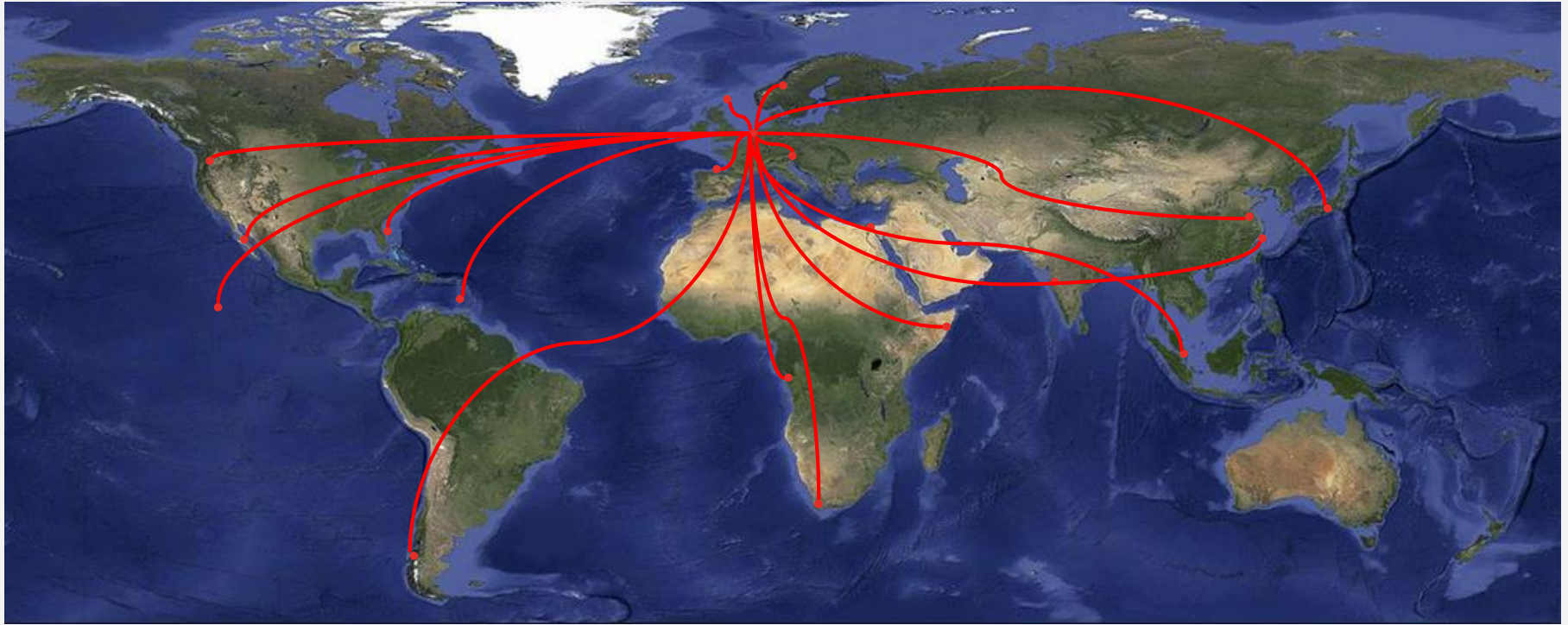
2011



### Activities

- Design and development of measurement equipment
  - hardware & software
- Worldwide installation/setup of equipment at ships and oil-rigs
- Over a total of 1000 days on-site experience
- Executing trials and measurements





### Field experience and practical knowledge

- Over a total of 1000 days experience on-site worldwide
- Practical experience with onsite measurements
- Practical experience with design of field systems (hardware and software)

### Large Projects

(as lead engineer at MARIN)

#### **FPSO USAN (Korea 2010)**

Installation of hardware and software system in Korea and Nigeria.



#### **United States Coast Guard (San Francisco 2008 - 2010)**

Site manager during installation of fatigue measurement system on coast guard cutter “BERTHOLF”, hardware and software. Overall 200 sensor inputs, acc, strain-gages, environment.

