

Collaborative Ubiquitous Network Business Platform

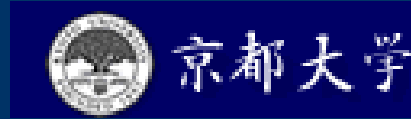
Based on Japan's experience

Aug 16, 2006

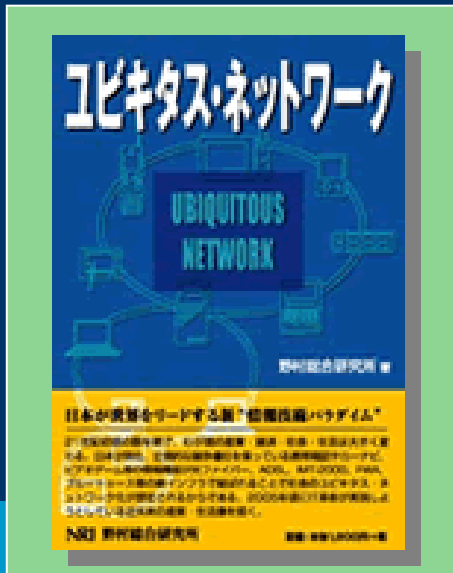
Makoto Yokozawa, PhD

Senior Consultant, Nomura Research Institute
Visiting Professor at Kyoto Univ.

Who am I?



- Makoto Yokozawa, PhD.
- Leading Author of the NRI's book, "Ubiquitous Network", Dec. 2000, Japan
- NRI Consultant to MIC, Ministry of Internal Affairs and Communication of Japan since 2003
 - involved in operation of 2005 roundtable for u-Japan policy strategy and other related activities in the government of Japan
- OECD/BIAC, Business and Industry Advisory Committee
 - Vice Char of ICCP, Information, Computer and Communications Policy since Dec. 2005
- Visiting Professor, the Graduate School of Kyoto Univ., Director of Marketing and Organizational Information Systems Laboratory



BIAC Committee News



Incoming BIAC Committee Leadership

BIAC would like to welcome the latest addition to our team of committee leaders:

BIAC Committee on Information, Computer and Communications Policy (ICCP)



Committee Vice Chair

Dr Makoto Yokozawa
Senior Consultant
Nomura Research Institute, Ltd.
(Japan)



AGENDA

- Ubiquitous Network Societies, a paradigm shift based on the most advanced ICTs
- Ubiquitous Network Platforms in Japan
- Innovation in ICT Platform Business

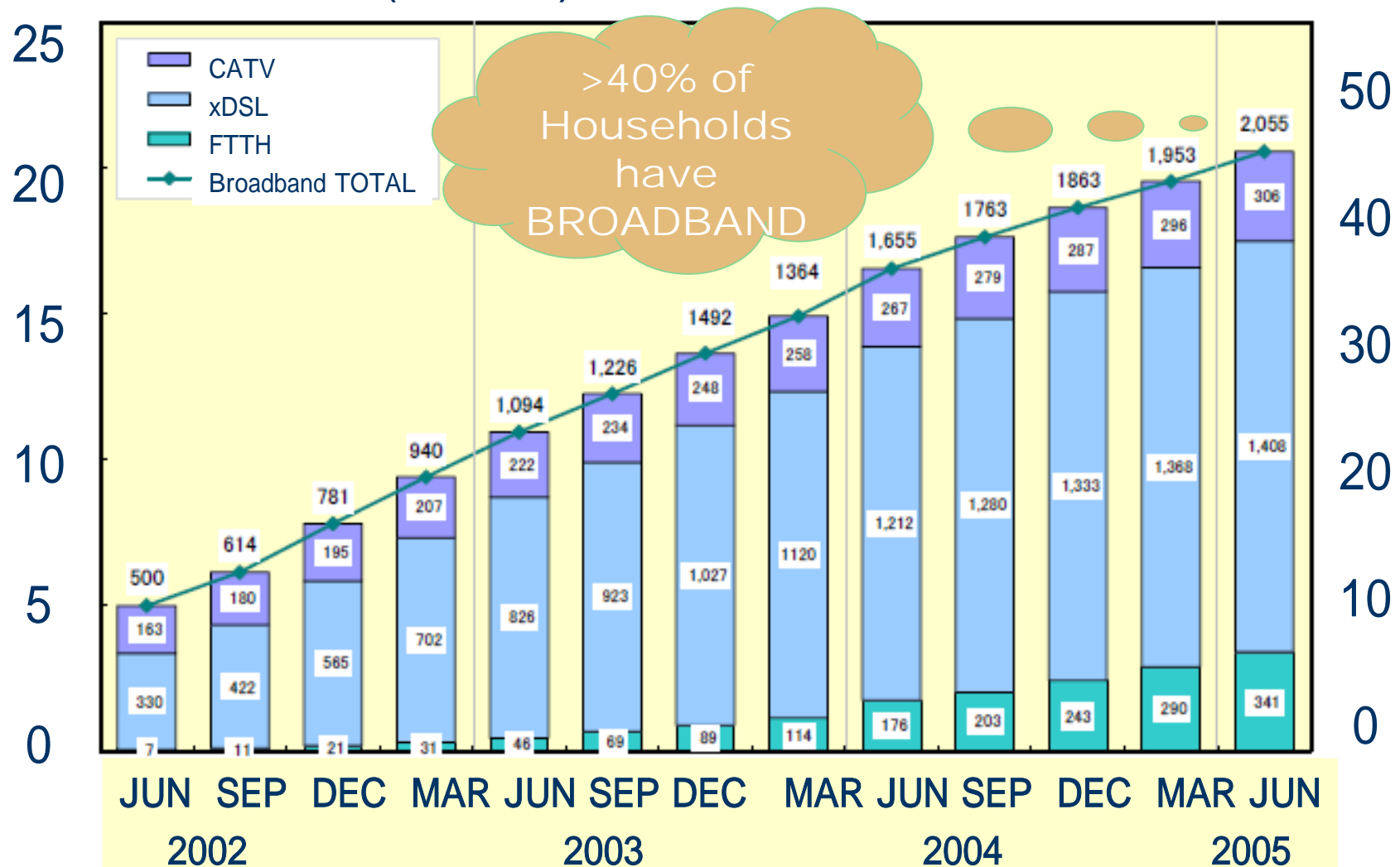
Ubiquitous Network Societies, a
paradigm shift based on the most
advanced ICTs



2005 Broadband in Japan

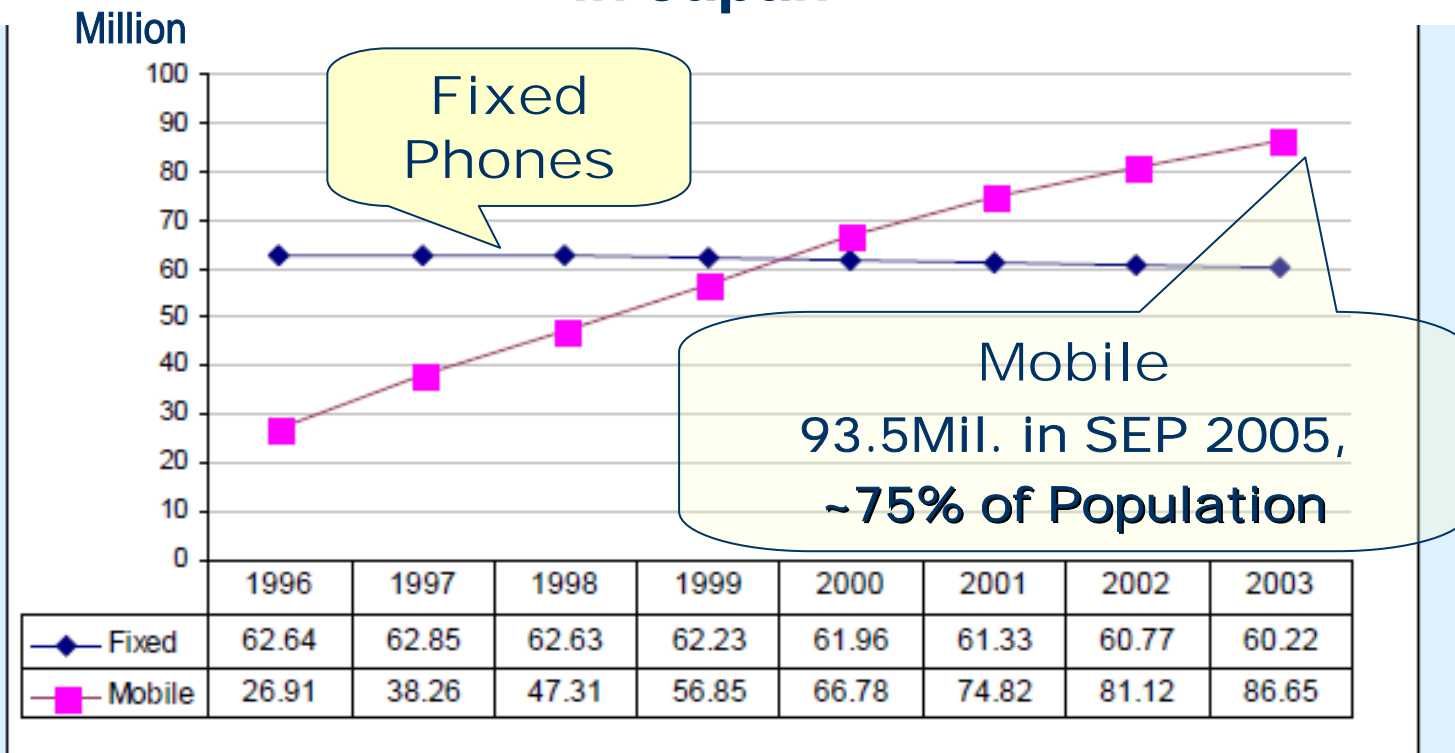
SUBSCRIBERS (Million)

