

行政院所屬各機關因公出國人員出國報告書  
(出國類別：出席國際會議)

# 參加亞洲科學園區協會(ASPA) 第 15 屆理事會議暨第 3 屆領袖會議 出國報告

出國人服務機關：科學工業園區管理局

職 稱：局長

姓 名：黃得瑞

機 關：科學工業園區管理局

職 稱：副研究員

姓 名：夏慕梅

機 關：中部科學工業園區管理局

職 稱：技正

姓 名：游志祥

出國地點：日本

出國期間：97.5.14 – 97.5.16

報告日期：97.5.30

## 前言

目前世界上科學園區相關的重要國際組織中，包括世界科學園區協會簡稱 IASP、大學研究園區協會簡稱 AURP 及亞洲科學園區協會(Asian Science Park Association, 簡稱 ASPA)，ASPA 是其中規模較小的協會，會員只有前述的五分之一，但是會員皆為亞洲國家，歷史背景與發展過程較為相似，經驗交流也較能貼近實際的需要。因此近來我國科學園區積極參加 ASPA 的活動，同時竹科的黃得瑞局長自 2006 起即擔任該協會理事，為促進科學園區的交流與合作而努力。ASPA 於 2008 年 5 月 15 日至 16 日假日本神奈川科學園區舉辦第 15 屆理事會議及第 3 屆領袖會議，黃局長率同夏慕梅副研究員及中科游志祥技正前往日本，先參加駐日科技組舉辦的「台日科學園區交流會」，與神奈川研究園區、關西學術研究都市及日本交流協會共聚一堂，討論未來的合作與發展；隨後參加理事會議並在會中為台灣爭取到 ASPA 2009 年會的主辦權。領袖會議中則邀請 ASPA 的發起人久保孝雄先生做專題演講，久保先生以歐盟為榜樣希望藉由 ASPA 國際組織促進亞洲各國的交流與合作，進而打造亞洲經濟聯盟。

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## 二、台日科學園區交流會

科學園區一行抵達東京後，首先前往駐日代表處拜會國科會駐日科技組葉清發組長，承蒙葉組長熱忱接待。葉組長與黃局長就如何促進日本與台灣科學園區間的交流交換意見，也趁科學園區訪日之便，邀請橫須賀研究園區；京都地區的關西學術研究都市及日本交流協會等單位共聚一堂，進行「台日科學園區交流會」，討論未來合作的方式與內容。出席人員包括：

- |            |                 |
|------------|-----------------|
| 1. 葉清發組長   | 駐日本台北經濟文化辦事處科技組 |
| 2. 吳悅榮秘書   | 駐日本台北經濟文化辦事處科技組 |
| 3. 黃得瑞局長   | 科學工業園區管理局       |
| 4. 夏慕梅     | 科學工業園區管理局       |
| 5. 游志祥技正   | 中部科學工業園區管理局     |
| 6. 甕 昭男會長  | YRP 研究開發推進協進會   |
| 7. 大森慎吾副會長 | YRP 研究開發推進協進會   |
| 8. 江米佩小姐   | YRP 研究開發推進協進會   |
| 9. 三田康明室長  | 京都府文化學術研究都市推進室  |
| 10. 藤岡榮副課長 | 京都府文化學術研究都市推進室  |
| 11. 三宅諭副局長 | 京都府文化學術研究都市     |
| 12. 野村昇部長  | 日本交流協會          |
| 13. 角田徑子   | 日本交流協會          |

橫須賀研究園區是領導日本通訊產業新技術的研發重鎮，位於東京近郊，重要手機大廠如 DoCoMo、Panasonic、Fujitsu、NEC、Hitachi、Toshiba 等等都在此設有研發中心或實驗室，研發成果的質與量相當可觀。該園區與工研院及新竹科學園區皆有簽署合作備忘錄，其管理機構為 YRP 研究開發推進協進會。

關西學術研究都市此園區坐落於大阪、京都、奈良三地交界的阪京那山，亦稱為阪京那園區，成立於 1987 年，由京都府下的文化學

術研究都市推進室負責開發管理。今年 4 月間國科會黃文雄副主委及竹科董良生副局長在葉組長陪同下曾前往京都拜會園區相關的單位包括京都府、京都大學及科學園區。一週後關西園區的代表隨即回訪台灣，拜會新竹科學園區、清交大及園區廠商，並表達強烈的合作意願。



日本交流協會日本交流協會為因為應台日斷交後，為維持台日雙方的實質交流而設立的財團法人機構，以處理雙方之學術、文化之交流等各項事宜。

日本官方主持的科學園區常稱為學術研究都市或科學城，主要由地方政府及大學與研究機構共同規劃管理，以研究及企業育成為主，因此希望能與研發與生產並重的台灣科學園區加強合作，產生互補的加乘效果。會中討論進一步加強交流，科技組也建議我方先行於 10 月間赴日參加北九州姊妹園區的產學合作會議，並前往關西園區拜會；同時我方亦邀請日方代表來台參加將於 11 月舉辦的創新產業論壇，彼此交換科學園區經營管理以及未來新型態園區的發展。



## 二、ASPA 第 15 屆理事會議

亞洲科學園區協會第 15 屆理事會議於 2008 年 5 月 15 日於神奈川科學園區(Kanagawa Science Park)舉行。ASPA 的起源是 1997 年由神奈川園區的久保孝雄先生發起的，經過十多年的發展，如今又回到神奈川來開會顯得特別有意義。參加這次會議的理事包括：

1. 京都研究園區(日本) - Masao Hashinaga
2. 京畿科技於區(韓國) - Gang Sun Choi, Jong Hyun Lim, Tae Gyun Kim, Dong Ho Lee
3. 光州產業聚落(韓國) – Youngjib Kim, Jungjin Lim
4. 新竹科學園區(台灣) – 黃得瑞局長、夏慕梅
5. 中部科學園區(台灣) – 游志祥
6. 和樂科學園區(越南) – Nguyen Trong Hieu
7. 大邱科技園區(韓國) – Wook-hyeon Jang, Hee-uk Lee
8. 神奈川科技園區(日本) – 和裕齊藤、雄介水野、遠藤、小百合一色
9. 川崎市(日本) – 聰田邊、麻乃佐藤、哲也三枝、契飯沼



理事會議主要的議程及討論結果包括：

### (一) 2007 年 ASPA 活動報告

#### 1. ASPA 會員狀態：

至 2007 年底共有 54 個會員，包括 34 個園區/組織、13 家公司及 7 個個人會員。

#### 2. 第 11 屆 ASPA 年會結果報告

第 11 屆年會於 2007 年 10 月 23~26 日於韓國京畿科技園區舉辦，共有來自 13 個國家 280 人與會

#### 3. 2007 年的活動

(1) 第 2 屆領袖會議 - 2007 年 5 月 19~21 日於新竹科學園區舉辦

(2) ASPA 北京辦公室 - 2007 年 5 月 18 日於北京舉辦開幕典禮

(3) 第 3 屆日韓區域交流座談會 - 2007 年 8 月 23~24 日於大邱舉辦

#### 4. 出版物：共發行 4 份季刊、25 份電子報(雙週刊)

#### 5. 亞洲科學園區技術交流計畫

##### (1) 建立合作網路

- ASPA、神奈川園區及新竹科學園區
- 大邱科技園區、工研院、越南軟體協會、NTEM
- 京畿科技園區、Almaty 科技園區、國家創新基金、Alatao 資訊城
- ASPA、韓國中小企業中心

##### (2) 更新及擴展 Cyber ASPA 功能

##### (3) 促進區域創新能量

#### 6. 2007 財務支出報告

### (二) 2008 年之計畫

#### 1. 繼續推動亞洲科學園區技術交流計畫

(1) 將延續 2007 的工作，繼續推動亞洲國家間之技術合作交

流，包括

- 與通訊技術商業中心、中科及京都研究園區簽 MOU
- 舉辦日韓商務會議
- 舉辦中國市場探索會議

(2) 建立資訊提供系統 Cyber ASPA 及 Cyber Market 及其推廣

2. 亞洲創新教育中心的創建及營運

為協助開發中國家發展科學園區建立標準發展計畫，參加的機構包括 ASPA、韓國科學園區協會及韓國產業技術基金會。

3. 2008 之預算報告：預估預算經費全年為美金 546,338，較去年經費短少約 6 萬美元，須另行開闢財源。

4. 第 12 屆 ASPA 年會辦理進度

第 12 屆年會由中國清華科技園主辦，為 IASP-ASPA 聯合年會，舉辦時間為 2008 年 10 月 23-24 日。

(三) 主要討論議題

1. 是否繼續推動 ASPA 與 IASP 之合作計畫

ASPA 與世界科學園區協會 IASP 已簽署合作備忘錄，促進雙方協會會員之合作，並且聯合舉辦區域性之國際性研討會。基於此備忘錄，雙方已於過去 3 年聯合舉辦過伊朗年會、韓國京畿年會、以及今年 10 月在北京的年會。此備忘錄已於 2008 年 3 月到期，因此透過理事會議決定是否繼續合作。

2. 第 4 屆 ASPA 領袖會議的舉辦地點選擇

提案者為位於越南河內的和樂科學園區，是該國第一座科學園區。其代表提議第 4 屆 ASPA 領袖會議於 2009 年 5 月 20-21 日於和樂園區或是 Bao Son 大飯店舉辦，以亞洲科學園區發展策略為主題展開 2 天的會議，預計參加人數為 60 人。此提案獲得全體理事通過。

### 3. 第 13 屆 ASPA 年會的舉辦地點選擇

2009 年第 13 屆年會共有兩個會員提出申請舉辦，包括我國的新竹科學園區及澳洲的 Bentley 科技園區。我方於會中提出對年會的詳細規劃後，理事們經過討論決定 2009 年之年會由我國新竹科學園區主辦，而 2010 之年會則交由澳洲 Bentley 科技園區主辦。



ASPA 並於 5 月 22 日正式來函通知新竹科學園區取得 ASPA 2009 年之年會主辦權，來函如下：



May 22, 2008

Mr. Der-ray Huang  
President  
Hsinchu Science Park Administration  
No. 2, Hsin-Ann Rd., Hsinchu Science Park,  
Hsinchu, 300, Taiwan, R.O.C.

