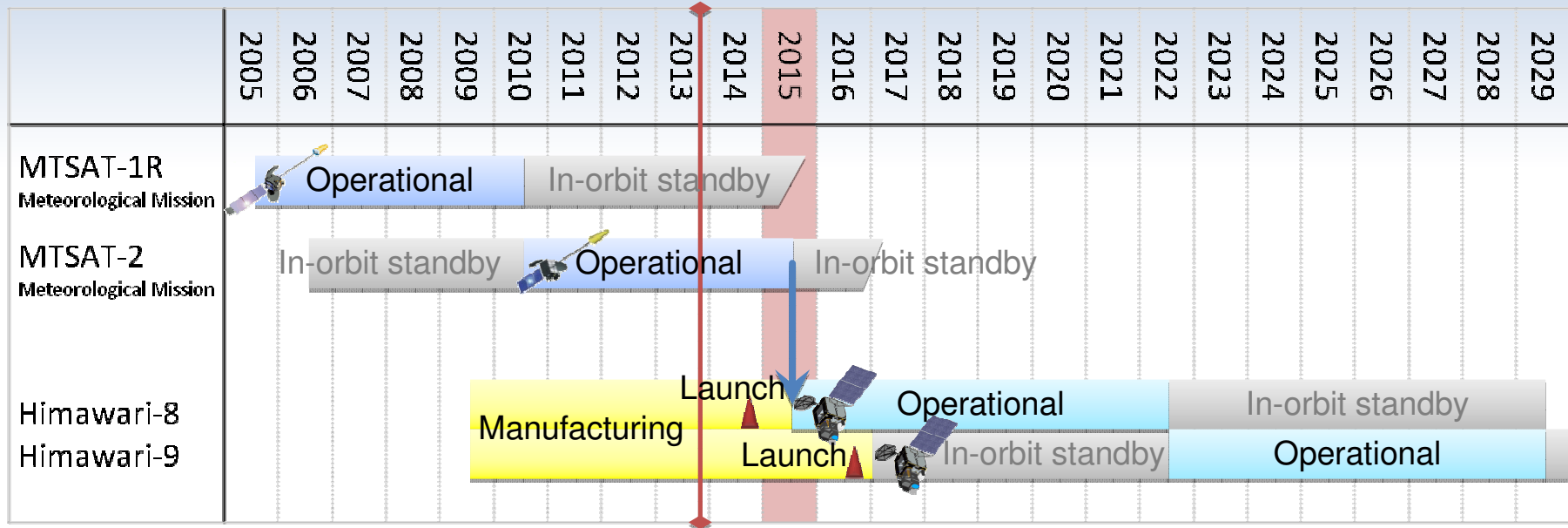