% of Households



Mobile Overtakes Fixed in Voice Communications

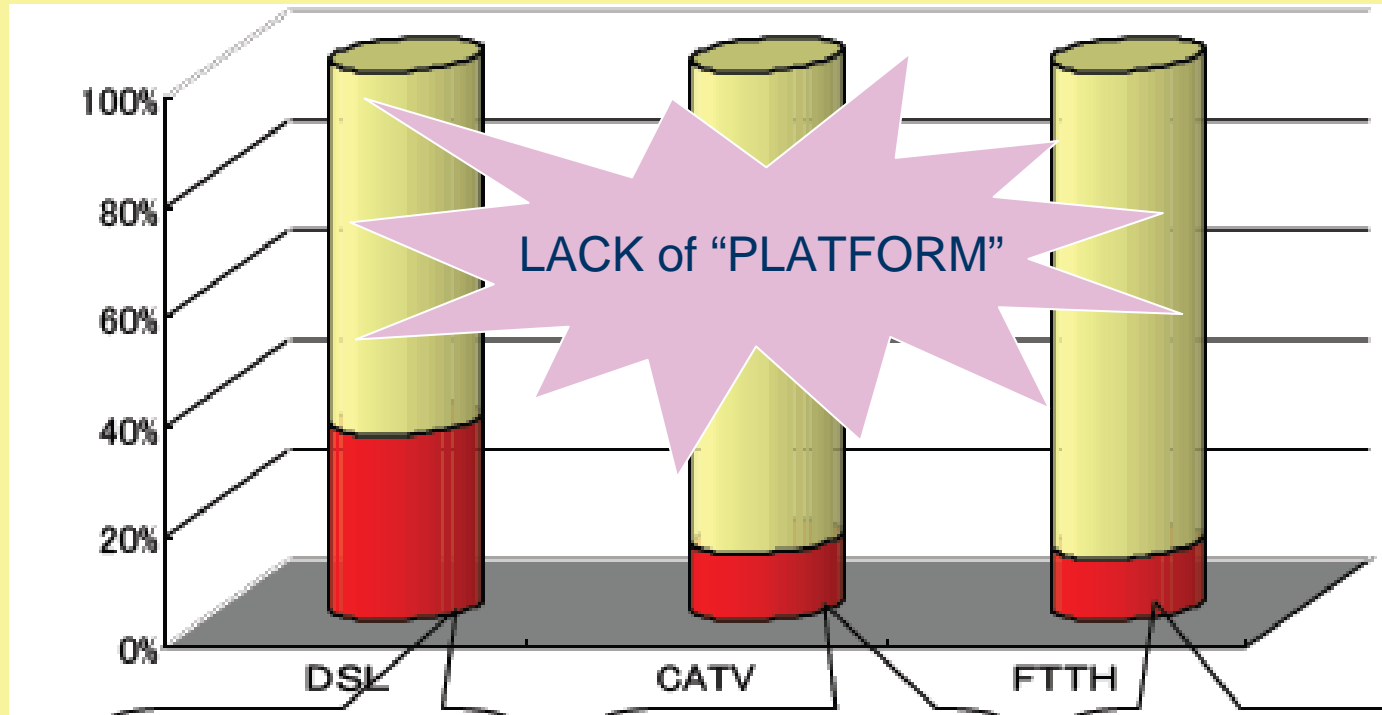
SUBSCRIBERS to FIXED and MOBILE SERVICES in Japan



Note: The data above refers to the end of the fiscal year (i.e. 2002 refers to March 2003), and mobile subscribers include subscribers to the PHS system.

Source: MIC

Still need to be utilized.



Actual use – 33.7% **Actual use – 12.1%** **Actual use – 11.3%**

(Source) MIC (as of end of September 2004)

(Note) Percentages refer to the share of actual users compared with the number of potential users.

