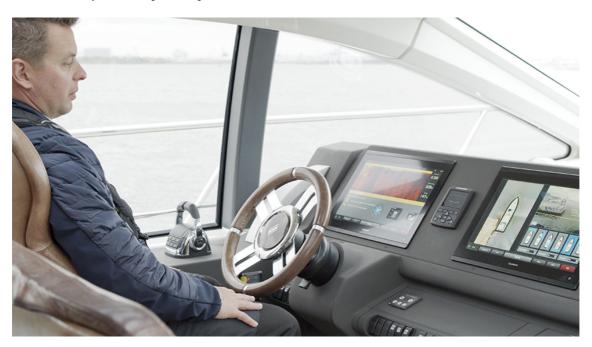
VOLVO PENTA

AB Volvo Penta

Press Information

Volvo Penta's assisted maneuvering concept will be your new first mate

Since the live demo of its self-docking technology, Volvo Penta has received input from a wide range of stakeholders on how to evolve the concept. Based on this input, new functionality has been developed in the form of assisted maneuvering – taking the first step on the journey to full automation.



It's been almost a year since Volvo Penta unveiled its ingenious feat of engineering – the self-docking concept. In a live demonstration a 68 ft yacht fitted with the technology automatically maneuvered itself into the tightest of docking berths. "The feat drew the attention of avid boaters, marine industry stakeholders and a huge social media audience – and sparked some big conversations," recalls Anders Thorin, Product Manager Electronics, Volvo Penta. And in true Volvo Penta style, they listened and responded to the advice.

The voice of the industry

"The self-docking demo gave us an opportunity to engage with a wide array of stakeholders," explained Thorin, "Reflecting on their input strengthened our convictions that there is a big interested in functions that assist boaters, not only fully automated docking but also driver assistance for all kinds of situation." Boaters want technology that can assist in tricky maneuvers and help hold boats still in the water without the need to manually compensate for movement of wind and current. A feature like this would help boaters move through crowded or narrow paths, and pass locks or prepare to dock."

Taking this onboard, the company has decided to take a stepwise approach to self-docking technology.

The first step is to make it easy with functions that assist in the docking process.

This new assisted functionality is based on integrating existing technology together in a new way. The aim is to make it easier to avoid any potential obstacles using camera functionality, giving the driver to get a view of what is around in the water. (Think of a camera inside your car that helps to parallel park and back up.)

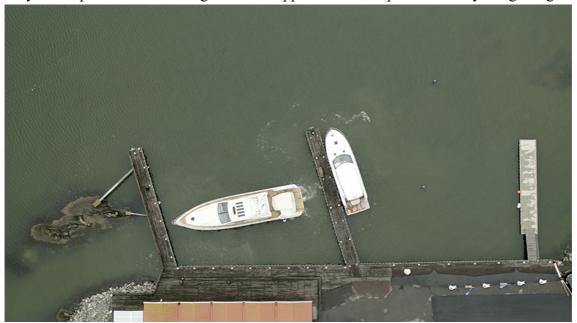
This stepwise approach towards full automation will also give the sensor technology additional time to mature and adapt to the marine markets and give customers and builders time to develop trust in the technology.

Improved system integration

The first step – the assist phase – is currently in the development stage and set to be launched in 2020. "This will involve few new components, mostly software enhancements that help existing systems work in a more integrated manner. This software will utilize the functions of Volvo Penta's unique Inboard Performance System (IPS) joystick and Dynamic Positioning System, to make an assisted docking/maneuvering functionality. It will also be possible to combine new functionality with camera surround view functionality to give boaters a better view – and leads the development into the second step – the avoiding phase."

How the assisted system will work

The Dynamic Positioning System's ability to make the boat 'stand still' in the water is a function that has been available since 2009. It's now being refined so that it can be used in very close quarter maneuvering. The new approach will help the driver by integrating it more



Volvo Penta, with approximately 3,500 dealers in over 130 countries, is a world-leading and global manufacturer of engines and complete power systems for boats, vessels and industrial applications. The engine program comprises diesel and gasoline engines with power outputs of between 10 and 1000 hp. Volvo Penta is part of the Volvo Group, one of the world's leading manufacturers of heavy trucks, buses and construction equipment.

effectively with the joystick functionality so that the boat will move in the exact direction and heading required, stop, and hold position when not moving the joystick. This effectively eliminates the challenges of the boat drifting and being difficult to get to move in a straight line.

The new system will also assist the operator in terms of visibility. With the help of cameras mounted around the boat the system can show a bird's-eye view* of the boat and its surroundings in the Glass Cockpit display.

Conversation drives innovation

This consultative style is not new to Volvo Penta, who is renowned for listening to its customers and implementing changes in existing products. What *is* new, however, is this idea of getting input from such a broad range of stakeholders before a product has even gone to market. Thorin affirms that: "This is unusual for us to be so collaborative about such an innovative product – but this approach is proving to be inspiring for all concerned, and helping drive ideas in the right direction, and bring them to market much faster."

This highly effective way of working to introduce new technology draws on the idea of leveraging existing technology and refining it to create an even more useful 'easy-boating' service for the customer. With the stepwise approach, Volvo Penta is among the first to be developing this maneuver-assist-and-avoid technology and remains a pioneer of Easy Boating and docking functionality.

Ends.

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* In cooperation with Garmin.

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