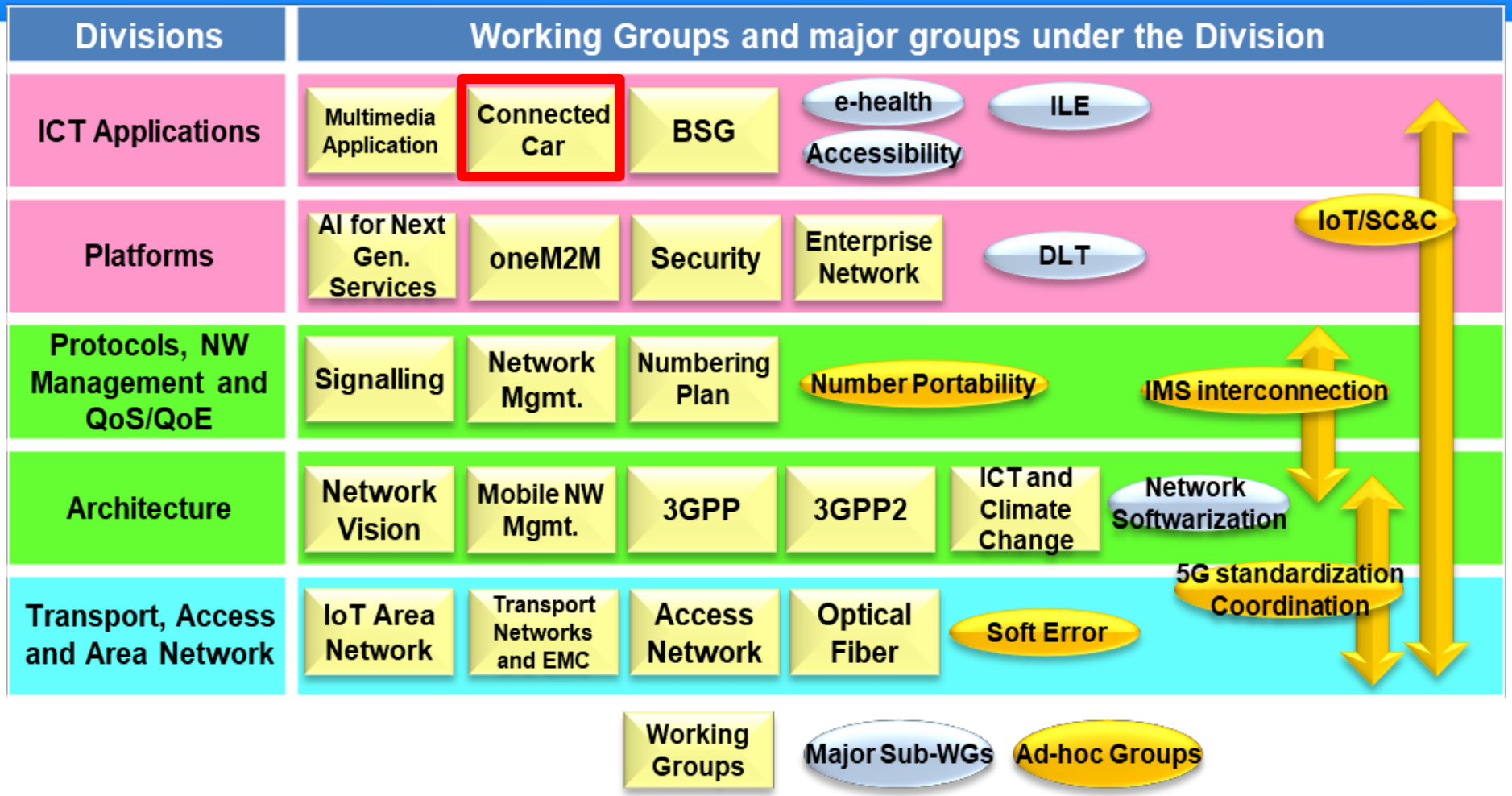
Overview of Working Group on Connected Car

Chair of Working Group
on Connected Car

Yasubumi Chimura

Working Groups structure in TTC



BSG: Bridging the Standardization Gap 3GPP : 3rd Generation Partnership Project Internet of Things

M2M (Machine to Machine)、3GPP2: 3rd Generation Partnership Project two IoT:

ILE: Immersive Live Experience

SC&C: Smart Sustainable Cities & Communities

Overview

- Established on 24th May 2016
- OBJECTIVE

- Discussion and Deliberation on specifications related to domestic and international standardization of communication technology related to Vehicles

- ACTIVITIES

- Study of international cooperation issues (CITS etc.)

