

# embark

IDA Annual Report 2006/2007

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## IMAGINATION TAKES FLIGHT

Propelling Singapore  
into the Future with iN2015

Inside:

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### THE SETUP

Building Foundations  
for the Future

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### KEY ENABLER

Growing the Economy  
through Infocomm

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### MULTIPLY

Infocomm for All

iDA INFOCOMM  
DEVELOPMENT  
AUTHORITY OF  
SINGAPORE



ISSN-0219-7286

# iN2015< IMAGINE THE ABILITY TO MAKE EACH DAY SUIT YOUR NEEDS

Intelligent technology transforms peoples' lives with creative, tailor-made solutions for individual needs.

In a connected world, a click of the mouse offers the advantage of speed. To know is to act, whether competing in a global marketplace or taking on multiple roles and responsibilities.

**Imagine your world | [www.in2015.sg](http://www.in2015.sg)**



Intelligent Nation 2015 (iN2015) is a masterplan that harnesses the potential of infocomm in the coming decade to transform every aspect of daily life and business.

It is the culmination of a collaborative effort, reflecting the ideas and vision of the people, public and private sectors.

**iDA** INFOCOMM  
DEVELOPMENT  
AUTHORITY OF  
SINGAPORE

**SITF**  
Singapore Infocomm  
Technology Federation

**SCS**  
SINGAPORE  
COMPUTER SOCIETY

# inside: embark FY2006/2007

## ANNUAL REPORT 2006/2007

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DEVELOPMENT  
AUTHORITY OF  
SINGAPORE



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# CHAIRMAN'S MESSAGE



2006 was a momentous year for infocomm in Singapore. It marked 25 years since Singapore's first push into infocomm technology to transform the public sector and subsequently to grow our own infocomm industry. The pioneering efforts have paved the way for the infocomm industry to contribute significantly to Singapore's economic growth. In 2006, the industry recorded an all-time high of \$45.4 billion in total revenue, an increase of 20% from 2005. Exports accounted for almost 64% of the total revenue.

Today our population is generally infocomm-savvy, enjoying the ease and convenience that infocomm technology brings into their work and daily lives. By end 2006, our mobile penetration rate reached 103.4%. In addition, 78% of all households in Singapore have at least one computer at home and the number of households having Internet access reached 71%. Companies with more than 250 employees use computers and Internet for their businesses.

## Forging Ahead with iN2015

The launch of iN2015 masterplan last June marked the next significant milestone in Singapore's infocomm journey. The ground work has been laid for Singapore to leapfrog into the Digital Age, to meet the new challenges and seize the opportunities of the new digital world.

The challenges identified under the masterplan include developing a future-proof infocomm infrastructure, helping our local

infocomm enterprises to venture abroad, boosting our pool of infocomm talent, and transforming key economic sectors in Singapore through greater infocomm usage and innovation. Programmes and initiatives have been rolled out with such objectives in mind – more are being developed, and will be implemented in the coming months.

## Future-proof Infocomm Infrastructure

Connectivity and mobility will be the key drivers for users in the Digital Age. For the Next Generation National Infocomm Infrastructure (NGNII), there are the wireless and wired components, namely the Wireless Broadband Network (WBN) and the National Broadband Network (NBN). Through the Wireless@SG programme, consumers can now enjoy free broadband access in many public places. The programme has attracted more than 430,000 subscribers since its launch in December 2006. By September 2007, there would be 5,000 hot spots around Singapore, allowing users to remain connected even on-the-go.

For the wired component, the NBN holds the exciting promise of delivering an ultra-high speed of 1 Gigabits per second and more. This is aimed at meeting the future demands of bandwidth intensive applications such as digital media, IPTV and R&D. Twelve companies and consortia have been pre-qualified and are in the running to eventually deploy the network by 2012.

With more online connectivity and transactions, there is also a need to address security and privacy concerns. The National Cyberthreat Monitoring Centre has been set up to monitor government networks for cyber threats round the clock. Following its first reading in Parliament in February 2007, the Spam Control Act came into effect from 15 June 2007. This Act offers both consumers and businesses a framework to better manage unsolicited commercial electronic messages.

## Vibrant Infocomm Industry

As the industry developer, IDA aims to strengthen the capabilities of local infocomm enterprises and pave the way for greater access to key markets. In 2006, IDA facilitated some 70 companies' overseas ventures in Middle East, China and India. A second Singapore Solutions Centre was also set up in Hangzhou in November 2006 to facilitate business collaborations in China. The fourth IDA overseas office was set up in Doha as it continues to seek out business opportunities to help Singapore companies enter more foreign markets. To gain global mindshare for the Singapore infocomm companies, IDA, together with the industry launched the "Infocomm Singapore" brand and actively promoted it to the overseas market.

As an infocomm hub in the region, Singapore continues to attract MNCs to locate operations here. For example, Cisco established its regional customer briefing centre, Google announced the

opening of its R&D centre and Sybase set up its inaugural wireless development centre.

### Growing Infocomm Talent

Talent is critical to drive the nation's economic competitiveness. With 119,700 infocomm professionals today, the industry continues to support the developmental efforts of the nation. To attract top talents to the infocomm profession, IDA together with industry players sponsored the best and brightest through the National Infocomm Scholarship. A record 36 scholarships were awarded in 2006, up from 20 in 2005.

To further engage and excite students about the opportunities in the infocomm industry and profession, school clubs and contests were initiated in the past year. There are 140 schools today with Infocomm Clubs, with over 6,500 student members. Infocomm-savvy students with a competitive streak also have an outlet in the National Infocomm Competition, where schools competed to win a trip to Microsoft's headquarters in Redmond, Seattle. The competition attracted some 2,000 contestants from 100 schools.

### Transforming Key Sectors

As the Government CIO, IDA continued to push ahead with the plans to implement the Standard ICT Operating Environment (SOE) with a common desktop, network

and messaging environment for all public officers for greater operational efficiency. Short-listed companies will be awarded this multi-billion project by first quarter of 2008.

Other efforts in the public sector include making accessible some 150 government services through mobile devices. For the less infocomm-savvy, 27 CitizenConnect Centres have been set up to help them gain access to the Internet.

In the education sector, five schools have been identified under the FutureSchools@Singapore initiative, to use emerging technologies for teaching and learning. By 2015, the number of Future Schools will grow to 15.

To enhance the healthcare sector, a \$15 million Integrated Clinic Management System programme has been in place since October 2006 to enable 315 General Practitioners clinics to seamlessly update and retrieve patients' records.

Under IDA's Collaborative High-Tech Manufacturing programme, 10 major local manufacturers have connected to over 40 local suppliers and several hundred regional suppliers to enable \$3.2 billion worth of annual transactions with cost savings of \$41 million. Come late 2007 the sector can tap on TradeXchange, a one-stop integrated platform for B2B and B2G trade services.

### Full Liberalisation for Postal Sector

A significant event in the postal sector is its full liberalisation. The Government's decision to open the Basic Mail Services market follows a public consultation. Liberalisation is expected to generate cost savings of \$8 million to \$25 million per year over the next two to three years.

In conclusion, the past year has been exciting and fruitful. Many called 2006 the Year of Infocomm. The excitement surrounding the infocomm industry is palpable and all the signs show that it will continue to be a buoyant year in 2007.

I would like to thank the iN2015 Steering Committee, our industry partners, public agencies and the public for their invaluable contributions and support to IDA throughout the process of drawing up Singapore's 10-year infocomm masterplan.

I also like to thank the Board of Directors for their time and effort in their guidance and support to IDA. Lastly, I am most happy with and thankful to our IDA staff for their dedication, commitment and perseverance in their work.



**LAM Chuan Leong**  
Chairman, IDA



◀ **chairman**  
**LAM Chuan Leong**  
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▶ **Stephen LIM**  
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◀ **LIM Chin Hu**  
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Corporation Ltd



# IDA BOARD

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<b>HENG Chiang Gnee</b> ▶ President & Chief Executive Officer SembCorp Environmental Management Pte Ltd		

# OF DIRECTORS

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<b>SAW Ken Wye</b> ▶ Vice President Sales & Marketing Asia Pacific Region Microsoft Operations Pte Ltd		▼ <b>TAN Kian Chew</b> Chief Executive Officer NTUC Fairprice Co-operative Ltd
	◀ <b>SEAH Chin Siong</b> Country Managing Director Accenture Singapore	

MEMBERS OF  
IDA BOARD  
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SEAH Chin Siong  
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ONG Peng Tsin

Audit  
Committee

LEONG Wai Leng (Chairman)  
CHEW Hock Yong  
Charles LIM  
LIM Chin Hu  
SEAH Chin Siong

# *Can a student learn beyond the classroom?*

## eSchoolbag, Qatar

Inspired by Singapore's Edvantage programme, ictQATAR initiated the eSchoolbag project to promote independent learning through interactive content and online collaborations. To realise the students' potential and improve their learning experience, curriculum materials are pre-loaded into tablet PCs and then customised by teachers to fit each individual student's needs.

When the Qatari government wanted to introduce innovative ways of learning, they chose to collaborate with Singapore-based infocomm companies, Amdon Consulting, Heulab and iCell Network.

With a solid track record in delivering results, our Infocomm Singapore companies have innovative infocomm solutions and domain expertise to unlock opportunities for governments and businesses. More than that, we have improved the way people live, work and play. Infocomm Singapore, Innovations In Action.

