

H₂O Magazine

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Innovations

Drifting with a GPS

eñOS

The first satellite supported Rescue System for Divers

H₂O presents the brand new Electronic Rescue and Locating System

In the last few years a lot of innovations relevant to the diving community have entered the market and made diving more safe. But one danger has always been overlooked and is omnipresent: surface currents!

Divers worldwide are getting lost due to strong currents, even when they are experienced and in a good physical condition. Tragically, reports of divers who have finished their dive in good health but died after drifting into the open ocean and have never been found, are known all over the world.

This will hopefully change now because of the new Electronic Emergency and Locating System "ENOS" which was invented by two German divers, Karl Hansmann and his wife Christiane Linkenbach.

Karl has been diving since 1986 and is CMAS "Gold" licensed, whilst Christiane has been diving since 1977 and worked as a CMAS Instructor in Hurghada from 1986 to 1989. During their dives all over the world, often with strong currents, they often thought about a solution for the "missing on the surface", problem - and came up with the idea for a new rescue system. "We are really fond of diving and have spent a lot of our lifetime underwater", Karl said to H₂O, "though confident, we still have a great



centres, to keep control of their windsurf boards. In case a windsurfer is surfing too far away from the coast and not able to come back, he can be located immediately after transmitting his emergency call.

Sometimes a mistake is programmed into the GPS satellites, to transmit wrong information, because of a world crisis.

But even though this programmed mistake changes the data, it has no influence on the graphics of the "ENOS"-system (which shows the position of the person in need to the boat) because the receiver and the transmitters of "ENOS" are supported by the same satellites - with the same deliberate mistake. That is the reason

why the position of the diver relative to the boat is still correct and the captain can trust the information he gets from the receiver's screen. Within the receiver an internal antenna is installed, which is able to receive emergency calls for approximately five kilometres. With an external antenna at the top of the boat, connected at the receiver with a coaxial cable, this distance to receive emergency calls is doubled to ten kilometres.

To improve the safety as much as possible, all "ENOS" receivers are able to receive emergency calls from all "ENOS" transmitters - no matter if the diver belongs to that diving boat or to another one using the same system. The capacity of each receiver is big enough to receive and to locate a lot

of emergency calls.

"ENOS" works in all weather conditions and also at night. It will be of great use in preventing a lot of accidents at the surface. Easy to install on all kinds of boats and without huge costs, this system makes an immediate rescue operation possible, independent of Coast Guards, Navy and rescue organisations.

The costs are approximately € 2,000 for the receiver and € 500 for one transmitter. "ENOS" is the short form from the German product description "Elektronisches Notruf und Ortungssystem" and has a patent pending.



respect for currents and the problems they cause". "ENOS" is the first rescue system for divers which functions independently of coast guards and international rescue organisations, therefore can be used all over the world. Rescue operations can be carried out quickly and efficiently straight from the diving boat.

The system consists of two units, one, a receiver aboard the diving boat and the other, the transmitter - carried by the diver(s) for the duration of the dive. The receiver determines its position (A) through GPS and is then ready to receive emergency calls from the transmitter(s). The transmitter(s) which are only to be switched on in case of an emergency, thus determining its/their position(s) (B) through GPS and transmitting it via radio frequency to the receiver. Using the positions (A) and (B) the receiver can then exactly locate the missing diver(s) and this position is displayed graphically on the receiver's screen.

The radio frequency which "ENOS" uses, is license-free and free of charge in Europe and Costa Rica. With thanks to Dr. Mohamed Saleh, Chairman of the Red Sea Association, that radio frequency is also allowed and free of charge in the Egyptian Red Sea since December 2003.

So, there are no additional costs involved after switching on the transmitter to become rescued. During an emergency, visible on the receiver's screen is a map with the number of every diver who is drifting on the surface, the distance and the angle (course) to them and how much time has elapsed since they have transmitted their emergency call. Due to its own power source the system can be used on any vessel on the water.

Furthermore, the system is very helpful for Windsurfing