

What DOCOMO Can Do for Disaster Risk Reduction?

- Reconstruction Support and Demonstration of Potable SIM -

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Overview of Presentation



Part1.

Since the Great East Japan Earthquake

Part2.

in the future

Part1.

Since the Great East Japan Earthquake

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March 11 , 2011

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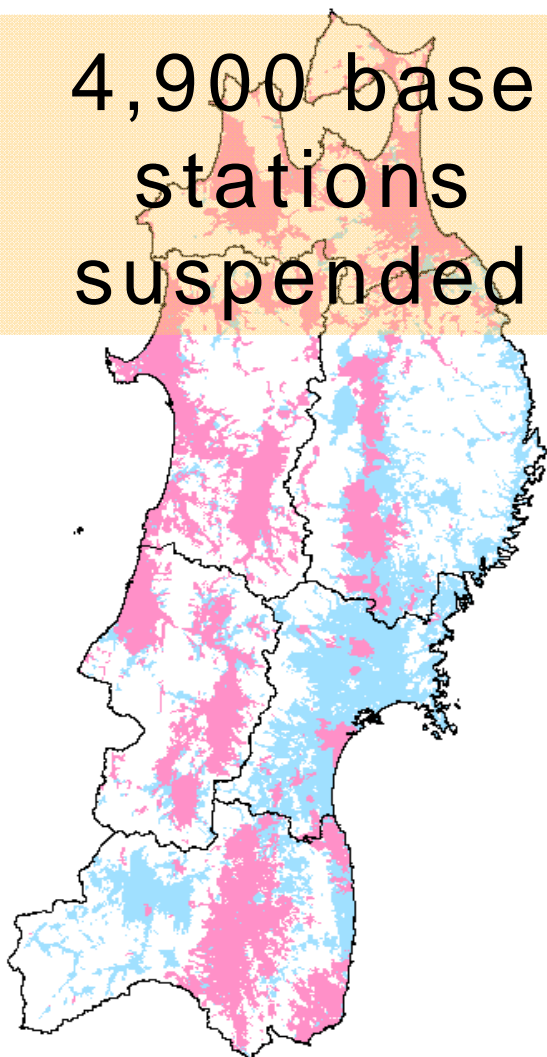
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docomo's Damage