To find out how your businesses can benefit from the solutions of Infocomm Singapore, visit **[www.infocommsingapore.sg](http://www.infocommsingapore.sg)**



# SENIOR LEADERSHIP TEAM

From left to right (left page):

**TAN Geok Leng** (Chief Technology Officer & Senior Director, Technology & Planning Group), **Aileen CHIA** (Senior Director, Corporate Development Group), **Andrew HAIRE** (Deputy Director-General, Telecoms), **Christina GAN** (Senior Director, Infocomm Security & Manpower Development Group), **THAM Ai Chyn** (Assistant Chief Executive, Industry & Cluster Development Group), **Philip HEAH** (Senior Director, Next Generation Infrastructure Group)



**CHAN Yeng Kit** (Chief Executive Officer), **TAN Kar Joo** (Senior Director, Cluster Group I), **LEONG Keng Thai** (Deputy Chief Executive & Director-General, Telecoms), **Pauline TAN** (Senior Director, Government Chief Information Office Group), **KHOONG Hock Yun** (Assistant Chief Executive, Infrastructure Development Group)

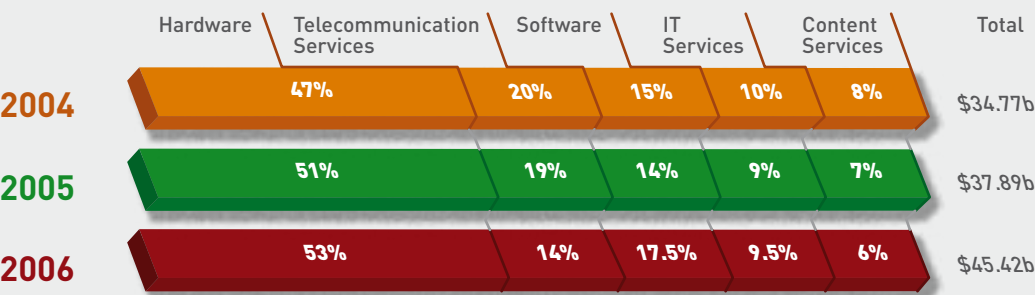
**CHAN Yeng Kit** (Chief Executive Officer), **TAN Kar Joo** (Senior Director, Cluster Group I), **LEONG Keng Thai** (Deputy Chief Executive & Director-General, Telecoms), **Pauline TAN** (Senior Director, Government Chief Information Office Group), **KHOONG Hock Yun** (Assistant Chief Executive, Infrastructure Development Group)

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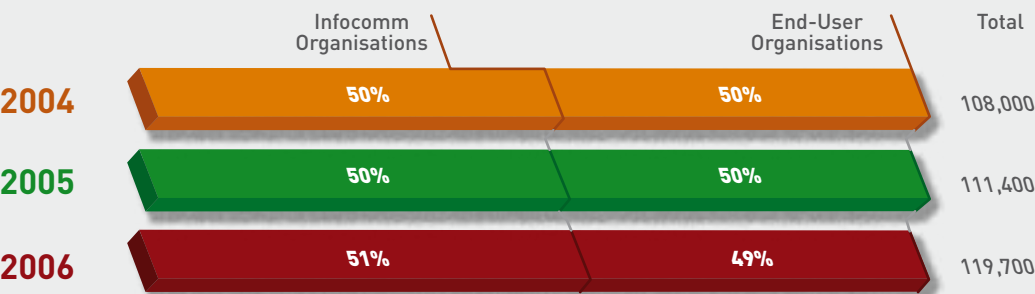
# INFOCOMM STATISTICS

In 2006, the revenue of the infocomm industry grew by **19.9%** to reach **\$45.42 billion**.



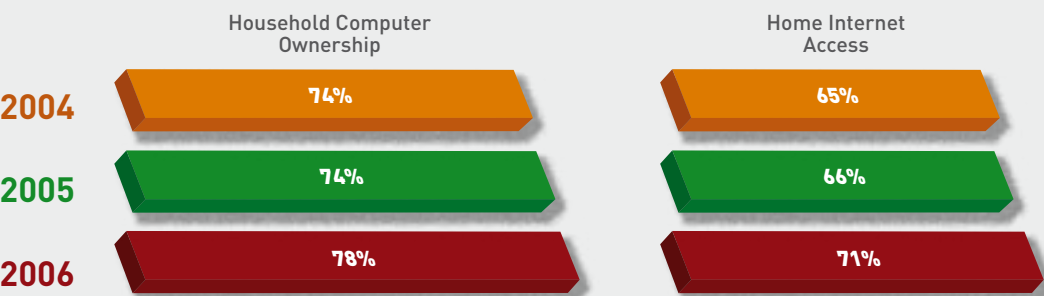
Total Infocomm Industry Revenue by Market Segments (2004-2006)  
Source: Annual Survey on Infocomm Industry for 2006

The number of infocomm manpower employed grew by **7.5%** to reach **119,700** in 2006.



Number of Employed Infocomm Manpower (2004-2006)  
Source: Annual Survey on Infocomm Manpower for 2006

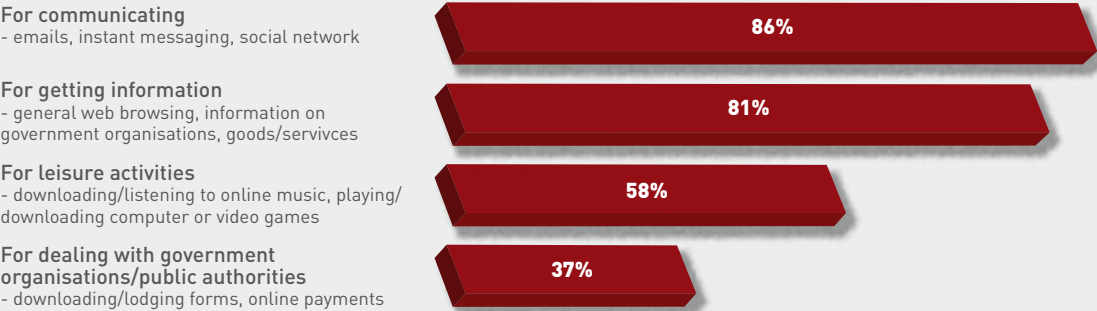
In 2006, **78%** of households have access to a computer and **71%** have access to the Internet at home.



Infocomm Usage in Singapore Households (2004-2006)  
Source: Annual Survey on Infocomm Usage in Households and by Individuals for 2006

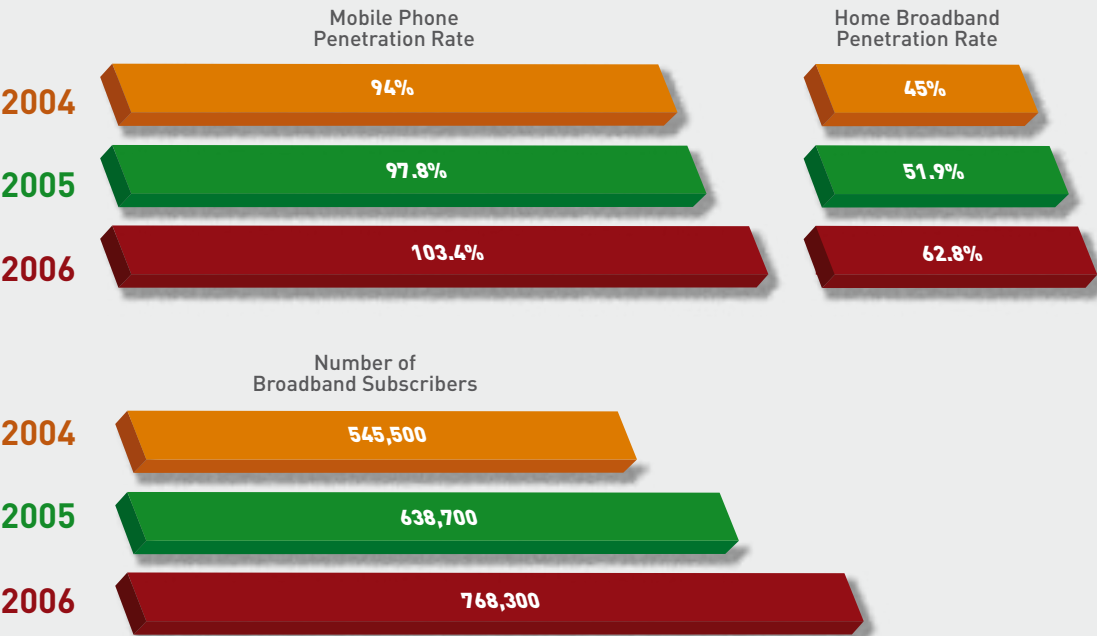
**86%** of users above 15 years old used the Internet as a communication tool.

**2006**



Usage of Internet Applications and Services by Users Aged 15 years and Above (2006)  
Source: Annual Survey on Infocomm Usage in Households and by Individuals for 2006

In 2006, mobile phone penetration rate exceeded **100%**, home broadband penetration rate exceeded **62%** and the number of broadband subscribers increased to **768,300**.



Statistics on Telecom Sevices (2004-2006)  
Source: Statistics on Telecom Sevices for 2006 (as at Dec 2006)

<p><b>25 April 2006</b> <b>Industry Briefing on Business Opportunities for IT in the Public Sector</b></p> <p>In this annual briefing attended by more than 700 industry participants, IDA revealed that the Government would call for \$620 million worth of infocomm tenders in FY2006.</p>	<p><b>30 May 2006 ▶</b> <b>Launch of iGov2010</b></p> <p>The Singapore Government announced a new \$2 billion five-year masterplan, called iGov2010, which will guide the nation's latest direction in e-Government initiatives.</p>	
<p><b>20 June 2006 ▼▶</b> <b>Launch of Singapore iN2015 Masterplan</b></p> <p>The Intelligent Nation 2015 (iN2015) Masterplan was launched at the Infocomm Media Business Exchange (imbX2006). This 10-year masterplan will propel Singapore into the Digital Age with activities and goals to transform the country into an Intelligent Nation and Global City powered by infocomm.</p>		<p><b>KEY NOTES</b></p> <p><b>MAJOR HIGHLIGHTS OF FY2006</b></p>
	<p><b>2 August 2006</b> <b>IDA Enhances Number Portability Regime</b></p> <p>IDA announced the decision to introduce a true Number Portability regime where the consumer would only use one number, no matter how many times he changes telecoms service providers. This would spur more innovative products and services for the consumer, thus enhancing greater competition in the market.</p>	
<p><b>25 August 2006</b> <b>Launch of Government Executives in the New Information and Knowledge Era (GENIE) Showcase</b></p> <p>IDA collaborates with Intel, Microsoft and Fujitsu to set up a public sector showcase using technologies in research and development. This showcase demonstrates how infocomm can be exploited to transform the way public officers work, and create solutions that will enhance operational efficiency and productivity of the public sector.</p>	<p><b>31 August 2006</b> <b>General Practitioners Go Electronic</b></p> <p>IDA launches a \$15 million programme to help General Practitioners to leverage on infocomm to seamlessly update and retrieve their patients' health records. Using such integrated clinic management systems, more personalised healthcare can be provided to patients.</p>	<p><b>16 September 2006</b> <b>Record Number of National Infocomm Scholarships</b></p> <p>A record number of 36 National Infocomm Scholarships were awarded in 2006 with the aim to develop talent and nurture future leaders to help drive Singapore's infocomm industry.</p>