Dear Mr. Der-ray Huang

We are much pleased to notify you that Hsinchu Science Park was selected as a host organization for the 13<sup>th</sup> ASPA Annual Conference in 2009.

After careful review of all the proposals presented to us, in the 15<sup>th</sup> ASPA Board Meeting we have decided that your organization is best equipped to hold the 13th ASPA Annual Conference.

For more detailed information to host Annual Conference, close cooperation between Hsinchu Science Park and ASPA will be required.

Hearty congratulation again!

Sincerely yours,

*Lee Jong Hyun*

Chairperson  
Asian Science Park Association



11F Daegu Venture Center, 95 Shinchun-dong, Dong-gu, Daegu-City 701-023 S. Korea  
Tel. +82-53-757-4106-7/Fax. +82-53-757-4108 E-mail: [aspa@cyberaspa.org](mailto:aspa@cyberaspa.org) / <http://www.cyberaspa.org>

### 三、ASPA 第 3 屆領袖會議

第三屆領袖會議在 ASPA 現任會長李鍾玄博士(Dr. Lee, Jong Hyun)簡短開幕致詞後開始，首先邀請到主辦單位日本神奈川科學園區(簡稱 KSP)社長大北智良先生(Tomoyoshi OKITA)致歡迎詞，在致詞中，大北先生提到，KSP 在 1989 年開始建立，是日本第一個開發的科學園區，提供了理想的研發環境，為日後日本在科學園區發展上立下良好基礎。

緊接著是 ASPA 榮譽主席久保孝雄先生(Takao Kubo)所做「The Asian Renaissance and the Role of ASPA」的專題演講，在短短 20 餘分鐘的演講裡，久保先生針對 ASPA 在亞洲經濟復興及亞洲經濟共同體方面所應扮演角色，特別講述；久保先生認為，21 世紀將是屬於亞洲的世紀，除了中國大陸歷經了 1970 年代文化大革命後，近幾年已在世界經濟上的崛起；印度藉由在資訊科技及軟體產業上的優勢，在 IT 產業革新佔到一席之地；韓國在 IMF 協助下度過了 1997 年的經濟危機，甚至由新任總統李明博所提出的”747”專案，說明韓國未來的競爭力；台灣在 IT 產業上所具有的競爭力以及 4%的經濟成長率等等，在在都顯示了 21 世紀的確是亞洲的世紀。

久保先生在東亞經濟發展上指出，最特別的是地區間的貿易實際上已趨向團結，以在東亞地區間的貿易額 (ASEAN+3: 中國、日本和韓國)從 1980 的 35.7% 到 2005 年的 55.8%，相同的年度，NAFTA (北美自由貿易協議)及歐洲共同體分別是 43% 和 62.1%；且東亞地區從 2000 年的自由貿易協議與經濟合作協議網路擴展，得以鞏固市場且做成系統上的統一。

久保先生針對 ASPA 的發展歷史也做一個簡述，ASPA 是在 1997 年 12 月從神奈川科學園區開始發起的非政府組織，在第 1 次 ASPA 會議中，只有八個科學園區、包括日本、中國、韓國和臺灣等大約 100 人參加。在經過 11 年後，ASPA 以成長到包含 53 個科學園區和

育成中心、13 個國家。特別是 ASPA 克服了 1997 年亞洲金融危機。

所以，在未來 ASPA 的發展上，考量亞洲逐漸在全球性經濟方面已成爲"世界的工廠"，加上它龐大的人口可作爲"世界市場"，而且中國的研究經費增加，幫助了由國家驚人的成長，從 90 年代開始平均成長率爲 20% ，讓中國在著重於科學、技術、研究與發展，也吸引了主要全球性公司到中國投資，包括 IBM 、微軟、Motorola 、Nokia 、Matsushita 、日立、Toshiba 、Sony 等，並且將研發中心設定在北京的 Zhongguancun 公園，目標是"世界的 R&D 中心"。

所以久保先生認爲，在 ASPA 的 11 年歷史上，其運作擴展和加強亞洲科學園區網路，促進了東亞地區科學園區發展，所以，未來希望 ASPA 能增強在"亞裔公共的"創作能功能，以作爲科學、技術、研究與發展合作社， 並且作爲創造新企業和產業以適合 21 世紀的一個創新社團。

在久保先生專題演講後，各出席單位針對 ASPA 提出諸多建言，包括韓國大邱科學園區局長 Mr. Jang 認爲 ASPA 應加強在亞洲地區經濟發展所扮演的角色；久保先生也再度建議，應建置 ASPA 的溝通平台，以更友善方式建置創新育成機構；日本神奈科學園區局長大北智良先生認爲打破亞洲地區學術及文化距離；ASPA 李會長也針對拉進亞洲地區不同文化、語言及社區等等提出諸多建議想法，並且建議能源等亦可列爲未來重點發展產業，整場會議在出席代表踴躍提出建言後順利結束。



## 四、神奈川科學園區簡介

神奈川科學園區所在的川崎市(Kawasaki)人口 1 億 35 萬，面積有 144 平方公里，位居有生產總值 1.3 兆美元的東京都圈的中心位置，介於東京市與橫濱市之間，匯聚大量物資、資金及優秀人才，擁有許多中小企業，是日本少見的產業聚集都市。爲了促進產業的發展，川崎市設有三個高科技基地，分別爲：

### (一)神奈川科學園區 (Kanagawa Science Park：KSP)

設立於 1989 年，是日本最早也是最大的科學園區，目前有 118 家廠商進駐

### (二)育成中心 (產學聯合行科技園)

共有兩個地方，包括川崎育成中心(Kawasaki Business Incubation Center: KBIC)及慶應義塾大學新川崎校區()，這兩個中心目前有 21 家公司及 7 家研究機構進駐。

### (三)川崎技術革新園區(Techno Hub Innovation Kawasaki: THINK)

這是由民間主導的科技園區，目前有 55 家廠商進駐。



川崎育成中心



慶應義塾大學新川崎校區



川崎技術革新園區

## 神奈川科學園區

神奈川科學園區是日本的第一座科學園區，由川崎縣政府及市政府共同發起，目的在於促進政府與私人企業之間的合作，並與神奈川科學與技術學院合作，提供研發協助及測試服務，因此吸引許多研發導向的公司在此設立據點。

1986 年成立神奈川科學園區公司，是介於官方及私人間的機構，以協助創業家或新創公司一個最優良的發展環境為主，其二個主要的功能為開發園區及負責其日常營運，以及培育新創公司。它提供的服務包括：

### 1. 創業支援服務：

神奈川園區提供想創業者相關的支援，例如辦公區域、研發活動場所、以及各種相關的服務。園區定期舉辦新創企業圓桌會議，讓各企業能彼此認識進而促成 R&D 或風險投資等方面的合作；藉著與大學及研發機構的聯絡交流，提供廠商做新的學術發展資訊以及可能的合作資源。至於辦公室空間的提供資料如下：

	共享辦公室	新創企業辦公室
對象	要設立公司的個人或才成立的公司	要設立公司的個人或才成立的公司
型態	小隔間 (12-43 m <sup>2</sup> )	獨立房間 (37-75 m <sup>2</sup> )
使用期	每年簽約，最多 3 年	以 5 年合約為主，最多 8 年
租金	每平方米每月 5,250 日圓	每平方米每月 5,460 日圓

### 2. 成長支援服務

企業支援中心(Business Support Service)運用神奈川園區的網路，邀請外部專家提供園區公司各種物超所值得協助，幫助公司的成長；KSP 投資基金(KSP Investment Fund)提供投資基金給欲上市的公司，並且提供經營上的協助以幫助公司達成上市的夢想。投資方式包括取得股票、新股票的優先保留權等等。

### 3. 培育企業家服務

神奈川園區風險企業學院(Venture Business School)教導未來的企業家所需的發展策略及實踐的技巧，課程著重於如何擬定即完成營運計畫書，並以開設各種課程及研討會的方式教導創業家們所需的知識及收集資料。

課程一年開設一期，涵蓋各種課程，目前已有 408 名學生由此學院畢業，是日本第一個以營運計畫為中心發展出的課程。課程的內容會隨的時間及實況的發展而修正。學期由每年 5 -11 月的每週五-週六上課合計 30 天，學生名額 25 人，需繳交學費 72 萬日圓。

### 4. 設施及資訊網路

自 1995 年起提供進駐公司客制化網際網路服務，以及諮詢、網站設立及代為管理作業系統等。此外亦鋪設園區內的光纖網路。

### 5. 計畫交換服務

提供進駐的研發型公司一個腦力激盪的平臺是神奈川園區自設立以來一直非常重視的服務。因此該園區除了提供類似的平台外，以積極參加如亞洲科學園區協會及日本科學園區協會等組織，以提供園區內公司各多的學習網絡。



## 五、日本鋼鐵公司參訪

在 5/16 日，ASPA 安排參觀 JFE STEEL 公司在川崎地區的工廠，在 JFE Steel Corporation 所安排的簡介及工廠導覽中，了解到 JFE 是在 2003 年 4 月 1 日建立，目標是組成一個優秀公司，能在 21 世紀以世界的最高的技術貢獻給社會。至於"JFE"的由來，"J" 表示日本、"F"表示鋼、"E"為工程學，所以 JFE 的縮寫表示對"日本未來企業"的重視。

