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JELLYFISH AS INSPIRATION FOR PROPULSION

Next-Generation Wind-powered USV

UNDERWATER COMMUNICATION AND THE LEVEL OF AUTONOMY OF AUVS

Furthering Ocean Science Using Innovative Marine Robotics

GABRI S.r.l.

Mission Towards **Multirole Underwater** Concept

Gabri S.r.l. is a company located in Genova, Italy, whose trade is in the AUV market. The company aims to set a new quality standard for the autonomous underwater vehicle market with its brand new project, Seastick.

Gabri S.r.l. was founded in 2004 based on the experience in the ROV field of its CEO, Roberto Linfante, who is one of the pioneers in the underwater vehicles field, with over twenty years' experience. Initially, the company was composed of the CEO and a few colleagues, but over the years they grew bigger and bigger. His dedication to his project led the company to win the first prize in the Toradex Embedded Design challenge 2014 by introducing Seastick to the world.
Gabri is now more confident than ever to "have the strength and enthusiasm, but most of all the will, to make our dream come true", as Linfante says.

Setting a New Standard

As mentioned earlier, Gabri's mission is to set a new quality standard for the AUV market by making a new AUV equipped with cutting edge technology.

Although AUVs are the company's main business, every aspect of marine technology has Gabri's attention. The company's ambition is driven by the desire for innovation. Everything Gabri S.r.l. makes is designed to be an innovative piece of technology, which is why Gabri's staff is so diversified. Gabri's headcount is currently 9 people, from different fields of expertise: from engineering to computer science, and from marine biology to electronics.

Modularity

Gabri's aim is to make use of the Seastick's modularity and flexibility, thus focusing on both the civil and the military market. The Seastick includes three sections: bow, stern and main body, the design of which allows for customisation. Battery and other components can easily be replaced, even during a mission. Thanks to its modularity, Seastick can be operated in almost every field of use in the marine environment as it can be equipped for mining and oil & gas research, it can be configured as an anti-mine device or can be configured as a vector for scientific research sensors. The reason why a multirole AUV like Seastick is thought to have a huge impact on the whole world of maritime technologies is, according to Roberto Linfante, that "the market offers an ever growing interest in intelligent systems that will not replace humans but will just support them in their job, most of all in dangerous environments."
With over eight dealers throughout the world, Gabri is confident that it will make its product known and more appreciated than other AUVs.

▲ *Figure 1: Roberto Linfante, founder of Gabri S.r.l.*

Payload Options

The Seastick has a variety of payload options for hydrographic and oceanographic survey missions. As standard, all Seasticks are equipped with Doppler Velocity Logger, side-scan sonar and a CTD. Optionally, sensors like obstacle avoidance sonar, interferometric sonar or a multibeam echo sounder can be added to the device as well as an acoustic modem, LBL or USBL positioning system, sub-bottom profiler or ADCP, hydrophone or other instruments on request.

Just in Time Production

Its Just In Time (JIT) production process allows the company to reduce the time spent during the production of its product as well as the response times from suppliers and to customers.

The JIT strategy, added to the possibility of making custom parts for its vehicles, allows a great flexibility in the manufacturing process of every Seastick and a genuine and unique quality to all of its products.

▲ *Figure 2: The team deploying the Seastick.*

More information
www.seastick.it

▲ *Figure 3: Seastick in operation.*

Looking Forward

Gabri's future currently looks very bright and its employees are very positive, as confirmed by Linfante's words "We will be the first company on the global market of multirole vehicles. We decided to be the first to be able to design and build vehicles on user specification and we will succeed."
The development of Gabri's technology gives us a glimpse in a future where Seastick could possibly be spread around the globe. The company is going to expand and enhance the research department in order to develop and realise its new projects and improve the already existing one.

Products like Seastick, and Gabri's future projects, are to earn a place and recognition in this ever-changing global economy. These projects are oriented towards current hot topics, like ecology, gas and oil research, and will fit in with the supposed market demands of the near future. According to Gabri's expectations, the market for maritime underwater technologies will establish itself more strongly over the next few years, and the company is prepared to take advantage of this development in order to become the company with the most updated technology.
If confronted with the question "what are your goals for 2015 and the next five years?" Gabri staff's vision is pretty clear and oriented toward the next two years: they are motivated to become the paragon of excellence in the fields of AUV, making Seastick the best autonomous underwater vehicle available in the whole world. ◀

▲ *Figure 4: Seastick AUV returning for recovery.*