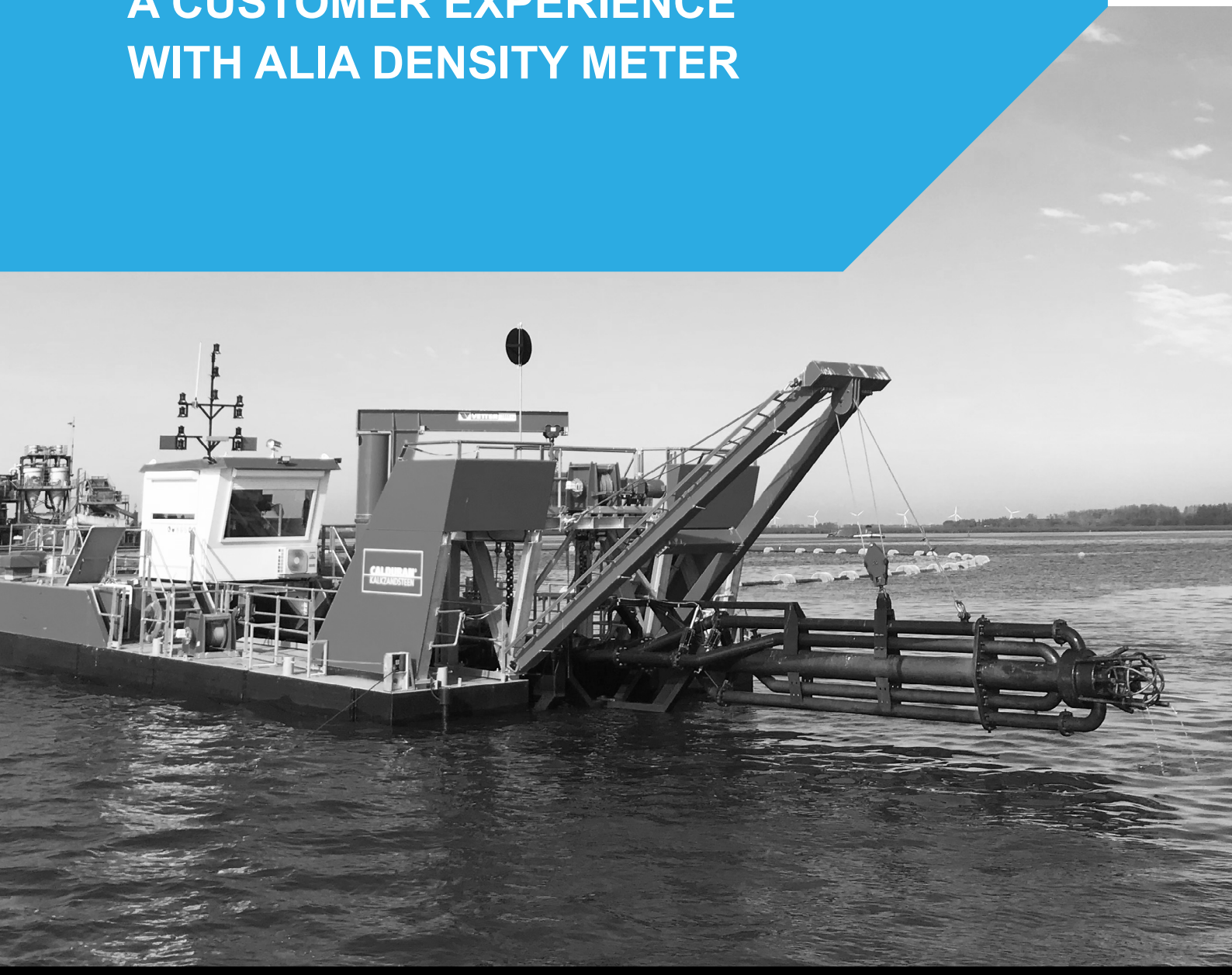
ALIA
INSTRUMENTS

INSTITUTENWEG 25A
7521 PH ENSCHEDE
THE NETHERLANDS

ALIAINSTRUMENTS.COM
INFO@ALIAINSTRUMENTS.COM
+31 (0) 85 77 31 436

ALIA DENSITY METER IN DREDGEPUMPS' SUCTION DREDGER

A CUSTOMER EXPERIENCE WITH ALIA DENSITY METER



DredgePumps designs, engineers and constructs dredgers worldwide. This Dutch based company specializes in stationary electrically powered deep suction dredgers, cutter suction dredgers and booster stations for applications such as mining, dredging of reservoirs as well as maintenance of small ports.

