

# Singapore's ICT Journey

The past 30 years and the next 5 years.

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By

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# Singapore



ICT Industry : **US\$40 Billion**  
annual growth **12.4%**

ICT Professionals **140,000**  
annual growth **6.5%**

Households with access to computer : **80%**  
Households with Internet Access : **76%**

Ease of doing business\* : **No.1**  
(183 economies) **4<sup>th</sup> consecutive years**



\* Source : The World Bank

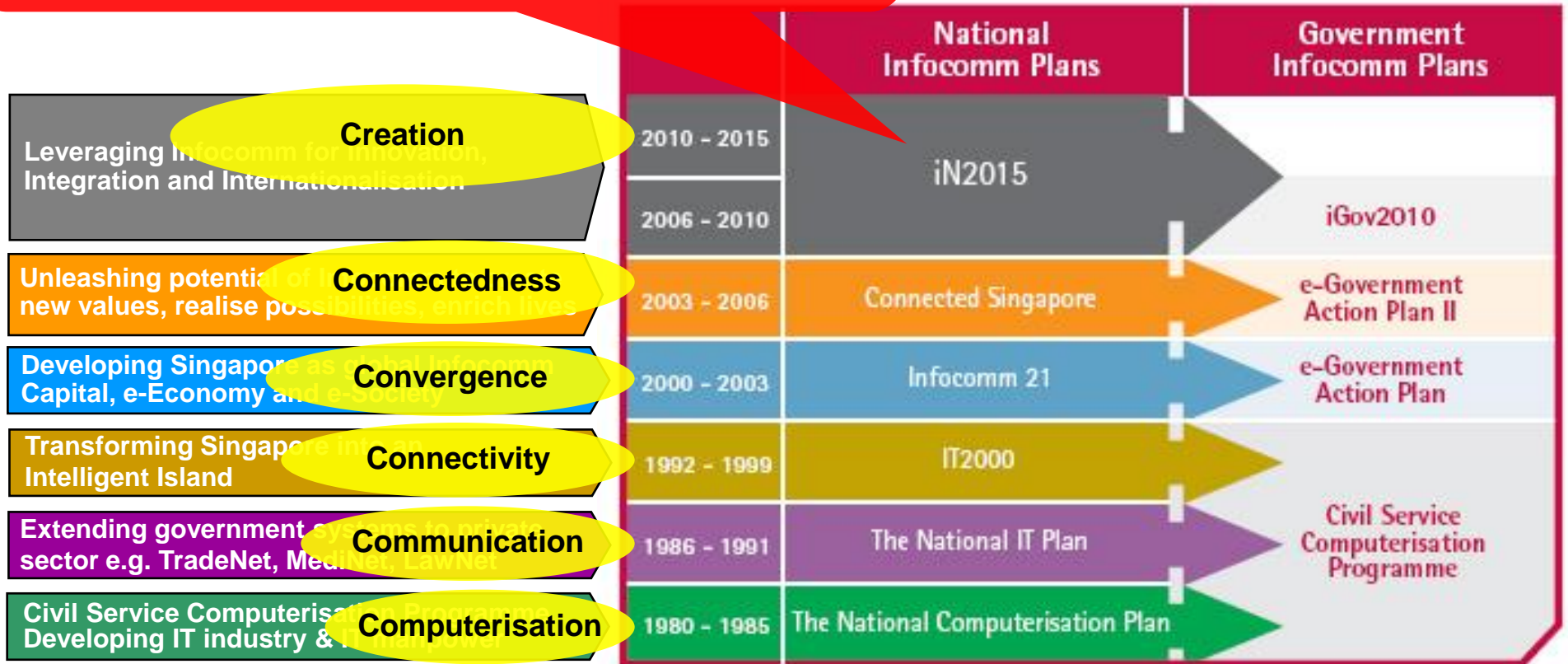
# Singapore's 30 years ICT Journey

## 6 ICT MasterPlans

**iN2015**

**Singapore: An Intelligent Nation, a Global City,  
powered by Infocomm.**

**INNOVATION. INTEGRATION. INTERNATIONALISATION.**



**Creation**  
Leveraging Infocomm for innovation, Integration and Internationalisation

**Connectedness**  
Unleashing potential of ICT to create new values, realise possibilities, enrich lives

**Convergence**  
Developing Singapore as a Global Infocomm Capital, e-Economy and e-Society

**Connectivity**  
Transforming Singapore into an Intelligent Island

**Communication**  
Extending government systems to private sector e.g. TradeNet, MedNet, LawNet

**Computerisation**  
Civil Service Computerisation Programme, Developing IT industry & Smart Power

# Infocomm Development Authority of Singapore



- **Statutory Board**, Singapore Government.
- Formed 1 Dec 1999 from merger of the National Computer Board (NCB) and Telecommunication Authority of Singapore (TAS), as a result of a growing convergence of information technology and telephony.
- Mission : cultivate a **vibrant and competitive infocomm industry** to sustain long-term GDP growth and global economic competitiveness of Singapore