As of Mar. 12

4,900 base
stations
suspended

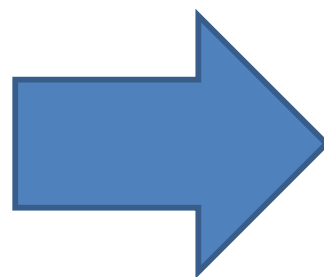


Principal reasons

Direct physical
damage

Transmission line
disruption

Battery run-out



Swift Response

Recoverd in April.2011

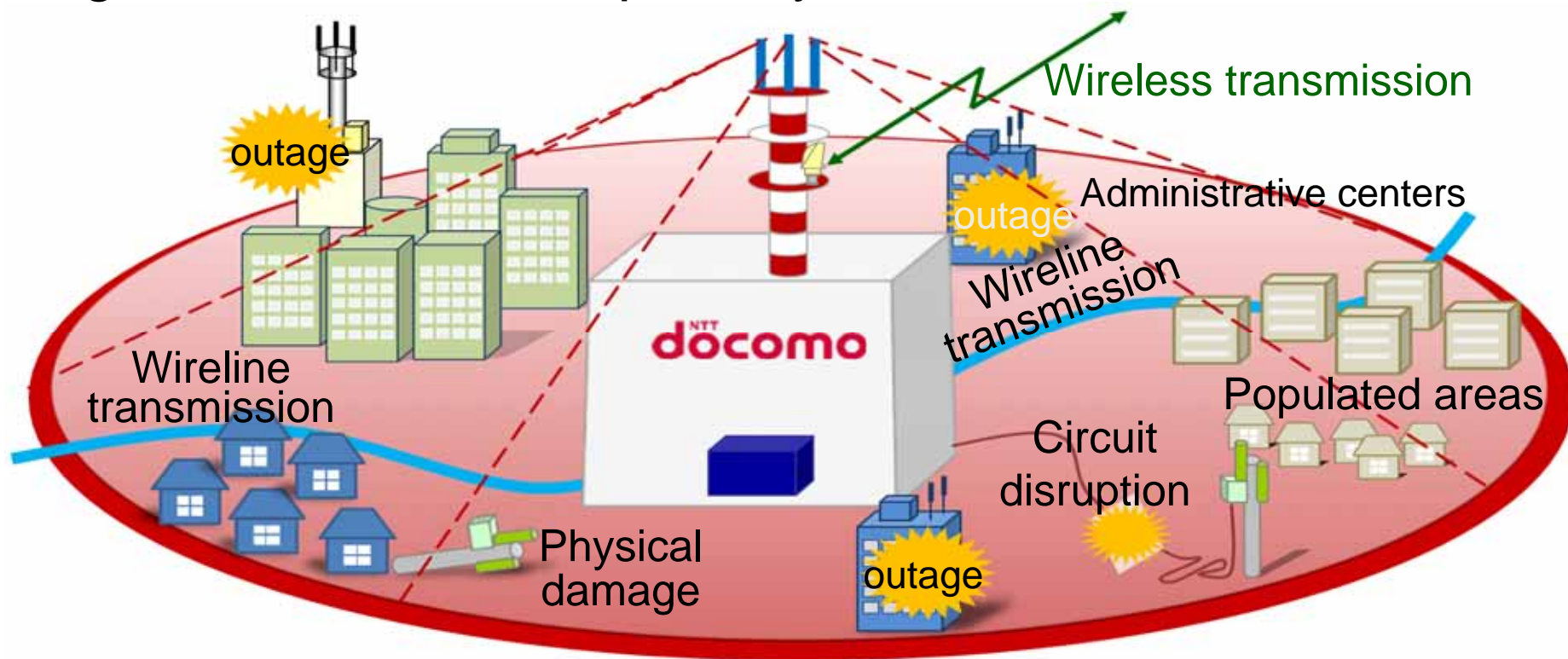
Service interrupted

Service available

Construction of Large-Zone Base Stations

Securing communication for key areas and facilities

DOCOMO will have installed 104 base stations with a large-zone service capability.



Priority : communication enabled > Communication speed

Expansion of Early Warning “Area Mail” Service

Further improvement of customer s convenience during disasters

Tsunami warnings issued by the Japan Meteorological Agency for 66 coastline areas will be transmitted to it.



Government institutions



Disaster & evacuation info

Earthquake info
Tsunami info

At home



Warnings received in given area



During commute



1036/1789 municipalities introduced it as of April.25.2012

December 1st , 2011

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Tohoku Reconstruction Activity

Foundation of “Tohoku Reconstruction Support Office” to provide continuous support



“We connect people with society,
for the smile of Tohoku.”

- Supporting Japanese & local governments reconstruction activity.
- Creating new mobile business models from disaster-stricken area.

Our typical activities

Distribution of tablet devices for refugees seriously damaged by the earthquake and tsunami.

- They live their life in distant place from Fukushima, all around Japan under the influence of Fukushima Daiichi Nuclear Power Station.
- Two problems are maintaining their local community and the lack of information from the local government

We are introducing the tablet type information terminal device what they can try to communicate and get immediately information of their town office.



Prepare
Area Mail

Utilization
rate : 90%



Activities of our support office

Holding a meeting

We didn't only distribute the tablet devices but also hold regularly a gathering for them.

changes in their needs

Getting merely
local information

Four years pass



Trying to communicate
with local people



Elderly people have not used the electronics

Part2. In the Future

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Necessities to support foreign visitors