<p><b>10 October 2006 ▶</b>  <b>Singapore Celebrates 25 Years of Infocomm</b></p> <p>Year-long celebration activities were undertaken, culminating in a week-long public exhibition, Innovation. Prime Minister Lee Hsien Loong officially opened the exhibition at the Gala Dinner attended by more than 1,000 infocomm pioneers and industry guests.</p>		<p><b>10 October 2006</b>  <b>2006 National Infocomm Awards</b></p> <p>In this bi-annual national awards organised by IDA and SiTF, 11 public and private sector organisations were honoured for their excellence in innovation through infocomm.</p>
<p><b>7 November 2006</b>  <b>IDA and ITU to Develop New ICT Executive Training Programme</b></p> <p>IDA and the International Telecommunication Union agreed to collaborate in developing a new executive training programme for senior ICT policy makers and telecoms regulators who are keen to develop their own ICT framework for competition.</p>	<p><b>9 November 2006</b>  <b>NUS-Carnegie Mellon-IDA Memorandum of Intent Signing Ceremony</b></p> <p>The Memorandum of Intent was signed to formalise the collaboration between National University of Singapore School of Computing and Carnegie Mellon University's Entertainment Technology Centre, on a concurrent Bachelor's and Master's programme. This collaboration, supported by IDA, will produce top-notch infocomm professionals for Singapore's Digital Media and Entertainment industry.</p>	<p><b>28 November 2006 ▼</b>  <b>IDA and ictQATAR Signs MOU for ICT Collaboration</b></p> <p>IDA and ictQATAR signed a Memorandum of Understanding (MOU) for ICT collaboration in Doha, Qatar. With this MOU, IDA will facilitate partnerships between Singapore and Qatar infocomm companies to implement ICT projects and develop opportunities. IDA announced its intention to open a fourth overseas office in Doha to promote Singapore's infocomm industry and facilitate access for Singapore companies in the Middle East.</p>
<p><b>29 November 2006</b>  <b>Infocomm Clubs in Schools</b></p> <p>Initiated by IDA as part of the Infocomm Manpower Development efforts, over 80 schools have set up infocomm clubs with more than 3,500 members. The Infocomm Club programme is jointly developed with leading infocomm companies and tertiary institutions.</p>	<p><b>1 December 2006</b>  <b>Wireless@SG Offers Free Wireless Broadband Connection</b></p> <p>Wireless@SG, the Government's wireless broadband programme, extended broadband access beyond the homes, offices and schools to public places. Three operators – iCELL Network, QMax and SingTel – collaborated with IDA to offer this free access for three years.</p>	
<p><b>18 January 2007</b>  <b>Launch of "Infocomm Singapore" Brand</b></p> <p>IDA together with SiTF and IE Singapore launched "Infocomm Singapore" to promote made-by-Singapore infocomm products and solutions overseas. The brand hopes to elevate the perceived value and generate stronger recognition of the quality and uniqueness of Singapore's Infocomm products and services.</p>	<p><b>5 February 2007</b>  <b>Singapore's Postal Sector to Fully Liberalise</b></p> <p>The Singapore Government announced that Singapore's postal sector will be fully liberalised in 2007 with the opening up of the Basic Mail Services market.</p>	<p><b>3 March 2007</b>  <b>12 Companies, Consortia in the Running to Deploy Singapore's Next Gen NBN</b></p> <p>IDA pre-qualified 12 bidders who are now in the running to deploy Singapore's ultra-high speed Next Generation National Broadband Network (Next Gen NBN). These companies and consortia were selected from a total of 30 who applied to participate in the Next Gen NBN project.</p>

THESETUP





# THE SET UP

## BUILDING FOUNDATIONS FOR THE FUTURE

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To ensure Singapore's continued economic growth and social development, IDA is committed to building the nation's capabilities as well as enhancing its manpower and technological environment, and implementing relevant policies as required.

Infocomm has been a vital pillar of success in keeping Singapore as a knowledge-based digital economy and it continues to be an engine of growth. Together with the industry, IDA charted out the ambitious 10-year infocomm masterplan called Intelligent Nation 2015 or iN2015. With the initiatives already unfolding, and in the years ahead, it will continue to spur Singapore's infocomm sector to greater heights.

## Infrastructure, Services & Technology

Thanks to the strong foundation laid more than 10 years ago, Singapore now has a pervasive broadband infrastructure with household broadband penetration close to 70%, and slated to reach 75% by end-2007. By 2015, in line with the infocomm masterplan, IDA aims for this to grow to 90%.

Pervasive high-speed networks are no longer a luxury, but an essential

infrastructure for Singapore's next phase of economic development. Against this backdrop of keen competition from other countries, IDA continues to prepare the infrastructure for future needs, and in a cost-effective and efficient way.

### Next Generation National Infocomm Infrastructure

Singapore is building the Next Generation National Infocomm Infrastructure (Next Gen NII) as part of the iN2015 vision to transform the way we work, live and play. This includes a wired broadband network that will deliver ultra-high speeds and a wireless

broadband network that will offer pervasive connectivity around Singapore.

### Next-Generation National Broadband Network (Next Gen NBN)

is the wired component of the Next Gen NII and is envisaged to offer ultra-high speed of over 1Gbps and more. The aim is to have 95% of all homes and businesses access the Next Gen NBN by 2012.

In December 2006, IDA issued an invitation to industry players to participate in a Pre-Qualification Exercise and Competitive Dialogues. Subsequently, 12 companies and

## WIRELESS@SG

Launched a month ahead of schedule in December 2006, Wireless@SG is a wireless programme developed as part of Singapore's Next Gen NII initiative.

It will extend broadband access to public places islandwide, with the aim to grow the local wireless broadband market and catalyse broadband adoption.

The IDA accepted proposals from iCELL Network Pte Ltd, QMax Communications and Singapore Telecommunications Ltd to operate the wireless network. The free access period was extended by the three operators from two years to three years, which means Singaporeans and visitors to Singapore can enjoy free access until December 2009.

The number of Wireless@SG hotspots in Singapore will increase from 3,400 in April 2007 to 5,000 by September 2007, when Wireless@SG's deployment is slated to be completed. There are more than 428,000 subscribers as of May 2007, far exceeding the original target of 250,000. The number of active users has also grown from 31,582 in December 2006 (18% of subscriber base) to 121,440 (28% of subscriber base) in May 2007.



Dr Lee Boon Yang, Minister for Information, Communications and the Arts, at the Chinatown Heritage Centre, trying out a wireless application that allows students embark on an experiential Chinese Language learning journey to discover and appreciate the history, traditions and culture of Chinatown.

consortia have been pre-qualified and are in the running to deploy the network. Competitive Dialogues are underway to allow the pre-qualified bidders to provide feedback on a proposed set of parameters and specifications for the Request for Proposal, which will be formally issued in 2007.

### National Grid

The National Grid together with Next Gen NII will complete the nation's infocomm infrastructure and enable our industries to truly harness infocomm for growth. A high-level National Grid Advisory Council was formed in June 2007, to guide Singapore's Grid developments, including that of the National Grid.

When ready by early 2008, this Grid will place high-performance computing, software-as-a-service and huge storage capabilities in the hands of businesses, at lower costs than if they were to invest in and maintain the numerous servers themselves. This means that grid computing will become more affordable for SMEs too.

### Infocomm Security

Infocomm security plays a critical role in securing the national infocomm infrastructure. IDA spearheaded national initiatives such as the Infocomm Security Masterplan and the National Trust Framework to build Singapore's capabilities and resiliency against cyber-threats and to enhance Singapore's reputation as a trusted infocomm hub.

The National Trust Framework (NTF) was announced alongside the Next Gen NII in June 2006 to address identity, security and

privacy issues. Two key projects to be rolled out under the NTF are:

#### The National Authentication Framework (NAF):

This aims to enhance online security and increase the confidence of individuals accessing online services such as Internet banking. IDA is spearheading the programme, together with 60 industry captains and government agencies, to guide the development of governance, business, technical, legal and operational frameworks that will form the NAF. IDA is currently exploring the development of a NAF that addresses both authentication and identity-related issues.

#### The National Cyberthreat

**Monitoring Centre:** The Centre went "live" in March 2007 as scheduled and is one of the first in Asia. The centre monitors the government networks for cyber threats real-time and round-the-clock.

### Infocomm Policies

As part of its role to create a conducive and pro-business infocomm environment, IDA recently implemented the following policies and initiatives:

**The Spam Control Act:** Effective from 15 June 2007, the Act offers a framework to better manage unsolicited commercial electronic messages sent in bulk (otherwise known as "spam"), which is estimated to make up a large percentage of all e-mails sent worldwide. Under the Act, marketers – particularly those based in Singapore or who have operations here – who continue to spam the "not interested" group



"Pervasive high-speed networks are no longer a luxury, but an essential infrastructure for Singapore's next phase of economic development."

face potential financial penalties (the statutory penalty is \$25 for each electronic message, up to a total of \$1 million).

#### True Number Portability:

To benefit consumers with greater choice and flexibility in mobile and fixed line services, the current Number Portability regime is set to be enhanced and ready by the second quarter of 2008. The IDA has appointed Syniverse Technologies as the Centralised Database Administrator, to move the country towards True Number Portability. When True Number Portability kicks off, Singapore's telecoms market should expect to see even greater competition among the mobile and the fixed line operators. Consumers will be rewarded with greater choice and flexibility in mobile and fixed line services.

