



**APICTA • ASOCIO • 2009**

Asia Pacific Digital Innovation Summit  
Melbourne Australia 14 - 17 December 2009  
Innovation, collaboration & trade for a digital future

MELBOURNE

Kenji Ogawa  
IPA  
(Japan)





INFORMATION-TECHNOLOGY PROMOTION AGENCY, JAPAN



# ASOCIO Workforce, Skills & Education Japan

**December, 2009**

**Kenji, Ogawa**

**VP of IT Human Resource Development HQ  
Information-Technology Promotion Agency,  
Japan**

# Information Technology Promotion Agency, Japan



## ***Establishment***

January 5 1970

**Independent Administrative Agency** sponsored by Ministry of Economy, Trade and Industry (METI)

## ***Our Mission***

Contributes to the growth and advancement of Japan's economy by providing the strategic technological and human resource

IT Security Ctr

Software Engineering Ctr

Open Software Ctr

## **IT Human Resource Development HQ**

- IT Engineers Examination (ITEE)
- Skill Standards (ITSS·ETSS)
- Asian countries Support

# IT Engineers Examination in Japan(ITEE)



First exams : **Nov. 17, 1969: 2 categories**

**42,022** took the exams (original estimate = 5,000)

Current exams:

12 Exams (4 levels)

Largest **National Examination** from 1970.

**600,000/Year** apply for the examination.

The total number of applicants:**15million**

Certified:**1.6 million** till fall 2009.

The certification : **Minister of Economy, Trade and Industry**

# Chart of the examination system



Common Career/Skill Framework	Inform System / Embedded System	
	Vender Side / User Side	Independent
Level 4	Advanced professional examinations Information Technology Strategist Examination (ST) Systems Architect Examination (SA) Project Manager Examination (PM) Network Specialist Examination (NW) Database Specialist Examination (DB) Embedded Systems Specialist Examination (ES) Information Security Specialist Examination (SC) Information Technology Service Manager Examination (SM) Systems Auditor Examination (SA)	
Level 3	Applied Information Technology Engineer Examination (AP)	
Level 2	Fundamental Information Technology Engineer Examination (FE)	
Level 1	Information Technology Passport Examination (IP)	

# Embedded Technology Skill Standards(ETSS)

For the industrial sector.



Career Type	Product Manager	Project Manager	Domain Specialist	System Architect		Software Engineer		Bridge SE	Process Improv. Specialist	Dev. Env. Engineer	QA Specialist	Test Engineer
	Specialty	Embedded Software Development	Embedded-Related Technology	Embedded Applications	Embedded Platforms	Embedded Applications	Embedded Platforms	Embedded Systems Development	Embedded Software Development	Embedded Software Development	Embedded Software Development	Embedded Systems Development
Senior Level	Level 7											
	Level 6											
	Level 5											
Middle Level	Level 4											
	Level 3											
Junior Level	Level 2											
	Level 1											



# Positioning of Skill Standards and IT Examinations<sup>®</sup>

## For the IT service Industry



Job categories	Marketing	Sales	Consultant	IT Architect	Project Management	IT Specialist	Application Specialist	Software Development	Customer Service	IT Service Management	Education
Specialty	Marketing management	Sales channel strategy Market communication Consulting sales by visiting customers	Media-based sales Product sales by visiting customers	BT (Business Transformation) IT Package application	Application architecture Integration Architect Infrastructure architecture	System development IT outsourcing Network services Software product development	Platform System management Database Network Distributed Computing Security	Application systems Application packages Basic Software Middleware Application software	Hardware Software Facility management	Operating management System management Operation	Service desk Planning the training Instructions
High Level	Level 7										
	Level 6										
	Level 5										
Middle Level	Level 4	<b>Advanced Professional Exam + Review and/or Interview of Experiences</b>									
	Level 3	<b>Applied Information Technology Engineer Exam (AP)</b>									
Entry Level	Level 2	<b>Fundamental Information Technology Engineer Exam (FE)</b>									
Level 1	<b>Information Technology Passport Exam (IP)</b>										(V2 2006)

# Harmonization of Skill Standards & IT Examinations toward 2020



## Information Technology Engineers Exam. (ITEE) 11/1969

共通キャリアスキルフレームワーク		情報システム/組み込みシステム								
		ベンダ別/ユーザー別							独立	
レベル4	高度な知識・技能	高度(プロフェッショナル)試験 ↑システムアーキテクト試験 (ST)	↑システムアーキテクト試験 (SA)	プロシニエマネージャ試験 (PM)	ネットワークスペシャリスト試験 (NW)	データベーススペシャリスト試験 (DB)	エンベデッドシステムスペシャリスト試験 (ES)	情報セキュリティ試験 (SC)	↑サイバセスマネージャ試験 (SM)	システム監査技術者試験 (AU)
レベル3	応用的知識・技能	応用情報技術者試験 (AP)								
レベル2	基本的知識・技能	基本情報技術者試験 (FE)								
レベル1	職業人に共通に求められる基礎知識	IT/バスポート試験 (IP)								

## Skill Standards for IT Professionals (ITSS) 12/2002

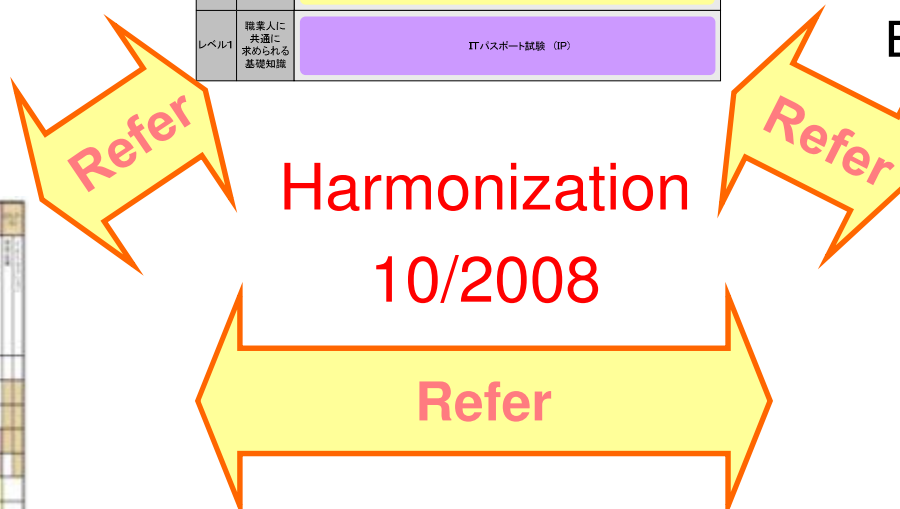
職種	ITSS1	ITSS2	ITSS3	ITSS4	ITSS5	ITSS6	ITSS7	ITSS8	ITSS9	ITSS10	ITSS11	ITSS12	ITSS13	ITSS14	ITSS15	ITSS16	ITSS17	ITSS18	ITSS19	ITSS20	
ITSS1																					
ITSS2																					
ITSS3																					
ITSS4																					
ITSS5																					
ITSS6																					
ITSS7																					
ITSS8																					
ITSS9																					
ITSS10																					
ITSS11																					
ITSS12																					
ITSS13																					
ITSS14																					
ITSS15																					
ITSS16																					
ITSS17																					
ITSS18																					
ITSS19																					
ITSS20																					

12/2002

## Embedded Technology Skill Standards (ETSS) 05/2005

職種	ETSS1	ETSS2	ETSS3	ETSS4	ETSS5	ETSS6	ETSS7	ETSS8	ETSS9	ETSS10	ETSS11	ETSS12	ETSS13	ETSS14	ETSS15	ETSS16	ETSS17	ETSS18	ETSS19	ETSS20	
ETSS1																					
ETSS2																					
ETSS3																					
ETSS4																					
ETSS5																					
ETSS6																					
ETSS7																					
ETSS8																					
ETSS9																					
ETSS10																					
ETSS11																					
ETSS12																					
ETSS13																					
ETSS14																					
ETSS15																					
ETSS16																					
ETSS17																					
ETSS18																					
ETSS19																					
ETSS20																					