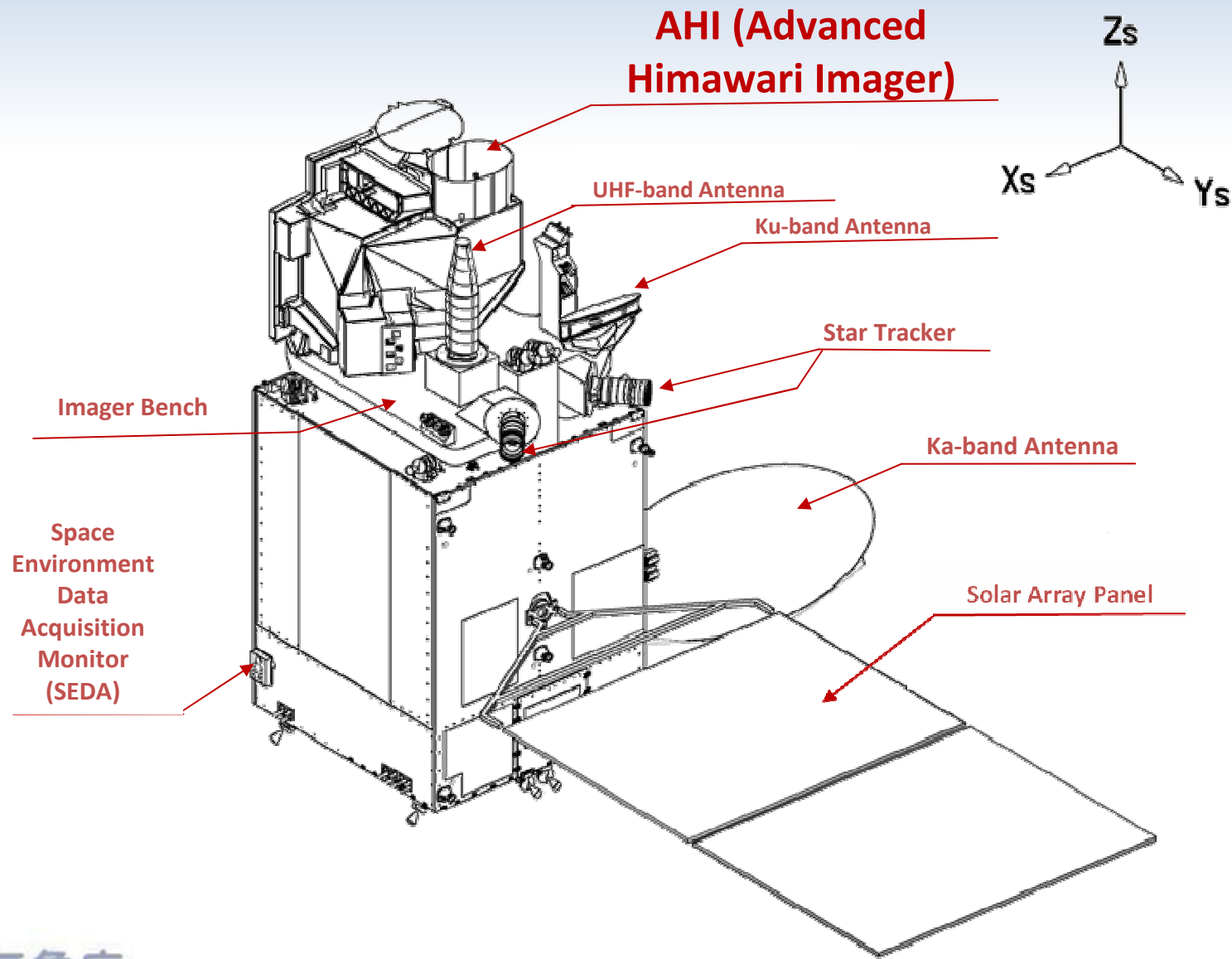