Foreign
visitors
for japan

12,000,000

10,000,000

8,000,000

6,000,000

4,000,000

2,000,000

0

2007

2008

2009

2010

2011

2012

2013

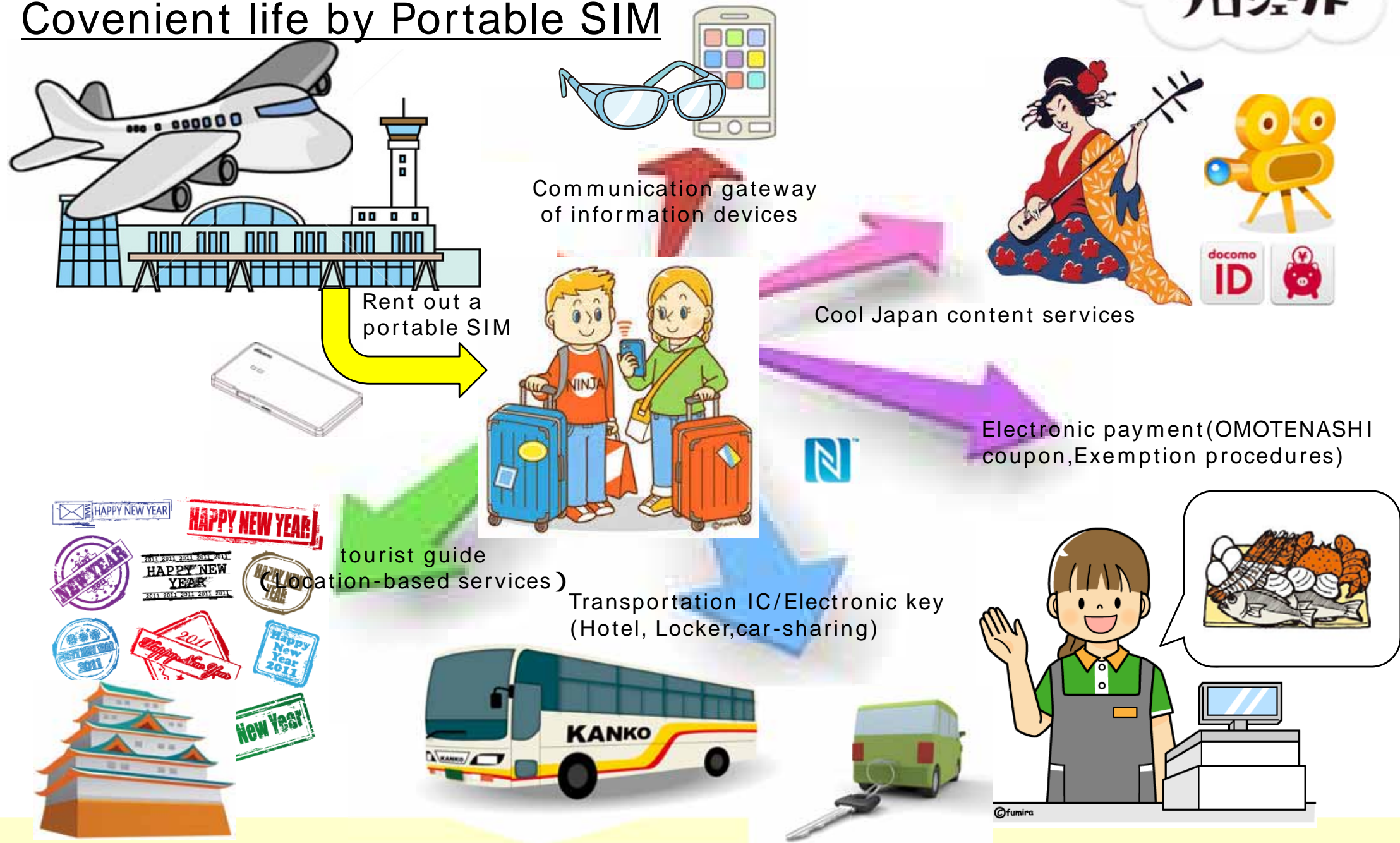
year

pass 10 million
people

Foreign visitors were seriously damaged
because they couldn't also have enough access to information.