- Utilization of ITS at the time of disaster, examination of standardization tasks (proposal to ASTAP etc.)

- Examination of security IF on communication of vehicle such as automobile remote inspection

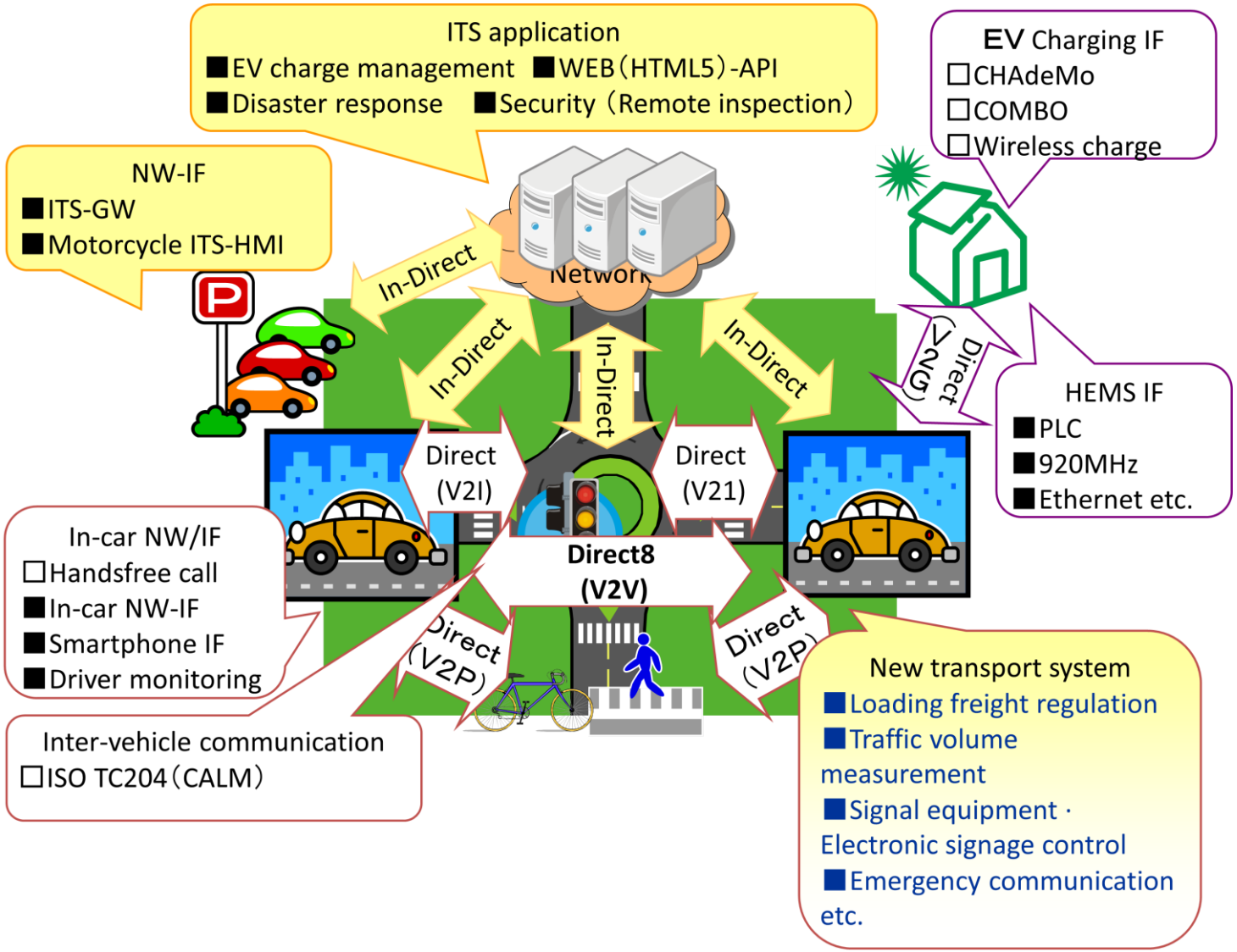
- EXPECTED OUTCOMES

- Domestic standards on automobiles, specifications, technical reports, preparation of survey reports

- Upstream to CITS, ASTAP, ISO, ITU-T, oneM2M etc.

