

L-3 Expands European Activities



From left: Carsten Sippel, Klaus Lorenz, Ulrich Weinreuter

L-3 Marine and Power Systems Group (MPS), parent division of SAM, has appointed Klaus Lorenz as Vice President-European Operations. This step is related to the decision by L-3 Communications to sustainably reinforce its international shipbuilding business.

MPS holds a strong position in the marine market. The product portfolio includes maritime automation, simulation, navigation, communication, power distribution, drive technology, dynamic positioning, monitoring technology, project management, engineering, training and services for military, commercial and offshore markets. Under the motto, "From Bridge to Propeller", MPS provides technically sophisticated and cost-effective solutions.

19 operating companies at more than 70 locations in 16 countries work on customer projects worldwide for MPS. In Europe, these include SAM and its subsidiaries, as well as L-3 Valmarine, L-3 ELAC Nautik, L-3 Magnet-Motor, Euroatlas and Jovyatlas. The renaming of SAM Electronics U.K. to L-3 Offshore, which took place in January 2009, was also part of the L-3 strategy for expanding the MPS product portfolio. From Coventry, England, all offshore activities of the Group are managed. This also includes the cooperation agreement with STX Engine, Korea, which has just been concluded, regarding joint cooperation in the offshore market, which was signed in May 2009 (see also page 4 of this issue).

Within the context of organisational changes in Europe, Ulrich Weinreuter, previously Chief Financial Officer, was appointed President of SAM. Prior to his activity at SAM, Ulrich Weinreuter occupied key positions at Daimler-Benz Aerospace AG and Dunlop TECH GmbH. Carsten Sippel, previously Vice President Group Controlling and Finance, was appointed Chief Financial Officer, as successor to Ulrich Weinreuter. In his new function, Klaus Lorenz also assumed the chairmanship of the Supervisory Board of SAM, which was previously held by Steve Kantor, President MPS.

Dear Reader,

After seven years of virtually unhalting growth, the recession has also entirely grasped the shipbuilding industry and faces shipyards and suppliers with new challenges. For SAM, it will be competitively crucial that we adapt



flexibly to the changed market conditions. Our focus in 2009 will be on processing the high order book on time and in the customary first-class quality and simultaneously adapt ourselves flexibly to the falling order volume. Furthermore, the improvements formulated within the past months on the basis of last year's "MAP2008" project must be rapidly implemented, thereby increasing process efficiency. We attach particular importance to strengthening the competences of our local units with simultaneous improvement of international communication. With continuing high investments in innovative and cost-effective products, we also intend to document our claim in 2009 of being a competent partner to the global shipbuilding industry.

Ulrich Weinreuter,
President

Successful Retrofit in Australia

In just ten days, an entire bridge retrofit was completed on the *Tasmanian Achiever*. Thanks to successful cooperation between SAM Hamburg, SAM Korea, L3 Australia, the ship owner and shipyard, the vessel was able to leave the dock on time.

The 152-meter RoRo cargo ship, built according to plans of the "Scandinavian Design Organisation", was put into service by Toll Shipping Australia in 1999. Together with the identically constructed sister ship, *Victorian Reliance*, cargo is transported between mainland Australia and the island of Tasmania.

L3 in Australia received the order to supply the integrated navigation system NACOS 35-5 by SAM from the owner of both ships, which are certified according to the highest DNV regulations of NAUT AW. The package includes one X-band and S-band radar, two Multipilots, two Chartpilots for ECDIS and route planning, one Trackpilot, AIS, VDR, two DGPS units and a Doppler Speed Log, as well as the entire system engineering and interface connections on board.

The project was a logistical challenge, due to the short time interval between order placement at the end of August and delivery at the beginning of December, which was successfully realised through the extraordinarily good cooperation between all participants across three continents. In addition, the project team was challenged by the extremely short dock time. The entire bridge system was removed and nearly 2,000 meters of cable were laid below the

bridge deck. The existing consoles required mechanical modifications and the new equipment, of course, needed to be installed and started up.

The ship owner and crew are very satisfied with the new bridge system and the successful project team is looking forward to the retrofit on board the sister ship, *Victorian Reliance*, in June 2009.



RoRo cargo ship *Tasmanian Achiever*

Onshore Power Supply in the Port of Antwerp

On 18 May, the Port of Antwerp reached an important milestone in the fight against exhaust emissions in the port. Effective immediately, ships of Independent Container Line (ICL) will be supplied with an onshore connection during the port laytime. With this, the auxiliary diesels causing emissions can be switched off.

The Onshore Power Supply system (OPS) was built for the Independent Maritime Terminal (IMT) by SAM. The investment in the system, which eases the burden on the environment, is shown directly, locally in the area of the port, through the reduction of NO_x, SO_x and CO₂ emissions, which cause adverse health effects.

The Flemish Minister-President Kris Peeters, together with John Kirkland, President of ICL, pushed the crucial button to switch on the OPS for the first ICL container on 18 May.

During the three-day port laytime, the system supplies power to one ship in the fleet of three. The ships travel in a weekly cycle. The Onshore Power Supply system provides the necessary uninterrupted provision of electrical power of 800 kVA during the laytime. This takes place via the PWM (Pulse Width Modulated) static converter, a technology already used successfully in shaft alternators. The conventional frequency in Europe and many other countries in the world of 50 Hz is converted into 60 Hz for ship supplies. The newly built ships of Independent Container Lines, designed with a 60 Hz on board network, were equipped with the relevant OPS components, such as 6,600 V/450 V transformers, 6,600 V medium-voltage transfer station and a cable winder, during the construction phase.



