The 1,500 m³ trailing suction hopper (TH) dredge ordered by The Waterway Dredging and Construction Co. No. 1 in Vietnam with Vosta LMG, which is under construction at Damen Shipyards Cargo Vessels in Hoogezand, Netherlands was launched on 15 November 2003.

Construction of the dredge is advancing according to schedule, with a delivery date to the owner scheduled for the first quarter of 2004. The outfitting has been underway at Hoogezand, with sea trials planned early 2004. After tests, it will sail to Vietnam for delivery to Waterway Dredging and Construction Company 1.

**Mechanical Specifications of the Thai Binh Duong**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Measurement</th>
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<tbody>
<tr>
<td>Length overall</td>
<td>64.00 m</td>
</tr>
<tr>
<td>Length between perp</td>
<td>60.00 m</td>
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<tr>
<td>Breadth molded</td>
<td>13.00 m</td>
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<tr>
<td>Depth to main deck</td>
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<tr>
<td>Draught</td>
<td>4.60 m</td>
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<tr>
<td>Deadweight total</td>
<td>1,916 t</td>
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<tr>
<td>Hopper load</td>
<td>1,760 t</td>
</tr>
<tr>
<td>Sailing speed</td>
<td>10 kn</td>
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</table>

The dredge is built according to the rules and regulations of Germanischer Lloyd for class: GL (100 A 5 Hopper Dredge, K(20)) on dredging draught 4.6 m (MC).

The dredge will be named *Thai Binh Duong* which in English means Pacific Ocean. Home port is *Hai Phong* in Vietnam and the TH dredge will be mainly used for maintenance dredging to contribute and secure a safe navigation to the main import and export harbors, especially for Hai Phong and *Hon Gai*. The dredge is also equipped for capital dredging.
THÁI BÌNH DU’O’NG
VOSTA LMG DELIVERS 1,500 CU.M TRAILING SUCTION HOPPER DREDGE TO VIETNAM

Main contractor: VOSTA LMG GmbH, Lübeck, Germany
Shipyard: Damen Shipyards Cargo Vessels, Hoogezand, The Netherlands
Owners: Waterway Dredging & Construction Company 1, Vietnam

VOSTA LMG has launched and named the 'THÁI BÌNH DU’O’NG', a trailing suction hopper dredge for Waterway Dredging & Construction Company No 1, Vietnam, at Dutch shipbuilder Damen Shipyards Cargo Vessels in Hoogezand. Completion of the 1,916 dwt 1,500 cu.m vessel took place recently and conveyance of the dredge started on 05th of March in time. The 64 m hopper dredge is suitable for dredging operations up to depths of 21 m and features a hopper load of 1,760 tons.

Company Profile
VOSTA LMG is a leading engineering and contracting company serving the international dredging industry worldwide. Apart from custom built and standard dredges, the company also markets various dredge component packages and offers engineering and contracting services. VOSTA LMG has 100 employees, spread over five offices, one in Lübeck, Germany, one in Amsterdam, The Netherlands, two in China and one in the USA.

Without a shipyard of its own, VOSTA LMG is flexible in her approach; either in supplying a component package to a dredge contractor to project managing the process of building dredges from start to finish in cooperation with a partner shipyard anywhere in the world. Besides engineering and contracting of custom built and standard dredges, the product range includes cutting, suction, discharge, automation and coupling systems. Components such as cutter heads, underwater cutting wheels, dredge pumps, sluice valves, ball joints and dredge automation packages complete the product line. VOSTA LMG also prepares tender documents and offers consulting services and feasibility studies to dredging contractors.

Countless projects have been successfully finalized over the years and worldwide major
Successful Delivery

A recent successful delivery is the 1,500 cu.m trailing suction hopper dredge ordered by Waterway Dredging and Construction Co. No. 1 in Vietnam, which was contracted and designed by VOSTA LMG and built at Damen Shipyards Hoogezand. The Netherlands, with supply of the complete dredge equipment by VOSTA LMG. The dredge has been built according to the rules and regulations of Germanischer Lloyd for class GL (100 A 6 Hopper Dredge, Kg20) on dredging draught 4.6 m MC.

The dredge has been named 'Thái Bình Duơ'n' which means 'Pacific Ocean'. Home port of the dredge is Hai Phong in Vietnam. The trailing suction hopper dredge will mainly be used for maintenance dredging operations. This will contribute to and secure a safe navigation to main import and export harbors, especially for Hai Phong and Hon Gai, however, the dredge has most modern capabilities for capital dredging as well.

Preliminary Study

In December 2002, VOSTA LMG has signed a contract for the design, construction, supply and delivery of a dredge with the Socialist Republic of Vietnam, Waterway & Construction Company No. 1 in Hai Phong. VOSTA LMG engineered the vessel based on the specifications provided by the customer. The new dredge, especially designed for maintenance dredging in harbors, channel entrances and approach lanes, features VOSTA LMG components for the loading and unloading systems.