- Hosting seminars related to connected cars issues

STUDY MAP


ITS application
■EV charge management ■WEB（HTML5）-API
■Disaster response ■Security（Remote inspection）
EV Charging IF
□CHAdeMo
□COMBO
□Wireless charge
NW-IF
■ITS-GW
■Motorcycle ITS-HMI
Network
In-Direct
In-Direct
In-Direct
In-Direct
Direct (V2N)
HEMS IF
■PLC
■920MHz
■Ethernet etc.
Direct (V2I)
Direct (V21)
Direct8 (V2V)
Direct (V2P)
Direct (V2P)
In-car NW/IF
□Handsfree call
■In-car NW-IF
■Smartphone IF
■Driver monitoring
Inter-vehicle communication
□ISO TC204（CALM）
New transport system
■Loading freight regulation
■Traffic volume measurement
■Signal equipment · Electronic signage control
■Emergency communication etc.

V-Hub and disaster-relief related standards

APT Recommendations Developed by ASTAP

No.	Title	Date
APT/ASTAP/REC-2	Specification of Information and Communication System using Vehicle during Disaster	10/ 2018

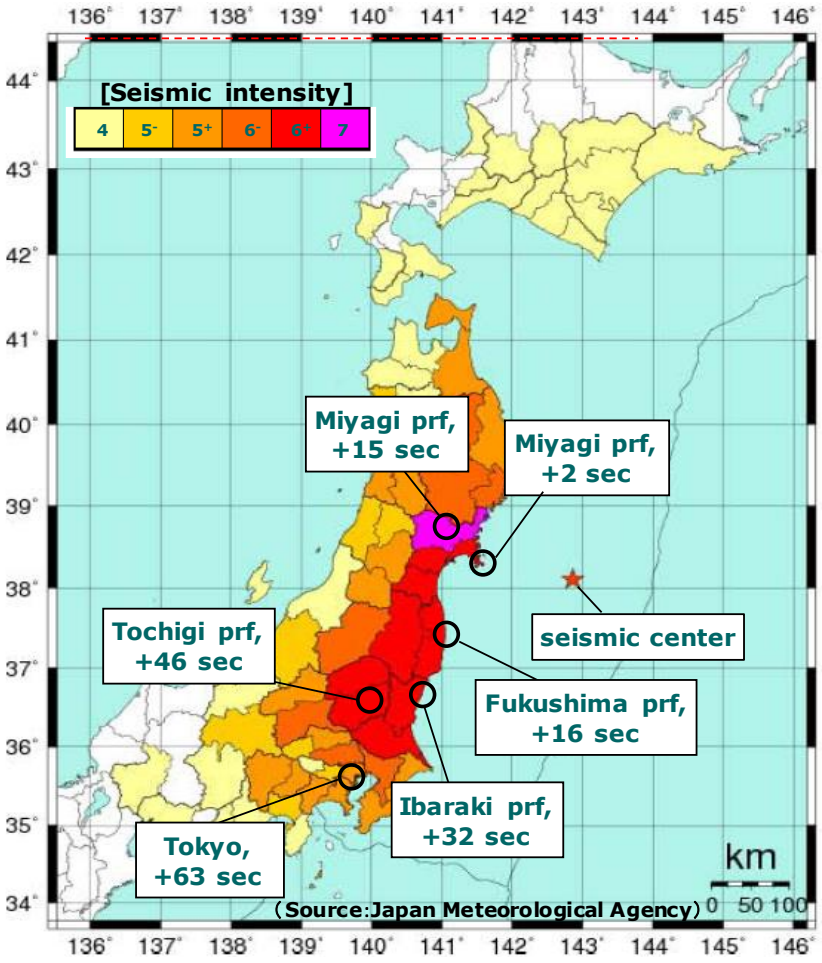
APT Reports Developed by ASTAP

No.	Title	Date
APT/ASTAP/REPT-18	APT Report on Disaster Information Sharing System in APT Countries	09/ 2015
APT/ASTAP/REPT-21	APT Report on Requirements of Information and Communication System Using Vehicle during Disaster	09/ 2015