Networked Life Scenes - 24h dial

On the Move

Next Monday
Flight to Korea

6am wakeup

In the House

8:30am Commuting
In Subway

6:30am breakfast

Vacation in May to
Hawaii

7:30am Prepare
For the work

~100m ~10m ~1m ~10cm

7:30 Dinner with
Friends

9:00am – 5:00pm
At work

7:00pm shopping
At a toystore

1:00pm – 3:00pm
Sales meeting

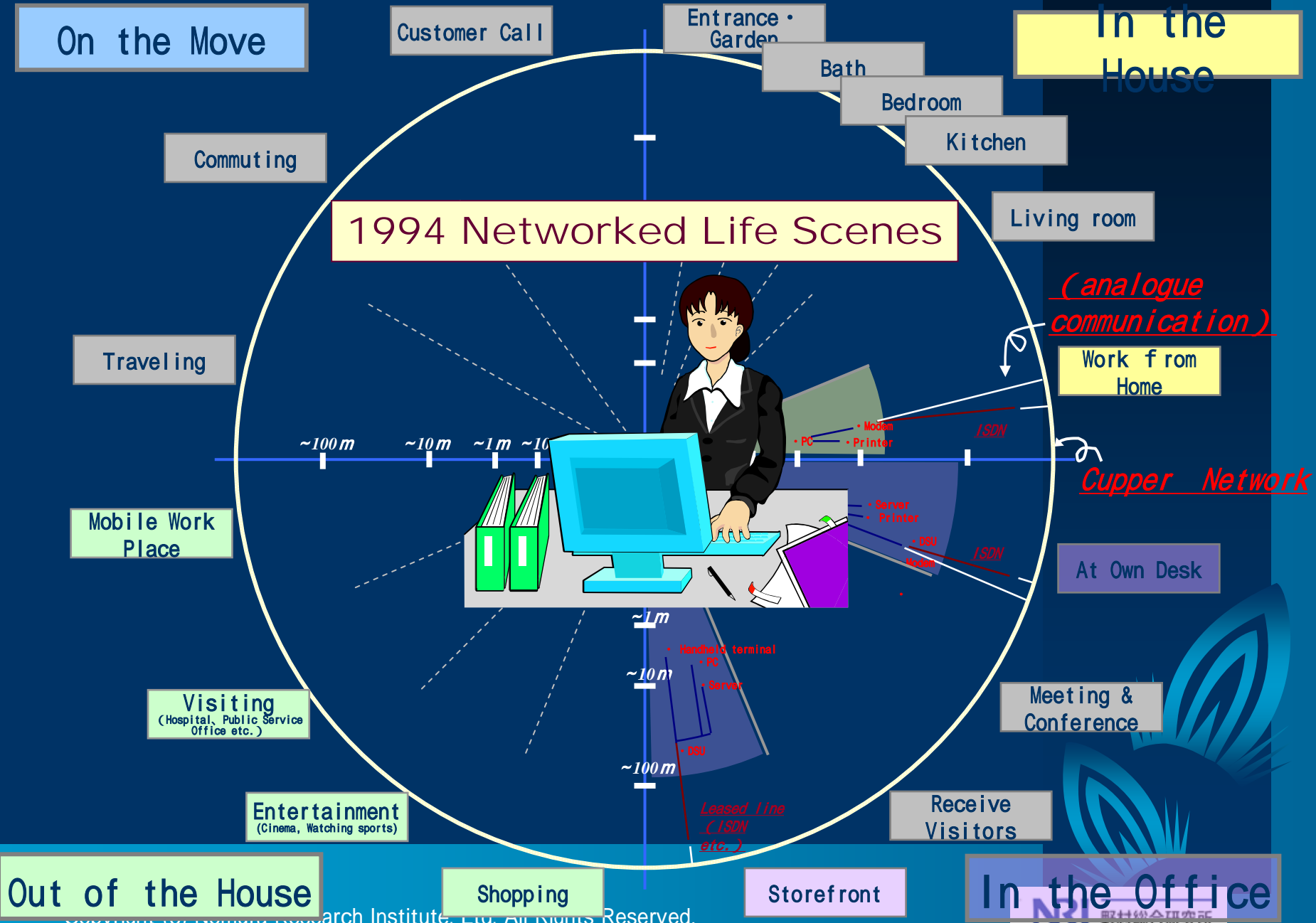
Out of the House

3:30pm – 4:00pm

In the Office

Visitors

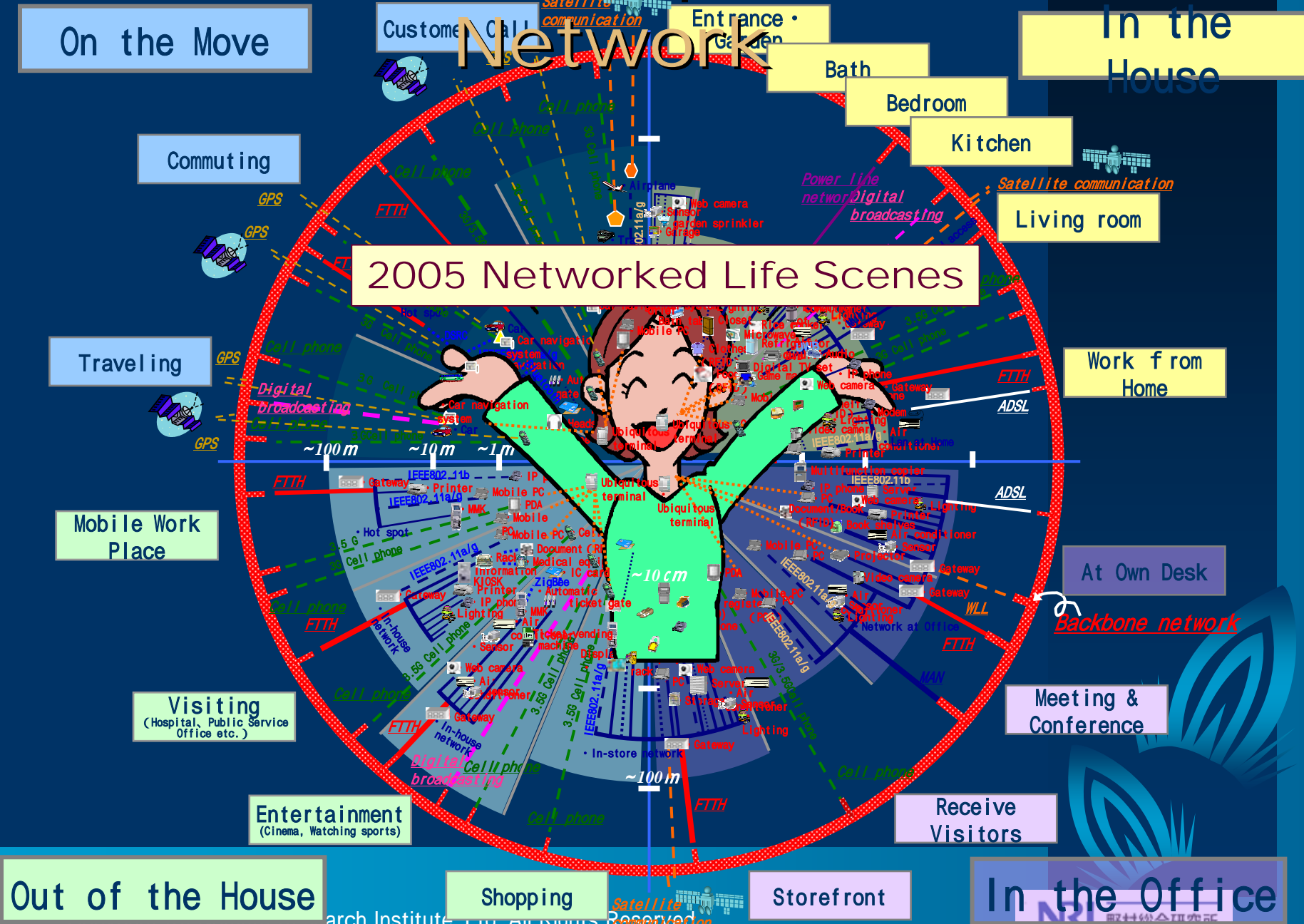
Start of the Internet Penetration



The Ubiquitous Network

Network

2005 Networked Life Scenes



On the Move

In the House

Commuting

Traveling

Mobile Work Place

Visiting
(Hospital, Public Service Office etc.)

Entertainment
(Cinema, Watching sports)

Out of the House

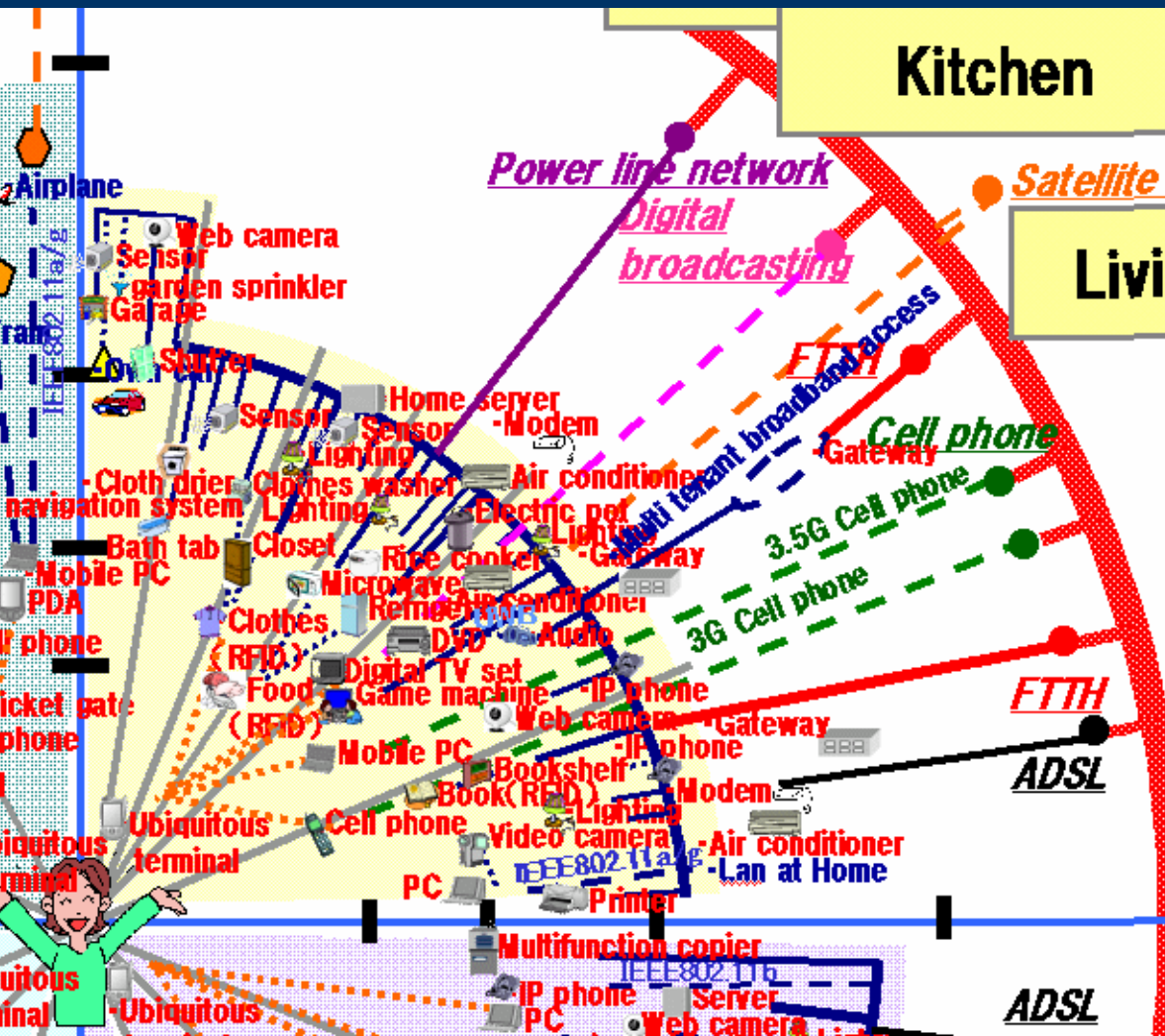
Shopping

Storefront

In the Office

The Ubiquitous Network-A Part

- 2010, the year of the framework completion



- still need seamless integration of connectivity
-> Communication Platform

- Transparent connectivity will increase the hours of networked human activity
-> Device Platform

- The number of UbN'ed scenes in life, work and business will be the key in the next stage
-> Service Platform

Ubiquitous Network Future

1) Connectivity

- Ubiquitous Network, a set of transformation of society.
 - whenever, whoever, wherever, whatever , however,
 - Need years to have unlimited Connectivity even in the most advanced regions.
 - In OECD/ITU “Capacity Building”.



Connectivity Development Strategy

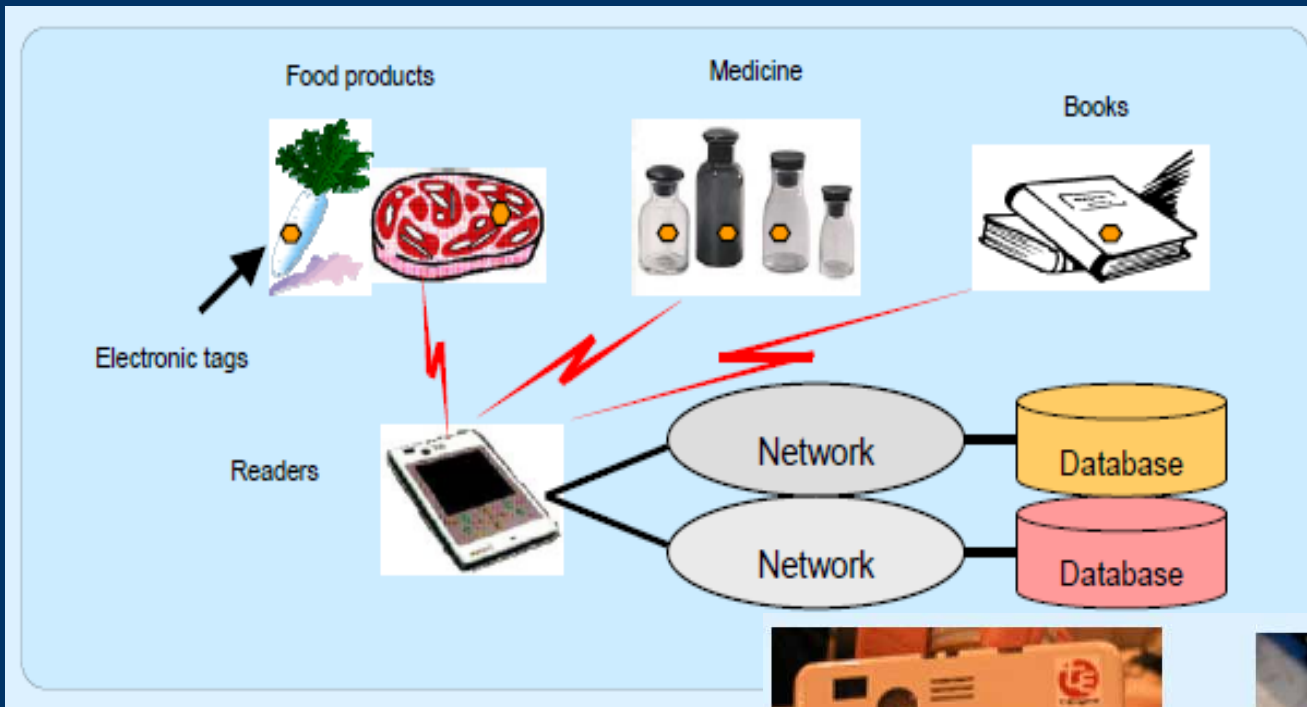


UbN Future 2) Reality

Device Platform

- Connectivity needs "R"
 - Robotics, RFID, Software Radio, Real world
 - Subconscious Connectivity : while you are ...ing.
 - while you are sleeping
 - while you are driving
 - while you are flying
 - while you are in Geneva
- will need connectable real world environments

