

ENERGY

INDUSTRY
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Q1 2020 | Pulse
Small Scale LNG

FutureBridge

WHAT'S INSIDE!

How is small scale LNG reaching multiple countries?

How does Universal Safety Link eases LNG delivery?

How has COVID-19 impacted the LNG adoption?

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Pulse themes:

- a. Expansion of the small scale LNG business



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Technology research review

- a. Universal Safety Link for LNG Delivery



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COVID -19's impact on small scale LNG



01

Emerging trends

Deal between Inox India and Shell Energy India will enable the heavy goods movers to shift to clean fuel



The role played by Inox India here will be that of a virtual pipeline provider. The deal envisages deployment of distribution infrastructure, including logistics and receiving facilities, at the customer end and will offer LNG access to those not connected to pipelines.

Many countries are adopting LNG as a fuel, ssLNG helps in going ahead

29th March 2020

Hamburg-based Nauticor and Russia's Novatek Green Energy have signed a Letter of Intent to jointly develop LNG supply infrastructure in the Baltic Sea region.

The two companies aim to further develop the marine LNG bunkering market by delivering via both bunker vessels and trucks. Special focus will be placed on the development of infrastructure in ports along the German Baltic Sea coast.

17th March 2020

Inox India has signed an agreement with Shell Energy India (SEI), the wholly-owned subsidiary of Royal Dutch Shell, for partnering and developing the market for liquified natural gas (LNG) supply by road from Shell's terminal at Hazira in Gujarat.

The deal envisages deployment of distribution infrastructure, including logistics and receiving facilities, at the customer end and will offer LNG access to those not connected to pipelines. And, cooperation in developing a larger market for LNG as a transport fuel, for long-haul heavy-duty trucks and buses.

19th February 2020

Publicly listed gas company PGN will partner with a Chinese company to bolster its liquefied natural gas (LNG) development in China, the firm's executive has said.

PGN strategy and business development director Syahrial Mukthar said the firm had signed a memorandum of understanding (MoU) on Friday last week with engineering, procurement and construction (EPC) and manufacturing company WnD (Liaoning) Heavy Industry Co.

29th January 2020

Global downstream gas and LNG logistics company Atlantic Gulf & Pacific (AG&P) said it has expanded its proprietary technologies portfolio for small-scale bunker vessels and LNG-to-power barges.

In the past year, AG&P and majority-owned GAS Entec have been awarded contracts for key LNG components of, among others Japan's first LNG bunker vessel, Asia's largest bunker vessel that will operate in Singapore and multiple LNG carrier (LNGC) conversions to floating storage and regasification units (FSRUs) to be deployed in Africa and to power electricity grids in different markets.

Nauticor and Novatek to Develop Small-Scale LNG in the Baltic

Capacity building

- Hamburg-based Nauticor and Russia's Novatek Green Energy have signed a Letter of Intent to jointly develop LNG supply infrastructure in the Baltic Sea region.
- The two companies aim to further develop the marine LNG bunkering market by delivering via both bunker vessels and trucks. Special focus will be placed on the development of infrastructure in ports along the German Baltic Sea coast.
- Both companies are already active market players in the North European LNG market and see significant potential for further growth by joining forces. Novatek has extensive LNG production capacities in Yamal and Vysotsk which would be suitable to satisfy the growing demand from shipping, logistics and industry for alternative fuels in Central and Western Europe.

LNG in Baltics energy mix for future security of supply

- According to estimates from a research firm, demand for Baltic countries small-scale LNG market is expected to be around 2 MTPA by 2030. It is expected to grow with an estimated CAGR of ~14% from 2020 to 2030.
- Increasing investment in LNG infrastructure in the Baltic region, and the support from local governments for the adoption of LNG as a marine and road transport fuel is expected to give impetus to the market growth during the forecast period.
- Moreover, the sulfur emission cap set by the European Union on road transport fuel and marine fuel is expected to propel the market in the coming years.
- Gazprom had a monopoly on the natural gas exports to the Baltic region in the past. This led to higher import costs of natural gas in these countries. To reduce the dependency on Russian imports and to develop a negotiating platform for prices, small-scale infrastructure is being developed across the region. The infrastructure includes building of LNG import terminals, bunkering terminals, LNG truck fueling stations, and an efficient distribution network for truck reloading operations. FSRU Independence in Lithuania currently serves as a hub for LNG import in the north-eastern Baltic countries.
- Companies like Gorskaya have planned floating storage units with a small bunkering vessel at several location. These facilities can be expanded with storage and truck loading bays adding to the countries LNG distribution network. In the most basic supply chain operations, LNG import terminals supply LNG to bunkering terminals via truck reloading operations or a small carrier vessel. Bunkering terminal planned in the port of Montu will act as a strategic point to perform marine bunkering operations in the Baltic Sea. These developments are expected to create a positive impact on the marine fuel bunker market.



