

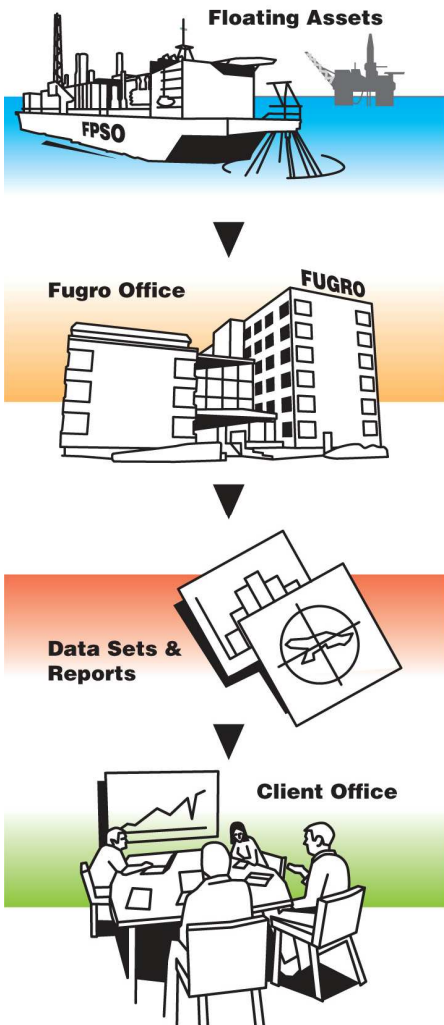
# FUGRO Remote Monitoring

## Remote Monitoring

Fugro Remote Monitoring, based on FANS<sup>®</sup> technology, is a cost-efficient monitoring tool specifically designed to remotely monitor the movement of floating assets, such as FPSOs, FSOs and TLPs.

With the evolution of deep-water field developments and the growing use of floating assets, motion monitoring is used increasingly as a tool for risk and asset management during installation, hook-up and operation.

Remote monitoring can, for example, provide the positional data critical to the process of ensuring riser integrity.



With Fugro Remote Monitoring, the continuously logged data is remotely retrieved and subsequently processed and reported at a client-designated interval. Data is made available to the client through digital reports.

## Features

- Unmanned remote monitoring system
- Position logging 24/7
- Monitoring over short or long periods
- Decimeter accuracy (Starfix HP/XP)
- Internet connection to the Fugro office
- Remote data download
- Remote system integrity check and maintenance
- Status reports, scatter plots, statistics, histograms, available at designated interval

## Benefits

The ability to show the actual position of a floating asset at a certain point in time or its movement over a period of time can benefit:

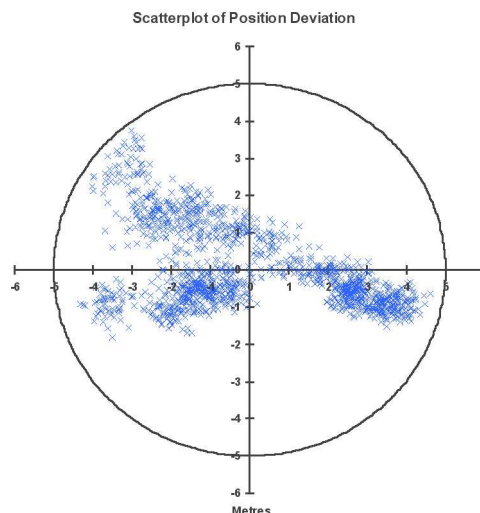
- Risk management
- Asset management

Remote versus manned monitoring solution:

- Reduced logistical challenges
- Reduced HSE exposure

## Cost efficient and secure

Remote monitoring is cost-efficient and secure, no permanent staff are required onboard, only operational hours are chargeable and costs of mobilization and accommodation are limited to system implementation. Moreover, personnel travel and assignment in potentially hazardous areas is minimized.



# FUGRO Remote Monitoring

## FANS<sup>®</sup> technology

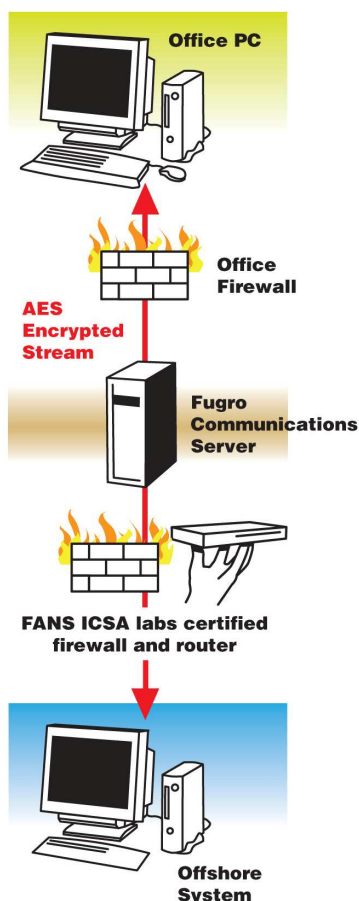
FANS<sup>®</sup> (Fugro Advanced Navigation System) technology provides an infrastructure to remotely connect to offshore survey systems.

The connection is achieved via the internet and the FANS<sup>®</sup> hard- and software onboard the vessel or rig. The internet connection can be via VSAT or another communications link that supports internet IP-traffic.

Should suitable communications be unavailable onboard, Fugro can offer alternative communication solutions.

## Security features

Security is managed by the FANS<sup>®</sup> hard- and software. The FANS<sup>®</sup> firewall and router protects the survey network against interference from other computers onboard and on the internet. The software, with 128bit AES data encryption, enables a secure connection between the office and offshore operation.



## Bandwidth

In standby mode, only a few bits per minute are sent to monitor the connection and even in use, the system requires only 10-20 kbps of bandwidth. On average less than 10 kbps is needed - a bandwidth comparable to that required for a phone call.

## More Remote Services

Fugro offers a range of remote services based on FANS<sup>®</sup> technology. These services are based on the concept of remotely connecting to offshore systems from the office.

The range of Fugro Remote Services comprises:

- Remote Monitoring
- Stand Alone Navigation with Remote Support
- Remote QC



## Additional information

For additional technical details and / or pricing information, please contact your local Fugro office or email:

[Remote-services@fugro-survey.nl](mailto:Remote-services@fugro-survey.nl)