

【Case Study】 Smart City in Susami Town utilizing 3D city model



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Susami Smart City Promotion Consortium
(Managing Company: SoftBank Corp.)

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AGENDA

1. **Overview of Susami, Wakayama**
2. **Smart City Overview**
3. **Drone route using PLATEAU**
4. **Use drones in times of disaster.**
5. **Digital evacuation drills using PLATEAU**

1. Overview of Susami, Wakayama

[Location]

Located in the Kii Peninsula and facing the Pacific Ocean.

[Topography]

Susami town has an area of 174.45 km². About 93% of the town is covered by forests.

[Population]

3,471 people (As of December 31, 2024)

[Major Industries]

Agriculture, forestry, fisheries and tourism

[World Heritage and Intangible Cultural Heritage]

Sacred Sites and Pilgrimage Routes in the Kii Mountain Range



1. Overview of Susami, Wakayama (the beautiful blue sky as viewed from the Kumano Kodo)



1. Overview of Susami, Wakayama (the stunning sunset as seen from the Kumano Kodo)



1. Overview of Susami, Wakayama

Prediction of the Nankai Trough Earthquake.

Occurring probability
within 30 years

80%

※ 1

Estimated damage

Casualty damage: **2,000 people**
Totally destroyed: **2,000 buildings**
Partly destroyed: **830 buildings**

※ 2

The shortest tsunami arrival

1m high, 3 minutes

※ 3

Deaths due to tsunami

1,700 people

※ 2

Source ※1 Headquarters for Earthquake Research Promotion, Earthquake Research Committee. (2024). Title of Nationwide earthquake motion prediction map

※ 2 Wakayama Prefectural Government. (2014). Report on the Earthquake Damage Estimation Survey in Wakayama Prefecture.

※ 3 Wakayama Prefectural Government. (2017). On Earthquake and Tsunami Countermeasures in Wakayama Prefecture.

1. Overview of Susami, Wakayama

'Disaster Prevention Roadside Station' in Susami Town.

国土交通省

Ministry of Land, Infrastructure, Transport and Tourism

Press Release

令和 3 年 6 月 1 1 日
道路局企画課



The 'Disaster Prevention Roadside Station' System

Japanese government selected **roadside stations positioned as wide-area disaster prevention hubs as 'Disaster Prevention Roadside Stations' in 2021.**



2. Smart City Overview

Our Consortium is Public-Private Partnership Organization.
Currently, 8 organizations, Including Susami Town, are Participating.

Organizer	Susami Smart City Promotion Consortium
Established	August 30, 2021
Purpose	Realizing a city of sustainable development by leveraging cutting-edge technologies such as ICT, including IoT and AI, to solve local challenges.
Participation group	Susami Town Hall Susami Town Tourism Association SoftBank Corp. Uhulu, Corporation. Nanki-Shirahama Airport Co., Ltd. Bell-Data Inc. milab Inc. MONET Technologies Inc.
Advisor	Wakayama Prefecture

