

GALILEO RESCUES ARGENTINE GAS

Galileo is marketing its services to producers of small amounts of gas, who can sell it rather than flare it, either because they are in the testing stage or because it is associated with more valuable liquids output. It is expanding its Argentine client base.



From micro to small-scale LNG, plug-and-play on-site liquefaction. The Cryobox-Trailer has daily processing capacity of 750,000 standard cubic feet (scf) of natural gas. Every unit supplies approximately 10,000 gallons of LNG right from the wells. Oil-and gas producers can add, remove or relocate units to fit the natural gas flow rate of the producing wells or meet LNG consumers demand. Photographer: Marcelo Aguilar - Galileo Technologies.

Buenos Aires-based [Galileo Technologies](#) makes and supplies small onshore liquefaction modules to monetise stranded and associated gas. If there is a road, then its standard 'Cryobox-Trailer' can be delivered to the wellhead and can process, on site, 0.75mn ft³/d of natural gas into roughly 10,000 gallons (or 15 metric tons)/d of LNG.

The LNG is then trucked to power plants, remote communities, industry, and even ferry operators. And it is a scalable business model.

In Argentina, the company operates at fields operated not only by state-owned YPF but also by international producers there.

In the Mendoza province of west-central Argentina, Galileo built its own 41-MW power plant, Methax, the first in the world to be fed by LNG sourced from wells not connected to any pipeline system.

NGW interviewed Galileo CEO Osvaldo del Campo, a recent London IP Week keynote speaker, about how the company is expanding in the US Marcellus shale and its ambitions to penetrate the floating liquefaction [FLNG] sector where it says it can slash operating costs by half.

How much LNG are your modules producing and where?

Ours is a different LNG business model. The concept is to produce LNG as close as possible to the source of production, and to have the cheapest commodity available, and going to parts of the market that are not well connected. Few new pipelines are being built today. The majority being built today are in the US, to link price arbitrage gaps, rather than to expand the number of users.

We have a big project in Argentina, another in Colombia, and in Brazil and Peru we are starting two projects. In the US, we created a company called [Edge Gathering Virtual Pipeline](#) that is starting to produce LNG in the Marcellus play to supply customers in the New England area, among other applications.

Our Argentina project is producing 0.25mn m³/d [0.1bn m³/yr] of natural gas and probably by end-2018 we will have doubled that to 0.5mn m³/d. We are producing from exploration wells that were drilled years ago in oil producing areas where only natural gas was found, and the wells were abandoned. Also, we produce associated gas from oil wells. We capture all that gas, as well as from the testing that is underway in the Vaca Muerta shale in Argentina and monetising it.



So you're monetising gas from Vaca Muerta wells run by big names?

Of course, the gas availability that we have is very high. We deal with all the big players in the country, because all the companies with drilling campaigns today have short- or mid-term gas availability that needs to be monetised. We are in negotiations with others. At this moment, most of the natural gas that we liquefy is essentially produced by YPF, but some is in partnership with different companies.

So these companies are flaring very little, because they are deploying your modules?

Exactly. We are mitigating the flaring, as well as in some areas putting wells into production that had been abandoned.

Imagine in the centre of Argentina, in Neuquen province where the Vaca Muerta is situated, the gas gathering infrastructure is not extensive, and many of the exploration wells are in that area. So, we are buying the natural gas from them, liquefying it, and transporting the LNG to different customers.

At the initial stage, the anchor customer is a power station that we own [Methax] that consumes 0.2mn m³/d and sells electricity to the grid. And day by day we are connecting new users to our LNG distribution network [supplied in ISO container-tanks, carried by road].

We supply LNG to companies related to the oil and gas and food industries. We cover all areas. Penetration of natural gas in Argentina's energy market is very high. *[It accounts for about half the country's total primary energy supply -Ed.]*

Despite that, parts of the country are sparsely populated. We are connecting the gas source to end-users, but not using conventional technology.

Is it competitive for firms to use your liquefaction modules, rather than to flare their gas?

We are competing in some parts of Argentina with conventional pipelines, and we are cheaper. When you start at the gas well, or even from biogas sources, our liquefaction is very competitive.

You've spoken about breaking into the FLNG market. Are your operations today all onshore?

We have reduced the complexity of our modules. Currently, our modules are distributed over a wide area, and are operating practically unattended. We control remotely all the units that we have operating in the world. Many of these are 200-300 miles from cities.

The majority are onshore but we are creating a new liquefaction model which we could put on a vessel. We have created a barge that replicates the same model as for onshore gas wells. This could be a model for [floating liquefaction] platforms. The liquefaction barge would be able to process 30mn ft³/d [0.3bn m³/yr] of natural gas.

Is it right that you say you can supply this liquefaction capacity at half the cost of what Fortuna FLNG offshore Equatorial Guinea will use?

The customer has two options: to buy the technology that we manufacture, or to get it in a service contract where we operate the units. Our cost is roughly half of the cost of conventional FLNG technology.

What's the dollar price of your technology?

We like to keep the exact price commercially confidential. But for example, in the US Gulf there are many platforms flaring gas, especially in Mexican waters. The cost of such gas would have to be negotiated with producers, but many of these have no alternative market for it, and some face penalties for flaring.

Based on that wellhead gas price and combining that with the capex and opex of our barge, we will produce LNG at close to the price of US Henry Hub gas. So, a producer should be able to monetise the gas.

How long has Galileo supplied Argentinian ferry operator Buquebus with LNG for its catamarans?

We started supplying Buquebus with LNG in 2013 [Buquebus' LNG-fuelled catamaran, Francisco Papa named after the current Pope Francis who was born in Argentina, entered service the previous year]. It has been a very successful operation. We are increasing our production capacity, because Buquebus is building a new ferry.

LNG has enabled Buquebus to treble the lifespan of its engines and the supply price of our LNG is half what it would cost to buy marine diesel in Argentina.

We operate with storage capacity for one or two days. One advantage of our technology is that we can start and stop units and move units from one wellhead to another. We have multiple units that provide us with a reliable operation, with some redundancy. So, in order to supply Buquebus, we can add more liquefiers for wellheads, and that will produce more LNG for distribution. Galileo supplies 70 mt/day to Buquebus and is aiming to double that to 140 mt/day.

Mark Smedley