ICT Accessibility
Solutions for Japan's Ageing / Disability   in Societies

Dr. Toshio Obi

Professor, Waseda University, Japan

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What has happened?

3.11 Tsunami/Earthquake

Serious Issues of Super Aged Society in Japan

➢ **Victims of Tsunami were mostly the Ageing People**

➢ **A Half of 4 Million handicapped people are Ageing people**

➢ **26 % of all population belong to Ageing or Handicapped people**

➢ **70 % of persons injured during big disasters (such as earthquakes ,Tsunami and typhoons) and 55% of traffic accidents are ageing / handicapped people**

The Current Situation of Vulnerable people

- **10 issues to reduce the Damage of Disaster**
  - **Communication through ICT**
  - **Governmental Education and Training**
  - **Governmental Disaster Management**
  - **Disaster Preparedness Manual**
  - **Communication between Municipalities and Local Government**
  - **Privacy Issues**
  - **Disaster Management for Ageing People**
  - **Finance**
  - **Network during Disasters**
  - **Management for Vulnerable People**

3 ICT application Sectors in Innovation for the Senior and people with disabilities in accessibility

HOME ELECTRONICS

Smart home
(supportive housing)
Sensors by bed
occupancy and
nightlight
Home safety alerts and
GPS
OASIS (open
architecture for sensor)
Remote for single living
sensors
Environmental controls
Cooker safety
Home treatment

HEALTHCARE

Telehealth (e-health)
Health information
management
Telecare
Just checking
Robot care (Robot)
Service innovation in
hospital
Dreaming (nursing
home)
 E-carte
Client monitoring
system

LIFE INNOVATION

E-inclusion
Ambient assisted living
Online shopping
Net reservations with
touch panel
E-banking & e-payment
ICT ethics for ageing
TV-seniority and
programs for the elderly
Social alarms
Social communication
technologies
Senior net talking
Easy call, easy mobile
and easy PC

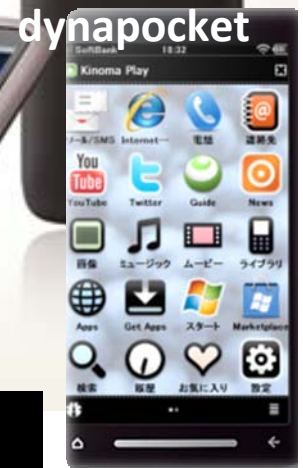# Smartphones application for ageing and people with disabilities

HTC Desire
SoftBank
X06HT

dynapocket

au

IS01 by SHARP

IS02 by TOSHIBA

Softbank

XPERIA

LYNX

docomo

dynapocket

BlackBerry Bold 9700

TOUCH DIAMOND

6

Key ICT Factors supporting Ageing/disability Societies
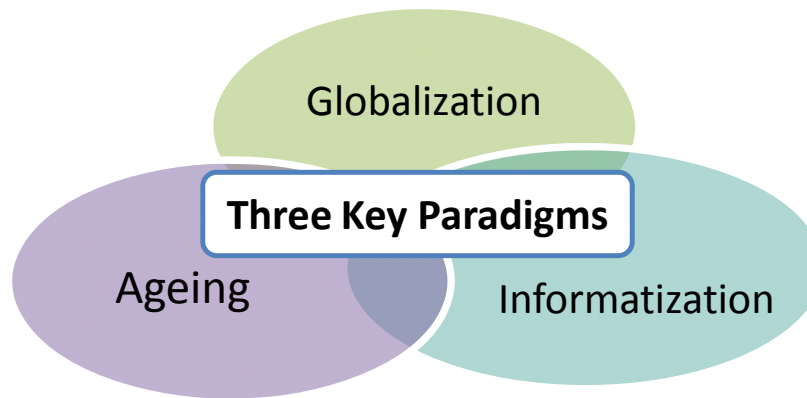

