

## Niche Market with Individual Solutions at a High Technical Level



The new 168 meter mega trailing suction hopper dredger "Congo River"

**DREDGER** - "No Dredging! No Shipping! No Global Trade!" – The slogan of the European Dredging Association emphasizes very clearly the importance of this sector. European dredging companies lead the world with a 66 percent market share of dredging in worldwide open projects.

SAM has extensive project experience in this segment and works with internationally recognized industry partners. One of the key players in European dredging is D.E.M.E., Belgium. At the beginning of July 2011, D.E.M.E.'s new flagship - a mega suction hopper dredger with a capacity 30,000 m<sup>3</sup> was christened at IHC Merwede shipyard in the Netherlands. The impressive "Congo River", which is 168 meters in length, is packed with high-tech equipment, making it one of the highest performing and most economical dredgers on today's market.

SAM Nederland has won the order for the new NACOS Platinum integrated navigation and automation system including two 26" multifunctional Multipilot Platinum workstations for S- and X-Band. The package also includes a ECDIS Platinum / Trackpilot with 26" widescreen, an AIS SAM 3410, a Speedlog SAM 4642, a SAM GDS101 echo sounder with 200 kHz transducer, a DGPS receiver / SAAB R4, a VDR SAM 4350 and nine multifunctional displays as well as a package of navigational aids, a GMDSS A3 system and a combined communication and entertainment Dual Dome KVH M9 SAT TV system.

Platinum is based on standardized components and uses a common network that supports the complete portfolio of Radar, ECDIS and Conning displays. The result is an innovative system that is efficient and satisfactory to use and providing unrivalled overview and simplicity of operation. It enables the crew to concentrate on operating the "Congo River" safely without any unnecessary distractions or stress. The new IP-radar, which is directly connected to the Platinum network enables users to access the complete radar image from any workstation. Similarly, the ECDIS display can be made available for viewing on a workstation in the engine control room, the Captain's office, or public rooms on the ship.

An advanced complete dredge control and electrical propulsion system has been delivered in collaboration with VOSTA LMG for a new heavy-duty cutter suction dredger, named "Al Jarraf". The contract included the supply of two 1250 kW medium-voltage thruster drives, two 1250 kW cutter drives and one 2200 kW submerged dredge pump drive along with four low-voltage drives for the side and ladder winches, the jet pump drive and four gland pumps. The 440 V switchboard was produced by SAM's Chinese subsidiary SAM Taihang Electronics. The voltage and 690 V switchboard was supplied by SAM's Hamburg production site. In addition to the alarm and monitoring system, the



"Al Jarraf" will be able to discharge dredged material through a floating pipeline and directly into a barge

# SAMinsight

+ + + SAM NEWS + + + PEOPLE + + + TECHNOLOGY + + +

dredger was also equipped with a comprehensive navigation package from SAM. The Dredge Control System, the heart of the dredger, has a completely new design and is unlike systems on other dredgers. The concept was engineered in collaboration with D.E.M.E. and VOSTA LMG while software development was carried out by SAM. The system takes into account ergonomic requirements and essential factors for cost-effective dredging with a high level of automation. Due to the complexity of the project D.E.M.E. also decided to commission SAM's Integrated Systems business unit to take on full responsibility for project management and site supervision.

The vessel, which is 102 meters in length, was delivered to D.E.M.E. in July 2011 by ASL Shipyard, Singapore. The new cutter dredger will be used in infrastructure

projects in the Gulf region and beyond. It is self-propelled and has 12,860 kW of total installed power, allowing it to sail under its own power between various working locations within the Gulf, without requiring the assistance of powerful tugboats.

SAM's special system technology has also been selected for two modern suction hopper dredgers built by Sietas shipyard in Hamburg for the German dredging company Josef Möbius Bau-AG. "Werner Möbius" has been in service since the end of 2010. The second vessel will be delivered at the start of 2012. The ships were developed on the basis of the long-established experience of VOSTA LMG and Josef Möbius Bau-AG. VOSTA LMG supplied the basic blueprint and the dredger components. VOSTA LMG has more than 140 years of experience in designing and building dredgers. The dredgers are capable of self-

loading in less than an hour and transporting excavated sediments at a speed of 13 knots. Both vessels have a suction tube of one meter in diameter which can reach depths of up to 30 meters.