Main components are:
- side suction pipe with turning gland, and type of universal draghead;
- gantries with integrated swell compensating system and hoisting winches;
- dredge pump with integrated gear box;

The main control panel in engine room control room

- jetwater pumps;
- mixture suction and loading lines with sluice valves;
- loading chutes;
- overflow weir;
- bottom valves;
- mixture unloading and discharge lines with sluice valves;
- hopper coupling;
- dredge automation systems (Hard & Software);
- hydraulic installation.

The dredge has been built within a time span of seventeen months. Building and outfitting took place at Damen Shipyards Hoogezand in The Netherlands.

Main Characteristics

Built under VOSTA LMG number 819, the 'Thái Bình Duơ'n' features the following main particulars:

Principal particulars

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length a.o.</td>
<td>94.00 m</td>
</tr>
<tr>
<td>Length b.d.</td>
<td>90.00 m</td>
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<tr>
<td>Breadth mid.</td>
<td>15.00 m</td>
</tr>
<tr>
<td>Depth to main deck.</td>
<td>6.50 m</td>
</tr>
<tr>
<td>Draught at dredging freeboard</td>
<td>4.60 m</td>
</tr>
<tr>
<td>Deadweight at dredging freeboard</td>
<td>1718 t</td>
</tr>
<tr>
<td>Sailing speed</td>
<td>10.00 knots</td>
</tr>
<tr>
<td>Crew accommodation</td>
<td>13</td>
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</tbody>
</table>

Dredging capacity

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Hopper capacity.</td>
<td>1,500 cu.m</td>
</tr>
<tr>
<td>Hopper load</td>
<td>1,760 t</td>
</tr>
<tr>
<td>Dredge pump loading/discharging</td>
<td>360/850 kW</td>
</tr>
<tr>
<td>Jet water pumps high pressure</td>
<td>800 kW</td>
</tr>
<tr>
<td>Jet water pumps low pressure</td>
<td>410 kW</td>
</tr>
<tr>
<td>Diameter suction pipe</td>
<td>600 mm</td>
</tr>
<tr>
<td>Dredging depth max</td>
<td>21,60 m</td>
</tr>
<tr>
<td>Dredging depth min</td>
<td>6,50 m</td>
</tr>
<tr>
<td>Mixture flow rate</td>
<td>5,000 cu.m/h</td>
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</table>

Installed power

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Propulsion plant.</td>
<td>2 x 1,126 kW</td>
</tr>
<tr>
<td>Auxiliary engine</td>
<td>535 kW</td>
</tr>
<tr>
<td>Harbour generator</td>
<td>725 kW</td>
</tr>
<tr>
<td>Emergency generator</td>
<td>94 kW</td>
</tr>
<tr>
<td>Total installed power</td>
<td>3,400 kW</td>
</tr>
</tbody>
</table>

Dredge Operations

The trailing suction hopper dredge has been designed and equipped to perform loading, transporting and discharging of dredged spoil at high efficiency rates. Loading spoil is done by the starboard suction pipe when dredging in channels or alongside quays. Dumping of spoil can take place through three bottom valves. Hopper drainage is affected by discharge to the sea.

The following features have been provided to enhance the dredge's performance:
- the type of universal draghead is equipped with adjustable visor, waterlips and nozzles for operation by supply of high pressure jetwater;
- the hopper can be filled with ballast water via inboard dredge pump;
- the cargo volume can be adjusted by remote controlled overflow valve;
- fluidization of spoil by well arranged hopper jetting installation;
- manoeuvring is facilitated by high lift flap rudders.
Shipboard waste is processed by a Tribo-Format sewage treatment plant.

- operating with unattended engine rooms is possible.
- dredge plant and machinery are automated and can be operated easily.

Hull Form
The dredge's hull features two skegs. Hull designs with these skegs have proved particularly successful for operation at varying draughts and in shallow water. This type of hull form has been used for several years during the past few years. The lines of the ships are optimized to suit the respective applications and the different propulsion and dredging concepts.

The shape is based on a new way of construction developed by VOSTA LMG.

The hopper is designed for dumping through bottom valves arranged in the centerline, operated by hydraulic jacks mounted on hopper deck. The hopper has smooth walls to facilitate quick unloading.

Subdivision
The ship's subdivision is influenced and dominated by her compartments.

The dredge pump and machinery rooms are located all of the hopper. They contain main and auxiliary engines and other engine-related systems. In the front of the hopper, an auxiliary engine room has been arranged with sea chests and smaller auxiliaries. The deckhouse is located aft for accommodating the crew, thus enhancing visibility and effective operation.