e-Participation / Digital Inclusion
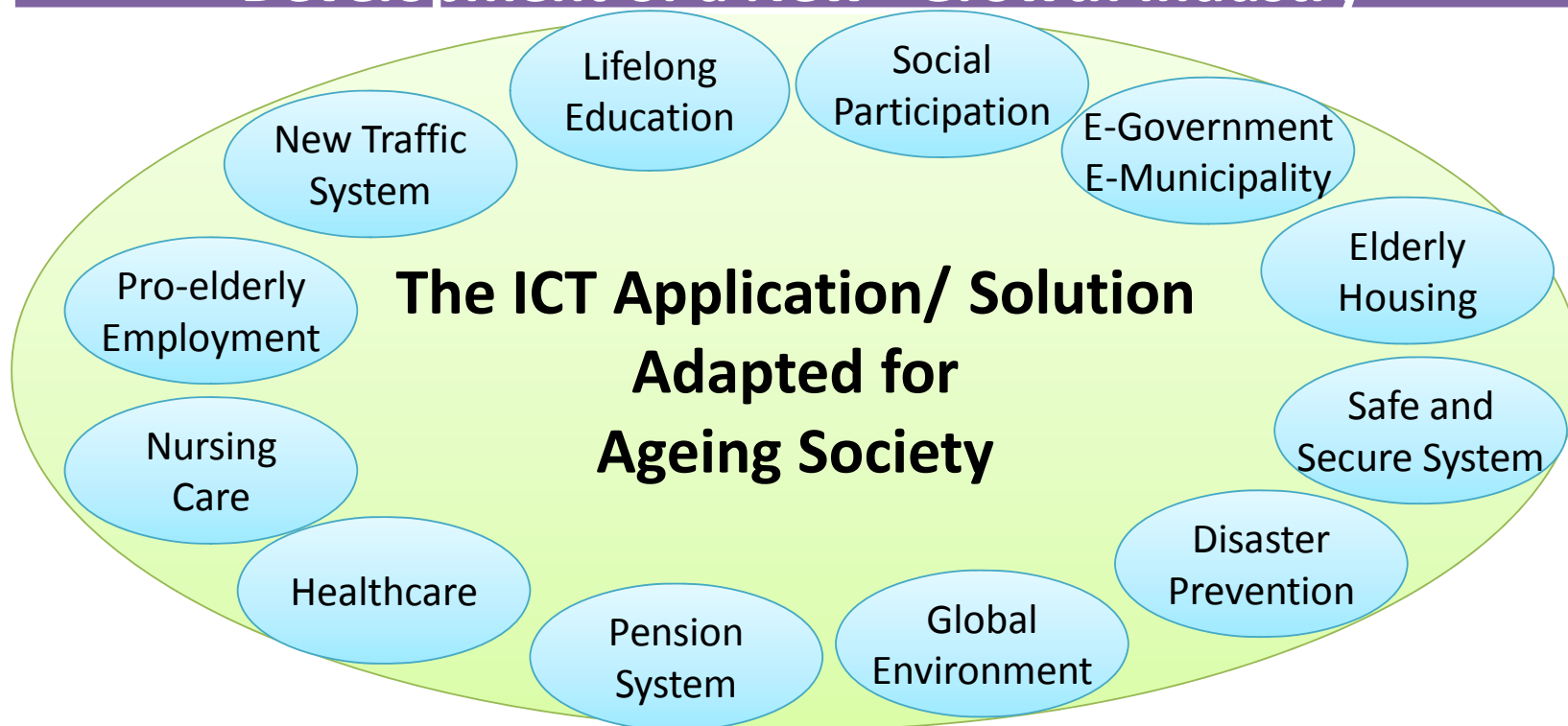
Usability Accessibility

