



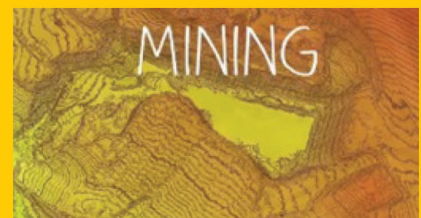
**ipage UMS**  
Spatial innovation at work



# Introduction



IPage conducts aerial surveys that capture high resolution spatial data using pre-programmed autonomous / Manually Controlled UAVs for the following sectors



1. Agriculture
2. Forestry
3. Urban planning
4. Mining
5. Disaster management
6. Policing
7. Tourism
8. Land Records
9. Basic engineering
10. Infrastructure

# About IPage



IPage UM Services is a specialist UAV company based out of Singapore engaged in aerial surveying and mapping. we are the changing face of professional surveying.

Achieving more with your land starts with obtaining accurate, up-to-date data and information. We are operating top of the line UAVs (Unmanned Aerial Vehicles, commonly known as a drones) since late 2015 and are getting fantastic results from this new technology. As specialists in UAV Aerial surveying and mapping, we survey large areas of land quickly and in more detail than on-the-ground surveying methods can.

Large jobs that once took weeks can often be completed in a fraction of the time, and with no loss in quality. Our UAVs are also ideal for sites that are hard to access or places like quarries and unstable slopes where it is too dangerous to send a person.

We provide some of the highest levels of Accuracy in the industry with a specified maximum deviation of not more than 3x variation in X,Y and 5x in Z . Actual deviations are observed to be between 1x and 3x respectively in XY and Z Where x is the GSD.

Time, Speed and Accuracy are the three major advantages in using UAV's for Survey , Mapping and Observation. Large extents of Area of Interest can be surveyed in a fraction of Time required for Traditional surveys and also with Similar or better accuracy and more useful insights and information for better decision making.



# The Background



IPage UM services Pte Ltd formerly known as IPage Telecom Pte Ltd was started in the year 2008 by Mr.Dev R in Singapore and was at the forefront of telecom revolution especially in the area of bulk sale of international traffic to telcos.

With the advent of VoIP and changing demographics of Telecom industry, we diversified into the new emerging sector of Unmanned aerial Vehicle based surveys in the year 2013.

Now we have emerged as a leading player in the space with numerous prestigious associations and having executed some of the most demanding projects both in terms of Size and Deliverables.



## The Technology

**Our UAVs are Simply the best out there Right Now!!**



Our long range Precision UAVs are equipped with a high definition cameras and custom sensors that captures land data with an incredibly high level of detail and positional accuracy. This is then used to create ortho-rectified maps, 3D surface models, point cloud data, topographical surveys, volume measurements and digital terrain models (DTM) for measuring, mapping and managing land.



Our Fixed wing UAVs are among the best and most trusted in the world and are built to exacting specifications for precision and endurance. They are equipped with electronics and avionics from Lockheed Martin of USA well known worldwide as the maker of F-16 & F-22 fighter planes. We are committed to delivering industry leading quality and precision levels. Hence we equipped our already highly advanced drones with additional sensors to maximise accuracy even more!!



We also operate very long endurance battery operated UAVs , that are amongst the most efficient in the segment in the world.

# Our Services

## THE ULTIMATE SOLUTIONS FOR YOUR MISSION

### SURVEYING AND REMOTE SENSING

Point cloud derived DSM, DEM, Aero-photogrammetry, mapping, surveying, volume calculations and estimations.

RGB \ NDVI \ MULTISPECTRAL \ HYPERSPECTRAL



### INFRASTRUCTURE CONTROL

Roads and railroads management and control, critical infrastructure monitoring, pipeline and well monitoring, upstream, midstream and downstream monitoring.

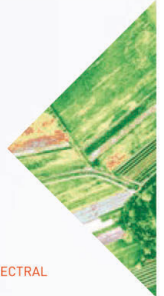
RGB \ NDVI \ MULTISPECTRAL \ EYE-X \ gAS



### PRECISION AGRICULTURE

Vigor and health of crops, yield estimation, crop counting and volume calculations, chemical management, plant deconvolution.

RGB \ NDVI \ MULTISPECTRAL \ HYPERSPECTRAL



### FLOOD MONITORING

Digital terrain model derived flood simulations and real time flood control.

RGB \ EYE-X



### OPEN PIT MINING

High precision fast revisit time volume and stockpile calculations, infrastructure and machinery control.

RGB \ NDVI \ MULTISPECTRAL \ HYPERSPECTRAL



### ECOLOGICAL MONITORING AND SENSING

Precise ecosystems status monitoring, speciation, forest management, plant deconvolution, pollutants identification.