SAM was awarded the contract for the diesel-electric propulsion system and the dredge control and monitoring system. For each dredger, SAM has supplied two 1700 kW propulsion motors, a 2000 kW motor for the dredging pump including the active front end frequency converters, a 1000 kW speed-controlled thruster drive, four generators - each 2038 kVA, 690 V and 50 Hz feeding the common bus bar - and additionally, two 700 kVA transformers.

The switchboard was delivered by SAM's subsidiary STN Schiffselektrik in Elmenhorst. The installed power management system, the generators and the electric motors are controlled in such a way as to minimize diesel consumption and emissions. SAM's delivery also includes a comprehensive dredge control and monitoring system (DCMS) that allows the dredger master to access the entire process visualization from one central workstation during dredging. In addition to full manual control the DCMS offers a wide range of automatic functions that simplify the dredging process. These functions also provide clear improvements in terms of efficiency, for example automatic poor mixture overboard and automatic positioning of the suction head. All relevant system components in the process such as hydraulic controls, power management, the survey system and numerous sensor systems - e.g. for flow and density measurement - are included. The most advanced mimics, divided into functional groups, show the status of the equipment in real time.



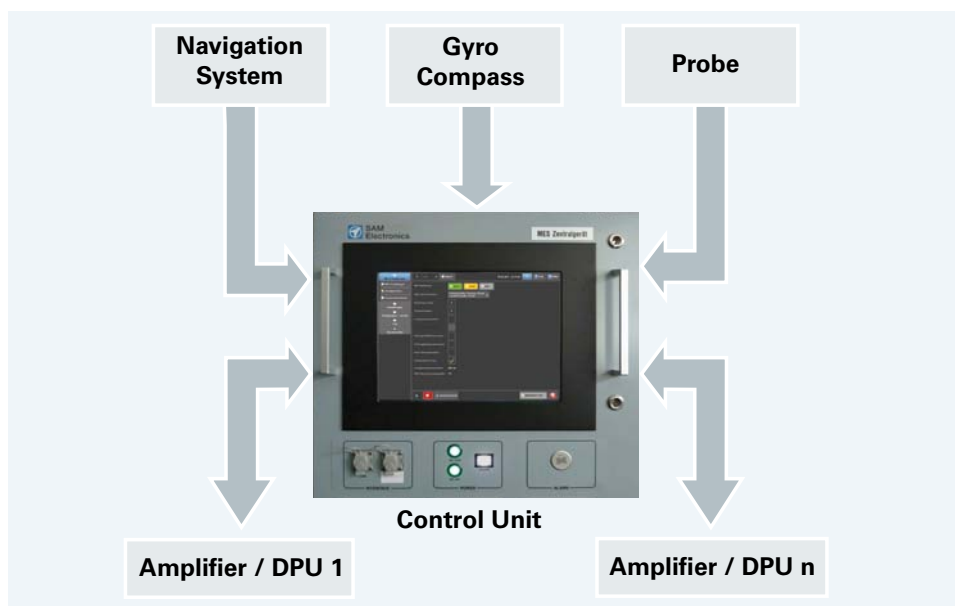
"Werner Möbius" was delivered in December 2010 (Photo: VOSTA LMG)

## Degaussing Systems for 12 Canadian Navy Vessels

**NAVAL VESSELS** - In cooperation with L-3 MAPPS, Canada, SAM has been awarded the contract to supply 12 degaussing systems for the Royal Canadian Navy's Kingston-Class Maritime Coastal Defence Vessels.

These advanced degaussing systems will be delivered and supported locally in collaboration with L-3 MAPPS. SAM produces one of the most effective means of protecting ships against modern sea mines by reducing their magnetic signature to the safe levels, required for mission success. This proven solution has been delivered to 15 of the world's leading navies. This project is another good example of the cross-selling capabilities that exist within the L-3 Group and can strengthen market positions.

L-3 MAPPS has provided marine control systems, trainers and training services to the Royal Canadian Navy's ships and submarines for over 25 years, including the current upgrade contract for the Integrated Platform Management System used on Halifax-Class Frigates.



## Bridge Navigational Watch Alarm System

**PRODUCTS** - SAM's new Platinum bridge navigational watch alarm system (BNWAS) complies with IMO Resolution MSC 128(75) and the new IEC 62616 performance standard for BNWAS. The BNWAS Platinum is designed for easy installation on both new and existing vessels, and is suitable for vessels of any size. The system is type-approved by major classification societies such as GL, RINA, ABS and Class NK.

