

Intel turns to schools to boost sciences

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PUBLISHED: 2010/05/18 06:36:24 AI

THE South African school system is not geared to giving the country the scientists, technologists and engineers it needs to compete in the increasingly knowledge-based global economy, Intel SA corporate affairs director Parthy Chetty says.

Which is why, she says, businesses such as the South African arm of microchip maker Intel and power utility Eskom put time, money and effort into school-level international science, engineering and technology competitions.

Chetty is just back from the 2010 Intel International Science and Engineering Fair in San Jose, California, where two 17-year-old boys from Upington in the Northern Cape last Friday won fourth place in the team projects category of the world's largest high school-level science, engineering and technology competition. Intel is a leading computer chip manufacturer.

Christiaan Kruger and Wynand van Zyl created Genii, software that explains grade 10 chemistry in an engaging and interactive manner. They competed against 1600 pupils from 59 countries across the globe.

Science, engineering and technology skills lie at the root of invention and efficiency and, so, economic growth, SA's 2009 economist of the year Mike Schussler says.

SA does not produce enough science, engineering and technology graduates to meet business demands, and to compete in the global market for these skills, says Sandra Burmeister, CEO of Landelahni, a mining, information and communication technology and infrastructure recruitment specialist.

The global budget for infrastructure spend between this year and 2020 is about 20-trillion (R151,4-trillion). SA's infrastructure budget is R900bn.

South African-trained engineers are in demand globally and 48% of respondents in a global infrastructure survey listed a lack of skills as the single biggest constraint to progress. Yet SA produced only 28019 degreed engineers and 53342 people with other qualifications in the field between 1998 and 2008.

Added to this, SA's low production of information and communication technology degrees is "really, really scary" given that a World Economic Forum global technology report acknowledges that technology is "a bridge to increased economic growth and competitiveness in all economies", she says.

Between 1996 and 2007 SA produced 17705 information and communication technology degree and diploma graduates, but in 2005 only 823 graduated with a degree in electronic engineering, and only 596 were awarded a computer science degree. In 2006 these numbers were 916 and 540 respectively and in 2007, 928 and 502.

It is for this reason that SA's participation in the Intel International Science and Engineering Fair, and the fact that Kruger and Van Zyl did so well in the competition, is "great news", says Schussler. The country needs to encourage youngsters to tackle these fields.

Intel decided 20 years ago it should encourage children to see science as “cool” and to encourage and reward their participation in science. A lack of interest in science, engineering and technology subjects is a global problem, Intel Foundation executive director Wendy Hawkins says.

The science fair has grown from a competition involving 1200 children from 30-40 countries in 1992 to this year’s tussle . Seven contestants have gone on to win Nobel prizes in their fields, Hawkins says.

Intel has worked to break down the myth that engineering is for boys, to improve the teaching of science, engineering and technology subjects at school — the Intel Foundation has trained 7-million teachers worldwide. The company uses the science fair to celebrate science, engineering and technology excellence, increase the attraction of science, engineering and technology for pupils and introduce them to the wide scope qualifications in the field afford in terms of career choice.

“We chose to do this because we learnt that many kids make choices ... that close the door for them (in terms of career choice),” says Hawkins.

The four South African pupils who participated this year were “best of category” winners in the 2009 Eskom Expo for Young Scientists, says the expo’s national manager Priscilla Moodley.

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