Dredge Components
The dredge Thai Bình Dương is equipped with VOSTA LMG dredge components as follows:

Suction pipe
One side suction pipe hoisted by three ganties of select generation of VOSTA LMG design is arranged on starboard side and equipped with one jet water powered draghead.

Draghead
A trailing suction head VOSTA LMG type VWD 60-160-110 is provided.

This type of draghead works on hydraulic principles. It is most suitable for dredging mud and other soft soils. The draghead mainly consists of a visor carrier, a movable self-adjustable visor and waterflaps as well.

Dredge pump
The dredge features one inboard dredge pump, directly driven by the starboard main engine via an integrated gearbox including coupling and clutch. The type of dredge pump is VOSTA LMG 550-1530.

The dredge pump is specifically designed for handling highly abrasive mixtures of water and solids. It is a single wheel radial, centrifugal volute type with axial inlet and tangential outlet, provided with an impeller of closed type with big passages and a thick walled casing. This combines high performance with low wear.

The dredge pump can be used for trailing suction as well as for discharging ashore. The integrated gearbox is designed for operating at two nominal speeds. The dredge pump is designed for the requirements of the dredge to guarantee high not even performance and efficiency of the dredging operations under varying conditions, but excellent suction capacity as well.

Overflow weir
One conical overflow is installed in the aft end of the hopper and consists of a fixed cylindrical lower pipe part and a movable upper pipe part. The lower fixed pipe is integrated in the ship's structure. The overflow weir is designed to allow continuous adjusting when loading. A replaceable rubber seal is fitted between the movable and the fixed part.

Unloading system
The unloading equipment, with three bottom valves and the jetting system for diluting the load, allows quick dumping of the hopper, even without conventional bottom flaps with wide openings. Due to its geometry, the VOSTA LMG system of bottom valves also ensures better sealing of the hopper than bottom flaps.

Bottom valves
Three conical bottom valves are installed in the center line of the hopper over the whole hopper length. Each bottom valve is individually linked to a hydraulic cylinder by valve rod. The hydraulic cylinders for the bottom valves are arranged above the hopper. The valve discs are sealed off by special rubber seals. The seals are arranged at the ship's bottom in such a way that they are protected from mixture flow during dumping (hence long life time).

Box coupling
The dredge is furnished with a VOSTA LMG ashore installation for emboying the hopper, consisting of the necessary onboard pipes including a bow coupling and hoisting facility for connection to the flooding pipe.

Dredge Automation System
The dredge is equipped with a VOSTA LMG "Dredge Central and Monitoring System" (DCMS). DCMS is a highly integrated system.
based on the latest automation hardware and implementing modern PC techniques to provide the dredge master with an easy to use operator interface with a high information density and a maximum of functionality.

Based on an industrial PLC, high quality standard PCs and TFT displays, the DCMS gathers, evaluates and displays information from a whole range of sensors including mixture density and flow, hopper level, draft, head and trim, pump pressures etc. to provide efficient and reliable control of the dredging process.

The system consists of the three basic modules: "Process Control and Monitoring", "Loading Computer" and "Side Suction Pipe Indication and Control" and provides open interface to the "Dredge Operation Monitoring System" (DCMS).

As space was a main criterion on the "Thái Bình Dương" bridge, hardware components were held to a minimum. Only the operation of critical equipment such as side suction pipe winch and gantry, dredge pump and jet pump, and bottom valves can be executed via pushbuttons or joy-sticks on the dredge control desk. The DCMS controls and monitors the complete dredging installation, mainly using task oriented mimic diagrams which show the equipment's status in real time. Operations are mainly performed via a trackball. Changing screen pages or operating equipment is done by either clicking on the respective screen buttons or corresponding function keys on the keyboard.

Functional Displays
The system provides separate mimic screens for the different system functions. The operation of the piping system and pump auxiliaries is performed on the main dredging display where the symbols shown are animated to indicate the current equipment and process status. Interlock checks are automatically performed by the system to safeguard against operator errors. Via a right mouse click on the relevant symbols the operator can obtain additional information on the condition of the equipment including a list of interlocks, monitoring times and sensor ranges. The hydraulic system is the heart of a hopper dredge and accordingly the DCMS which is the brain provides a dedicated screen page to monitor and control the hydraulic equipment.

DCMS alarm system consists of three groups: alarms, warnings and messages whereby each group is using a different color scheme. The last alarm is always visible at the top of all DCMS pages. When looking at the alarm page the operator can see current alarms or the alarm history and can additionally set a filter to only view the groups currently of interest.

For the input of limit values, operational information and selection of equipment operation modes, a separate user settings page is provided. From this page the user can save the current settings, reload the last saved settings and load the default settings defined during the commissioning phase.

