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# SA Engineering Students Exploring Greener Logistics

**SEW-EURODRIVE and Pneumax, co-sponsors of the 2014 PneuDrive Challenge Engineering Design Competition, have introduced Green Warehousing Logistics as the theme for this year’s competition. System integration is often not realised at university level, and in order for South Africa to offer competitive and sustainable logistics services to the world, progressive learning opportunities for young professionals are vital.**

The PneuDrive Challenge, an engineering design competition initiated in 2008, has invited mechanical, electronic and mechatronic engineering students from around South Africa to step beyond a focus on academic theory and to design solutions that could drive potential change in the warehousing and logistics industry. By providing a competition, or platform, that challenges students to design and propose innovative solutions for the logistics industry, students are exposed to a learning experience that not only demonstrates theoretical ability, but also accelerates their understanding of warehousing, logistics and efficient automation of the industry. Successful participants will need to show that they are not only competent in engineering and design theory, but that they are also able to understand and show how the latest in drive and pneumatic technology could influence how warehouses are built, and their management systems improved in the future.

**Addressing the “Green” Skills Gap**

The risk of expecting “silver bullet” solutions for the South African logistics industry is not the way forward to ensure that the country’s supply chains are positioned as a global payer. Developing a skilled and talented workforce is a major part of the solution to help businesses maximise the investment they make in their logistics operations. It is here where the PneuDrive Challenge has provided a learning opportunity for students to gain insight into the business need for operational efficiency and reduced costs for the warehousing industry. The theme of this year’s competition highlights the need to analyse and identify a specific operational problem in one of the following areas of a warehouse: Retrieval, Conveying, Placement, Packing, Palletising and Loading.

Competing students are exposed to how automated warehousing results in faster, more accurate and efficient retrieval and despatch of goods. The “Green” component takes them one step further and gets them to consider the very topical element of energy efficiency. Adrian Buddingh (Managing Director – Pneumax) highlights that “when students design automated systems, they need to understand the importance of adding value that will ultimately benefit the client in the long term. In other words, it is not just the cost of capital expenditure that should be considered but also the "total cost of ownership". Hidden costs, such as energy inefficiencies are often overlooked and ignored. Not only is this an environmental oversight but also a hidden cost that is never considered”.

**Human Learning Potential + Technology = Possibilities**

The 2012 State of Logistics in South Africa survey highlighted the need for the warehousing and logistics industry to access employees who can carefully analyse warehousing systems and recognise potential for designing improvements in how materials and products are moved and stored. Rene Rose (General Manager Communications – SEW-EURODRIVE) expresses belief in the PneuDrive Challenge as an important learning platform that can optimise the business potential of young engineers preparing to enter the economy. “Each year when we launch the competition with road shows at universities, we find that students have a very limited knowledge of the latest drive and pneumatic technology that is available, and that understandably their understanding of business is limited. This highlights the constraints that universities have in terms of accessing technology and the importance of strategic partnerships with business. It is obvious that the business sector needs to step forward with initiatives that can get young engineers into industry who can quickly contribute to improved systems and processes”.

By providing a learning experience that allows for the analysis and experimentation of intelligent automation systems in a safe and supportive environment, the PneuDrive Challenge presents itself as a very strong model for providing a bridge between academic theory and the business requirements of industry. The winners of the competition receive a ten day all expenses paid trip to Germany and Italy where they will have an opportunity to present their designs to the head offices of the sponsor companies. SEW-EURODRIVE and Pneumax also offer more than R300,000 worth of equipment to competing universities to ensure that future students are afforded the opportunity to experiment with the latest in drive engineering and pneumatic technology.

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| University of Johannesburg students eagerly absorbing as much as they can about drive and pneumatic technology. | |  |
| Site visits raise awareness of real-life business operations. |  | |
| PneuDrive Challenge 2014 theme logo / mascot |  | |

**Contact address for editors and readers:**

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| **SEW-EURODRIVE**  Marketing Department  Rene Rose – General Manager - Communications  Phone: (+27 11) 248 7000  [rrose@sew.co.za](mailto:rrose@sew.co.za)  [pneudrive@sew.co.za](mailto:pneudrive@sew.co.za)  [www.sew.co.za](http://www.sew.co.za) | **Pneumax**  Marketing Department  Eugene van der Lith – Regional Manager  Phone: (+27 11) 573 0902  [eugene@pneumax.co.za](mailto:eugene@pneumax.co.za)  [pneudrive@pneumax.co.za](mailto:pneudrive@pneumax.co.za)  <http://www.pneumax.co.za/> |



**NGAGE**

Media contact

Kelly Farthing – SEW-EURODRIVE Account Manager

Phone: (+2711) 867 7763

[kelly@ngage.co.za](mailto:kelly@ngage.co.za)

[www.ngage.co.za](http://www.ngage.co.za)