JFE 的鋼產品擁有優秀產品，並且在許多年代扮演了作為基本材料支持的產業和社會寬廣應用範圍的一個重要角色；世界許多國家要求以鋼的數量象徵能創造一個更加適於居住的社會以及繼續成長意味，所以，在全球性鋼需求的增加，表示鋼產品仍是繼續而且必要的。

但是，要讓 JFE 所生產的產品對社會成長是有幫助的，必須要認知的是，責任是須面對各種各樣的越來越嚴重的問題，以全球性環境問題為例，JFE 有信心接受這些挑戰。因為，JFE 將作為一個好公司、好公民，相信以"公正、產權透明化"的原則，是在社會生存下去相當重要，包括：

1. 在所有營運過程中，以減少今後環境衝擊和促進創新技術的發展為目標。
2. 以一個更先進技術、設備，和生態學產品發展和供應。
3. 通過資源和能量的保護，對資源的創作和節省能源，並制定地球環境的保存回收和能源企業的優先權。
4. 努力成為地方社區的成員，創造一個更好的環境並與地方公民、政府和行政管理負責人合作。
5. 促進國際合作，將對環境保護活動貢獻，以技術轉讓等形式作為國際合作。

在炙熱的參觀過程裡，除了觀賞到鋼鐵生產過程的繁複外，也看到日本人對資源回收、企業責任的認真負責態度。



JFE 鋼鐵公司在日本各地之生產據點

## 六、心得與建議

為維持園區持續發展，積極參與國際事務、加入世界科學園區組織、吸取國外科學園區開發及管理經驗，一直是科學園區永續發展的重要業務之一；因此，繼工研院與神奈川等共同創立 ASPA 及竹科成爲 ASPA 理事，中科也在 2008 年度加入 ASPA 後，特別派員參加了 ASPA 這一次於 2008 年 5 月 16 日至 17 日假日本神奈川科學園區舉辦第 15 屆理事會議及第 3 屆領袖會議，藉此機會與該協會成員交換園區開發經驗，增加國際交流機會。

出席這一次 ASPA 所舉辦會議計有竹科管理局黃得瑞局長等人及中科管理局代表，所以，國科會駐日科技組特別趁此機會，於 5 月 15 日安排與日本神奈川研究園區、關西學術研究都市及日本交流協會共聚一堂，舉辦一場小型的「台日科學園區交流會」，藉此討論未來中日科學園區的合作與發展機會。

在 ASPA 第 15 屆理事會議中，竹科管理局順利的爲台灣爭取到 ASPA 2009 國際年會的主辦權，象徵著對台灣科學園區發展的肯定與支持；隨後，在第 3 屆領袖會議中，邀請到 ASPA 的發起人久保孝雄先生做專題演講，久保先生以歐盟爲榜樣，希望藉由 ASPA 國際組織促進亞洲各國的交流與合作，進而打造亞洲共同經濟聯盟。

短短幾天行程裡，或許是身在國外緣故，特別感受到駐日科技組拓展科技外交的努力與用心，也衷心期盼透過這樣科技外交的管道，能爲台灣外交瓶頸尋找到另一片天空；此外，此次參加會議還包括日本、韓國及越南代表，其中，韓國科學園區在政府大力支持推動下，相關科學工業、產業聚落發展以及創新研發上，成績的確驚人。

相關建議：

1. 希望未來能透過積極參與類似的國際會議，與世界各國科學園區交換發展及管理經驗，爲國內科學園區持續發展提供更多元方向。

- 2.能源及減碳將是下一代新興產業，應可提供國內產業發展之參考。
- 3.相較於韓國扶植工業發展經驗，不論是工業區或科學園區，國內企業能獲得政府奧援便少多了，未來如能持續以重點發展產業鼓勵、支持國內企業之發展，相信在世界的舞台上，台灣不會缺席的。

附件一

**Proposal for**  
2009 ASPA Annual Conference

**ASPA Conference 2009**  
**Hsinchu, Taiwan**



Hsinchu Science Park Administration

May 15, 2008

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# Applicant's Information



## Hsinchu Science Park Administration

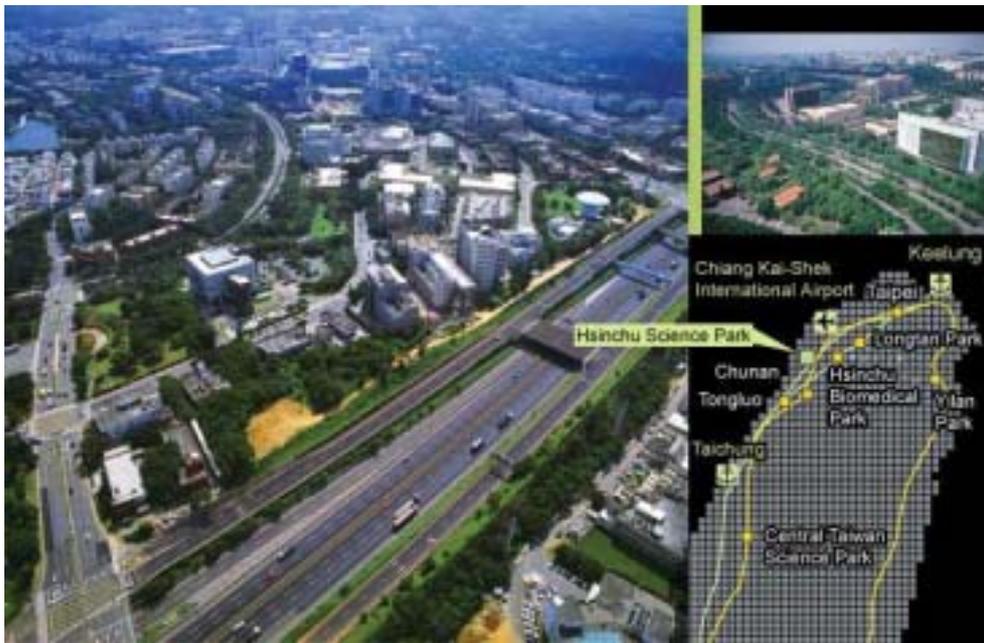
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**Hsinchu Science Park, Known as Taiwan's Silicon Valley and the world's largest Semiconductor cluster, joined ASPA in 2001, and has become its Board Member since 2006. Hsinchu Science Park would like to play a more active role in the international society and to share with all the colleagues in ASPA its experience in science park development and management.**

## Preface

The Hsinchu Science Park (HSP) is committed to developing a high-quality living and working space to attract hi-tech talent and firms globally. The Taiwanese Government believes that establishing the best living and working space in Taiwan can form a foundation for the hi-tech industry, introduce advanced technologies, and finally promote the level of the industries in Taiwan. The HSP cluster encompasses six parks, namely Hsinchu, Jhunan, Tongluo, Longtan, Yilan, and

Hsinchu Biomedical Science Park. The total developed land area exceeds 1,300 hectares. Besides the Hsinchu Biomedical Science Park and the Yilan Park, the remaining four parks already have over 430 hi-tech companies with more than 120,000 employees and sales revenues exceeding US\$ 34 billion.

### Environment

The HSP is located in the Hsinchu area, in northwest Taiwan, which incorporates] both Hsinchu County and Hsinchu City. The Industrial Technology Research Institute (ITRI), National Tsing Hua University (NTHU), and National Chiao Tung University (NCTU) all surround the park. Except for providing abundant human resources, the three outstanding research and academic institutes help greatly in resolving the technical bottlenecks faced by HSP companies.

A cutting-edge synchrotron radiation facility, National Synchrotron Radiation Research Center (SRRC), is located in the Park and began operating in October 1993. Additionally, seven among the nine National Applied Research Laboratories (NARL) research centers are located in the HSP, including the National Nano Device Laboratories (NDL), the National Space Organization (NSPO), the National Center for High-performance Computing (NCHC), the National Chip Implementation Center (CIC), the National Laboratory Animal Center (NLAC), and the Instrument Technology Research Center (ITRC). These research organizations cooperate closely and frequently with Park companies.

The Science Park Administration is responsible for Park development and construction. The Administration plans to stress a combination of community and leisure facilities in the park development. The Administration has a vision of developing the Park a self-sustaining society containing industrial, residential, and recreational areas.

Besides the standard plants built by the government and the factories built by the Park companies, the Park also contains a clinic, a post office, a customhouse, banks, warehouses, and truck depots. In the residential area, you can find various types of houses, as well as a recreational area that accommodates sports and recreation facilities, restaurants, a bookstore, a man-made lake, and a mini shopping center. The Administration thus has created a comfortable working and living environment for Park employees.

### Services

Operating under the auspices of the National Science Council, the Park Administration is also the main authority in the Park, and provides Park companies with one-stop services, including development planning, investment services, labor administration, business services, construction, land development and landscaping, information networks, public welfare, medical care, warehousing services, environmental protection, fire fighting and disaster relief, and safety precautions. Furthermore, the establishment of the Science Park Supervisory Committee has helped efficiently solve cross-ministry problems.

To provide the Park companies with integrated services, the Administration has introduced branch offices of organizations such as the Taipei Customs Bureau of the Ministry of Finance, Taiwan Power, Chunghwa Telecom, Taiwan Post, Taiwan Water Supply, and Taiwan Petroleum. Commercial services such as banks, express services, and legal and accounting firms have also set up offices in the Park.

Except for offering versatile services to the Park companies, the Administration has established a multi-functional exhibition center, including LifeHub and the Park Exploration Museum, that introduces the progress of Park development, displays products from Park companies, and serves as a place for meetings, training, and technical/cultural activities.

