

Global UTM Conference 2017

UTM Project in Japan

June 26 2017

Hiroyuki Ushijima

Ministry of Economy, Trade and Industry (METI)

Overview

1. UAS Industry in Japan
2. Roadmap of UAS Industry promotion
3. UTM Research & Development Project
4. Test Site for UTM Development

UAS Industry in Japan

- Yamaha Motor developed a single rotor UAV in Japan in the 1980s. Today over 1/3 of Japanese rice has pesticides applied by UAS.
- With the emergence of multirotor type, UAS are widely used and makers are developing various types of UAS in Japan.

Agriculture



Surveying



Inspection



Disaster Response



Delivery



Role of METI and JCAB

- METI and JCAB work together for the development of safe use of UAS.
- METI has a mission to promote UAS industry, while JCAB establish and enforce regulations for UAS flight.

Promotion of UAS Industry



Manufacturing Industries Bureau,
Ministry of Economy, Trade and
Industry (METI)

(Robotics Policy Office,
Industrial Machinery Division)

Regulation of UAS Flight



Japan Civil Aviation Bureau (JCAB),
Ministry of Land, Infrastructure,
Transport and Tourism (MLIT)

Policy of UAS Promotion

- The Public-Private Council to realize Prime Minister Shinzo Abe's vision for UAS, formulated the "Roadmap for the Aerial Industrial Revolution."

We will aim to make parcel delivery by drone a reality, as soon as three years from now.

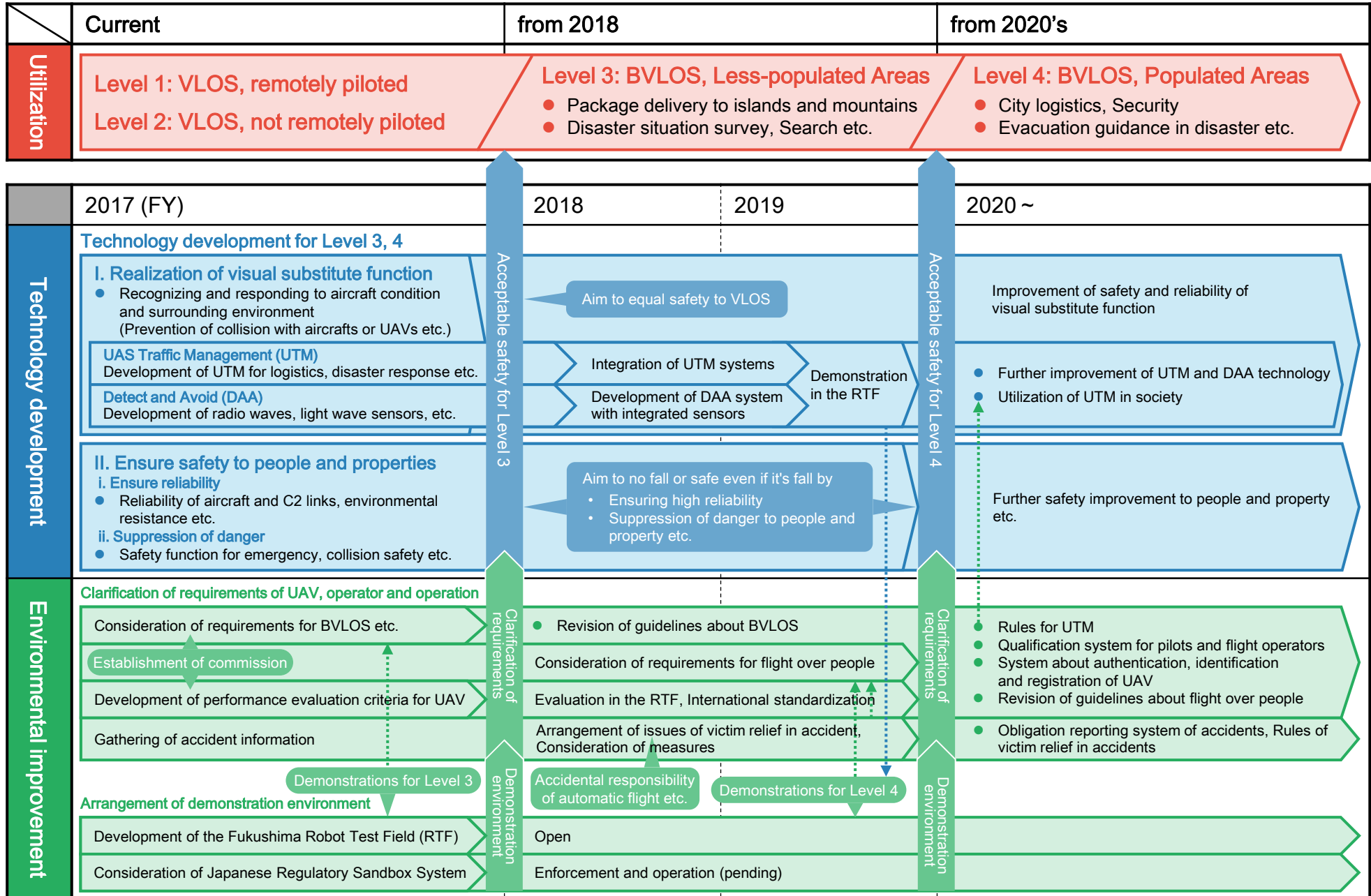
November 5 2015



from December 7 2015

Public-Private Council for UAS Promotion and Regulation

- Roadmap for the Aerial Industrial Revolution (May 19 2017)