05/2005





# IT Professionals Examination Council



## ITPEC: IT Professionals Examination Council

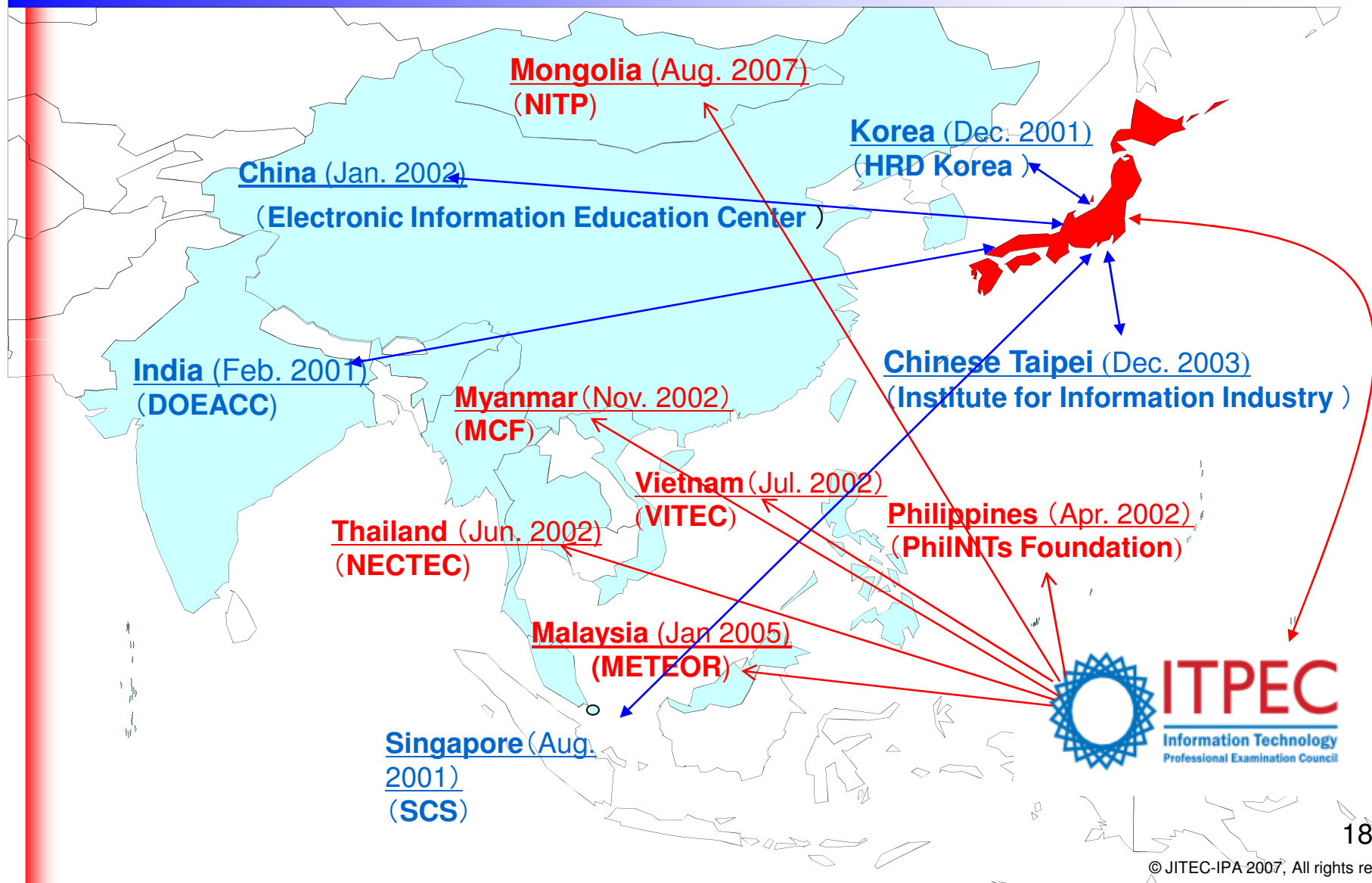
Formed to coordinate the exams using the **same questions, on the same time, same date**, starting **April 2006**

### Current Members:

Philippines, Thailand, Vietnam, Myanmar, Malaysia and Mongolia.

**No of Applicants of ITPEC Examination till 10/2009 :**  
**15,747**

# Go toward Asian and International Standard **IPA**





**APICTA • ASOCIO • 2009**  
Asia Pacific Digital Innovation Summit  
Melbourne Australia 14 - 17 December 2009  
Innovation, collaboration & trade for a digital future