### Industries

The HSP contains six industry categories:

#### --Integrated Circuits

The integrated circuits (IC) industry at the Park was initially spun off from the Electronic Research and Service Organization (ERSO) of ITRI. Together with the excellent environment provided by the HSP, the Park IC industry has formed a strong cluster effect of upstream and downstream industries through its vertical integration of the Park enterprises involved in design, wafer materials, foundry, system in package, testing, lead frame, chemicals, and equipment. The combination of the HSP environment, clustering, and vertical integration has enabled Taiwan to establish its unique IC manufacturing procedures.

#### -- Computers and Peripherals

The HSP computers and peripherals industry includes enterprises producing microprocessor system, storage equipment, I/O devices, network facilities, special software, and key mechnronic and passive components. Because of rising local manufacturing costs, only high-end products, R/D, design and marketing facilities

have been retained in the Park.

#### -- Telecommunications

The telecommunications industry in HSP comprises wireless communication equipment, customer premise equipment, switching system, and central transmission equipment. The major products include modem, switch, semiconductor and microwave wireless telecommunication system devices, optical fiber system, and satellite communication system.

#### -- Optoelectronics

The HSP optoelectronics industry includes six sectors: optoelectronic materials, solar cells, flat panel display (FPD), optical information, optical devices and systems, and rechargeable batteries. Many of the Park optoelectronic companies are well known internationally. Rather than simple OEM relationships, most of the Park companies involved in this field are interested in working with leading international corporations as joint R/D partners. These companies believe that they can only expand their business worldwide by building their own key technologies].

#### -- Precision Machinery

The HSP precision machinery industry contains four sub-industries, namely: automation system, precision instruments and equipment, precision components, and precision tools and molding. Most production is based on either technical cooperation with foreign companies or OEM relationships that help enable HSP companies to be technologically independent. Consequently, by working with overseas companies, HSP manufacturers of precision machinery have developed a wide range of technologies in the fields of electronics, machinery, optoelectronics, materials, and physics.

#### -- Biotechnology

Although the biotechnology industry is attracting attention around the world, in the HSP this industry remains relatively small compared to the information and electronics industry. The HSP biotechnology industry is mainly concerned with testing kits and devices, vaccines and pharmaceuticals, medical instruments, and agricultural applications. In the future, the Park biotechnology industry may exploit the opportunity presented by its close proximity with the information/electronic industries in the Park to develop a new and prosperous bioelectronics industry.



## .Experience of Hosting Conference

- 2000 Science Park Industry Global Forum
- 2003 ASPA 7<sup>th</sup> Annual Conference
- 2005 Science Park Global Forum  
Physics Enlightens the World
- 2006 Asia-Pacific Data Storage Conference 2006  
IEEE APDSC Conference
- 2007 ASPA 13<sup>th</sup> Board Meeting and 2<sup>nd</sup> LEADERS Meeting

### **2011 IEEE Intermag 2011**



"Physics Enlightens the World"



ASPA 7th Annual Conference



ASPA 2nd Leaders Meeting



Asia-Pacific Data Storage Conference 2006

# Venue City - Hsinchu

Hsinchu, the oldest city in the northern Taiwan, was first developed in 1723. It was named Hsinchu in 1875, and was upgraded to a provincial city in 1982. It covers an area of about 104 square kilometers, and is an important harbor city for both transportation and trading between northern Taiwan and Mainland China. The people in Hsinchu have developed traditional industries (glass and rice noodles) and prosperous commercial activities.

It has gained considerable prosperity and an international reputation since the year of 1980 when Hsinchu Science Park, known as the Taiwan's Silicon Valley, was established in the area and has attracted many high technology companies to the city. With the rich nature sights and the high tech industrial, young people find good job opportunities and immigrate into the city.

Famous scenic spots in Hsinchu City include the Eastern Gate, Hsinchu Zoo, the Confucius Temple and the Chenghuang Temple. The city also offers a wide range of other diversions -- shopping malls, nightclubs, live-music bars, quality hotels, and exotic restaurants. Visitors are certain to have an unforgettable experience in Hsinchu.

## Nearby Attractions

### Eastern Gate



East Gate was formerly known as Ying Xi Gate and was completed in 1827. Originally there were four Gates encompassing Hsinchu that defined the north, south, east, and west boundaries of the city. The East Gate is the only one that remains.

### Cheng Huang Temple (City God Temple)



Cheng Huang Temple, constructed in 1748, is the largest temple in Taiwan. There is a large abacus hanging from the roof of the Temple, which is said to "calculate" the sins of people. This process is described on the Chinese couplet hanging besides the abacus with the saying "it is

needless to calculate secular results, the City God will do it for you." City God's hold the highest reverence among all Taiwan gods and are equal to the Governor in Hades. If you go to Hsinchu without visiting City God Temple, you will anger the City God. A trip to the Temple must include a taste of some local snacks such as rice noodles, gong wan (pork balls), and pork stuffed dumplings, which are available near the Temple. There is also a local custom that after visiting the temple you should try to complete the "Five Tests" which involves eating five Hsinchu snacks in front of the temple, all at the same time.

### Neiwan



architecture.

Neiwan is known for its unique charm and of preserving the tranquility of the past. This area attracts tourists from all over Taiwan every year during the firefly season. Another attraction to this small town is a wood cinema built around 1905. It is the oldest wooden theater in the country and it has been designated as historical

### PeiPu / NanPu



The fragrance of tea reminds us of the traditional Hakka village, Peipu, which has been famous for its tea since the Japanese colonial era. It is now becoming popular as a tourist destination because of its small town charm. Tourist usually rent bicycles for a ride around the town to view the shimmering green rice fields. The town is also known for its traditional Taiwanese barbecue dishes. It is said that PeiPu is "Utopia in Taiwan".

# Conference Venue

## Ambassador Hotel Hsinchu

The Ambassador Hotel Hsinchu offers discerning guests a revitalizing combination of refined comfort, superior amenities and warm hospitality. The hotel is conveniently located in the heart of the city's shopping and commercial center and within minutes of the Hsinchu Train Station and the Hsinchu Science-Based Industrial Park making the Ambassador Hotel Hsinchu the ideal choice for both business or leisure travel.



## Meetings

[Online Reservation](#)

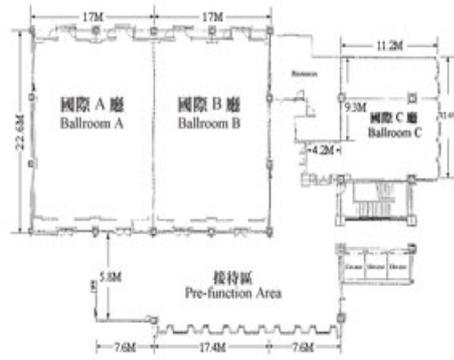


Banquets facilities are located on the 10th and 13th floors and include a spacious, high ceiling banquet room seating up to 1000 persons, and several elegant and fully functional banquet rooms. The facilities are specially designed for wedding's, social gatherings, cocktail receptions and for meeting & conferences. Our banquet team provides the finest high quality banquet service and emphasizes courteous and high quality services to insure all your requirements are met. In addition, we offer an assortment of audiovisual equipment for meetings and seminars and a choice of menu packages with delightful Chinese and Western cuisines and beverages.

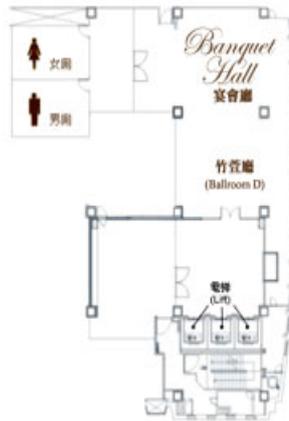
Meetings
Ballroom A
Ballroom B
Grand Ballroom A & B
Ballroom C
Ballroom D
Mezzanine A
Mezzanine B
Mezzanine (A & B)
Mezzanine C

### Schematic For Meetings

10F



11F



## Transportation

The Ambassador Hsinchu is approximately one kilometer from the Hsinchu Train Station. It is located on Chung Hwa Road, in the central part of downtown Hsinchu making the hotel accessible by train, bus, or car.

- Transportation to Taoyuan International Airport  
Shuttle Bus : Ambassador to Airport 10:00, 14:00 (NT\$900)  
                  Airport to Ambassador 12:00, 18:00 (NT\$900)  
Hotel Limousine Service (NT\$1800)
- Driving Directions  
Highway 1 exit at the Hsinchu interchange, and follow Guan Fu Road to Chung Hwa Road to the hotel.
- Ambassador Limousine service  
The hotel offers a round the clock Limousine Service
- Free Shuttle Bus Service to the Hsinchu Science Park
- Free Shuttle Bus Service to the Ambassador Taipei  
Every Saturday and Sunday, the Ambassador Hsinchu offers a free shuttle bus service to the Ambassador Hotel Taipei. Departure Time: 10:00AM Return Time: 9:00PM

# Accommodations

As for the accommodations in Hsinchu, there are wide range of hotels from luxury, budget, and specially selected lodgings with free on-line reservation. Here are some options within walking distance for your choice.

1. Ambassador Hotel Hsinchu ★★★★★ Rate: US\$170 breakfast included

2. Howard Plaza Hotel Hsinchu ★★★★★ Rate: US\$105 breakfast included

3. Sol Hotel ★★★ Rate: US\$85 breakfast included



Ambassador Hotel



# Airport Information

## Taiwan Taoyuan International Airport (TPE)

Taiwan Taoyuan International Airport is located in Taoyuan County approximately 40 kilometers, or about 50 minutes by car or bus from Hsinchu. Passenger volume is over 20 million passengers each year.

