



Ubiquitous Network Society (UNS)

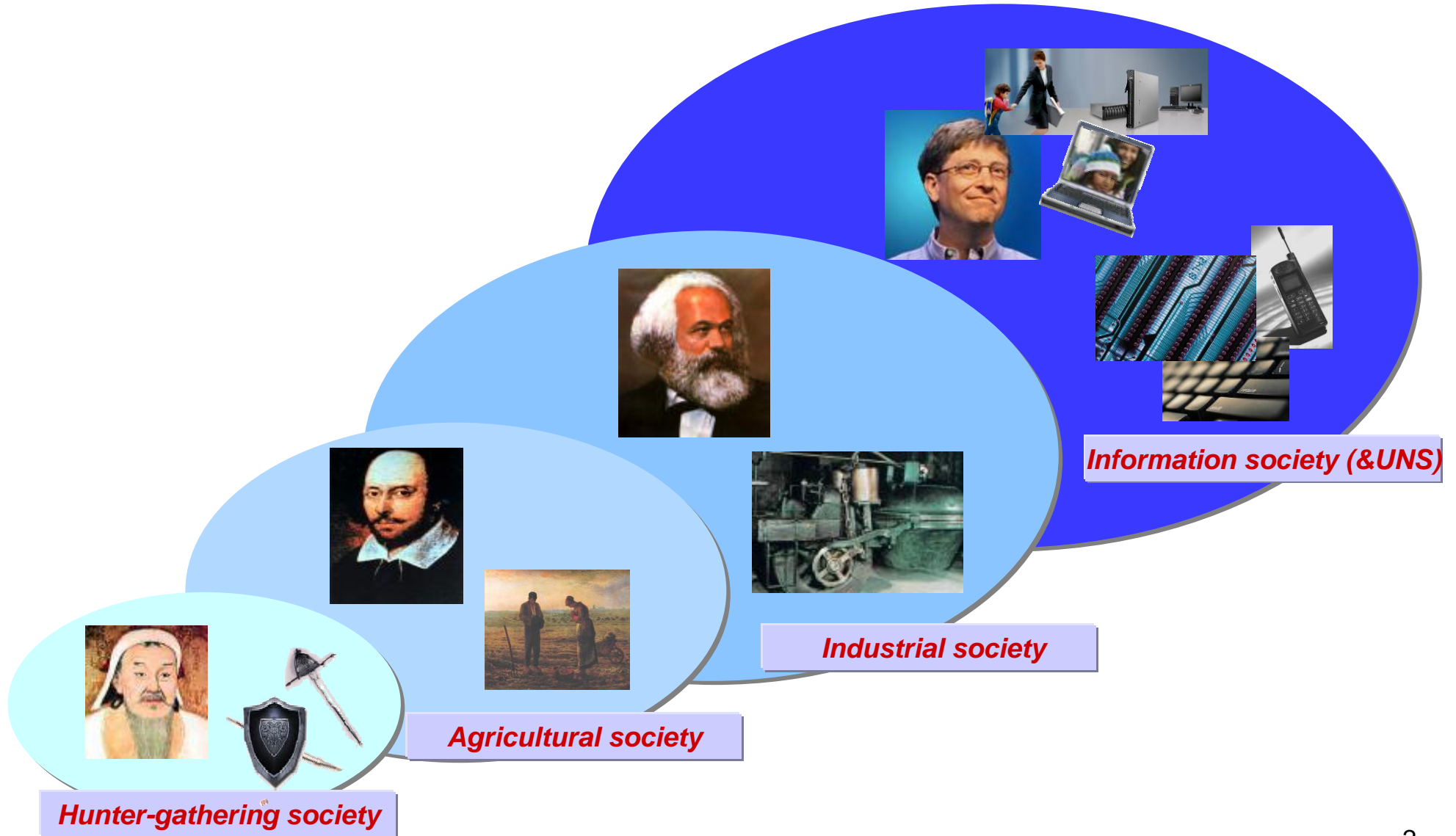
for economic competitiveness and
social development of Taiwan

Institute for Information Industry

April 1, 2006



Human societies



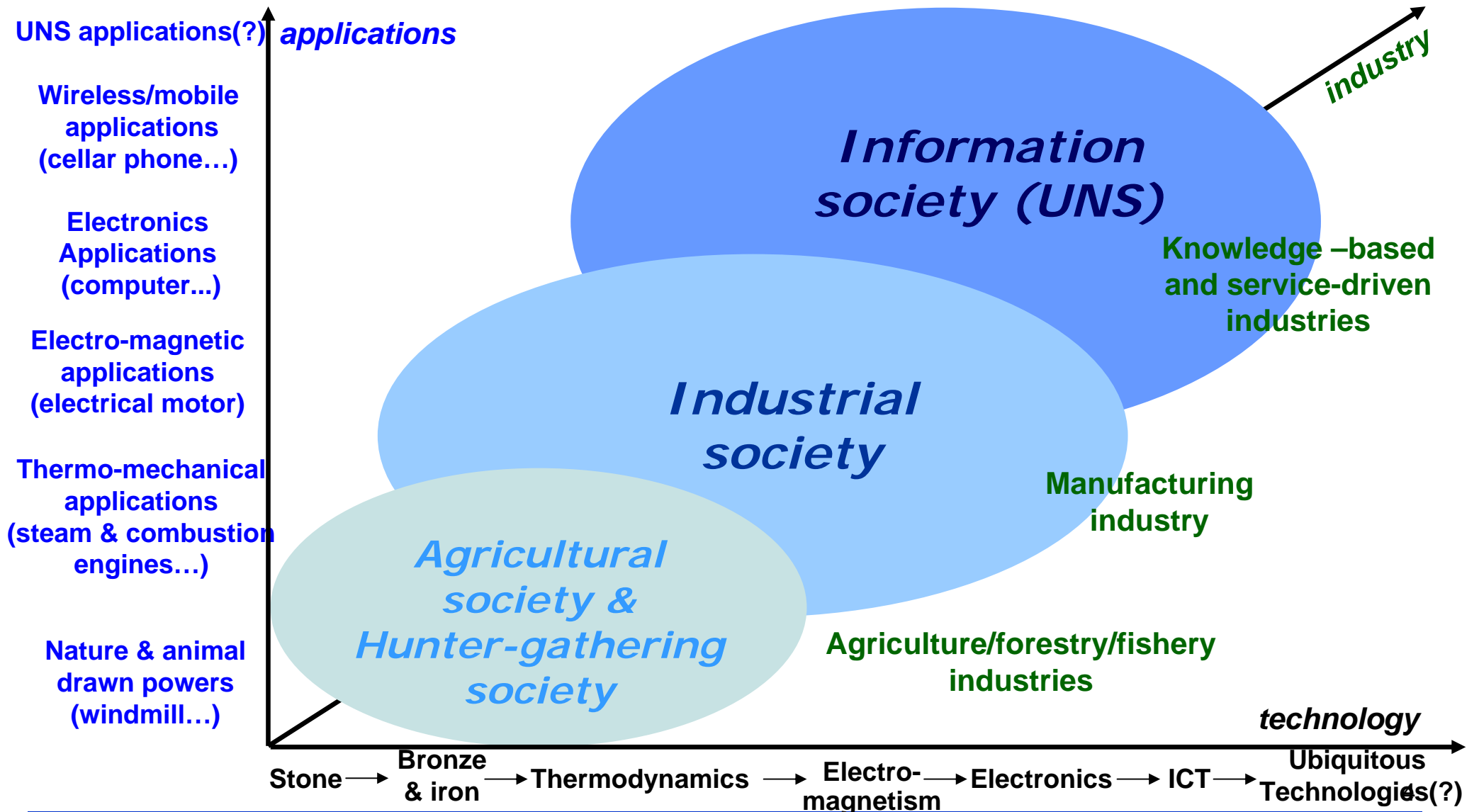


Outline

- ☞ ***Introduction***
 - *the e-world around us*
- ❖ ***Why Taiwan matters?***
 - *the e-state we are in*
- ❖ ***The way forward***
 - *and the challenges lie ahead*
- ❖ ***Building the ubiquitous network society***
 - *with all-embracing e-services*
- ❖ ***Closing remarks***
 - *a vision and mission statement*



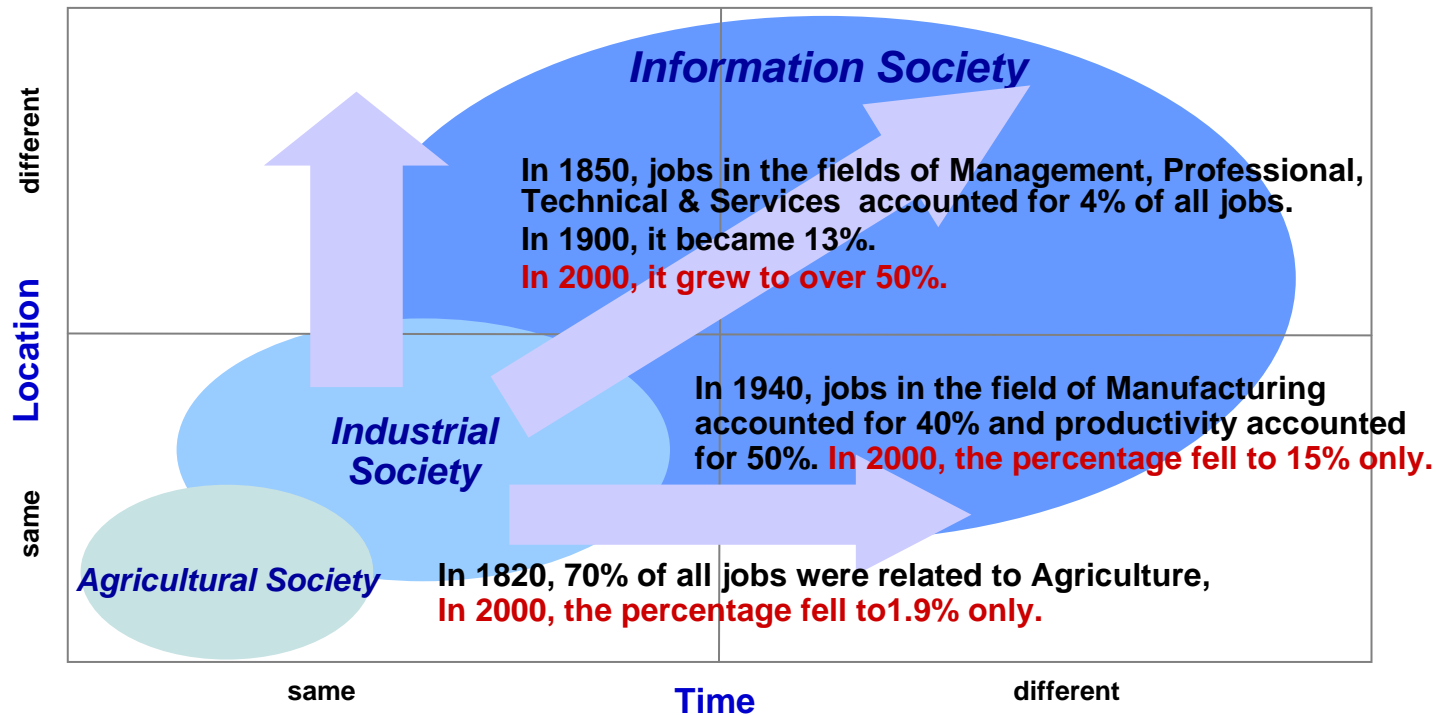
Industrial & social paradigm shifts





From “nuts & bolts” to “bits & bytes”

- ❖ “The hand-mill gives you society with the feudal lord; the steam-mill, society with the industrial capitalist.”
- ❖ In the accelerated globalization process of the last decades, “Information” and “Knowledge” have become the decisive factors in determining a nation’s competitiveness.





What's happening around us?



