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Student engineering compo now calls for business acumen and real-world skills

2014 Cyber Junkyard challenges engineering students to innovate for industry

- **Eight teams from eight South African tertiary institutions in final stage of annual engineering competition**
- **Cyber Junkyard 2014 calls for innovative industry solutions from engineering students**
- **New business development element of popular competition requires teams to pitch and sell their innovation**

The popular Cyber Junkyard competition and annual highlight in the academic engineering calendar has called on young students with engineering prowess to demonstrate their business and selling skills as well.

Siemens Industry Sector CEO, Raymond Padayachee, says that the 11-year initiative to promote engineering skills and encourage tertiary students to apply theoretical knowledge from the lecture halls in real-world settings has expanded to include a new business development component.

“This is line with the tertiary sector’s emphasis on producing graduates who not only have the knowledge and skill related to their specific engineering discipline, but who can also operate as business owners, entrepreneurs and experts in the real world of work.

“Furthermore, the National Scarce Skills list published by the department of Higher Education and Training earlier this year ranks electrical, civil and mechanical engineers as the top three skills in shortage in South Africa. The Cyber Junkyard competition supports engineering students in their skills development, challenging them to innovate beyond their curriculum.”

The deciding round of the annual Cyber Junkyard engineering technology competition in South Africa will take place on 27 October, with eight teams from tertiary engineering departments across the country now focused on preparing for the final challenge. Winners will be announced on the same day at a gala event.

The challenge requires teams of students at universities of technology and further education and training institutions to design and build engineering solutions to 21st century industry problems.

The original format of the engineering competition was changed this year. In previous years, Cyber Junkyard participants had to recreate and improve a prototype innovation supplied by competition sponsor, Siemens. In 2014, students could engineer a solution to any industry problem they chose.

“With the minds of young engineers encouraged to imagine their own solutions to problems they identified themselves, the entries this year are incredibly exciting and diverse,” says Padayachee. “They range from a Biogas micro-heating system and an intelligent farming tool to techniques for controlling and stabilising an electricity grid, and a warehousing system that uses gravity to load and store products. A maintenance assistant with a built-in image processor can open toolboxes and suggest parts, and an automated coffee roaster, automated cocktail machine and intelligent cupcake decorator aim to improve their respective processes.

“Siemens set this year’s focus for the Cyber Junkyard competition on innovating for the future of manufacturing. We are looking for projects which demonstrate automation, efficiency, marketability and an application of engineering principles. In the final round in October, the teams will gather to ‘sell’ their innovations to the judging panel of industry leaders added, Keshin Govender, Corporate Communications Manager Siemens South Africa.

On 27 October 2014 at Siemens’ Future of Manufacturing Conference and Exhibition, the teams will enter the final round. The morning will see their projects on display for media and

delegates, and from midday they will enter the round known as the Industry Arena, where they sell their innovations to a panel of industry judges.

That evening, the winner will be announced at a gala event.

The Cyber Junkyard competition stimulates the practical application of engineering theory. Students have an opportunity to competitively apply and develop the skills they have been taught in a real-world setting, and this year, learn about the business element of those innovations.

“Digital automation and control have opened the doors to new opportunities for solving old engineering and industry problems, and who better to grab this opportunity than the young minds of the engineers of tomorrow,” says Govender.

“The future of the manufacturing industry will rely on these individuals and their ability to use cutting edge automation, simulation and control technology to engineer the right solutions for a future which is only just being imagined.”

The competing teams were given a list of possible equipment they can use. Out of this list they were able to choose up to R50, 000 worth of equipment sponsored by Siemens.

They are then also allowed to obtain sponsorships to a further total of R50, 000 to purchase additional equipment that is not available within Siemens. The teams have received training and support to successfully complete the project.

Other educational benefits of the Cyber Junkyard challenge include exposure to cutting-edge industrial automation products, tools and technologies, networking with industry representatives, and much sought-after training at the Siemens SITRAIN campus.

Follow @SiemensAfrica on Twitter for insights into the innovations and the young engineering teams behind them.

Note to editors:

A Junior Cyber Junkyard program for high school students runs in alternate years with the Cyber Junkyard challenge, and last year's teams were challenged with a home energy management system. The 2015 challenge will be announced later this year.

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