The loading computer page is laid out to provide the operator with a quick and complete overview of the ship's status including a continuous quantitative determination of the dredged material, the current dredging operation mode, information from sensors (draft, trim, heel and hopper level) and the operational data (density, displacement, load, solid, etc.). This information is provided in numerical and graphical formats. The suction pipe is represented in its plan and side view showing the dredghead depth and the critical pipe angles. Text messages are displayed on the screen to indicate particular pipe positions, the selection of maintenance mode or to warn when certain alarm conditions occur. Together with these views the most important process information including that of the swell compensator is shown in numeric or graphical format.

Automatic Functions
The DCMS enables fast, safe and efficient dredging by providing a range of automatic functions. Deployment of the side suction pipe is performed quickly using one lever operation for all three winches and gantries. Over dredging is avoided by switching to auto-depth mode where the maximum depth of the dredghead is automatically limited. Lower pipe vertical angle control ensures that the dredghead always has the optimum angle to the seafloor for maximum dredging efficiency. Other control functions continuously monitor both the transverse and vertical angle of the intermediate joint and take corrective action to ensure that the pipe is always in a safe configuration. The swell compensator automatically monitors the swell compensator returning it to the mid position when it extends or retracts outside its range. For sand dredging an automatic weir function limits the draft to a set value by gradually lowering the overflow weir. In this way the hopper can be filled with the maximum possible load of sand.
A dredge pump automatic speed controller is included in the DCMS for maximum pumping...
efficiency and dredging performance. The controller varies the pump speed by controlling the fill level of the dredge pump hydro coupling. A complex drive train involving the hydro coupling, a shaft brake and a two stage gearbox is used to drive the dredge pump of the starboard main engine. The DCMS controls and monitors the complete drive train ensuring safe and reliable operation.

Propulsion Plant
The dredge features a twin-engine propulsion plant with each engine driving a four-blade controllable pitch Schottel propeller, type SCP 0554XG. Main diesel engines consist of Deutz TBD 620 V12 engines, each developing 1,120 kW. The Schottel propellers feature a diameter of 2 m and turn at a speed of 302.5 rpm providing the vessel a speed of 10 knots.
Both propellers are remote controlled from the bridge with a Noris remote control system. The auxiliary generator set incorporates a 535 kW Deutz TBD 616 V12 marine diesel engine. Directional control at low speeds is enhanced by a Schottel STT 110 DK bow thruster unit fitted with a 704 mm diameter four-blade propeller. The bow thruster unit is driven via a reduction gearbox with a ratio of 1.86:1.

Navigation Equipment & Control Systems
The wheelhouse is fitted with a wide range of navigational aids and control systems for the propulsion plant and other shipboard machinery. The navigation equipment is fitted in the bridge control desk which also accommodates the control desk for the propulsion plant in the engine room.

The manoeuvring stand is integrated in the control desk and fitted with the steering wheel.

Nautical components include:
- a gyro compass installation,
- a master compass,
- an analogue steering repeater compass,
- a bearing repeater,
- standard azimuth device,
- control and distribution boxes,
- standard tools and spare parts.

The dredge's bow carries a VCSTUR LMG bow coupling for unloading to shore-based sites.

Navigation installation and equipment is in accordance with IMO requirements for area A1. The radar equipment consists of an AFPA radar installation featuring a 21-inch color raster scan daylight high-resolution display unit. Furthermore, a true motion radar system consisting of a 21-inch color raster scan daylight high resolution display unit. Other systems include an echo sounder, a Doppler speed log, and a GPS.

Subcontractors and suppliers of equipment fitted on board the 'Thai Binh Duong' (partial list)

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<thead>
<tr>
<th>Company</th>
<th>Location</th>
<th>Equipment</th>
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<tbody>
<tr>
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<td>Amsterdam</td>
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<tr>
<td>Antwerpse Motorwerkens</td>
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<td>Bakkert Electrotechniek</td>
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<td>Egon Tool, Capelle au Désir</td>
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<td>valves &amp; fittings</td>
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<td>Hycos, Reuterdorstkeer</td>
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<td>Inc. Lagardeit, Kieldeek</td>
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<td>Kracht, Wortel (G)</td>
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The two high-capacity NERVUS jet pumps are remote controlled from the wheelhouse.
Reich Kupplungen.
Bochum (G) flexible (shalt)
couplings

Reiker, Spiekeroog.
Acco centrifugal pumps

Rockwood Technical
Insulation, Roosendaal.
Rockwood fireproof insulation

Rotor, Ebergen.
Electric motors

Schneider Electro, Haarlem.
Telemecanique electrical components

Schottel, Spaarndam (G).
Transverse thruster system/CP propellers

SGS Technische Inspekte.
Teile inspection

Shell Marine Products.
Vossenganstall PT oils & lubricants

SKF Nederland.
Veendam.
Rolling bearings

Smith, A.O., Velsen.
Boilers for sanitary equipment

Snijder Filtertechniek.
Houten.
Separate filter water separator

Stromag, Roosendaal.
Dutch couplings

TeamTec, Utrecht.
Galaxcopaers

Theunissen, Maastricht.
SasTeleCom communication equipment, zenith, Peach transmitters, searchlights, & window wipers

