



# NORINET – Cloud-based solution for remote monitoring and analysis

## System concept

NORINET cloud-based monitoring and analysis is based on the latest maritime 4.0 infrastructure. The NORINET interface unit is installed on the vessel with access to the internet and connected to the vessel's LAN network. It works as data collector, processor and gateway. The secure data transfer from the interface unit to the cloud is done via MQTT messaging protocol and ensures minimum network traffic and maximum scalability.

Data from the alarm, monitoring and control system (AMCS) and navigation data is transferred via GPRS to an onshore server into the NORINET cloud. These data can be accessed via internet with multiple clients (PC, tablet or smart phone with a standard web browser).

## Application-based cloud service

NORINET cloud service is based on Applications (Apps). This allows the user to select and use specific features and functions. The NORINET applications can be customised, if necessary, to meet your requirements.

## Vessel live data

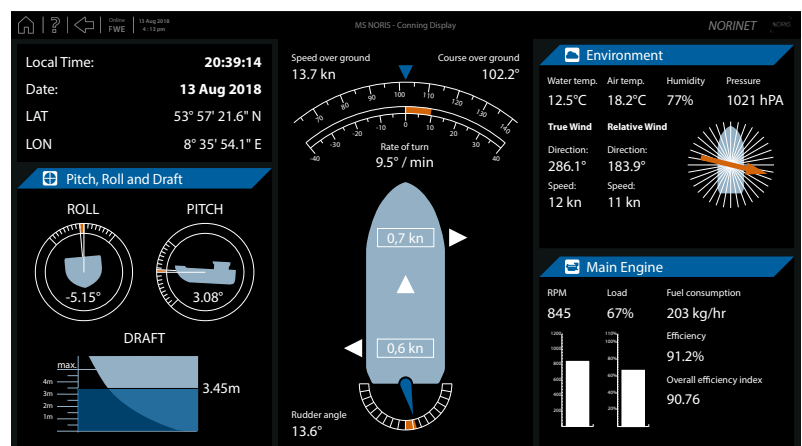
A **Dashboard** provides live data from your vessel: vessel information, vessel course and GEO indication, speed over ground, weather data, etc. Further Apps allow a detailed view on your vessel from a **Conning Display** and **Remote Monitoring** (vessel's AMCS information) up to the **Vessel Performance** (fuel consumption, power performance, energy flow, propeller and hull performance, etc.).

## Vessel reports and predictive maintenance

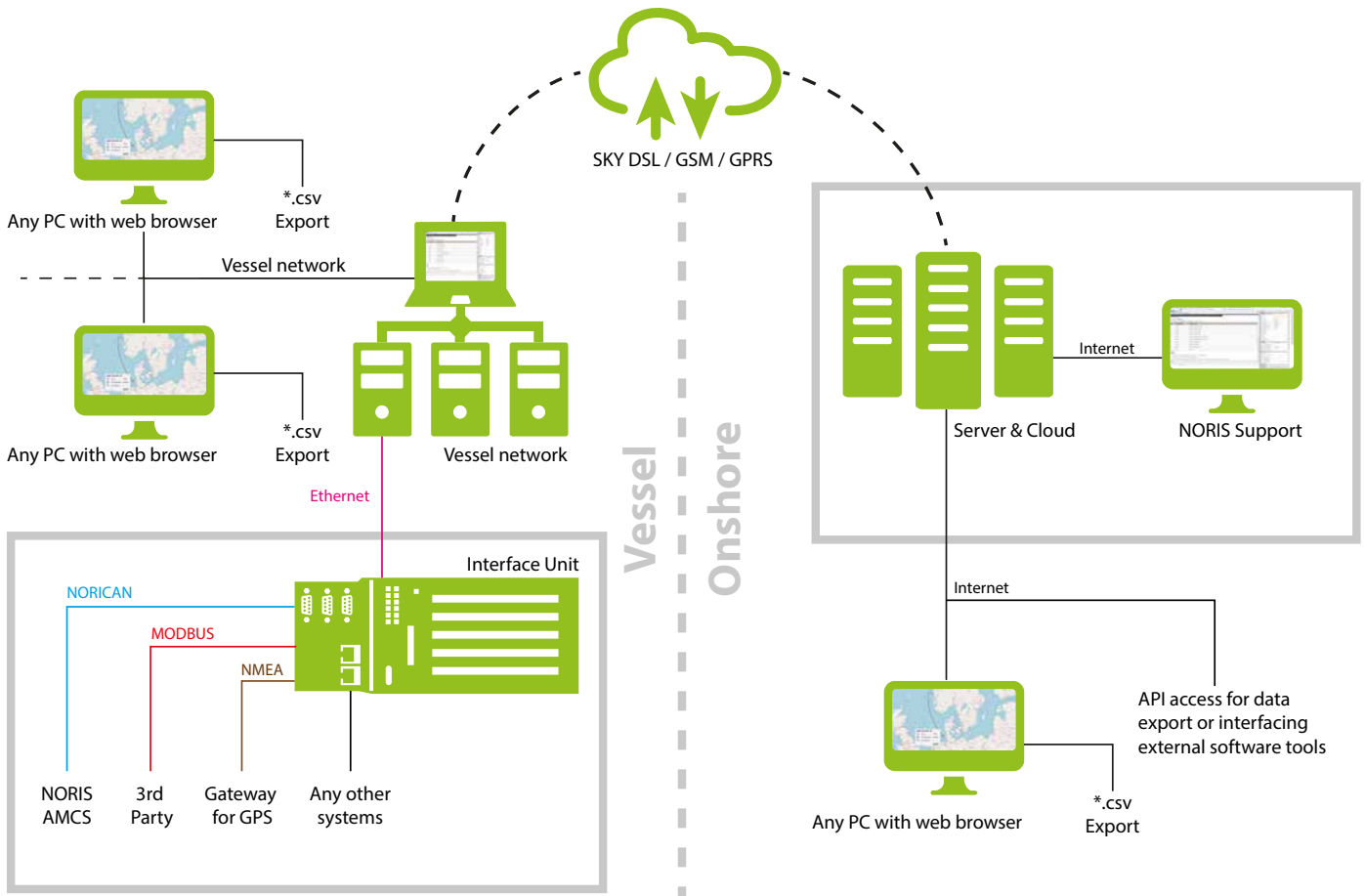
Apart from the live view the NORINET cloud data can be used to generate customer-specific reports (e. g. Efficiency report, SFOC/FOC, power report, hull cleaning, engine condition, etc.). Thus, it is possible to observe your vessel's performance and to schedule service and maintenance.

