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# A sea wave detector for improved autopilot systems

**A new method for processing the signal from a speed log meter enables rapid and cost-effective wave detection, which in turn improves autopilot performance and provides safer operation in rough seas. We are seeking partners to further develop the system and/or to establish commercial and technical cooperation agreements.**

## The Challenges

Without the help of an autopilot, sailing in bad weather can easily become a nightmare. Despite great improvements provided by new digital processing techniques and the inclusion of complex processor units, most commercial autopilot systems still experience difficulties in steering the ship and keeping it on course in rough seas. Our aim is to develop a low-cost system that allows the steering performance of existing autopilots to be improved for unfavourable conditions, thus increasing comfort and safety in navigation.

The proposed system can also be used as a sensor log for sea-state and wave direction measurement. Moreover, used in combitation with existing voyage recorder systems it provides information that is of crucial interest in the case of accidents.

## The Technology

The present invention provides a low-cost method for automated sea wave detection and measurement by adding new functionalities such as sea-state detection and wave heading measurement to existing speed log meters. By applying state-of-the art processing techniques to the signal delivered by a speed sensor, it is possible to see the appearance of sea waves and their direction. A system based on such principles can easily be adapted to improve autopilot performance.

## Innovative advantages

- Low-cost method for sea wave detection and measurement
- Easy installation on board
- Capability of steering at an angle to the waves
- Improved autopilot capabilities
- Additional information in case of accident

## Current stage of development

Signal acquisition and non-real-time processing completed. Further developments in real-time signal processing and rudder feedback control algorithms in an embedded system are needed.

## Applications and Target Market

Autopilot systems
Scientific instrumentation
Voyage data recorders
Weather data loggers

**Reference number**

MKT2011/0056_D

**Every experienced sailor knows how difficult it can be to navigate in bad weather. Just when you need the help of a good autopilot most, you find that it simply won't take orders....**

**But what if navigating in rough weather were child's play?**

**Using smarter autopilot systems helps to improve comfort and safety in navigation**

**Business Opportunity**
Technology available for licensing with technical cooperation

**Patent Status**
PCT application

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