Trela-Rafina, Etten-Leur.
Transformers

Triton-Format, Etten-Leu (G).
Sewage treatment plant

Uittenbogaart, T.B.,
Rotterdam.
Jasen-Kestermaan gearboxes

VAF Instruments, Dordrecht.
Viscosilc viscosity control system, fuel oil meters

VOSTA LMG, Amsterdam.
Basic design & engineering, dredge component package, drag heads, inboard dredge pump, hydraulic installation, dredge control & monitoring system (DCMS), dredge operations & chart systems (DCOS), dynamic position & tracting systems, shore exchange installations/bow coupling, suction pipes, suction pipe galleys

Vremac, Avelcoom.
Hydraulic cylinders

Vulcan Bonelux,
H.A. Ambacht.
Vulcan Royal flexible couplings

Wisel, Assen.
Water tight doors

Wingerden en Zonen.
H.K. van, Uden.
Wiper windows & port holes

Worteloo, Rotterdam.
Anchors

Zolten Nederland.
Drum.
Planetary gearboxes, winches (gantries), whistle

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We wish the THAI BINH DU'O'NG 'bon voyage'
Cost reduction is a tough assignment for any dredge, since dredges are inherently costly to operate. Ellicott looked at the overall, long-term picture and decided that the best way to get a cost-effective dredge was to maximise its productivity and minimise its downtime.

High productivity is achieved through use of a ladder pump which is much more efficient at getting sand to the plant from the depths of Mays Landing's deposit. Also, the automation system will help get the most out of the dredge by keeping all systems working in close harmony to achieve optimal flow and density in the pipeline.

Ellicott minimises downtime through a total commitment to designing and building an extremely rugged, heavy duty dredge, conservatively engineered and built for 'worst case' scenarios. Mays Landing expects that the SanMiner's efficient systems and new engines will reduce energy costs by 10% from current levels. The best way to increase efficiency is by maximising up-time – the automation combined with the SanMiner's rugged construction do that better than any other system available.

While the dredge was under construction, the State of New Jersey adopted emission standards that are much stricter than current Federal EPA requirements. In the case of the 780hp (587kW) main engine, the limits for NOx emissions went beyond the ability of any existing technology to meet it. After some quick thinking by Ellicott, the SanMiner™ dredge was redesigned and modified to be self-propelled, with the primary engine providing power for propulsion. This allowed the engine to be classified as a propulsion source, putting it into a different emission level category, and enabling the dredge to comply with the new regulations.

Damen launches trailing suction hopper dredger for Vietnam

The 1,500m³ trailing suction hopper dredger, ordered by The Waterway Dredging and Construction Co Ltd in Vietnam with YOSTA LMG's, has been launched by Holland's Damen Shipyards, Hoogezand.

The construction of the dredge is advancing according to schedule, which ensures a delivery date to the owner in the first quarter of 2004. After the launch and naming ceremony, the ship will be completed in Hoogezand, before testing it early 2004. After the trials, it will sail to Vietnam for delivery to Waterway Dredging and Construction Company.

The Thai Binh Duong being slide-launched at Holland's Damen Shipyards, Hoogezand.

The dredge is built according to rules and regulations of Germanischer Lloyd for class: GL 100 A5 Hopper Dredge, K20 on dredging draught 4.5 m @ MC. She will be named Thai Binh Duong, which in English means Pacific Ocean. Home port is to be Hai Phong in northern Vietnam and the dredger will be mainly used for maintenance dredging. This will contribute and secure a safe navigation to main import and export harbours, especially for Hai Phong and Hon Gai, however the dredge has most modern capabilities for capital dredging as well. The dredger features a state of the art dredge control and monitoring system. One drag head in combination with the latest designed suction pipe ensures best dredging performances.
VOSTA LMG en Damen Hoogezand bouwen hopperzuiger voor Vietnam

De Waterway Dredging and Construction Co. in Vietnam heeft bij VOSTA LMG een stoomhopperzuiger van 1500 m³ besteld. VOSTA LMG bijkomt op als hoofdbouwer en verzorgt het compleet vervaardigen en de bouwafsluiting. Het scheepbouwbedrijf deelt de bouwafsluiting af van VOSTA LMG uitgeleend aan Damen Shipyards Hoogezand, wijkne deze opdracht heeft geboekt onder bouwnummer 7109. De oplevering moet in het 1e kwartaal van volgend jaar plaats vinden.