# Transition of Operational Satellites



- JMA plans to launch **Himawari-8** in **2014** and begin its operation in **2015**.
- The launch of **Himawari-9** for in-orbit standby is scheduled in **2016**.
- **Himawari-8/9** will be in operation around **140 degrees East** covering the East Asia and Western Pacific regions for 14 years.

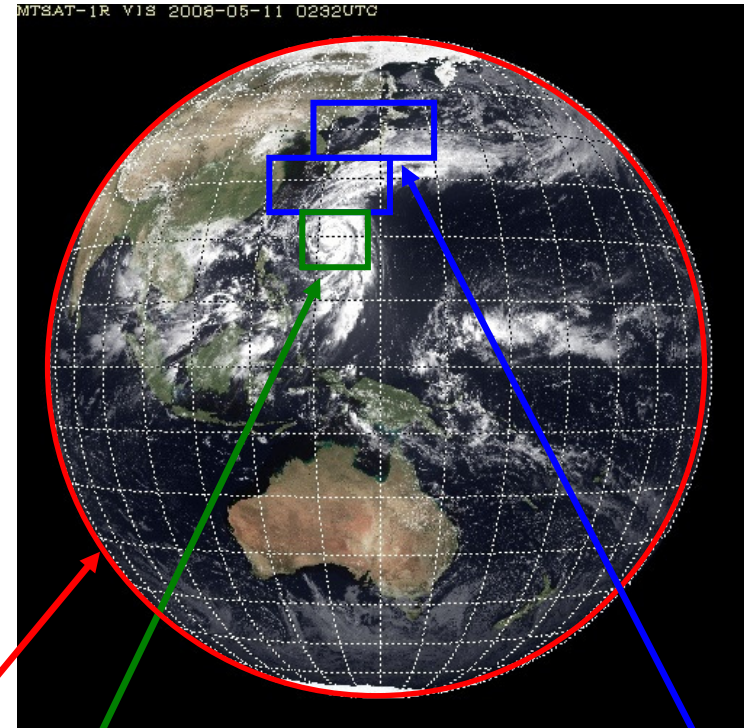
# Appearance of Himawari-8/9



# Himawari-8/9: Specification of Observation

## Channels of the Advanced Himawari Imager (AHI)

Channel	Central Wavelength [ $\mu$ m]	Spatial Resolution	
1	0.43 – 0.48	1 km	RGB Composited True Color Image
2	0.50 – 0.52	1 km	
3	0.63 – 0.66	0.5 km	
4	0.85 – 0.87	1 km	Water Vapor
5	1.60 – 1.62	2 km	
6	2.25 – 2.27	2 km	
7	3.74 – 3.96	2 km	
8	6.06 – 6.43	2 km	SO <sub>2</sub>
9	6.89 – 7.01	2 km	
10	7.26 – 7.43	2 km	O <sub>3</sub>
11	8.44 – 8.76	2 km	
12	9.54 – 9.72	2 km	Atmospheric Windows
13	10.3 – 10.6	2 km	
14	11.1 – 11.3	2 km	
15	12.2 – 12.5	2 km	
16	13.2 – 13.4	2 km	CO <sub>2</sub>



**Full disk**  
Interval: **10 minutes** (6 times per hour)

**Region: Japan**  
Interval: **2.5 minutes** (4 times in 10 minutes)  
Dimension: EW x NS: 2000 x 1000 km x 2

**Region: Typhoon**  
Interval: **2.5 minutes** (4 times in 10 minutes)  
Dimension: EW x NS: 1000 x 1000 km

Number of Channels: 5 → 16

Interval: 30/60 min. → 10min.

# MSC Web Page for Himawari-8/9 Information

MSC website top page  
<http://mscweb.kishou.go.jp/>

**Meteorological Satellite Center (MSC) of JMA**

Home Activities Products Operations Supports

Current position: Home > Himawari-8/9

## Himawari-8/9

Introduction Spacecraft **Imager (AHI)**

**Details of AHI**

The Japan Meteorological Agency (JMA) has operated the GMS and MTSAT series of satellites at around 140 degrees east to cover the East Asia and Western Pacific regions since 1977, and makes related contributions to the WMO's World Weather Watch (WWW) Programme. As a follow-on to the MTSAT series, the Agency plans to operate next-generation satellites called Himawari-8 and Himawari-9 (*himawari* means "sunflower" in Japanese).

### Overview of satellite observations

The functions and specifications are notably improved from those of the on-board imager of MTSAT, and enable better nowcasting, improved numerical weather prediction accuracy and enhanced environmental monitoring.

#### Enhancement of the observation function of Himawari-8/9 as compared to that of MTSAT-1R/2

Higher spatial resolutions		More frequent observations		More spectral bands	
MTSAT-1R/2	Himawari-8/9	MTSAT-1R/2	Himawari-8/9	MTSAT-1R/2	Himawari-8/9
VIS 1km IR 4km	VIS 0.5 - 1km IR 2km	Full disk observation with 30-minute intervals	Full disk observation with 10-minute intervals	VIS 1 band (black/white image)	VIS 3 bands (color image)
			Small-sector observation	NIR N/A	NIR 3 bands
			Every 2.5 minute around Japan	IR 4 bands	IR 10 bands
				5 bands	16 bands

