Knowledge, help and hope

for people all over the world …

The Logos Hope is a ship owned by GBA Ships e.V., a private charitable organisation registered in Germany which has owned and operated ships to share education, help and hope with people worldwide since 1970. The Logos Hope is the fourth ship in the GBA Ships fleet, and since 2009 it has served as a floating event venue, a cultural exchange and encounter centre as well as a book market and an aid delivery vessel. In this time, it has already visited over 1,400 harbours in more than 150 countries and has welcomed more than 46 million visitors on board.

The international crew and staff of Logos Hope from over 50 nations

The arrival of the Logos Hope in Cape Town/South Africa

The floating book market and helper in times of need

At the moment, the Logos Hope is hard at work in the Caribbean. Visitors can choose from 5,000 non-fiction and technical books in English and the language of their country on a wide variety of topics including science, sport, hobbies, cookery, art, economics, medicine, reference works, languages, philosophy and faith. This large selection of books can be purchased inexpensively wherever the ship docks. This enables people to advance their personal and professional education, learn new skills and improve their quality of life.

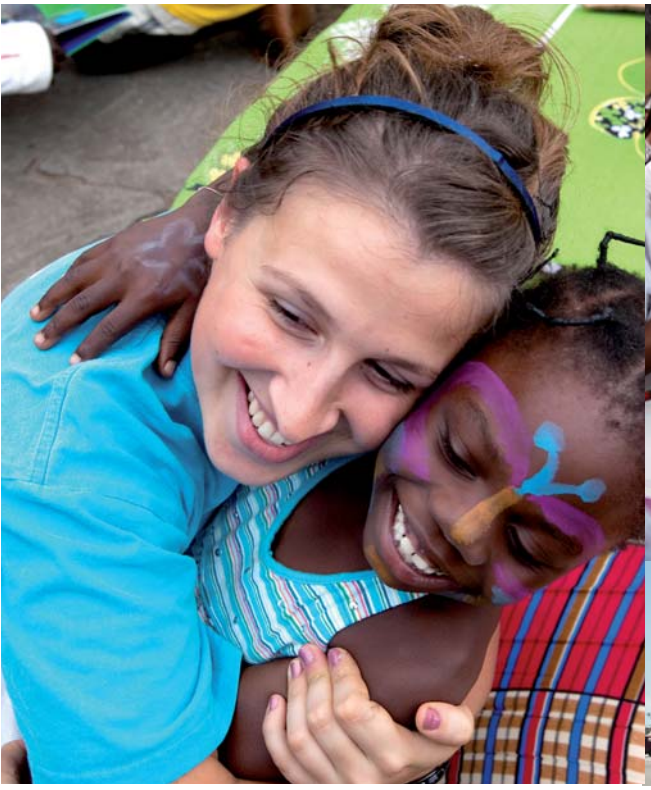
During their travels, the crew of the Logos Hope see the adversity facing the regions they visit at first hand. Small teams often go ashore at the ports where the ship is moored to help the residents directly with donations of materials or practical assistance.

Yet another essential part of their work is also to convey hope, by their actions and the many conversations these volunteers conduct with the people who live there.

Help

With more than 60 nationalities represented, the crew of the Logos Hope is a truly international community. All crew members work on a volunteer basis, often in their chosen profession, for example as sailors, engineers, electricians, nurses, teachers and cooks. The objective of the work on board is to serve humanity. At the same time, the staff also benefit personally from what they do. They attend training programmes, gain work experience, get to know other cultures and in so doing they increase their own knowledge and are personally enriched.

Education



Hope

Hundreds of schoolchildren visiting Logos Hope in Praia, Cape Verde

Ready-to-connect VG14 safety distributor

First-class power-up

The ship itself originally served as a car ferry and has undergone several conversions. In late 2014/early 2015, GBA Ships commissioned comprehensive modernisation measures to bring it up-to-date in compliance with rising technical requirements. These measures included replacing the generators and the main electrical switchboard. A heat recovery system was also fitted and the bow thruster was upgraded. The air conditioning system in particular, but also the current provisions of maritime law demanded significantly more energy than the generators at the time were able to supply.