## Infocomm Industry Champion

- environment
- ecosystem
- workforce

## Infocomm Master- Planner and Developer

- key enabler
- national infrastructure
- leading edge

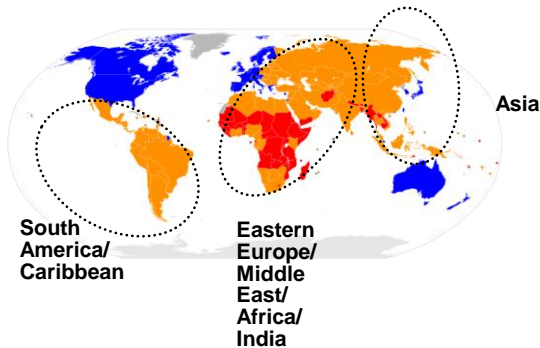
## The Government CIO

- plan, develop and manage WOG IT
- oversee standards
- enforce security

# IDA International

ida international

- **100% owned subsidiary of IDA Singapore**
- Formed 2008 to meet the growing interests from foreign governments to replicate / learn from Singapore's ICT success
- Mission : to **help public agencies** deliver **better socio-economic outcomes** enabled through **public service infocomm**



“EXECUTING AGENCY for all collaboration on public service ICT between Singapore and countries around the world.”

## PLAN

- National ICT MasterPlan
- eGov
- ICT Manpower

## TEACH

- understand
- benefit
- implement

## ACCELERATE

- proven expertise
- unique know-how
- leapfrog

# Infocomm Development Framework

Knowledge-Based Economy    Digital Society & Inclusion    ICT Workforce    Value Creation    Sustainable Development    Economic Value-Add

Outcomes  
Vision, Desired Outcomes  
Strategy & Master Plans

Leadership    Policies    Structure    **Governance**    Roles    Accountability    Processes

Policy & Regulatory

**Industry Cluster and Public Sector Transformation**  
Cluster Review    Sector Review    Policy Reforms

**Government Chief Information Office**  
Government CIO    Ministry/Agency CIO

Leadership & Strategy

GCIO & MCIO, Industry Development Functions

**Industry Cluster and Public Sector Development**

Policies    Standards    **eGovernance**    Processes    Frameworks

Industry

**Industry**  
ICT Master Planning  
MASNET    MEDINET    TRADENET/LOGISTICS    TOURISM & HOSPITALITY    EDUCATION & LEARNING    DIGITAL MEDIA & ENTERTAINMENT    SOCIAL & COMMUNITY    JUDICIARY    TRANSPORTATION    CONSTRUCTION    PUBLIC SAFETY    GOVERNMENT ADMIN  
Financial Services    Healthcare    Trade & Logistics    Tourism & Hospitality    Education & Learning    Digital Media & Entertainment    Social & Community    Judiciary    Transportation    Construction    Public Safety    Government Admin  
Incubation    Schemes & Incentives    Industry Development    R&D    Industry Collaboration

**Government**  
Enterprise Architecture  
Businesses    Citizens    Employees  
Business Portal    Citizen Portal    Employee Portal  
Registration    Licensing    Permits    Certification    Procurement    Foreign Workers    Reporting    Compliance    Education    Health    Public Safety    Employment    Motoring    Housing    Social Sec.    Registrars    Compliance  
eServices Platform (PSI)  
Data Hubs (People, Student, Establishment, Land)  
SingPass    Security & Common Services    ePayments  
eGovernment Network & DC Infrastructure

Public Service Infocomm Programme Concept & Planning

Programme Management & Delivery

Education Curriculum    Digital Inclusion    **Human Capacity**    Skills Development    Adult & Life-Long Learning

Infrastructure

**Infrastructure**  
National Common Infrastructure Services  
National Network Infrastructure

Infrastructure Development

# Singapore ties up with Russian State on Infocomm

**28 September 2009**

Singapore has inked a landmark **Memorandum of Understanding (MOU)** with a Russian state on infocomm, Singapore's pro-enterprise agency said on Monday.

