



Australia: Small Submarine Set to Explore the Deep Sea posted on 08/09/04

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Serafina, the world's smallest autonomous submersible, shows off during a test run.

Photo: Australian National University

The mysteries of the ocean depths may be on the verge of intense exploration with the development of Serafina, the world's smallest autonomous submersible.

Designed by engineers at the Australian National University, it is a mere 40 centimetres long. The plastic hull is complete with rechargeable batteries and circuitry, and is driven by five propellers capable of sub-sea speeds of one metre per second. The tiny vessel is able to hover, tilt and right itself if overturned.

"Small and versatile submersibles, such as Serafina, are an important leap towards making underwater exploration affordable and effective," said Dr. Uwe Zimmer, the design team leader. "Underwater exploration and travel is usually extremely expensive."

Serafina has been perfected so that it can be manufactured for about \$1000 per unit, which would allow for enhanced breakthroughs in information collection and oceanic monitoring at depths greater than 3000 metres.

This innovative vehicle can be programmed topside, and is strong enough to be dropped over the side of a ship, eliminating the need for expensive and complex launching systems. Such was the case in 1987 when Tommy Thompson sent his experimental remotely operated vehicle (ROV) to the depths of more than 3000 metres off the east coast of the US in order to recover the U.S. Central America, a sunken steamship from 1857.

A variety of deep-sea tasks await the Serafina, including shipwreck recovery, mineral exploration, and search and rescue. Perhaps one of Serafina's most important duties is to enhance our knowledge about deep sea organic life. Currently, experts estimate that only one percent of the deep ocean has been explored.

"The deep sea is one of the world's last unexplored frontiers," said Dr. Zimmer.

Source: Vancouver Aquarium Marine Science Centre

Geoffrey Gluckman is a Vancouver-based freelance writer, poet, and novelist. His espionage novel, *Deadly Exchange*, will be available Fall 2004.

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