

## Brazilian Firm Makes Robot for Checking Ship Structure Integrity

Contributed by Regina Mamede  
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A robot that moves on magnetic wheels scanning the thickness of ship hull plates using ultrasound. One of the main innovations of Sirius Ship is its positioning system, which uses concepts from inertial engineering in order to detect the precise location of the flaws.

Speed and precision of information are the greatest advantages of this automated inspection process. Based on the results obtained using the robotized inspection, structural integrity analyses are carried out, enabling to determine the need for eventual repairs to the vessels.

"Knowing that the plate is defective is not enough, it is necessary to know where they are," says Melquisedec Francisco dos Santos, director of Rio de Janeiro-based company Subsin (Subsea Integrity Engenharia e Projetos S/A) alongside Cassiano Rodrigues Neves.

With solutions that ensure the integrity of structures and equipment, Subsin was the first engineering company ever to receive funding from seed capital investment fund Criatec, an initiative of the Brazilian Development Bank (BNDES) and the Bank of the Northeast (BNB) that should deploy funds over the next five years to 50 companies that stand out for innovating the national market.

"We believe in the success of our product, as it increases trustworthiness, precludes the use of scaffoldings, which is expensive, and reduces the time of inspection. The technology may be used in the inspection of ships during loading and unloading operations or even when they are in line in port, in protected waters or not," stated Cassiano Neves.

Subsin is prepared for a new phase. The sales of Sirius Ship only depend on certification, which should take place this year. But the partners are already working on other fronts to increase the company's range, like the development of a robot for inspection of storage tanks and another for inspection of risers (pipes for oil transport from the sea to platforms), also to evaluate structural integrity.

"Versatility of the projects allows for expansion in different sectors, like the naval industry, ironworks and oil and gas, for example," explains Cassiano Neves.

Service

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