NONIUS
ENGINEERING

SMART APPROACH TO DREDGING

The export development for shipbuilding conference
St.-Petersburg, 2021

NONIUS ENGINEERING

SMART APPROACH TO OVERWATER AND UNDERWATER WORKS

Mission of the Nonius Engineering company is to take hydrotechnical works to an absolutely new level on account of means for automation, as well as to optimize all operating procedures both afloat and underwater.

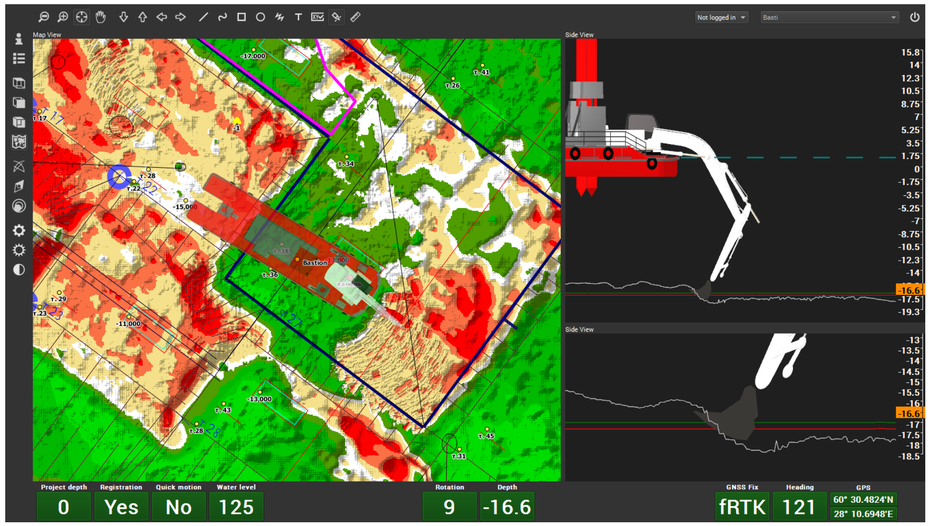
- Based in St Petersburg, Russia and Tallinn, Estonia.
- 12 years of automation for dredging industry.
- Clients in Russia, Lithuania, Latvia, Estonia, Slovenia, Ukraine, Kazakhstan, Turkey, Italy, France;
- More than 100 vessels equipped.

GAZPROM NEFT · MRTS · est. 1996 BALTDRAGA · ROSMORPORT · DAMEN · DTM · Severstal Achieve more together · Caspian Hydro Technologies · EHT EKOHIDROTECHNIKA · NONIUS ENGINEERING

BASIC PRODUCTS

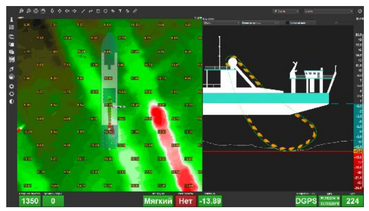
3D positioning systems for all dredger types, production monitoring for suction dredgers, remote monitoring for dredging projects

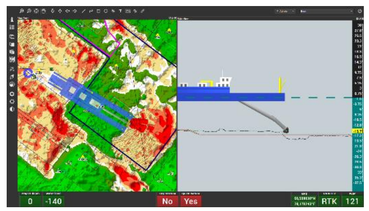
Our positioning and monitoring systems help to find the most effective and sufficient operating mode for a dredger – there will be less wasted time, less unnecessary works out of the project boundaries, fewer expenses for fuel and maintenance. As the result, cost efficiency and productivity significantly increase.

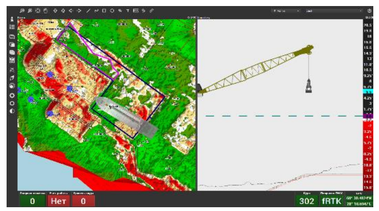


The dredge master can control the location of the dredger with regard to the depth map, as well as the location of the draghead against the bottom surface, target depth and boundaries. Moreover, an operator can always identify the areas where the works have not been performed yet.

