CAP437-compliant HMS display for a floating asset.

Online displays are optimised for desktop, tablet and mobile allowing easy, convenient access to data.

FUGRO
HELIDeCK MONITORING SYSTEM

Reliable information on helideck motion and weather is required for pre-flight planning and during the flight to provide the maximum opportunity for the flight to be completed safely, efficiently and cost effectively.

Fugro has extensive global experience in designing, engineering and commissioning integrated helideck monitoring systems (HMS) to provide accurate motion and weather information to support helicopter operations.

Fugro’s monitoring software forms the basis of the system and enables accurate, quality controlled data to be displayed in real-time whilst meeting stringent industry safety regulations and certification standards.

The system is specifically designed to integrate a wide range of offshore monitoring sensors including structural integrity monitoring sensors and data feeds from position and altitude sensors for position and excursion monitoring.

**BENEFITS**
- Conforms with UK CAA CAP437, Norwegian, Canadian and Brazilian helideck regulations
- Supports safer helicopter operations
- Enhances pre-flight planning
- Reduces operating costs
- Reduces installation costs by interfacing with existing sensors

**KEY FEATURES**
- Fully customisable system tailored to clients’ requirements
- High specification, low maintenance system
- Supported worldwide by regional Fugro specialist engineers
- Integration of weather, current and motion forecasting information

Online displays are optimised for desktop, tablet and mobile allowing easy, convenient access to data.

CAP437-compliant HMS display for a floating asset.
FULL SYSTEM FEATURES

Fugro is an industry leader in the design and development of systems to improve helideck safety.

The system provides:

- Full compliance with existing and future UK CAA standards
- Integration of existing sensors for maximum cost effectiveness
- User definable audible and visual alarm warnings
- Data outputs available to third party systems (e.g. DP, VDR, ICSS, DCS, PI)
- Outputs to Norwegian Standard (NORSOK) to DNMI, METARS and MANMARS, and Helinet
- Remote diagnostics and software upgrades to keep up-to-date with regulation changes
- Intrinsically safe solutions
- Stand-alone system, or expandable to form an integrated asset monitoring system
- Data displays viewable onshore and offshore to all users as required
- Wireless data transmissions from sensors to reduce cross-site cable installation costs
- Permanent or temporary system options available

MEASURED PARAMETERS

The core of the HMS is fully expandable and can interface with existing sensors to provide a comprehensive environmental monitoring system. The core parameters measured are:

**Motion**
- Heave, pitch, roll, surge, sway, yaw
- Heave rate, acceleration and period
- Helideck inclination
- Motion and wind severity index (MSI/WSI)
- Helideck heading and position

**Meteorological**
- Barometric pressure (QNH, QFE)
- Wind speed and direction
- Air temperature, dew point and relative humidity
- Visibility and present weather WMO and NWS code
- Cloud height

**Additional Parameters**
- Waves (directional/non-directional and air gap)
- Sea currents
- Sea water temperature
- Lightning strike mapping detection
- Rainfall
- Helideck pilot indicator lighting

SYSTEM SOFTWARE

The HMS uses Fugro’s proprietary Weather Monitor data acquisition, processing and display software to control and manage all sensor inputs and data outputs in a single system.

**Software Functionality**
- Clear, accessible real-time data displays offshore and onshore
- Additional displays over the Local or Wide Area Network (LAN or WAN)
- Calculation and presentation of real-time and historical data to industry standards
- Clear operator warnings at specified thresholds for different operations
- Data feeds to other systems
- Archive of HMS data for analysis
- Supported by in-house team with worldwide support
- Modular software structure
- Parameter algorithms verified by industry metocean experts
- Quality control of raw data signals for maximum confidence in data validity
- Data reporting and summary statistics
MODULAR SYSTEM EXPANSION
The HMS system can be extended to form a more comprehensive monitoring system, seamlessly integrating new and existing sensors, allowing the data to be utilised for other weather-dependant operations.

By integrating data feeds into a single system a complete understanding of forcings and response’s of the structure is delivered allowing users to monitor asset performance and integrity, and manage operations for maximum safety and efficiency.

The system can also be designed to integrate forecast information such as weather, current and heave response into real-time data displays, aiding decision making and improving forecast confidence.

Benefits
- Improved data use and management
- Single integrated system and interface
- Monitor asset response, fatigue loads, and proximity to operating and safety thresholds
- Advisory alerts for combined parameter conditions
- All data logged in a single database with a common time-stamp

ONLINE DATA DELIVERY
The HMS data can be accessed and viewed remotely online via a dedicated website (www.fugroweather.com), optimised for use on PCs, smart-phones and tablets.

This allows offshore and onshore support personnel direct access to all offshore data in real-time for critical operational decision making. Data access via the internet can be password-protected for some or all of the data displays as required.

Benefits
- Reduces number of aborted flights in marginal operating conditions
- Allows planning of in-field weather-sensitive operations
- Provides accurate site-specific weather data to improves the accuracy of weather forecasts
- Remote access for technical support reduces support costs and delays
Fugro has extensive global experience of designing, engineering, commissioning, servicing and supporting helideck monitoring systems and third party systems.

Fugro can quickly mobilise experienced software specialists and offshore-certified systems engineers for remote and offshore support and commissioning programs.

Features
- E-mail and telephone support
- Remote connection for front-line troubleshooting
- Large pool of offshore-certified systems engineers based in Fugro offices worldwide
- High quality HMS audit reports
- Tailored training courses

REGULATION AND CERTIFICATION
The software is designed to meet the latest regulations and certification standards required by helideck monitoring systems for offshore installations. The system complies with:

- UK Civil Aviation Authority (CAA) CAP437/CAP746
- Norwegian Civil Aviation Authorities NORSOK (CAA-N) and conforms to BSL D 5-1 and BSL G 7-1 regulations
- Standard Measuring Equipment for Helideck Monitoring System (HMS) and Weather Data guidelines issued by Helideck Certification Agency (HCA) Bristow Group, Bond Offshore and CHC
- OGUK
- Brazilian regulations NORMAM 27
- Canadian regulations
- ATEX certified under EN13980
- World Meteorological Organization (WMO)