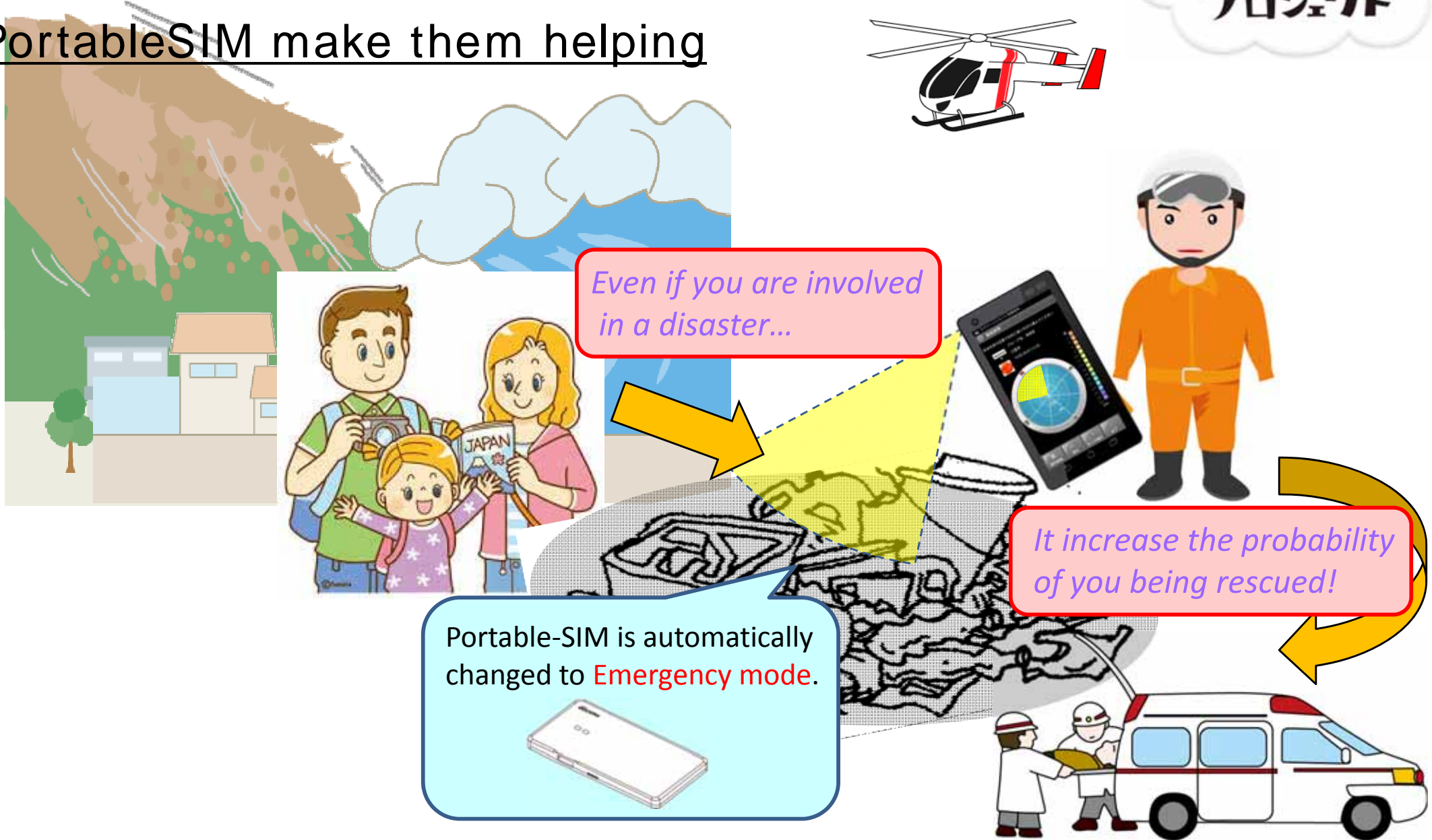
Portable SIM usage scenes: usual case

C convenient life by Portable SIM



Use case 2: Emergency situation

PortableSIM make them helping

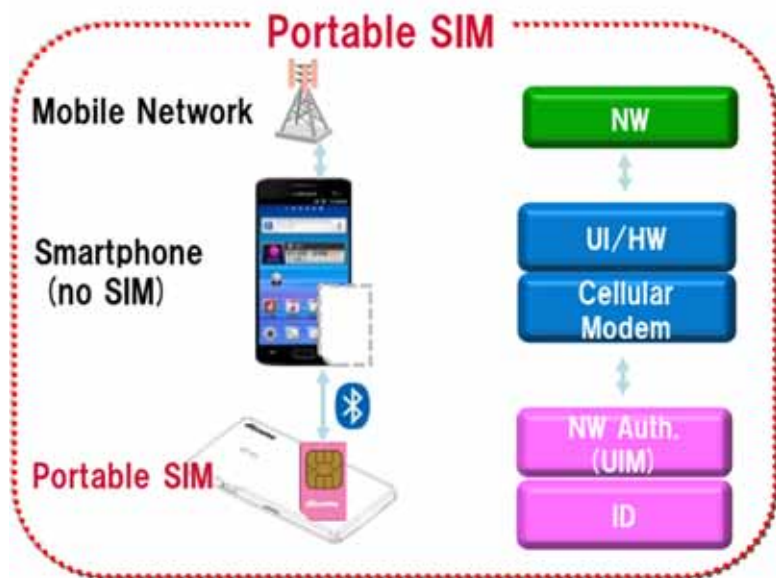


Portable SIM concept

Solution for seamlessly switching user's phone number among multiple smartphones and IoT* devices