RFID Readers for everyone



RFID-Tech will induce 170 Bil. USD Domestic Business in 2010.
source: MIC

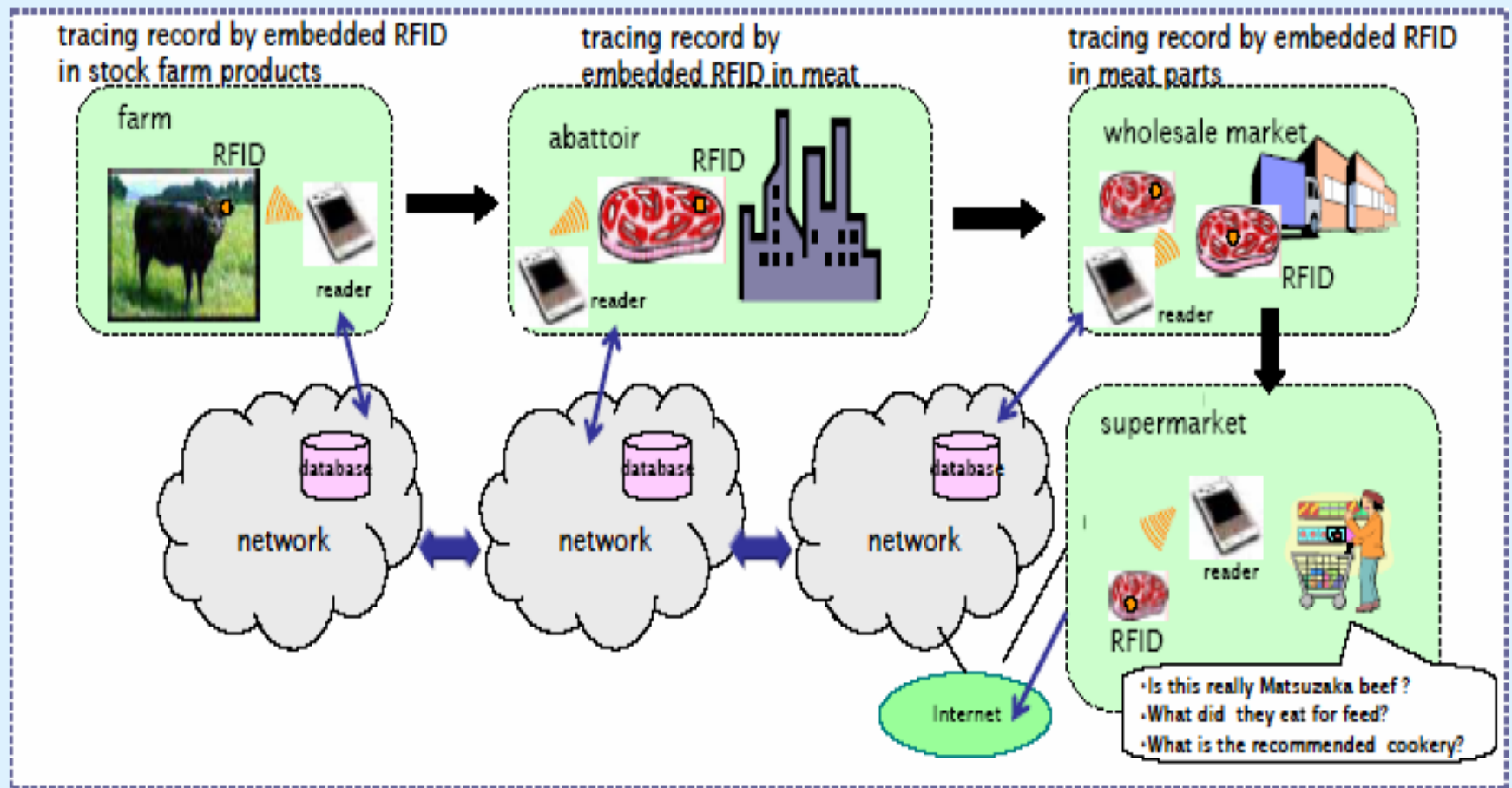
“Ubiquitous Communicator”
Next Generation Consumer Terminal
under development



Source: MIC

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Beef Traceability by RFID



Source: MIC

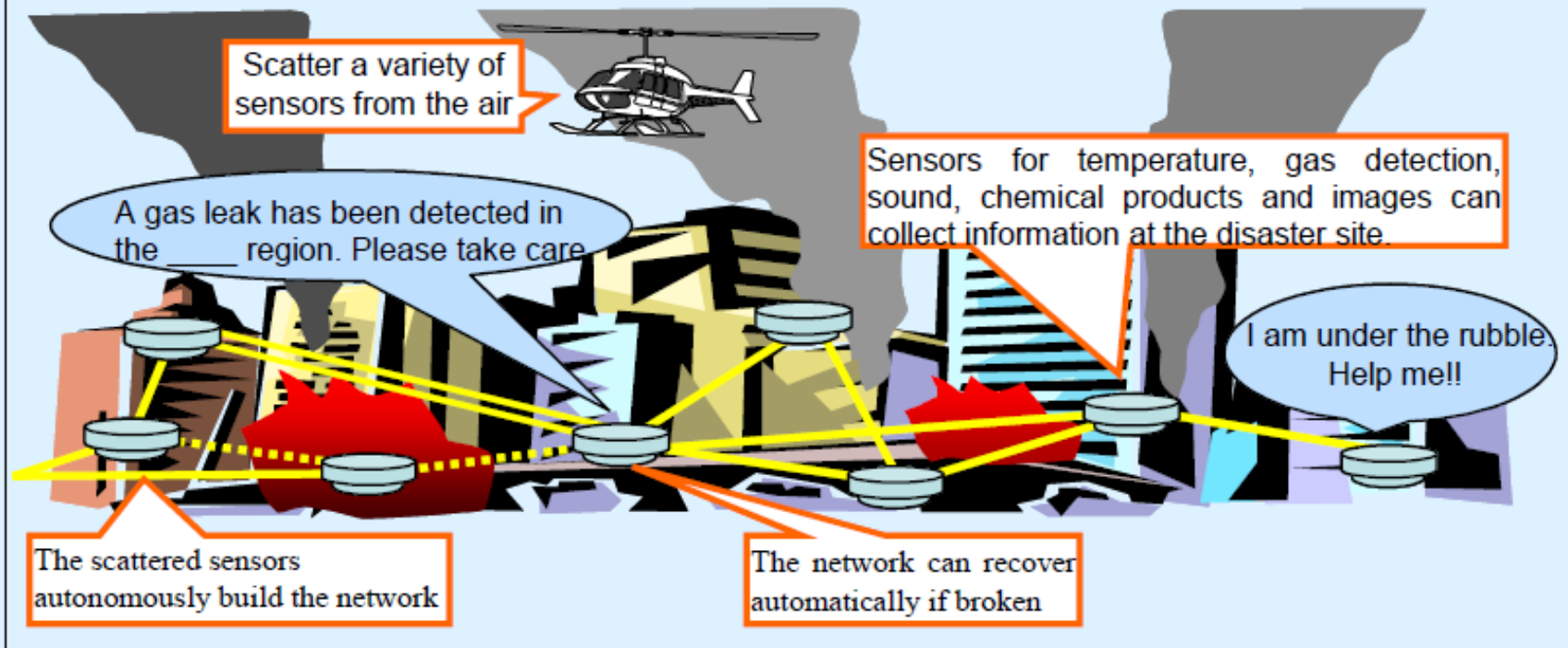
Source: MIC

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Beyond RFID: Sensor Networks

Tiny wireless device has a variety of sensors in-built, and those sensors can distribute autonomously with each other over wireless.

Grasp the situation via sensors, enabling applications that need to be able to respond in real-time.



