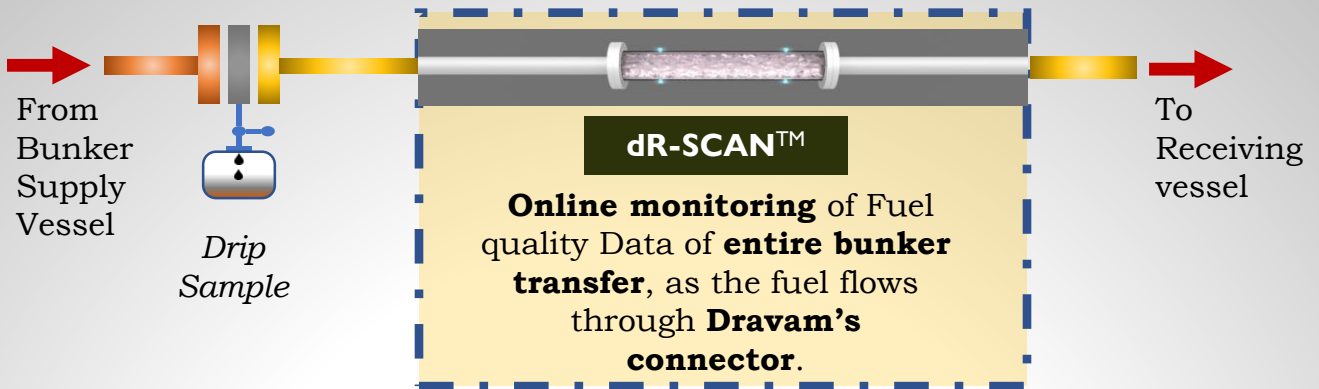




DRAVAM

Quality. Data. Transparency

dR-SCAN™ - Online Fuel Quality Scanner



7

Years of experimental research in multiphase labs



Online Monitoring

- Detects contamination during bunker transfer

1

Patent



Full Scan

- Monitors quality of full fuel transfer

2

Configurations for installation



Smooth integration

- Non intrusive
- No added back pressure
- No change to operational procedure



De-coupled system

- Easy servicing and replacement of instrumentation
- Updates on-the-go
- Quick fixes of bugs + glitches



Report generation

- Management updated on fuel quality



Validated algorithms

- Trained against laboratory tests

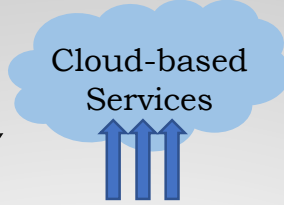


3. Human Machine Interface



Update management of bunkering operations

2. AI- Computing Engine



Communication Links with real-time process data transfer

Planned installation site:
Bunker manifold, adjacent to drip sampler



1. Hardware Instrumentation

Pipe connector c/w instrumentation & electrical panel

Detection Features

Water flood detection

Aeration of fuel detection

Solids in fuel

Asphaltene / sludge

High Sulphur content

Reporting Features

Record of fuel intake on-board

Time Log of bunker transfer

Bunker Log for each ship

Filter data by date, barge, fuel

Automated process



Detect & Deter bunkering malpractices

- Careful selection of supplier based on information.
- Prevent physical loss of expensive bunker fuel



Faster decision making

- Reducing unexpected maintenance operations
- Comprehensive checks as fuel becomes costlier



Increased assurance to ship crew & charterer

- Data transparency of quality of fuel
- Instrumental in proactive planning



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