MELBOURNE

**Prof. Sung-Soo Lim**  
**Kookmin University**  
(Korea)



# Standardizing Skill Set Evaluation for Software Engineers

*Sung-Soo Lim*

*sslim@kookmin.ac.kr*

**Kookmin University, Korea**

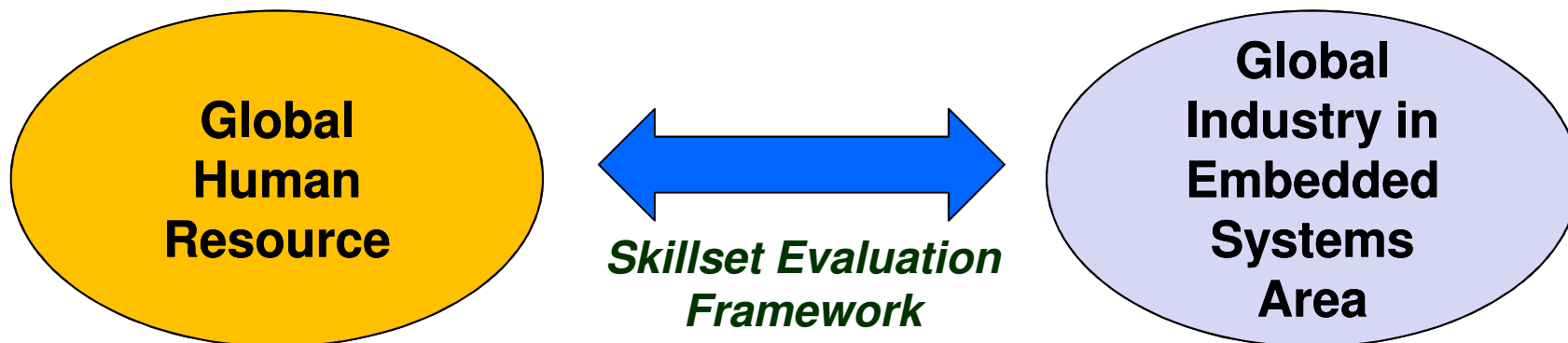
**FKII**



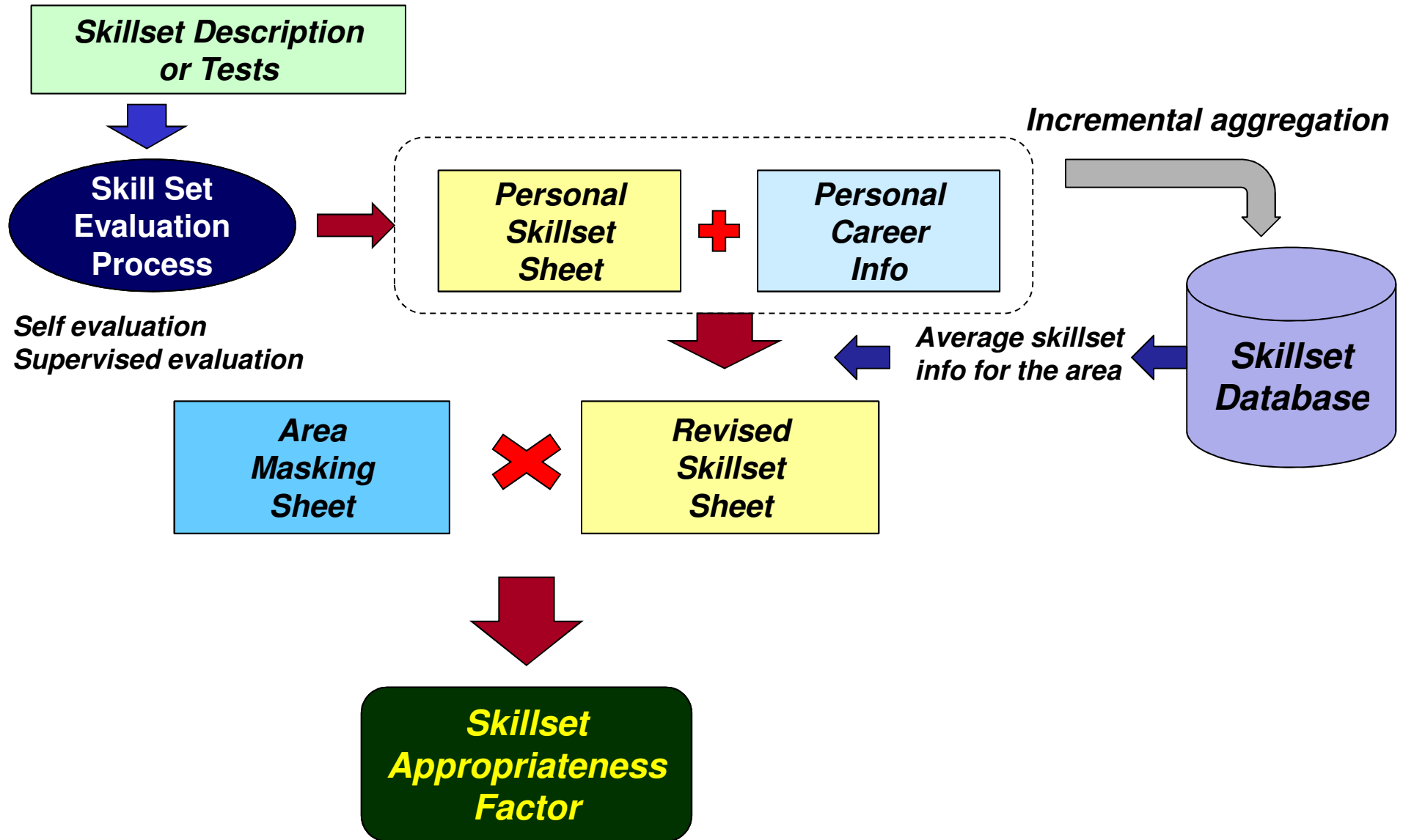
# Objectives

## ■ To provide

- ◆ Consistent and systematic evaluation framework
  - with industry-academia cooperation
  - with global cooperation
  - incremental update and continuous evolution
- ◆ Guideline for area specific required skill set
  - reflecting industry specific skill set requirement survey
  - incremental update and extension
- ◆ Guideline for educating students reflecting industry requirements



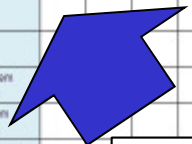
# Framework Outline



# Personal Skill Set Record with Industry Skill Set Requirements

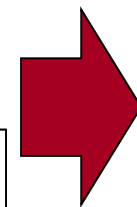
Embedded Software Skills Standard Personal Record Sheet

Class	Skills	L1	L2	L3	L4	L5	L6	L7	Class	Skills	L1	L2	L3	L4
Programming Languages	C programming language	O							Middleware & Application Programming	GUI				
	C++ programming language	O								Standard Middleware				
	Java programming language									Windows Programming				
	Assembly programming language									Web Application Programming				
Development Tools	MS Visual Studio								Hardware Control Programming	Mobile Application Programming				
	GCC									Desktop Application Programming				
	Java Development Tools									Firmware Programming				
	Debugger									VHDL/Veiling Programming				
System Programming	ICDICE								Measurement Equipments					
	Linux/UNIX System Programming								Hardware Design Tools					
	Windows System Programming								Hardware Architecture Knowledge					
	Socket programming													



Embedded Software Skills Standard Masking Sheet (Linux Device Driver Engineer)

Class	Skills	L1	L2	L3	L4	L5	L6	L7	Class	Skills	L1	L2	L3	L4	L5
Programming Languages	C programming language								Middleware & Application Programming	GUI					
	C++ programming language									Standard Middlewares					
	Java programming language									Windows Programming					
	Assembly programming language									Web Application Programming					
Development Tools	MS Visual Studio								Hardware Control Programming	Mobile Application Programming					
	GCC									Desktop Application Programming					
	Java Development Tools									Firmware Programming					
	Debugger									VHDL/Veiling Programming					
System Programming	ICDICE								Development Process	Measurement Equipments					
	Linux/UNIX System Programming									Hardware Design Tools					
	Windows System Programming									Hardware Architecture Knowledge					
	Socket programming									Development Process					
Tool Learning	RTOS-based System Programming								Implementation Process	Design Modeling Experiences					
	Linux Device Driver Programming									Test/QA					
	Windows Device Driver Programming									System Customization/Integrat					



Area  
Appropriateness  
Factor

# 85



# Current Activities

## ■ Standardization

- ◆ Established a standardization project funded by TTA
  - Skill set test methods
    - Self evaluation or written tests
  - ◆ TF members
    - FKII
    - Industry members
      - Samsung Electronics, LG Electronics, Samsung SDS, LG CNS, BIT Computer, MDS Technology, Infracore, NeoMTel, Celrun
    - University members

## ■ Test evaluation

- ◆ For university students at senior level or graduate level
  - Test results show that skill set levels for system software area do not match the required levels from industry

## ■ Towards online (From Jan. 2009)

- ◆ Online personal skillset sheet generation and DB aggregation
- ◆ Online industry masking sheet generation by industry members
- ◆ Trying to integrate with Hanium site (online industry-university education cooperation site funded by MKE)



**APICTA • ASOCIO • 2009**  
Asia Pacific Digital Innovation Summit  
Melbourne Australia 14 - 17 December 2009  
Innovation, collaboration & trade for a digital future

MELBOURNE

**Ameet Nivsarkar**  
**NASSCOM**  
(India)



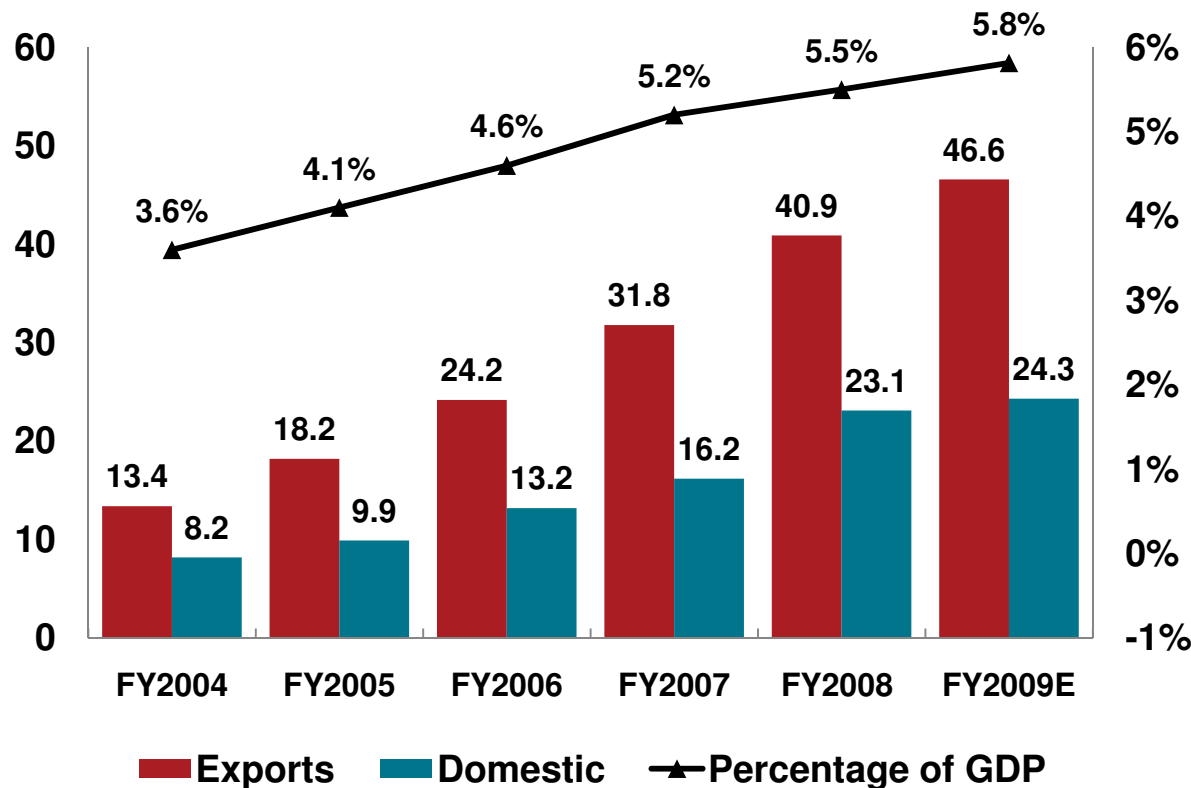
**NASSCOM<sup>®</sup>**

# The BPO Industry

**December 16, 2009**

# The Indian IT- BPO industry reached USD 71 billion in revenue in FY09

Indian IT-BPO Sector: Revenue Aggregate and Share of GDP  
(USD billion)