There are 2 terminals in the airport. The airlines in each terminals are :

<b>Terminal I:</b>	<b>Terminal II</b>
Air Macau	Air New Zealand
Angkor Airways	Air Nippon
Cathay Pacific Airways	Asiana Airlines
China Airlines	China Airlines
Continental Airlines	Dragon Airlines
Far Eastern Air Transport	EVA Airways
Jet Start Asia Airways	Far Eastern Air Transport
Korean Air	Japan Asia Airways
Malaysia Airlines	KLM Royal Dutch Airlines
Mandarin Airlines	Northwest Airlines
Pacific Airlines	Singapore Airlines
Palau Trans Pacific Airlines	UNI Airways
Philippine Airlines	United Airlines
Qantas	
Thai Airways	
TransAsia Airways	
Vietnam Airlines	

[www.taoyuanairport.gov.tw](http://www.taoyuanairport.gov.tw)

## Other Attractions

From the world's tallest building to the biggest collection of Chinese art, Taiwan invites you into a world of fascinating contrasts—a mix of the modern and traditional with a generous dash of energy and friendly smiles to make this one of your most memorable trips to Asia.

### Capital City – Taipei

Taipei is nearly unrivaled among big cities in the extent to which the pulse of urban excitement fuses with the beauty of nature. Where else in the world can you hop on the subway in the center of town and 30 minutes later find yourself in the embrace of a volcanic national park?

Taipei is just that kind of place.

With so much to see and do in Taipei, you will want to do a bit of advance planning to get the most out of your trip. Looking for a taste of old Cathay? Millennia of cultural treasures and historic temples will take you back to the Orient of old. Something a bit more modern? You can take a trip up the

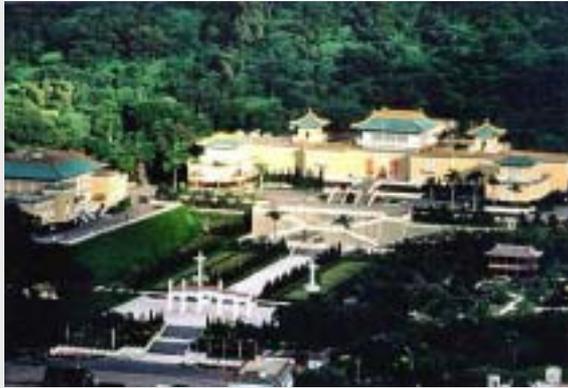


world's fastest elevator to the heights of the world's tallest building.

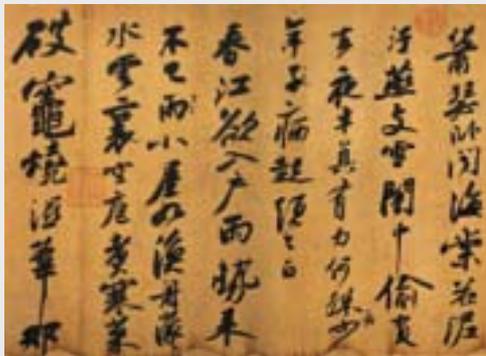
The cultural kaleidoscope of Taiwan's capital city pulses wherever you go. Incense-veiled temples dating back to dynastic times blend seamlessly with a neon street life of a decidedly more modern era. Taipei has dozens of world-class restaurants where gourmets can sample the best regional Chinese cuisine; and for the gourmand, there are plenty night markets serving up scrumptious evening snacks in an environment of chaotic excitement and fun.

The polarities of Taipei are vividly present as well in the joining of the urban and natural. Just a few minutes from the heart of the city you can soak away the cares of the world in mineral-rich hot springs nestled in the lush mountain foothills ringing the Taipei Basin. And throughout the city there are plenty of trails, parks and other oases of tranquility to lift and invigorate your spirits.

National Palace Museum -the world treasure



*the world treasure –  
Chinese Art*



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## **The Asian Renaissance and the Role of ASPA**

Mr. Takao Kubo,  
Honorary Chairperson of ASPA

A growing focus of world attention on Asia

Right now, much of the world is turning its attention to Asia. And it is not just because of the soon-to-begin Beijing Olympics, the first Olympic Games to be held on the Asian continent in 20 years. It is rather because now, as there are just two years to go before the first decade of the 21<sup>st</sup> century is over, one of the most important changes to symbolize the 21<sup>st</sup> century is starting to become more salient: namely, that the 21<sup>st</sup> century, marked primarily by the growing importance of China and India, is the “Asian Century”. The world is watching intently as the focus of the global economy once again—for the first time in 200 years—shifts from Europe and America back to Asia.

At present, Asia is right in the middle of a historic structural transition in the world economy. One scholar (the late Andre Frank, Professor Emeritus of the University of Amsterdam) called this transition a “Re-Orienting”, while another (Kim Young-Ho, former Minister of Commerce, Industry and Energy, Republic of Korea) called it the “Asian Renaissance”. This historic transition has brought about shock and friction within the existing international order, which has been dominated by the advanced nations of the West, and is beginning to serve as an impetus for a restructuring of that world order.

In 1976, China brought a close to the Cultural Revolution, which had caused social and economic chaos and wreaked havoc throughout the country. Since 1979, China has pursued a transition to a socialist market economy, and since then has seen almost a 10% per annum growth in GDP. In 2000 China led the world in the production of many major industrial products, including iron and steel, coal, cement, chemical fertilizers, household electronics, and others. That year its GDP exceeded one trillion dollars for the first time ever, placing it at number seven in the world. By 2001, the year that China joined the World Trade Organization and exactly 20 years after it initiated its economic reforms, China had been reborn. It had literally transformed itself from a poor agricultural nation into the “world’s factory”.

Previous predictions said that China will overtake Japan, currently the world’s second largest economy in terms of GDP (2007=\$4,345,900,000,000), around 2020 but more recent forecasts suggest that that will happen sometime between 2010 and 2012 (4/6, Kyodo News). Likewise, it was predicted that China would not overtake the U.S. until 2050, yet that estimate

has also recently seen a revision downwards to around 2020 (according to a World Bank report indicating that China's economy could become the world's largest between 2016 and 2020). Through this rare and phenomenal rate of economic growth, China has now become one of the world's great engines that power the global economy. The U.S. economy, which is still the world's largest, has been hit by a dollar crisis brought about by the subprime loan problem, and its role as a powerhouse in the world's economy is diminishing, which has led to even higher expectations for Asia, and particularly for China.

Until the 18<sup>th</sup> century, India thrived as an economic superpower on par with China and together with China once led an Asian-centered global economy. Since 1991, India's economic liberalization policies have helped it escape from a 200 year period of stagnation. India was able to ride the waves of the IT revolution occurring around that time. Using its advantage as a leader in the information technology and software industry, it has been successful in modernizing many of its industries, which has transformed India into a strong presence in steel and iron, chemicals, household electronics, cars, motorcycles, and other manufacturing industries, contributing to the sustained high growth rate of eight to nine percent throughout the 90's. The paper now known informally as the "BRICs Report" (Goldman Sachs) lists India as the nation from which we can expect the highest rate of economic growth over the next 50 years. With India's rich source of young labor, a highly qualified intellectual workforce, an overall high level of skill in its semi-official language of English, and its rich natural resources, India is predicted to become not only the most populated country in the world in 20 or 30 years, but also an economic superpower rivaling China and the U.S.

When faced with an economic crisis in 1997, the Republic of Korea proceeded along a tough path of reconstruction under the guidance of the IMF. In addition to restructuring all of its industries, including its giant conglomerates, it pursued the goal of becoming a country of entrepreneurs. Led by people who had been laid off during the restructuring, ventures were started at such a feverish pace that Professor Peter F. Drucker once remarked that the best practitioners of entrepreneurship in the world were not in the U.S., but undoubtedly in Korea (Managing in the Next Society). In 1996 Korea became an OECD member, joining the ranks of other advanced nations. According to one forecast, by 2050 the per capita GDP of Korea will be second in the world, behind only the United States. Newly elected President Lee Myung-Bak ran on the "747" platform, which aims to continue 7% growth for a decade and increase the per capita income to \$40,000, which would put Korea at number seven in the world in terms of GDP.

Taiwan is highly competitive when it comes to IT-related industries, and the economy overall

has been growing steadily in the 4% range. It also has a healthy trade relationship with mainland China, which rose to make up 20.3% (\$88,120,000,000) of all trade as of 2006. China continues to be Taiwan's biggest trading partner, and economic ties continue to move in a positive direction.

After 40 years since the Association was founded, ASEAN (Association of South East Asian Nations) has grown to become an organization that is second only to the EU as a multilateral partnership. Furthermore, in November of 2007, ASEAN established a formal charter setting forth its most underlying principles, which was a new milestone on its way to the formation of the ASEAN Economic Community in 2015. While the Association as a whole still faces elements of instability, including Myanmar's military junta, ASEAN4 countries (Indonesia, Malaysia, Thailand, and the Philippines) have seen steady growth overall, with the regional GDP almost doubling when compared with levels before the currency crisis. Singapore's economy is particularly robust. The per capita GDP of Singapore now ranks among the top nations of the world.

In economic terms, Vietnam and Indonesia belong to a conceptual group of emerging markets referred to as VISTA (Vietnam, Indonesia, South Africa, Turkey, and Argentina), which is a group that is catching up with BRICs. Of these, Vietnam's accelerated growth is particularly remarkable, especially since its WTO entry in January 2007. Vietnam's economy grew by 8.5% in 2007, and growth in 2008 is expected to be between eight and nine percent. This is in addition to other new growth possibilities within ASEAN, including the rapid increase of foreign investment and resulting acceleration of growth in the natural resources markets of Laos and Cambodia.