Source: MIC

Source: MIC

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UbN Future 3) Intelligence



- Reality needs "I"
 - Intelligence, innovation, inspiration, intercultural
 - Intelligent ubiquity will remove long queues at clinics, ticketing offices, elevators, immigrations as ITS is to reduce traffic jams
 - Innovative communication will accelerate value creation

Queue-free society

GOAL

All "mismatch" problems in the human society can be potentially solved by intelligent and ubiquitous network

Smooth traffic

unorganized mismatch



RFIDs and sensor networks
and intelligent control systems

START

Intercultural communication

- Machine translation
- Knowledgebase
- Cross-cultural collaboration platform
- Semantics

Less competition and more collaboration will benefit the global economy

EAST ASIA (chopsticks based culture) will be a good testbed

Opensource Development with your Mother Tongue

TransBBS - Microsoft Internet Explorer

TransBBS

Power

この掲示板は、日本語、英語、中国語、韓国語での書き込みおよび翻訳をサポートしています

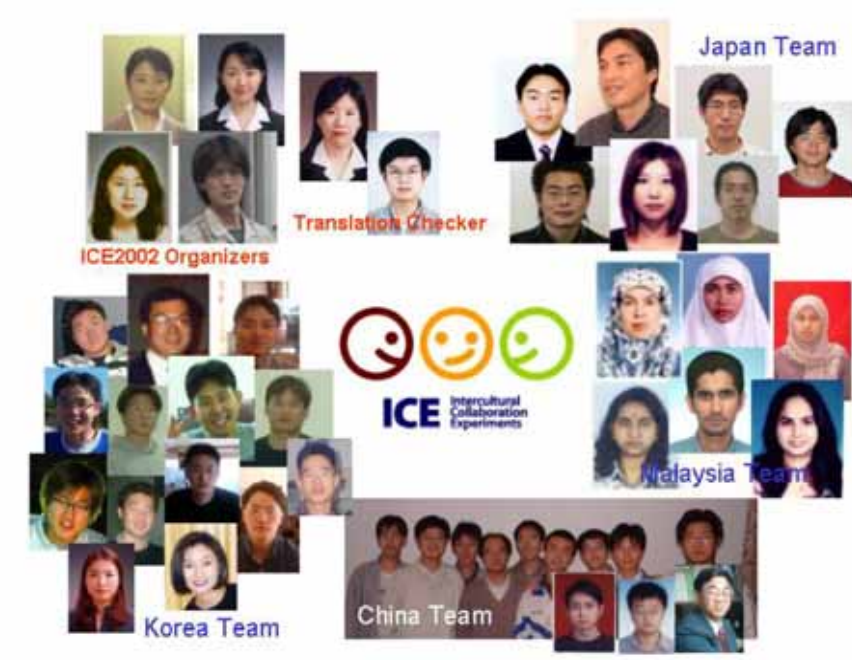
Welcome,

[logout](#) || [change preferences](#)

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Discussion	lobby				
Subject					
URL (任意)					
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japana-48 || 投稿者: MIKI Takeru || [document](#)
 Subject: Design
 投稿日時: 2002年05月20日 月曜日 15時27分14秒

日本語	英語<retranslate>	中国語<retranslate>	韓国語<retranslate>	Malay<retranslate>
TransBBS/TransWEBのソースコードは、もう入手したでしょうか？ソースを読んで、どのようなツールを設計したいかを、各国のdiscussion threadで議論していきましょう。	Had I got the source code of TransBBS/TransWEB yet? The source code will read a sauce and will let us argue by discussionthread, each country, about the cuttlefish that what tool was designed.	TransBBS/TransWEBの源码, 已经得到吗? 各国的discussionthread议论读调味汁, 想设计怎样的工具。	TransBBS/TransWEB의 source code는, 이미 입수했을 것입니까? 소스(sauce)를 읽고, 어떤 툴(tool)을 설계하고 싶은지, 각국의 discussion thread에서 의논해 갑시다.	Sudahkah saya get source code TransBBS/TransWEB yet?



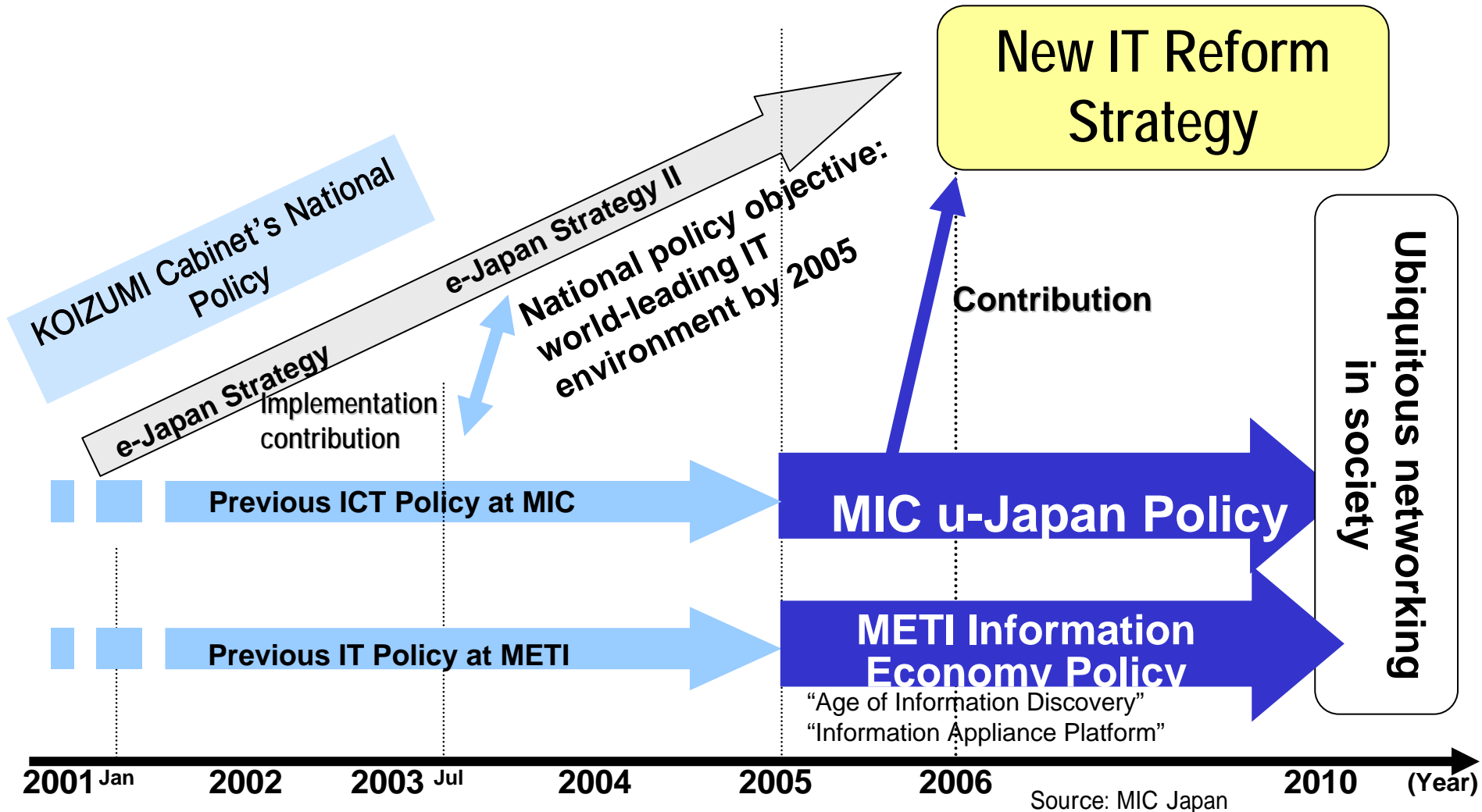
Ubiquitous Network Platforms in Japan



u-Japan as a Future Extrapolation of the e-Japan Strategy

“e-Japan” and “MIC u-Japan” in 2006

MIC: Minst. of Internal Affairs and Communications of Japan, METI, Minst. Of Economy Trade, and Industry of Japan



Issues on the Way to 2010 and the Potential of ICT

- The I C T sector is showing outstanding results in structural reform. Japan will become a leading ICT country by 2005.

- However, there are a number of issues after 2006 when Japan faces the advent of the declining birthrate and aging society.

Society and living

Medical and Welfare

Transport and distribution

Environment/
Energy

Labor and employment

Education/Human Resources

Public safety and disaster prevention

Economy/
Industries

Governmental Admin. Services

International

- The future trend of ICT is the “ubiquitous network”. Its utilization is highly expected to be the breakthrough to solve all the issues

- Necessity of creating a mid-term u-Japan vision to realize the next generation ICT society by 2010

New generation networks architecture

Create the networks based on innovative new concepts, using photonic network technology to extend into post-IP areas.

Ubiquitous mobility

Create a super-broadband environment with mobile on the core, providing seamless coverage from space to every point on the globe.

Common reality communications

Create the first ever realistic 3-D video communication systems

New ICT paradigm

Sow the seeds of ICT—the benefits of which Japan would reap in 20 years—such as basic technology for photonic / quantum communications and nano-ICT.

Super-communications

Create super-communications systems designed to eliminate the barrier of language, knowledge and culture.

Ubiquitous Network Society Strategic Program

Universal Communications

<Intellectual Creativity Program>
Universal Communications Strategy

New Generation Networks

<International Leadership Program>
New Generation Networks Technology Strategy

Universal contents creation / distribution

Create an environment in which anyone can create any content they wish and in which content can be accessed while ensuring reliability.

Ubiquitous platforms

Build a platform with which authentication, billing, distribution, and service integration can be handled easily online.

Security and Safety

<Security and Safety Program>
ICT Security and Safety Strategy

Context awareness environments

Create user-friendly ubiquitous networking environments particularly for the benefit of elderly and disabled persons by the sensor network, RFID and robot technology.

Secure networks

Build the world's most durable network lifelines designed to withstand all forms of external threats and internal failure.

Sensing / Ubiquitous time-space infrastructure

Create advanced measurement, sophisticated time-space infrastructure and positioning systems for use in environmental initiatives and disaster management

Ubiquitous Network Platform by MIC Japan

— ユビキタスネットを支える技術 —

Ubiquitous Network Society

いつでも どこでも 何でも 誰でも

Mobile, Home-server, GIS, Digital TV

Service Layer

eGOV, Telemedicine, Traceability, Contents, Broadcasting

Logical Solution Layer

Seamless Roaming, FMC, DRM, GRID...