The BNWAS is both an advanced alarm system and monitoring system. By monitoring bridge activity by means of user interaction and physical movement in the bridge area (motion sensor), the system can detect operator disability and alert back-up officers to come to the bridge area, thus helping to ensure the safe operation of the vessel and avoid accidents. The alerts issued to back-up officers can be configured (according to rules and regulations), i.e. the captain's cabin can be alerted in parallel to the bridge and various officer's cabins can be selected as alarm destinations for second stage back-up call alarms. The alarm system and all back-up-call functions and timer settings are controlled and handled from the bridge alarm panel located centrally in the bridge console.



Bridge alarm panel and officers / public panel

The main features of SAM's BNWAS are: Main alarm panel with dimming, accommodation alarm panels, assist call facility, motion sensors, reset pushbuttons, activate switch, reset timer inputs from radar, force activate by steering gear / Trackpilot along with flexible interfaces, user-friendliness and available optional as stand-alone or integrated into NACOS Platinum.

New regulations from IMO's Maritime Safety Committee (MSC) will require carriage of a bridge navigational watch alarm system (BNWAS) that complies with IMO per-

formance standards. In the case of existing ships built before 1 July 2011, the equipment must be installed during the first survey after the following deadlines: existing passenger ships and ships over 3,000 GT: July 1, 2012; existing ships over 500 GT: July 1, 2013; existing ships over 150 GT: July 1, 2014. New ships over 150 GT and all new passenger ships constructed after July 1, 2011 must be equipped with a bridge navigational watch alarm system.

**For further information, please contact:**  
**ANC@sam-electronics.de.**

## International SAM Cup

**EVENTS** - On August 17, a number of highly motivated teams from the SAM Group competed in this year's SAM Cup soccer tournament in Heidgraben, near Hamburg. People are always saying it's all about the taking part, but naturally every team wanted to win the tournament, which was being held for the fourth time. The great interest in this sporting event resulted in 12 well-prepared teams doing battle. The sides involved were the Dutch Lions from SAM Nederland in Rotterdam, the Lyngsø Vikings from Denmark, Jovy's Deichkicker from JOVYATLAS in Leer, the ELAC Sprotten from ELAC Nautik in Kiel, the Baltic Bolzer from STN Schiffselektrik in Elmenhorst, Fairplay war Gestern from FUNA in Emden, the Sunk Kieker from MGS in Stralsund, the Navy Kicker from SAM in Wilhelmshaven and four further teams from SAM in Hamburg.

The teams were split into two groups for the preliminary round. The weather conditions couldn't have been better and, after some very exciting games, sides from northern Germany emerged victorious. The final saw two teams from Hamburg – SAM-BA Production and 1887 Energie Hamburg – take to the field. They treated spectators to some thrilling attacking play and excellent passing. SAM-BA Production ran out

2-1 winners, while the Lyngsø Vikings finished third. After the presentation ceremony, out came the beer and sausages and everyone got talking. Once again, the organizers succeeded in putting on a memorable

event that has now become an established part of the company's sporting calendar. And they have already received a number of initial entries for the fifth SAM Cup.



The Winning Team SAM-BA Production (from upper left: Michael Kahl, Christian Kilb, Jannik Schulz, Jan-Peter Lexow, Dustin Heußmann, Carsten Petersen, Gökhan Kozan / from bottom left: Felix Lehmann, Daniel Gawron, Patrick Marciniak, Ingo Hettenhausen)

## A Gathering of Luxury Yachts

**EXHIBITION** - Every September, Monaco is the focal point for luxury shipyards and their customers. Port Hercule on Quai Albert is transformed into the world's most expensive harbor. Around 500 international exhibitors displayed their megayachts, tenders, interior fixtures and fittings, entertainment systems and on-board electronics at this year's yacht show. SAM and its subsidiary Advanced New Technologies (ANT) joined forces to showcase their broad portfolio of products and services. ANT naturally focused on customized entertainment solutions. The new integrated navigation system NACOS Platinum was also unveiled at the stand. It goes without saying that the multifunctional MULTIPLOT Platinum system was the centerpiece of SAM's stand.