Next to BRICs, 11 countries, aptly called the "Next 11", have been earmarked for their high investment values. They are Korea, Mexico, Turkey, Indonesia, Iran, Pakistan, Nigeria, the Philippines, Egypt, Bangladesh, and Vietnam. Many Islamic countries are included in this group, and many see the Islamic world, which once had thriving empires such as Iran, gradually gaining a significant presence in the world economy of the 21<sup>st</sup> century (Goldman Sachs).

"Re-Orient": a phenomenon 200 years in the making

The developments I have mentioned here are part of the larger trend of the yearly expanding proportion of the Asian share of the global GDP, which as of 2006 had reached nearly 30% (or 40% in purchasing power parity). Most notably, India and China, which accounted for a mere 4% of the world's GDP (PPP-based) in the early 70's, had advanced to such a degree

that these two countries alone accounted for 14.5% and 6.2%, occupying the 2<sup>nd</sup> and 4<sup>th</sup> positions respectively in global terms in 2006. These figures attest to the facts that the current center of the world economy is shifting to China, India, and the rest of Asia, and that we are now seeing a historic transition occurring in the world's economic order.

That said, recent studies that explore the historical development of the world economy (Andre Frank's *ReOrient*, Angus Madison's *The World Economy: A Millennial Perspective*, etc.) have suggested that from the beginning of recorded history to about 1800, the center of the global economy was consistently in Asia, and that Asia's fall from the world's economic center stage since the 19<sup>th</sup> century was a historical anomaly lasting a mere 200 years, during which time India, China, and much of Southeast Asia were consecutively colonized or relegated to semi-colonial status by European powers led by Britain that, due to the benefits of the industrial revolution, were newly armed with gargantuan powers of production and military force, which in turn hindered the economic development of these countries until the closing years of the 20<sup>th</sup> century.

According to these studies, Asia, the most prominent nations therein being India and China, was responsible for roughly 60 to 70 percent of what we now call the world's GDP until about 1800, and until then, Europe, even if all constituent countries were combined, was historically speaking a marginal region that did not produce as a whole enough in terms of GDP to match either India or China. In the latter half of the 18<sup>th</sup> century, however, beginning with the invention of the steam-powered engine, Britain saw the Industrial Revolution, and with the development of machine-driven industry Britain expanded its productivity by leaps and bounds. With Britain as the vanguard backed by its newfound economic and military might, the nations of Europe proceeded to colonize Asia. These colonized nations were stripped of immeasurable amounts of wealth, their economies were diminished, and Asia's share in the global GDP continued to shrink.

After the Second World War, around 1950, the productivity of China, Japan, and most of Europe had largely declined due to the effects of war. The United States, on the other hand, which had experienced relatively little damage to industry, maintained a powerful productive force. The United States by itself eventually overtook Europe in total productivity, displaying an overwhelming productive capacity amounting to six times that of China and 1.6 times that of Asia as a whole. Accordingly, at this point in time, Western Europe and the United States, whose population totaled 460 million, accounted for 55.6% of the world's GDP. Asia, in contrast, whose population was 1.4 billion, was responsible for a mere 18.5% of the global

GDP. This marked the era in which the position of Asia in world economics was at its lowest and worst in recorded history.

It was from this low point in the 1950's that post-war East Asia began its phenomenal economic growth. Beginning with Japan's rapid development, termed the "miracle of the East", and followed by NIES (South Korea, Taiwan, Hong Kong, and Singapore), ASEAN4 (Indonesia, Malaysia, Thailand, and the Philippines), China, and then Vietnam, Asian countries, roughly in the order presented here, have continued to demonstrate rapid economic growth. As a result, the economy of Japan grew to the point of becoming second in the world in terms of GDP, but after the bursting of the economic bubble in the 90's, Japan entered a period of stagnated growth. After the "miraculous growth" of ASEAN in the 1980's, the region was struck by the financial and currency crisis in 1997, yet in the process of overcoming that crisis, the region succeeded in making structural advances in industry and also further reinforced intra-regional bonds. At the end of the 1990's ASEAN numbered 10 member nations, and it is now a growing presence in both Asia and the world at large. In addition, in the 20 years leading up to 2000 China was successful in expanding its GDP fourfold, and while it now faces increasingly serious issues, such as growing environmental problems and increasing income disparities, it is nonetheless aiming to increase its GDP another fourfold by 2020 to place itself in a competitive position with Japan for the highest GDP in Asia.

#### Increasing economic solidarity in East Asia

Amidst these dynamic developments in the economy of East Asia, the most prominent feature is the accelerating pace of intra-regional trade and the de facto trend towards more economic solidarity. The share of intra-regional trade in East Asia (ASEAN+3: China, Japan and the Republic of Korea) to the total has increased from the 1980 level of 35.7% to 55.8% as of 2005. The same 2005 levels for NAFTA (North American Free Trade Agreement) signatories and the EU (European Union) were 43% and 62.1% respectively, which means that the ratio of intra-regional trade for East Asia has well overtaken that of NAFTA countries and is approaching EU levels. What is more, the ratio of intermediate goods has risen from 42% in 1980 to 60% in 2005, figures which far exceed similar numbers for NAFTA and the EU, indicating that East Asia is developing a coordinated system for the division of industries in a steadier manner than its Western counterpart economic partnerships.

Aided by East Asia's rapidly developing intra-regional trade, since the year 2000 the network of free trade agreements (FTA's) and economic partnership agreements (EPA) has been

expanding. This trend has not only helped substantially consolidate markets but has also made inroads into the unification of systems. With the backing of ASEAN's initiative to create the ASEAN Economic Community by 2015, there is also a growing momentum to facilitate the ASEAN Economic Community within ASEAN+3. As of 2005 there were 138 FTA's in effect, which means that half of the world's trade was covered by FTA's in 2005. If the ASEAN Economic Community is formalized, it will surely become the largest and most powerful cooperative in the world in terms of population, area, economic scale, and other measures.

Coming roughly half a century behind the EU and its predecessors, the serious push for regional unification in East Asia is certainly a welcome development. Nevertheless, because there is more diversity inherent in Asia compared with Europe, e.g. in terms of language, religion, ethnicity, and stages of economic development, many difficulties lie ahead before such an economic community can be realized. Just as was the case with the EU, strong political leadership will be necessary to overcome these difficulties, but at the same time it is likewise important form a sense of community, which can be developed through a multitude of avenues: for example the creation of trans-border cooperative relationships among local communities, universities, citizen's organizations, and companies in the East Asian community and other organizations at the non-governmental (including formal NGO's, et cetera), private and civic levels. The inception and development of ASPA

ASPA is an NGO that grew out of the East Asia Science Park Exchange Conference held in December 1997 here at KSP. At this 1<sup>st</sup> ASPA Conference there were representatives from only eight science parks, from Japan, China, Korea, and Taiwan, with only about 100 participants. Now, however, just 11 years later, ASPA has grown into a unique network of science parks in East Asia that encompasses 53 science parks and incubators from 13 countries and 27 regions.

The annual conferences convened via a rotation system among member countries see a level of participation anywhere from 200 to 800 people, including managers from the science parks and incubators of member countries, venture business entrepreneurs, and representatives from universities, research institutes, and local and national governments. The organization has tried to solidify ties among science parks and incubators by sharing experiences, expanding business relationships among entrepreneurs, advancing debates about the ideals for cooperation among industry, universities, and administrative institutions, and working to put heads to gather to solve shared problems; and these efforts have made this organization a very meaningful one for the development of science parks and incubators in Asia. I would once again like to express my deep gratitude to Chairperson Lee Jong-Hyun, ASPA Board

members, and other leaders of ASPA who have done so much to contribute to its development.

When I think back upon it now, I am reminded that ASPA began during the process of overcoming the 1997 Asian Financial Crisis, at a time when cooperative relationships and ties were growing stronger. It was a time to rethink policies designed to attract investment from more advanced nations, which until then had been the chief means of economic development in East Asia. Instead of merely relying on such means, the importance of creating and developing new companies with internal resources came to be recognized.

What is more, this was also an era of transition throughout the globe. This was a transition to an era of information and knowledge-based industries, and the effects of this transition were beginning to be felt in Asia. This transition involved industrial structures evolving in the direction of knowledge-based economies, as exemplified by increasing economic globalization, the growing importance of information technologies in industry, and the rise in prominence of high-tech industries. How to respond to an economy increasingly rooted in information, technology and knowledge was becoming an urgent issue for the countries of East Asia.

As economies based on knowledge developed and took hold, it became more and more important to both explore intellectual innovation and to apply the fruits of that exploration to industry. The distance between industry and science and the distance between activities at universities and at industrial organizations became much shorter. People now refer to this age as one in which “science and technology creates industry”, or “universities give rise to industry.” Countries in the West began to create and expand what we would now call science parks and incubators in the 1970’s in order to meet the demands of this new industrial society. At present, there are more than 1,500 science parks and 500 incubators active in the U.S., and at least 600 science parks in Europe.

Although it occurred 20 years behind the same movement in the West, the rush to build science parks and incubators began and spread in Asia, led primarily in the 1980’s and 90’s by Japan, China, Korea and Taiwan. In Japan there are currently 198 science parks and 203 incubators. China currently has 53 New and High-tech Industrial Development Zones at the state level and 62 at the local level, in addition to 58 university science parks and over 500 incubators. The Republic of Korea also has 16 techno-parks and over 300 incubators, while Taiwan has six science parks and 60 incubators. Needless to say, there are also science and techno parks active in Thailand, Malaysia, Vietnam, Singapore, Hong Kong, Iran, Kazakhstan,

and elsewhere.