technological innovation



Industrial paradigm shift

&




Social paradigm shift



Industrial Revolution

&



Enlightenment & rationalism

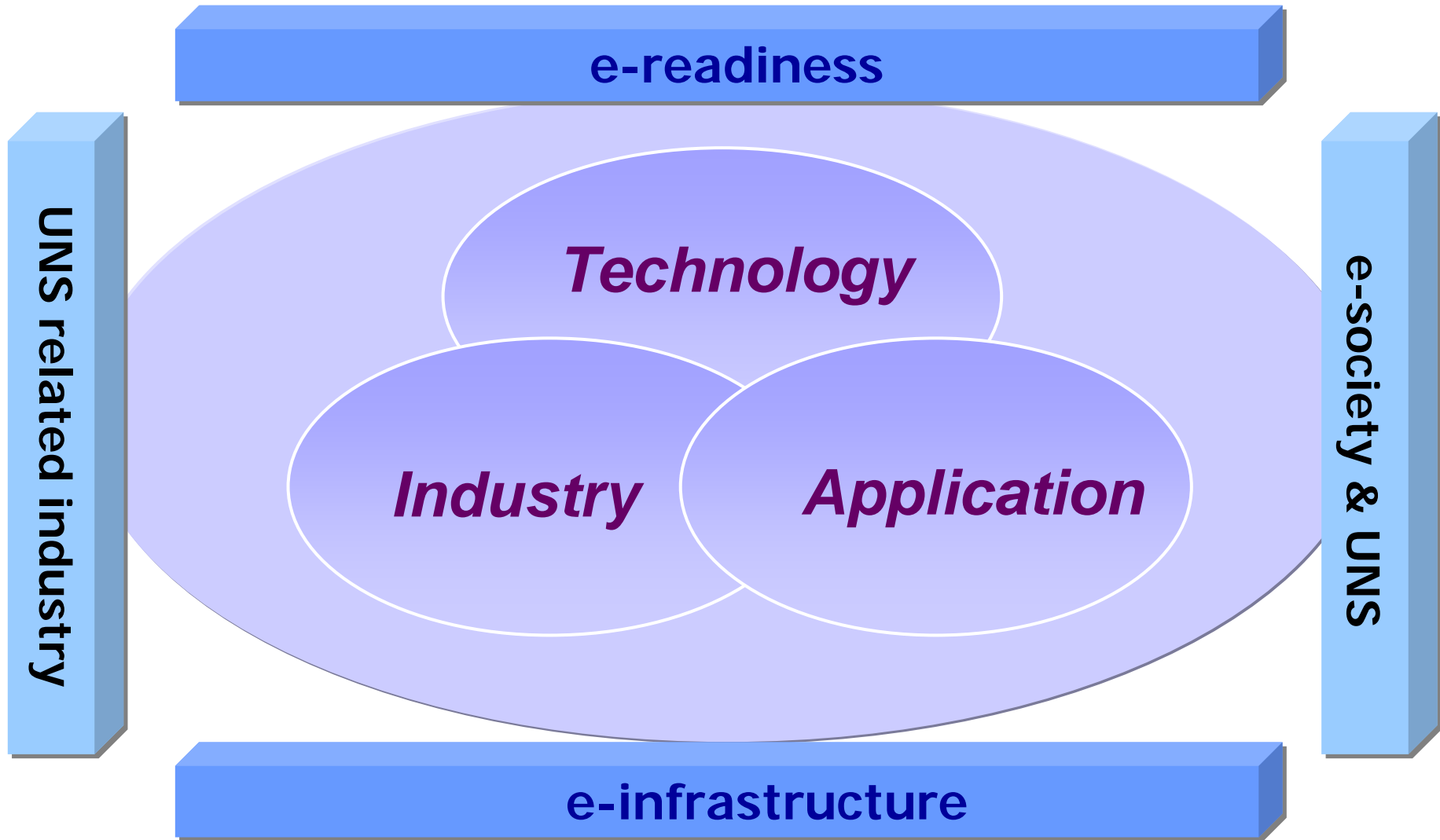
&



Renaissance in a more profound way

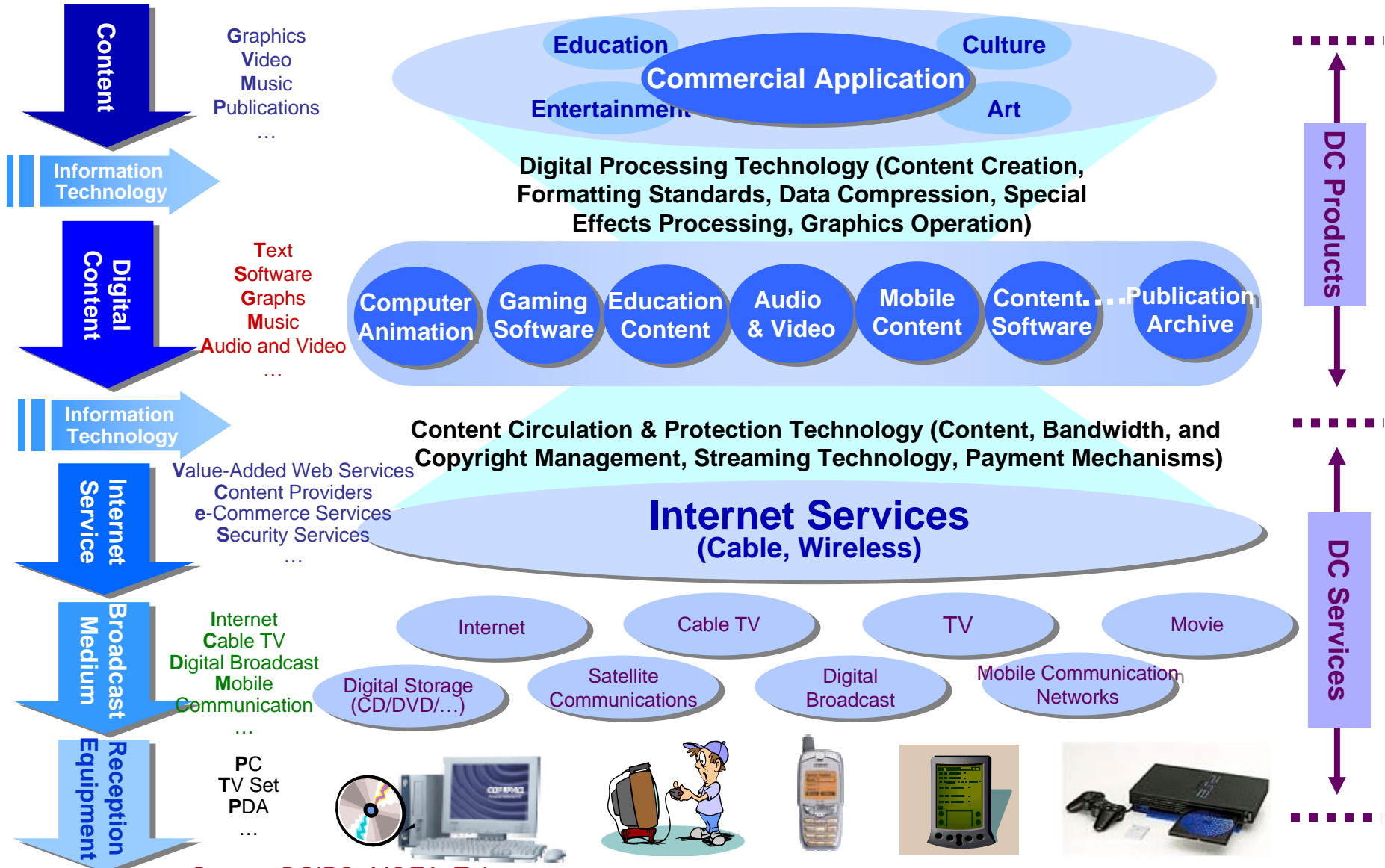


UNS: application, industry & technology





The brave new world of our own making e-scenario (application): convergence

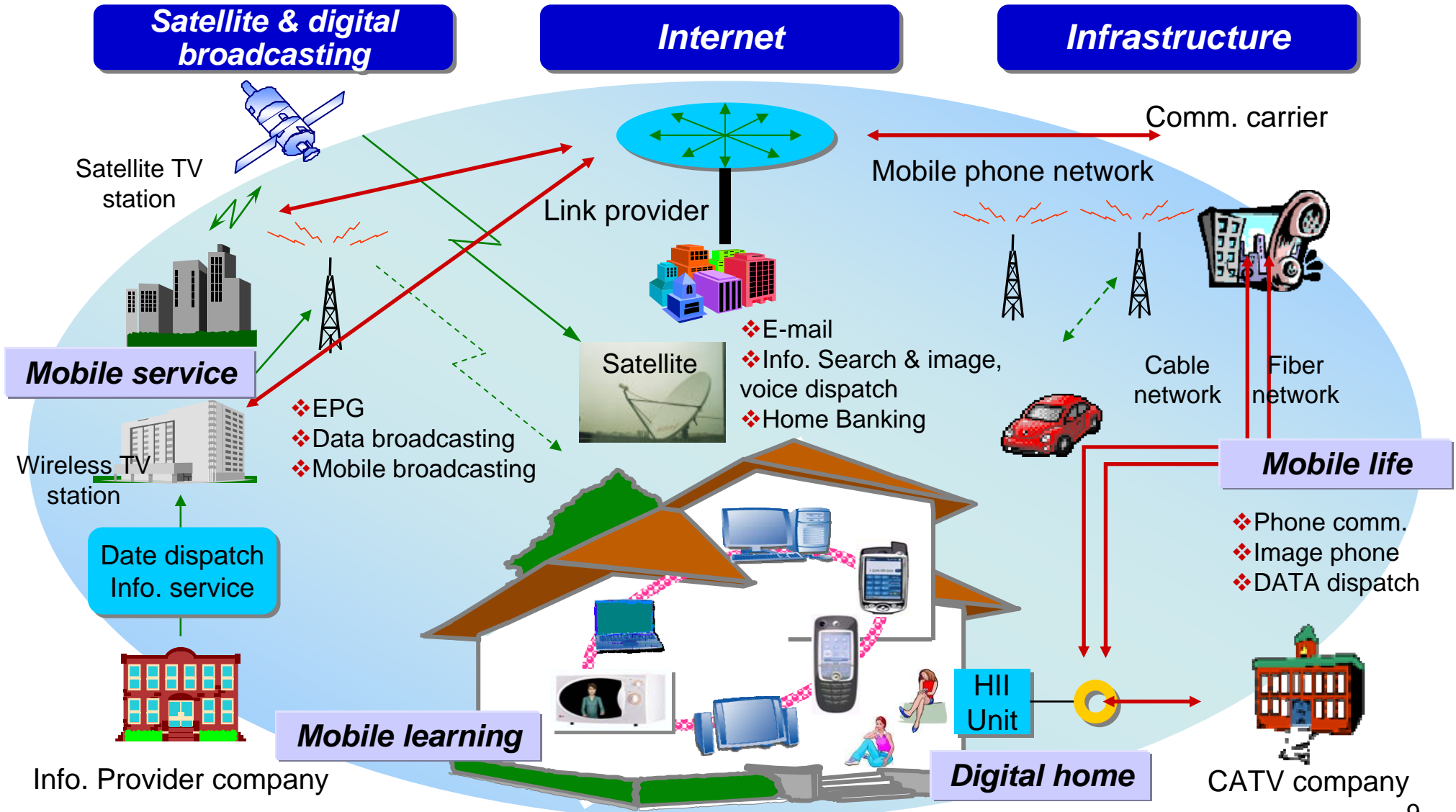


Source: DCIPO, MOEA, Taiwan



The brave new world of our own making

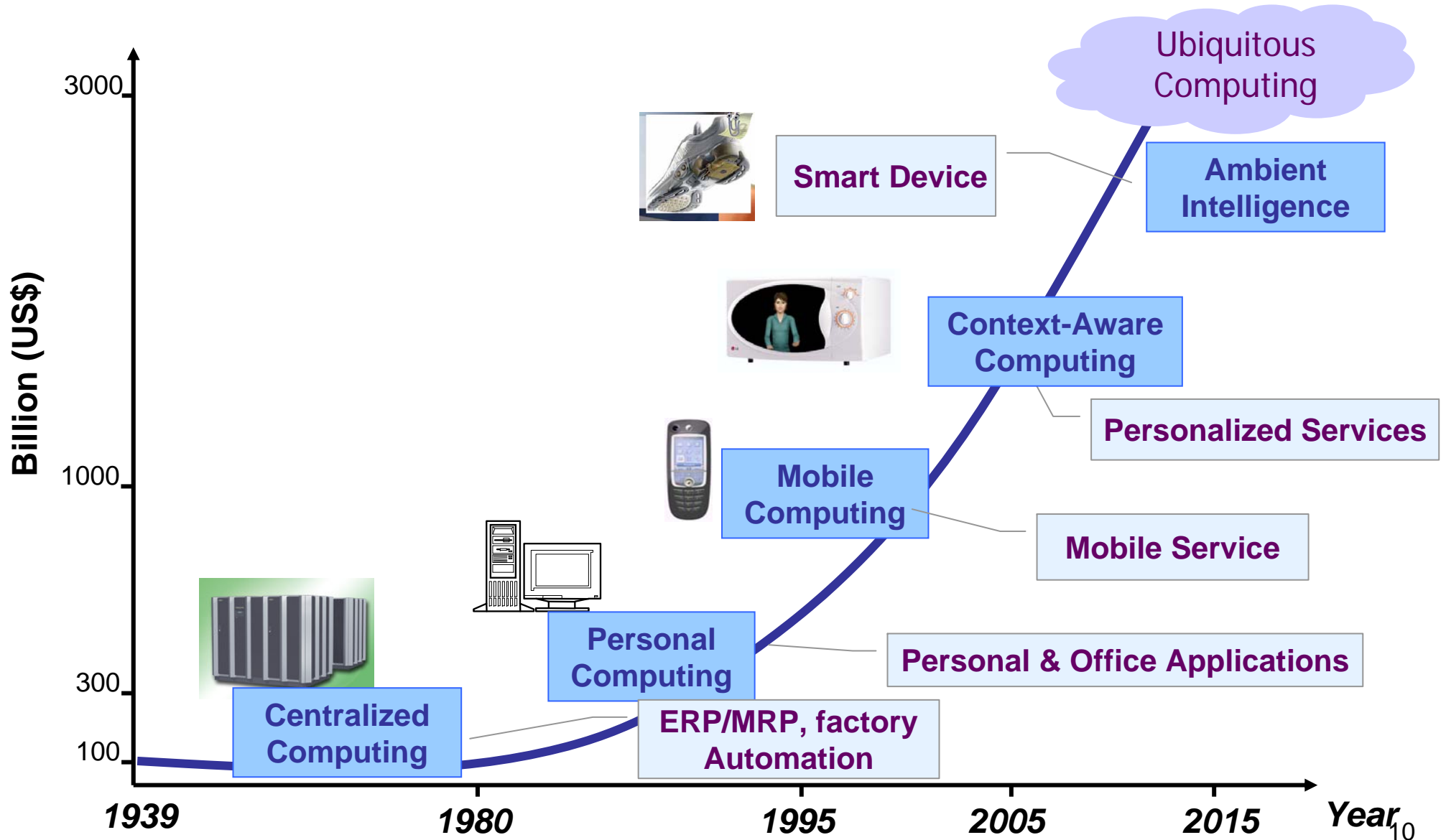
e-scenario (application): ubiquity





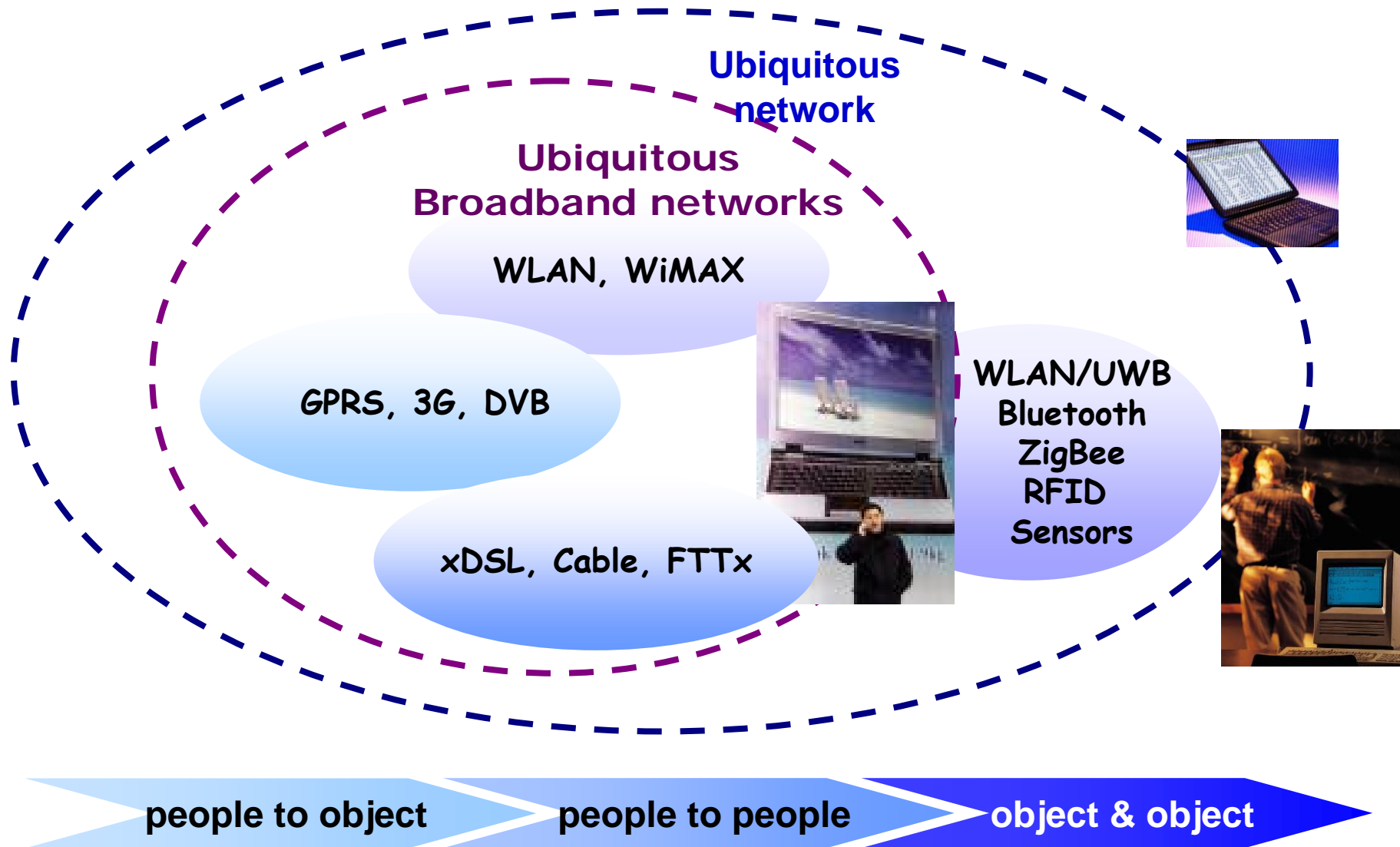
The brave new world of our own making

e-scenario (technology): ambient intelligence





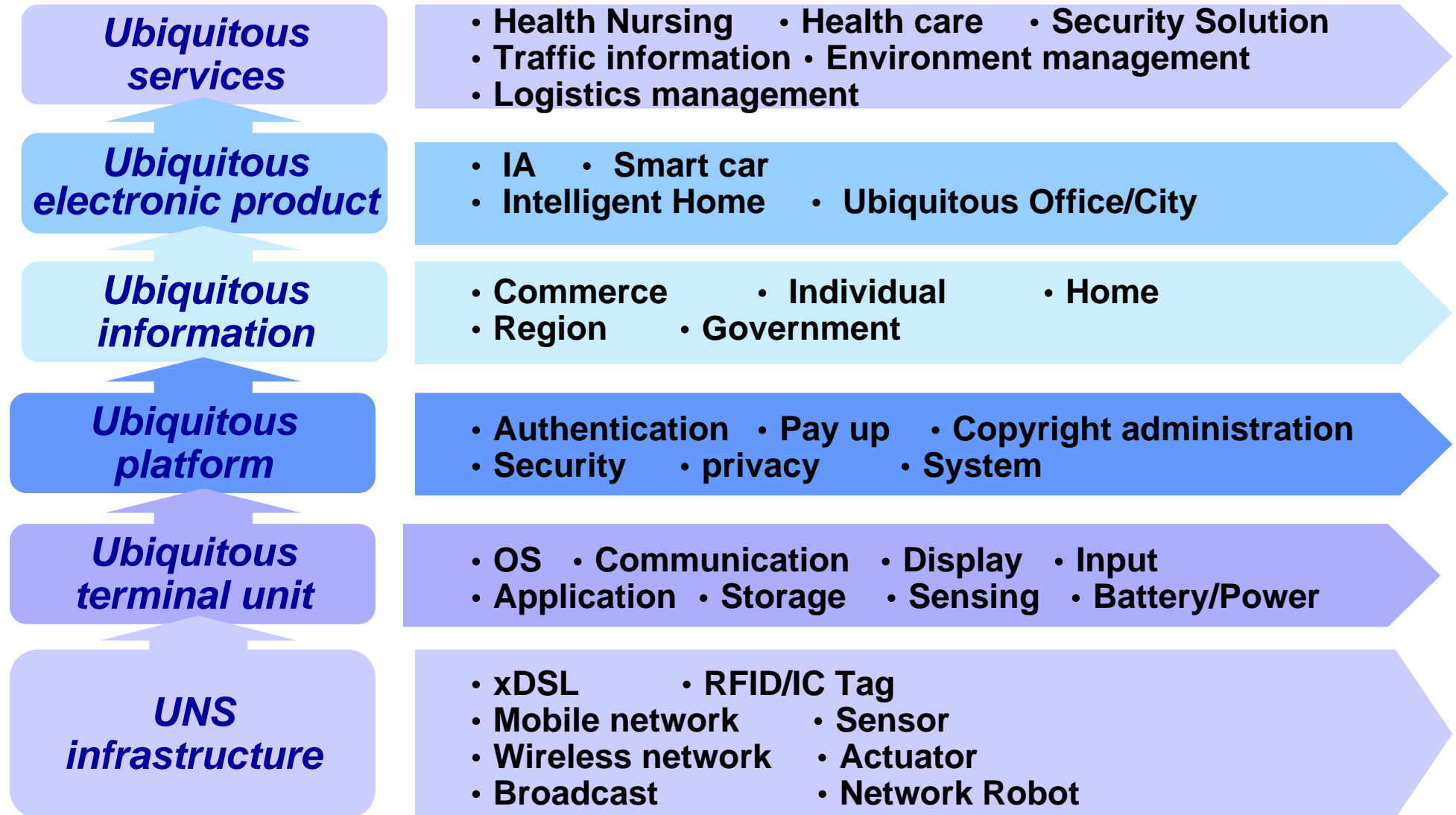
The brave new world of our own making e-scenario (technology): ubiquitous network





The brave new world of our own making

e-scenario (industry): UNS-driven industrial sectors



Source: 村上輝康、ユビキタスネットワーク環境を日本にどう実現するか、知的資産創造、2003年5月



WSIS: Building the Information Society

- **Vision : *build a people-centred, inclusive and development-oriented Information Society, where everyone can create, access, utilize and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life, premised on the UN Declaration of Human Rights.***
