

# Processing Collected Satellite Image and Data in Orbit



UP42 has announced that image data and information from the planned LatConnect 60 constellation of mid-inclined orbit remote sensing satellites will be available on the UP42 developer platform for Earth observation data and analytics.

In early 2022, LatConnect 60 will launch its first two 'smart' small satellites equipped with onboard artificial intelligence (AI) for data pre-processing and advanced tip-and-cue functionality. This on-board AI has the possibility to significantly reduce costs for resellers and end users, making enterprise-quality satellite data available to a wider range of small and medium enterprises.

"UP42 and LatConnect 60 share the common goal of democratizing access to Earth observation information," said UP42 CEO Sean Wiid. "LatConnect 60 is developing remote sensing technology that goes beyond providing raw data to delivering easily accessible insights."

UP42 gives users direct access to extensive Earth observation datasets and advanced processing algorithms – along with cloud computing power – to create their own geospatial solutions easily and inexpensively. Users purchase just the data needed to cover their area of interest and then leverage out-of-the-box processing capabilities to analyze the datasets without investment in their own computing infrastructure.

## Onboard computers running AI algorithms

Based in Perth, Australia, LatConnect 60 is positioned at the leading edge of smart satellite development, developing satellites with onboard computers running AI algorithms that will begin processing collected image and data in orbit. This will enable the small satellites to transmit derived information to ground stations faster and more efficiently. Moreover, the onboard analytics can trigger tip-and-cue procedures for the same satellite to capture additional imagery or to task another satellite – or even a drone in the sky below – to acquire more data over the area of interest.

"The variety of algorithms available on the UP42 platform will provide customers with the opportunity to add even greater value to the image data and information coming from our satellites," said LatConnect 60 CEO and co-founder, Venkat Pillay. "With our joint focus on delivering satellite data to businesses in a cost-effective and easy-to-understand way LatConnect 60 and UP42 are natural partners. We look forward to collaborating with UP42 in developing new methods of delivering insights directly to end users."

## Mid-inclined satellite orbits

Another significant innovation for the [LatConnect 60 constellation](#) will be the mid-inclined satellite orbits, extensively covering areas between 60 degrees north and south latitudes, especially the Earth's equatorial regions. Each satellite will have two to three daily revisits over this often-cloudy region, increasing the likelihood of cloud-free acquisition over a specific area of interest. "We are excited to offer unique LatConnect 60 products for a region of the world underserved by consistent remote sensing coverage," said Wiid.

The first two LatConnect 60 satellites will capture one-meter spatial resolution imagery in seven spectral bands including the visible, near infrared, and red edge. The company expects to launch a total of 16 small satellites by 2025. Several will also carry synthetic aperture radar (SAR) sensors capable of collecting data through clouds and precipitation. Future satellites may be launched at 15- and 30-degree inclination orbits.

"We will play a leading role in fulfilling remote sensing needs across Australia, Southeast Asia and the global equatorial region, which has been underserved by satellites such as ours," said LatConnect 60's Pillay. "LatConnect 60 data will be ideal for applications ranging from forestry and agriculture to defense and maritime monitoring."

## Geospatial analytics processes

The LatConnect 60 satellite imagery and derived products join a variety of Earth observation information already on the UP42 marketplace, including Pleiades 1A/B, SPOT 6/7, [Landsat-8](#), TerraSar-X, [Sentinel-2](#) and MODIS satellite imagery, [Hexagon](#) and [Getmapping](#) aerial data, Intermap DEMs, exactEarth AIS data, and Meteomatics weather and ocean data.

Leveraging these datasets, users may apply more than 50 geospatial analytics processes, including machine learning algorithms, to automatically find features, count objects, detect change, uncover patterns, classify land use, and derive vegetative indices.

For more information on UP42 Earth observation datasets and processing algorithms, [see here](#).

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