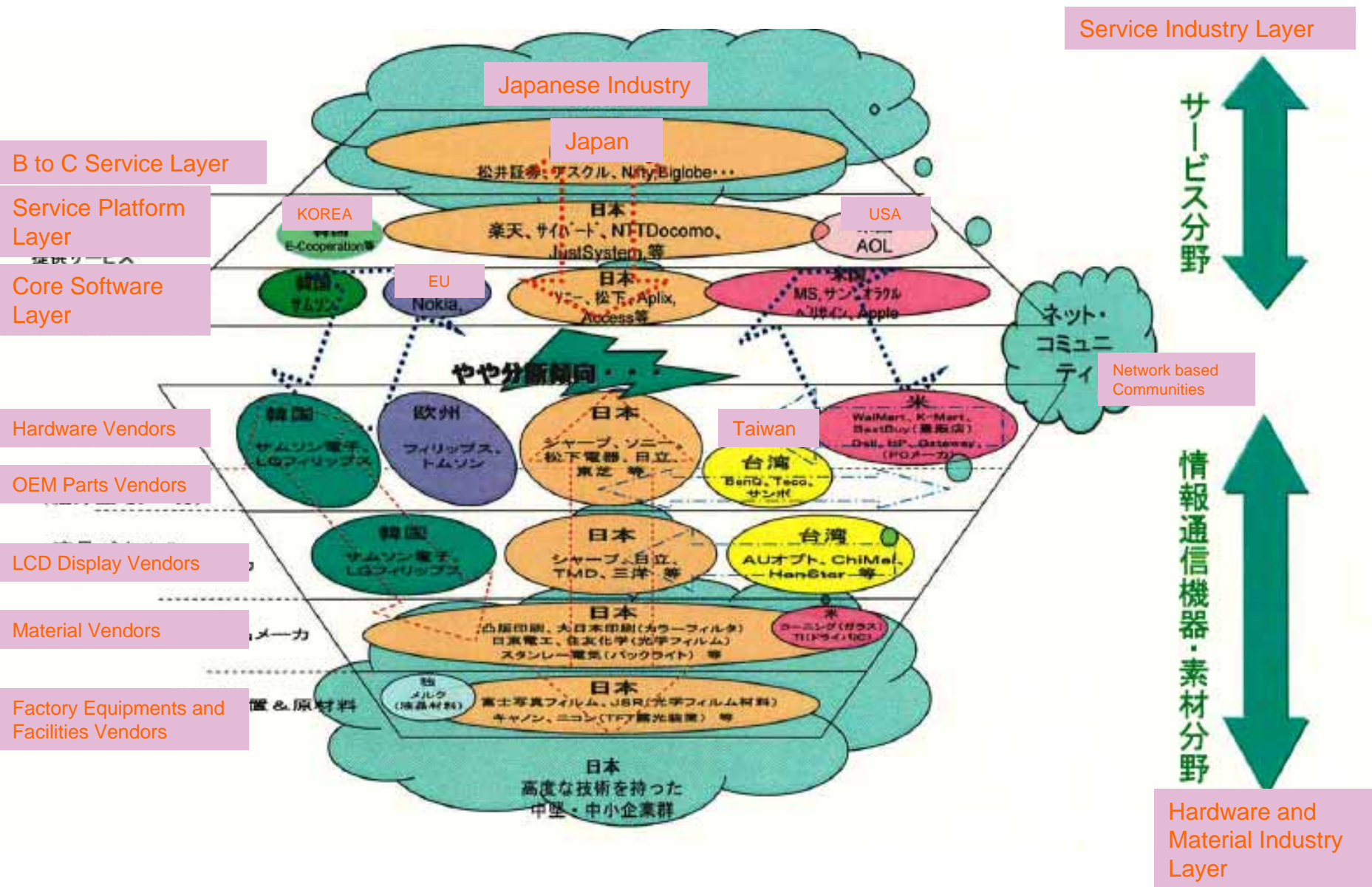
Physical Solution Layer

Wearable, Information Home Appliances, Sensor, RFID

(図 1) ユビキタスネット社会とそれを支える ICT 産業の構造

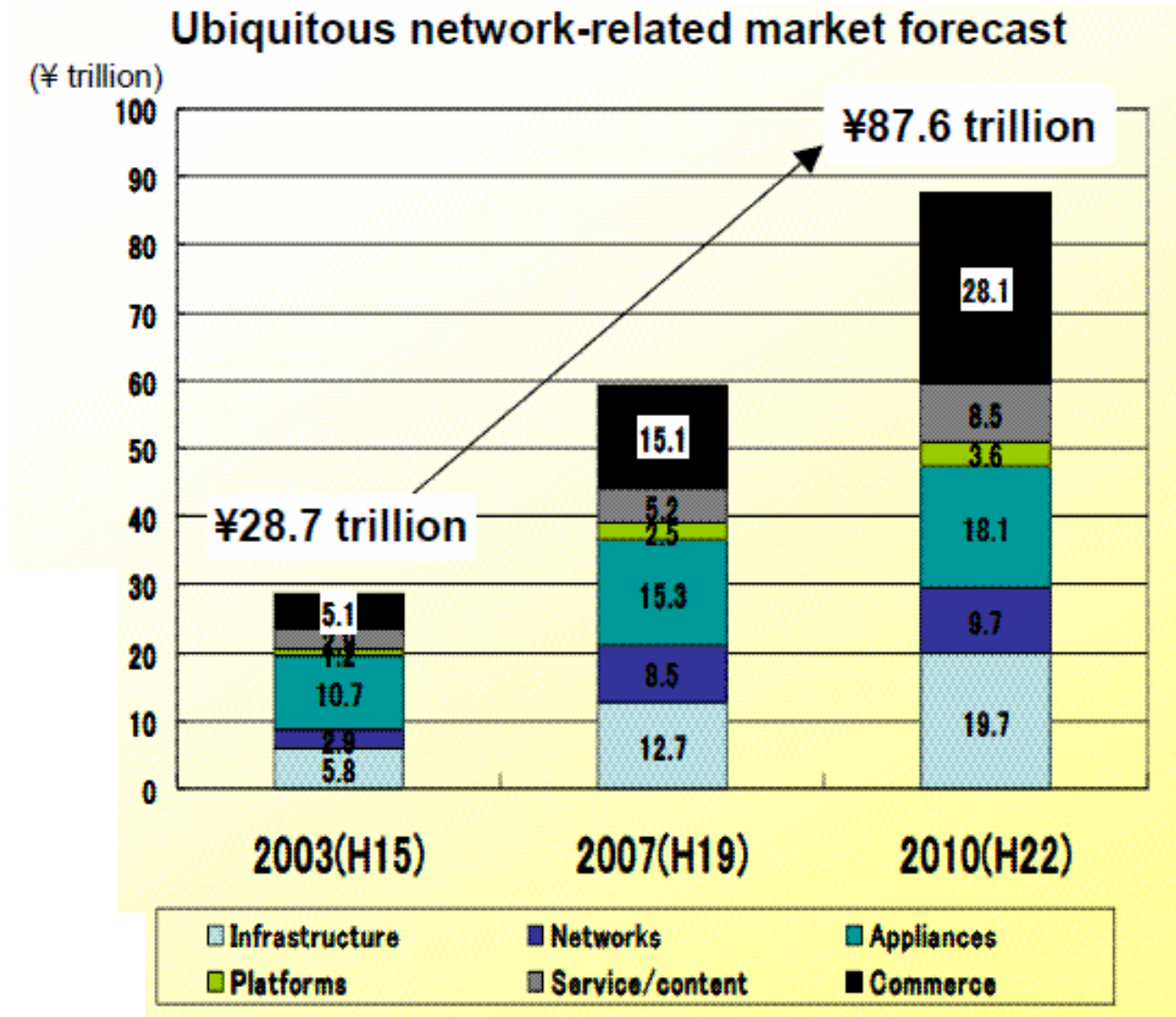
Figure 1. Ubiquitous Network Society and Layered Structure of ICT industry, MIC Japan, 2005

Ubiquitous Network Platform and its Multinational Mapping by METI Japan



Emergence of New Values by Ubiquitous Network

Japan's Domestic Market Forecasted by MIC Japan



New Style of Software Platform – Web2.0

Web 2.0 is

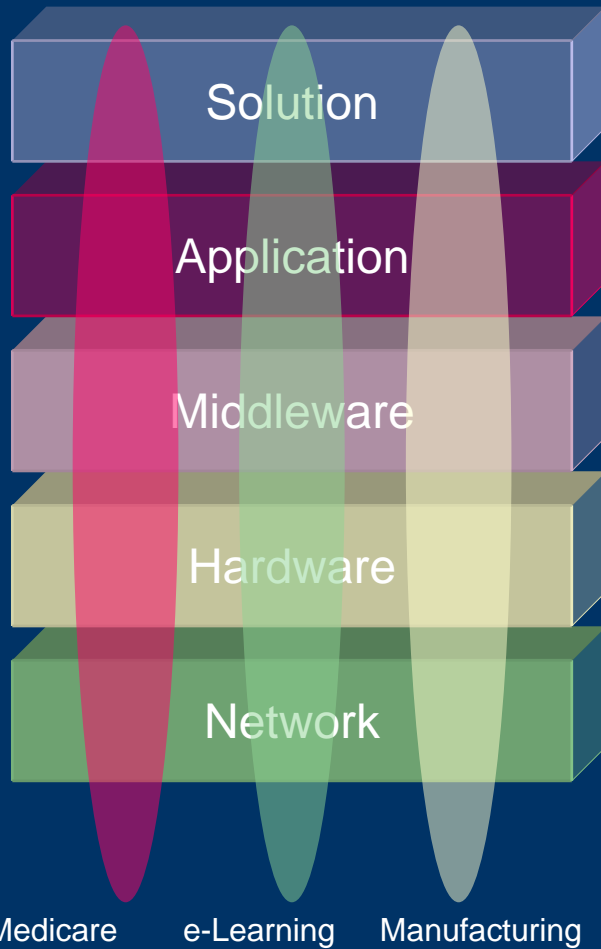
- Not a set of shrink-wrapped software
- Innovative and original, can control numerous independent sources of information.
- Has definite trust on users as a collaborative developers
- Utilizes knowledge from people
 - Long-tailed value circulation by consumer's self assistance
 - Cross-platform architecture
 - Light weight interface

