

# What's New at the Frontiers of Science, Technology and Exploration

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ALL IN ALL

# Robo-Fish

**Name a fish that doesn't need to eat, sleep or breathe.** The answer: robo-fish. Part of an EU-funded project, SHOAL is a collaboration between various UK universities and the BMT consultancy group. Tiny chemical sensors built into the fish detect potentially hazardous pollutants in the water, and the information is then transmitted back to the base station. Unlike other unmanned vessels that are often piloted by remote control, the carp-shaped robots chart their own course.

According to senior research scientist Rory Doyle: "We at BMT are developing swarm intelligence algorithms to control the fish. The fish will use ultrasonic communication, informing each other of their location and any findings they have." Doyle says that the pollution-sniffing robots model the movements of real fish, giving them an efficiency that reduces battery drain. A small shoal of robo-fish will be deployed in the port of Gijon, Spain, in the first quarter of 2012.



When the **batteries run low**, robo-fish returns to base to recharge.