The automatic reporting module lets the manager obtain data on performed works without involving personnel action, allows real time remote supervision and assessment of workflow and progress comparison of several operators.







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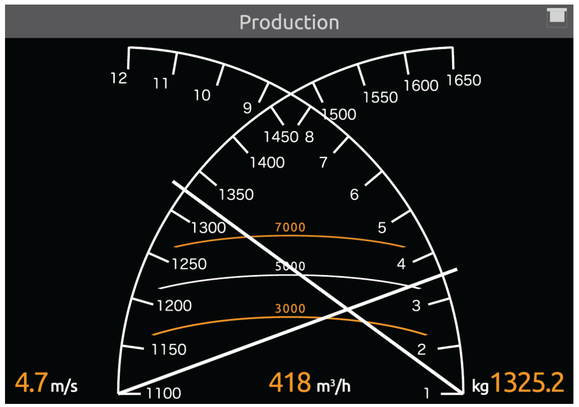
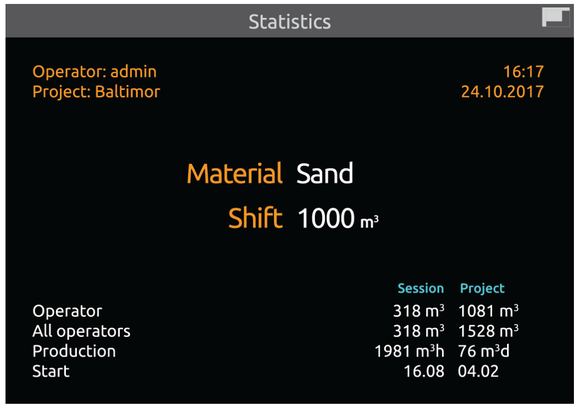
BASIC PRODUCTS

Production monitoring system for suction dredgers and dredge pumps with the nuclear source

The primary function of the Nonius SlurryMeter is on-the-fly logging of the productive output of the dredge pump.





In its basic configuration system has the following functions:

- To have real-time dredge output information (based on the amount of dry solid);
- To measure the velocity of the material and therefore accurately calculate the production of slurry;
- To analyze the density of the liquid in the pipe;
- To have current reports on processed amounts of slurry and dry solids with the data collected separately for each operator.

Possible applications:

- Monitoring of dredging operations
- Monitoring of the amount of mined material
- Monitoring of the fuel's characteristics while bunkering

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CHALLENGE

Non-nuclear production measurement: clamp-on, reliable, precise

MAIN ADVANTAGES

- No radiation (no expenses for isotope certification and transportation)
- Not cut-in solution (fewer expenses for wear-and-tear reasons. No need to upgrade the ship documentations)
- High accuracy
- Extremely precise (the whole system costs less than just density or velocity meters from other companies)
- Can be integrated with Nonius CSD and Nonius TSHD (our 3D positioning systems), which means fewer expenses for installation