2. Smart City Overview

Challenges

Mobility and logistic network

Isolated and long-term disaster response

Disaster response for tourists

Attracting businesses and promoting workations

Key Point

Disaster Prevention Roadside Station

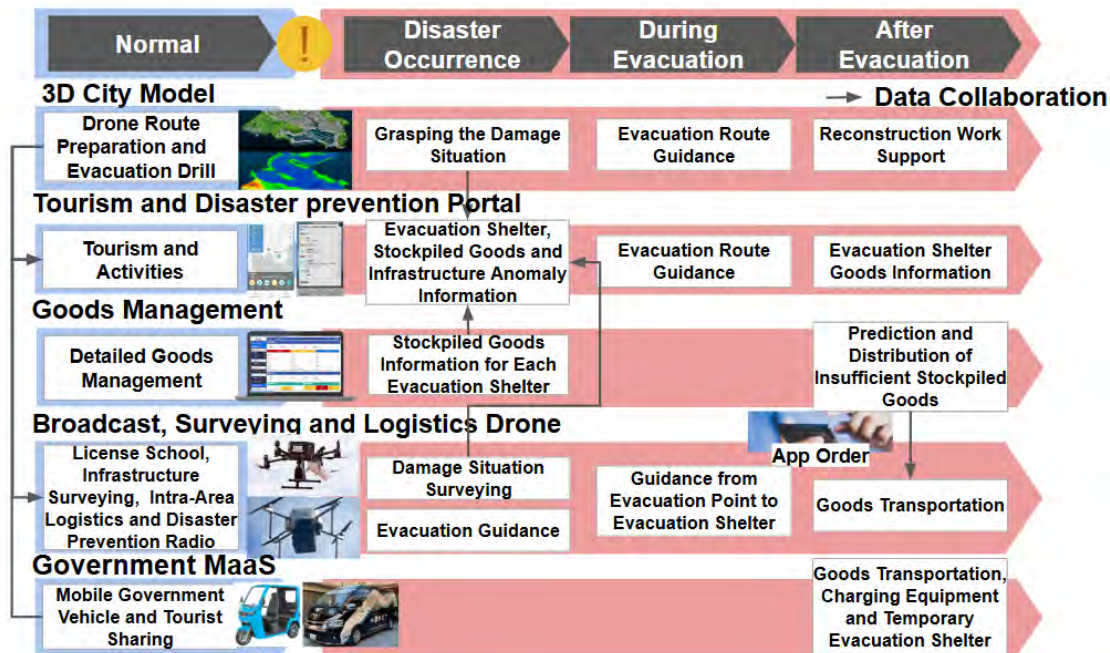


Disaster Prevention Center and Tourist Information Center



Solution

Phase-Free※ Smart City



※"Phase-free" is a term that describes the value of eliminating the phases of society between normal times and disaster times,

and ensuring that products and services that are normally used can be used appropriately in the event of a disaster. 9

2. Smart City Overview

Developed 3D City Model.

-> “PLATEAU*” Construction Area 20 km² in Susami Town.



2. Smart City Overview

Developed 3D City Model.

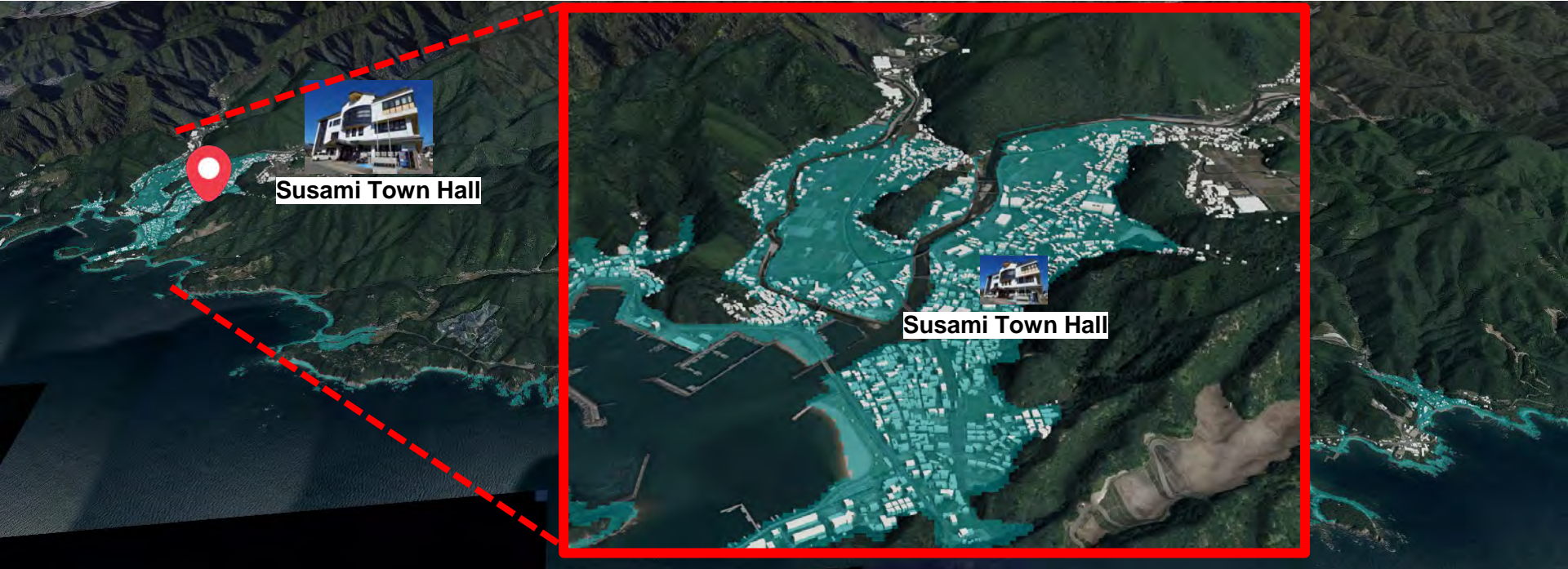
Tsunami of 20m in Height will Reach up to 12km Inland along the Coast.