# NATIONAL INFOCOMM AWARDS 2006

Four companies took centre stage last October by winning the coveted National Infocomm Awards (NIA), the highest accolade for infocomm innovation in Singapore. The biennial Awards was started in 2002 to provide a platform for recognising innovative products and services from infocomm companies in Singapore. The Awards also give recognition to private and public organisations which harness infocomm technologies to ensure their organisations' effectiveness and efficiency.

The Award winners are ambassadors for Singapore in the global infocomm arena and role models who can inspire industry players to pursue the world-class benchmark they have set.

## Winners of National Infocomm Awards 2006

### Most Innovative Use of Infocomm Technology (Public Sector) Category

- Immigration & Checkpoints Authority for Enhanced Immigration Automated Clearance System (eIACS)

### Most Innovative Use of Infocomm Technology (Private Sector) Category

- PSA Corporation Ltd for Collaborative Port Community Solution – The Next Generation iHub

### Most Innovative Infocomm Product/Service Category

- Activate Interactive Pte Ltd for Activate XGame: Cross-Platform Multiplayer Game System
- XID Technologies Pte Ltd for VideoPersonalizer

The companies received their awards from the Guest-of-Honour, Prime Minister Lee Hsien Loong at the Innovation Gala Dinner held on 10 October 2006 in celebration of 25 years of infocomm.

In addition to the winners, seven organisations received special mention for their submissions.

## Merit Awards

### Most Innovative Use of Infocomm Technology (Public Sector) Category

- Health Promotion Board for Student Health Assessment Programme (SHAPE) & Integrated Dental Electronic Assessment for Students (IDEAS)
- Land Transport Authority for e-Services@ONE.MOTORING

### Most Innovative Use of Infocomm Technology (Private Sector) Category

- ComfortDelGro Corporation Limited for Integrated Transport Management System
- National Healthcare Group for Filmless Environment & Teleradiology

### Most Innovative Infocomm Product/Service Category

- Ecquaria Technologies Pte Ltd for Ecquaria Service-Oriented Platform™ (Ecquaria SOP™)
- Sentient Health Pte Ltd for Medtrac Global Healthcare & Supply Chain Automation
- ST Electronics (Info-Comm Systems) Pte Ltd for i-Transport System



Prime Minister Lee Hsien Loong with winners of NIA 2006.

YOU'VE PUT IN THE HARD WORK.  
YOU'VE DISCOVERED A BETTER WAY TO MAKE INFOCOMM WORK.  
YOU'VE USED INFOCOMM TO IMPROVE BUSINESS EFFICIENCY.

NOW GET THE RECOGNITION YOU'VE EARNED,  
WITH THE HIGHEST INDUSTRY ACCOLADE FOR  
INFOCOMM INNOVATION IN SINGAPORE.



RECOGNISING EXCELLENCE  
IN INFOCOMM INNOVATION

# RECOGNITION SPEAKS LOUDER THAN WORDS



## ARE YOU READY FOR THE LIMELIGHT? NATIONAL INFOCOMM AWARDS 2006

The National Infocomm Awards honour the best in Infocomm innovation in Singapore. Jointly awarded by the Infocomm Development Authority of Singapore (IDA) and the Singapore Infocomm Technology Federation (SiTF), it is the only national award that recognises Infocomm excellence in organisations.

Nominations can be made online at [www.nia.org.sg](http://www.nia.org.sg).  
Closing date for nominations is **12 noon on Friday, 16 June 2006**.

JOINTLY ORGANISED BY:



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MINISTRY OF FINANCE  
SINGAPORE



SVCA Singapore Venture Capital & Private Equity Association

IN CONJUNCTION WITH:



## Propelling Industry

### Promoting Singapore Infocomm Capabilities Overseas

IDA continues to champion the infocomm industry and help Singapore infocomm local enterprises (iLEs) expand overseas. In January 2007, the Infocomm Enterprise Programme (IEP) was launched. The aim of the programme is to develop the capabilities of iLEs in the implementation and delivery of large-scale, sector-wide projects, and to create new intellectual property. These innovative, high-impact products and services can then be exported overseas, enhancing iLEs' credentials and competitive edge in the global market.

These capabilities will be promoted under a newly launched unified brand – "Infocomm Singapore". This is a joint branding initiative by the Government and the infocomm industry to gain greater mindshare in the highly competitive global market.



Dr Vivian Balakrishnan, Minister for Community Development, Youth and Sports, and Second Minister for Information, Communications and the Arts, launched the "Infocomm Singapore" brand at the SiTF 2007 ICT Business Outlook Forum.

### Going International

In the push towards internationalisation, IDA continues to establish contacts and economic links with foreign governments, overseas IT associations, companies and other partners, and acts as an interface between iLEs and these bodies.

A centralised pool of information and knowledge on market trends and challenges – based on information gathered on regions including ASEAN, the Middle East, China and India, and emerging

markets such as Eastern Europe and South America – helps iLEs to spot potential business opportunities and strategise their entrance into new markets.

In 2006, IDA facilitated the overseas ventures of more than 70 companies, including ventures in the Middle East, India and China. For example, following the success of the Backpack. Net project in Singapore, three Singapore companies iCell, Heulabs and Amdon Consulting deployed a pilot phase of the eSchoolBag project in Qatar.



### Building the Infocomm Singapore Brand

To help Singapore's infocomm industry compete for mindshare in the highly competitive global

market, a unified brand "Infocomm Singapore" was launched in January 2007 for made-by-Singapore infocomm products and solutions.

The vision of the brand is to be the world's most trusted, intelligent and results-oriented solutions partner with the power to transform how people live, work and play.

The brand aims to elevate the perceived value of Singapore's infocomm products and services both locally and in overseas markets, generating stronger recognition of the quality and

uniqueness of Singapore's infocomm products and services.

To complement the branding efforts, an Infocomm Singapore Portal was set up to provide a global platform showcasing Singapore iLEs' products and services. The portal offers sophisticated tools, like a match-making engine for companies to source for partnerships and business opportunities.

To help iLEs build up their own brand, a series of branding seminars and workshops for iLEs were conducted.

# *Can a government know every citizen in every household?*

## **Citizen Data Vault, Uttaranchal**

In the Indian state of Uttaranchal, 109 government departments have access to the eight million citizens they serve via the Citizen Data Vault. This e-government system makes it easier for citizens to access government services – effectively reducing bureaucracy and processing time from months to days.

When the Indian State government wanted a user-friendly solution to improve communications with its citizens, they chose to collaborate with a Singapore-based infocomm company, CrimsonLogic.

With a solid track record in delivering results, our Infocomm Singapore companies have innovative infocomm solutions and domain expertise to unlock opportunities for governments and businesses. More than that, we have improved the way people live, work and play. Infocomm Singapore, Innovations In Action.

To find out how your businesses can benefit from the solutions of Infocomm Singapore, visit **[www.infocommsingapore.sg](http://www.infocommsingapore.sg)**



Other examples include Ecquaria which signed an agreement in November 2006 with Qatar's Supreme Council of Information and Communications Technology (ictQatar) to develop and implement the Qatar Services Platform. Another company GT&T, implemented the fleet management system for the 15th Asian Games held in Doha in the same month. In India, Crimson Logic ventured into the mountainous region of Uttaranchal to design, develop and implement the Citizen Data Vault, which will provide a single source of citizen data for the state's 109 government departments. The company also scored other major projects with Indian government agencies such as the India Ports Association and Stock Holding Corporation.

Other notable overseas projects include NovaCITYNETS' implementation of Brunei Darussalam's Land Transport Information System, System

Access' project with Punjab State Bank and NCS' e-Government consulting project for Maldives.

To further strengthen support for local enterprises keen on entering the Middle East market, IDA announced in November 2006 its intention to open its fourth overseas office in Doha, Qatar.

In China, a second Singapore Solutions Centre (SSC) opened in Hangzhou in November 2006, as a joint effort by Hangzhou East Software Park and Singapore infocomm Technology Federation (SiTF) to facilitate business collaborations in China. This is the second SSC after the first centre in Shanghai.

Sharing e-Government Experience

Our proven track record in developing and implementing innovative e-Government solutions over the last 25 years have resulted in many requests for Singapore to



Photo courtesy of Singapore Post Limited

POSTAL LIBERALISATION

In 2007, Singapore's postal sector was fully liberalised with the opening up of the Basic Mail Services market, which includes the collection and delivery of letters and postcards, within, into and out of Singapore. This move follows from the expiry of Singapore Post's 15-year monopoly to provide Basic Mail Services on 31 March 2007.

This will add greater competition to Singapore's postal sector, which has already seen the liberalisation of other segments such as Express Letter Services as early as 1995. Expected cost-savings from this latest liberalisation of \$8 million to \$25 million per year over the next two to three years will largely benefit businesses, which account for almost 95% of Singapore's total domestic mail.



Mr Lam Chuan Leong, Chairman of IDA, officiating the opening of Hangzhou Singapore Solutions Centre.

Infocomm is	Expanding Mobile Technologies	Art Directors
	Creating Software Solutions	Character Animators
	<b>Designing Digital Games</b>	Compositors
	Developing Security Capabilities	Concept Artists
		Editors
		Effects Artists
		<b>Games Programmers</b>
		Lead Designers
		Producers
		Technical Directors



THIS ISN'T A SCENE FROM  
A DIGITAL GAME. IT'S  
KENNETH'S WORKPLACE.

Kenneth's 'to do' list goes like this: breathe life into zombies, get an ape out of a maze, and create man-eating dinosaurs. In the virtual world, that is. As a Game Developer, he has turned his passion for gaming into a profession: producing digital games. Kenneth is a key player in infocomm. It's a dynamic industry where the intelligent, passionate and imaginative work with cutting-edge technology every day to create the world of tomorrow. Keen to build a career in the playground of the future? Visit [talent.singaporeinfocomm.sg](http://talent.singaporeinfocomm.sg) today.

the future is infocomm  
**BE A PLAYER**

KENNETH LOO,  
Game Developer



Dr Lee Boon Yang, Minister for Information, Communications and the Arts, delivering his speech at the International Telecommunication Union Plenipotentiary Conference 2006, Antalya Turkey, 7 November 2006.

share our experience and help other governments to implement e-Government. To meet the demand of these requests, the Singapore e-Government Leadership Centre (eGL) was set up in October 2006. This centre is a joint-effort between IDA, the National University of Singapore's Institute of Systems Science and the Lee Kuan Yew School of Public Policy.

