Alewijnse

AUTOMATION
SOLUTIONS
DREDGING

About Alewijnse Marine

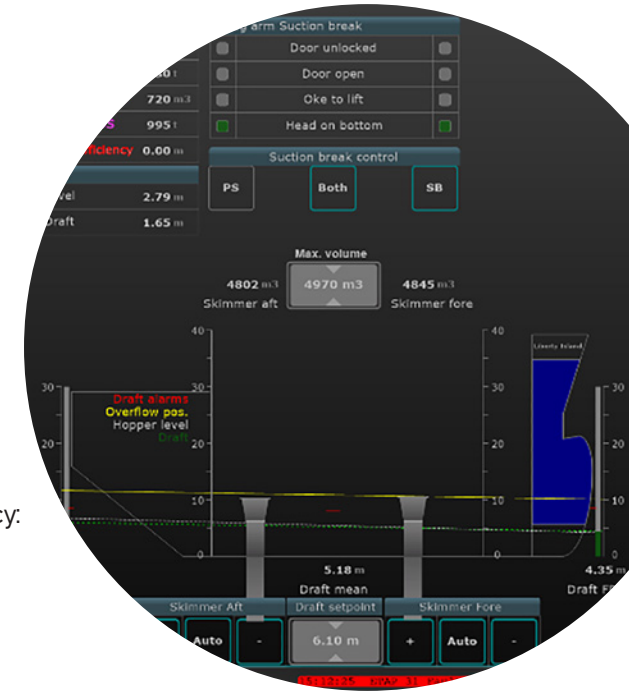
Alewijnse has over 130 years of experience in providing tailored electrical and automation solutions for our customers' projects around the world.
As a systems integrator that works in partnership with its customers, we supply a comprehensive range of technical solutions. These include electrical installations, power distribution, generation and propulsion systems, process automation, audio video & IT, safety & security, and navigation & communications.
Our company works on a large number of electrification and automation solutions every year in sectors that include yachting, naval & governmental, dredging, and offshore and industrial. This work includes contracts for new builds, refits, and repair and maintenance projects.
In response to the ever-increasing need for sustainable operations, we strive to design and implement environmentally-friendly propulsion and energy-efficient systems for maritime and industrial partners that seek high levels of sustainability.

EFFECTIVE & RELIABLE DREDGE AUTOMATION

In today's world, vessels are equipped with increasingly complex systems that are managed by fewer operators, and operate in an environment that demands ever-greater efficiency and productivity. This calls for smart and reliable automation systems that enable safe and efficient operations, with maximum uptime. Alewijnse Marine has taken up this challenge and offers a range of proven solutions to the dredging industry that fulfil these requirements.

Alewijnse Draught and Loading System (ADLS)

By continuously and precisely measuring a vessel's draught and hopper volume, the Alewijnse Draught and Loading System (ADLS) contributes to the optimal use of a vessel's payload capacity.



The ADLS accurately measures several key variables using high quality sensors:

- Vessel draught
- Trim and ballast tank volumes
- Hopper volumes
- Overflow position

Based on these measurements, the ADLS calculates and visualizes important outputs, enabling maximum production efficiency:

- Vessel tilt & list
- Hopper load & volume (in-situ and tonnes dry solid)
- Production efficiency
- Pump production
- Actual load rate and efficiency

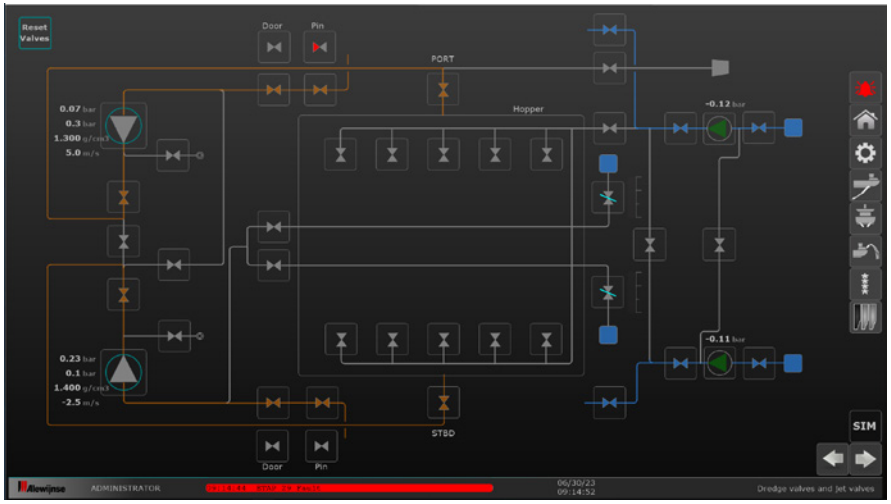
To enable further dredge cycle optimization, the ADLS offers several advanced automatic control functions:

- Automatic Draught Controller (ADC), for better production and safety
- Automatic Light Mixture to Overboard (ALMO), for increased production
- Water Layer Controller (WLC), for reduced environmental impact

Dredge Control System (DCS)