2. Smart City Overview

Developed 3D City Model.

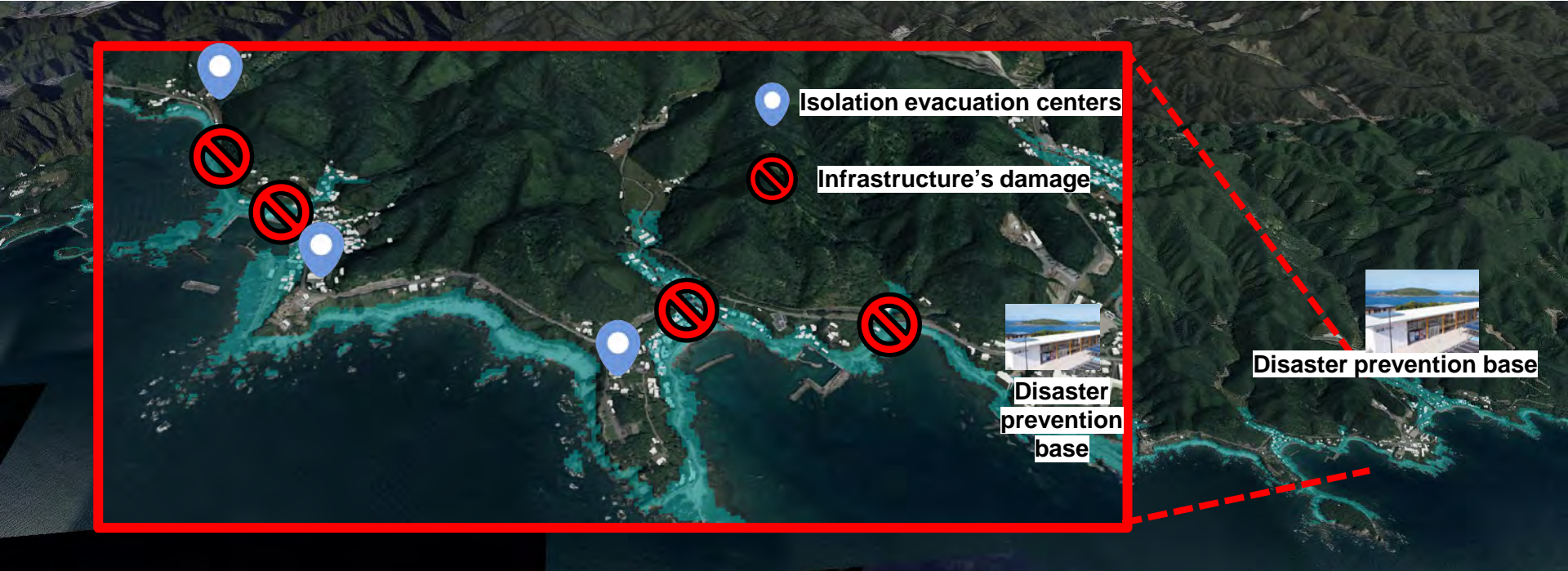
A Large Part of the Urban Area is Expected to be Inundated.