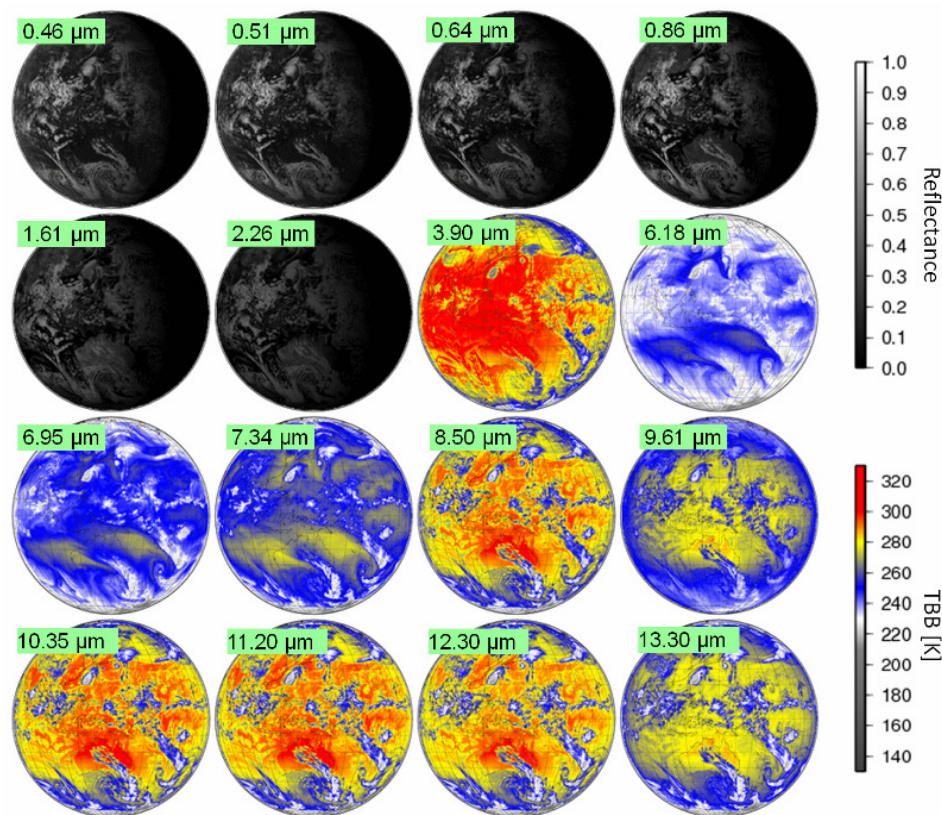
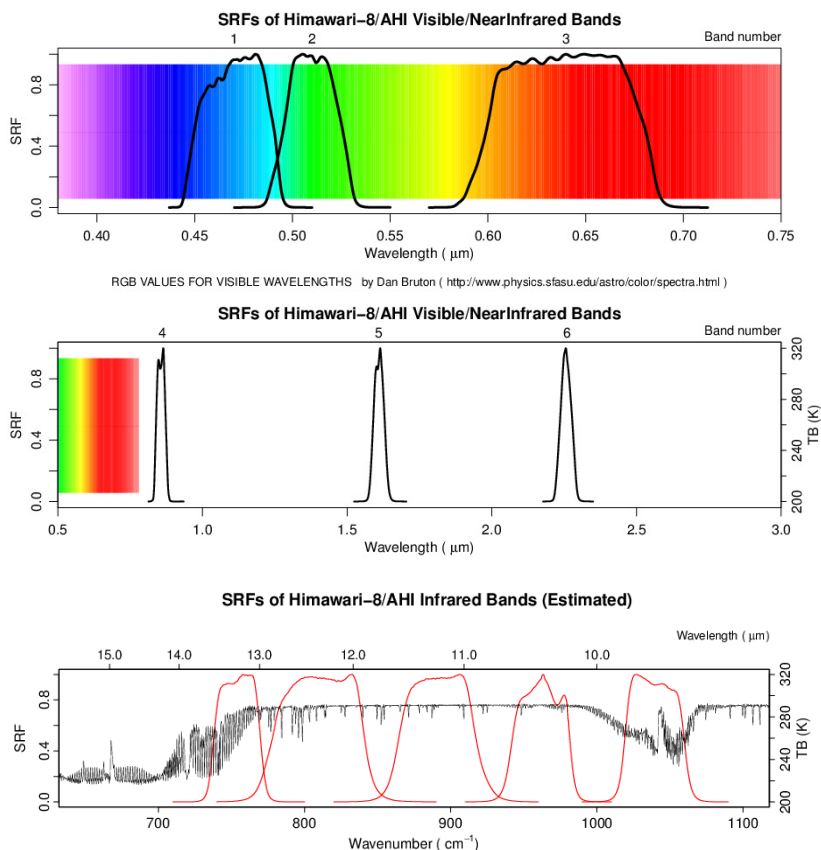
# Himawari-8/9: Technical Information

To support research and development of products based on **Himawari-8/9**,

■ Estimated Spectral Response Functions (**SRFs**) of **AHI** are **available** on JMA website.

<http://mscweb.kishou.go.jp/himawari89/>

■ **Simulation data** generated using a radiative transfer model are also **available** on JMA website.



