

Current Status and Future Plan of Fengyun Meteorological Satellites



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ITSC -22

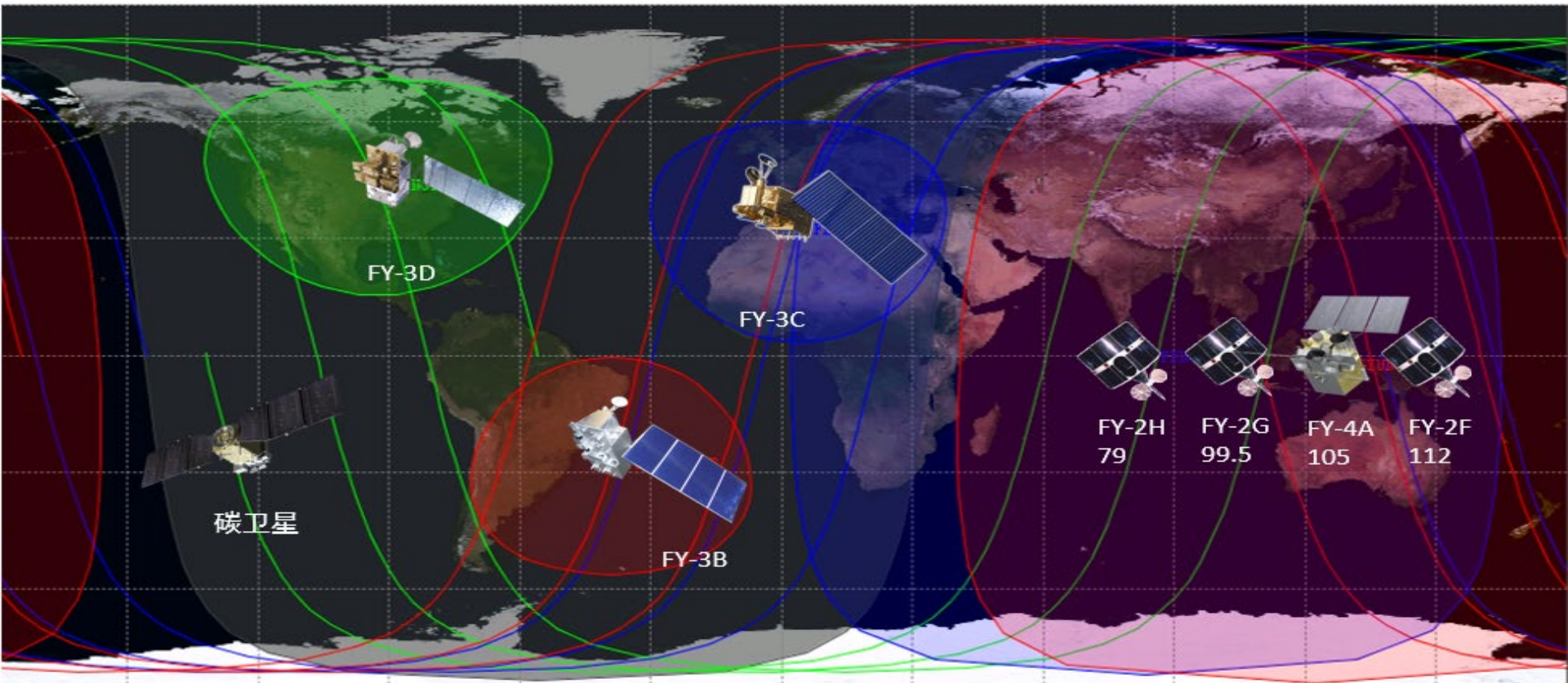
Oct 31-6, 2019, Saint-Sauveur, Canada

Current FengYun Constellation



FengYun Programs: 7 in operation (4 GEO and 3 LEO)

Joint programs: Tansat, GF-4



Latest Launch



1. **FY-4A** The first GEO. meteorological satellite of new generation

- Launched on Dec.11, 2016
- Official operation on May 1, 2018

2. **FY-3D** A new operational afternoon orbit LEO. satellite, will co-work with FY-3C in morning orbit

- Launched on Nov. 15, 2017.
- Official operation on Jan 1, 2019
- Contracted South polar ground station (Troll) in operation

