

Apateq: Containers on tour

Cordelia Chaton (Lëtzerbuenger Journal-Luxembourg)



Inside view of the Apateq OilPaq Office Container where data is measured and supervised.

The Luxemburg company Cleantech specialises in the separation of water and fossil fuel.

Luxembourg is not yet well-known for its "Cleantech" companies, but Apateq could change that. "A sexy story", is how Prime Minister Xavier Bettel described the start-up, which offers a range of solutions for wastewater treatment. The customized "OilPaq" system, for processing wastewater from oil and gas production, is their main product range. "Currently, it is on tour in the United States", the company's CEO, Bogdan Serban, proudly announced.

The ready-to-use processing units require three containers at most, depending on the capacity option selected. Their target audience is the operators of some 800,000 oil wells, currently in service in the United States. Some of them want to try OilPaq on their sites for several weeks before placing a firm order. It is a fact that for every barrel of oil or petroleum extracted, five barrels of water are required. In a country that produces 22 billion barrels of water, a solution such as OilPaq would be extremely advantageous. "The advantage of our system is in providing on-site treatment without using any chemical agents. Our solution is also cheaper than that of the competitors because of the durability and efficiency of the membranes we use", explained Serban. "These membranes, with pore diameters of only 40 nanometres, are at the heart of the system. Our membranes last for several years, while our competitors offer solutions that only last for a week, if a non-chemical agent is used".

According to Bogdan Serban, the competitors' alternative methods cost between \$3 and \$30 per barrel. "The cost of our solutions is between 50 cents and \$1", Serban emphasised. Furthermore, the Apateq filter also filters out bacteria and viruses - not to mention the mineral particles.

Furthermore, we are the only company that recovers about 99% of petroleum in water, thus making it fully re-usable", Serban Bogdan added. "Unlike ordinary solutions, we don't use chemical agents in the wastewater treatment process". All treatment units include redundant modules, just in case the facility encounters a problem. Unsurprisingly, the company, established in 2013, has already sold seven facilities to industrial plants.

The "fracking" industry is also very interested, as the Apateq product also makes it possible for the wastewater used in shale gas extraction to be recycled, reducing the need for fresh water and its transportation.

The company has also sold its system to an Italian food production company. One of the most important producers of apples in South Tyrol has been able to reduce its water consumption from 70 to 25 m³ per hour. Among other future potential clients are real estate project developers in remote regions. "In the United States, houses in such areas are often not connected to any public drainage system. Developers often enquire about our package solutions, because they are more cost-effective for 150 new houses than building a public drainage system". This is what Bogdan Serban learned during his last visit in the United States.

His proposal for seepage water treatment in dumps is also creating interest.

Other potential clients could be ports and ship-owners, since a directive dating back to January has required them to use exhaust gas separators onboard ship. Apateq has developed a compact system for larger vessels, enabling them to treat water contaminated by exhaust gases with "Scrubber" technology in either an open or closed circuit. After treatment, water is discharged directly into the ocean.

In the ports, such facilities can treat up to 500m³ of water per day. All facilities comply with international water purification standards. Holding several patents and with the injection of new capital, Apateq considers itself to be in an even better position for the future. "Since its foundation, our company has benefited from the support of the Ministry of Economy, Luxinnovation, as well as the LIST Research Institute", the CEO told us.

In January, Apateq received funding of 5.8 million Euros from an investor based in the Grand Duchy. International awards, such as the Red Herring Global 100 Prize or the Frost & Sullivan Best Practices Prize, have encouraged the young company of 14 employees to continue to grow. In the meantime, 15 international distributors have been selected.

Since October, the "Made in Luxembourg" solution has been tested in the United States. The neutrality of the small Grand Duchy has been a real advantage.

The first units of OilPaq2000 will be installed in Ohio, Kansas, and Montana as well as in other American States. They can process up to 2,000 barrels per day, 14 m³ per hour, enabling 95% of the water used in the "fracking" process to be recycled. The facility can be housed in just three containers: one for pre-treatment, the biggest one for ultra-filtration, and the last one for the control station and the storage of spare parts.

Four clients have already signed up for the testing phase before placing a final order.

The Luxembourg Prime Minister considers Apateq to be an "ambassador" for "Cleantech". "You are going to stay in the Grand Duchy, aren't you?" asked the Prime Minister, anxiously. "Of course", Bogdan Serban reassured him, "but we will open subsidiaries. We want to be a benchmark company".

Cordelia.chaton@journal.lu

For further details: www.apateq.lu

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