From left: John Kirkland (CEO of ICL N. V.), Kris Peeters (Flemish Minister-President)

Competent Flexibility and Customer Orientation for Drive Solutions

Technology evolves and so it is the case with variable speed drives solutions. Through continuous further development of IGBT and IGCT semiconductors, drive performance of up to 24MW for pulse-width-modulation (PWM) converters in shipbuilding is being realized. Depending on the motor speed and the requirement profile synchronous motors and asynchronous motors can be used.

A crucial and rather human factor is the overall system competence, as well as tailoring solutions flexibly and closely tied to the customer needs. Design aspects must be optimized matching the ship's service profile in respect to network quality, short circuit rating and the configuration of power sources to name a few. Nowadays the total harmonic distortion factor (THD) of < 5.0 percent in the ships supply system is a common requirement. Therefore great importance is paid to the configuration and reactances of diesel generators, transformers, converters, motors and other loads. Here active front end (AFE) drives provide state-of-the-art technology and often eliminate the need for transformers and braking resistors. On a separate note noise optimisation of the drive design should also be considered, particularly for cruise ships, luxury yachts and research ships.

SAM's competences include computer simulations of the entire ships supply system, which assures that a stable operation can be achieved at nominal and partial load operations.

Therefore SAM Electronics is being recognized as acting flexibly and competently towards their customers and has adapted most solutions including references for AFE and for medium-voltage PWM drives for research vessels, product tankers and megayachts. We would like to keep it that way and therefore always strive for innovative customer solutions.



Frequency converter

Degaussing Systems for South Korea's New Frigates

SAM has won the selection process of the Korean Navy for supplying Degaussing Systems for the new FFX-class multifunctional frigates. The long-term cooperation with the Korean Navy for more than 30 years, has been successfully continued.

The modern FFX ships (Future Frigate eXperimental) are intended to replace the old Ulsan class and Corvettes of the Donghae/ Pohang class. SAM will supply an extensive Degaussing System for the so-called "lead ship" in 2010.

In 1978 AEG-Schiffbau, one of the predecessor companies to SAM, received its first order to deliver the Degaussing System for the first generation of the "Ulsan Class" frigates built in Korea.

A total of nine units of this ship class were realised, which were followed by additional "Pohang class" corvettes. In total, more than fifty ships of the Korean Navy were equipped with SAM systems. These ships, which are now getting a bit long in the tooth, are to be replaced with the design for a new FFX class "Inshore Patrol Frigate". In total, the Korean Navy is planning the construction of 27 ships, which will be put into service during the period until 2020.

The order placement for the first FFX class type ship is an important precondition for participating in the subsequent contract stages and will contribute significantly

to securing the future of the product segment. At the same time, this confirms many years of trusted cooperation with the Korean Navy and shipyards.



Corvette of the "Pohang Class"



Carsten Sippel,
Managing Director and CFO

Since April 2009, Carsten Sippel has been a member of the Management Board and is responsible for Finance of the SAM Group in his new function. After completing his studies in 1992 at the University of Bielefeld with a degree in business administration, Carsten Sippel assumed various activities with significant responsibility in controlling and finance. From 1999 to 2001, he was active as Managing Director and CFO at Lyngsø Marine in Denmark. Prior to being appointed as Managing Director of SAM, Carsten Sippel was Head of Group Controlling and Finance.



Requirement for Crew Welfare in Spite of Crisis

The *Infotainment Compact*, developed by SAM, which we already reported on in detail in the SAM Insight 02 / 2008, continues to be the focus of ship owners. The solution can and will help ship owners to find qualified crews and commit them to their own shipping company.

Particularly the young crew members, who are already growing up with state-of-the-art communication and entertainment systems, no longer want to do without access to the Internet, e-mail, television and video.

On the occasion of a visit by Max Johns, Spokesman of the VDR (German Association of Shipping Companies), SAM presented the *Infotainment Compact*. In detailed explanations, not only the technical aspects and advantages were shown, but also the requirement for such products was discussed. According to the VDR, the number of ships under German flag will increase by another 20 percent in the next two years and these ships need to be manned with crews.

Therefore, it can be assumed that the private requirement for communication will increase. Previously, for example e-mail applications were only possible on the bridge of many ships. That is why equipping the appropriate systems in crew cabins can result in a significant increase in quality of life on board. The main advantages of the Ethernet-based SAM solution are ease of

use, through the self-explanatory interface, remote maintenance capability, low space requirement in the central unit and cabin and all through just one cable. This solution can also be easily upgraded with additional systems, such as VoIP, telephone, IP-CCTV, IP clocks and many others on standard TCP/IP protocol-based applications.



From left: Carsten Sippel, Max Johns, André Marquardt, Maik Stoevhase

STX Engine and L-3 Offshore Cooperate

At the beginning of May, in the STX Namsan Tower in Seoul, STX Engine, Korea, and L-3 Offshore, a company in the L-3 Marine and Power Systems Group (MPS), decided to cooperate in marketing and the supply of energy systems, drive systems, dynamic positioning and automation systems.

The "Teaming Agreement" relates to the offshore market in Korea. It includes all STX organisations. The celebratory signing of the agreement took place by Dong-Hak Chung, President and CEO of STX Engine and Klaus Lorenz, Vice President European Operations of L-3 Marine and Power Systems Group. Also participating in the signing ceremony

were Michael Strianese, President and CEO of L-3 Communications and Steve Kantor, Senior Vice President L-3 and President of L-3 MPS, as well as Duk-Soo Kang, Chairman of the STX Group. The agreement is a significant step toward expanding the civil activities of L-3 and particularly means a reinforcement of the L-3 offshore activities overall.



Fourth from left Duk-Soo Kang (Chairman STX Group, Michael Strianese (President and CEO L-3) and Steve Kantor (Senior Vice President L-3 and President MPS), seated left Dong-Hak Chung (President and CEO STX Engine) and Klaus Lorenz (Vice President European Operations)

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