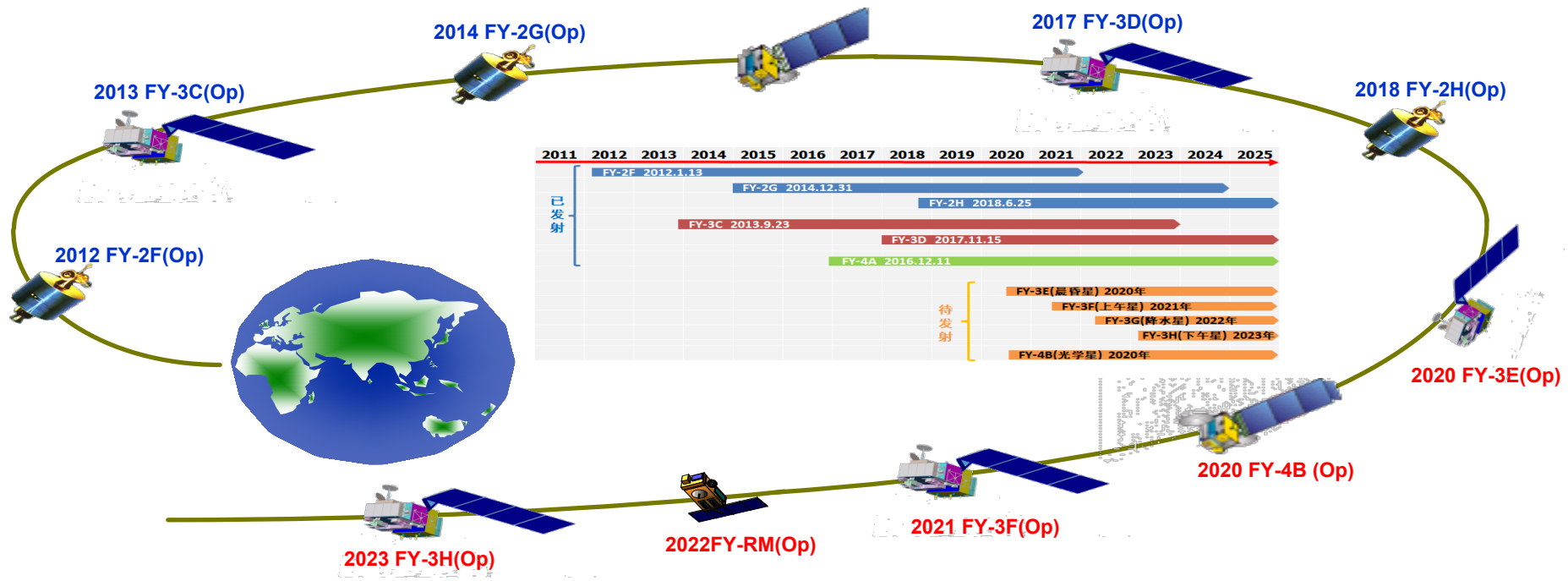
3. **FY-2H** The last one of FY-2 series to support IOC and serve for the belt & road countries

- Launched on June 5, 2018
- Official operation on Jan 1, 2019

P. Zhang, Q.F. Lu, X.Q. Hu, et al., 2019: Latest progress of the Chinese meteorological satellite program and core data processing technologies. *Adv. Atmos. Sci.*, 36(9), 1027–1045.

P. Zhang, L. Zhu, S. Tang, et al., 2019: General Comparison of FY-4A/AGRI With Other GEO/LEO Instruments and Its Potential and Challenges in Non-meteorological Applications. *Front. Earth Sci.* 6:224.