Arne Melzer and Arne Baier, SAM, discussing Platinum new features with customers

## Enhanced Functions for Further Integration of Nautical Information

**RESEARCH** - The recently-completed EU FLAGSHIP Bridge Support project, headed by SAM, involved developing advanced functions for integrating of Notices to Mariners information relevant to navigational safety matters, radar and AIS targets into a single composite display. By enhancing navigational safety methods, this has enabled quicker hazard analysis and improved tracking accuracy, leading to a significant reduction in duty officer workloads. As a result, navigational text (NAVTEX) message integration can be merged with the positions of wrecks on electronic charts. Together with corresponding AIS target merging, the development will be available later as part of SAM's latest NACOS Platinum systems. A portable conning unit will also be available as a tablet PC.

SAM's current series of NACOS Platinum all-purpose integrated vessel control systems was used as the platform for the development. Incorporating IP radars, the LAN-based

bridge systems are based on identical components and a common network to provide all navigation and automation functions including those for alarms, monitoring and control, propulsion control and power management. A combination of networked architecture and modular components provides varying levels of scalability so that solutions can extend from a small alarm-type system or stand-alone ECDIS assembly to larger, more complex configurations found on vessels such as cruiseships and tankers.

Trials for the developments from the FLAGSHIP project were completed successfully last

April on service routes between Travemünde in Germany and Trelleborg, Sweden aboard TT Line's NACOS-equipped 179-meter ro-ro ferry "Robin Hood".



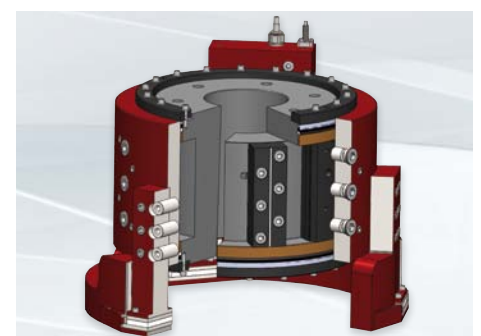
Karl-Christian Ehrke, SAM, in front of the development console

## SAM Expands Product Portfolio

**PRODUCTS** - Based on over 30 years of comprehensive service experiences in the field of steering gears that stretches back to one of SAM's predecessor companies AEG, it has been decided to extend the product portfolio to include complete steering gear packages for newbuildings and retrofitting. SAM incorporates the latest technology in engineering design, service friendliness and production to supply high-quality and reliable steering gear systems to suit all types of vessel and yacht, all coupled with an efficient maintenance level. The systems perform reliably in all operating conditions. The compact rotary vane product line comprises 15 different standard models with a working

torque ratings from 6.5 kNm to 10,967 kNm, while 14 models ranging from 5 kNm to 5,400 kNm are available for the ram-type steering gear. Both systems offer a time to steering from 35° port side to 30° starboard and vice versa within 24 seconds. SAM's steering gears comply with the specifications of all leading classification societies and authorities. Market response is currently shaping up well. SAM has recently been commissioned to supply a 1,740 kNm ram type steering gear for a 47,000 DWT product tanker built in Argentina.

**For further information, please contact:**  
**Marco.Kuechler@sam-electronics.de.**



New design of rotary vane steering gear

## The Best Get Better Together

**MARKET DEVELOPMENT** - That was the slogan for this year's international sales conference in August, which involved over 120 participants from more than 15 countries and took place on board the ferry "Color Fantasy". The participants enjoyed a two days cruise from Kiel combining business and entertainment. The event is held every two years at different locations. The ferry sailed from Kiel to Oslo.

The two-day conference centered around workshops and presentations by companies in the L-3 Marine & Power Systems Group. In line with the conference slogan, the

event is also intended as a "business developer" to strengthen company networking within the L-3 Group. What's more, participants took the opportunity to talk about their work in person with Group President Robert Leskow. The technically oriented workshops were used to discuss the status of system and product developments, share operating experience and present technical solutions. These included the new Platinum series,



safety concepts for offshore wind farms, energy-efficient drive systems, complete electrical concepts, digital communication and ballast water treatment systems. Many participants felt there was not enough time in the official agenda for in-depth-dialog. However, there was plenty of opportunity to continue discussions and talk about joint projects in relaxed and convivial surroundings during the evening.