Points of the “Roadmap for Aerial Industrial Revolution”

Vision of UAS Utilization

1. BVLOS UAS operations over less-populated areas from 2018.
2. BVLOS UAS operations over densely-populated areas from 2020s.

Action of Technology Development

1. Technologies which enable BVLOS flight and flights over people should be developed.
2. METI will push for development of UTM and DAA technologies.

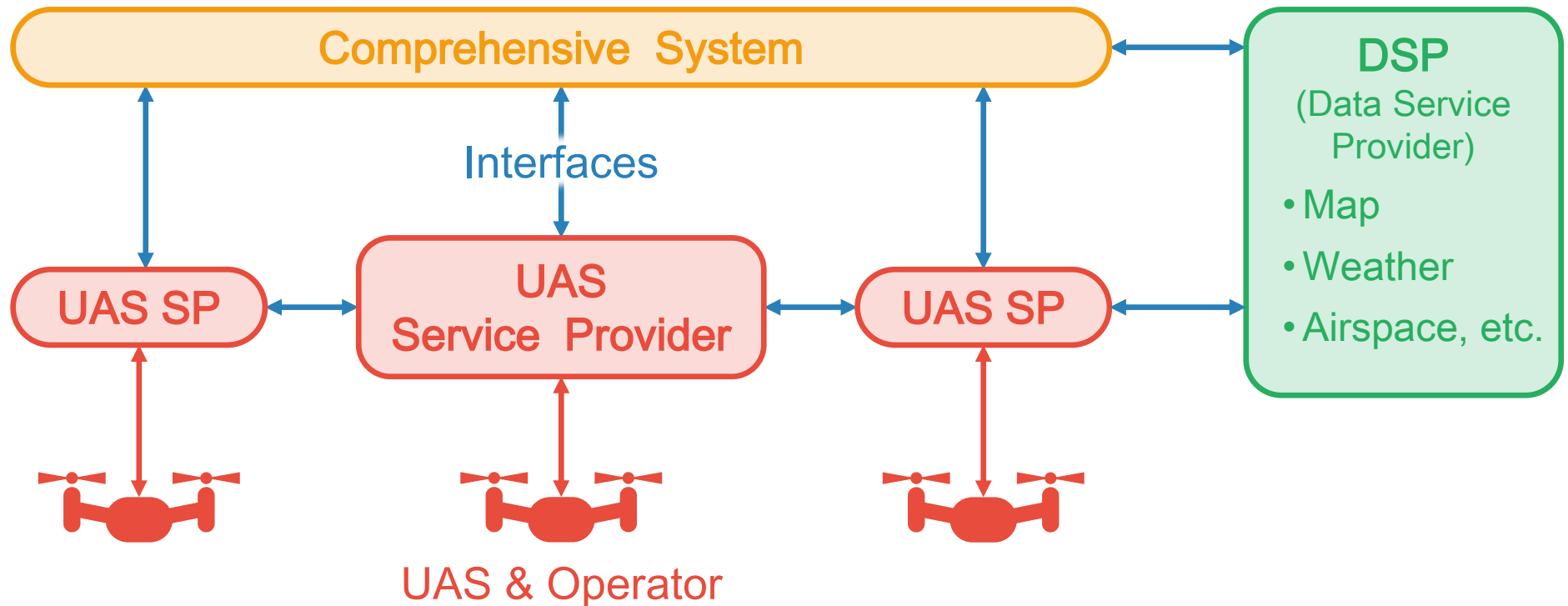
Action of Environmental Improvement

1. JCAB and METI organize a committee to discuss requirements for BVLOS flight and flights over people.
2. METI and Fukushima Pref. Govt. establish a Test Site for UAS.

UTM R&D Project in Japan

- UTM R&D Project from July 2017 (3 years).
- METI and NEDO budgeted 1.7 billion yen (\$15 million) for the first year.

UAS Traffic Management (UTM)



Members of the UTM R&D Project

- National R&D agencies and companies participating in the UTM R&D Project.
- JAXA, a core member of JUTM, designing architecture and interfaces of UTM with international harmonization.