Detailed list of APT Recommendations and Reports can be found at;

http://www.apt.int/APTASTAP-OUTCOMES

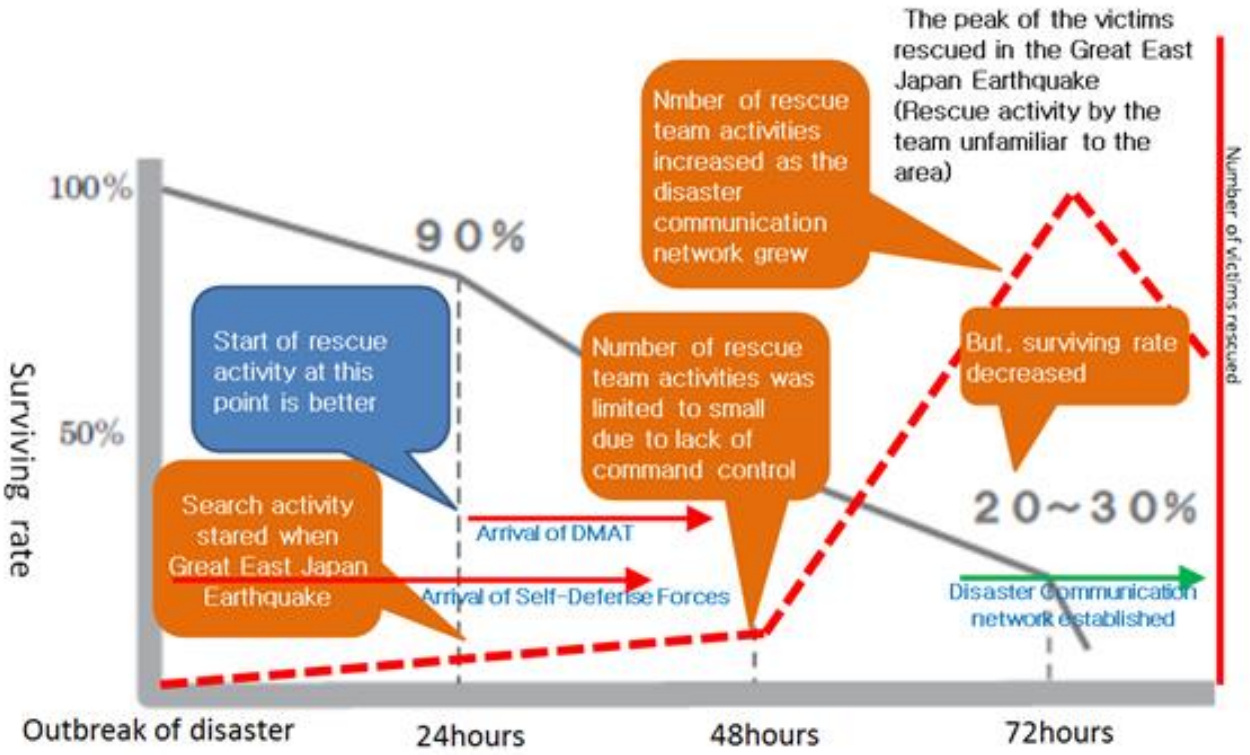
Arrival time of destructive quakes in the case of Tohoku-Pacific Ocean Earthquake on 2011



P-Wave : 6~8km/sec
S-Wave : 3~5km/Sec

Event	Time
Earthquake occurrence	14:46.40
P-Wave detection @ seismometers	14:46.40
Data of Early Warning Distributed by JMA	14:46.48
Uplink from Satellite	14:46.48 (+0 sec)
Received by users	14:46.48 (+0.3sec)
S-Wave detected @ Fukushima	14:47.04 (+16 Sec)
S-Wave detected @ Ibaraki	14:47.20 (+32 Sec)
S-Wave detected @ Tokyo	14:47.51 (+63 Sec)

