

US ‘Ahead in Producing Technologists’

By Amy Yee in New York

Published: December 13 2005 20:27 | Last updated: December 13 2005 20:27



The US maintains a strong lead over India and China in numbers of qualified engineers, according to a new report that seeks to debunk the popular view that the US lags far behind in producing skilled technologists.

On a per capita basis, the US graduates more than 750 engineers per million of population, while India and China graduates only 200 and 500 engineers per million, respectively, according to a study released on Tuesday by Duke University’s engineering school.

Those figures run contrary to widely quoted numbers that say the US graduates 70,000 engineers a year versus 350,000 from India and 600,000 from China. The latter figures are based on reports issued by the Chinese ministry of education and the National Association of Software and Service Companies (Nasscom) in India.

But Duke – based in north Carolina – said numbers from China and India are misleading because they include less rigorous three year-training programmes and diploma holders, whereas US numbers are based on degrees from accredited four-year engineering courses.

The Chinese ministry of education states that 644,106 engineers graduated last year, 351,537 of which received bachelor’s degrees and 292,569 of which graduated from two or three-year programmes. Nasscom estimates there were 215,000 engineering graduates last year, of which 103,000 received three-year degrees.

The study also breaks down engineers between those it describes as “dynamic” with specialised skills who are able to lead innovation and “transactional engineers”, those typically responsible for repetitive tasks in the workforce who tend to receive associate, technician or diploma awards rather than a bachelor’s degree.

The US still leads in numbers of “dynamic engineers”.

“A comparison of like-to-like data suggests that the US produces a highly significant number of engineers, computer scientists and information technology specialists, and remains competitive in global markets,” according to the study.

“Varying, inconsistent reporting of technological edge problematic engineering graduation data has been used to fuel fears that America is losing its edge.”

The study concludes that that group of engineers in other countries are not an immediate threat because high-end jobs cannot be outsourced. Almost one-third of the world's science and engineering researchers are employed by the US.

Thirty-five per cent of science and engineering articles are published within the US and the US accounts for 40 per cent of the world's research and development expenditure.