1. UTM Architecture and Interfaces (R&D) : JAXA + NICT, AIST, NII

2. Comprehensive System (R&D)

NEC, NTT DATA, Hitachi

↕ Interfaces

3. System for UAS SP (R&D)

- a. Rakuten, NTT DOCOMO
- b. KDDI, TERRA DRONE + SECOM
- c. Hitachi, NICT (subcontracting)
- d. SKY Perfect JSAT Corporation + JAXA, NICT, Tokai University
- e. SUBARU, JRC, Nippon Avionics, ACSL, Mitsubishi Electric

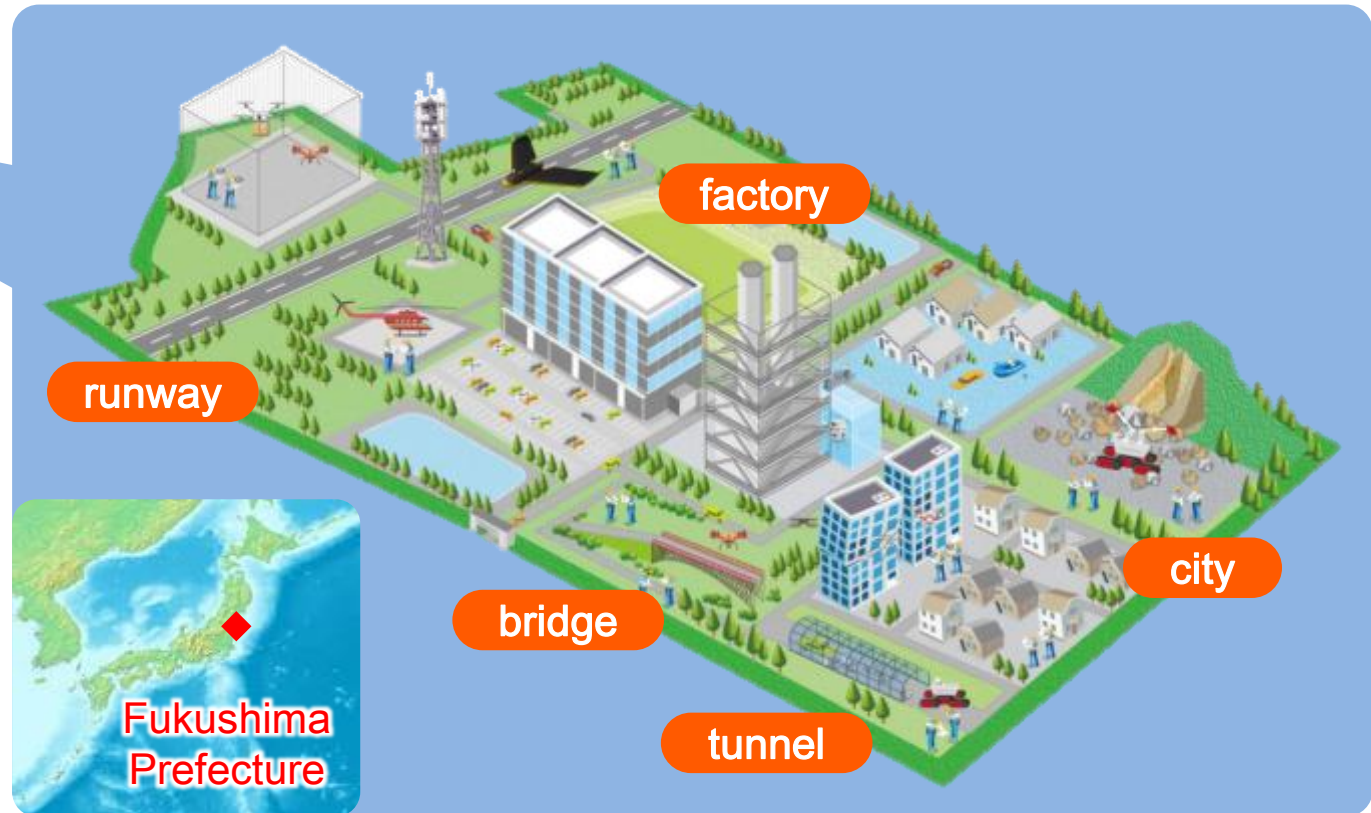
4. System for DSP (R&D)

- a. ZENRIN (map)
- b. Japan Weather Association (weather)

International Organizations

Test Site “FUKUSHIMA ROBOT TEST FIELD”

- “Robot Test Field” will open in Fukushima Prefecture next year.
- It will serve as a major demonstration test site in Japan for field robots and UAVs used for delivery, disaster response and infrastructure inspection.



Budget: 7.1 billion yen (\$64 million) (2018) + 1.3 billion yen (\$12 million) (2019)

<https://www.pref.fukushima.lg.jp/uploaded/attachment/209046.pdf>



複数事業者によるドローン 運行管理飛行試験

2017. 3. 15~16

福島浜通りロボット実証区域

JUTM: 日本無人機運行管理コンソーシアム

Organizer: Japan Unmanned System Traffic & Radio Management Consortium (JUTM)

Participants: 9 companies and 2 Institutes with 12 UAVs.

METI International UTM Seminar in Japan, March 24, 2017