Surviving rate after Great Earthquake

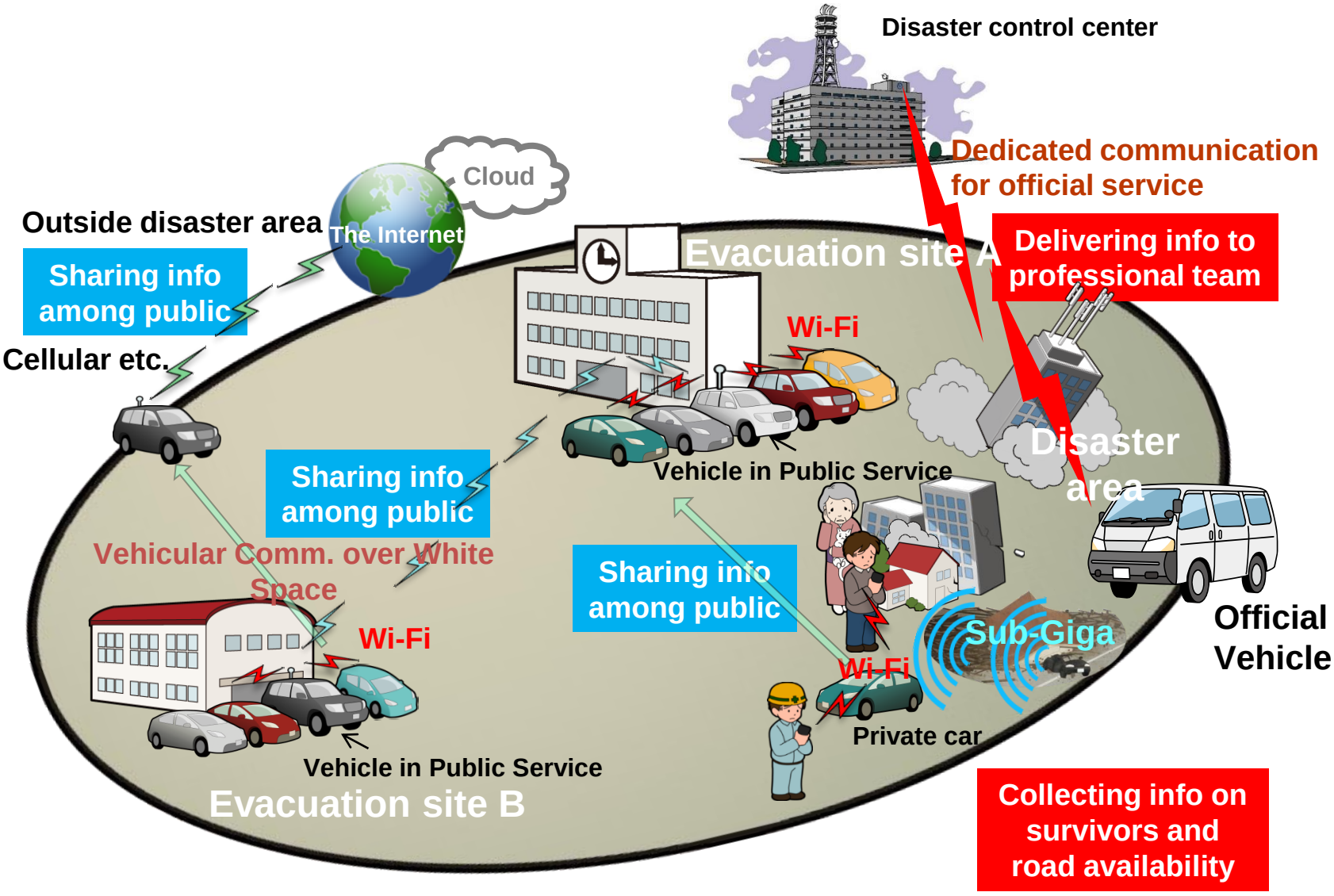


- For efficient rescue activity, victim map preparation is important
- Surviving rate increase can be expected when DMAT arriving and rescue activity starting occur at the same time

Fig. 3-1 Surviving rate and number of victims rescued by DMAT after the Great East Earthquake (The surviving rate is referred from Reference 1)

出所：APT/ASTAP/REPT-21

Information and Communication System using Vehicle during Disaster



The V-HUB system