#### **FPSO GLASDOWR (2008 - 2011)**

Installation of system on FPSO GLASDOWR of BLUEWATER for several projects in Scotland, South Africa and Singapore.



#### **TLP MARCO POLO (USA 2007 - 2010)**

Installation and maintenance of hardware and software at dock-site and on-site in Gulf of Mexico.



- Research Institute, Core business to collect data
- Hardware and software are just tools to get information
- Tools are only made and used for own projects
- Not the intention to sell equipment to third parties

### **MARKET REQUESTS (and not provided by marin)**

- Rugged equipment which can be used in harsh environment
- Equipment that can be operated directly by client
- Data available for client for own analyzing
- Assembly of their own equipment into portable solutions

- **BACKGROUND**
- **TARKA-SYSTEMS**
- **PAST, NOW, FUTURE**



## **TARKA-SYSTEMS bv**

- Founded October 2011
- Development of client-specific (portable) data systems
- Client-specific measurement and monitoring tools
- One-Stop solution for complete systems (hardware/software)
- Based on 15 years of system design and practical experience

### **Complete monitoring systems**

- Production and assembly
- Hardware & Software
- Setup & Installation
- Maintenance
- Support

## **BENEFITS FOR CLIENT**

- One-stop solution for a complete monitoring system
  - Single investment for multiple solutions
  - Modular setup of monitoring systems
  - Reduce setup time and improve uptime
  - Data output format matching analyzing tools
  - Clear GUI to improve decisions and overall safety
- 
- Setup/Installation onsite
  - Offshore safety papers
  - Practical experience

## COMPLETE RANGE OF SOLUTIONS

**Permanent  
complete systems**



**Fixed location**

**Semi-Permanent  
(complete) systems**



**Systems in rugged cases.  
Can move from project to project**

**Temporary  
systems**



**Small systems for local  
monitoring and control**

## STRUCTURAL AND TRANSPORT MONITORING



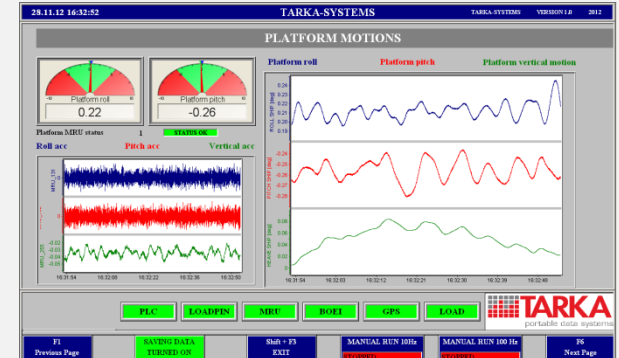
**Barge H851**

**Argutun-Dagi  
project**



**Stress, motion and environmental monitoring at tow and installation.**  
Strain gauges, Motion sensors, wireless data link, wind, wave, current

## TRANSPORT MONITORING



### Monitoring System covering the following items:

- Battery control system with solar panels
- Motion sensor
- GPS sensor
- Tracker unit with data visible on website
- Wireless data-links between barge and tug
- Data storage and presentation





## CHINA : FLOATOVER PROJECTS



### **Complete motion and environmental monitoring system for floatover installation.**

Motion sensors, wireless data link, wind, wave, current



## SALVAGE PROJECT



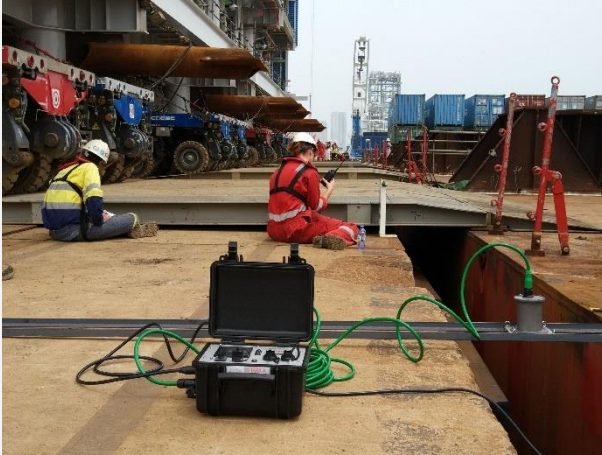
### Motion monitoring during salvage operation

