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## Information & Communication Talent Development in Singapore

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Infocomm (information & communications) jobs in Singapore grew by nearly 9% in 2007 and employs 135,000 professionals. A recent survey by Financial Insights, an IDC company, reveals that the majority of 70 chief information officers in Asia Pacific banks expect their IT investment budgets to grow in 2009.

These trends and developments in infocomm manpower took centre stage at a business leaders seminar jointly held by the Singapore Computer Society (SCS) and [Infocomm Development Authority \(IDA\)](http://www.ida.gov.sg/home/index.aspx) (<http://www.ida.gov.sg/home/index.aspx>) in November 2008 at the Singapore Management University.

Updating the audience on IDA's regular surveys and findings was its CEO, rear admiral Ronnie Tay who said that 56% of infocomm professionals work in infocomm organisations, and the rest in user organisations. "Infrastructure support, sales and marketing, and software development remain the top three job categories, in terms of the number of infocomm professionals working in them", he said.

Touching on the ongoing global financial crisis, he said the IDA is closely watching the impact on infocomm companies and user organisations. He expects that companies with recently secured IT projects to continue hiring while others may defer investment or recruitment plans. Quoting a survey by Financial Insights, he added that out of 10 Singapore banks interviewed, "five said they would increase spending on technology, two said that budgets will be flat, while the remaining three said there will be decreases in technology spending".

### Singapore Ranks High for IT Skills

Tay drew attention to Singapore earning a second place amongst 55 countries for having readily available IT skills in Swiss-based business school, IMD's World Competitiveness Yearbook 2008. He added: "We should not lose sight of the need to continually develop our infocomm talent, in good times and not so good times."

"This will enable us to ride the recovery to growth that will come after this period of uncertainty. Jobs in R&D, software, consulting and solutioning, telecoms and enterprise network design are still in demand," Tay said.

Talented employees are critical to the sector which constitutes one important aspect of the IDA's programmes, Tay said. "Since 2004, we have invested approximately S\$120 million towards this end. Over the next three to five years, IDA, together with the industry will invest a further S\$70 million to ensure we have the talent to create and capitalise on the digital opportunities ahead," he stressed.

Touching on the user sector, Tay expects growth to be fuelled by the need for more professionals with in-depth IT expertise and good domain knowledge. He said that the specialised needs of each sector will require 'techno-strategists' or professionals with the ability to provide innovative IT solutions.

Towards this end, IDA's launch of the Techno-Strategist Programme is aimed at equipping 1,000 middle-tier professionals with domain knowledge in the healthcare, retail, finance and banking sectors over the next two years. "The professionals will acquire a deeper understanding of these domains to better tailor infocomm solutions to meet sophisticated needs of these sectors," he emphasised.

### Targeting Schools & Industry Professionals

IDA's comprehensive talent attraction and development strategy begins at the school level. It has set up infocomm clubs in 200 out of 350 schools, and the goal is to reach 250 schools by end of next year. Apart from imparting infocomm skills in a fun way, IDA also organises national level competitions for secondary, junior college and polytechnic students to test their skills in developing applications using software such as Java, Adobe Flash or Web2.0, and also in developing animation or online games.

The authority works with 27 industry partners to offer scholarships to bright students. Since 2004, there have been 155 recipients, including 48 awards in 2008. In addition, a programme called enhanced learning in infocomm technology or 'ELITE' has been launched to provide infocomm undergraduates with industry-ready skills through industry mentorship, overseas internships and training in emerging technology areas.

For industry professionals, IDA and Workforce Development Agency have rolled out the National Infocomm Competency Framework or 'NICF' which spells out key skills required of various ICT jobs. An enhanced NICF with competencies identified for more than 200 jobs, from initial 31, will be available in early 2009.

A steering committee provides guidance for the development of the NICF. It is chaired by the chief technology

officer of IBM and co-chaired by IDA and Workforce Development Agency, and the task of the committee is to set direction and goals as well as drive its implementation and adoption strategies.

The benefits of NICF are multi-dimensional. Employers can use it to put in place staff training and development based on industry standards. Infocomm professionals can use it as a guide in planning their skills upgrading and career development, while it is a reference point for training providers to develop high-quality courses and certification programmes.

Taking another step to further involve the industry, IDA set up in July this year the Infocomm Manpower Council (IMC) which comprises 21 members whose role will be to recommend further manpower strategies and approaches to strengthen our infocomm manpower and position Singapore to respond effectively to evolving industry needs.

### **Infocomm at the Core**

Tay concluded by giving an overview of the profession which he described as "growing, thriving and resilient". It didn't take long for the industry to recover after the dot-com bubble burst, he commented. "The industry revenue and value-added contribution to GDP have seen more than 12% and 6% average annual growth, respectively," he said. He added that its resilience can be seen in that infocomm is at the core of innovation, constantly spinning off new business areas and bringing disruptive innovation to established sectors


He also provided examples of how infocomm is driving modern science, business and society. Computer science is at the core of interdisciplinary applications, spanning diverse areas such as healthcare, pharmaceuticals, security and others. It also extends to recreational pursuits where infocomm is used to improve the design of golf clubs and golf balls, according to Tay.


He highlighted the need for right and left brain skills in providing infocomm solutions. "An education in this sector provides one with analytical, problem-solving and logical thinking skills. Creating an infocomm solution requires a combination of left and right brain activity. You need creative thinking to design the system or software architecture, understand various technologies, deploy the best technical know-how, and maintain a high-level vision of how all the parts fit together," explained Tay.

He also drew attention to the need for soft skills such as the emotional quotient and communication abilities, because infocomm professionals have to work in teams and to leverage the various competencies of others.

An infocomm career is rewarding, said Tay, highlighted the vast opportunities in the sector that provide different paths of job fulfilment. For example: a network engineer derives satisfaction from planning and ensuring that the network runs optimally; a CIO relishes the challenge of being a technical expert and a business leader; and for aspiring entrepreneurs there is great satisfaction in creating a product or service used globally to improve lives and businesses, he concluded.

Commenting on the IDA's manpower programme, assistant director, Hema Rammani, said an infocomm-savvy workforce that is globally competitive is one of three pillars that make up Singapore's intelligent nation (iN2015) strategy. The second pillar focuses on sectoral transformation of key economic sectors, government and society, while the third involves building an ultra-high speed, pervasive and intelligent infocomm infrastructure.

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