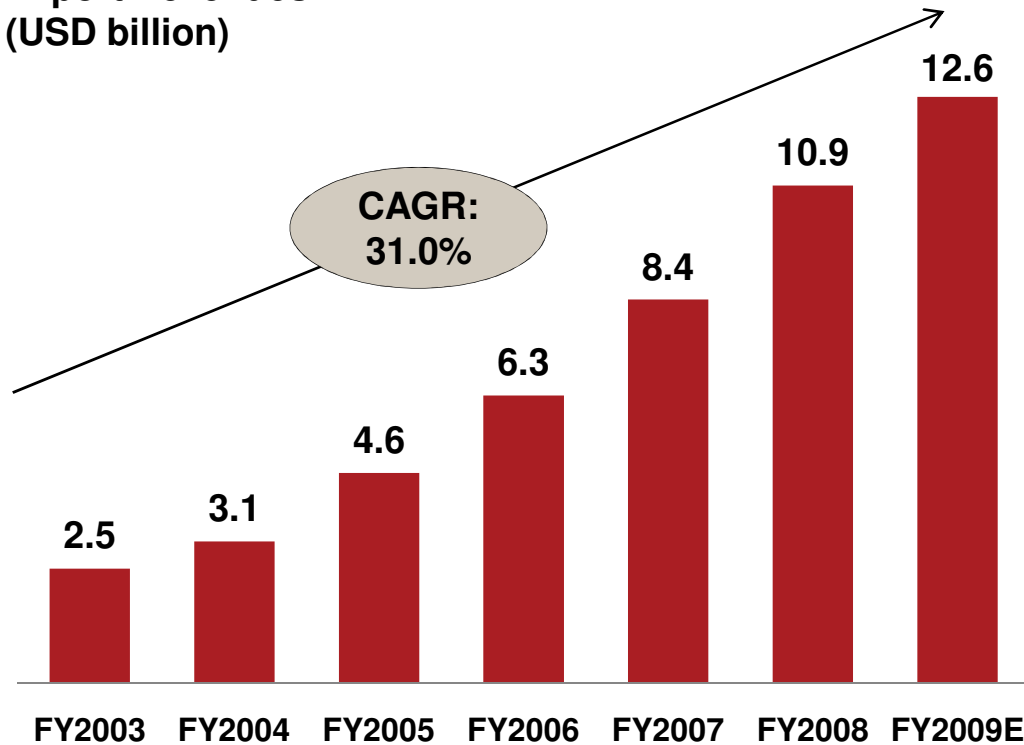
- Software and services revenues aggregated to about USD 60 billion; export growth of 16 – 17%
- In the current fiscal demand for ITO and BPO services has been weak due to declining discretionary spending, delayed decision making and vendor consolidation
- Growth levels have moderated - considering the global events which have unfolded in 2008, this growth is a significant achievement
- The slowdown is expected to accelerate the transformation of the industry, which would manifest itself in terms of cost savings, productivity enhancement, enhanced utilisation levels and greater customer interaction
- Domestic Market – healthy growth of 20% in IT Services above 40% in BPO

Source: NASSCOM

# BPO fastest growing segment reaching approx USD 13 billion export revenues in FY 09

NASSCOM®

Export Revenues  
(USD billion)



- BPO industry employees increase to 790,000
- Growth opportunities – Procurement BPO, Knowledge Services
- Trend towards captive monetization, though best-in class captives expand
- Diversification into tier 2/3 cities.

Source: NASSCOM

# The Indian BPO industry has matured significantly along four key dimensions

NASSCOM®

Dimension of maturity

Key market insights

1 **WHAT** services are offered?

Horizontal BPO services, which contribute over 70% to the Indian BPO industry, remain key service areas and are increasingly offered in a full-service fashion

Providers are increasingly developing vertical /domain specialization to capture greater value; buyers in most verticals now have multiple credible provider options

Vertical-specific characteristics influence the nature of services offered as well as the extent of vertical specialization

2 **WHO** is served?

Industry has begun diversifying its client geography base to non-U S geographies

3 **HOW** are services delivered?

Multiple sourcing models (especially captives and third-party vendors) have evolved, which provide differing value propositions to buyers

Significant investments are being made in technology, which has emerged as a key enabler for delivering continuous innovation and improvement in BPO services

Proactive investments are being made in developing standards, acquiring industry certifications and adhering to best practices in data and information security

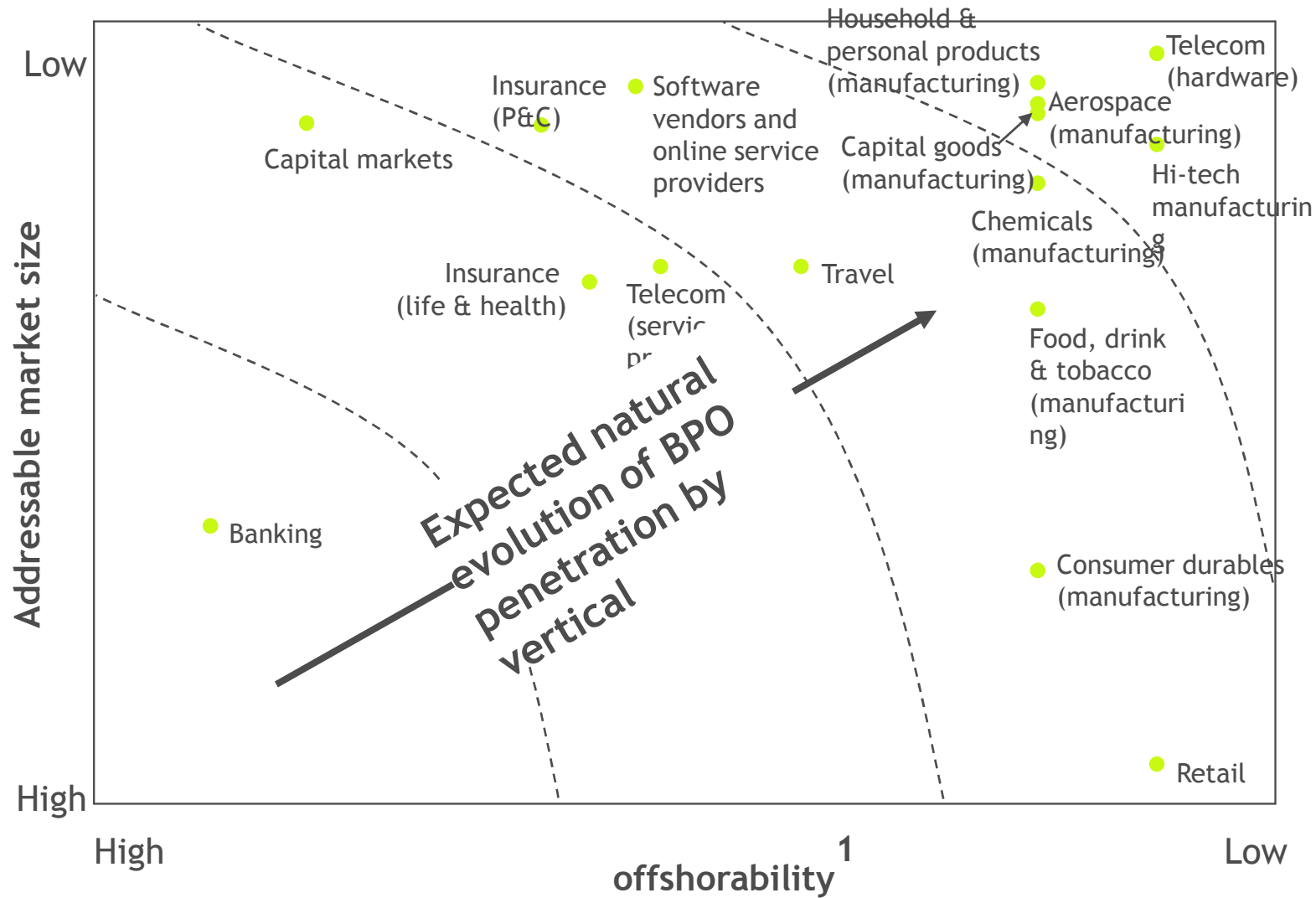
The Indian BPO industry is betting big on inorganic growth and M&A activity has stepped up

4 **WHERE** are services delivered from?

