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**Autodesk joins PneuDrive Challenge 2013 as a technology partner**

Autodesk - a world leader in 3D design and engineering software - has been officially named as the technology partner for the PneuDrive Challenge 2013 Engineering Design Competition. This year the competition, which was originally established in 2008 by leading drive engineering company SEW Eurodrive, will provide engineering students from six South African universities with the opportunity to design and propose innovative engineering solutions that contribute towards 'greener' mines.

As an official sponsor, Autodesk will provide a wide range of services and giving participating universities and students free access to a range of Autodesk’s design software solutions. To assist participants with their submissions, Autodesk will also be hosting a series of technical workshops in coming up with optimal design workflows in preparing their submissions.

Autodesk’s technology combined with Autodesk Education’s specialised communities, support networks, and participation and sponsorship of competitions and events inspire students to think creatively and to be innovative and limitless with their design work. With a full portfolio of professional and personal design products, Autodesk introduces students at all levels to the love of design and to the power of design technology so that they may develop into true design professionals.

Autodesk will be awarding a special sustainable design prize category. This prize will be awarded to the team who demonstrates a thoughtful and responsible choice of materials – and ideally measurable embodied energy use reductions as a result of using the Eco Materials Adviser tool.

The Autodesk Eco Materials Adviser is a user friendly, interactive tool available within the Autodesk Inventor software. Together with new environmental assessment tools, it assists the user in optimising eco impact, cost and performance for a specific product.

SEW Eurodrive general manager of communications **Rene Rose** says: "We believe that the Autodesk's solution for digital prototyping can add another dimension to the breadth and depth of submissions and are very excited to have them on board. The fact that the students will have access to the very same software widely used in industry across South-Africa and be able to apply actual proven design workflows is very much in alignment with our vision to make business reality a part of our competition."

The PneuDrive Challenge offers a unique learning experience for mechanical, electronic and mechatronic engineering students. The 2013 theme is 'Greener Mining', due to the fact that the management and disposal of mine waste is becoming an increasingly important subject worldwide.

"Applications and approaches to managing and disposing waste in a manner that is environmentally friendly as well as sustainable on a business level, has for some time now been acknowledged as a very real business challenge for the mining industry," adds Rose.

This year’s competition requires students to review typical challenges that mines face, such as the problems and risks associated with slurry dams, rehabilitating tailings dams and how to improve water recycling on mines. The problems of extracting and finding a use for mining by-products and controlling dust emissions are also part of the problem set. The Autodesk team will be sharing a practical case study with participants during the upcoming technical workshops about a company in the USA, [Micromidas](http://www.micromidas.com/), where Autodesk Inventor and Autodesk Simulation CFD products are playing key roles in the evolution of their technology and processes.

While researching microbial-based wastewater treatment at their alma mater, the Micromidas team developed unique processes for transforming the carbon in organic wastewater into fully biodegradable plastics. Disposing of biosolids—also known as “sludge”—has proven to be an extremely expensive and complex problem. Rather than being incinerated, which creates greenhouse gases, or deposited in landfills, carbon and other nutrients in wastewater biosolids are ‘gobbled up’ by microbes harnessed by Micromidas from soil and water.

Rose notes that the sponsors and organisers of the competition are confident that South African students have the creativity and knowledge to take on the challenge of developing greener mining solutions. "An important principle of the competition is to get students to really understand a business problem, incorporate specific products in their design solution and then demonstrate through a business proposal how their ideas can be used as real-life business solutions."

In terms of products from SEW Eurodrive, the 2013 competition requires students to consider how the company's range of DR motors, Movitrac LTP inverters and X-Series industrial gear units could be used to address the environmental impact of mining activity. The Pneumax products that students need to consider for their designs are the range of dust collector valves, the Imperial Mine Cylinder and the Optima-S Valve Terminal.

Pneumax managing director **Adrian Buddingh** highlights the fact that the competition is an essential step in creating synergy between business growth and social responsibility. "It is business that needs to support learning experiences that allow students to learn about how to apply their academic knowledge on a practical level and in conjunction with the latest technology that is available."

The winning team receives an all-expenses paid trip to Germany and Italy, where they will present their design at the head offices of SEW Eurodrive and Pneumax. They will also be given the opportunity to claim R 100 000 worth of SEW Eurodrive and Pneumax products for their university.

All universities that submit final entries also qualify to receive R 40 000 worth of SEW Eurodrive and Pneumax equipment for their universities. What's more, Autodesk will be giving away more than R70 000 worth of prizes, including a trip to the annual Autodesk University Conference in Las Vegas USA for the lecturer of the winning team. To find out more about the PneuDrive Competition visit [www.pneudrive.co.za](http://www.pneudrive.co.za/)

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