Current Status and Future Plan of Fengyun Meteorological Satellites

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ITSC -22
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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

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National Program for Fengyun Meteorological Satellite from 2011-2020

5 satellites will be launched within this decade

2012 FY-2F(Op)
2013 FY-3C(Op)
2014 FY-2G(Op)
2017 FY-3D(Op)
2018 FY-2H(Op)
2019 FY-4B (Op)
2020 FY-3E(Op)
2022 FY-RM(Op)
2023 FY-3H(Op)
2021 FY-3F(Op)

5 satellites will be launched within this decade
## Payloads Coming FY-3 Successor

<table>
<thead>
<tr>
<th>No.</th>
<th>Sensor</th>
<th>FY-3E</th>
<th>FY-3F</th>
<th>FY-3R</th>
<th>FY-3G</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sensor</td>
<td>(05) EM Satellite</td>
<td>(06) AM Satellite</td>
<td>(07) Rainfall Satellite</td>
<td>(08) PM Satellite</td>
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<tr>
<td></td>
<td>Scheduled Launch Date</td>
<td>2020</td>
<td>2021</td>
<td>2022</td>
<td>2023</td>
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<tr>
<td>1</td>
<td>Optical Imagery</td>
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<tr>
<td>2</td>
<td>Passive Microwave Sensors</td>
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<tr>
<td>3</td>
<td>Occultation Sounder</td>
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<tr>
<td>4</td>
<td>Active Microwave Sensors</td>
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<tr>
<td>5</td>
<td>Hyperspectral Sensors</td>
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<tr>
<td>6</td>
<td>ERB Observation Sensor Suite</td>
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<tr>
<td>7</td>
<td>Space Weather Sensor Suite</td>
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</table>

### Optical Imagery
- **MERSI**: √ (III-Low Light), √ (III), √ (III-Simplified), √ (III)

### Passive Microwave Sensors
- **MWTS**: √
- **MWHS**: √
- **MWRI**: √, √

### Occultation Sounder
- **GNOS**: √, √, √

### Active Microwave Sensors
- **WindRAD**: √
- **Rainfall RAD**: √

### Hyperspectral Sensors
- **HIRAS**: √, √
- **GAS (Greenhouse Gases Absorption Spectrometer)**: √
- **OMS (Ozone Mapping Spectrometer)**: √

### ERB Observation Sensor Suite
- **ERM**: √
- **SIM**: √
- **SSIM (Solar Spectral Irradiation Monitor)**: √

### Space Weather Sensor Suite
- **SEM**: √
- **Wide Angle Aurora Imager**: √
- **Ionosphere photometer**: √ (Multi-angle)
- **Solar X-EUV Imager**: √
Vision for Future Fengyun in 2035

Missions included in 2011-2020
- FY-3E(EM)
- FY-3F(AM)
- FY-3G(RM)
- FY-3H(PM)
- FY-3J(EM)
- FY-3J(RM)

Missions included in 2015-2025
- FY-5A(AM)
- FY-5B(PM)
- FY-5C(Lark)
- FY-5RM(Swift)

Future Missions
- FY-5A
- FY-5B
- FY-5 X Series
- FY-5C
- FY-5D
- FY-5E
- FY-5F
- FY-4-MW1
- FY-4-MW2
- FY-6
- Radiometric Benchmark Satellite(Libra)

2019/12/13
ITSC-22, Saint-Sauveur, Canada
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

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)

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
Make the data better and easier to use!