- **WSIS Geneva (2003) Declaration: reaffirm the *Digital Human Rights, Bridging Digital Divide, building an inclusive Information Society.***
- ***“Technology has produced the information age. Now it is to all of us to build an information society...”* - Kofi Annan (SG/UN)**



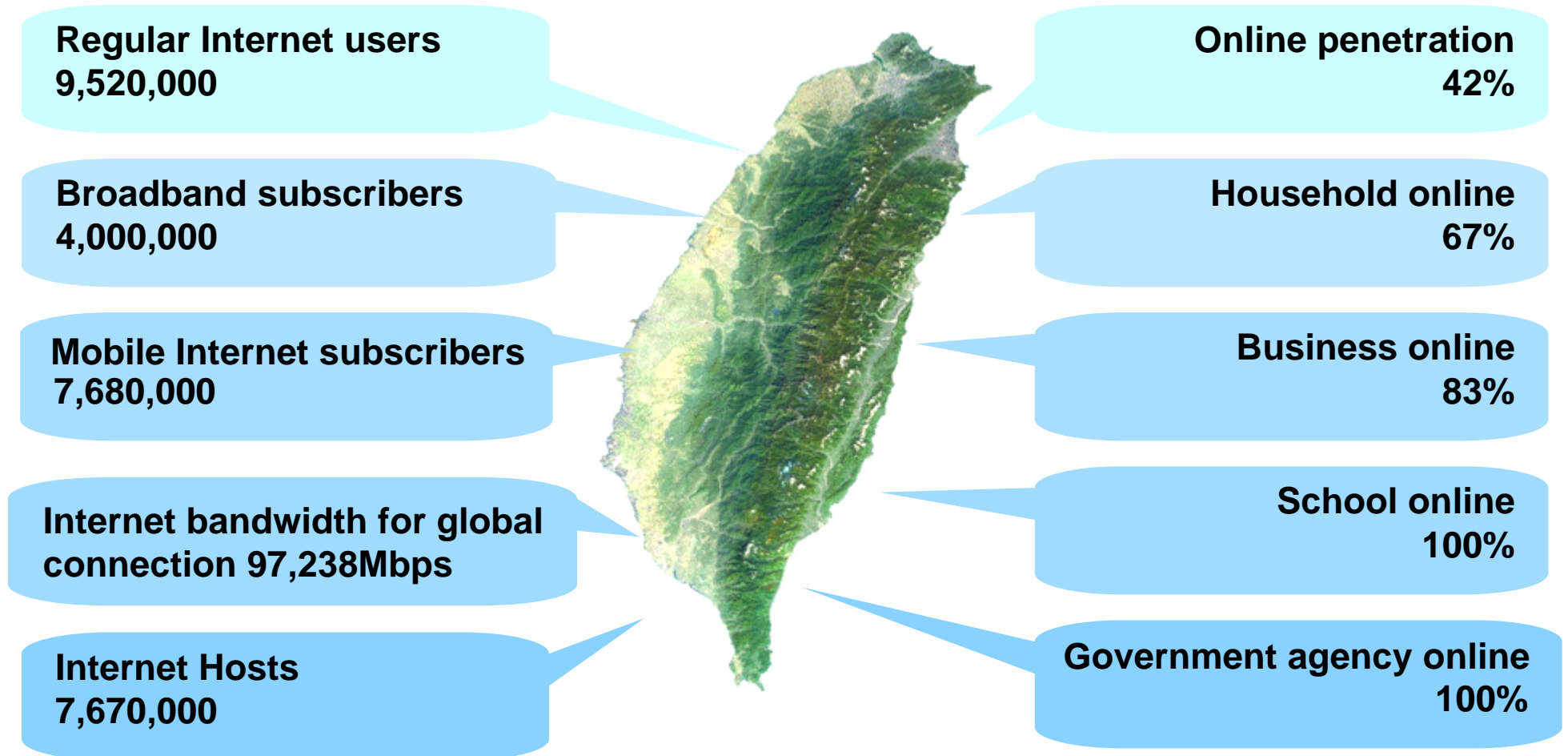


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Taiwan is (getting) online



Source: ACI-FIND, III, 2006/3



Taiwan's global competitiveness

Country	2005	2004	Changes	Country	2005	2004	Changes
 Finland	1	1	0	 Netherlands	11	12	1
 United States	2	2	0	 Japan	12	9	-3
 Sweden	3	3	0	 United Kingdom	13	11	-2
 Denmark	4	5	1	 Canada	14	15	1
 Taiwan	5	4	-1	 Germany	15	13	-2
 Singapore	6	7	1	 New Zealand	16	18	2
 Iceland	7	10	3	 Korea, Rep.	17	29	12
 Switzerland	8	8	0	 United Arab Emirates	18	16	-2
 Norway	9	6	-3	 Qatar	19	n/a	n/a
 Australia	10	14	4	 Estonia	20	20	0

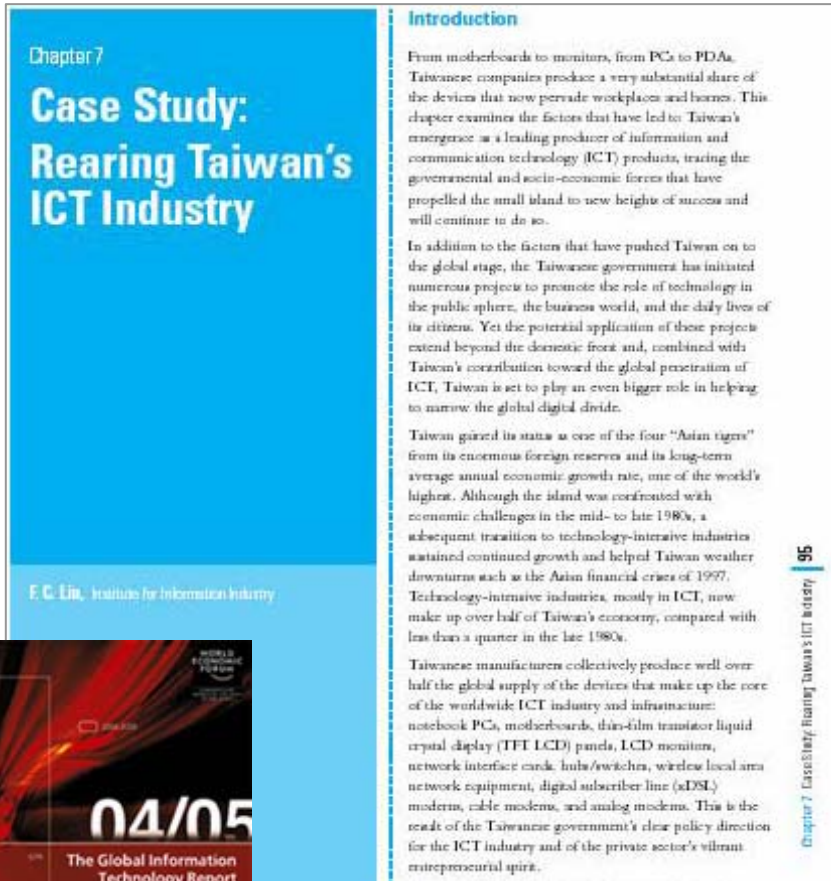
- ☞ According to the recent Global Competitiveness Report 2005-2006, released by the WEF, **Finland** remains the most competitive economy in the world and tops the rankings for the third consecutive year. The **US** is in second position, followed by **Sweden, Denmark, Taiwan** and **Singapore**;
- ☞ Other Asian countries rank of position: **Japan (12), Korea (17), Hong Kong (28), China (49)**.