Functions	Web 1.0 style	Web 2.0 style
Personal web	Personal server	Blog
Encyclopedia	Printed books	Wikipedia
Contents Developing	Publishing	Participation

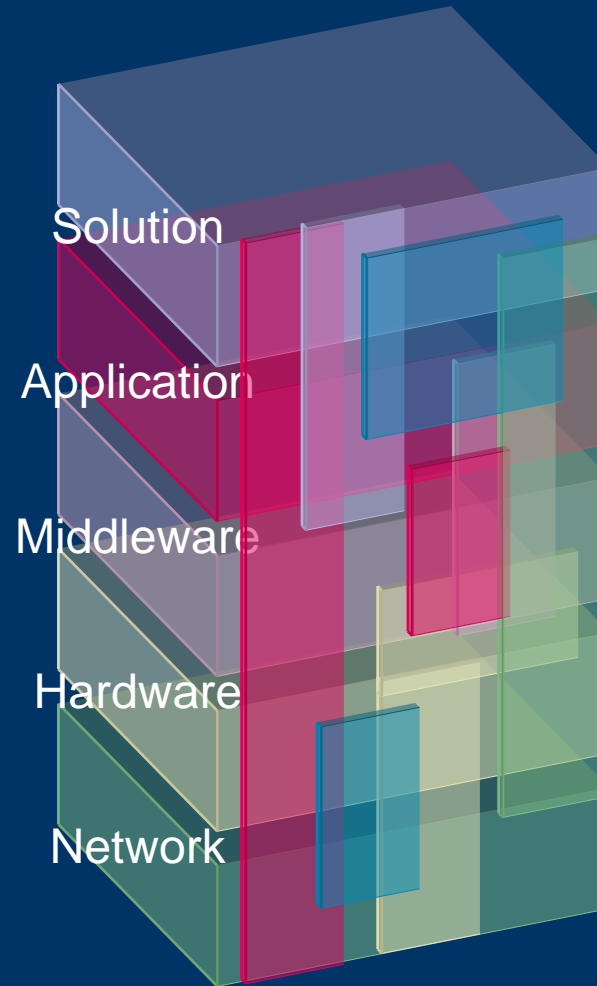
Innovation in ICT Platform Business



UbN Platform Cooking

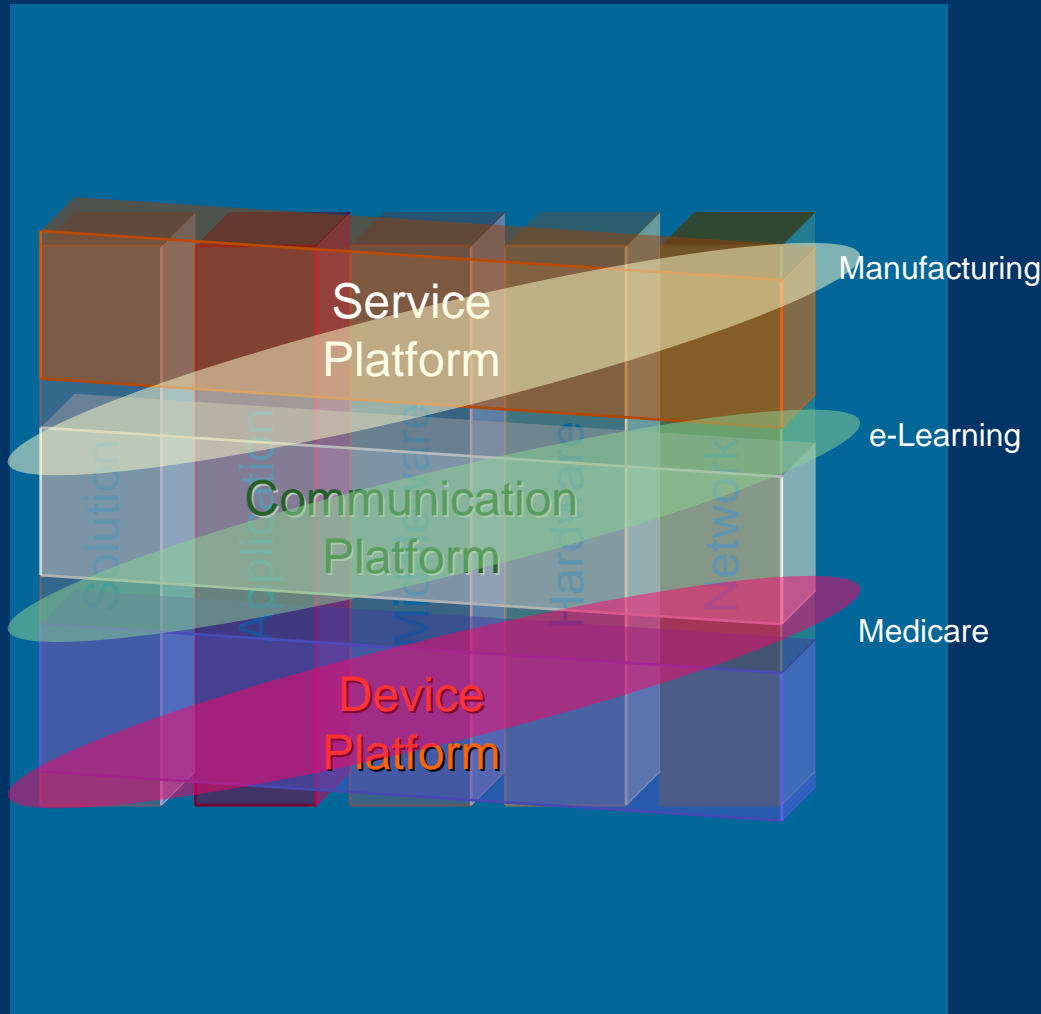


Theoretical Layered Structure of un-Platformed Business



The Real Thing
“Mash up” of Layers by Ubiquitous Network

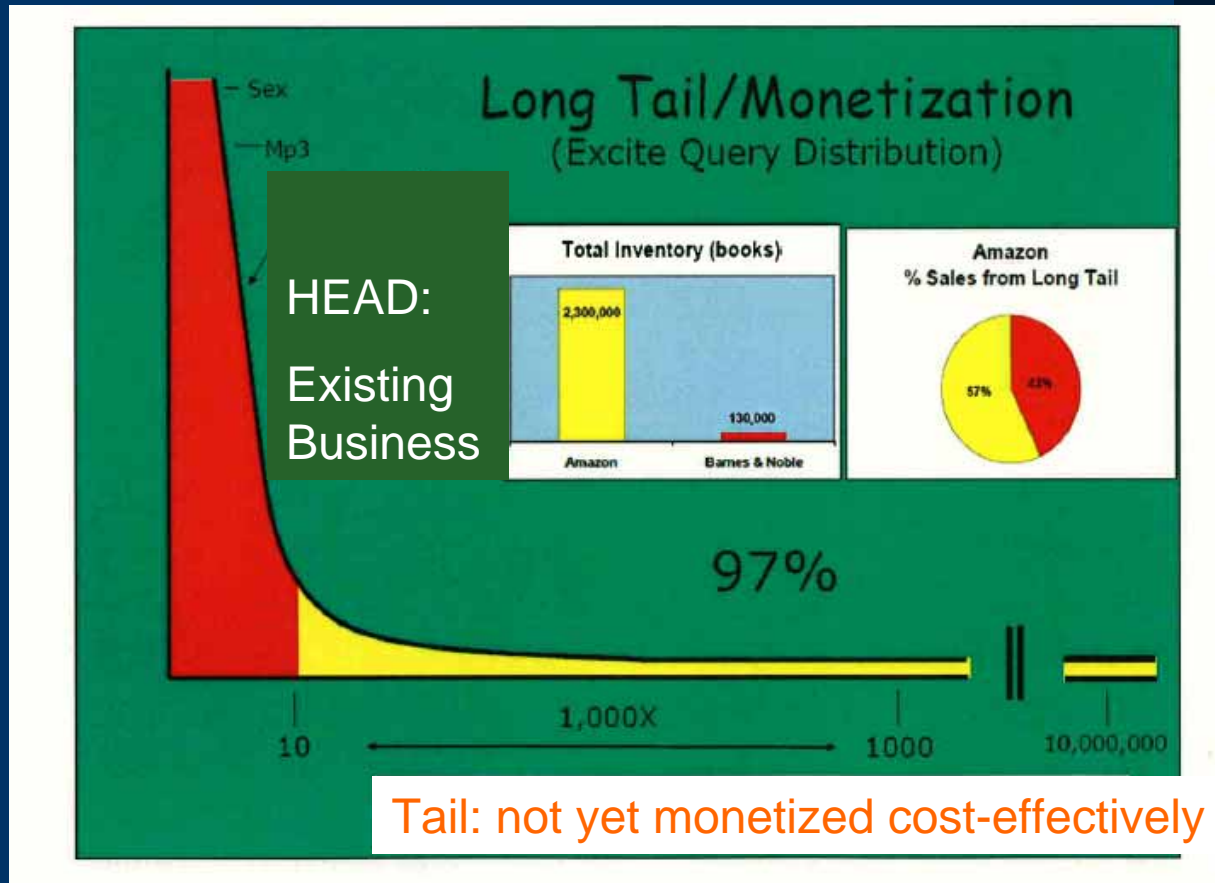
UbN Platform Cooking



Standardized Platforms Over Layers

1. A “platform” is a new structure of business and industry
2. A “platform” is a standardized set of multiple technologies over traditional business layers
3. A “platform” can be designed in many ways, and the answer is not unique
4. A “platform” gives efficient business creation for new type ICT industry

Platform Design changes the business strategy



Question. How can we involve consumers in a long-tailed value chain?