The **Republic of Tatarstan (Tatarstan) will be a partner of Singapore's company IDA International in its eGovernment projects**, according to a statement by International Enterprise Singapore.

The two parties will collaborate on various aspects of infocomm technology (ICT), specifically in the use of **ICT in eGovernment masterplanning, government-to-business, government-to-employee and government-to-citizen solutions** in Tatarstan.

In addition, they will also promote exchanges regarding the use of ICT by the government and private sectors and cooperate on program and projects to further **accelerate the development and adoption of ICT in Tatarstan, and develop the ICT manpower and capabilities in Tatarstan.**



# Government to Business : Start Business Easier



## Biz-File

- Online business filing and registration
- All legally prescribed business & statutory company forms
- Multi awards winner

ACRA's e-filing system (BizFile) was featured in the World Bank's publication titled "Celebrating Reform 2008" as a case study. The book was launched in Washington DC in July 2008 by the World Bank and USAID.



## Online Business Licensing System (OBLs)

- Online single integrated license application
- 82 licenses across 18 govt agencies
- Significant savings in time and costs
- Multi awards winner



# Government to Business : Government eProcurement



## GeBIZ

- Web-based one-stop eProcurement system for Singapore government to conduct trade with suppliers
- Increased Transparency, Savings and Security
- World Trade Organization Government Procurement Agreement compliant

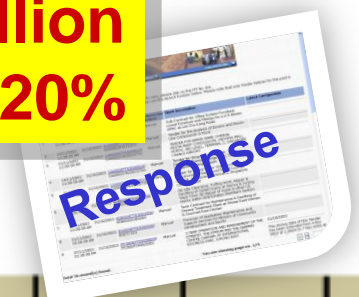
**Ministeries & Agencies 120**

**EndUsers 10,000**

**Supplier Base 40,000**

**Annual Txn Volume U\$20 Billion**

**Annual Savings 5% to 20%**



# Sector Development : Transforming Education & Learning

Empowering Learners and Engaging Minds, through Infocomm

- 535,000 students in 358 schools
- 113,000 students in 3 universities, 5 polytechnics, Institute of Technical Education (ITE)
- 26,000 teachers in schools, 7,500 academic staff in PSEIs

## iEXPERIENCE

**Learner Portfolio** :: Learners' profile and portfolio of learning journey

**Assessment** :: Holistic assessment of students starting with formative school-based assessment

**Collaboration in Learning** :: Applications for increased interaction



## iACCESS

**One to One Computing** :: Personal learning devices

**Wireless Campus** :: Schools to be wireless

**Learner On The Move** :: Wireless@SG

**Learning @ Home** :: High-speed broadband at home

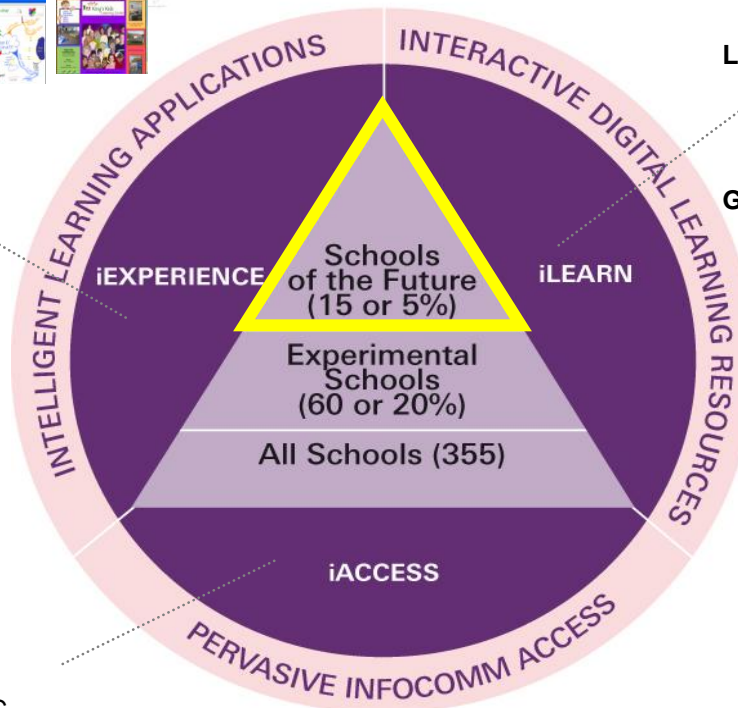


## iLEARN

**Interactive Textbooks** :: Use of interactive textbooks in curriculum

**Learning Digital Exchange** :: Vibrant sharing of school-created digital learning resources, and access to premium learning content