For a future Asian community

As I have already stated, Asia is gradually taking a quintessential position in global economics both as the “world’s factory” and, by virtue of its enormous population, as the “world’s market”. Meanwhile, the West still occupies front and center in terms of science, technology, research and development. One prominent example can be seen in the number of Nobel Laureates, the majority of which have been Europeans and Americans and Asians are very few (from 1946 to 2006 there were 364 Nobel Laureates from Western countries, but only 19 from Asia)

In a comparison of research expenditures per researcher according to country, the United States far outspends the rest of the world at 34 trillion yen, which is double the 3<sup>rd</sup>-ranked Japan (17.8 trillion yen), nine times the 7<sup>th</sup>-placed China (3.3 trillion yen), and 13 times that of Korea (2.6 trillion yen) in 8<sup>th</sup> place (as of 2004). One can also deduce a trend from the number of international patent applications issued. The U.S. was first with 50,089 applications, which was about 80% more than Japan at number two (with 26,906 applications), 8.4 times more than Korea (with 5,935 applications) at number five, and 13 times more than China (with 3,916 applications) at 8<sup>th</sup> in the world for patent applications.

However, significant improvements have been seen in this situation in more recent years. Research grants in China, for example, helped by the country’s astounding rate of growth since the 1990’s, has seen an average of over 20% in growth per year in research expenditures, far outweighing the five to six percent growth rate of the United States and the EU. As a result, China spent 136 billion dollars on R&D in 2006, which exceeded Japan’s 130 billion and came in second to the U.S.’s 330 billion dollars (the EU as a whole spend 230 billion). In terms of the number of researchers as well, China was 3<sup>rd</sup> (with 926,000 researchers; Japan at number four had 791,000) behind the U.S. with 1,335,000 people and the EU with 1,209,000 people, which is evidence of the efforts on the part of countries in Asia —specifically that of China in this particular example— to focus resources on science, technology, research and development.

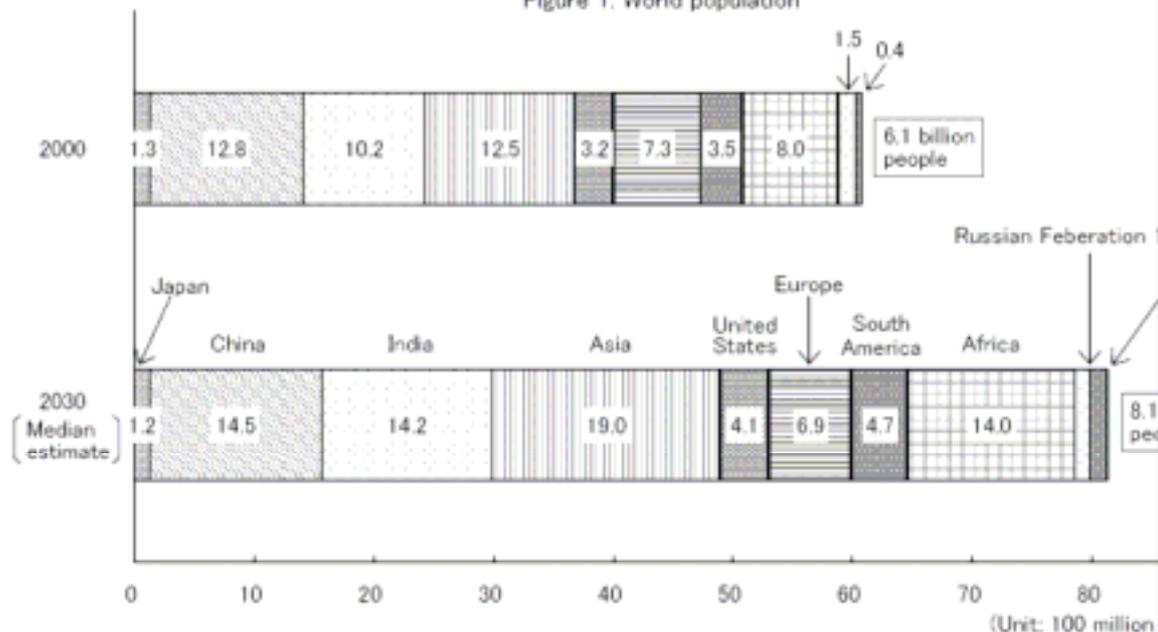
This is one of the reasons that, for example, China’s talented young minds have attracted major global corporations —most notably in IT industries (IBM, Microsoft, Motorola, Nokia, Matsushita, Hitachi, Toshiba, Sony, etc.) and persuaded them to set up R&D centers in Beijing’s Zhongguancun parks, a trend that has made Zhongguancun more than just China’s

silicon valley, but rather the “world’s R&D center”.

The examples I have mentioned are ones in which Asian countries have tried to rapidly catch up to the standards of the West in the fields of science and technology and R&D. While we of course hope that the science and techno-parks belonging to ASPA continue to make great contributions bringing the fruits of those efforts into these fields, we also hope that they will play special roles in the real entrepreneurial and industrial world. As we enter this era of knowledge-based economies, I believe that the role of science parks and incubators will only increase in significance, because they are uniquely capable of transforming creative pursuits in science and technology into commercial realities. I am also optimistic about the prospects of the role of Asian platforms for the creation of new businesses and new industries.

At present, in light of the fact that the ASEAN+3 “East Asian Economic Community” currently on the table in East Asia, and furthermore a future “Asian Community” subsuming India and Central Asia, would encompass the characteristics ideal to an era of knowledge-based economies, it naturally seems necessary to equip such communities with the ability to function as coordinated technological and R&D collectives. The EU has formed its own “research community”, which is said to contribute to the improvement of research and development within the EU. In its 11-year history, ASPA has worked to expand and strengthen the networks of science parks in Asia, and as such has done much to foster the creation of a community awareness among the people involved in science parks in East Asia. It is my hope that in the future ASPA does its part in the creation of an “Asian Community” capable of functioning as a science, technology, research and development cooperative, and furthermore contributes in a truly meaningful way to its development as an innovative community that will create new businesses and industries suited to the 21<sup>st</sup> century.

Figure 1: World population



(References)

1. From the United Nations "World Population Prospects: The 2002 Revision".
2. "Asia" here does not include Japan, China, or India.

Table 1: Nominal GDP ranking

(Unit: Billion US dollars)

1	United States	13245
2	Japan	4367
3	Germany	2897
4	China	2630
5	United Kingdom	2374
6	France	2232
7	Italy	1853
8	Canada	1269
9	Spain	1226
10	Brazil	1068
11	Russian Federation	979
12	Korea	888
13	India	886
14	Mexico	840
15	Australia	755
16	The Netherlands	683
17	Belgium	394
18	Turkey	392
19	Sweden	385
20	Switzerland	377

Source: IMF World Economic Outlook April 2007

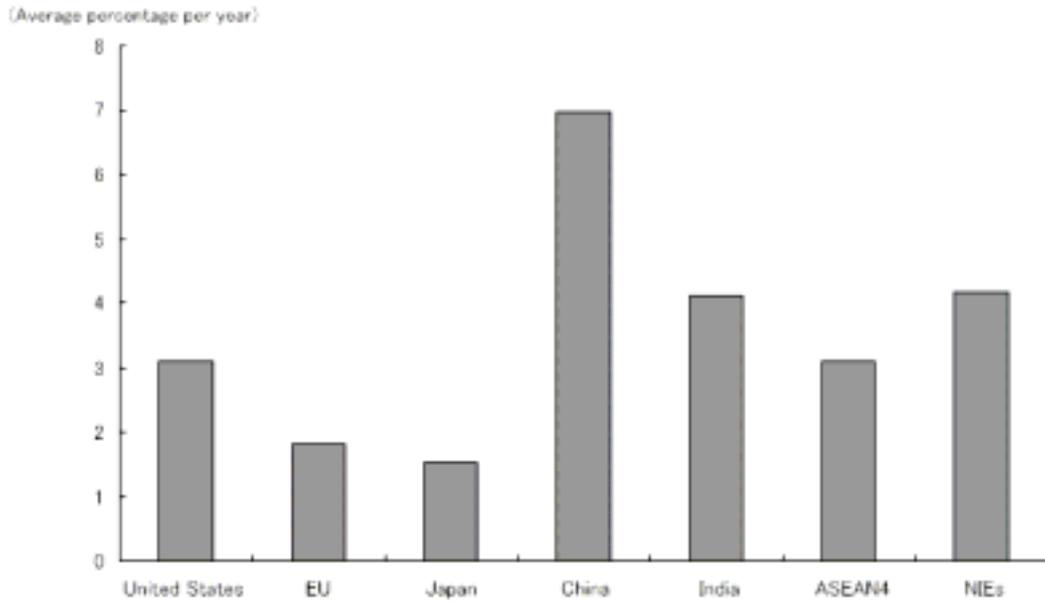
Table 2: Per capita nominal GDP ranking

(Unit: US dollars)

1	Luxemburg	87955
2	Norway	72305
3	Qatar	62914
4	Iceland	54858
5	Ireland	52440
6	Switzerland	51770
7	Denmark	50965
8	United States	44190
9	Sweden	42382
10	The Netherlands	40571
11	Finland	40196
12	United Kingdom	39213
13	Austria	38960
14	Canada	38951
15	Belgium	37213
16	Australia	36553
17	France	35404
18	Germany	35203
19	Japan	34188
20	United Arab Emirates	33396