De afmetingen zijn:
- Lengte o.a.: 64,00 m
- Lengte L.: 60,00 m
- Breedte m.: 13,00 m
- Hout: 5,30 m
- Diepgang: 4,60 m
- Draagvermogen: 1916 t
- Laadvermogen hopper: 1760 t
- Snelheid: 10 kn

Het schip wordt uitgerust met een zweepbuis aan SB diameter 500 mm voor een baggersnelheid van 21,0 m

De VOSTA LMG baggerschip, type 950-1530, heeft een capaciteit van 5000 m³ bij maximaal 7,0 m en wordt aangedreven door de SB yachtmotor.

De twee Huisjinejelpompen, type H611-300-400, hebben een capaciteit van 1300 m³ bij maximaal 10 bar; zij worden aangedreven door de SB yachtmotor.

Lossing van de lodig gebeurt via drie ronde bodemdoppen, diameter 3300 mm, via een legezysysteem en waterinlegging met boegkoppeling en rimpelwachte.

De yachtmotoren zijn Deutz diesel, type TBD626 3VL2, van 1200 kW bij 1800 tpm.

Elektrisch vermogen wordt geleverd voor een 350 kVA aggregaat op de EB yachtmotor, door een 650 kW hulpset en een 105 kW noodset.

De accommodatie biedt plaats aan 13 personen.

Germanischer Lloyd zal het schip klasseren.

Zijnaanzicht van de Wadree No. 1.

IDHA bestelt containerfeeder Maassroom en Merwedestroom

Voor Openhaven Maas en Rijn, uitgeleend aan Damen Shipyards Galatz, twee schepen van het nieuwe type Damen Container Feeder 800, dat in Hoogezand wordt gebouwd en van waaruit de rederij een rederij heeft een vloot voor deze doeleinden.

De afmetingen worden:
- Lengte o.a.: 138,00 m
- Lengte L.: 125,00 m
- Breedte m.: 21,80 m
- Hout: 9,50 m
- Diepgang: 7,30 m
- Draagvermogen: 9500 t
- Dienststrek: 18 kn

De schepen krijgen drie ruimtes, de voor volle laden, de voor lege laden en de voor vaste laden.

De accommodatie is voor 800 TEU, waarvan 200 in de ruimte, alternatief 360 FFE + 82 TEU of 324 40-footers + 28 TEU.

De diesel-elektrische dynamische installatie is een 65 kVA aggregaat met een maximale vermogen van 1200 kW bij 1300 tpm. De elektromotor is een Deutz-Motoren, type TBD626 3VL2, van 1200 kW bij 1800 tpm.

De accommodatie is voor 800 TEU, waarvan 200 in de ruimte, alternatief 360 FFE + 82 TEU of 324 40-footers + 28 TEU.

De accommodatie is voor 800 TEU, waarvan 200 in de ruimte, alternatief 360 FFE + 82 TEU of 324 40-footers + 28 TEU.

Voor Utrecht Maritie V.C.V. is de IDHA twee container schepen bijkomt van de o.a. de scheepvaart in Nederland.

De schepen worden van de nieuwe Maas en Merwe en hebben de volgende afmetingen:
- Lengte o.a.: 141,60 m
- Lengte L.: 132,30 m
- Breedte m.: 23,60 m
- Hout: 9,50 m
- Diepgang: 7,30 m
- Draagvermogen: 9500 t

De containercapaciteit is 804 TEU, waarvan 200 in de ruimte, alternatief 360 FFE + 82 TEU of 324 40-footers + 28 TEU.

De accommodatie is voor 804 TEU, waarvan 200 in de ruimte, alternatief 360 FFE + 82 TEU of 324 40-footers + 28 TEU.

Voor elektrische voorziening zijn er aggregaten van 2000 kVA, twee hulpset met Mitsubishi motors en Stadern generatoren van 512 kVA en een noodset met een Sisu diesel en een Stadern generatoren van 1200 kW.

De elektrische aangedreven drie-as schepen is voor- en achterkant hebben een vermogen van 200 kW per as.

De accommodatie omvat 15 eetplaatjes, waarvan een met aparte eetplaatjes. Alle ruimtes hebben een eigen toeleidings system.

De schepen worden door Germanischer Lloyd gekeurd.

De oplevering is gepland voor najaar 2004, bouwnummer 844, eerste kwartaal 2005 (bouwnummer 845).

Zijnaanzicht Maassroom en Merwedestroom.

Zijnaanzicht Damen Container Feeder 800.

Twelve containerships for Damen Galatz

For the third time, Jong Kaping has ordered Damen Shipyards Galatz two ships of the new type Damen Combi Feeder 800, which in Hoogezand will be built. The rederij has a foothold in the Netherlands.

The ships will have the following dimensions:
- Lengte o.a.: 138,00 m
- Lengte L.: 125,00 m
- Breedte m.: 21,80 m
- Hout: 9,50 m
- Diepgang: 7,30 m
- Draagvermogen: 9500 t
- Dienststrek: 18 kn

The ships will have three decks, one for fully loaded, one for empty and one for fixed containers.