The Centre offers courses on e-Government, conducts research into the use of Information Communications Technology (ICT) in developing and implementing public policies, and provides advisory services on e-Government, ICT governance and ICT management. IDA and the International Telecommunication Union (ITU) agreed in November 2006 to collaborate in developing a

new executive training programme in the area of ICT policy and regulation at eGL.

The programme aims to reach out to developing countries, which like Singapore, are keen to use ICT to further their social and economic growth.

**Fostering Free Trade**

To promote bilateral trade between Singapore and other countries, IDA represents Singapore in the negotiation of several Free Trade Agreements (FTAs) involving the ICT sector and establishes Mutual Recognition Arrangements (MRAs) with key trading partners.

In June 2006, Singapore became the first country in Asia, and the third in the world (after the European Union and Canada),

to operate an MRA with the United States (US) on telecommunications equipment certification. In August 2006, Singapore was the first to operate an MRA on telecommunications equipment testing with Malaysia. The MRAs constitute a further step towards facilitating trade, as Singapore exporters to US and Malaysia can now enjoy faster time-to-market.

In August 2006, China and Singapore launched their FTA proceedings, with IDA representing Singapore for negotiations involving the ICT sector, including a MRA on telecommunications equipment. The value of bilateral trade in telecommunications products between China and Singapore was estimated to be \$9.5 billion in 2006.

# iN2015< THE PERFECT SUPPLEMENT TO HELP YOUR BUSINESS GROW

The future belongs to the 'technorati' and the success of international businesses depends as much on location, infrastructure, markets and talent as it does on quality of life – healthcare, education, culture, lifestyles and leisure.

Technology confers unfair advantages.

**Imagine your world | [www.in2015.sg](http://www.in2015.sg)**



Intelligent Nation 2015 (iN2015) is a masterplan that harnesses the potential of infocomm in the coming decade to transform every aspect of daily life and business.

It is the culmination of a collaborative effort, reflecting the ideas and vision of the people, public and private sectors.

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“As a key infocomm hub in the region, Singapore receives many key executives from global technology companies.”



The negotiations for the Gulf Cooperation Council-Singapore FTA were launched in February 2007. IDA represented Singapore for negotiating in the e-commerce, telecommunications and ICT cooperation areas.

**Strong MNCs Presence**

IDA’s efforts to attract multinational corporations to set up R&D centres in Singapore have paid off. Today more than 90% of Fortune 1000 technology companies have made Singapore a key node in their global network, a strong testament of the country’s strategic position as a global infocomm hub.

Several notable companies have made Singapore their country of choice by locating their centres

for technological development and research operations here. For example, Cisco established its regional customer briefing centre (CBC) in Singapore in February 2007. This state-of-the-art CBC showcases the latest innovations in Internet Protocol networking technology.

Also in February 2007, Google announced its plan to open a R&D Centre in Singapore – the company’s first in Southeast Asia – whose research interests may include the customisation of its search engines and online advertising for the region.

In March 2007, Sybase announced the inauguration of the Wireless Development Centre in Singapore.

Designed as a research and development hub for Sybase’s mobile and wireless software solutions, the Centre will focus on developing new technologies in the areas of Radio Frequency Identification (RFID), embedded software and mobile middleware for the enterprise.

As a key infocomm hub in the region, Singapore receives many key executives from global technology companies. In the past year, these executives shared their invaluable insights and experiences with the Singapore infocomm community under IDA’s Distinguished Infocomm Speaker Series.

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# IDA'S DISTINGUISHED INFOCOMM SPEAKER SERIES



**Steve Mills**  
Senior Vice-President & Group  
Executive, Software Group  
IBM Corporation

1 March 2006  
Unlocking the Business  
Value of Service-Oriented  
Architecture (SOA)



**Randy Mott**  
Executive Vice-President &  
Chief Information Officer  
Hewlett-Packard

27 September 2006  
Get IT Right:  
The Path to Business  
Innovation



**Marc Benioff**  
Chairman & CEO  
SalesForce.com

12 July 2006  
The Code Ahead:  
The Future of Software



**John W. Thompson**  
Chairman & CEO  
Symantec Corporation

31 October 2006  
A Question of Trust:  
Enabling Confidence in a  
Connected World



**Michael Dell**  
Chairman  
Dell Inc

15 August 2006  
Changing Lives,  
Enabling Economies,  
Defining the Future



**John Chambers**  
Chairman & CEO  
Cisco Systems Inc

8 December 2006  
The Power of the  
Human Network



**John Chen**  
Chairman, CEO & President  
Sybase Inc

6 September 2006  
China Goes Global:  
Implications for the IT Industry  
in Asia, US and the World



**Ambassador David A. Gross**  
US Coordinator for  
International Communications  
and Information Policy  
US Department of State

6 February 2007  
US Industry and Policy  
Trends in Infocomm, and the  
Implications to Asia

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## Manpower Development

The future looks bright for infocomm professionals. The infocomm sector is experiencing a boom not seen since the dot-com days. As early as 2004, Singapore's infocomm manpower pool had already exceeded the number during the dot-com boom year of 2000.

The infocomm workforce increased from 111,400 in 2005 to 119,700 in 2006. This workforce is highly qualified, with 83% equipped with tertiary education (at least diploma qualifications).

For Singapore to maintain its economic prospects, infocomm professionals need to move up the value chain to meet increasingly sophisticated demand from businesses. To become well-versed in multiple disciplines, they must acquire not just deeper professional and technical skills, but also business skills.

IDA has in place different initiatives at various levels (business leaders, working professionals and students) to help develop the depth and breadth of capabilities of current and future infocomm professionals in Singapore.

### Infocomm Savvy Workforce and Business Leaders

**CXO Programme:** This programme aims to inspire business leaders in key economic sectors by sharing the value of infocomm through a

series of learning opportunities including C-level breakfast forums, seminars and site visits.

#### InSkills@Work Programme:

This programme helps to equip professionals in all sectors with infocomm skills that will enable them to innovatively harness infocomm for work productivity and business competitiveness. InSkills@Work supports training courses and certifications that are specifically designed to leverage on the effective use of infocomm in key economic sectors.

#### Infocomm Professionals Critical Infocomm Technology Resource Programme (CITREP):

This is a training incentive programme to equip Singapore infocomm professionals with critical and emerging skills, thus enabling them to enhance their employability and improve their organisations' competitive advantage. The programme supports the course and examination fees for endorsed courses and certifications.

## Students

### National Infocomm Scholarship (NIS):

With the aim to develop talent and nurture future leaders to help drive Singapore's infocomm industry, 36 scholarships were awarded in 2006. Offered in partnership with leading infocomm companies, NIS provides both the prestige of a government scholarship and valuable private sector work exposure. Today, it is supported by 20 leading infocomm and infocomm-user organisations which offer the scholars global industrial attachment opportunities before taking them in as employees. Three flagship infocomm Master's scholarship programmes, featuring tie-ups between local universities and renowned foreign ones, such as Carnegie Mellon University and Georgia Institute of Technology, were also launched to raise the standards of these budding infocomm talent.

**Infocomm Clubs:** In 2006, IDA embarked on a Student Outreach programme to develop infocomm appreciation and encourage



Mr Chan Yeng Kit, Chief Executive of IDA, with 36 recipients of the National Infocomm Scholarship.



iWhiz contestants with Mr Khoong Hock Yun, Assistant Chief Executive of IDA.



Mr Leong Keng Thai, Deputy Chief Executive & Director-General, Telecoms of IDA, at the first anniversary of the Infocomm Clubs.

innovation from young. Since then, around 140 infocomm clubs have been established as co-curricular activities in primary and secondary schools and junior colleges, with more than 6,500 students enrolled as members. These students enjoy the chance to participate in training, project work, competition and mentorship to expand their infocomm horizons, including engaging in spirited discussions with industry speakers from Lenovo, Cisco and Microsoft.

### National Infocomm Competition

**(NIC):** Organised by IDA and supported by the Ministry of Education, the inaugural NIC is a series of infocomm-themed competitions, focusing in areas such as business IT, digital media, mobile technology, programming and security. Some 2,000 students from secondary schools, junior



Mr Chan Yeng Kit, Chief Executive of IDA, with the NIC polytechnic category winner – Ngee Ann Polytechnic.

colleges and Institute of Technical Education/polytechnics pit their skills against each other in a bid to win more than \$200,000 worth of cash and prizes, including the opportunity to visit Microsoft's Redmond campus in June 2007 to meet with Bill Gates.

**iWhiz:** This is Singapore's first infocomm reality game show, an initiative spearheaded by IDA in collaboration with the Institutes of Higher Learning, Singapore Computer Society and Singapore Science Centre. In this 10-episode reality series, 12 contestants competed in three teams and overcame various infocomm challenges based on security and networking, digital media and games, software programming and more. Each 30-minute episode was broadcasted weekly on MediaCorp's Channel 5, starting 5 February 2007.

## ACCOLADES

With the launch of the iN2015 infocomm masterplan, Singapore is on track to becoming an intelligent nation powered by infocomm technology. And the global community has started to take notice of the country's many infocomm-related strides.

In several global rankings, Singapore has frequently emerged among the top. For five consecutive years, Singapore has been in the top three positions in the World Economic Forum's Global IT Report. It has also been consistently ranked among the top three countries in Accenture's e-Government Leadership Ranking.

KEYENABLER





# KEY ENABLER

## GROWING THE ECONOMY THROUGH INFOCOMM

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Harnessing the latest infocomm technologies and expertise, infocomm empowers key sectors to fuel continued economic growth.

Recognising infocomm as a strategic enabler for social and economic growth, IDA spearheaded the transformation of key economic sectors and government services through more sophisticated and innovative use of infocomm.

As ground work for Singapore's infocomm-enabled future continues to take shape, a whole new digital world of possibilities is opening up for an extensive range of business and service sectors. With a strong foundation built over the last 25 years, Singapore is well positioned for the next phase of infocomm development.