# Development of products of Himawari-8/9 AHI

## Higher resolution

Horizontal:

1km -> 0.5km for a VIS channel

4km -> 2 km for IR channels

Temporal:

1 hr -> 10 min for a full disk scan

2.5min for limited areas

## Increased observation channels

VIS: 1 -> 3 bands

IR : 4 -> 13 bands

## Examples of expected new/enhanced products

- Atmospheric Motion Vectors (AMVs)
- Volcanic Ash (VA) / Aerosol
- Global Instability Index

Severe weather  
monitoring/  
nowcasting

Climate change  
monitoring

Volcano eruption  
Ash area detection

Numerical prediction

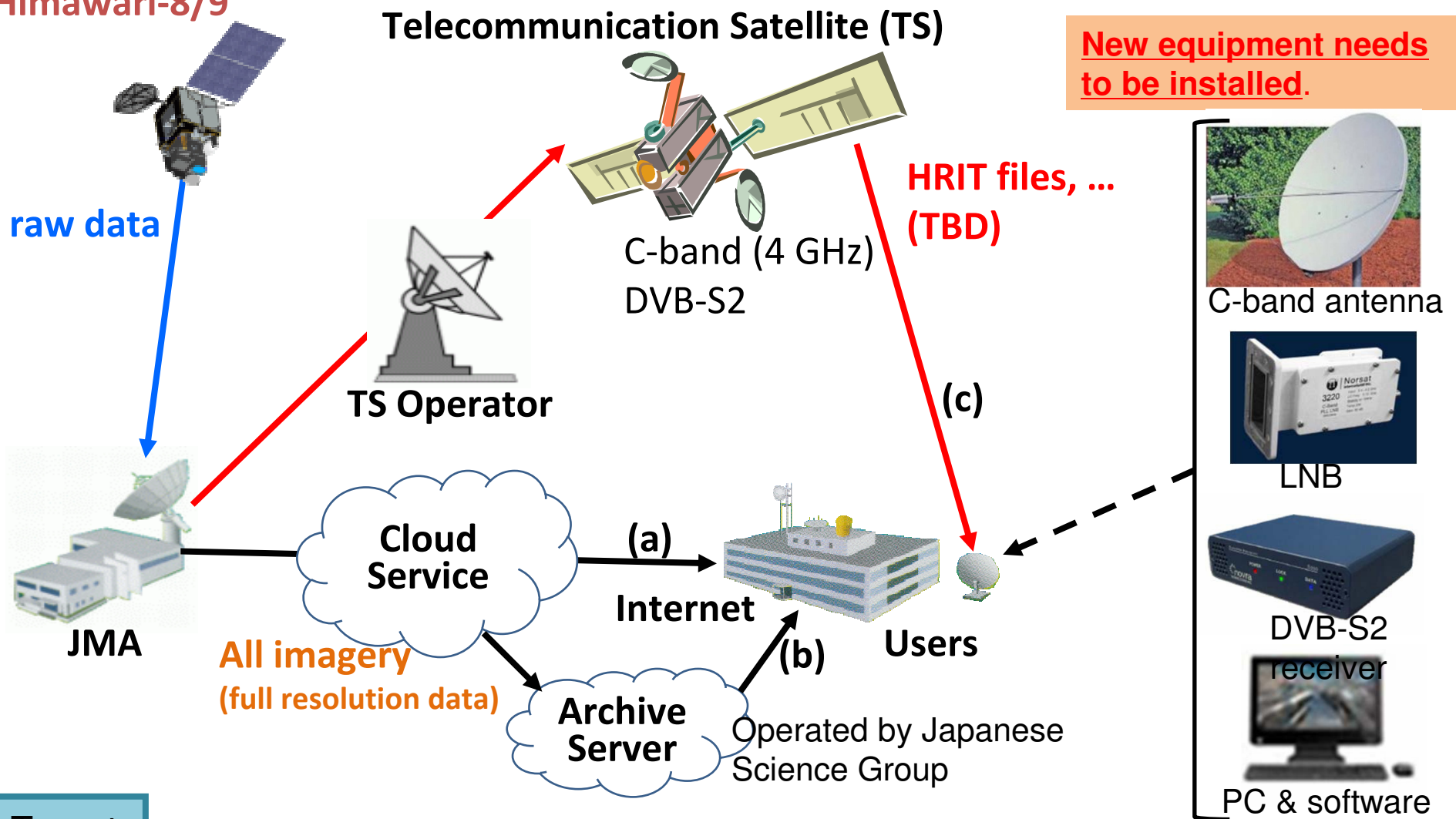
Yellow sand/  
