16 November 2015

**‘BottleBot’ wows 2015 PneuDrive judges**

**The University of Stellenbosch has been named as the winner of the 2015 PneuDrive Challenge, after submitting its concept of the innovative BottleBot – an automated solution that enables micro-breweries to transport empty beer bottles to a capping machine with greater efficiency.**

The annual PneuDrive challenge aims to provide mechanical, electrical and mechatronic students with the opportunity to combine theory with the latest drive engineering technology. The 2015 theme was revolutionising the food and beverage industry.

The Stellenbosch team – consisting of Reghardt Pretorius, Johannes Leuvennink, Madeli du Toit, Josua Blom and Jean Swart – has won a ten-day, all-expenses-paid trip to the European headquarters of lead sponsors, SEW-EURODRIVE and SMC Pneumatics.

**The BottleBot concept**

The Stellenbosch University team visited local micro beer brewery Stellenbrau, and analysed a specific problem – the need for an efficient, inexpensive and automated application for transporting empty beer bottles to the capping machine.

Micro-breweries do not always have the capital to invest in expensive equipment, and often rely on rudimentary means of solving problems, such as the transporting of bottles in a factory. Stellenbrau relies on manual labour for most of its operations.

The solution proposed by the team aims to improve and add value to the company by allowing better utilisation of labour, and improvements in time and efficiency, by automating the process of transporting empty beer bottles onto a capping machine.

BottleBot has a low energy consumption of 24.474 kWh per year, and can be controlled by a smart phone or tablet device. The BottleBot can increase efficiency and accuracy through complete automation and elimination of human error and contamination.

One cycle involves picking up 12 bottles on one side of the production line and placing it onto the capping machine on the opposite side. The duration of one cycle is a minimum of eight seconds. The BottleBot’s retail price will be significantly lower than the price of similar products available on the market, meaning that the initial purchase cost of the solution will be fully covered within two-and-a-half years.

The runner-up prize went the University of the Witwatersrand’s (WITS) team, for its ‘Potato Game Changer’ concept, which transforms waste into usable energy at a potato chip factory. This project proposes that a system using anaerobic digestion be employed to dispose of the solid waste and clean the waste water while producing a useful by-product in the form of biogas. This biogas can be used to supplement any existing system in the heating of the chip cookers to reduce energy costs.

Third place went to another WITS team, for its ‘Autonomous Warehouse Floor Cleaner’ concept, involving an autonomous cleaner is able to separate liquid waste from solid waste on brewery floors without assistance. This team was also the recipient of the ‘Innovation Prize’.

In addition to creating these genius inventions, the participating PneuDrive Challenge teams were also expected to come up with a concept design and a business case, which involves cost analyses and the feasibility of companies using their designs.

SEW-EURODRIVE and SMC Pneumatics provided equipment to competing universities to provide them with the opportunity to experiment with the latest drive engineering and pneumatic technology.

Commenting on the 2015 PneuDrive Challenge, SEW-EURODRIVE MD Raymond Obermeyer says: “Well done to every team that participated, you have all displayed your tremendous future potential. A special congratulations must, however, go out to team Stellenbosch for its winning entry and a much-deserved trip to Europe.”

This year’s PneuDrive results were announced on 6 November 2015. The judging panel was comprised of industry and product experts, who completed the two-day judging process at SEW-EURODRIVE Johannesburg. For more information on the 2015 PneuDrive Challenge, and past competitions, visit [www.pneudrive.co.za](http://www.pneudrive.co.za)

**Ends**

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