Motion sensors, wireless data link, visualization software

## **MOSS** **Multi Operational Survey System**



- Portable / Battery powered
- Sensor data gathering / visualization
- Data logging internal/USB
- Data forwarding wired/wireless
- Time synchronization
- Modbus / Ethernet / USB connection
- Digital inputs/outputs
- Counter/Timer options
- Options for client-specific hardware & software



### RAMP-ANGLE

- Digital ramp-angle measurement
- Local and remote on bridge
- Data storage
- Battery powered



### BARGE-ANGLE/FREEBOARD

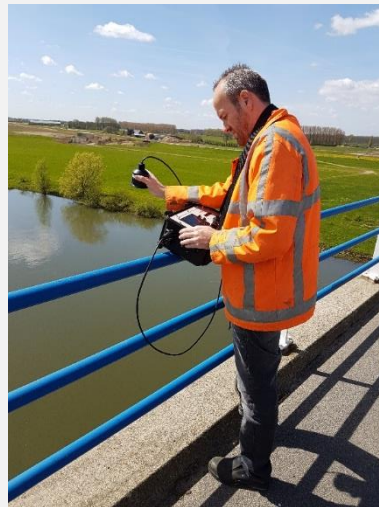
- Roll/Pitch angles of barge during loadout
- Draft values during loadout
- Local and remote on bridge
- Data storage
- Battery powered





### HYDRO-STATIC TEST ON PIPELINE

- Pressure and temperature measurements
- Long term measurement with external battery pack (5 days)
- Data storage local and remote to webserver



### DRAFT /FREEBOARD

- Ultra-sonic distance measurement
- Data storage
- Battery powered



### ENVIRONMENTAL MONITORING

- Wind direction/speed
- Humidity, Pressure, Dew point, Temperature
- Long term measurement with external battery pack (5 days)
- Data storage local and remote to webserver



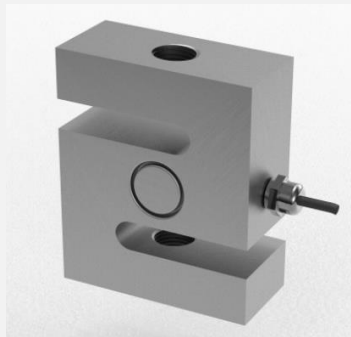
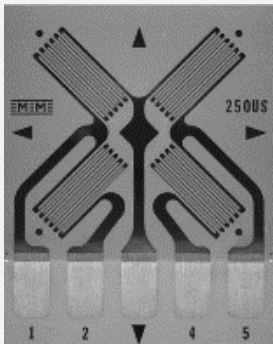
### DEPHT MEASUREMENT

- Pressure sensor
- Hydrostatic / Atmosphere
- Data storage
- Battery powered

### FLOW MEASUREMENT



- Water direction, water speed
- Quick installation
- Added value for diving projects
- Data storage
- Battery powered
- Data storage



### STRAIN GAGES, LOAD CELLS

- Bridge measurement
- Load cells
- Data storage
- Battery powered



## What to measure

Motion sensor (6DOF)  
Wind  
Wave  
Flow (Current ADP, ADCP)  
DGPS (RTK)  
Incline  
Acceleration  
Strain gauges  
Force sensor  
Others .....

### **Types:**

Bus-systems  
Serial data (RS232/RS485)  
Raw Electrical values (mA,V)  
Others .....

## Applications

Motion monitoring  
Environmental monitoring  
Tow monitoring  
Fatigue monitoring  
Ship behaviour monitoring  
Incline measurement  
Others .....

## Areas

Maritime  
Offshore  
Salvage  
Civil  
Mining  
Industrial  
Chemical  
Agriculture  
Infrastructure  
Archelogy  
Research  
Oceanography  
Others .....

## TRACK RECORD and other presentations (web-links)

### Track-record

[Track-record-2017](#)

### MOSS Applications

[MOSS Applications](#)

[MOSS Loadout](#)

[MOSS Ramp Options](#)

## Power supply

-Direct power from net (95-240 Vac).