National Program for Fengyun Meteorological Satellite from 2011-2020



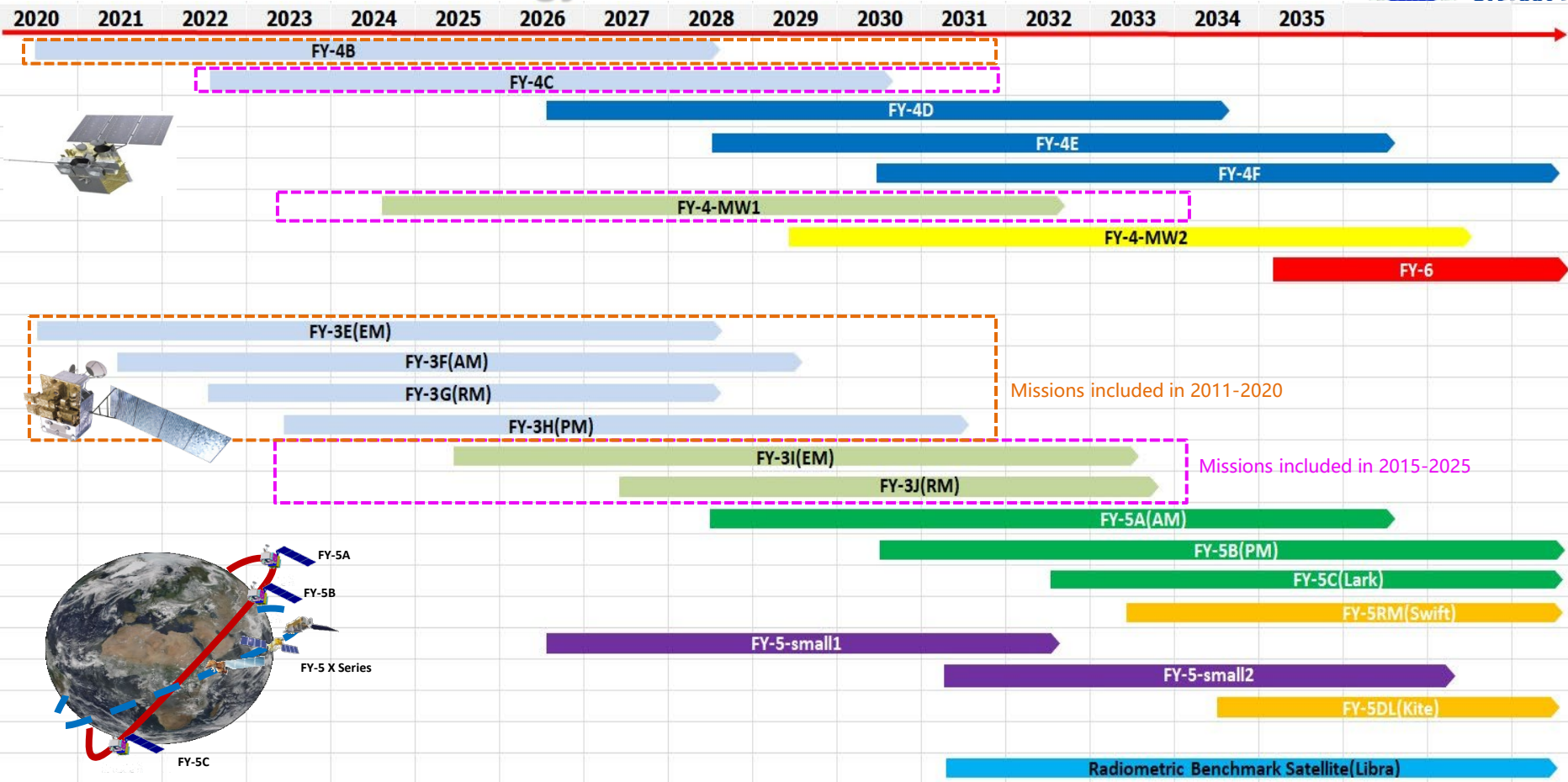
■ 5 satellites will be launched within this decade

Payloads Coming FY-3 Successor



NO.	Sensor	Satellite		FY-3E (05)	FY-3F (06)	FY-3R (07)	FY-3G (08)
		Sensor	Scheduled Launch Date	EM Satellite	AM Satellite	Rainfall Satellite	PM Satellite
1	Optical Imagers	MERSI		√ (III-Low Light)	√ (III)	√ (III-Simplified)	√ (III)
2	Passive Microwave Sensors	MWTS		√	√		√
		MWHS		√	√		√
		MWRI			√	√	√
3	Occultation Sounder	GNOS		√	√	√	√
4	Active Microwave Sensors	WindRAD		√	√		
		Rainfall RAD				√	
5	Hyperspectral Sensors	HIRAS		√	√		√
		GAS (Greenhouse Gases Absorption Spectrometer)					√
		OMS (Ozone Mapping Spectrometer)			√		
6	ERB Observation Sensor Suite	ERM			√		
		SIM		√	√		
		SSIM (Solar Spectral Irradiation Monitor)		√			
7	Space Weather Sensor Suite	SEM		√			
		Wide Angle Aurora Imager					√
		Ionosphere photometer		√(Multi-angle)			√
		Solar X-EUV Imager		√			

Vision for Future Fengyun in 2035



Lark series: EM Orbit (Optimal sounding mission, 5:30 am)

- **Mission description:** Fill in the gap of NWP sounding in Early morning orbit for composing global virtual constellation with METOP(AM) & JPSS (PM)
- **Application:** NWP
- **Major sensors:**
 - IR hyperspectral sounder
 - MW sounder
 - Scatterometer
 - GNSS radio occultation

PM Orbit (2:30 pm)

- **Mission description:** Imaging +sounding mission
- **Application:**
 - Meteorological & environment disaster
 - Ecological environment
 - NWP
- **Major sensors:**
 - VIS/IR imagery
 - MW imagery
 - IR hyperspectral sounder
 - MW sounder
 - GNSS radio occultation

AM Orbit (10:30 am)

- **Mission description:** Imaging and cloud/aerosol measurement
- **Application:**
 - climate
 - Meteorological & environment disaster
 - Ecological environment
- **Major sensors:**
 - Lidar
 - Cloud radar
 - VIS/IR multi-angle imagery
 - MW imagery
 - Sub-mm imagery
 - UV/VIS/NIR sounder (nadir & limb)

Together
For Better

谢

谢!

**Make the data better and easier to
use !**