The Dredge Control System (DCS) monitors and controls the vessel's dredge-related equipment and sub-systems. Reflected in an in-depth functional description, operational effectiveness and safety are the guiding principles throughout the design phase of each system. Over twenty years of experience has resulted in a system design standard that offers a number of benefits to the operator and owner:

- Modular-based software, to build on proven, reliable products
- Customized visualization, for maximum fit with each customer's operating philosophy
- Intuitive navigation through process and system control functions, for faster and safer dredge operations
- High level of integration with other vessel functions, to ensure a unified human-machine interface
- High system availability by using proven components. To further increase system reliability, PLC, SCADA and network hardware configuration redundancy is an option
- Remote system access is available for global product support when needed
- ADLS and ASTS can be easily integrated in Alewijnse DCS systems, as both products are built to modular designs.



Alewijnse Suction Tube System (ASTS)

The Alewijnse Suction Tube System (ASTS) is an automated system for measuring, calculating and monitoring the hopper dredger's suction tube position. It is a uniquely reliable and precise system, using two independent processes to measure the suction tube position simultaneously.

Using robust, waterproof sensors, the ASTS measures several critical variables:

- Paid-out wire length from the winches
- Horizontal & vertical angles
- Gantry positions
- Swell compensator position

Based on these measurements, the ASTS calculates and visualizes a number of important outputs, enabling maximum production efficiency and safety with the lowest possible environmental impact:

- Suction tube angles
- Drag head position
- Tide correction
- Anti-collision (distance from suction tube to hull)

To enable further loading and backfill production optimization, the capabilities of the ASTS can be extended using an advanced control function; the automatic suction tube controller (ASTC).
This regulates:

- Depth Control
- Swell Compensator Control
- Intermediate Angle Control
- Ground Angle Control
- Lateral Control
- Silt Control

LATEST DREDGING REFERENCES

DEME

Nile River

17000 m³

Jan de Nul

Juan Sebastián de Elcano

16500 m³

Den Herder Seaworks

Spauwer

7453 m³

DEME

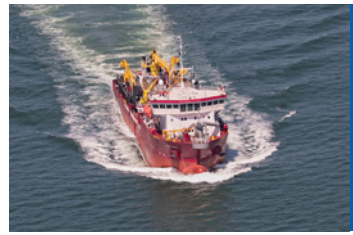
Reynaert

5580 m³

Jan de Nul

Kaishuu

16500 m³



Great Lakes Dredge & Dock Co

Liberty Island

5000 m³

Jan de Nul

Filippo Brunelleschi

11300 m³

Van Nieuwpoort Groep

Kaliwaal 41

DEME

Uilenspiegel

13700 m³

Jan de Nul

Francis Beaufort

11300 m³

Barkmeijer Shipyards B.V.

Krakesandt

3000 m³

Damen Shipyards Gorinchem

Hanson Thames

3500 m³

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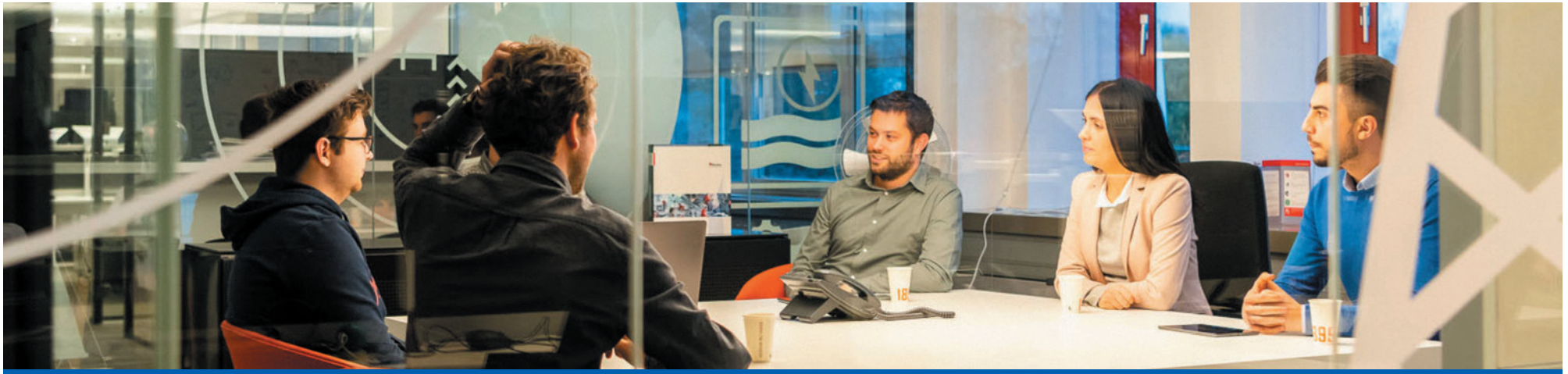

Our goal is to co-create value with and for our customers and partners. We aim to develop and improve electrification and automation solutions which are innovative, sustainable and of the highest quality. We focus on making a valuable contribution to successful projects in the maritime and industrial sectors.

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