Providers are building global delivery models to meet buyer needs; the “India BPO” delivery footprint now extends to over 25 countries across the globe

While the bulk of the BPO activity is concentrated in the large Indian cities, smaller cities are increasingly finding favor with the providers

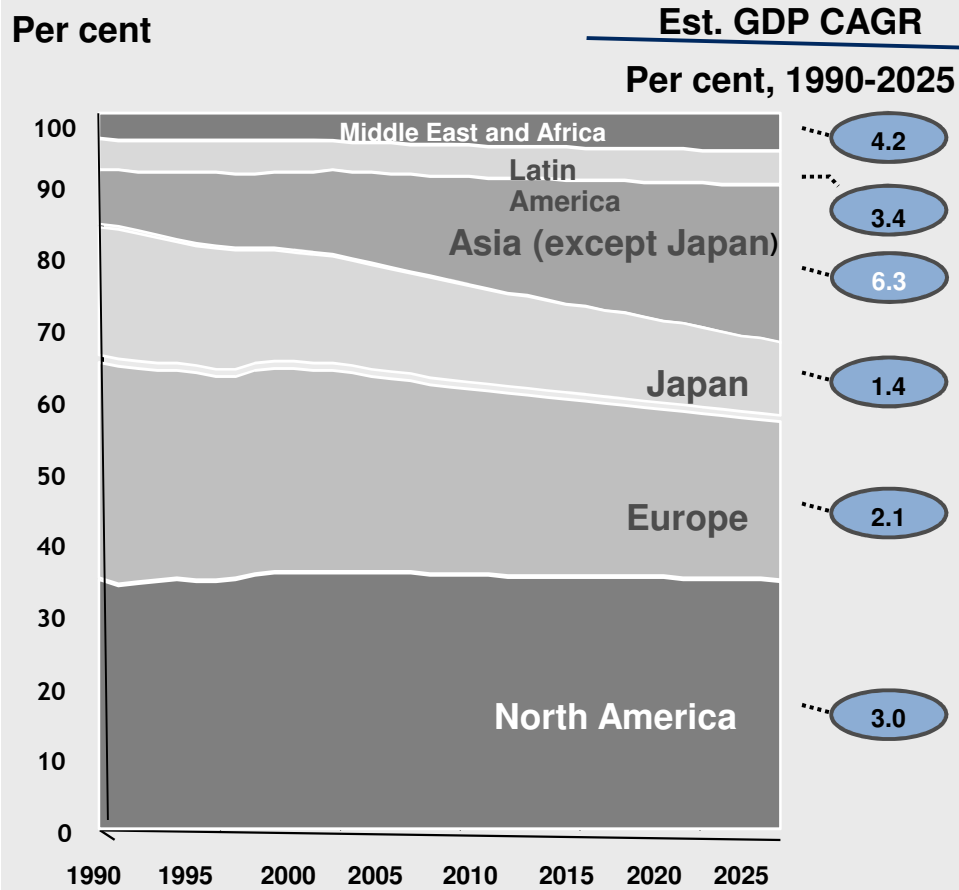
# Future opportunities are driven by industry size and offshorability of each vertical



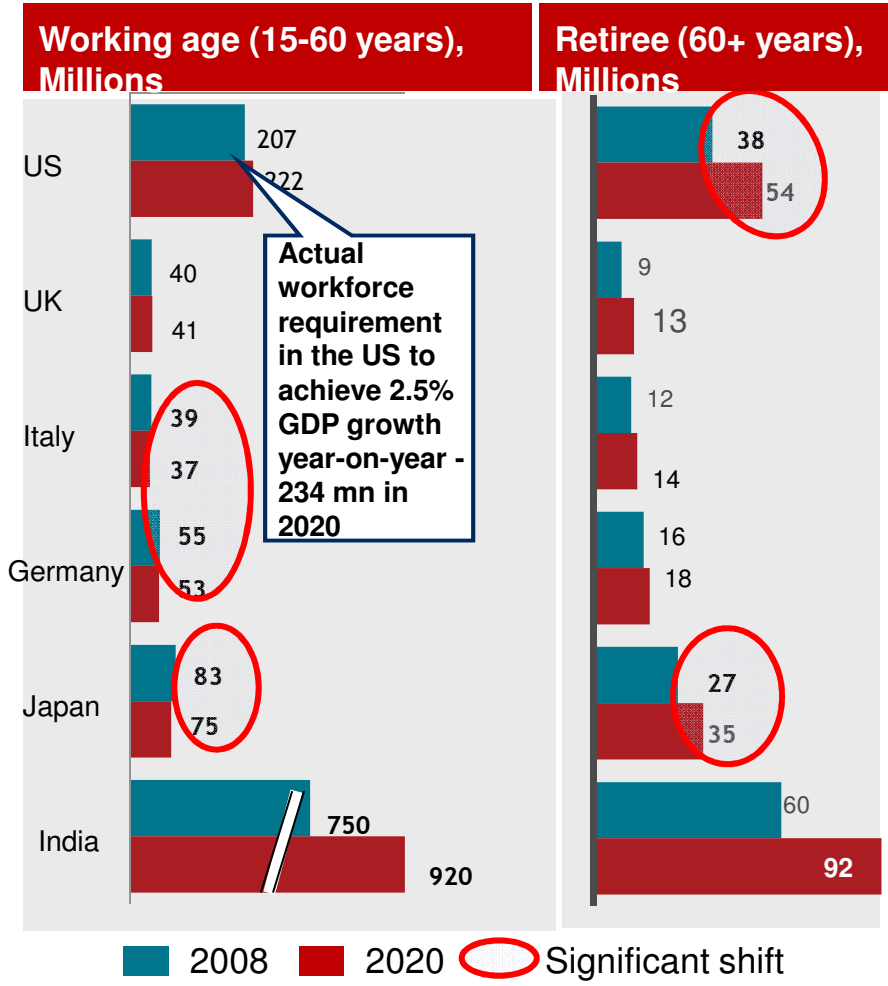


# Economic and demographic shifts will lead to acute talent shortage

## Regional share of global GDP



## Comparison of population shifts



**NASSCOM®**

**Thank You**



**APICTA • ASOCIO • 2009**  
Asia Pacific Digital Innovation Summit  
Melbourne Australia 14 - 17 December 2009  
Innovation, collaboration & trade for a digital future

MELBOURNE

# Oscar Sanez

## Business Processing Association of the Philippines (BPA/P)

(Philippines)