Source: WEF/The Global Competitiveness Report 2005-2006



WEF Global Information Technology Reports

WEF Global Information Technology Report 2004-2005

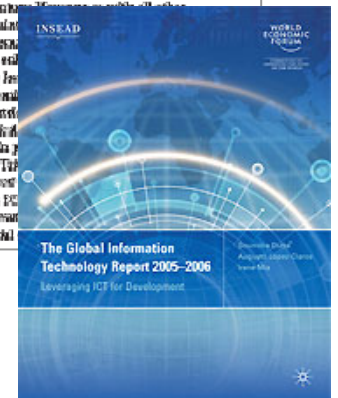


- Executive Summary—Taiwan and Emergence of ICT Giant
- Chapter 7--Case Study: Rearing Taiwan's ICT Industry (by F.C.Lin/III)

WEF Global Information Technology Report 2005-2006



- Chapter 3.3--The Impact of ICT on Economic Competitiveness and Social Development of Taiwan





Taiwan's e-readiness- a summary

E-Government Ranking: top of the world

E-Government Performance / Brown University – Taiwan ranked 1st in 2002, 2004, 2005.

Global Information Technology Report 2004-2005 / WEF -- Taiwan ranked 4th in Government Usage and, 9th in Government Readiness

Digital Opportunity Index (DOI) / ITU-- Taiwan ranked 6th in the DOI.





















****Revised ranking in November 2005***

Global Competitiveness Report 2005-2006 / WEF, Taiwan ranked 1st in Asia, 5th worldwide amongst 117 countries surveyed.

Global Information Technology Report 2005-2006 / WEF, Taiwan ranked 2nd in Asia, 7th worldwide in Networked Readiness Index (NRI)



Taiwan's e-Readiness- (WEF/NRI) ranking

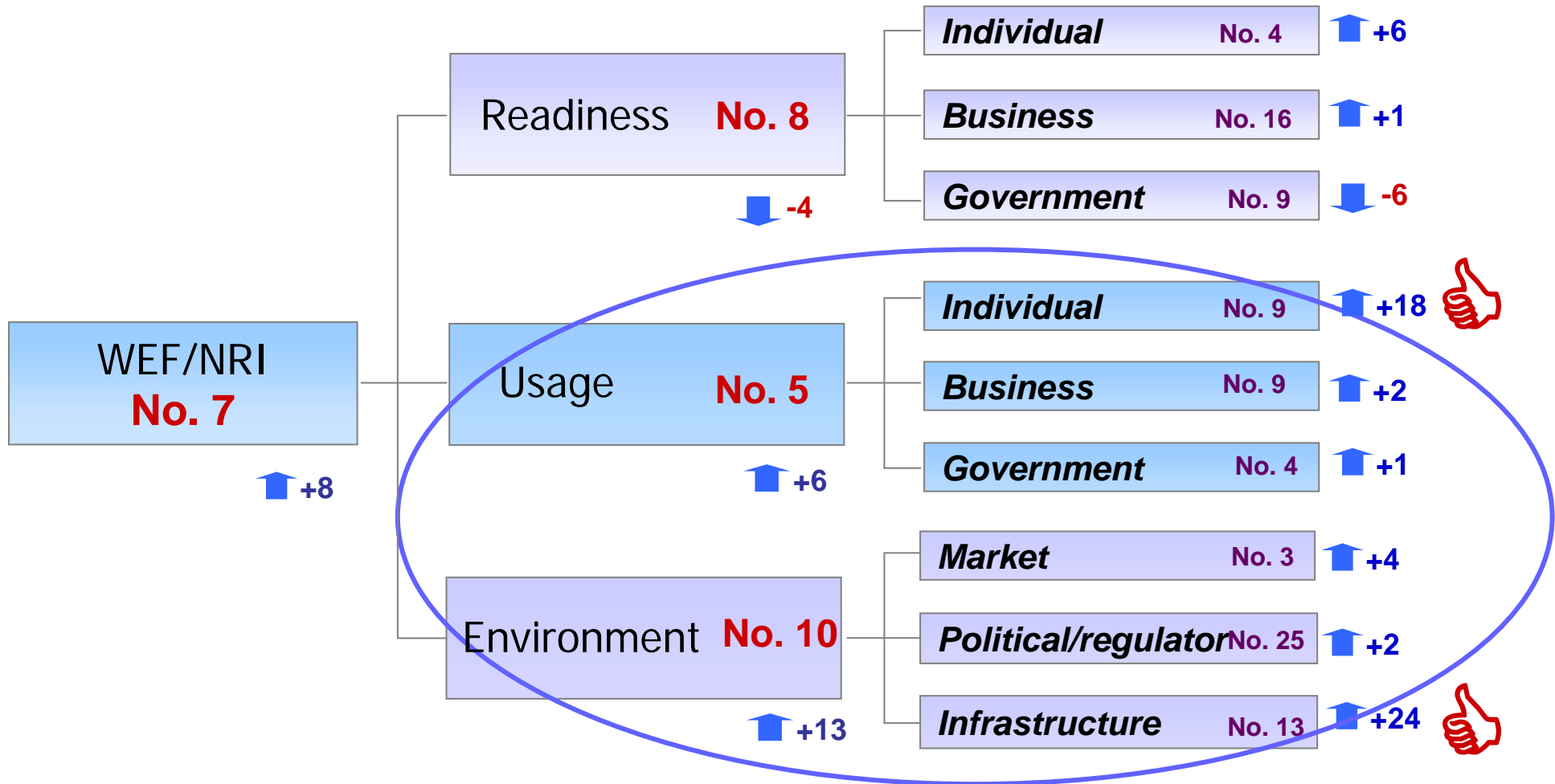
WEF/NRI Rank				WEF/NRI Rank			
Country	2005	2004	Changes	Country	2005	2004	Changes
 US	1	5	4	 Hong Kong	11	7	4
 Singapore	2	1	-1	 Netherlands	12	16	4
 Denmark	3	4	1	 Norway	13	13	0
 Iceland	4	2	-2	 Korea	14	24	10
 Finland	5	3	-2	 Australia	15	11	-4
 Canada	6	10	4	 Japan	16	8	-8
 Taiwan	7	15	8	 Germany	17	14	-3
 Sweden	8	6	-2	 Austria	18	19	1
 Switzerland	9	9	0	 Israel	19	16	-3
 UK	10	12	2	 Ireland	20	22	2

- ☞ According to the recent Global Information Technology Report 2005-2006, released by the WEF, **US** remains the most competitive economy in the world and tops the rankings for the third consecutive year. The **Singapore** is in second position, followed by **Denmark**, **Iceland**, **Finland**, **Canada** and **Taiwan**;
- ☞ Other Asian countries rank of position: **Singapore (2)**, **Hong Kong (11)**, **Korea (14)**, **Australia (15)**, **Japan (16)**.

Source: WEF NRI/The Global Information Technology Report, 2005~2006



Taiwan's e-Readiness- (WEF/NRI) overview



Source: WEF/Global Information Technology Report 2005-2006, compiled by NICI, III-FIND, Taiwan



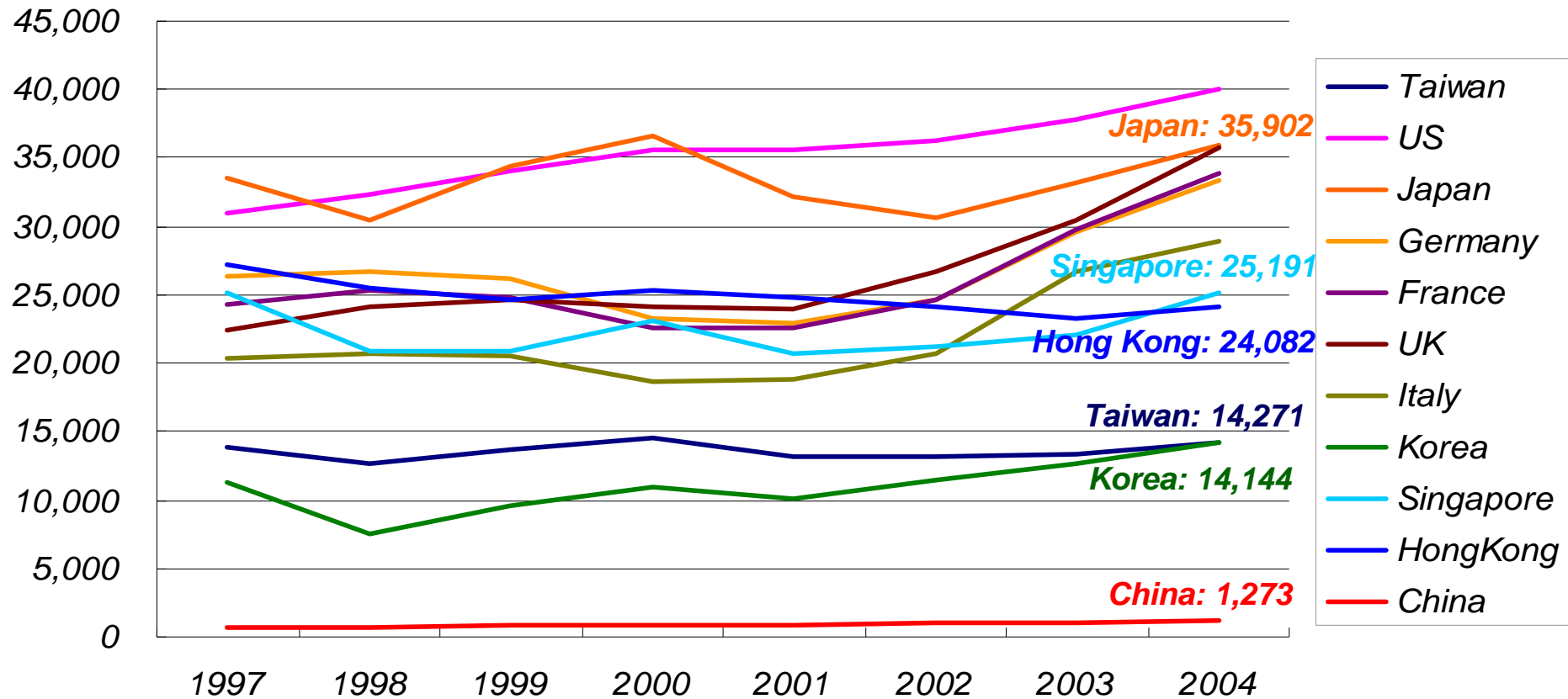
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GDP per capita income (1997-2004)

Unit: US D



Source: Directorate-General of Budget, Accounting & statistics, Executive Yuan, R.O.C., 12/2005



Development issues in Taiwan

Globalization

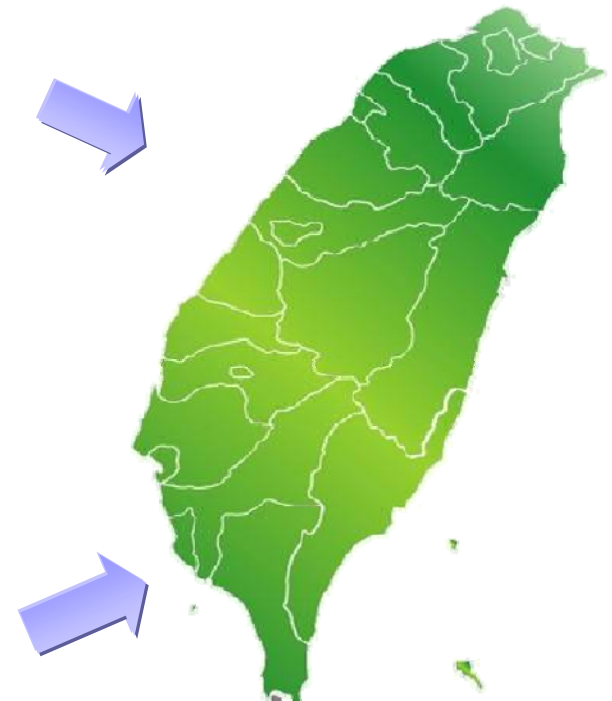
- Globalized knowledge-based economy; winners and losers
- Tense competition of the supply of raw materials vs. sustainability
- “The world is flat”; outsourcing and near-/off-shoring trends
- Regional economic blocks; strategic alliances
- Korea, BRICs & others; fast growing...

The black-hole effect of China

- Low labor price and land cost, huge internal market and heavy incentive program help to attract global investment and technological resources into China.
- AFTA (ASEAN Free Trade Area; ASEAN+N) speeds up the poli-economic cooperation/alliances between China and ASEAN countries...

