New device will help optimise swimming

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A miniaturised data logger that can record speed and movement in the water will soon be available to help swimmers analyse their performance.

The development of these waterproof inertial sensors is being done at the Auckland Bioengineering Institute (ABI) with funding from the Australian Institute of Sport (AIS).

A new startup company called 'IMeasureU' has been spun out from the ABI to commercialise the tiny inertial measurement units, says lead researcher, Dr Thor Besier from the ABI.

The IMUs can provide data on the acceleration, orientation and power of the swimmer in the water and this is stored on its micro SD card and later downloaded to give the swimmer data that will enable them to improve their performance.

"Encapsulating the printed circuit board of the IMU in waterproof materials opens it up to all sorts of new applications," says Dr Besier.

"Up until now the pool environment with the swimmer moving through both air and water, and splashing and bubbles, has made it difficult to see what is going on to optimise a swimmer's performance," he says. "These IMUs can be strapped to a swimmer's body to measure the motion of the swimmer."

The researchers will develop a software program that integrates both

video and the IMU data.

The immediate use for this will be for the AIS to track a swimmer's changes in speed as they go through the pool, and afterwards, give both the athlete and coach the data that will enable them to improve performance, says Dr Besier.

Provided by University of Auckland