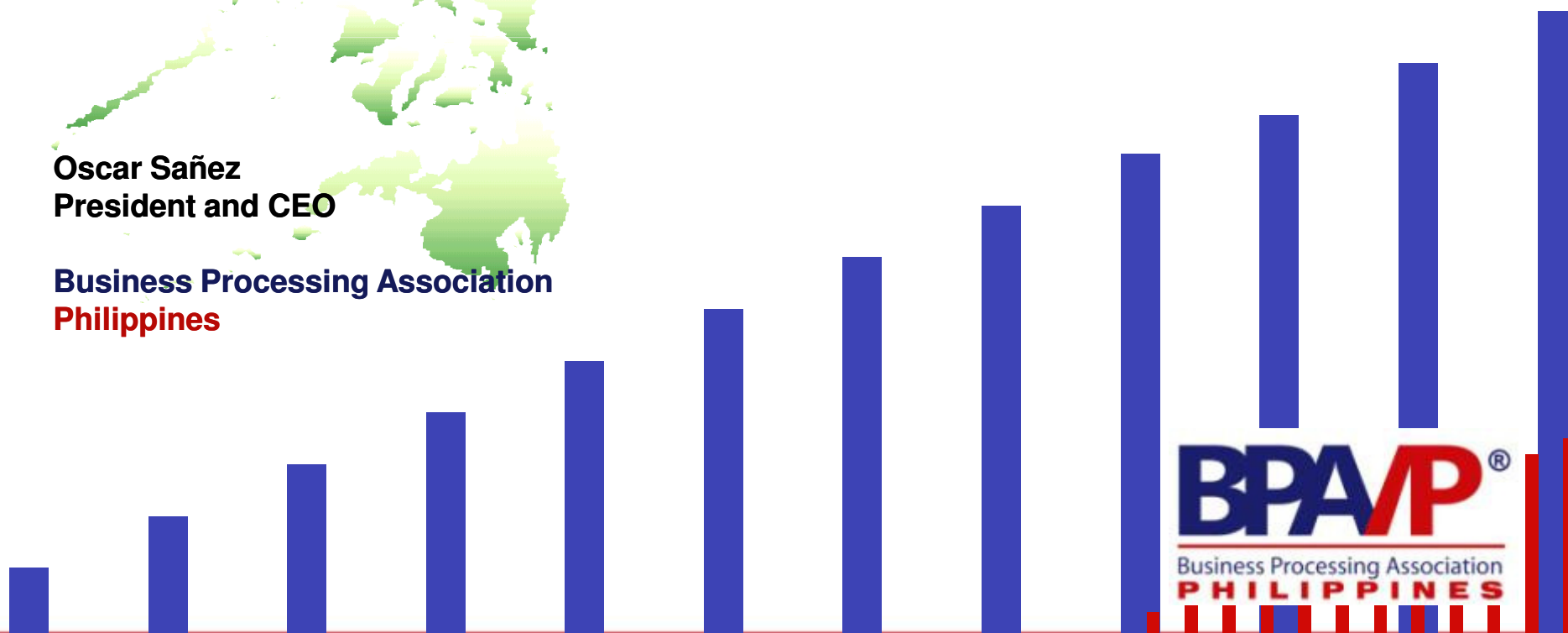




# Experience Excellence: The Philippine Advantage

Oscar Sañez  
President and CEO

Business Processing Association  
**Philippines**



## The Philippines in Global BPO and IT-ES space

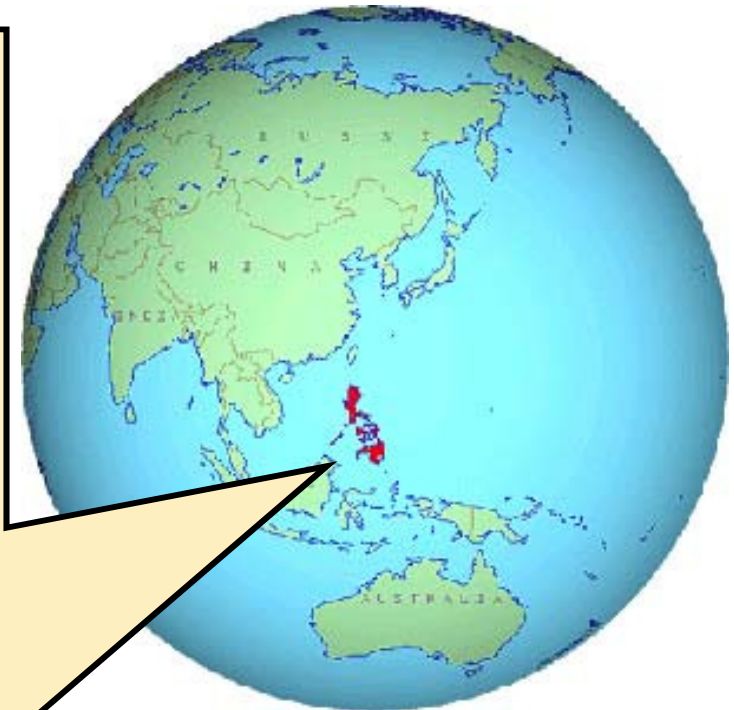
**Global #2 BPO destination after India**

**Over \$6 billion in export revenues growing at 36% annually**

**Employing ~400,000 workers, end 2008**

### Drivers for success

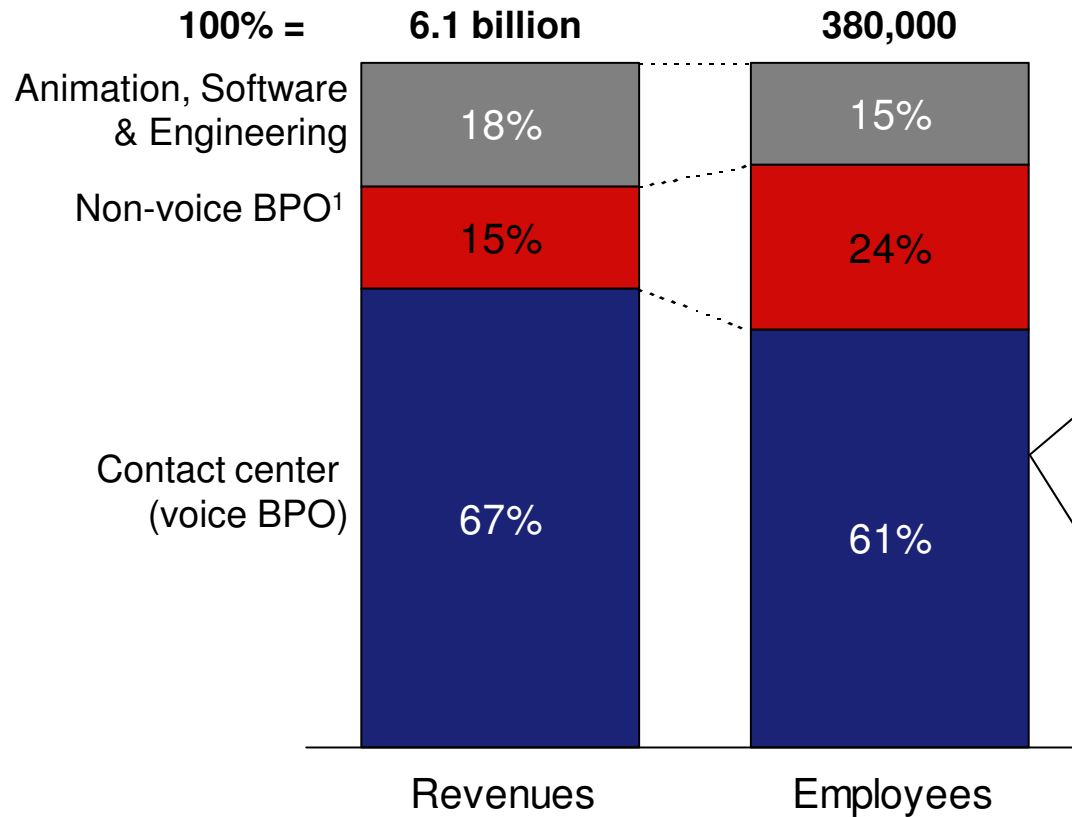
- 90 million people; 36 million workforce; over 450,000 College graduates annually
- Large pool of highly educated, English-speaking talent with strong cultural affinity to N America
- Highly reliable infrastructure
- Competitive cost structure
- Diverse choices of suitable locations in-country
- Strong government support



**Offshoring Destination  
of the Year (2007 and 2009)**

# The Philippines very quickly established strength in the voice-BPO sector

**Philippines Outsourcing & Offshoring market size**  
2008; Percentage



NOT EXHAUSTIVE

**MNC Captives**

**Global/India-centric suppliers**

**Local Filipino suppliers**

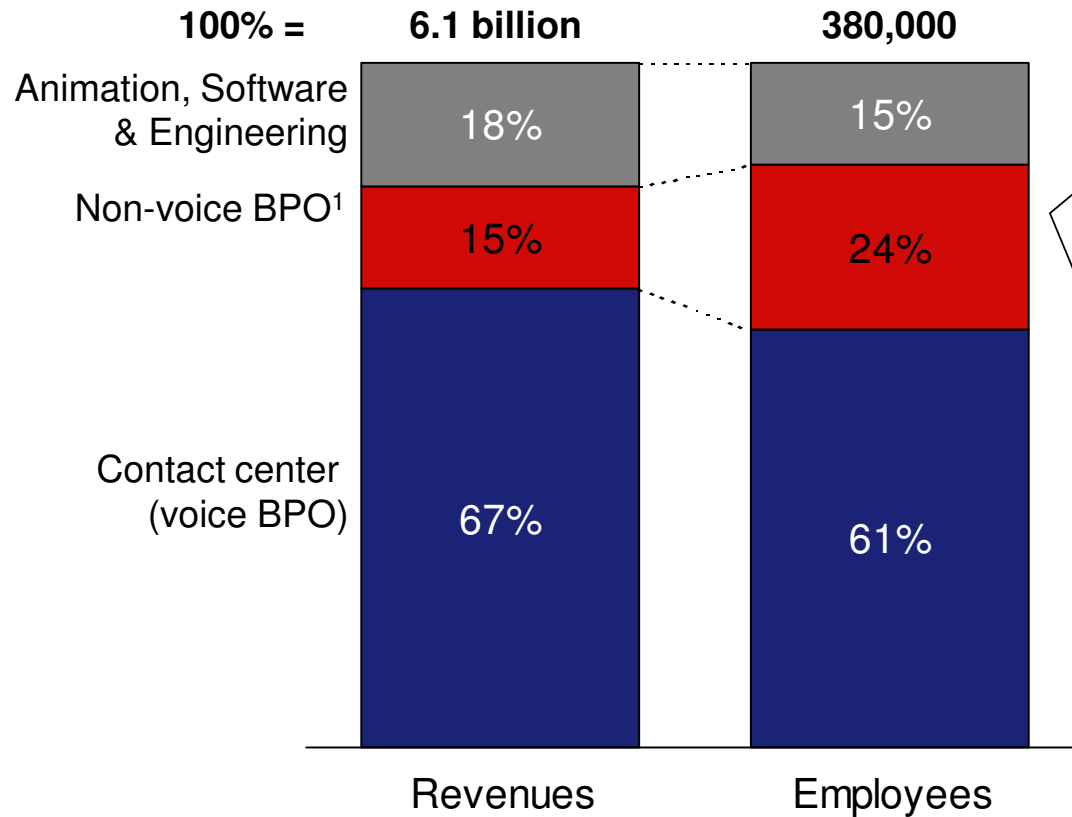
<sup>1</sup> Includes Back office and Transcription