“The commitment of a strong player like Novatek to support the development of small-scale LNG infrastructure in the Baltic Sea and beyond underlines Nauticor’s efforts to develop the last mile of the LNG supply chain from the terminal to the end-customer. The Rostock LNG terminal is obviously an important addition to that and a natural starting point for such a cooperation.”

Gregoire Hartig, Senior Business Development Manager of Nauticor

02

Technology research review

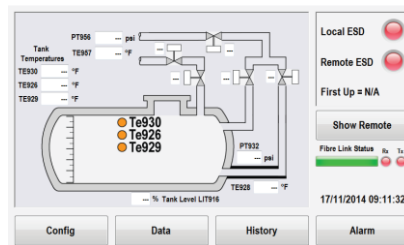
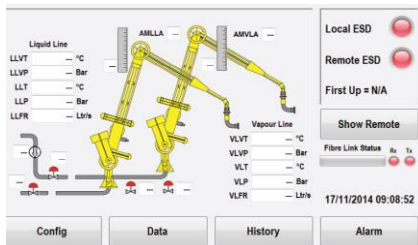
Universal Safety Link

What is Universal Safety Link, and how does it ease LNG delivery?

Universal Safety Link is a monitoring equipment developed by [Trelleborg](#) for safe transfer of LNG between trucks, ships and terminals. It has been specifically designed for small-scale LNG applications. Its fiber optic technology allows a single operator to monitor process data from both sides of the transfer process.

Advantages:

- A primary system with high integrity secure digital transmission and robust signal path
- A common system architecture and interface reducing work-load and training costs
- Reduces workload on staff during the transfer operation
- An intrinsically safe ESD back-up system
- Assured inter-compatibility of safety link systems
- throughout the small scale and fuelling supply chain
- Future-proof for new process data
- Assists safety and monitoring of simultaneous fuel oil bunkering if required
- In-built system test & diagnostics



System applications

LNG Fuel Transfer:

- LNG bunker vessel to LNG fuelled vessel
- Small scale shore LNG terminal to LNG fuelling vessel
- Small scale shore LNG terminal to LNG fuelled vessel
- Small scale LNG carrier transfer to LNG fuelling vessel

LNG Cargo Transfer:

- Small scale LNG carrier transfer to a small scale shore LNG terminal (and vice-versa)
- Small scale LNG carrier transfer to a shore-side LNG road tanker (and vice-versa)
- Shore LNG terminal or inshore road tanker filling location to LNG road tanker
- LNG road tanker to various fixed inshore user sites and industry

Key components of the system

- Main Control Unit with color data display monitor
- Transfer area/shipboard connection box with primary fiber optic socket and back-up electric and pneumatic socket for ESD only operation
- Hand portable cable reel including 25 meter umbilical cable with MIL-DTL-83526 military specification expanded beam plugs for primary (fiber optic) system
- Hand portable reels including 25 meter umbilical cable with SIGTTO link plugs and 25 meter pneumatic hose for back-up systems
- Hotline communication telephone

Source: (>>)

03

COVID -19's impact on LNG

Short and long term impact of COVID-19 on LNG industry

#Analyst View point

How long before we see a recovery in LNG prices?

Given the considerable uncertainty of the impact of Covid-19 in the global economy, and thus in the global LNG demand, it is challenging to predict an accurate timeline of recovery in LNG prices. However, given the substantial amount of LNG liquefaction projects under development and the lower LNG demand expected in any of the scenarios considered, we can expect at least 2-3 years of significant low spot LNG prices



What is the current situation in the LNG sector?

- Continued growth in LNG is expected globally by **3.5-4 per cent** in the medium-to-long term.
- Demand growth likely to slow down this year and in years to come due to the economic crisis.
- The Middle East's LNG sector being unique, it will not likely be as affected as other producing regions with higher break-even costs (e.g. Australia, US).

Where are the challenges currently being faced?

There are essentially two forms of challenges for the LNG sector, one very short-term and the other one on the longer-term.

- In the short-term, LNG producers need to deal with low prices and potential cancellation by buyers that invoke force majeure clauses.
- In the longer-term, the drop in oil prices combined with structural LNG oversupply will lead to a new scenario of sustained high liquidity and very low gas/LNG prices

What can be done to mitigate the risks associated with Covid-19?