dust storm

Solar energy monitoring



# Himawari-8/9: Data Distribution/Dissemination

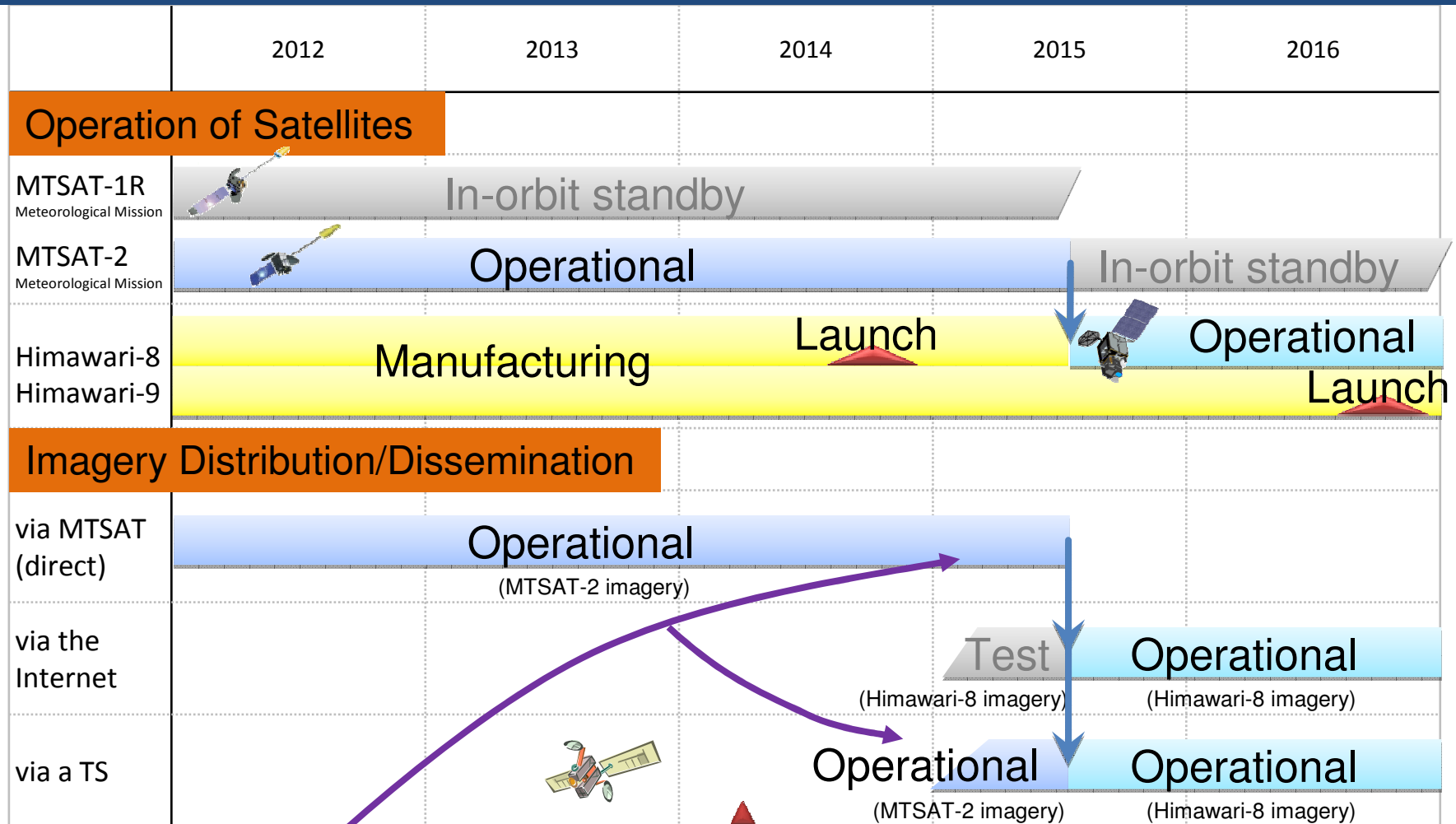
Himawari-8/9



## Target

- (a) **Cloud Service:** National Meteorological and Hydrological Services
- (b) **Archive Server:** Researchers
- (c) **TS:** Everyone in the East Asia and Western Pacific regions

# Schedule of Distribution/Dissemination



JMA will announce the details of TS and its receiving equipment in the spring of 2014.

- Parallel dissemination is planned for users' smooth transitions to the receipt of imagery via a TS.





**Thank You for your attention.**

