

Quadrise Fuels: who we are

Quadrise Fuels is the licensor and supplier of unique and innovative upgrading technology, MSAR[®], in the downstream oil sector. MSAR[®] is a technology which produces a lower cost and cleaner synthetic Heavy Fuel Oil (HFO) for marine, power and industrial applications. We offer fully integrated solutions for oil refiners and end users.

Our Mission

To be the world's leading oil-in-water emulsion fuels business, providing our proprietary technology and services to enable our customers to derive significant economic and environmental advantages delivered by the production and use of MSAR[®] synthetic fuel oil products.

What is MSAR[®] – Multiphase Superfine Atomised Residue:

- MSAR[®] is proven, proprietary oil refinery upgrading technology offering material economic and environmental benefits to MSAR[®] producers and consumers.
- MSAR[®] fuel is a low viscosity liquid at room temperature, which makes it easier to handle and reduces heating costs during storage, transport and use in comparison to HFO.
- Our technology and IP is underpinned by our long term relationship with AkzoNobel, one of the world's leading specialty chemicals companies.

Our strategic approach

Our strategy is to work with leading global companies in the refining, shipping and power-utility markets to develop, simultaneously, the capacity to both produce and consume MSAR[®] emulsion fuels on a commercial scale.

Delivering value globally

Marine

- Initial focus supporting commercial roll out with Mærsk (fleet of circa 600 owned and managed vessels) 9.5M mt/a (6% of marine fuel market).
- Expand into other commercial shipping operators through common fuel hubs.

Power

- Initial focus commercial roll-out in the Kingdom of Saudi Arabia – 51M mt/a oil for Power generation (42% of power market).
- Expand selectively into other markets in Middle East and Asia.

Complementary Opportunities

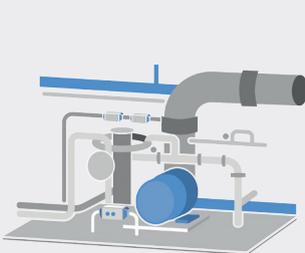
- Refinery power and steam opportunities.
- Synergies of working collaboratively with refiners at global fuel hubs to provide MSAR[®] for Marine & Power sectors.
- Industrial opportunities.



Areas of focus:

-  Major fuel oil hubs and refining centres
-  Major centres of oil-fuelled power generation

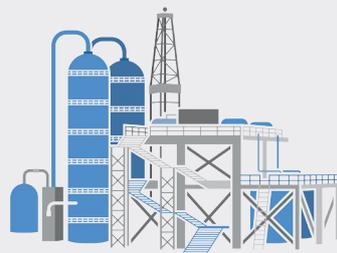
MSAR[®] Technology – driving value delivery



Quadrise license and supply MSAR[®] technology and additives to produce a stable 'oil-in-water' emulsion fuel

How it works:

- ✓ Tiny droplets of extra-heavy hydrocarbon are dispersed in water using proprietary blending processes and additives.



Provides refiners with a low-cost, rapidly deployed upgrading solution for HFO in less than 12 months

Key benefits:

- ✓ Water and chemicals replace premium fuels.
- ✓ Significant value is added.
- ✓ MSAR[®] viscosity is lower.
- ✓ Modular MSAR[®] systems.



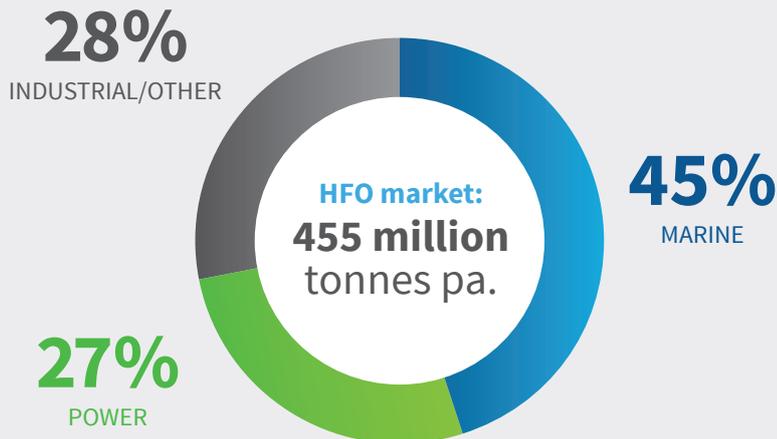
Provides HFO consumers with tangible cost savings and environmental benefits

Key benefits:

- ✓ Stable, lower cost synthetic HFO.
- ✓ Enhanced combustion and lower emissions of Nitrogen Oxides – NOx, and Particulate Matter – PM.

The market opportunity for Quadrise

The global HFO market is a US\$106 billion per annum market that exceeds 455 million tonnes annually. Quadrise is focused on two major sectors:



Power Generation (\$28bn pa.)

Main consumers: Middle East and Asia

Key projects: Power MSAR® – Kingdom of Saudi Arabia (KSA)

- Replace oil used for power with MSAR® – total oil use for power generation is currently 51 mtpa.
- Significant imports of distillate products and subsidies for domestic products and energy sales.
- 2015 fuel mix: Gas 42%, Crude 32%, HFO 12%, Diesel 13%.
- National imperative to reduce domestic crude oil use.
- Power facilities dominated by SEC (62%).
- Recent MOU signature is the culmination of extensive work with clients and local partner over several years.
- Working actively on engineering activities in anticipation of commercial agreements in 1H 2017 and trial commencement 2H 2017.

Marine (\$48bn pa.)

Concentrated in 5 main sales hubs

Key projects: Marine MSAR® Spain (Cepsa and Mærsk)

- 'Operational Trial' contracts with Cepsa and Mærsk signed Q4 2015.
- Fast-track operational commercial-scale MSAR® facility installed within 9 months.
- A 6KBPB MSAR® system is installed at the Cepsa 240,000 BPD Gibraltar San Roque Refinery.
- Quadrise is responsible for MSAR® system installation, commissioning, production and quality control.
- MSAR® production and Mærsk vessel testing progressing well.
- 'Letter Of No Objection' from engine manufacturer anticipated in 2017.
- Commercial supply opportunity pending operational and LONO trial success and contracts.

Latest news

Substantial Progress in 2016:

2016 has been a definitive year for Quadrise – significant progress has been made in our core marine and power generation projects:

July

Marine operational trial with Cepsa and Mærsk commenced, progressing as planned: a successful outcome is a precursor to concluding commercial contracts for marine operations in 2017.

August

Kingdom of Saudi Arabia MOU signed, major 'Production to Combustion' trial expected to commence in 2017.

October

£5.25 million raised from placing and open offer (2.5 times oversubscribed). MOU with YTL PowerSeraya extended.

November

- Partnership with University of Surrey renewed – providing cost-effective access to world-class research capabilities.
- Long-term Akzo Nobel partnership agreements recently extended to, at least, November 2018.

Throughout the year

Continued investment in QRF, our UK Research, Development and Innovation facilities, to underpin commercial operations and IP.

Looking forward
Poised to migrate to commercial revenues during 2017.

Our Executive Management Team



Mike Kirk
Executive Chairman



Hemant Thanawala
Finance Director



Jason Miles
Chief Operating Officer