- Physically separate SIM card (IC chip) from a smartphone
- Access SIM information wirelessly from activated device without physically inserting SIM
- A simple wave to activate another IoT device

*IoT: Internet of Things



Concept design



Applications: Wearable devices
(envisioned)

Features of Portable SIM

Network authentication

- Switches subscriber identity (phone number) among smartphones and IoT devices

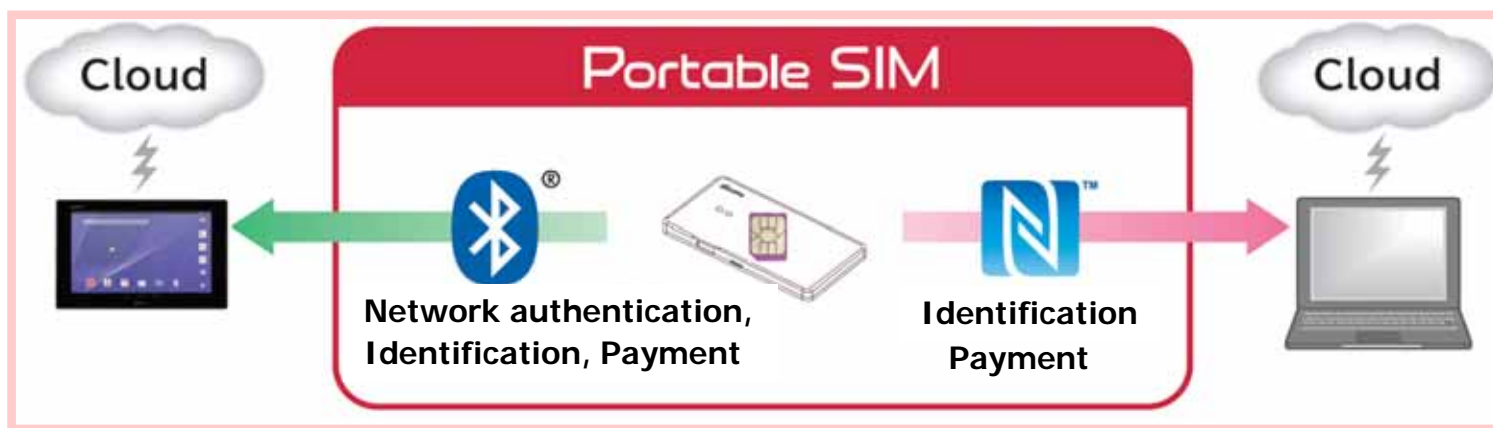
Identification

- Securely manages multiple user's IDs/credentials
- Transfer ID to devices to access user's cloud services