Importance of Platform Design

- If you are going to design a mobile ID tracking platform.....
 1. Develop an IC-chip compatible device and integrate in an mobile phone
 2. Develop a IC-chip/RFID reader for mobile phone

Both should work fine, but.....

Platform business-

1. Communication Platform

WiFi hotspots, WiMax, Skype, SMS and Telecoms

KPIs :

- How long users have actually used the platform
- how much satisfied

Experts in

US > EU > Taiwan ~ Korea ~ Japan

Platform business- 2. Device Platform

RFIDs, IC-chips, Information Appliances, Sensor Networks

KPIs:

- How much cost reduced?
- How many well-evaluated functions integrated in one platform?

Experts in

US > Japan ~ EU , Taiwan, Korea.....



Platform business- 3. Service Platform

Intelligent Service Systems like ITS, Google, eBay...

KPIs :

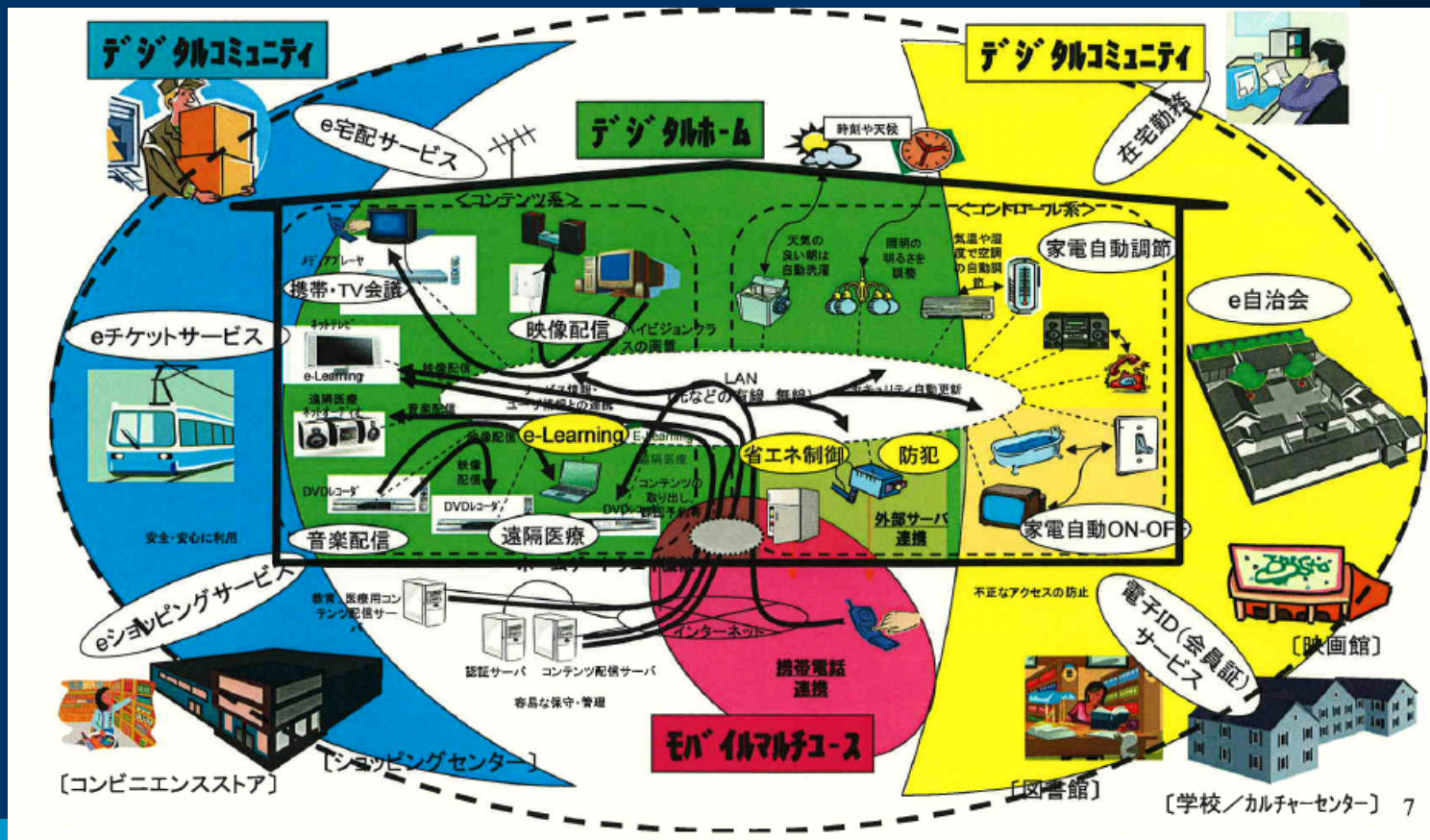
- How much value created by the platform

Experts in

Taiwan, US , Japan, EU, Korea.....

In Vivo Platform Experiments in Japan

- Information Appliance (METI and MIC)



In Vivo Platform Experiments in Japan

(continued)

- Age of Information Discovery (METI)
- Ubiquitous ID Platform (MIC)
- And more....

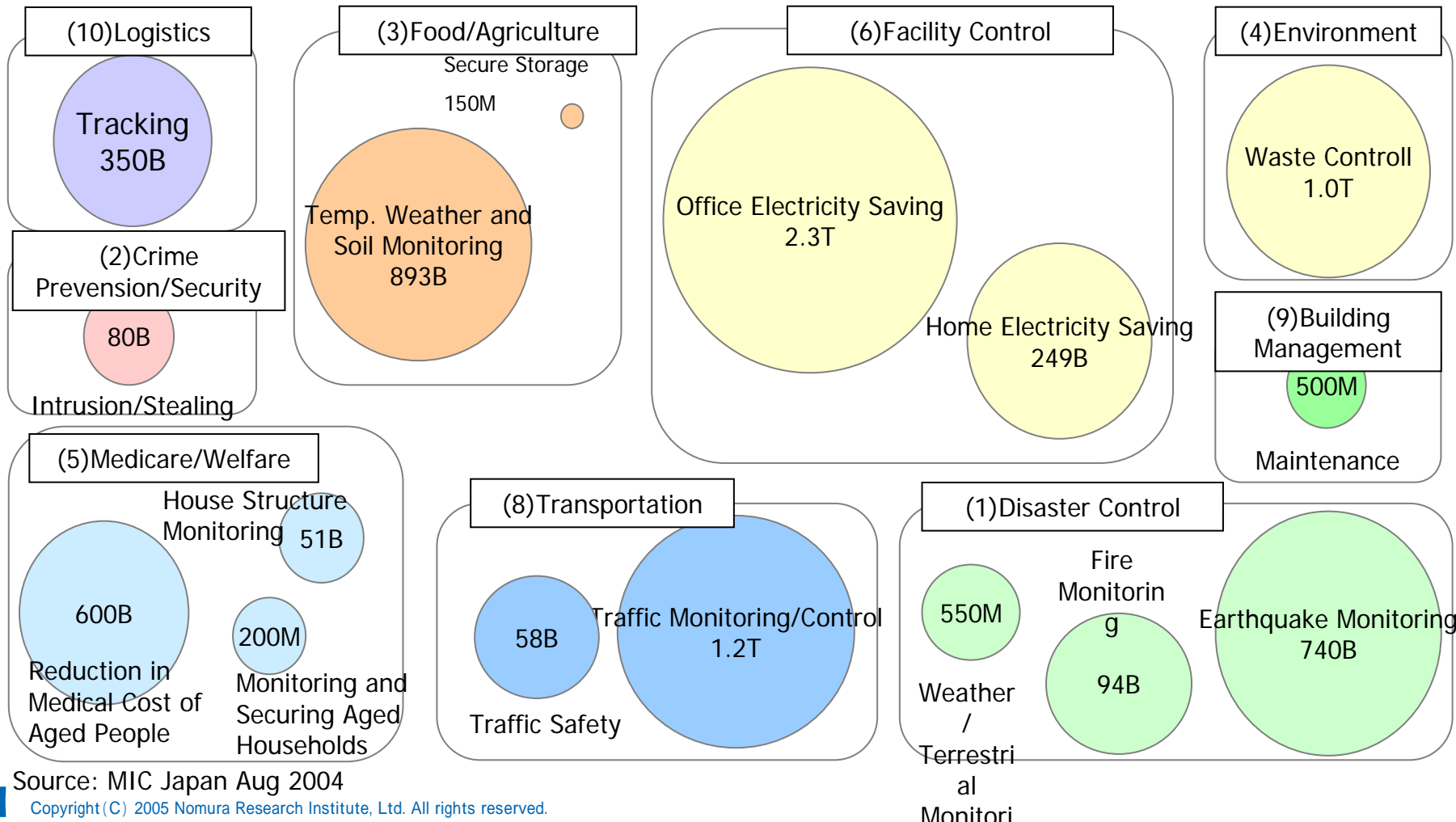
Social Cost Reduction by Ubiquitous Sensor Network

■ MIC Japan Calculation

- Total 1.23 Trillion JPY in 2010 with largest market 422 Billion JPY in Security Business

■ Social Cost Reduction by Electricity Saving = 2.3 Trillion JPY / by Less Traffic Congestion = 1.2 Trillion JPY

In JPY (1JPY ~ 115USD ~ 1 / 3.5 RMB)



Source: MIC Japan Aug 2004

CONCLUSION

- Consideration of the broadband meaning of “platform business“ is important.
 - Communication Platform
 - Device Platform
 - Service Platform
- Each platform is not always unique.

Users - in many cases consumers determine which platform is the best.
- Strategic Cross-border collaboration will benefit all countries

Triple Evolution of the Internet