Sources: Joint BPAP/BOI/PEZA/CICT Task Force (2008)



# ...and now establishing in-roads into the non-voice BPO market as well as IT and ESO

**Philippines Outsourcing & Offshoring market size**  
2008; Percentage



**Non-voice BPO revenues to double in 2 years!**

<sup>1</sup> Includes Back office and Transcription

Sources: Joint BPAP/BOI/PEZA/CICT Task Force (2008)

NOT EXHAUSTIVE

**MNC Captives**

**Global/India-centric suppliers**

**Local Filipino suppliers**



## Philippines has become COE for BPO due to depth of talent available in this sector

### **Expertise in diverse BPO and KPO functions:** **Finance/HR/Publishing/Supply Chain/Legal/Medical**

- Accounting and bookkeeping
- Account maintenance
- Accounts receivable collection
- Accounts payable processing
- Fund adm/reconciliation
- Payroll processing
- Retail banking support
- Asset management
- Financial analysis and auditing
- Inventory control and purchasing
- Expense and revenue reporting
- Financial reporting
- Human resources administration
- Customer Management
- Credit card administration
- Factoring and stock brokering
- Revenue management
- Transaction processing
- Business data processing
- Database management
- Supply chain management
- Legal Transcription
- Litigation Support
- Content Development
- Contract Summarization
- Editing, Sub-titling, Translation
- Publishing
- Health Services revenue cycle
- Travel Services Back Office
- Credit/Loan processing
- Health Insurance
- General Insurance
- Sales and marketing
- Tax reporting
- Financial leasing
- Transaction management
- Sourcing and Procurement
- Logistics
- Disaster recovery
- Business Intelligence
- Network management
- Warehouse and inventory Mgmt
- Market Research and Analysis
- Intellectual Property Management
- Account Risk Management
- Equities/Portfolio research & analysis



**And , IT software dev/application continuing to establish a strong niche in global ITO space – 35,300 IT professionals; \$600million revenues**

**And creative sector showing potential – 7,000 animators; \$120million revenues**

# Roadmap 2010 launched in June 2007 to ensure growth of the industry is sustained

## BPAP Roadmap 2010

<p>Suitable and abundant talent</p>	<ul style="list-style-type: none"> <li>• Need to recruit over one million people in the industry to reach 10% market share</li> <li>• High percent of top talent found in other markets (e.g., nurses, engineering, accountants)</li> <li>• Mismatch in location density between demand and labor. Smaller labor pools not tapped</li> </ul>	<p>Talent</p>
<p>Operational performance</p>		<p>Next wave cities</p>
<p>Quality infrastructure</p>	<p>Business environment</p>	<p>Next wave cities</p>
<p>Conducive business environment</p>	<ul style="list-style-type: none"> <li>• Most locators concentrated in NCR; other cities may not be O&amp;O-ready</li> <li>• Under resourced industry</li> <li>• Good investor support</li> </ul>	<p>Business environment</p>
<p>Risk management</p>	<ul style="list-style-type: none"> <li>• Persistent issues around critical risk factors that affect outsourcing decision (e.g., IP protection, data privacy)</li> </ul>	<p>Risk management</p>



**APICTA • ASOCIO • 2009**  
Asia Pacific Digital Innovation Summit  
Melbourne Australia 14 - 17 December 2009  
Innovation, collaboration & trade for a digital future

MELBOURNE

# David Wong

## Outsourcing Malaysia /

### SnT Global

(Malaysia)



# **ITES/BPO ASOCIO Summit 2009**

**Melbourne**

**16 December 2009**

**DAVID WONG**

**Chairman, Outsourcing Malaysia  
Immediate Past Chairman, PIKOM  
Group CEO, SnT Global**

# Outsourcing Malaysia – Your Gateway to Outsourcing in Malaysia

outsourcing  
malaysia



- A Malaysian Outsourcing Industry Consortium led and managed by Senior Industry Leaders
- Collaborative Government-Industry Approach
  - » PIKOM – The National ICT Association
  - » MDeC - Multimedia Development Corporation
- » Currently 100 member companies

## OM Mission

To Promote and Develop Malaysia's Outsourcing Services Industry as A Global Hub for High-Value Sourcing Activities





# OM Capabilities



**Data Center, Disaster Recovery & Business Continuity**



**Contact Center Operations & Services**



**Oil & Gas Services & Solutions**



**Integrated Logistics & Supply Chain Management**



**Technical Helpdesk & After-Market Services**



**HR and F&A Outsourcing**



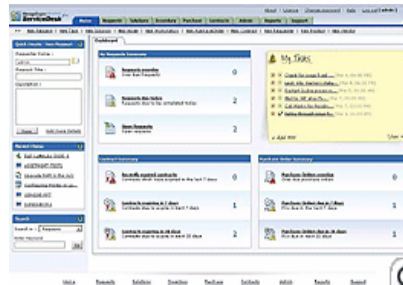
**Transaction Processing Services**



**Financial Analytics**



**Remote Infrastructure Management**



**Application Management Services**



**Enterprise Resource Management**



**Technology Consulting & Services**

# Malaysia's strengths for Sourcing activities

outsourcing  
malaysia

1

Low Political Risk



2

MSC Initiative –  
concept of tax haven &  
silicon valley



3

Quality &  
Availability  
of Manpower



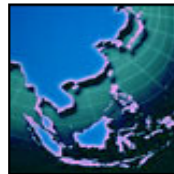
4

Quality & Availability  
of Infrastructure



5

Located in the  
heart of Asia  
Pacific Region



6

Strong multi-lingual  
demographics



7

Aggressive technology  
adoption and high outsourcing  
happening from the US/Europe





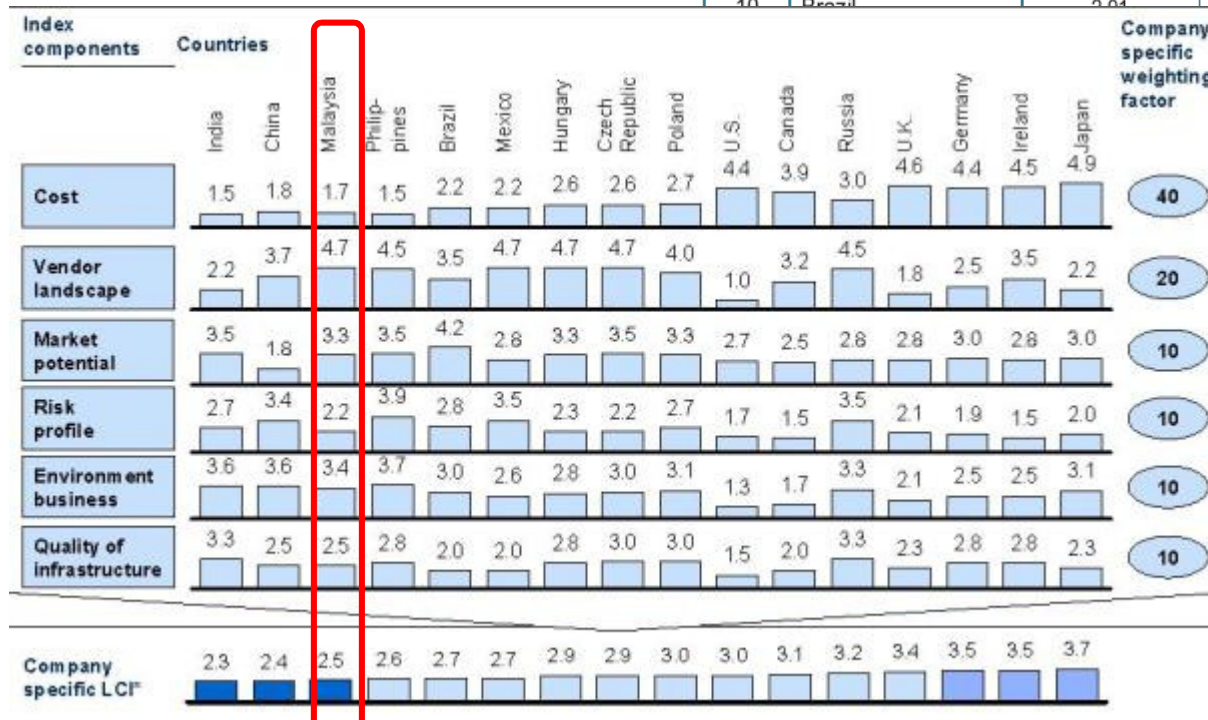
# MALAYSIA - A TOP GLOBAL SOURCING LOCATION