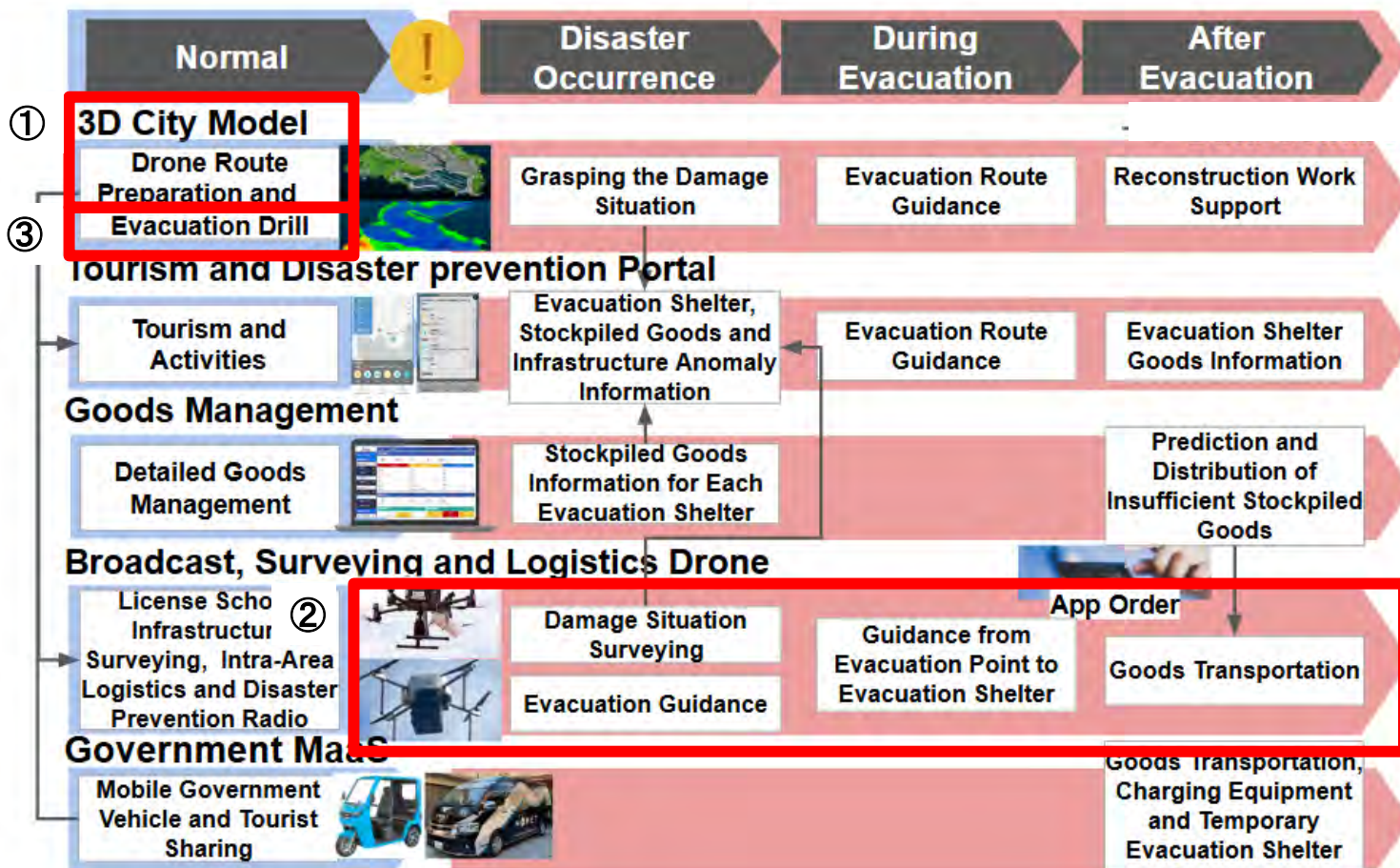
2. Smart City Overview

Developed 3D City Model

Significant Damage to Infrastructure, Potentially Isolating Evacuation Centers.