## Education & Learning

The face of Singapore's education system is changing through the deployment of infocomm, which helps to enhance students' learning experience, motivation and achievement.

BackPack.NET is a five-year strategic collaboration between IDA and Microsoft Singapore. It was launched in 2003 to facilitate the research, development, testing and showcasing of new infocomm technologies to create an eco-system for emerging technologies in education. This initiative continues to bear fruits in

many schools – for example, the m-learning@Crescent programme, in which Crescent Girls' School students now enjoy the use of Tablet PCs as their personalised learning platform to participate in tests and quizzes, as well as engage in lively online discussions. Backpack.NET has grown from four pilot schools to impact 25 schools and has helped our participating industry partners reach new markets such as the Middle East, Australia, Indonesia and the United States.

Aligned to the vision of iN2015 Education and Learning, IDA signed a memorandum of intent (MOI) in September 2006 with the

United Kingdom's Futurelab, an independent research organisation for IT in Education. Called iLAB 2015, this collaboration between the two parties will increase the scope of intelligence gathering in technology, content, technique, educational ideas and practice for the betterment of future learners and educational institutions.

One of the key recommendations under IDA's iN2015 Education and Learning plan is to develop potential schools into peaks of excellence in an ability-driven education paradigm, and to encourage innovation and enterprise in schools. The development of the FutureSchools@Singapore initiative will not only enhance the diversity of educational offerings to cater to learners' needs, but also provide possible models for the seamless and pervasive integration of infocomm technology that includes interactive digital media (IDM).

Potential FutureSchools invited by the Ministry of Education have submitted concept proposals on FutureSchools@Singapore. In October 2006, IDA launched a Request for Information from the infocomm industry to submit information on technologies that can help enhance these proposals.



# iN2015< IMAGINE A WORLD WHERE TO KNOW, IS TO EXPERIENCE

In a connected world, education is an exciting adventure.

Textbooks are replaced by rich, interactive content and technology transforms learning into a real-time, collective, multi-dimensional experience.

Students everywhere interact through sharing and connectivity.

Imagine your world | [www.in2015.sg](http://www.in2015.sg)

Intelligent Nation 2015 (iN2015) is a masterplan that harnesses the potential of infocomm in the coming decade to transform every aspect of daily life and business.

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## Healthcare & Biomedical Sciences

As part of the iN2015 Healthcare 10-year infocomm masterplan, a \$15 million, four-year integrated Clinic Management Systems (CMS) was launched in October 2006 to help the Healthcare sector adopt and leverage infocomm technologies to facilitate operations and clinical improvements in their patient care.

General practitioners (GPs) from more than 1,000 clinics can tap into the CMS to update and retrieve patients' health records. Some 315 GP clinics have come onboard the programme since its launch.

The integrated CMS facilitates scalability of the GP infrastructure by enabling a consistent interface with different healthcare provider systems. Secured and seamless

information flow will allow GPs to plan patient treatment in an integrated and coordinated manner with other hospitals and step-down care providers.

With a centralised Electronic Medical Record (EMR) system in place to store consolidated patient data, it will soon be "One Singaporean, one EMR" – a vision that IDA and the Ministry of Health hopes to achieve through their collaboration.

With plans unveiled by the Government in March 2007 to introduce the nation-wide EMR system, it is hoped that medical information can soon be shared securely between doctors working in both public and private sectors.

Other new developments in the healthcare sector include the trial of an alert system in Tan Tock Seng Hospital to enable doctors to receive critical lab test results

via SMS, and the successful pilot of an electronic nursing notes system in Ang Mo Kio-Thye Hua Kwan Hospital that allows nurses to make use of radio-frequency identification (RFID) technology to match drugs to the right patients.



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## Manufacturing & Logistics

Trade and logistics exist side by side in the business world. With infocomm technology, the trade and logistics community can now look forward to a single interface with the Singapore Government when importing and exporting goods. Targeted to launch in late 2007, TradeXchange® is a neutral and secure trade platform that facilitates Business-to-Government (B2G) transactions and Business-to-Business (B2B) information and document exchanges within the trade and logistics community. This is a multi-agency initiative led by Singapore Customs, Economic Development Board (EDB) and IDA.

A Call for Collaboration (CFC) was launched in 2006 to invite the industry to develop B2B services on TradeXchange®. Six proposals have been awarded under the CFC to AEB Asia Pacific, CrimsonLogic eTrade Services, Cyberlog Technologies, Gridnode, Kewill-IPACS e-Solutions and Y3 Technologies. Through the CFC, IDA, EDB and these companies will be investing more than \$4 million to build these B2B services.



For the High-Tech industry, infocomm technology plays a key role in differentiating Singapore as a manufacturing and logistics hub. Recognising the relevance, IDA launched the Collaborative Hi-Tech Manufacturing Plan (CHTMP) programme in 2004. Since the launch of the programme, IDA and the local industry have invested more than \$14 million in project activities. 10 major manufacturers have connected to over 40 local suppliers, and several hundred regional suppliers, enabling nearly \$3.2 billion worth of annual transactions. Companies have enjoyed more than \$41 million in cost savings, and achieved an average of 30-50% productivity improvement in key process areas.

IDA will continue to work with the industry to implement programmes that will differentiate Singapore as a Logistics hub. An upcoming programme is Infocomm@SeaPort, a programme that aims to maintain Singapore's position as the leading global seaport.

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## Financial Services

In line with the vision to map out the nation's next-generation e-Payment landscape, the Singapore Standard for Contactless e-Purse Application (CEPAS) was launched in June 2006 to help fuel new forms of commerce by integrating various e-payment processes.

By facilitating an interoperable platform that Singapore's two largest multi-purpose stored value card issuers, NETS and EZ-Link, can migrate to, consumers will be able to use one card seamlessly and safely in various payment scenarios – for example, having a single card for making transit, motoring and retail payments.



# INFOCOMM TRANSFORMING GOVERNMENT SERVICES

The Singapore Government is embarking on the next lap on its journey in e-Government with the launch of iGov2010 in May 2006. The \$2 billion five-year masterplan was developed in consultation with the people, private and public sectors. The plan was unveiled by Mr Raymond Lim, Minister for Prime Minister's Office and Second Minister for Finance and Foreign Affairs, at the annual iGov Forum. The vision is to be an Integrated Government (iGov) that delights customers and connects citizens through the use of infocomm technology.

In 2010, it is envisioned that the Government can intelligently address customers' needs and deliver quality services that delight them. The plan will strengthen emphasis on transcending organisational structures, changing rules and procedures, to reorganise and integrate government around customers' and citizens' needs and intentions.

The plan has four strategic thrusts:

- **Thrust 1:** Increasing Reach and Richness of e-Services

- **Thrust 2:** Increasing Citizens' Mindshare in e-Engagement
- **Thrust 3:** Enhancing Capacity and Synergy in Government
- **Thrust 4:** Enhancing National Competitive Advantage

The Singapore Government is also implementing a standard ICT operating environment (SOE) that allows the public service to reap substantial cost savings, reduce ICT manpower costs, increase agility and robustness of ICT infrastructure, and enhance user convenience.

The SOE comprises a standard desktop operating environment, a standard messaging and collaboration environment, and a standard network environment.

With a common ICT environment, service-wide systems can also be deployed centrally, swiftly and at lower cost, as there is no need to duplicate testing effort of the common environment across multiple agencies.

As human resources is at the core of any organisation's effective

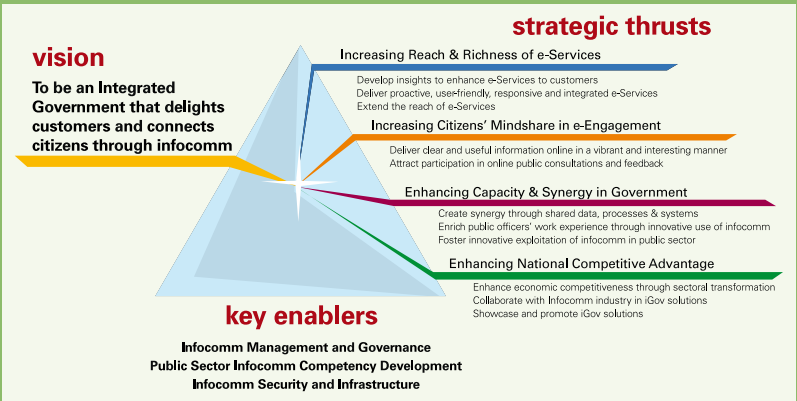
service delivery, the Government is creatively exploiting new infocomm technologies through a collaboration between IDA and industry partners such as Intel, Microsoft and Fujitsu, to transform the conventional desk bound office of public officers.

Launched in August 2006, the "Government Executives in the New Information and Knowledge Era" Showcase (GENIE Showcase) tackles the changes expected in an increasingly complex and fast-paced working environment where public officers have to deal with large amounts of information – thus the need for an effective integrated application system to manage information flow.

Advances in infocomm technologies also mean that public sector officers today need to be mobile contrary to the conventional desk bound office. They will communicate using various electronic devices such as mobile phones, PDAs and computers across platforms and geographical locations.



Mr Peter Ho, Head of Civil Service, launched the GENIE showcase.



## Tourism, Hospitality & Retail

Every visitor to Singapore will soon have his own “personal concierge” at his beck and call, under a programme aptly named Digital Concierge that was launched in June 2007 and expected to be ready in 2008.

The initiative aims to better address visitors’ needs through a personalised information service, where tourism-related content and services can be assessed through his mobile device and other channels, such as the Internet or interactive television.

Digital Concierge will provide location-based services, such as recommendations on activities, food and shopping. By covering all aspects of the visitor’s trip – before, during and after his visit to Singapore – the visitor experience is improved. This enhances the competitiveness of the companies in the Tourism, Hospitality & Retail sector through the use of infocomm.

## Digital Media & Entertainment

The media and entertainment industry is undergoing a radical change in its business work flow with infocomm technologies. This will bring about greater commercial opportunities and services for both businesses and consumers by 2015.