## Verticals where Malaysia ranked in top 5\*

- Energy (# 2)
- Finance (# 4)
- Transportation and Logistics (# 3)

Source: Frost & Sullivan

Rank	Country	Financial structure	People and skills availability	Business environment	Total score
1	India	3.47	2.14	1.26	6.87
2	China	3.21	1.76	1.17	6.14
3	Malaysia	2.95	1.12	2.00	6.07
4	Philippines	3.38	1.16	1.05	5.78
5	Singapore	1.62	1.44	2.67	5.73
6	Thailand	3.27	0.94	1.51	5.72
7	Czech Republic	2.57	1.12	1.90	5.58
8	Chile	2.73	0.97	1.87	5.58
9	Canada	1.10	2.03	2.40	5.52
10	Brazil	2.04	1.36	1.23	5.50
			2.74	2.22	5.49
			0.95	0.98	5.47
			1.06	0.89	5.47
			0.91	1.43	5.35
			0.86	1.11	5.27
			0.96	1.55	5.24
			1.16	1.19	5.22
			1.06	1.44	5.16
			0.88	1.63	5.13
			0.61	1.85	5.12



Source: AT Kearney

Source: McKinsey & Company

- Growing Industry
- Shift from Cost to Value Arbitrage, eg KPO
- Multi-location Strategy, eg Centre of Excellence
- Finishing School
- Increasing Govt Support, eg Customised Incentives
- Improved & Cost Competitive Infrastructure, eg Broadband

# THANK YOU

## PIKOM

### NATIONAL ICT ASSOCIATION OF MALAYSIA

Unit 1106-1107, Block B Phileo Damansara II  
No. 15, Jalan 16/11, 46350 Petaling Jaya,  
Selangor Darul Ehsan,  
Malaysia.

Tel : (603) 7955 2922

Fax : (603) 7955 2933

General Email: [info@pikom.org.my](mailto:info@pikom.org.my)

**[www.pikom.org.my](http://www.pikom.org.my)**



**APICTA • ASOCIO • 2009**  
Asia Pacific Digital Innovation Summit  
Melbourne Australia 14 - 17 December 2009  
Innovation, collaboration & trade for a digital future

MELBOURNE

# Wilson Tan

## Singapore Post

(Singapore)

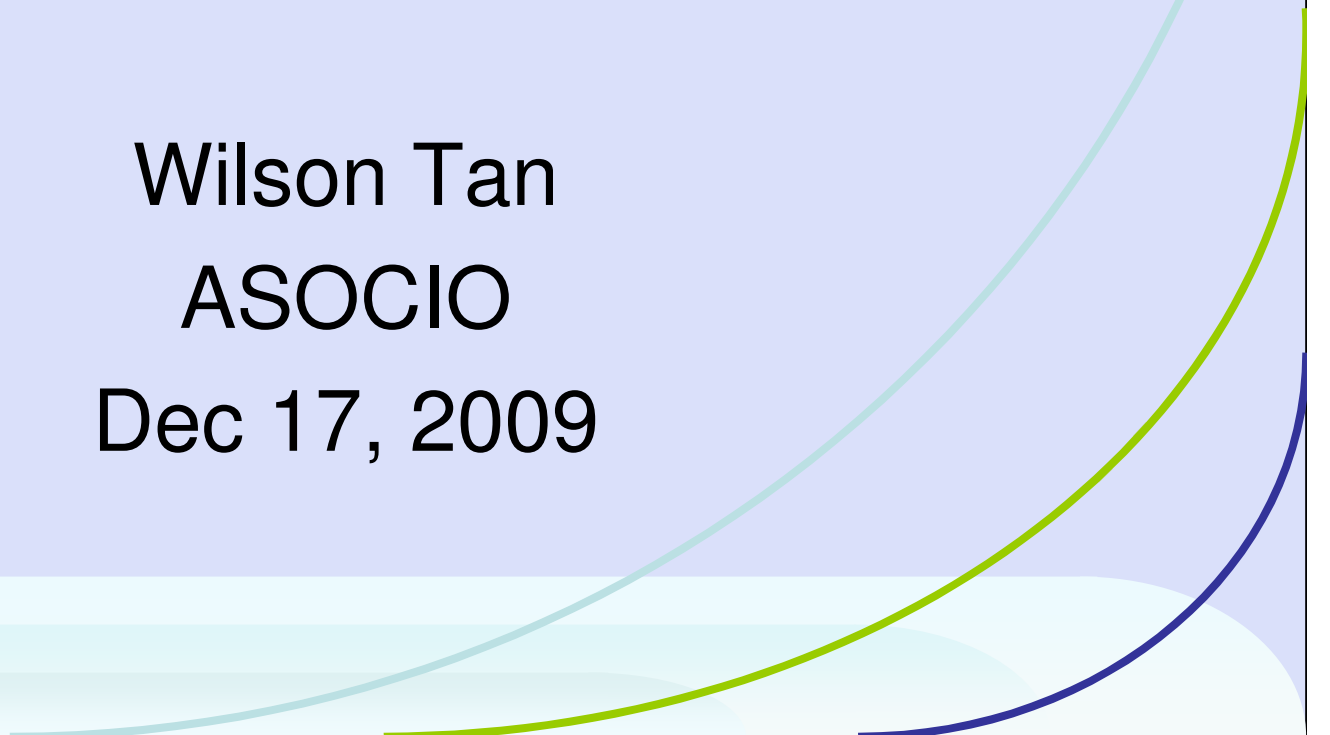


# CONVERGENCE

Wilson Tan

ASOCIO

Dec 17, 2009



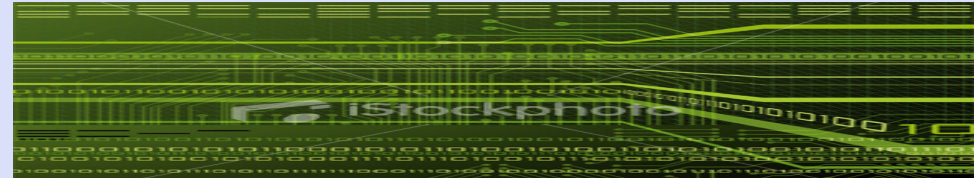
**Despite all the computer printouts, cluster diagrams, and mathematical models and matrices that futurist researches use, our attempt to peer into tomorrow – or even to make sense of today – remain, as they must, more an art than a science.**

*A Toffler, The Third Wave (1980)*

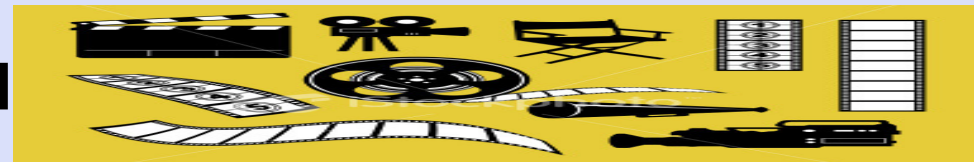
# From The Past...



**DATA**



**TELEVISION**



**VOICE**





# ...Into NOW!





# Convergence Overlaps

Access - Fixed, Wireless, Mobile, NGN

Data, Voice, Video

Devices – Consumer Electronics...

Telecom & Broadcast – Media, Content



# Realities of Convergence

Economics – Revenue Models, Industry Structures, Delivery Strategies

Technology – Interoperability and Standards

Social Dynamics – Society, Political

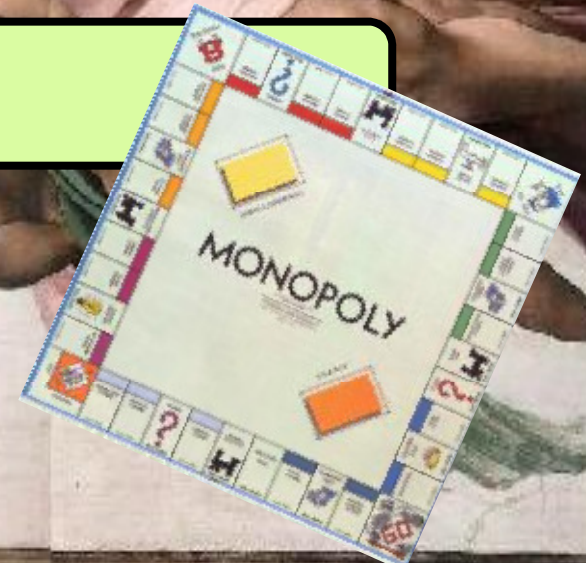
Policy – Legal and Regulatory

# Convergence... *a Renaissance* (?)

NEW Frontiers for Business

Non - Linear

New Monopolies



**Thank**



**You**