Payment

- Securely manages users' payment information

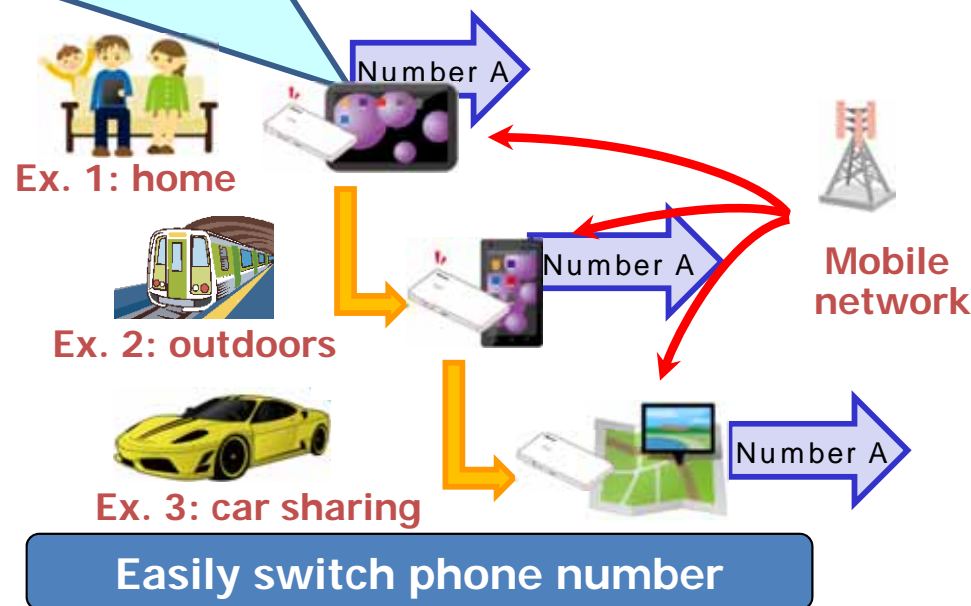
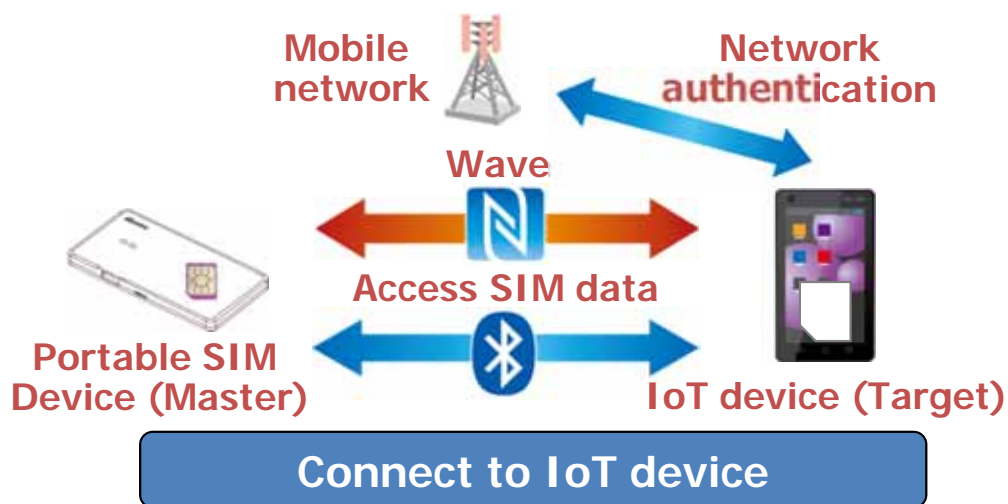
Today's
DEMO



Network authentication by Portable SIM

- A simple wave via NFC to activate the IoT device and Bluetooth connection is established.
- Activated device can access mobile network.
- Phone number easily switched among multiple devices.

Smartphone, Tablet or any IoT devices can be activated by Portable SIM's phone number (in this case, number A).