- A deep understanding of the local market dynamics of key customers and strategic thinking beyond the short term is important. In particular, points that should be taken into consideration when evaluating the long term picture, to capture value in light of the situation, are as follows:
- **LNG producers:** Securing operational continuity is imperative. LNG producers should aim towards assessing specific market risk exposures in the near term, particularly to buyers or regions that are likely to be more directly affected by the Covid-19 outbreak. Taking advantage and leveraging new digital tools and capabilities is likely to be a strong option to improve performance in the short term. Once businesses have been stabilized, LNG producers can turn their attention toward bolstering marketing capabilities and portfolio moves that strengthen their market position over the medium-to-long term.
- **LNG buyers:** Buyers will thrive in the current low-price environment, with an opportunity to close deals in low-cost supply; however, they should also assess their near-term exposure while identifying ways to maximize value over the long term. LNG buyers should review their existing commercial exposure and engage with suppliers to create as much near-term flexibility as possible so they can manage their potential demand shocks. At the same time, they should have a clear approach for maximizing value from contracts for the longer term.

#Analyst View point

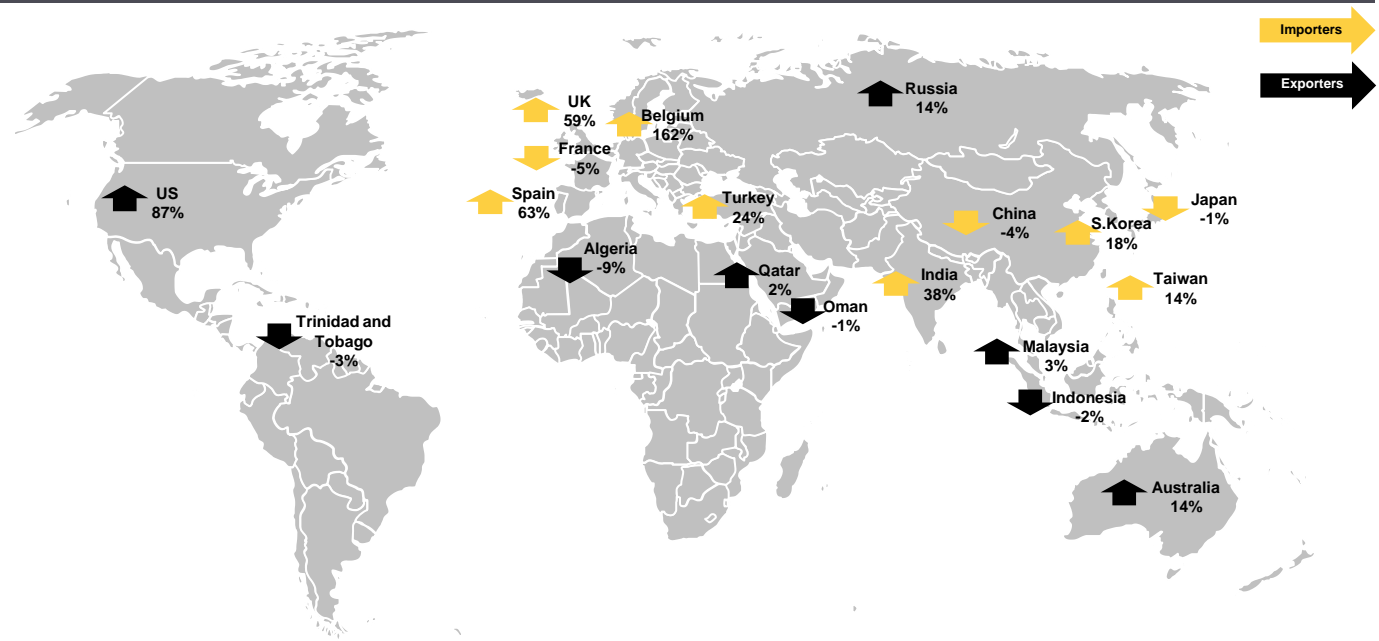
The spread of coronavirus across the world has generated an unprecedented global health and economic crisis, and presented the LNG industry with a demand shock like no other in its history.

The outbreak has hit global LNG demand, incited contract disputes, disrupted trade flows and derailed project investment plans amid uncertainty over the length and depth of the crisis.

With cargo deferments and cancellations leading to a flurry of spot supply tenders and widespread national lockdowns offering little demand support on the horizon, curtailments at production facilities are seen as the only way to help rebalance demand and supply.



Top LNG importers and suppliers 1Q2019 to 1Q2020 percent change



Key Countries & Regions

USA: LNG exporters are in the crosshairs for shut-ins because of high transportation costs to Asia, high breakeven shale economics and greater offtake flexibilities.

EU: The continent's Q1 demand rose despite having become the epicenter of the outbreak and strong pipeline flows from Norway and Russia.

India: India's lockdown extension is likely to reduce demand and create more hurdles for LNG trade flows.

Australia: The world's biggest LNG exporter has some of the most expensive LNG facilities and gas supplies, making pre-FID projects and un-contracted LNG volumes vulnerable to price uncertainty.

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