The accommodation capacity is 804 TEU, with 206 in the hold, alternately 361 FFE + 82 TEU or 324 40-footers + 28 TEU.

The diesel-electric propulsion system consists of a 65 kVA generator with a maximum power of 1200 kW at 1300 tpm. The electric motor is a Deutz engine, type TBD626 3VL2, with 1200 kW at 1800 tpm.

The accommodation capacity is 804 TEU, with 206 in the hold, alternately 361 FFE + 82 TEU or 324 40-footers + 28 TEU.

Voor elektrische voorziening zijn er aggregaten van 2000 kVA, twee hulpset met Mitsubishi motors en Stadern generatoren van 512 kVA en een noodset met een Sisu diesel en een Stadern generatoren van 1200 kW.

The electrically driven three-axis ships have a total power of 200 kW per axis.

The accommodation consists of 15 dining rooms, each with separate dining rooms. All rooms have their own lighting system.

The ships will be built by Germanischer Lloyd and approved.

The delivery is planned for autumn 2004, (bouwnummer 844), first quarter 2005 (bouwnummer 845).

Zijnaanzicht Damen Combi Feeder 800.
M/V "HS DISCOVERER"

- Builder: Stocznia Gdynia SA, Gdynia, Poland
- Yard No.: R0007
- IMO-No.: 9397160
- Call sign: AODW6
- Flag: Libya
- Plyf of registry: Monaco
- Type: Container vessel
- Classification: “HS Discoverer”
- Owner: Schiffahrts Gesellschaft “HS Discoverer”mbH & Co. KG, Hamburg
- Classification: GL + 100 A5.1 “Containership” M
- Tonnage: GT 30,024
- Depth: 16.80 m
- Draught: 11.90 m
- Speed: 21.5 kts
- Propelling machinery:
  - One Cegiluk/MAN 8ALW Diesel type 7500MC-C, 2,735 kW, one propeller (Gen/Man/Mo)
  - One 2-stroke Diesel type 5L38/32 H, 1,000 kW at 720 rpm each, two Cegiluk/MAN
  - Hohby Diesel type 6L28/38 H, 1,280 kW at 720 rpm

Equipment:
- One emergency generator 1,200 kW
- Equipment: Three single deck container cranes (Krupp)
- 48/40 t at 27.5/30 m outreach plus one deck
- Container crane (Krupp), 35/30 t at 27.2/9.5 m outreach
- Dual and Panama fittings, one bowthruster (Bramhall)
- 1,200 kW
- Container intake in holds: 1,000 TEU/898 FEU/33 TEU
- On deck: 1,748 TEU/949 FEU/33 TEU
- Total intake: 2,748 TEU
- 400 winch plugs are fitted whereof 100 are in vessel’s hold
- Stability: Homoy, intake on basis 14 t:
- at: 2,000 TEU

M/V "THAI BINH DU'O'NG"

- Builder: Veolia LGG GmbH, Liban
- Germany/Damen Shipyards, Hoogeland, Netherlands
- Yard No.: 619
- IMO-No.: 9285364
- Flag: Vietnam
- Port of registry: Hai Phong
- Type: Towing Suction Hopper Dredger
- Delivery: March 5, 2004
- Owner: Waterway dredging & Construction Co. T. Vietnam
- Classification: GL + 100 A5.1 Hooper Dredge, KDO
- on dredging draught 4.6 m, MC
- Length b.p.: 69.06 m
- Breadth: 13.06 m
- Depth: 5.36 m
- Draught: 4.96 m
- Speed: 10 kts
- Propelling machinery:
  - Two KDO Diesel type TDGQV12, 1,120 kW each, reduction gearbox (Rheinw)
  - Two Schottel variable pitch propellers, remotely controlled from the bridge; two flap rudders
  - (Eckesmeyer Schiffstechnik)
- Auxiliary engines:
  - One Deutz Diesel type TGA616Y2, 255 kW
- One harbour generator 505 kW, one emergency generator 94 kW

Equipment:
- One bowthruster (Schottel, deck crane & anchors)
- The dredge components are designed and supplied by VOSA LGG. The main components are one side suction pipe with turning gland and type of universal discharge, part of the container handling system and hosting workshops, dredge pumps with integrated gearbox, jetwater pumps, mixture suction and heating lines with sluice valves, loading chutes, overflow weir, bottom valves, mixture unloading and discharge lines with sluice valves, bow coupling, dredge automation systems (hard- and software), hydraulic installation. The vessel has a capacity of 1,500 m³ (cropper load: 1,700 m³) and is suitable for dredging operations up to depths of 21 m.
On May 17th 2004, Vosta LMG handed over to Waterway Dredging and Construction Company 1 (WADRECO 1) the 1,500 m³ trailing suction hopper (TH) dredge, Thái Bình Dương which has been supplied under a loan granted by the German Government to the Government of the Socialist Republic of Vietnam. WADRECO 1 Director, Mr. Pham Tien Huy, took receipt of the dredge from Vosta LMG Managing Director, Mr. Carsten Schwen in a festive ceremony held in the Port of Hai Phong, Vietnam.