Safety Security

Ageing /handicapped Societies

Global technical Standard

Low cost

Environment Friendly Socio-Innovation

Globalization

Three Key Paradigms

Ageing

Informatization

Advent of the Ageing Society and Development of a New Growth Industry

The ICT Application/ Solution Adapted for Ageing Society

Lifelong Education

Social Participation

New Traffic System

E-Government E-Municipality

Pro-elderly Employment

Elderly Housing

Nursing Care

Safe and Secure System

Healthcare
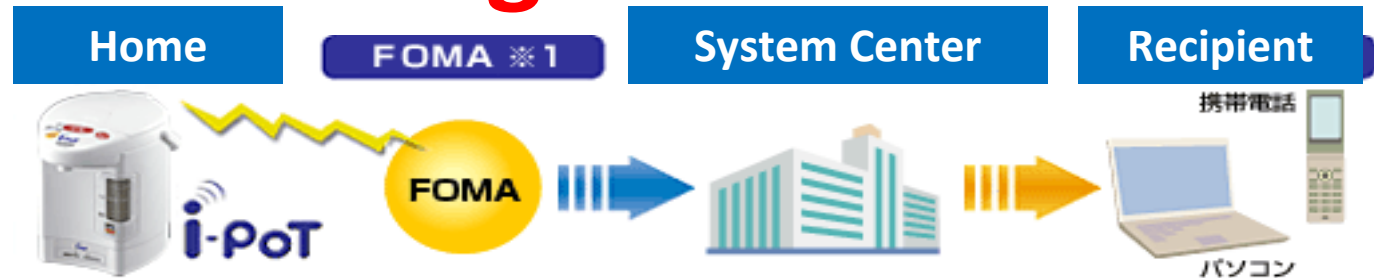
Disaster Prevention

Pension System

Global Environment

Robot Suit Hybrid Assistive Limb® for Well-being

●When a person tries to move their body, bio-signals is sent from the brain via moto-neuron. These bio-signals can be detected on the surface of the skin with sensors attached.

●applied for rehabilitation support and physical training support, ADL support for disabled people, heavy labor support at factories, and rescue support at disaster sites, as well as in the entertainment field.

●Used all over Japan

source: http://www.cyberdyne.jp

Power Units
for upper limb
(+Angle Sensor)

Battery Pack

Control Unit on back

Power Units
for lower limb
(+Angle Sensor)