-Battery supply small

-Handheld tools

-Travel cases



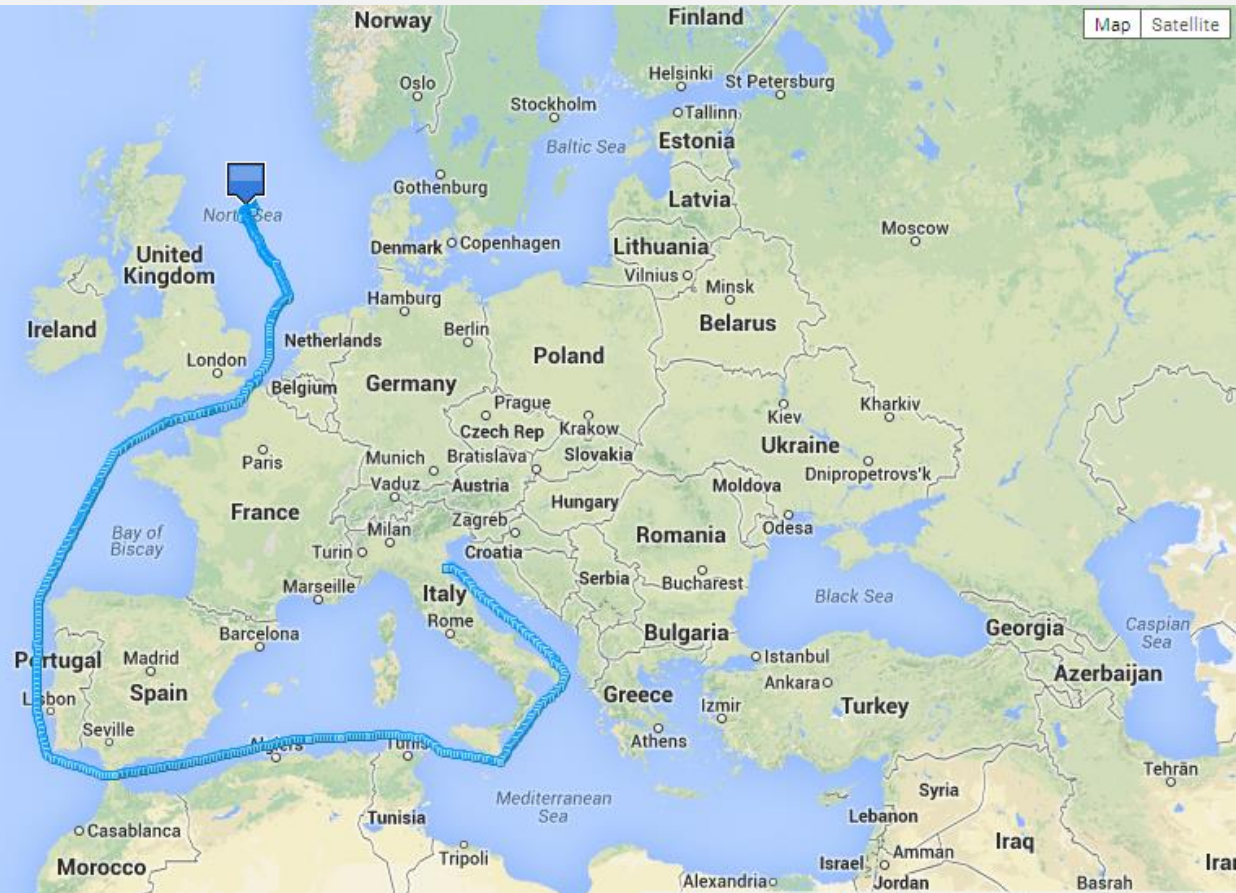
-Battery supply + solar

-Semi permanent systems

-Permanent systems



## TRUE GLOBAL TRACKING UNIT GTTS - 3000





**THANKS FOR YOUR ATTENTION**

**QUESTIONS ??**

More information available at website:

**[www.tarka-systems.nl](http://www.tarka-systems.nl)**