



IoT business tool to optimize vessel fuel consumption / CO<sub>2</sub> emissions and resolve fuel claims



### Accelerate performance

Compares the schedule of vessel operations to their actual execution and automatically provides the appropriate corporate level with reports on efficiency, cost and deviations

Flexible model that allows to reflect the fuel-related terms of the vessel charter agreement

- Vessel Speed (knot)
- Distance (NM)
- Cargo Load (t)
- Loading / unloading operations at ports

### IoT technology

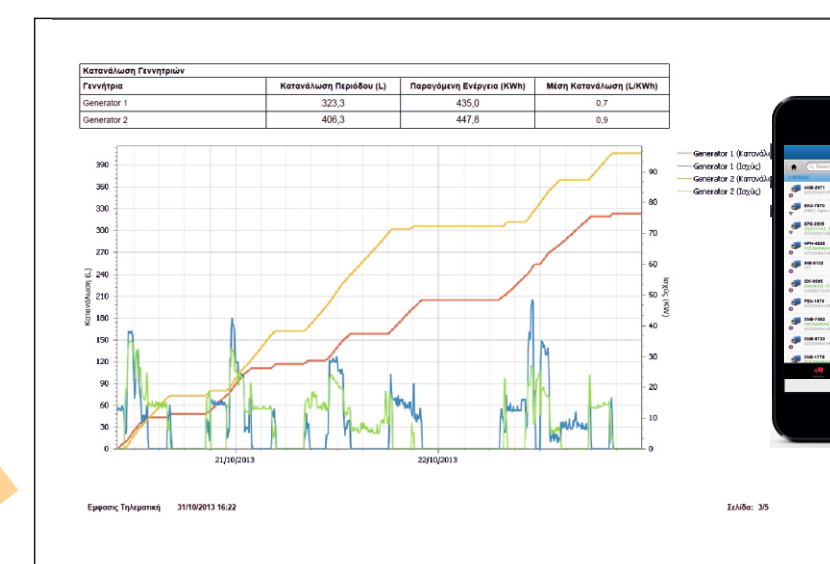
- Sealed data acquisition system monitors the vessel activity and the fuel consumption
- Accurate sensors continually measure bunkering quantity and engines/generators fuel consumption
- Use of available satellite data networks to automatically send measurements to the server at premises
- Import of bunkering data from ERP or Excel
- Web/Mobile applications provide
  - Flexible reporting – Evaluation of KPI's
  - Role-based access
  - Real-time notifications

**Business model & Corporate IT Infrastructure**

- Vessel operations schedule
- Charter Contract
- Cost model (speed, load, loading/unloading)

**Field operations sensor data**

- Route distance & speed
- Loading / unloading / power
- Bunkering / Fuel consumption
- Cargo



**KPIs Evaluation**

- Fuel cost control
- Energy consumption vs operations

**Operations Support**

- Fuel invoices validation
- Energy performance
- Report on exceptions

**Notifications**

- Bunkering exceptions