



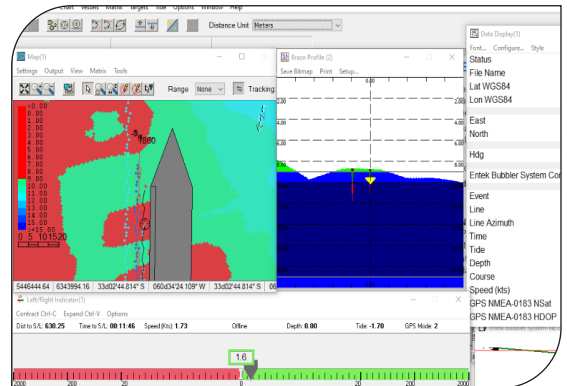
TRAILING SUCTION HOPPER DREDGE SYSTEM

INCREASING PRODUCTIVITY WHILE MAINTAINING COMPLIANCE

The HYPACK Trailing Suction Hopper Dredge (TSHD) System and DREDGEPACK® Software create a powerful synergy together to maximize your digging efficiency and work production while minimizing operator error and over-dredging. This system enhances the dredge operator's effectiveness by improving the accuracy of drag head placement and providing immediate surface updates while dredging.

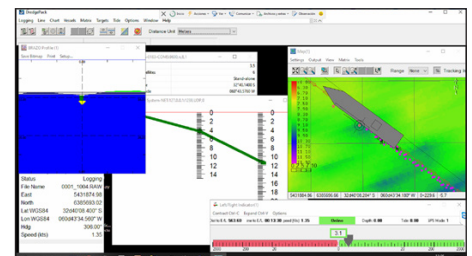
Easy to Operate and Maintain

The HYPACK® TSHD system is a turn-key solution that gives the bridge team a complete view of hopper-dredge operations. Hardware is streamlined for minimal maintenance, and calibrations (ie: GNSS/heaving, draft, hopper level, drag arm angles) follow simple, repeatable routines. Plan, load, and dispose with ease—HYPACK software shares common file formats, so importing survey data and background charts is seamless. By tracking cut depths, drag head position, hopper fill trends, and tracklines in real time, operators reduce over-dredging, achieve accurate target depths, and avoid unnecessary rework. The result is more consistent cycles, lower fuel consumption, and reduced overall operating costs.



FEATURES & BENEFITS

- Precise dredge positioning and heading with dual-antenna GNSS (RTK-ready)
- Live hopper level and draft monitoring for optimal loading
- Real-time arm or drag head positioning and depth tracking
- DTM color modeling, 3D channel designs, and cut/fill visualization
- Seamless planning-to-dredging workflows (DXF, DWG, SHP, KMZ, GeoTIFF)
- Minimal maintenance hardware, rugged enclosures, and simplified cabling

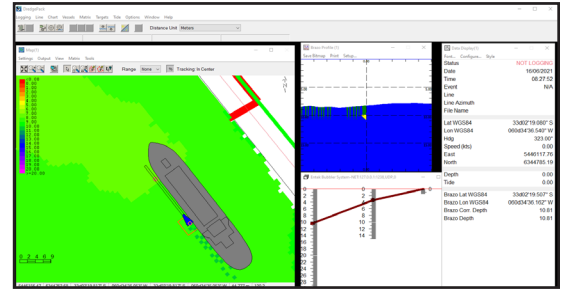


Dredging Performance

The HYPACK® TSHD System combines precise sensors with DREDGEPACK® software to deliver high-accuracy performance under demanding dredging conditions. Dual-antenna GNSS and pitch/roll calculations are performed in real time, while draft, tide, and heave corrections maintain reliable vertical references giving accurate real time positioning. Hopper-level ultrasonics and draft/bubbler inputs track loading in real time, and continuous surface updates keep target depths on spec. This accuracy is critical on projects with tight environmental or over-dredge limits—ensuring precise drag head depth control, reducing rework, and supporting compliant, consistent production.

DTM Color Modeling & Real-Time Updates

The HYPACK® TSHD System improves the efficiency by showing the exact location and depth of the bucket. The dredge template is visible on the screen for the operator to view the relationship of the bucket to the design. DREDGEPACK® also supports several file types like DXF, DWG, SHP, KMZ, and georeferenced TIF, which can be used for efficient operation planning from the office, reducing delays. The operator can perform an organized dredging operation using reference lines or areas as guidance.



Reports and Analysis

- Downtime tagging and shift-based KPIs
- Real-time production dashboards (loading %, hopper fill trend)
- Cycle-time tracking (transit, loading, sailing-to-disposal, discharge)
- Material estimates and post-survey volume reports
- Automated PDF/CSV exports for office review and compliance

Configurations & Alternatives

- TSHD package (inclinometers, rotation sensor, pressure sensors)
- Bubbler-based package (air channels for arms and draft)
- Single or dual-arm configurations
- GNSS-only or GNSS+INS solutions

WHAT'S INCLUDED IN THE HYPACK® TSHD SYSTEM?

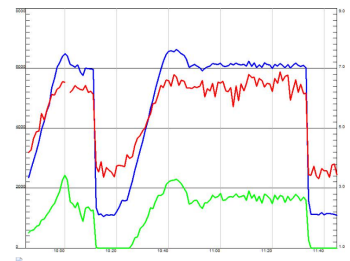
HYPACK will provide:

- DREDGEPACK® software license and configuration templates
- Dual-antenna GNSS receiver with antennas, cabling, and power
- Pitch/Roll options for dynamic compensation
- Arm angle & swing sensors (inclinometers/rotation) or bubbler channels
- Hopper level ultrasonic sensors (forward and aft)
- Draft measurement via pressure sensors or air bubbler
- Industrial interface box(es), cabling, and network connectivity
- Onboarding support and world-class technical assistance

A cost-effective way to track the depth and position a hopper dredge bucket. After installation, the system can be calibrated with a simple routine.

Trip Report for trip 18

Date: 05-09-2022 Time: 11:45 Vessel: SHANTI SAGAR - IV (INSIDE)



Summary	
Time	18
Start time	05/22/2022 08:50:22
End time	11:45
Latitude (avg)	43.170
Water Depth	1.925
Estimated Depth	2.450
End (ft)	1642.8
Hopper volume (m³)	1734.3
TDH (ft)	1663.3
Dev. Solids Vol. (m³)	628.4

HYPACK, a Xylem brand
56 Bradley Street
Middletown, CT 06457, USA

+1 860.635.1500
sales@hypack.com
hypack.com

