Launched in 2014 Launched in 2016

WorldView 3 & 4 Urban planning & monitoring

It's mission has ended

in 2019 due to a failure

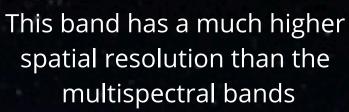
in its Gyros control

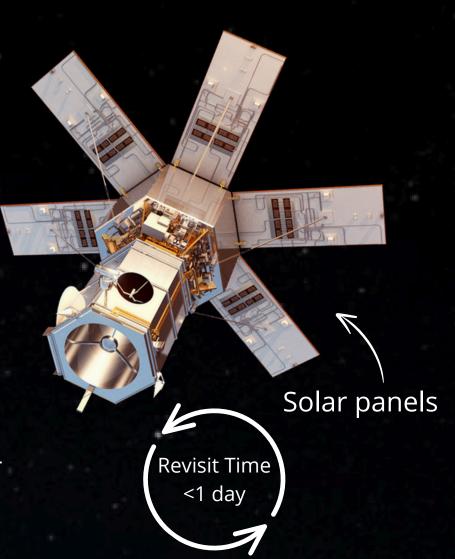
Worldview-4

How the system works

The satellites are equipped with:

- Multispectral sensors which can capture imagery in different parts of the electromagnetic spectrum.
- High-resolution panchromatic sensor which captures data in black and white imagery.









3

The differences between the models 3 & 4

- Multispectral resolution, They both a resolution of 1.24 meter for multispectral bands but Worldview 3 has a resolution of 0.31 meter for its panchromatic sensor.
- SWIR = Short-Wave Infrared WorldView-3 can capture a total of 16 bands (8 multispectral and 8 SWIR), whereas WorldView-4 captures only 4 bands (multispectral: red, blue, green, and near-infrared).
 - WorldView-3 is equipped with an instrument called CAVIS (Clouds, Aerosols, Water Vapor, Ice, and Snow), which helps correct atmospheric interference to produce clearer imagery.

The Applications

With its high spatail resolution and multiple bands sensors the satellites have a wide range of applications such as:

- Land mapping: identify residential or industrial buildings
- **Monitoring**: not only transportation networks or urban sprawls but also, pollution and heat island effects
- 3D modeling: of urban areas such as Dubai or Singapore

The Challenges

- Data Complexity: Handling large datasets with high spatial resolution and numerous spectral bands
- Cloud Coverage: Clouds and aerosols can obstruct visibility of the sensors
- Temporal Resolution: While daily revisit is possible, actual availability may depend on competing tasking requests and weather

https://resources.maxar.com/data-sheets/worldview-3, https://earth.esa.int/eogateway/missions/worldview-4 European Space agency: https://earth.esa.int/eogateway/missions/worldview-3 New sensors benchmark report on WorldView-3, European Space Imagery, B. Vajsova et al., 2015 "Worldview-4" Data Sheet PDF. DigitalGlobe, November 2015