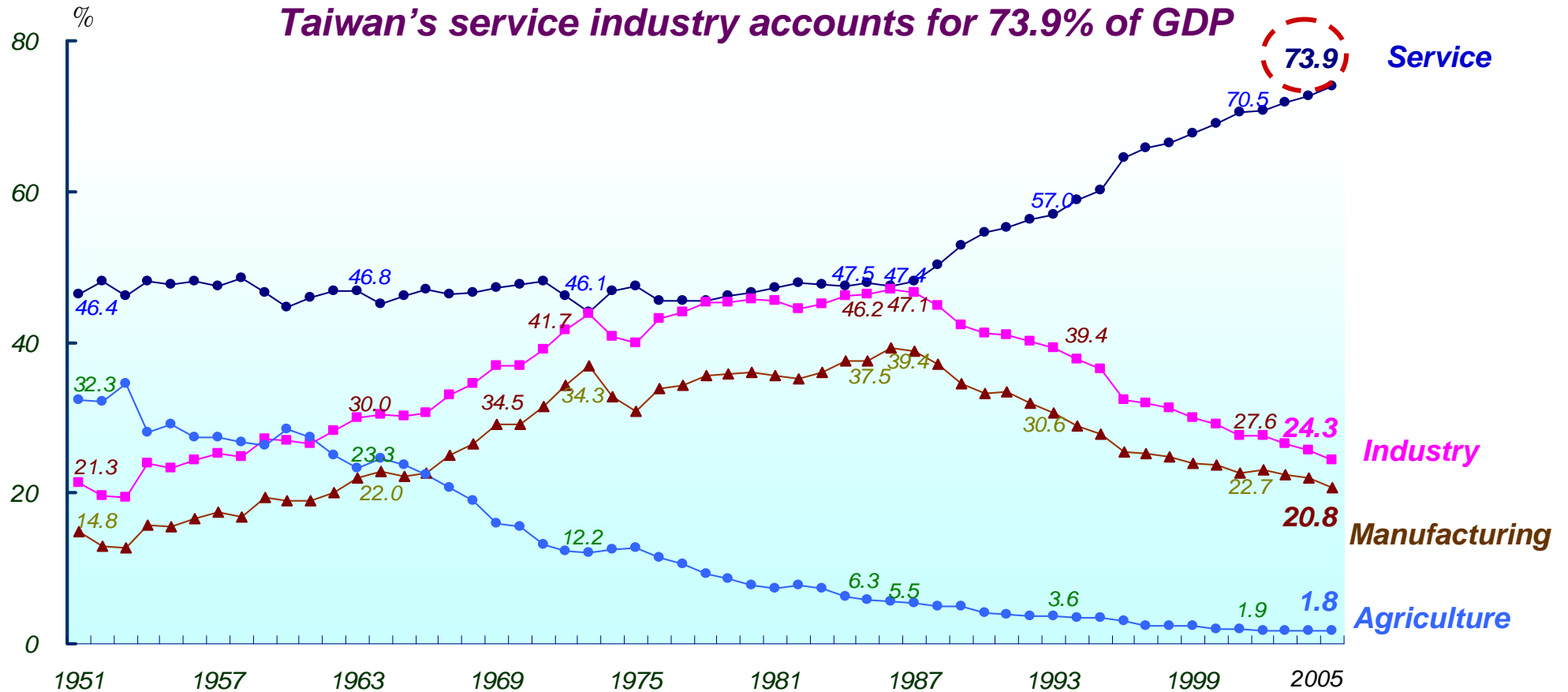
Development issues in Taiwan

- Concern over being marginalized in the globalization process
- Key technologies/applications/services developed slowly
- Fast-increasing needs for medicare for seniors in an aging society
- Concern over ‘digital divides’, Digital human right issues
- GDP per capita remains unchanged for the last decade; whilst service industry accounts for $\frac{3}{4}$ of the GDP...





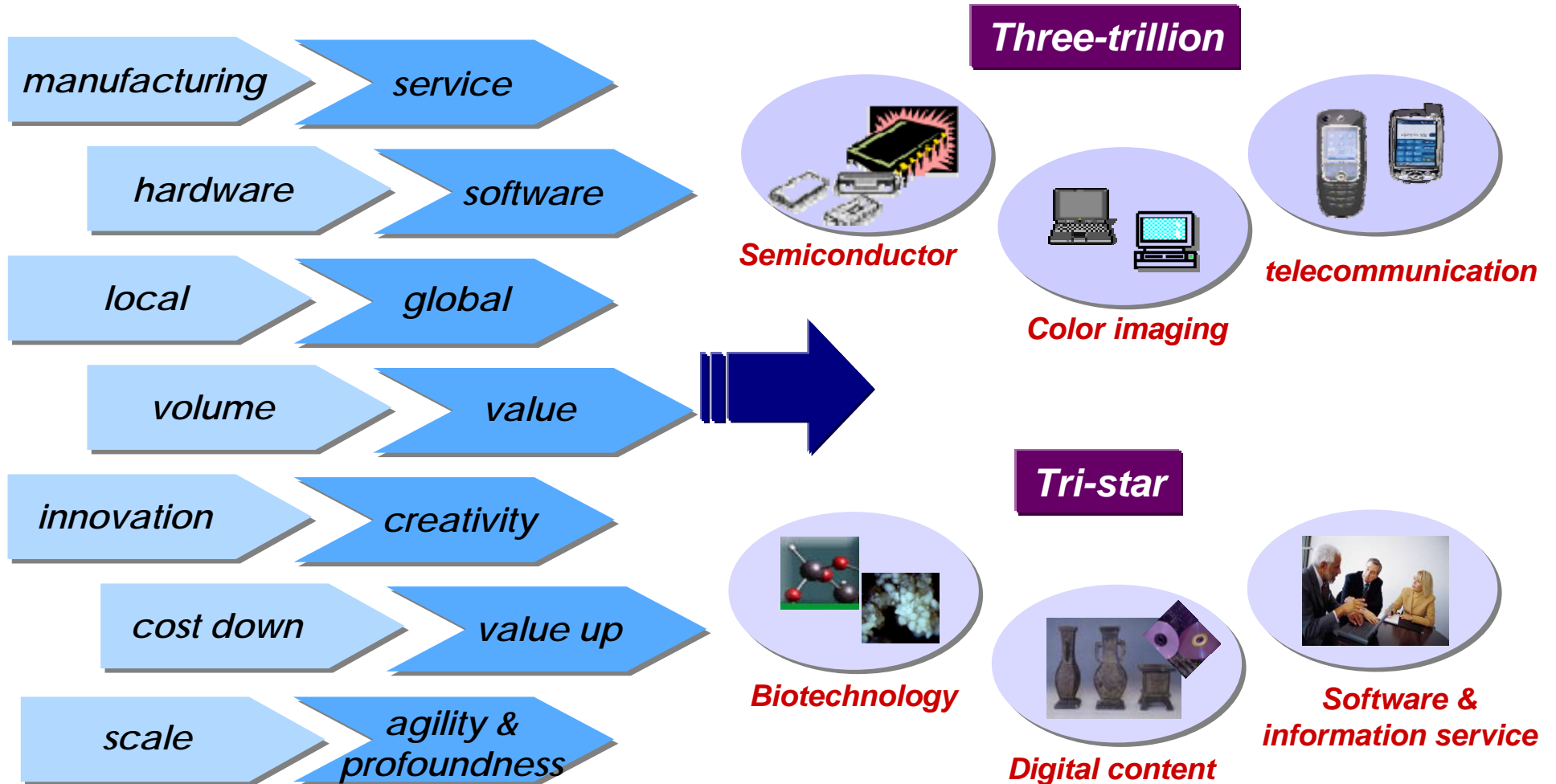
Industrial composition in Taiwan



Source: Council for Economic Planning and Development Executive Yuan, R.O.C., 2006

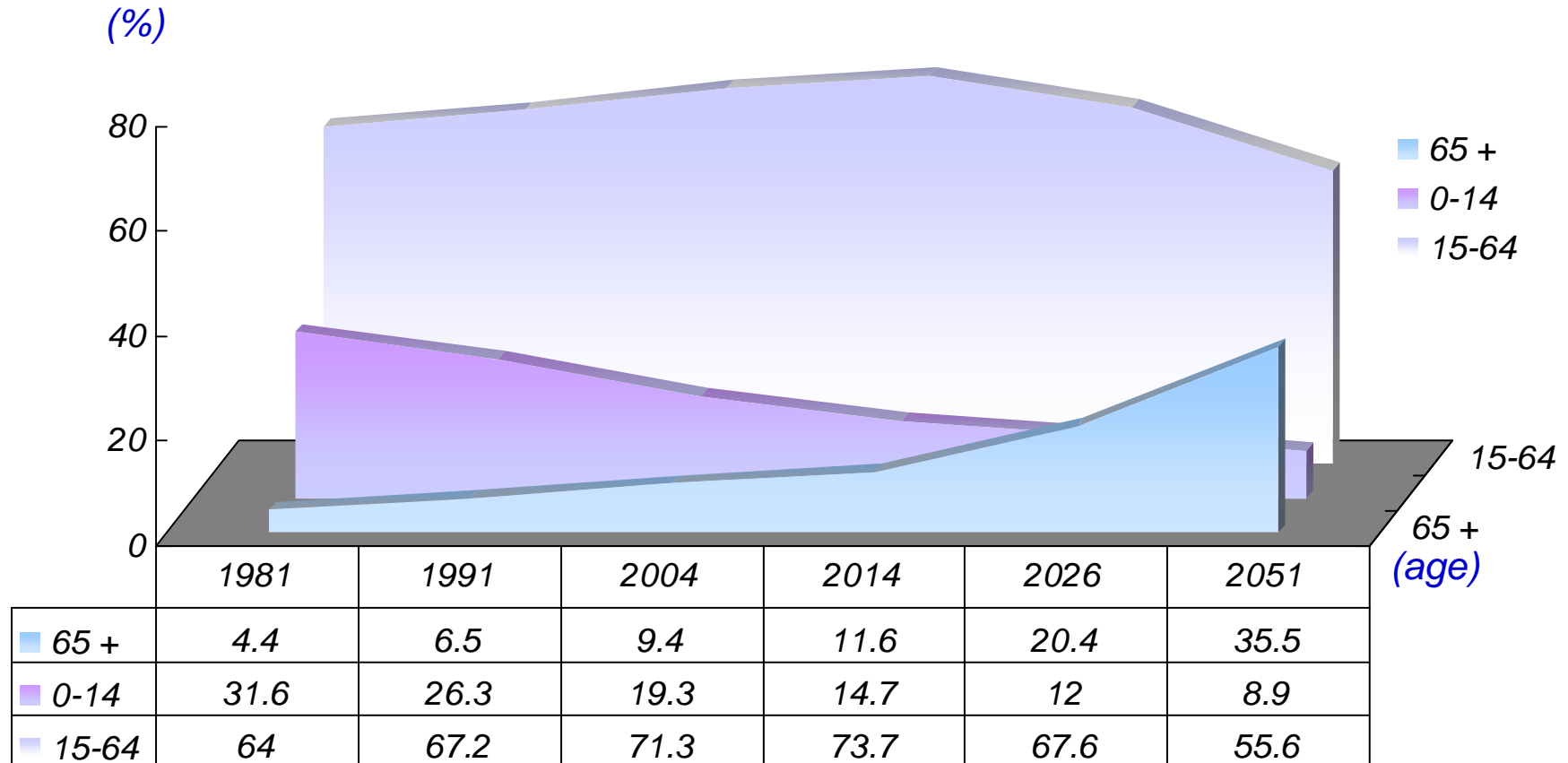


Industrial paradigm shift





Taiwan as an aging society

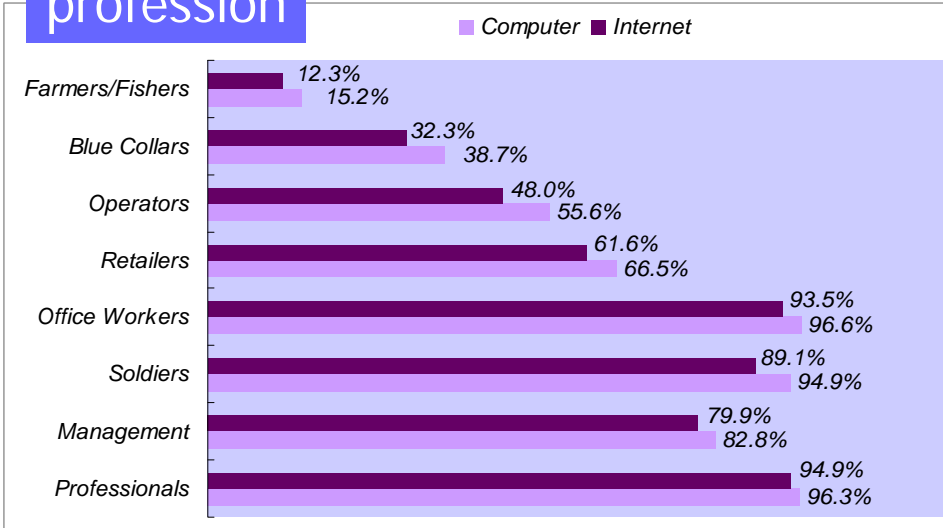


Source: CEPD (Council for Economic Planning and Development), July, 2004.