To build a vibrant environment for the trading of media and



entertainment assets that are increasingly being digitised, the Digital Assets Marketplace (DAM) programme aims to empower sellers and buyers anywhere to store, locate, and trade digital assets such as movies, TV programmes, advertising content, Internet Protocol content, games content and mobile content. A Request For Information was released in April 2007 to seek industry inputs to aid in the identification of potential services and projects as well as the appropriate business models for the Marketplace.

IDA also took the first step to realise the goal of DAM through the Trusted Digital Cinema Hub programme that aims to establish Singapore as Asia’s trusted hub for the regional management and distribution of high value cinematic content. Leveraging on its past collaboration efforts with the key international and local industry players, IDA has been working with these players to develop infrastructural and

infocomm services such as secured transmission, content preparation, management and distribution of digital cinema content.

Building upon the work done in the past for the games and interactive entertainment industry, the Interactive Entertainment Exchange programme will further enhance and develop Singapore as the preferred venue for regional production, management, and delivery of online game content and services. Several platforms were initiated and established to make this happen. They include the Games Market Access Programme, a commercial four-country end-to-end regional online games deployment platform; the Games Exchange Alliance, a 30-plus member strong association of game companies; and Singapore Games Industry Pavilions where IDA led local industry delegations to showcase local capabilities at international tradeshows such as Games Developers Conference (GDC) and Electronic Entertainment Expo (E3).





# MULTIPLY

## INFOCOMM FOR ALL

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Celebrating 25 good years, infocomm continues to build an all-inclusive society of infocomm users encompassing different businesses and groups of consumers.

Since Singapore took the leap of faith to embrace infocomm in a big way in 1981, infocomm has permeated every facet of life – social, economic and political. The country is now braced for the next phase of infocomm development with the same commitment and determination, so as to fulfill key iN2015 initiatives to become a digitally inclusive society with opportunities for all.

# INFOCOMM TURNS 25



Prime Minister Lee Hsien Loong and Dr Vivian Balakrishnan, Minister for Community Development, Youth and Sports, and Second Minister for Information, Communications and the Arts, viewing exhibits at Innovationation.



Singapore celebrated 25 years of infocomm in a big way last year. We have come a long way since the Singapore Government started with the Civil Service Computerisation Programme in 1981. Today, Singaporeans can reflect on how the country has been transformed from a place with practically no IT industry into a global leader in e-Government and host to a thriving

infocomm industry with \$45.4 billion (2006) in annual revenue.

In the early years, the public sector owned only two mainframe computers – in the Central Provident Fund Board and the Finance Ministry. The proliferation of IT use in the late 1970s and early 1980s led to the establishment of the National Computer Board,

which worked closely with various government agencies and private sector bodies to incorporate computers into their infrastructures for enhancing operational efficiency. With the advent of the Internet and mobile technology, infocomm has further transformed Singapore's economy and society, and become an integral part of everyday living.

To celebrate Singapore's 25 years of infocomm achievements, the Government and industry came together to organise a series of commemorative activities and events. A steering committee chaired by IDA was formed to plan and guide the following activities:



Innovationation exhibition map

- **Innovationation**, a free public exhibition and seminar series incorporating a gala dinner, was held in October 2006. The 10,000 square meter exhibition at Singapore Expo showcased the pioneering efforts that went into making Singapore a leading user of infocomm technologies. Visitors were able to experience past, present and future infocomm solutions and technologies in an experimental and immersive environment. Infocomm seminars and talks by top tier international speakers were well-attended by people from all walks of life. The Innovationation gala dinner was attended by some 1,000 guests and was graced by Prime Minister Lee Hsien Loong.

- **Innovationation: 25 Years of Infocomm in Singapore** is a commemorative publication of

four books which traced the journey from the start of computerisation in 1981 till the convergence of infocomm today. Lively illustrations, anecdotes and interviews with infocomm pioneers fill this definitive encyclopedia of Singapore's infocomm legacy.

- **A four-part TV documentary series titled "Singapore Connected: The Infocomm Story"** was aired on national television. It featured key stakeholders, pioneers and infocomm achievements in e-Government, Business, Education and Lifestyle.

- **A First Day Cover** comprising four commemorative stamps featuring the key areas of e-Government, Trade, Education and Telecoms in 25 years of infocomm development was made available for public sale.



Commemorative book – Innovationation: 25 Years of Infocomm in Singapore



First Day Cover – Celebrating 25 Years of Infocomm



**Celebrating 25 Years of Infocomm Steering Committee**

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CHAN Yeng Kit

**Members**

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SAW Ken Wye  
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**Celebrating 25 Years of Infocomm Working Committee**

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Jennifer TOH  
YEO Khee Leng

## Bridging the Digital Divide

Singapore is fast becoming an all-inclusive digital society where infocomm is used as a powerful enabler for everyone – including the elderly, needy students and people with disabilities.

The NEU PC Plus programme aims to equip needy students so that they have equal access to infocomm, through subsidised computer ownership and Internet access. Some 10,000 low-income households with school-going children or disabled family members are expected to benefit from this programme.

With \$31 million contributed by IDA, Microsoft Singapore, SingTel and Trend Micro as initial funding, NEU PC Plus now includes better Internet connectivity through broadband Internet access, bundled with office applications and anti-virus softwares. It also extends a wider reach to children homes, orphanages and other voluntary welfare organisations serving the youth. More options on co-payment schemes are made available to help more needy students own computers.

In July 2007, about 3,400 applications were received for the \$285 NEU PC Plus package that comes with three years of broadband access. The longer term vision, as mapped out in the iN2015 masterplan, is 100 per cent computer ownership in homes with school-going children by 2015.



Mr Teo Chee Hean, Minister for Defence and Minister-in-charge of the Civil Service, trying out the mobile services provided by the eCitizen portal.

## Government Connects

MyeCitizen portal, long synonymous with online public services, will now incorporate private sector services for one-stop access by Singaporeans. The Ministry of Finance and IDA have decided to let the private sector manage the portal, so as to better bring together the expertise and resources of the public and private sectors to deliver value-for-money services to MyeCitizen's subscribers.

Through an open tender, the NCS Group has been appointed to provide relevant third-party private sector online services and content to complement the Government services currently accessible on the portal.

New features on MyeCitizen include customised homepages with pre-selected channels (such as MyHome and MyCareer); personalised services, which now

lists services from both government and private organisations; and service alerts, which now include new email and SMS alert services.

Aside from Government-to-Consumers (G2C) initiatives such as MyeCitizen, the Government also conducted its inaugural Government-to-Business (G2B) Perception Survey in January 2006 to determine the level of adoption and satisfaction for e-Government initiatives in 2005 targeted at the business community, particularly Small and Medium-sized Enterprises (SMEs).

Survey results show that almost all companies which did not use government e-services were micro-SMEs. To help these micro-SMEs, the Singapore Government has in place a wide network of easily accessible CitizenConnect centres, where businesses can go for free Internet access or complimentary personal help to transact electronically with the Government.

Today, mobile phones have become essential to everyday life. They fit in the smallest pockets and are used as fashion accessories. These advancements in technology have brought us from underground telephone cables to wireless Bluetooth technology.

**innovation** will showcase engaging collections of both the hottest in infocomm today, and the future it promises. Journey through multi-sensory space and witness the environment respond to your movements. View engaging exhibits of the hottest in infocomm today and the future it promises.

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# CHANGE AGENT

## GEARING FOR CHANGE FROM WITHIN

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It's imperative that IDA continues to invest in its talents at work within different levels of its organisation. After all, its people are a key resource ensuring strategies are implemented and vision is aligned.

There are many roles that IDA plays – national CIO, Government CIO and infocomm industry champion. But as a nurturing and supportive employer, IDA is also committed to provide the best working environment possible for its employees.

IDA helps its staff realise their full potential and fulfill their career aspirations by applying their skills and talents towards Singapore's drive into the future.

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## Putting People First

With ambitious goals set in iN2015, IDA aims to maintain and enhance Singapore's global leadership in the field of infocomm.

Aside from reinforcing infrastructure and sharpening technology, IDA recognises that its most critical asset is its human capital. To drive new vision and achieve common goals, creative and dynamic teams need to be put in place to work together.

IDA is committed to provide equal and diverse opportunities for its people to grow, both personally and professionally.

### Talent Development

In addition to attracting talent with remuneration, IDA seeks to retain its most important asset through a holistic and integrated talent development programme. IDA is committed to providing abundant learning and development opportunities to

help employees at all levels to continuously update and upgrade their skills and knowledge.

### Integrated Talent Coaching Programme

As part of succession planning and leadership management, IDA started a 12-month talent coaching programme for 20 potential leaders/successors who will undergo a series of integrated development programmes – “SALT” – Stretch Assignments, Action Learning [Cross-Functional Projects] and “Learner-As-Teacher” [Leadership Influencing]. The participants are also assigned executive coaches and internal mentors to accelerate their leadership development.

### External Attachment Programme

To expose staff to the business issues and challenges in the private sector, six IDA staff have been attached to private companies for a period of two years so that IDA can benefit from a deeper industry insight. The participating private

sector companies are KPMG, Accenture, Oracle, Avanade, EDS and AT Kearney.

### Senior Leadership Development

The members of the Senior Leadership Team were involved in a group coaching programme with the aim to help push the team to a higher level. This will enhance leadership within the organisation and help IDA achieve its goals.

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## Always Improving

### Enhanced Benefits

To enhance IDA's recruitment and retention strategies, a set of benefits were rolled out. These are Flexi-Fit Time, Sabbatical/ Development Leave, Time-Off for Community Service, Extend Training to Personal Development and Enhancing Work Office Environment.

### Integrated HR

As one of IDA's organisation excellence initiatives, a new integrated HR (iHR) system was



IDA staff having fun at an Executive Training Programme.



IDA management and staff at the IDA Staff Conference.

---

put in place in 2006. The key features of this new system is its ability to provide employee self-service and integrate the claims, payroll, learning and HR core modules together for greater efficiency and productivity.

**Whistle Blowing Policy**

In order to continue to uphold the integrity of the organisation, which is one of IDA's core values, IDA developed the whistle blowing policy in 2006 to encourage staff to highlight potential improprieties to either management or the IDA Audit Committee.