For the necessary conversions to the electrical systems, GBA Ships engaged Littau GmbH, a company based in Kiebitzreihe, Schleswig Holstein, Germany which specialises in building shipboard switchgear.

Originally, electrical power aboard the Logos Hope was supplied by three diesel-driven generators, one of which has an output of 1.2 MW while each of the others can deliver 900 kW.

Andreas Röthgens, the Electrical Manager responsible for GBA Ships, reports that all of the generators were replaced during the refit of the Logos Hope, and the two small genset engines were replaced by more powerful units, each having an output of 1.4 MW. Now it is possible to supply all the electrical power needed for routine operation with just one generator. However, a second generator is needed for manoeuvring with the bow thruster, which has an output of 735 kW. The third generator serves as a backup, to ensure that manoeuvres can be executed in complete safety while still providing electrical power to the ship if one of the other generators should fail. This redundancy is a standard procedure in shipbuilding and is also stipulated by the classification society RINA.

Accordingly, it must also be possible for trained personnel to operate the switching systems. All outgoing feeder switches were routed through the switching cabinet doors to enable the individual outgoing load circuits to be connected or disconnected without having to open a cabinet door.

Safety first

Safety is the highest priority when anyone works on the electrical systems while they are in operation. Isolation monitoring is an important element of the unearthed system (IT system). The LR-certified ISOMETER® IRDH575 insulation monitoring device from Bender detects insulation faults in the electrical system immediately and reports them to the technical personnel. This does not lead to a stoppage, because the system is not shut down in response to the first fault.

Crowds on the quayside in front of Logos Hope in Anping, Taiwan on GBA Ships busiest day, with 28,931 visitors welcomed on board in one day

The insulation fault must then be located and eliminated quickly, since in case of a second insulation fault, the loads involved can no longer be used. The EDS460 insulation fault locator from Bender makes fault location significantly easier. Previously, loads had to be disconnected and reconnected manually in order to identify the fault, which was a very time-consuming and nerve-racking undertaking since not all loads can simply be switched off. Every outgoing feeder panel has been equipped with its own current transformer so that insulation fault location can be carried out online, panel by panel, without shutdown.

Once the EDS460 has located the fault automatically to a certain sub-distribution level, the EDS3090 portable insulation fault locator can then be used to identify the exact load which has caused the insulation fault. It can do this quickly and safely – without needing to switch it off.

Electrical safety not only at sea

Mobile generators are used in emergency assistance deployments ashore. When these are used, a ground spike is often not feasible or advisable. In order to still guarantee safety when using mobile generators, the protective measure defined in DIN VDE 0100-551 (VDE 0100-551):1997-08 "Protective separation with insulation monitoring and shutdown" is applied. As well as protective separation, an additionally installed safety distributor can also trigger a shutdown if undervoltage or overvoltage occurs. All of the components necessary for this are contained in the ready-to-connect VG14 safety distributors from Bender.

To guarantee safe operation, the mobile generators on the Logos Hope now have also been retrofitted with the VG14 safety distributors, a donation from Bender. ■

Roman Kinsel, Technical Office Stuttgart
Thomas Frössinger, Technical Office Mannheim

INFO

Logos Hope technical data:

Port of registry	Valletta, Malta
Categorisation	Passenger ship
Built in	1973, Rendsburg, Germany
Classification	REGISTRO ITALIANO NAVALE (RINA) Load Line marking – RI (Reg No. 95050)
Persons	442
Cargo space (books)	1100 m^3
Length	132.50 m
Beam	21.06 m
Draft	5.22 m
Main engine	4 X SWD 6TM 410 RR in-line 6 cyl. 4-stroke 11,768 kW (16,000 bhp) total IF80 light heavy oil Coupled to the propeller shaft KaMeWa 102 5/4 Pitch = 3540
Electrical installation	440 V 60 Hz 2 MAN diesel machines Type 7L21/31 1540 KW w/ AVK 1846 kVA generator 1 set Bergen KRG-8 1475 kW machine w/ ABB 1750 kVA generator

Source: http://gbaships.org/de/unsere-flotte/meet-logos-hope/logos-hope-technical-specifications