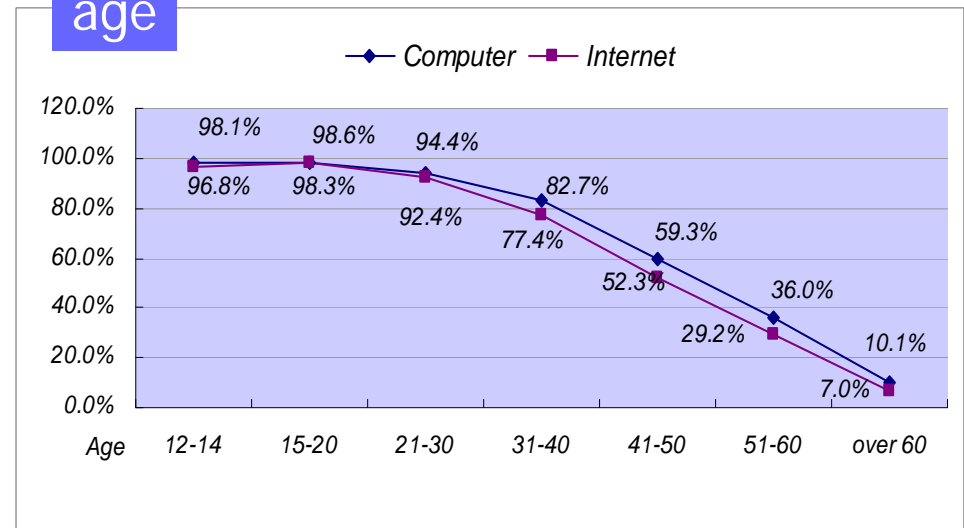


"Digital divide" in Taiwan

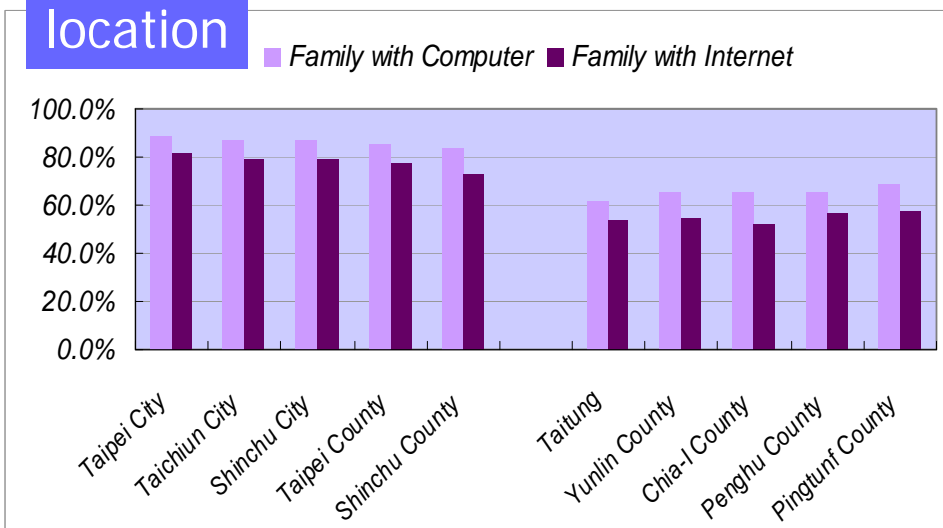
profession



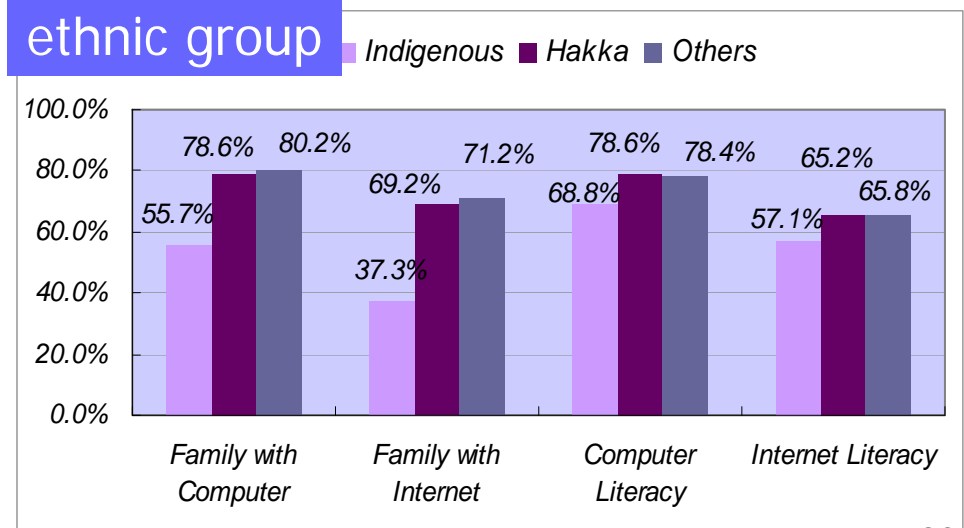
age



location



ethnic group



Source: RDEC, Executive Yuan 2005



Great expectations for a better life

highest expected: health, safety & a decent job

Unit: %

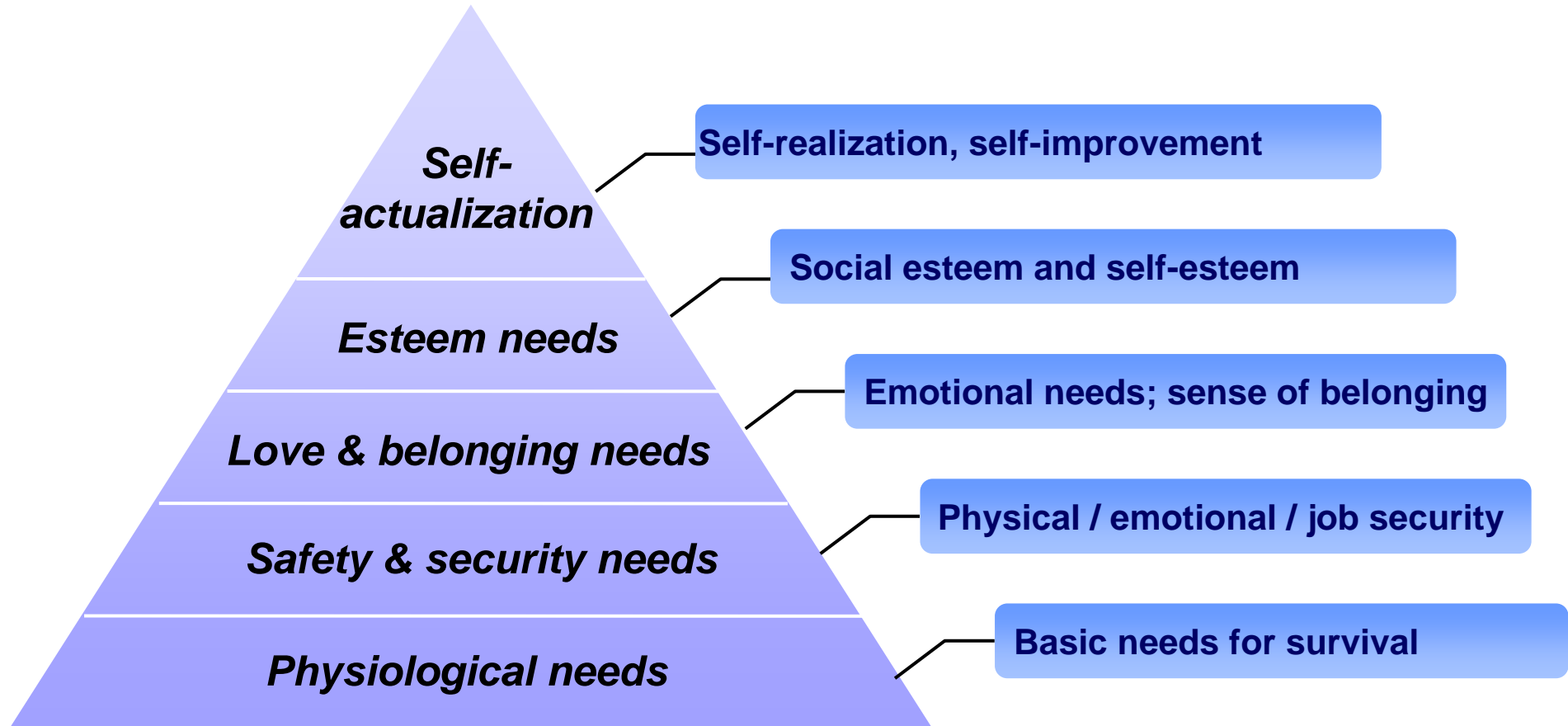
ITEM		Good health	Decent job	Safety & security	Cared old age	Happy family	savings	Comfo rtable enviro nment	Proper ty	Matched personal interests	Happy marriage	Other s
Total		41	34.3	28.3	21.9	20.5	16.8	16.7	9.7	8.8	7.2	1.4
S e x	F	38.4	36.6	26.9	21.6	19.7	14.2	15.8	9.4	9	6.7	1.5
	M	43.6	31.9	29.7	22.2	21.3	19.5	17.5	10	8.4	7.7	1.2
A g e	20-29	29.9	46.7	23.1	9.9	19.8	18.9	16.9	17.4	14	13.8	1.4
	30-39	38	40.3	30.7	17.9	20.6	18.2	21.7	10.4	9.3	9.8	1.6
	40-49	40.7	38.4	32.2	22.1	21.2	17.2	14.4	7.7	8.3	4.8	1.4
	50-64	49.4	23.7	30.5	27.5	23.3	15.5	18.2	6.2	5.9	2.9	1.3
	over 65	55.1	9	23.7	42.6	16.5	11.7	8.7	2.7	3	0	1

Note: This is a multiple choice survey; and indicate a total over 30%

Source: The Ministry of the Interior, June 6-30, 2003



Marslow's hierarchy of needs





Development issues of Taiwan- a summary

Social Issues

- ❖ How to create a society in which each and everyone can fulfill one's potential and to actualize oneself?
- ❖ Bridging digital divide – how to transform digital divide into digital opportunities.
- ❖ Aging society with low birthrate – how to meet the caring need of senior citizens and babies?
- ❖ How to boost the development of information service and ITES to create job opportunities and a higher Per Capita Income in a slow economy?

Economic Issues

- ❖ How to meet public expectation for a healthy, safe, convenient, and carefree living with stable employment and career progression?

Safety & Security

- ❖ How to effectively utilize ICTs to ensure a better living environment that is free from disasters such as earthquakes, typhoons, major infectious diseases, fire, explosions, theft, violence, etc?



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UNS: a vision statement

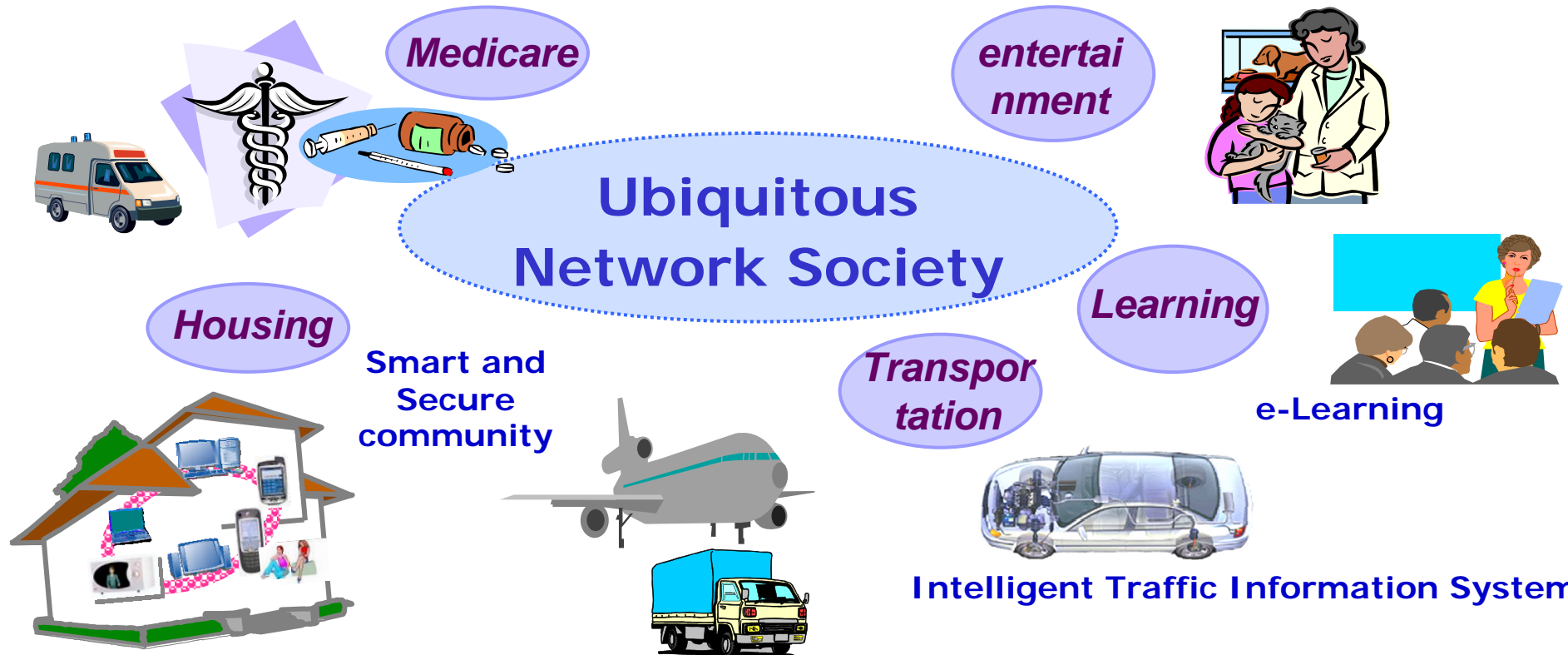
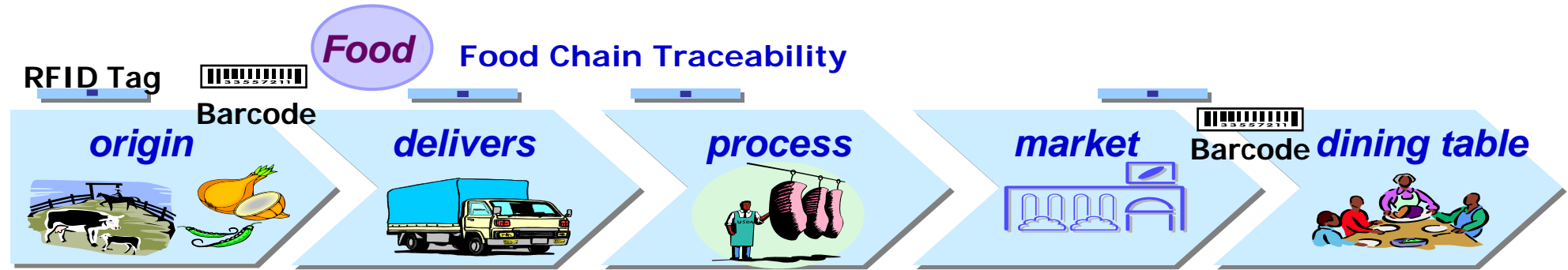


Ubiquitous Network Society in Taiwan

**Utilizing ICT to make Taiwan a convenient,
safe and secure society**



a convenient, safe and secure society





UNS: a mission statement

Ubiquitous Network Society

e-Taiwan / M-Taiwan (2004~)