HAL

Successful offerings
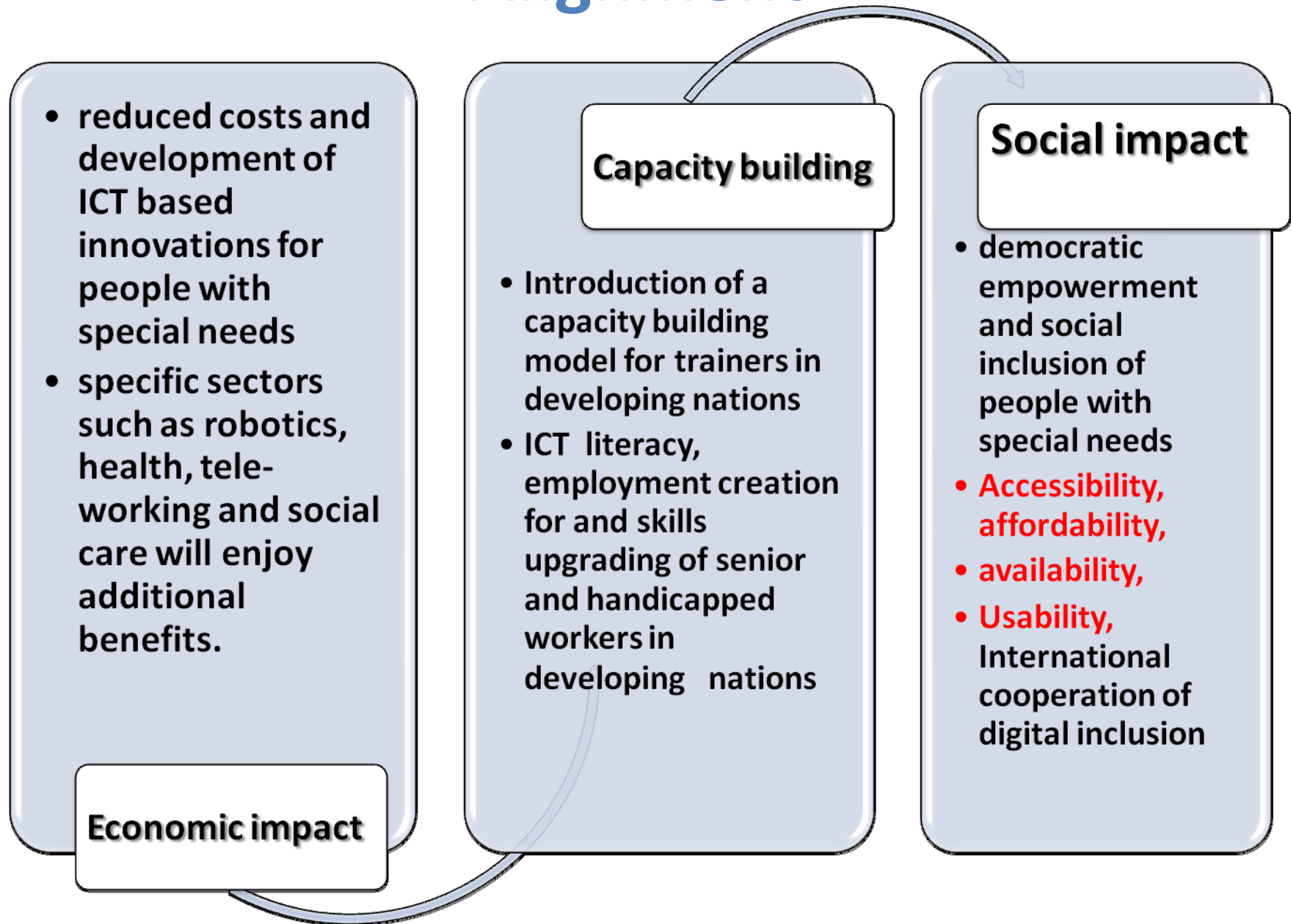

| Home | FOMA ※1 | System Center | Recipient |

- **i-pot** boils water and records the times a user pushes a button and dispenses the water. A wireless communication device at the bottom of the i-pot sends a signal to a server. Members of the service can see recent records of i-pot usage on a Web site. In addition, twice a day the server e-mails the most recent three usage times to a designated recipient. (http://www.mimamori.net)

- **My Spoon** is a meal assistance robot (http://www.secom.co.jp)

Alignment

Economic impact

- reduced costs and development of ICT based innovations for people with special needs
- specific sectors such as robotics, health, tele-working and social care will enjoy additional benefits.

Capacity building

- Introduction of a capacity building model for trainers in developing nations
- ICT literacy, employment creation for and skills upgrading of senior and handicapped workers in developing nations

Social impact

- democratic empowerment and social inclusion of people with special needs
- Accessibility, affordability,
- availability,
- Usability, International cooperation of digital inclusion

e-Government service for Web Accessibility for Handicapped &Ageing

- Online service and application
- One stop service
- Portal for the elderly and handicapped
- Call center for the elderly and handicapped
- E-tax and e-pension system
- Information security
- E ID for the elderly and handicapped
- E-local government (digital on-line public service)

E/M/T/D-HEALTH for Ageing /Handicapped
Tele-medicine, Healthcare for ageing / handicapped communities
(Electronic/Mobile/Tele/Digital)

- remote monitoring
- wireless medical prescriptions,
- emergency room,
- mobile hospital applications,
- electronic medical record
- measuring, storage and transmission to a database of patient's health statistics during daily routines, emergencies, the treatments of chronic illnesses, in case of elderly people who live on their own or with other elderly people.
- Smart Home for ageing and handicapped patients

E - Mobility

- -Smart railway station
- -ITS (intelligent transport system)
- -Digital map service
- -Safety auto driving system
- -Small car for the elderly easy drive
- -Barrier free public transport
- -Barrier free digital city planning
- -Green ITS and Intermodal under Ageing Society

Japanese Industrial Standard (JIS)
Guidelines for older persons and persons with disabilities   National vs ITU,ISO,IEC
– IT equipment and services

- **Common guidelines for Standard in Japan**
- **-major obstacles and challenges – (1)strict regulation , (2)lack of finance,(3)lack of understanding,(4) shortage of manpower,and (5) poor coordination,(6) no evaluation system**
- **Scope** In order to give older persons and persons with disabilities higher accessibility to info-processing equipment, electrical comm facilities, office machines, software, the Internet, and other kinds of ICT equipment and services, this Standard specifies the basic considerations for planning, development and design of those equipments and services
- @Strategic ideas on Priority actions –creation of Minister for Ageing and disability

Scope of Disabilities issues for Technical Standard   JIS X 8341 1-5

Barrier free =Hard +Soft/Service + System

Technical Standard must extend to the above areas

- **The Scope of Disabilities is enlarged**
  (ex. in USA there are 54 million disability people (18%)

- **Physical disabilities**
- Living in home
- **Visual disabilities**   **color,voice/sound**
- Blind
- Low vision class 1
- Low vision class 2
- Low vision class 3
- Low vision class 4
- Low vision class 5
- **Mobility disabilities**
- **Internal organ disabilities**
- Living in care center
- **Intellectual disabilities**
- Mental disorders
- **Hearing/speech disabilities**
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