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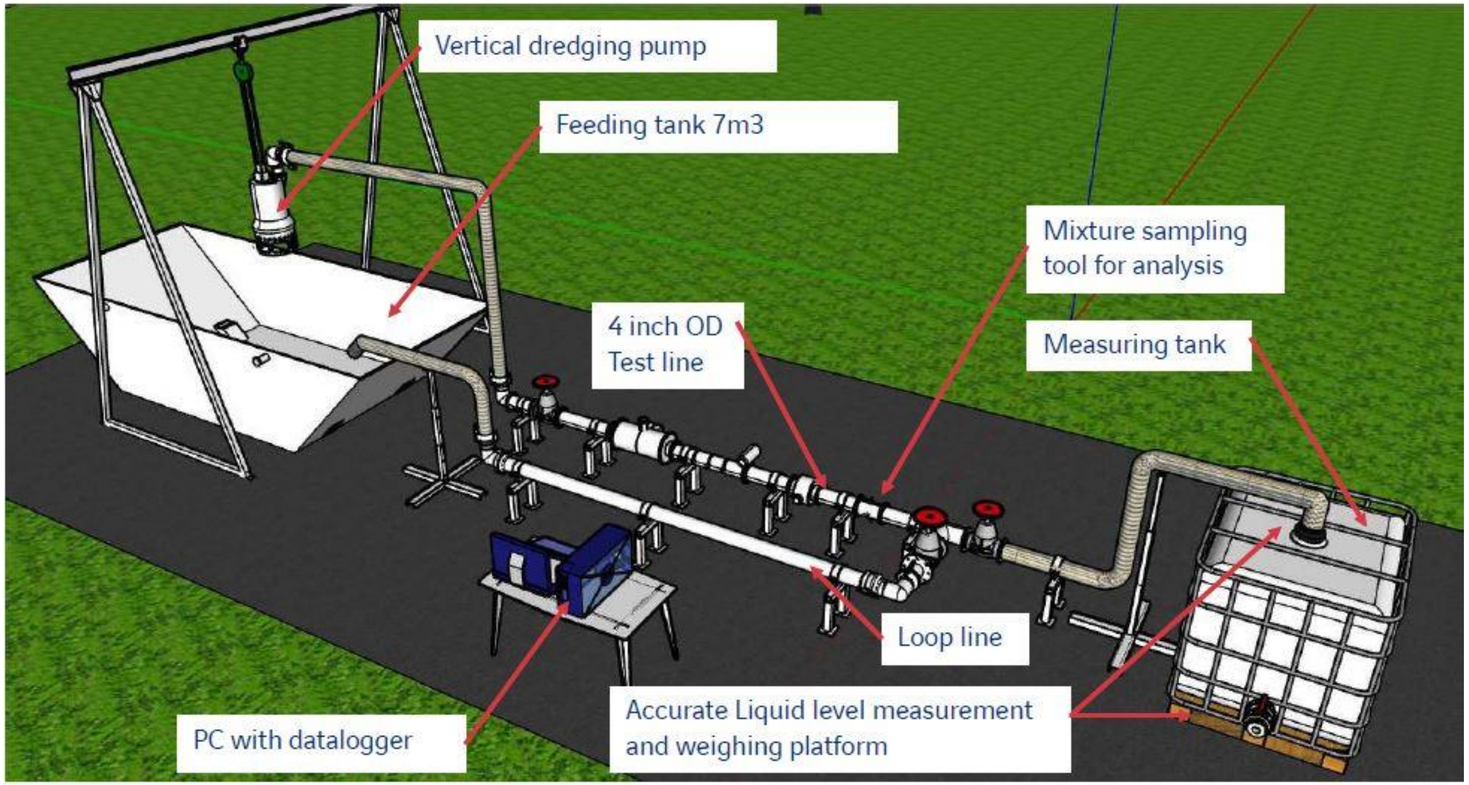
RESULT

Acoustic sensors for measuring density and velocity, adjustable for any pipe material, tested on sand, silt and clay.

REFERENCES

Participation in the joint non-nuclear density meters test by VINCI CONSTRUCTION MARITIME ET company (France) in Jun-July 2019



VINCI CONSTRUCTION | MARITIME ET FLUVIAL

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REFERENCES

Installation on the TSHD "Andre L" operated by DTM company (France) in October 2019

DTM

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REFERENCES

Nonius SM test by China Construction and Communication Corporation (China) in December 2019