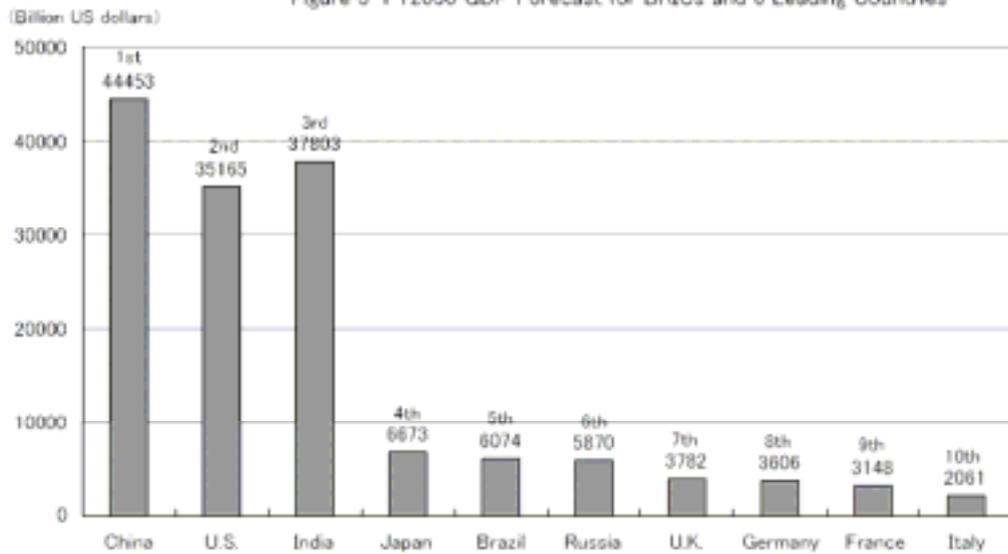
Source: IMF World Economic Outlook April 2007

Figure 2: Average growth rate to 2030



From the Japanese Cabinet Office for Economic and Financial Analysis

Figure 3: FY2050 GDP Forecast for BRICs and 6 Leading Countries



From Goldman Sachs

Table 3: GDP (PPP) ranking by country  
(2006) (Unit: Million US dollars)

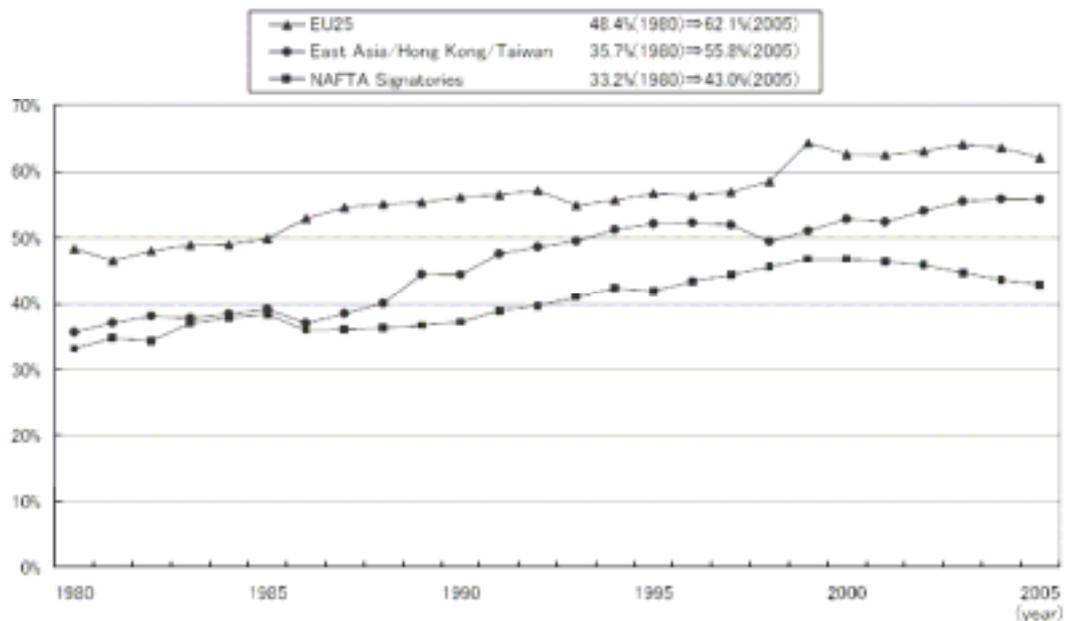
1	United States	13,201,819
2	China	10,048,026
3	India	4,247,361
4	Japan	4,131,195
5	Germany	2,616,044
6	United Kingdom	2,111,581
7	France	2,009,171
8	Italy	1,795,437
9	Brazil	1,708,434
10	Russian Federation	1,704,756
11	Spain	1,243,440
12	Mexico	1,201,838
13	Korea	1,152,356
14	Canada	1,140,445
15	Indonesia	921,241

(2020) (Unit: Million US dollars)

1	China	17,300,000
2	United States	16,800,000
3	EU	14,500,000
4	India	7,100,000
5	Japan	4,200,000
6	ASEAN	3,900,000

Source: Japanese Center for Economic Research

Figure 4: Intra-regional trade ratios for East Asia/Hong Kong/Taiwan, EU25 and NAFTA Signatories



Graphed from the IMF's Direction on Trade (DOT) statistics.  
(From the White Paper on International Trade issued by the Japanese Ministry of Economy, Trade and Industry.)

Table 4: Volume of world merchandise trade by country (FY2005)

< export >

Rank	Exporting Country	Value (Billion USD)	Share (%)
	World	104,310	100.0
1	Germany	9,699	9.3
2	United States	9,044	8.7
3	China	7,620	7.3
4	Japan	5,949	5.7
5	France	4,602	4.4
6	The Netherlands	4,024	3.9
7	United Kingdom	3,828	3.7
8	Italy	3,672	3.5
9	Canada	3,594	3.4
10	Belgium	3,343	3.2

< import >

Rank	Importing Country	Value (Billion USD)	Share (%)
	World	107,830	100.0
1	United States	17,324	16.1
2	Germany	7,738	7.2
3	China	6,600	6.1
4	Japan	5,149	4.8
5	United Kingdom	5,102	4.7
6	France	4,979	4.6
7	Italy	3,798	3.5
8	The Netherlands	3,591	3.3
9	Canada	3,197	3.0
10	Belgium	3,187	3.0

Source: WTO "International Trade Statistics 2006". From "Whitepaper on international trade 2007".

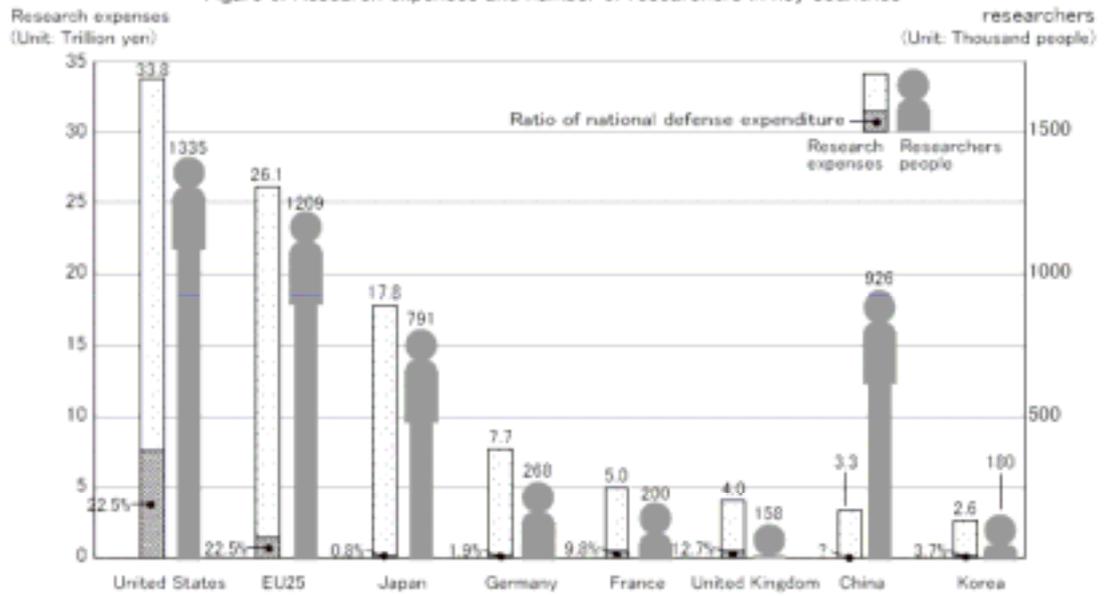
Table 5: The share of East Asian trade in the world

(Unit: percent)

Category	Year	ASEAN	NIES	China	Japan	East Asia	United States	EU
export	1990	4.0	6.3	1.8	8.4	20.5	11.5	40.4
	1995	5.9	8.0	2.9	8.7	25.5	11.5	40.5
	2000	6.5	8.3	4.0	7.6	26.4	12.5	37.0
	2001	6.4	7.7	4.5	6.7	25.3	12.2	38.7
	2002	6.0	7.8	5.1	6.6	25.5	11.0	39.1
	2003	5.7	7.7	6.0	6.4	25.8	9.9	39.8
	2004	6.2	7.8	6.7	6.4	27.1	9.2	41.6
import	1990	4.5	6.0	1.5	6.7	18.7	14.7	40.9
	1995	6.4	8.6	2.5	6.5	24.0	14.9	38.2
	2000	5.8	7.4	3.4	5.5	22.1	18.8	36.4
	2001	5.5	6.5	3.7	5.3	21.0	18.3	37.3
	2002	5.1	7.1	4.2	4.8	21.2	17.8	37.7
	2003	4.9	7.1	5.1	4.7	21.8	16.7	38.6
	2004	5.4	7.2	5.5	4.6	22.7	16.0	41.0

Based on IMF documents

Figure 5: Research expenses and number of researchers in key countries



2007 White Paper on Education, Culture, Sports, Science and Technology.  
 from the Ministry of Education, Culture, Sports, Science and Technology.