The TH dredge Thái Bình Dương sailed in a little less than six weeks from the shipyard where she was built - Damen Shipyards Hoogezaand, The Netherlands, to her home port Hai Phong in Vietnam via the Suez Canal. During the voyage to Hai Phong the future Vietnamese crew was thoroughly trained by Vosta LMG dredging experts to operate all available features of the dredge.

The 1,500 m³ TH dredge was launched on 15 November 2003, and named Thái Bình Dương, which translates to Great Pacific Ocean. Customer Waterway Dredging & Construction Company No.1 of Vietnam was present to witness this ceremony.

Completion of the 1,916 dwt, 1,500 m³ vessel took place after the launch. The 64 m long hopper dredge is suitable for dredging operations up to depths of 21 m and features a hopper load of 1,760 t. The dredge was built according to the rules and regulations of Germanischer Lloyd for class GL (100 A5 Hopper Dredge, K20) on dredging draught 4.6 m MC.

The trailing suction hopper dredge will be used mainly
for maintenance dredging operations. This will contribute to and secure a safe navigation to main import and export harbors, especially for Hai Phong and Hon Gai. However, the dredge has most modern capabilities for capital dredging as well. The dredge features a state-of-the-art dredge control and monitoring system. The single drag head in combination with a specially designed suction pipe ensures best dredging performances.

The new dredge, especially designed for maintenance dredging in harbors, channel entrances and approach lanes, features Vosta LMG components for the loading and unloading systems.

Main components are:
- a side suction pipe with turning gland and active draghead;
- gantries with swell compensators and winches;
- dredge pump and jet water pump;
- a hydraulic installation and
- dredge automation (hard- and software were supplied as well).

The dredge was built within a time span of seventeen months.

(Continued on pg. 14)
Iran Contracts

Vosta LMG, a leading engineering and contracting company, serving the worldwide dredging industry, received a contract for the delivery of an engineering and components package for a cutter suction (CS) 500S from a well-respected customer in Iran.

This contract entails building a CS dredge 500S, which will be self-propelled and will be built in Iran with the owner and is scheduled to be ready in 2005. The owner plans to use the dredge for deepening the basin and maintenance work in the area of Chabahar in Iran.

Recently Vosta LMG delivered a CS dredge 500S to SADRA Industrial and Marine Group. This project, which was won in 2002 by Vosta LMG has been executed with partner shipyard Iran Marine Industrial Group (SADRA). Vosta LMG performed the basic engineering and delivered the dredge systems such as the electrical, hydraulic, diesel installation with components including cutter, cutter ladder front part, spud carrier and dredge pump. Partner shipyard SADRA has assembled the dredge under supervision of the Vosta LMG project manager onsite. Furthermore Vosta LMG commissioned the dredge and provided a crew training course.

The CS dredge 500S has been built at the Iran Marine Industrial Group (SADRA) shipyard in Neka, Iran for Iranian customer PSO (Port and Shipping Organisation). The dredge was named the Shahid Rashidi and handed over to PSO.

The CS dredge 500S is dismountable, equipped with a Vosta SC10 cutting system onboard and accommodates up to four crewmembers, and is designed to work in Caspian Sea area maintenance projects. www.vostamlg.com

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**Mechanical Specifications of the Thái Bình Dương**

- Length over all: 64.00 m
- Length b.p.: 60.00 m
- Breadth mld.: 13.00 m
- Depth to main deck: 6.30 m
- Draught at dredging freeboard: 4.60 m
- Deadweight at dredging freeboard: 1,916 dwt
- Sailing speed: 10.0 kn
- Crew accommodation: 13
- Hopper capacity: 1,500 m³
- Hopper load: 1,760 t
- Dredge pump loading/discharge: 360/800 kW
- Jet water pumps high-pressure: 820 kW
- Jet water pumps low-pressure: 410 kW
- Diameter suction pipe: 600 mm
- Dredging depth max.: 21.00 m
- Dredging depth min.: 6.50 m
- Mixture flow rate: 5,000 m³/h
- Propulsion plant: 2 x 1,120 kW
- Auxiliary engine: 535 kW
- Harbor generator: 505 kW
- Emergency generator: 94 kW
- Total installed power: 3,400 kW

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**CS dredge 500S, built at the Iran Marine Industrial Group (SADRA) shipyard in Neka, Iran for Iranian customer PSO (Port and Shipping Organisation). The dredge was named the Shahid Rashidi and handed over to PSO.**