2. Smart City Overview



SoftBank



uhuru

mapbox

SoftBank

3.Drone route using PLATEAU

15 Sky Routes Settings Utilizing PLATEAU have been Completed.

Sky Route info.	Broadcast		Route Inspection Emergency	Logistics Emergency
	Peacetime	Emergency		
Destination	Above Tourist Spots	Emergency Transport Roads	Emergency transport route	Shelter
Type	Lap	Lap	Round	One way
Number of route	4	2	2	7

3.Drone route using PLATEAU

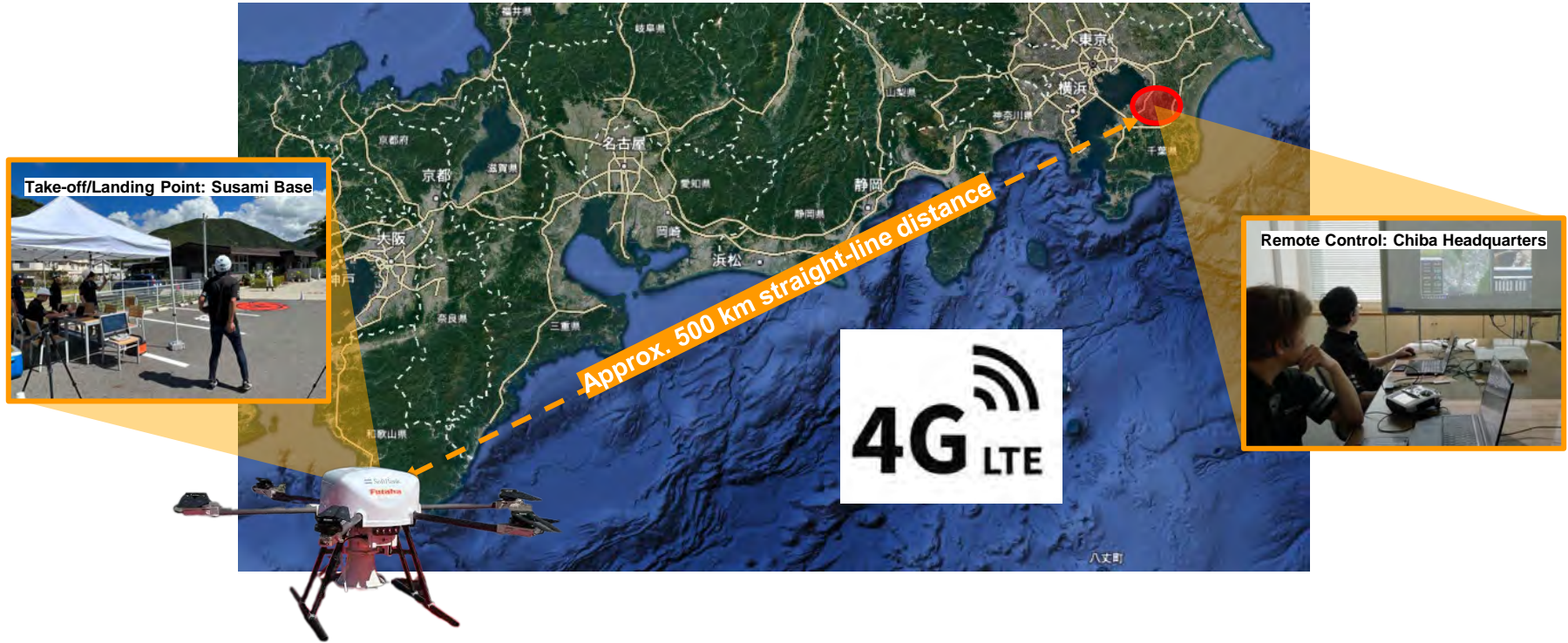
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Logistics Drone Route Video. (5x speed)

This Video dose not open to the public.

4. Use drones in times of disaster.

Remote Control of UAVs from 500 km away.