**Work Environment**

IDA offers a wide range of policies and programmes that are pro-family and geared towards employees' well-being, so as to create a more conducive and employee-friendly work environment to motivate employees to give their best.

With its human resources made up of talents from different cultural

or ethnic backgrounds, IDA taps diverse skills and abilities to enhance its level of innovation, so that it can lead Singapore's drive towards global economic competitiveness through the use of infocomm.

**Building the IDA Spirit**

**Innovation at IDA**

Innovation is a way of life in IDA. Staff are constantly encouraged to come up with solutions that will transform the way things are done. The popular "Brown Bag" sessions provide a platform for information



One of the entries at MICA Innovation Fiesta.

sharing and "CTO Show & Tell" highlights the latest technologies.

At the Ministry of Information, Communications and the Arts (MICA) Innovation Fiesta 2006, the Manpower Development team won the second prize for its Student Infocomm Outreach Programme. IDA's Suggestion on Paperless Registration took first spot and went on to represent MICA at the PS21 ExCEL Convention on 10 November 2006.

**Fun@IDA**

To provide staff and their families with a balanced lifestyle between work and social endeavours, IDA has continued to promote and support a wide range of leisure, social and sporting activities under the banner of its recreation club, Fun@IDA.

The club's focus for 2006 is: "Me", "Us", "Our Family" and "Our Community".

**Sporting Events for "Me"**

"i-Lympics" is a new series of sporting and networking events organised on a yearly basis by Fun@IDA.

While the emphasis is on "me", to encourage individual staff to maintain a healthy lifestyle for himself/herself, "i-Lympics" also helps staff to foster teamwork and camaraderie.

All IDA staff are assigned to four different houses named after the colours Blue, Red, Green and Black. Through participation in activities like bowling, laserquest, online gaming, soccer, badminton and Telematch, staff can chalk up points for their respective houses for the prestigious House Champion Trophy.



The winning team for the i-Lympics bowling competition.

**Strengthening Bonds with “Us” and “Our Family”**

Forging strong relationships amongst staff outside of professional interactions continued to be a focus, and perennial favourites like the “Chill-Out” and “Movie Mania” sessions.

Fun@IDA organised several blockbuster screenings over the past year, such as Casino Royale, Spiderman 3 and Harry Potter & the Order of the Phoenix. In addition, the membership drive for Connect@IDA (the alumni network for former employees of NCB, TAS and IDA staff) was launched in conjunction with the Chill-Out session held at DXO in February 2007.

“Kidz@Work” programme is a one-day event that gives the children of staff the opportunity to observe their parents at work. The children were also entertained by the antics of magician, Mr Bottle, and other educational activities.

**Doing Their Part for Community**

Community outreach efforts continued through various social activities. In October 2006, the IDA care programme, “I Do Actually Care”, kicked off with the launch of the Pledge Card for Community Service at its staff conference. The aim of this programme is to make every IDA staff a more socially responsible citizen, with a suite of activities focusing on charity and volunteerism.

In December 2006, Fun@IDA also organised a pre-Christmas outing and dinner for the residents of its



The pre-Christmas outing and dinner for the residents of the Singapore Cheshire Home.

adopted home, the Singapore Cheshire Home.

To help the visually-handicapped help themselves financially, Fun@IDA worked together with the Singapore Association of the Visually Handicapped (SAVH) to organise a monthly IDA-SAVH massage at Fun@IDA Clubhouse. While doing their part for charity, IDA staff also enjoyed a reprieve from their hectic work schedules – thanks to the head-and-shoulder massage sessions provided by SAVH-certified visually-handicapped masseurs.

In February 2007, IDA organised its very first blood donation drive at its multi-purpose hall at Suntec Tower 3. The drive was a huge success, with a total of 142 IDA staff and members of the public coming forward to donate blood. Staff participation was boosted by publicity activities conducted to create awareness and interest, and in particular, to dispel anxiety amongst the first-time donors.



IDA's first blood donation drive.

Staff were treated to a night of good food, a magic show and charitable events after the Staff Conference in April 2007. The club organised the first IDA Charity Night as a platform for staff to give back to society. Charity sales and auctions were conducted, with close to \$4,000 collected and donated to the Singapore Cheshire Home through the Community Chest educational activities.

# iN2015< IMAGINE A BETTER WORLD... BUILT BY YOU THROUGH INFOCOMM



We aim to put Singapore at #1 in the world in harnessing infocomm, to triple our infocomm export revenue and achieve 100% computer ownership in homes with school-going children.

These are a few of the ambitious goals we have set in our 10 year infocomm masterplan. We also want to maintain and enhance Singapore's global leadership in the field of infocomm. To this end, we will be building the ultra-high speed Next Generation National Infocomm Infrastructure, where Singaporeans can be totally connected, wired and wireless.

At IDA, we lead Singapore's drive into the future where infocomm technology is ingrained into every aspect of life, business and government. The work we do is inspiring, and more than just about IT. It is about national transformation. And it is about influencing and shaping the course of future generations with the use of new technologies.

We must have creative, ambitious and dynamic teams in place to drive this new vision.

If you are a proactive self-starter with an analytical and creative mind and are results and business-oriented, we welcome you to join us at IDA and make a difference during this exciting journey to 2015.

Career opportunities available:

## **Competition & Enabling Infrastructure Development**

Principal Economist

Senior Managers/Managers  
– Infocomm Infrastructure Development

Senior Managers/Managers  
– Infocomm Security

Senior Consultant/Consultant  
– Security Policies & Practices

Senior Consultant/Consultant  
– Cyberthreat Monitoring & Analysis

Consultant – Security Vulnerability Analysis

Manager – Manpower Development

Manager/Assistant Manager  
– International

## **Business Transformation & Industry Development**

Cluster Director

Agency Chief Information Officer

Assistant Director/Managers  
– Manufacturing & Logistics

Executive Manager/Manager  
– Digital Media & Entertainment

Senior Consultants/Consultants – Applications

Manager – Healthcare Cluster (Biomedical Sciences)

IT Project Managers  
– Applications

## **Corporate Development/CEO's Office**

Legal Counsel

Consultant – iN2015 Masterplan Office

Manager – Corporate Marketing & Communications

Manager/Assistant Manager  
– Learning & Development

Executive – HR Shared Services

As a progressive high performance organisation, IDA offers market competitive remuneration and provides a challenging work environment and ample development opportunities to enable our people to reach their full potential. Visit our website [www.idacareers.gov.sg](http://www.idacareers.gov.sg) to find out more about the opportunities available.

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# SINGAPORE NETWORK INFORMATION CENTRE PTE LTD



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**Director ▶**  
**Andrew HAIRE**  
Deputy Director-General  
(Telecoms)



◀ **Director**  
**TAN Geok Leng**  
Chief Technology  
Officer & Senior  
Director (Technology  
& Planning Group)

Set up in October 1995 as a fully-owned subsidiary of IDA, the Singapore Network Information Centre (SGNIC) administers the Internet domain name space in Singapore.

As the national registry for “.sg” domain, SGNIC also administers the registration of second-level and third-level domain names under the categories of “.com”, “.org”, “.net”, “.edu”, “.gov” and “.per” via accredited registrars.

SGNIC formulates “.sg” domain name registration policies and collaborates with the international and regional organisations to ensure the stable and efficient operation of Internet domain name systems in support of applications provided over the Internet.

**Promoting .sg**

To encourage the growth of “.sg” names, a “Buy-One-Get-One-Free” promotion scheme was introduced. Under this scheme, SGNIC waived the first-year fee for registering a second-level name when a third-level name was registered.

The promotion was well received and domain name registrations increased by 6,303 (11.8% jump) during the initial six-month period of the promotion (from 1 September 2005 to 28 February 2006). Due to popular demand, this promotion was extended till 28 February 2008.

**Re-location of Domain Name System**

The “.sg” Domain Name System (SgR2R) is a national infrastructure supporting a total of over 76,000 domain names of government agencies, businesses and individual’s websites.

To ensure that the SgR2R system continues to operate in a robust and secure environment and to maintain a service with high level of availability, the system was re-located to the Government Data Centre (GDC).

A purpose-built data centre will support SGNIC’s 24x7 domain name registration operations, provide comprehensive protection measures against disruptions and multiple connections to the Internet. The SgR2R was fully migrated to GDC on 4 March 2007.

**Business Continuity Plan**

To increase resiliency against unforeseen business disruptions or national disasters, SGNIC developed a Business Continuity Plan (BCP) to deal with scenarios that are likely to disrupt its business operations.

Recovery procedures to deal with scenarios such as “Denied Access to Office” and “Denied Access to SgR2R system” were successfully tested during the IMF/World Bank meetings in Singapore in September 2006.

**Domain Names: Stats at a Glance**

Categories	Total Number of Domain Names		% Change
	As at 31 March 2006	As at 31 March 2007	
.sg	14,653	23,530	61%
.com	41,947	48,776	16%
.org	2,012	2,150	7%
.net	168	174	4%
.edu	421	483	15%
.gov	411	432	5%
.per	1,008	851	-16%
Total	60,620	76,396	26%



The Infocomm Development Authority of Singapore (IDA) is committed to growing Singapore into a dynamic global infocomm hub. IDA uses an integrated approach to developing info-communications in Singapore. This involves nurturing a competitive telecoms market as well as a conducive business environment with programmes and schemes for both local and international companies.

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## *What do students in Qatar and citizens in Uttaranchal have in common?*

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Transforming the way people live, work and play around the world, our successes include intelligent building solutions for the Bahrain World Trade Centre, the eSchoolbag in Qatar, an efficient e-government system to connect 8 million citizens in Uttaranchal and an integrated banking platform for Europe's Erste Bank, meeting the needs of 15 million and counting.

With a solid track record in delivering results, the Infocomm Singapore industry comprises companies with niche knowledge and expertise in the key economic sectors finance, security, healthcare, education and e-government. We have successfully transformed governments and businesses. More than that, we have improved the way people live, work and play. Infocomm Singapore. Innovations In Action.

To find out how your businesses can benefit from the solutions of Infocomm Singapore, visit **[www.infocommsingapore.sg](http://www.infocommsingapore.sg)**