**Games for Learning** :: New ways of learning through games and simulations



# Sector Development : **FUTURE SCHOOLS@Singapore**



## **FUTURE SCHOOLS@ SINGAPORE**

- Immersive and engaging learning environment for students using innovative leading-edge ICT
- Technology anchored on each school's teaching and learning approach
- S\$80m over 4 years (2008-2012)
- 6 pilot Schools identified so far
- Example of Projects:
  - State of the art 3D virtual learning environment
  - Local and global collaboration on projects
  - Personalised learning, interactive self-paced content and real-time diagnostic assessment
  - Educational games

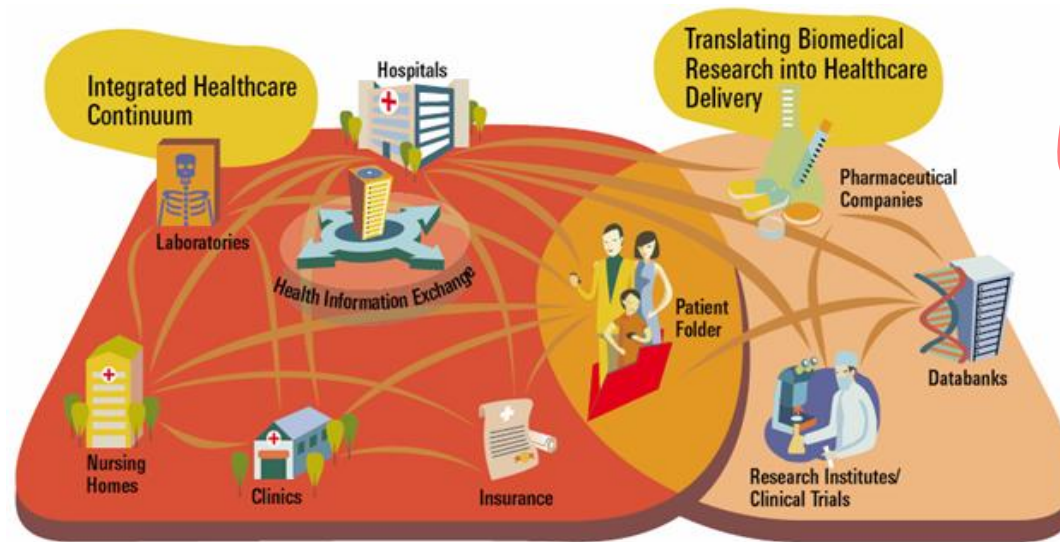
**“A strong education system is a source of national competitiveness”**

# Sector Development : **Personalized Healthcare Delivery**

Infocomm-enabled high quality clinical care,  
service excellence, cost effectiveness, clinical research

**ONE electronic  
medical record**

**Clinical  
decision  
support  
system**



**ONE personal  
health record**

**Clinical &  
research  
databases**

**Home  
monitoring  
system**

# Infrastructure : **Totally Connected**

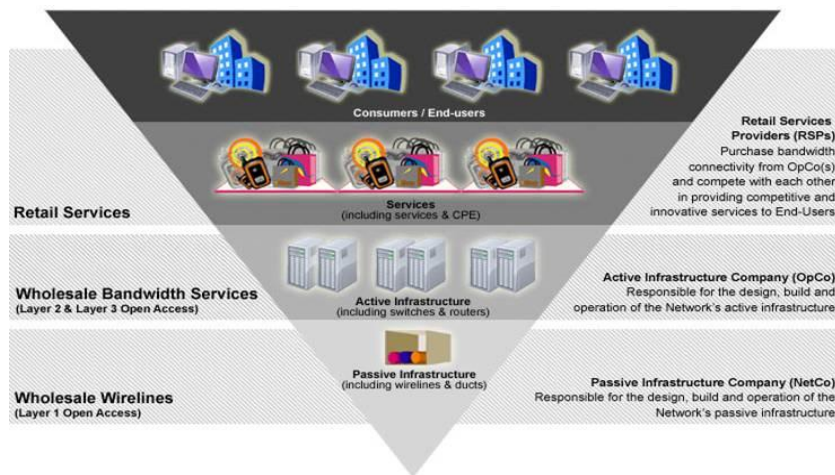
Ultra high-speed, pervasive, intelligent and trusted



## National Wireless Broadband

- More than 7,270 hotspots
- Over 940,000 subscribers
- Access to innovative services on the go