Second Phase: From the users' point of view, advance the e-usage/applications

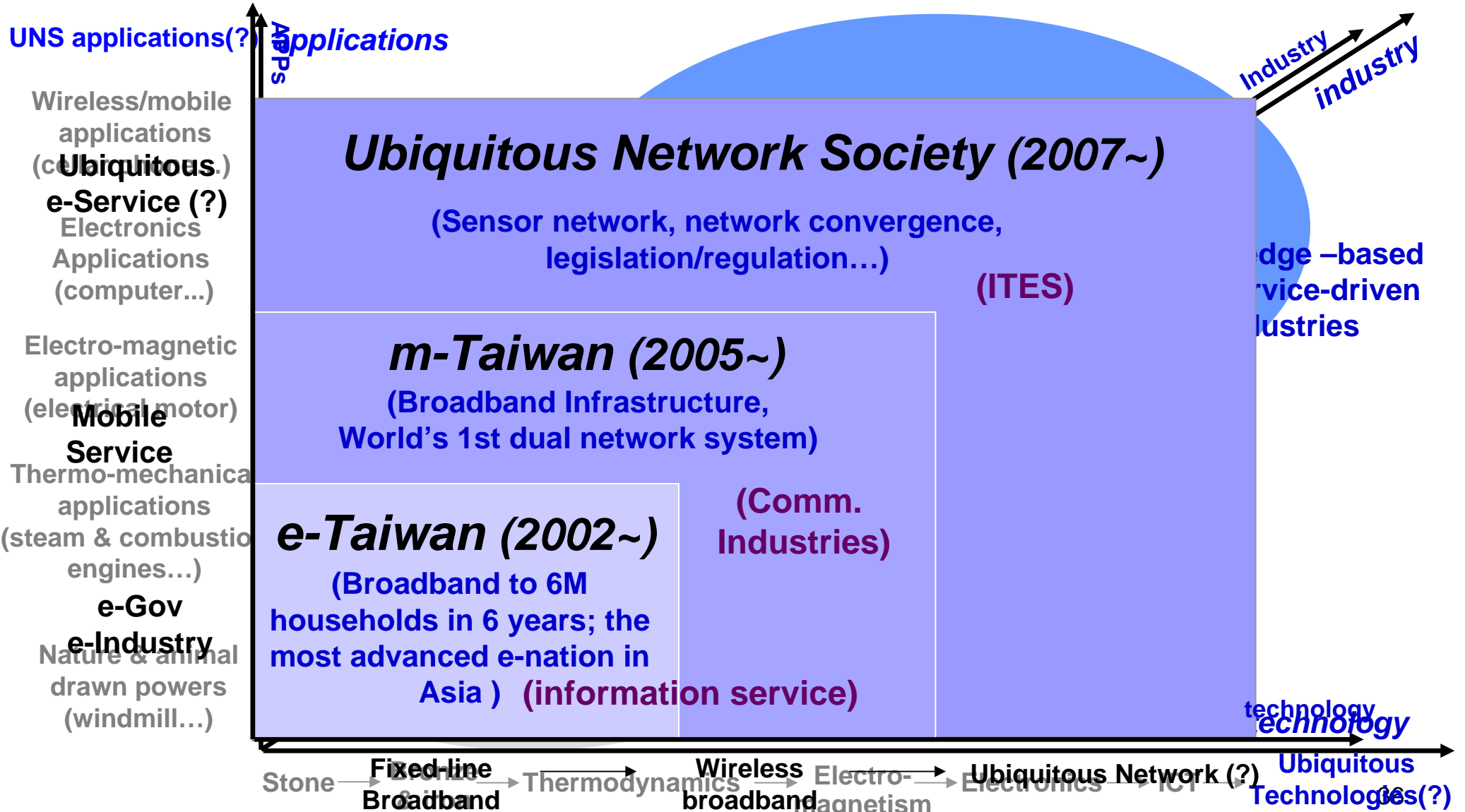
Japan & Korea
plan *UNS*
programmes

e-Taiwan (2002~)

First Phase : Build ICT infrastructure,
online government/industrial service enhancement

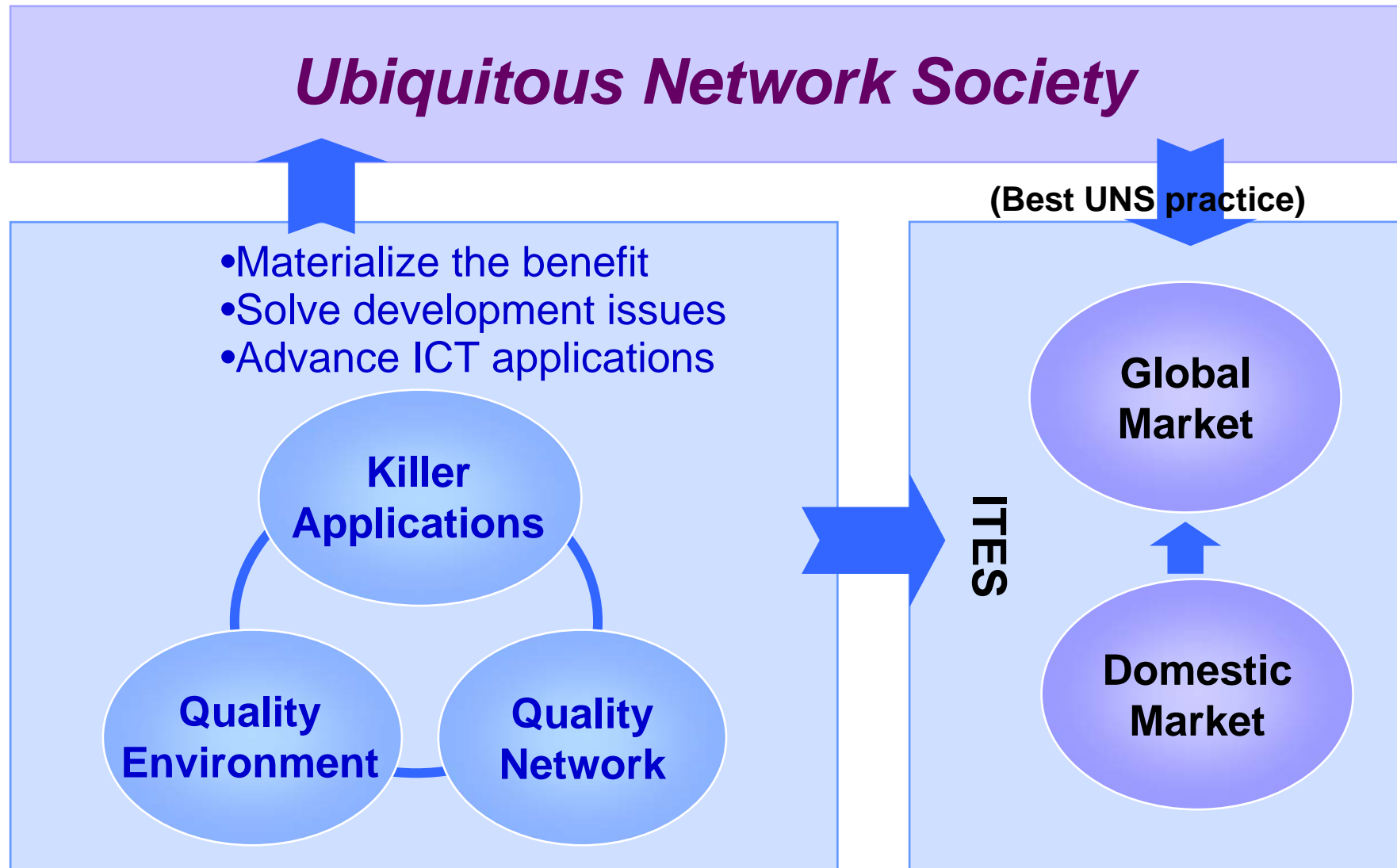


UNS: a brief history





UNS: the strategy





UNS: key tasks

Killer Applications

- From users' point of view to develop killer applications and to satisfy citizens' daily needs
- Increase domestic market for ITES

Quality Network

- Broadband Network
- Digital Convergence
- Fair Competition
- Sensor Network Apps
- Best Practice U-City

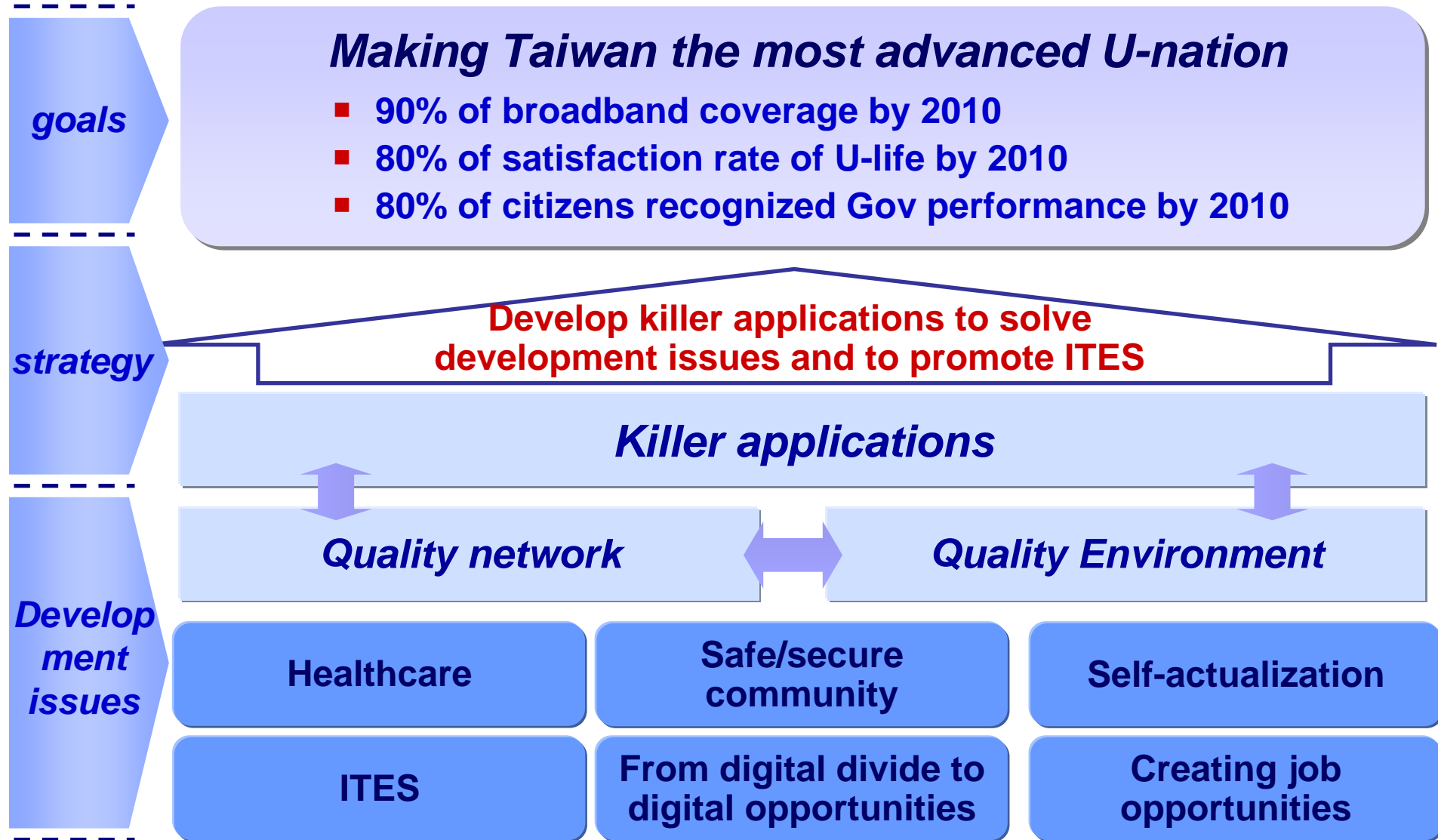
Quality Environment

- ICT basic law/sound regulation
- Network security
- Digital content
- Bridging digital divide
- Talent Cultivation
- International collaboration

Quality UNS of Taiwan



UNS: the structure





UNS: u-Japan policy

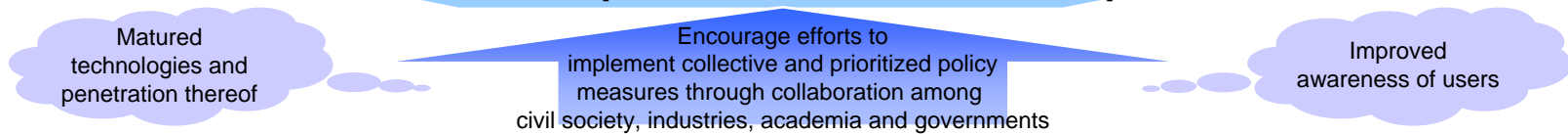
KEY ISSUES

Future challenges toward 2010



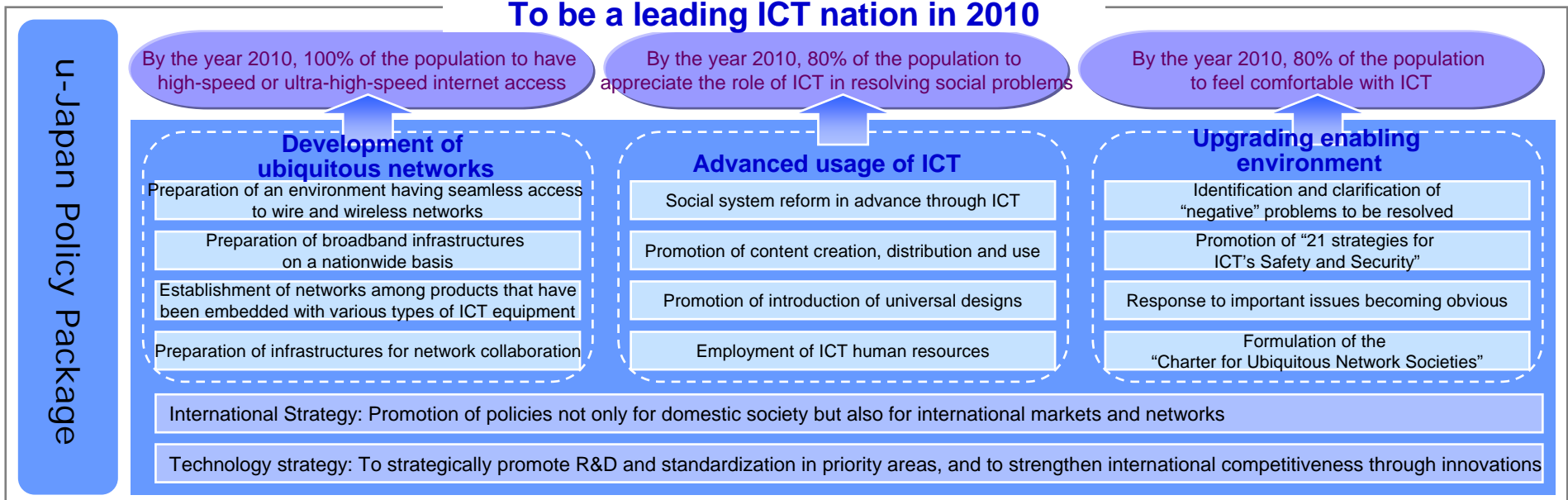
ICT contribution to provide solutions to future problems

