Vietnamese Students ‘ Robot to Make Ship Inspections Safer and Easier

In this age of automation technology, the idea of robots replacing humans for heavy work is normal. However, the implementation is never that simple for students. After one year of research, Dinh Huu Quang, Nguyen Manh Tien, Vo Hoang Anh, Luu Quang Thanh and Hang Thai Hoa, all from the Faculty of Electrical Engineering, Duy Tan University (DTU) ventured into their successful first start-up project by inventing a robot that automatically looks for weld defects in ship hulls, improving product quality and increasing worker safety at the docks.

Team members and a Robot that automatically looks for weld defects in ship hulls

When operating, the robot automatically follows the welds with an ultrasonic probe that detects, records and marks any welding defects and notifies the operator of their location. The robot legs are magnetic so it can move around on metal surfaces stably and operate in any position, horizontally, on inclines or on vertical surfaces.

"We made this product to check the quality of ship welds more accurately and effectively, to save time and money, and create a safer and more professional work environment. The cost of inspecting a large ship of 2,000 metric tons for errors can run into thousands of dollars, with much time also spent by workers climbing up and down the ship. Only a few robots are needed to do this more simply," said Mr. Thanh.

The product was showcased at the 2016 Vietnam StartUp Unitour 2 and won first prize. DTU and the research team are now collaborating with the biggest shipyards in Vietnam to test the robot there prior to production.

The research team has also developed several other robots, including one that automatically looks for defects in petrol tanks and a robot that smoothes weld surfaces. With backing from DTU, the team will continue to achieve great success from a variety of other student-made robots.

(Source: http://www.qs-asia.com/main/files/QS-WOW-NEWS.pdf)