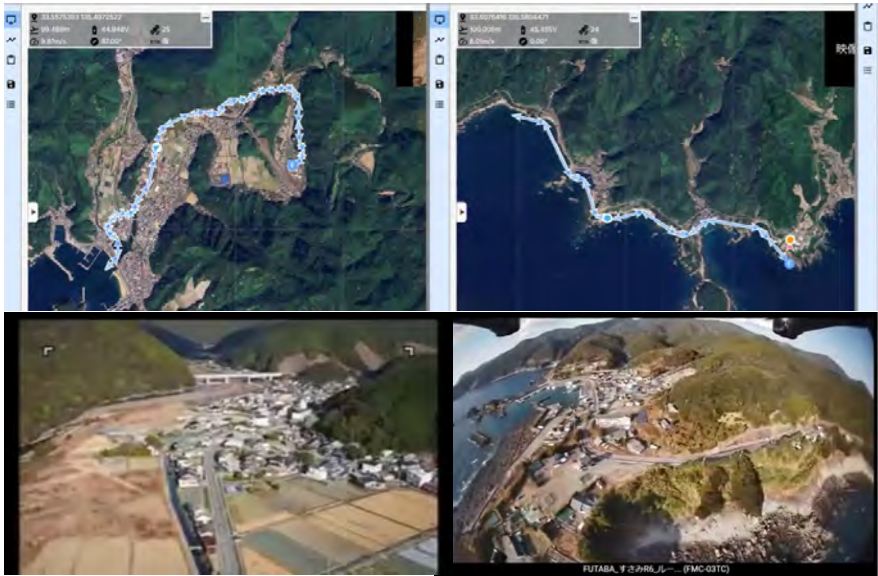


4. Use drones in times of disaster.

Remote Control of Multiple Drones, Enabling Support from the Disaster-Affected Regions.



**Remotely controlling two drones
simultaneously**



Remote drone control and monitoring footage

4. Use drones in times of disaster.

Drones delivered 20 kg of supplies.

10 liters of water and 10 kg of food



Drone takeoff



4. Use drones in times of disaster.

Drone in Flight.



5. Digital evacuation drills using PLATEAU

Digital Evacuation Drill.

A STANDARD EVACUATION DRILL



- Usually people gather around and walk along to a specific evacuation site.
- The main purpose lies in knowing the locations of the evacuation sites.
- No running or choosing a route as is required.



THE 3D-MAP BASED EVACUATION DRILL



- The participants evacuate and run from where they might really be.
- The choice of evacuation route is left for the participant to determine.
- Validation of being able to escape from the tsunami will be simulated.

5. Digital evacuation drills using PLATEAU

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Overlaying with the Location of this Participant and the Tsunami Simulation.

- ▶ Evacuate in **5** minutes
- ▶ 5x speed

This Video dose not open to the public.

Time since
Initial Alert

5. Digital evacuation drills using PLATEAU

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Overlaying with the Location of All Participants and the Tsunami Simulation.

- ▶Evacuate in **7** minutes
- ▶12x speed

Time since
Initial Alert

This Video dose not open to the public.

5. Digital evacuation drills using PLATEAU

It's Desirable to Begin Evacuation within 3 minutes of a Disaster.

No.	Property	Age	Evacuation start location	3 min after evacuation	5 min after evacuation	10 min after evacuation
①	Local Resident	70	Home	○	×	×
②	Local Resident	80	Home	○	○	×
③	Local Resident	70	Home	○	○	×
④	Local Resident	60	Home	○	○	×
⑤	Local Resident	60	Home	○	○	×
⑥	Local Resident	70	Home	○	○	×
⑦	Local Resident	60	Home	○	×	×
⑧	Local Resident	60	Home	○	○	×
⑨	Local Resident	50	Home	○	×	×
⑩	Local Resident	80	Community center	○	×	×
⑪	Local Resident	50	Community center	○	×	×
⑫	Local Resident	70	Community center	○	×	×
⑬	Tourist	40	Guest house	○	×	×
⑭	Tourist	40	Guest house	○	○	×
⑮	Local Resident	70	Community center	○	○	×



Thank you!



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Susami Town