**Wireless  
@ SG**



## National Next Generation Broadband Network

- IPv6 next-gen fibre broadband access to every home, business and school. Gigabit speed.
- Singapore Government's investment : S\$1 B
- Unique separation of network infrastructure ownership (NETCO) and service operator (OPCO). Reference case

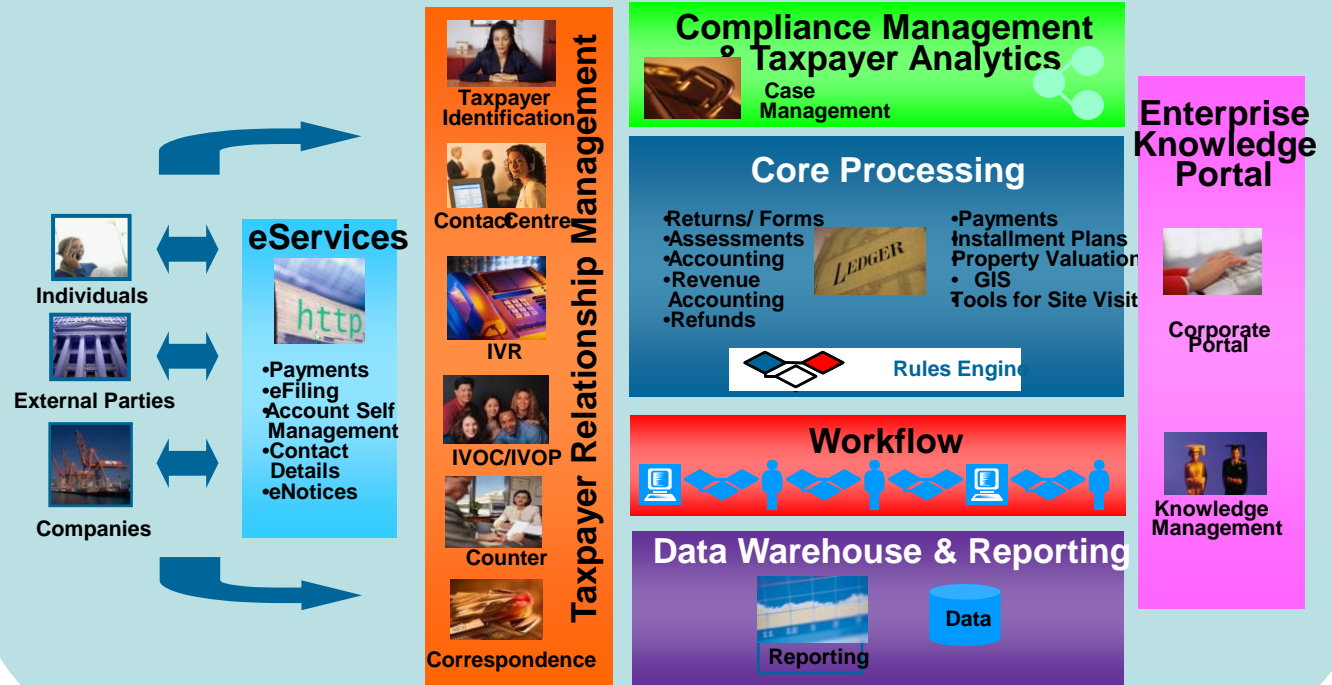
# Government: Tax Collection, Processing & Management

## THEN

Tax office  
1990's



## NOW



# Government GCIO : Standard Operating Environment (SOEasy)



**Rollout in progress ... ..**

## WHAT

1. Government-wide program to standardise, consolidate and demand aggregate commoditised desktop services
2. Standardize routine ICT processes, services & operations
  - standard desktop environment
  - standard network environment
  - standard messaging environment
3. “Desktop Service” utility model

## WHY

1. Reduce complexity of IT infrastructure
2. Increase deployment agility and response to opportunities and threats
3. Greater cost savings

## HOW (process)

1. Agency needs versus Whole-Of-Government requirements
2. Industry Consultation.
3. Baseline Exercise
4. Communicate. Communicate. Communicate.

# The next leap in eGovernment



Senior Minister Goh Chok Tong  
Singapore

Governments must evolve to become  
“an **open IT platform** to nurture  
an ecosystem of IT services ... new  
participants, **private sector or  
individual knowledge  
workers**, can freely **innovate  
and create** valued-added services  
on top of, or even superceding,  
existing public services.”

Senior Minister Goh Chok Tong  
iGov Global Exchange, Keynote address  
15 June 2009

# Closing



**e**transformation

**e**mpower

**e**nable

**e**ducate

... a **b**etter world.

# Thank You.

## Questions & Answers

For more information, please contact

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