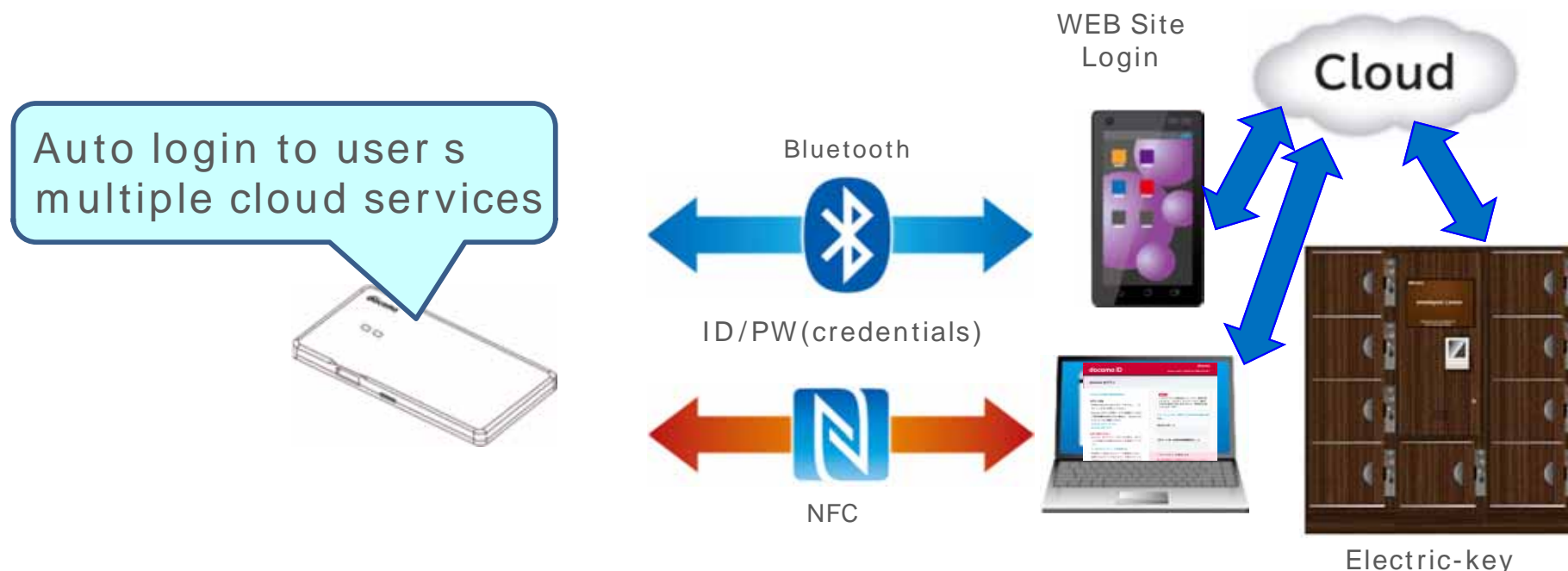


Identification by Portable SIM

Identification

- Securely manages multiple user's IDs/credentials on SE*
- Transfer ID to devices to access user's cloud services
- Electric-key can be also managed, which can be transferred via cloud

*SE: Secure elements which are tamper-resistant memory area running multi Java-card applets. A variety of encryption APIs can be used for Java-card applets.



Payment by Portable SIM

Payment

- Securely manages users' payment information (on SE*)
- Payment information can be updated via smartphones (using Bluetooth connection)

*SE: Secure elements which are tamper-resistant memory area running multi Java-card applets. A variety of encryption APIs can be used for Java-card applets.



Payments can be done by
Portable SIM itself

*Current prototype has capable of
NFC TypeA/B.

Demonstration: Emergency situation

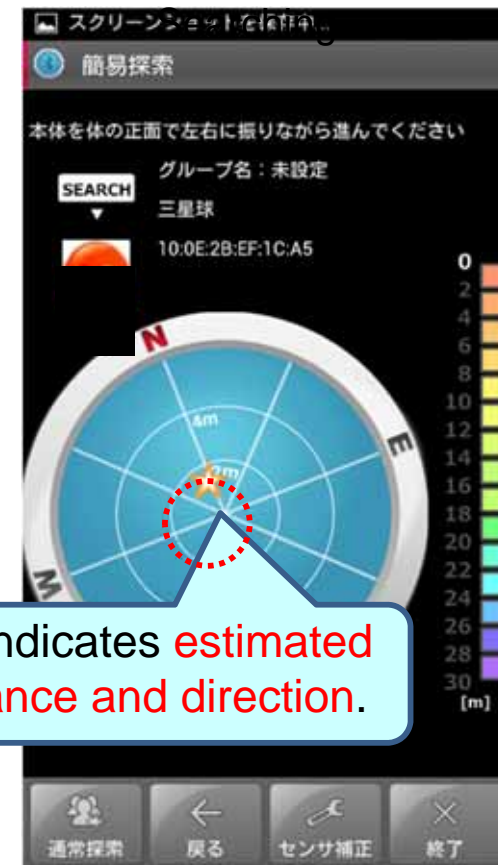
Estimate a place of PortableSIM

by smart phone application

Listing...



2. Select one of icons you'd like to search.
3. **Swing a phone.**



4. It indicates **estimated distance and direction.**

1. Persons who carry Portable-SIM are listed.
Icons are put in order of distance.

Application



Portable-SIM in **emergency mode**.
They are placed at DOCOMO's exhibition area.

Application

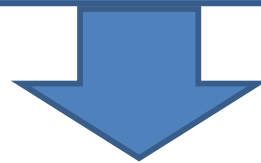
Finally

Docomo's mission

Establish mobile communications environments that enable customers use mobile devices without stress or worry

Docomo's challenge

Develop the new business area to become an integral part of the daily lifestyles of customers



More safe and reliable society

Thank you for your listening.

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