

## Brazil Ready to Build Underwater Robot for Oil Exploration

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The project of building a robot with 100% Brazilian technology, capable of operating both in fresh and seawater and that may serve any sector of the naval and environmental industry is the newest challenge of Armtec - Tecnologia em Robótica, in partnership with the University of Fortaleza, in the northeastern Brazilian state of Ceará.

The company also from Ceará is part of Rede Petro-CE, the result of an agreement between Brazilian oil giant Petrobras and the Brazilian Micro and Small Business Support Service (Sebrae) to promote Brazilian micro and small companies as suppliers in the oil and gas sector.

The idea is to build a non-manned submarine to execute different tasks like the analysis of the extension of an environmental disaster, checking for leaks and damages in the structure of a vessel and make the necessary repairs.

Among the differentials of this project are a positioning system to maintain stability amidst sea currents and the capacity to move in all directions, "better than a fish," jokes electronic engineer Antônio Roberto Lins de Macêdo.

Similar products only exist abroad and cost between US\$ 180,000 and US\$ 460,000. The company, which counts on just sixteen employees in research, has the objective of building a submarine that will cost less than US\$ 140,000.

Armtec, through its partnership with the University of Fortaleza, already has financing of US\$ 270,000 approved by the Studies and Projects Funding Body (Finep) and counts on a partnership with the Brazilian Navy and Petrobras. The first prototype should be presented by the end of 2007.

Nowadays, in Brazil, this kind of work is executed by divers at serious risk. To Macêdo, replacing people with machines is what most stimulates him. "Robots, when they break, may be fixed or replaced."

Roberto Macêdo, the owner of the company, started his trajectory still in college. As his course conclusion project he designed the System for Support in Incident Combat (Saci).

This robot, already used by the Ceará state fire department, is 21 times more powerful than the models created in Japan and England. The equipment works by remote control for up to six hours and launches two kinds of water jets.

The ingeniousness behind this work earned Roberto Macêdo an invitation to enter the company incubator at the University of Fortaleza, in partnership with the Sebrae. Two years were enough for his company to gain the necessary momentum and credibility to stand out in the market.

"My company is the result of the Sebrae. I received support throughout all phases of Armtec and I recognize that the organization opens doors for the development of a business. Without the respect of an institution like the Sebrae it would have been much harder to gain the credibility we now have and that made it possible for us to participate in the Program for Mobilization of the Oil and Gas Industry (Promimp)," stated the businessman, pleased with the perspectives for this scenery.

In the next five years, the sector should receive from Petrobras investment of approximately US\$ 75 billion in Brazil and US\$ 12.2 billion abroad.

"The state of Ceará wants to become a reference within the oil and gas productive chain. The estimate is that over the next two years the state should receive investment of around US\$ 920,000 to be invested in expansion of refinery Lubnor and of the state port.

This is going to provide work for many companies here and, for this reason, we are focussing on training so that Petrobras does not have to seek labor in other states," stated José Welington Ribeiro da Silva, analyst at the Sebrae Industry Sector Unit in Ceará.

Sebrae