In addition to being an example of clean technology, electrically powered suction dredgers can be operated unattended using remote monitoring & control. Moreover, they show little wear and allow for a high extent of automation - including frequency-controlled motors.

In the Dutch lake Veluwemeer, near the coast of the city of Harderwijk, DredgePumps constructed a suction dredger for its client Calduran Kalkzandsteen. In this production location, dredged sand is used as raw material for the manufacturing of sand-lime bricks, mainly for house-building.

Coen Hellwich is managing director of DredgePumps. We talk to him about the performance of the Alia Density Meter (ADM) in DredgePumps' suction dredger in the Veluwemeer. The ADM is designed to provide accurate density measurements, especially of abrasive liquid/solid slurries for applications such as dredging and mining.

"The electrically powered suction dredger can be operated fully automatically", says Coen. "We keep the speed constant; the pump is controlled accordingly." An important part of the dredger is the dredge suction mouth, that extracts sand from the bottom of the lake. Around this suction mouth is a jet system, that can inject water out of the suction pipe into the surroundings, and it can inject water from the surroundings into the suction pipe - which is unique. That is where the Alia Density Meter comes into play. Based on the input from the ADM, the dredging computer controls the valves of the jet system, of which the pressure as well as the flow is controllable. Aim is to get a slurry to the sand-lime manufacturing plant that is as constant as

possible. Suppose that the density of the slurry is set to 1.3 tons/m3, and the ADM measures a value of 1.5, too much sand will enter the suction pipe possibly leading to clogging, and the flow needs to be diluted by the inward pointing jet. It also works the other way around: when the ADM measures a slurry density value of 1.0, too little sand is generated, and the outward pointing jet is instructed to pump water outside. And all automatically. “The Alia Density Meter is essential for automation”, according to Coen. “Automation is one of our unique selling points. We believe that electrically powered suction dredgers have the future. Moreover, in our sustainable philosophy as well as from our client’s point of view, nuclear-based density measurements are out of the question - also because our vessels have to be left unattended. And that’s where the non-nuclear Alia Density Meter fits in well”.

Another major argument for DredgePumps to choose the ADM is the preference for a Dutch supplier, Alia Instruments. “To deal with growing pains during our cooperation, it is best when you can speak in your own language. Close to home, with short lines. Communication is crucial in this respect. In our project, Alia Instruments delivered quick and adequate support via remote login and local on-board support when necessary.” This can be delivered worldwide via Alia Instruments’ remote login support and local agent network.

The mechanical as well as the electrical installation of the ADM into the suction dredger was simple and clear. “Currently I can say that it is really plug & play - which is also important for our clients”, says Coen. The density meter has been installed immediately next to the flow velocity meter, with which it cooperates well. However, with respect to the unobstructed slurry pipe length directly upstream and downstream of the density meter for a density measurement that is as stable as possible, Coen remarks that “in a practical situation it is somewhat difficult to meet this desire”.

The feature that density is measured in real-time “is nice to have, but does not play a major role in the current application”. With a total slurry pipe length of 250 meters and the currently used flow velocity, it will take considerable time before the slurry passes through the entire pipe, and the ‘real-time gain’ is only marginal.

“I am really confident with the ADM, and I can recommend it to other clients

Coen Hellwich
Managing Director DredgePumps

“With respect to performance, the ADM is doing fine. The 4-20 mA signal that the device generates as a measure of the density is processed well by our dredging computer. We have the ability to remotely monitor the performance of the ADM - as we do with the entire suction dredger - and provide preventive advice to our client, if necessary. As I see it now, I am really confident with the device, and I can recommend it to other clients”, according to Coen Hellwich of DredgePumps.

ALIA
INSTRUMENTS

Alia Instruments is a technology leader, focused solely on our density meter. We aim to become, and remain, the market leader in non-nuclear density meters. This means that the company is in constant development to further improve the meter and make it even more adaptable to the applicable processes. Our meter strives to be the most suitable solution offering sustainable production maximization to each and every one of our customers. We believe that as long as we maintain this focus, we will progressively achieve all of our targets.

Non-nuclear a clear choice

INSTITUTENWEG 25A
7521 PH ENSCHEDE
THE NETHERLANDS

ALIAINSTRUMENTS.COM
INFO@ALIAINSTRUMENTS.COM
+31 (0) 85 77 31 436