"The sales conference is a key factor in the company's further development. A previous conference provided the starting point for the development of products for the new Platinum series. We will continue to build on our technological position in a number of areas and nowadays that is only possible through even greater networking at the company," explained Ulrich Weinreuter, SAM's president, at the end of the event.

## Emden Goes Offshore

**EXHIBITION** - The second Emden Offshore-Tage trade show was held at the beginning of September 2011. FUNA Global Safety Systems and SAM had a joint stand at the event for the first time. The show's topicality and regional focus were plain for all to see. Environmentally friendly power generation is becoming increasingly important as a result of climate change and the sustainability debate.

More than 300 experts and trade visitors took part in the event this year. In lectures and at their trade show stands, some 30 companies and institutions showcased their specific core skills and expertise in a market that is growing very strongly. Dr. Thomas Blum, Managing Director of FUNA Global Safety Systems GmbH, delivered a lecture on safety systems at wind farms. "In future, we are looking to pool our know-how in the Group and tackle offshore wind farm projects together," he said. At the end of day one, everyone met at Eastern Friesland's oldest surviving

library – the Johannes a Lasco library – for some serious networking. Day two provided the opportunity to visit SIAG Nordseewerke in Emden, formerly Thyssen

Nordseewerke. The company now builds foundation structures and transformer facilities for offshore wind farms.



From left: Michael Lüders (SAM), Dr. Thomas Blum (FUNA), Wilfried van Schwartzberg (FUNA) und Jens Bielenberg (SAM)

## A Sailing Dream

**SYSTEM SOLUTIONS** - The new 65-meter Alexander von Humboldt II is the first three-master to be built in Germany for over 50 years. The new ship, which looks just like a traditional sailing vessel from the outside, boasts 24 sails with a total area of 1,360 square meters. Inside, the "Alex II" benefits from state-of-the-art technology and equipment. The customer – Deutsche Stiftung Sail Training – had the dream ship built at the Bremen shipyard Brenn- und Verformtechnik (BVT). SAM and a committed team of trainees worked on this beautiful ship, which is also to be used for training purposes. The company's scope



"Alexander von Humboldt 2" (Photo: Deutsche Stiftung Sail Training Bremerhaven)

of supply included the internal communication system, alarm and safety systems, switchgear, bridge consoles and the entire cable network, including on-board installation.

## L-3 Marine & Offshore at NAVALSHORE – Brazil's No. 1 Naval Trade Show

**EXHIBITION** - L-3 Marine & Offshore, L-3 Marine & Power System's new base in Brazil, recently exhibited at Latin America's largest trade show NAVALSHORE in Rio for the first time. Over recent years, Brazil's shipbuilding market for naval/merchant vessels and offshore applications has developed with growing strength. Consequently, the international trade show offered an excellent platform to showcase the Group's capabilities

in offshore applications and merchant shipbuilding. In addition to L-3 Dynamic Positioning and L-3 Offshore, SAM presented navigation, automation and power distribution solutions. But it was not only the impressive design of its stand that got L-3 Marine & Offshore noticed. Intensive discussions with high-ranking representatives of shipyards and shipowners about L-3 solutions associated with current projects point to a rosy future.



From left: Jonas Lobo, Daniel Tedesco, Uwe Winter

## SAM Taihang Electronics Expands

**CHINA** - Since SAM Taihang Electronics was founded, the Chinese market has enjoyed continuous growth. Following many successful years, it became necessary for the Shanghai branch office to relocate to larger premises. The new office building is located along the Suzhou River, around 1 km from People's Square. The new premises cover an area of roughly 730 square meters and can accommodate 40 staff.

*Contact details: SAM Taihang Electronics Co., Ltd., Branch Office China, Shanghai, 3/F, 356 Xinzha Rd, YueDa Huangpu Riverside Mansion, Shanghai 200003  
Phone: +86-21-62 67 56 66, Fax: +86-21-62 15 78 11*



SAM Taihang Electronics' new sales location

### IMPRINT

**Publisher:**

SAM Electronics GmbH  
Marketing  
Behringstrasse 120  
22763 Hamburg · Germany  
Phone: +49 40 - 88 25 - 21 10  
Fax: +49 40 - 88 25 - 40 22  
info@sam-electronics.de  
www.sam-electronics.de

**Editors:**

Maik Stoevhase, Ulrich Roehrl

**Production:**

Saskia Jonscher