CCCC
CHINA COMMUNICATIONS CONSTRUCTION COMPANY

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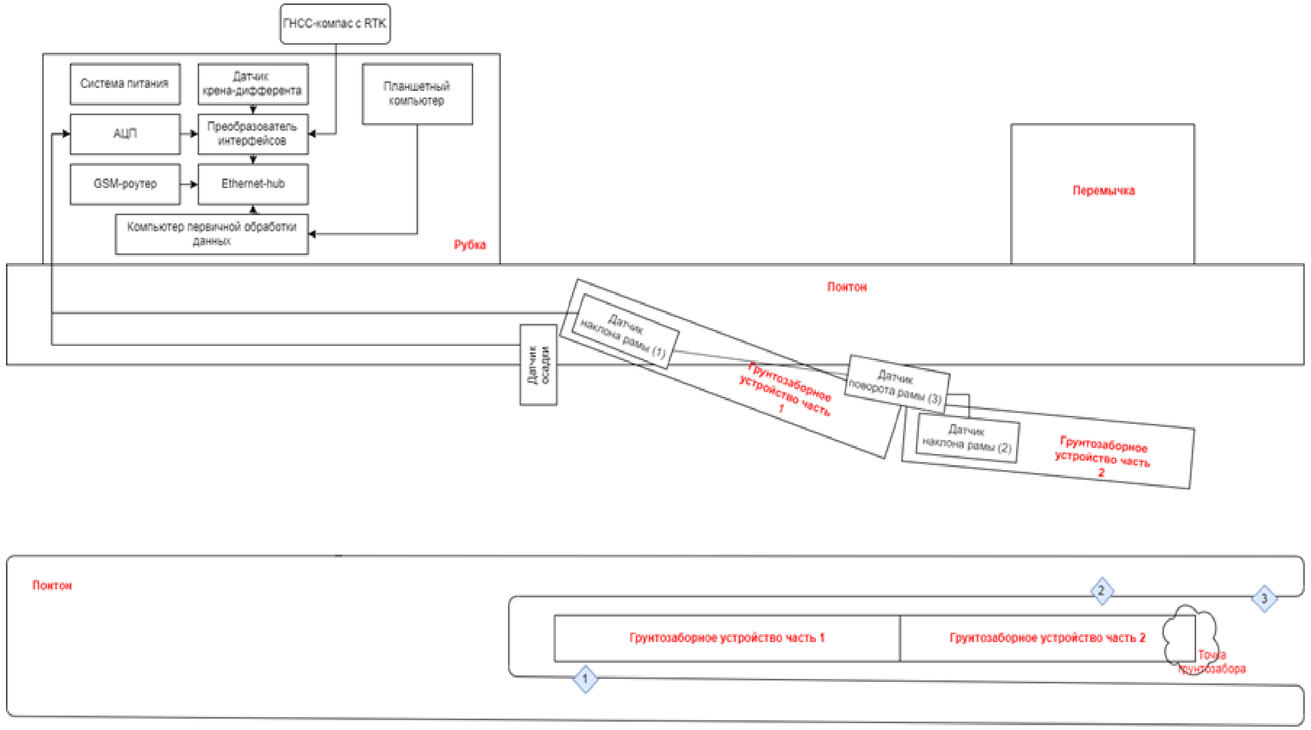
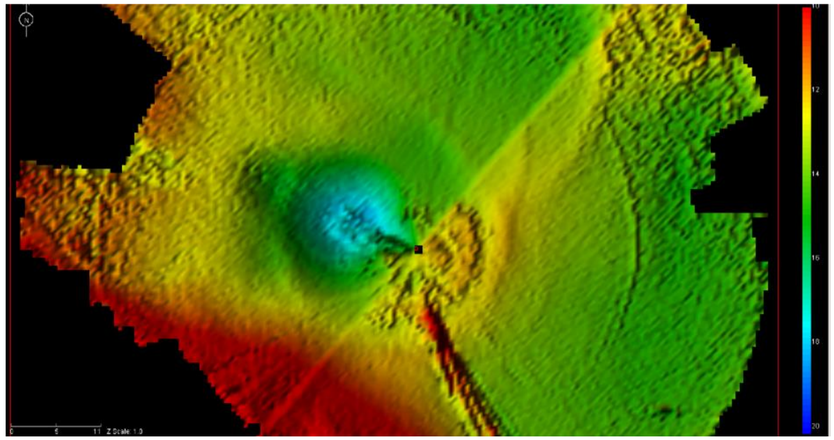
LAUNCH SOON

Real time Technical vision system for dredgers (release - middle 2021)





ФОНД СОДЕЙСТВИЯ ИННОВАЦИЯМ

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THANK YOU!

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