GOALS



To be a leading ICT nation in 2010

POLICY PACKAGES



Source: MIC, Japan; compiled by III, Taiwan



UNS: Korea's IT839 programme

IT 839 Strategy

The road to USD 20,000 GDP per capita

8 New Services

- WiBrO Service
- DMB Service
- Home Network Service
- Telematics Service
- RFID based Service
- W-CDMA Service
- Terrestrial DTV
- VoIP

3 Infrastructures

- Broadband Convergence Network
- Ubiquitous Sensor Network
- IPv6

9 Growth Engines

- NG Mobile Comm.
- Digital TV
- Home Network
- IT SoC
- Next-Generation PC
- Embedded SW
- DC & SW Solutions
- Telematics
- Intelligent Robot

Source: MIC, Korea; compiled by III, Taiwan

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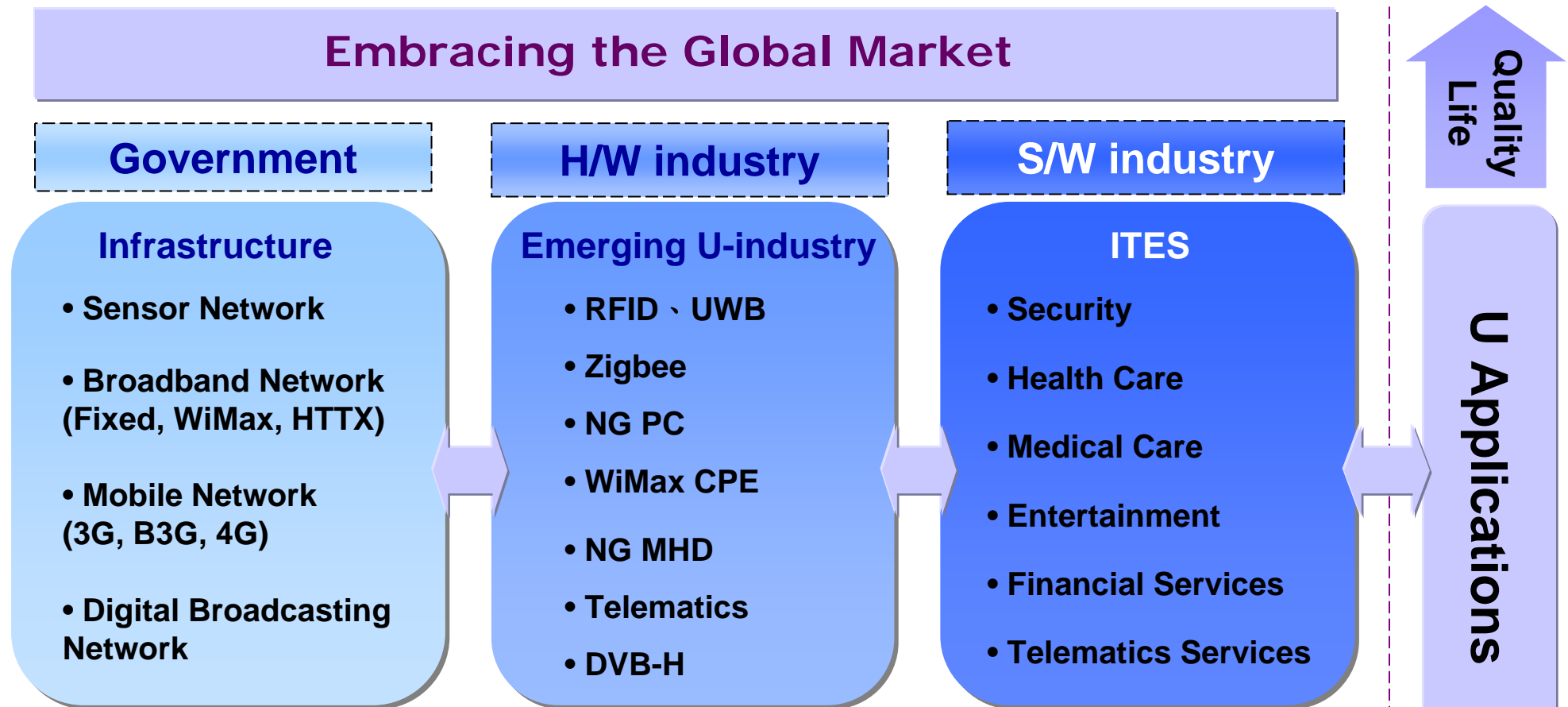
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ITES for the Future

Embracing the Global Market



- Increasing the public investment on infrastructure and Killer applications to stimulate the economic growth.
- Promoting IT Service Industry to increase domestic expenditures and the growth of service industry.
- Promoting the emerging Technology industry, such as hand-held device and Telematics.



ITES for the Future

Information Technology Enabled Service: effectively utilize ICTs in specific domain to create new service model.

- The evolving path of TECHNOLOGY: from research, manufacture, system integration to Information Technology Enabled Service (ITES).
- ITES provides services that are tailored to the local market. The services/products developed in the U.S. may be leading in their innovative technologies, however, it may not be applicable to all over the world.
- The best testbed for ITES is in Taiwan: with right scale and a mature, multi-discipline environment.
- In view of resource integration, time frame, and cost/risk management, Taiwan is without doubt in a most favorable position to develop ITES.

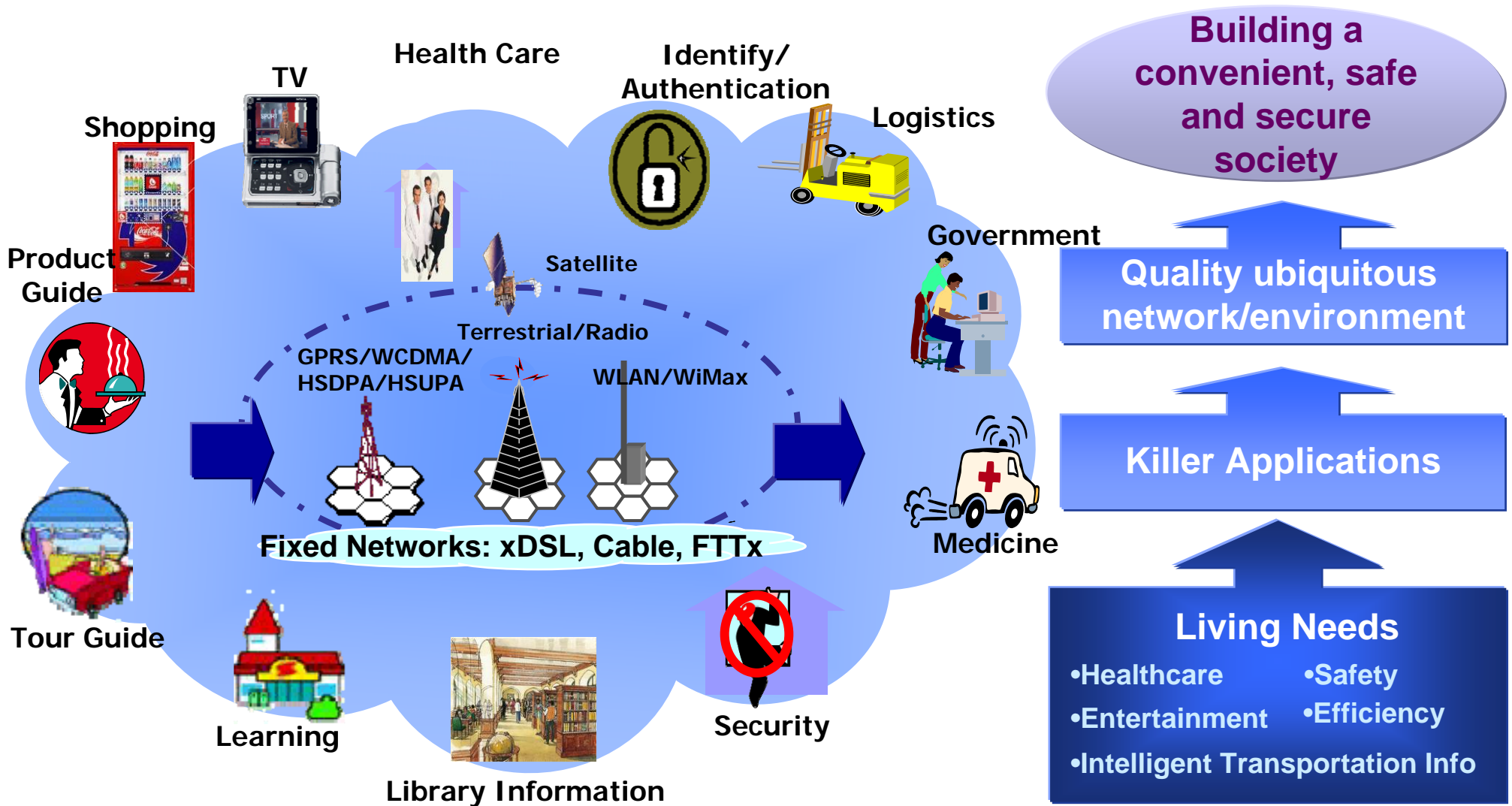


Reference: BusinessWeek, #901 (2005-02-28)

ITES: Future of Industries in Taiwan



UNS: a convenient, safe and secure society

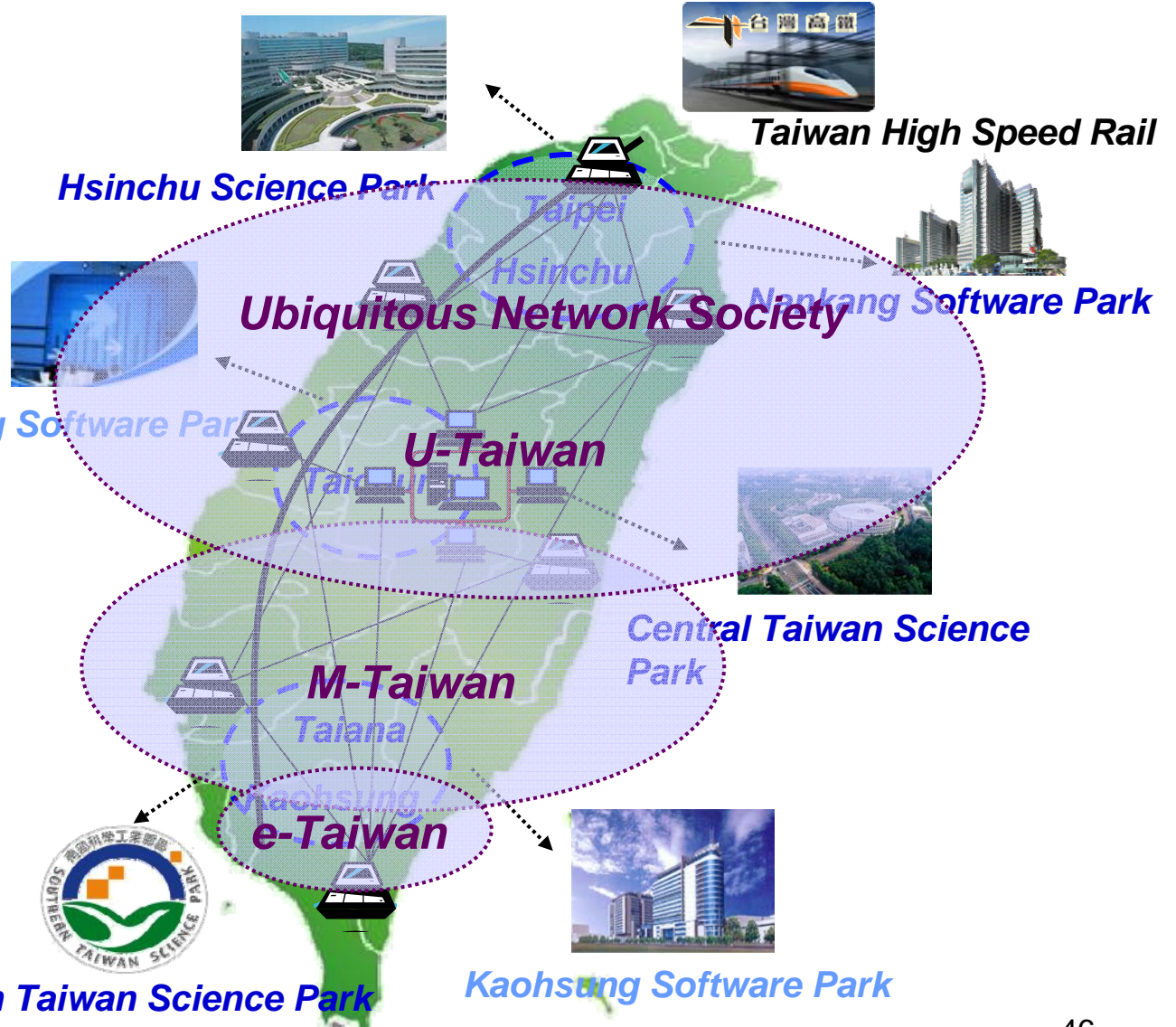




UNS-based national innovation system



*National innovation system:
UNS as a development
means, 'development as
freedom' as the core concept*





thank you for your attention
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