## Your benefits at a glance

- Fast, reliable and secure data transfer via MQTT protocol
- Data caching when internet connection is interrupted
- Optimisation of vessel and fleet performance as well as maintenance processes
- App-based functionality to ease customisation and to reduce costs
- Secure real-time remote monitoring
- Performance reports and analysis based on historical data
- Easy system updates
- User management and multiple user access

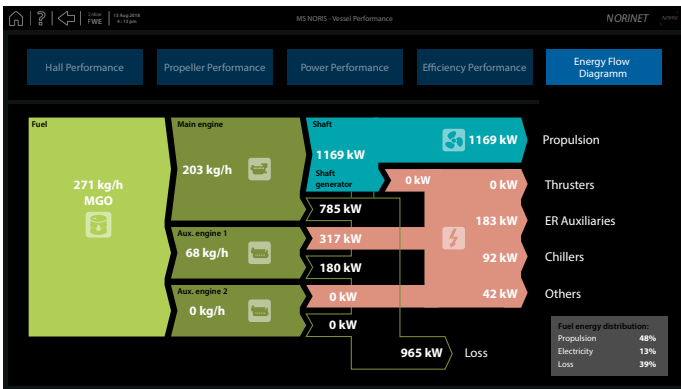


# NORINET system structure

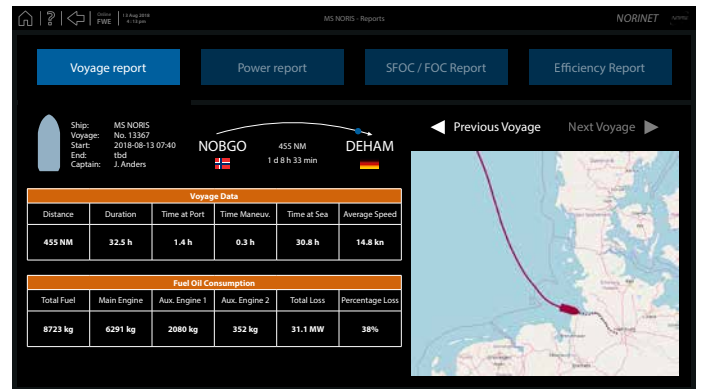


# NORINET example screenshots

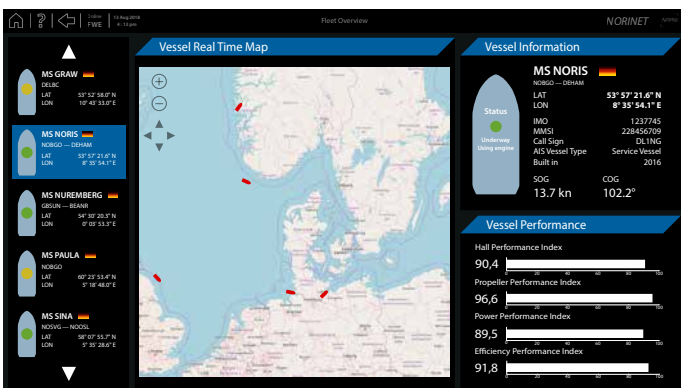
## Energy Performance



## Voyage Report



## Fleet Overview



## User Management