RGB \ NDVI \ MULTISPECTRAL \ EYE-X \ HYPERSPECTRAL \ gAS



### CLASSICAL ISR

Target tracking, coordinate estimation, tactical level observation, change detection, tactical mapping and charting, battlefield zone observation, BDA, maneuver estimation and observation, communications relay.

EYE-X \ RGB \ HYPERSPECTRAL \ MULTISPECTRAL



### SEARCH AND RESCUE

Video based visible light and thermal sensor based search, coordinate estimation, orbiting observation in the most extreme conditions.

RGB \ NDVI \ EYE-X



### IED CHANGE DETECTION

Forward area infrastructure road and zone of interest mapping and charting, change detection algorithm applications.

RGB \ MULTISPECTRAL \ HYPERSPECTRAL



### WILDFIRE MANAGEMENT

Hot zone definition and fire perimeter definition, coordinate estimation, wildfire area mapping and charting, communications relay.

EYE-X \ HYPERSPECTRAL \ NIR



### CIVIL DEFENSE

Coordinate estimation, search and rescue coordination, zone of interest orbiting, charting and mapping, damage assessment, communications relay.

RGB \ EYE-X \ HYPERSPECTRAL \ MULTISPECTRAL



### FIRE CONTROL

Forward area of operations target estimation, BDA, tactical mapping and charting.

RGB \ EYE-X



# Smart Cities and UAVs

**The basis for implementing any smart city project is the digital base map of the City. This base map is useful to establish :**

1. The legal boundaries of the Administrative area
2. Understand and record existing infrastructure like roads, power lines and drains
3. Identify Infrastructure bottle necks like traffic & storm water drains
4. Identification of Encroachments and illegal structures
5. Correct Assessment of existing structures

**Our Ultra high resolution base maps come with a resolution ranging from 5cm to 0.6 cms Ground Sampling Distance. For comparison Google maps have a resolution of 60cm to 30 cm GSD. Our data can help in making highly accurate base maps that can help in :**

1. Streamlining Property tax collections and plugging leaks
2. Better planning the civic infrastructure
3. Disaster management & Mitigation
4. Flood simulations / Emergency evacuation simulations
5. Citizen centric, Citizen friendly Services using Web and Mobile applications
6. Transparent flow of Information between ULB and its Citizens
7. Very effective MIS

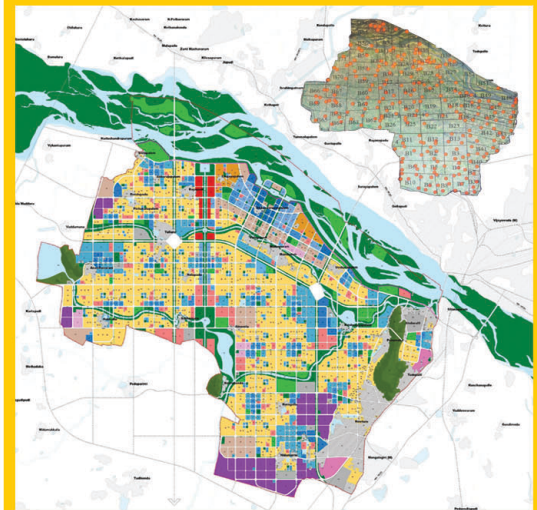
We will be glad to extend our services to ULBs that are on the mission to make their cities smart with required Services and Solutions. We can deliver very accurate base maps and also keep them up to date on regular basis.

**We also extend our services in :**

- Implementing Property Tax Management System
- Conducting Field Surveys
- Conducting Infrastructure Survey and
- Conducting LiDAR based Asset Mapping



Our CEO Mr Dev with Honourable Chief Minister Sri Chandra Babu Naidu during the later's Singapore Visit.



Andhra Pradesh capital Amaravati (India) master plan designed by Surbana. Aerial survey by IPAGE.



Inauguration of Amaravati Aerial Survey by Honourable Municipal Minister P Narayana, agriculture minister Sri P Pulla Rao and MLC Smt.Nannapaneni Rajakumari.

# Our Partners



CWT Aerospace Pte Ltd, Singapore is the equipment Partner for Ipage. Together with our Partner CWT Aerospace, We also sell / Lease UAVs across platforms for Civilian , Commercial and Military applications. With 15.2 Billion S\$ in revenue and presence in over 50 countries CWT Ltd is one of the major listed companies in Singapore and employs over 6000 people worldwide.



IPage is a Survey Partner of Surbana Jurong Pte Ltd, Singapore. Surbana Jurong is the Master planner for the designated new Capital of the Sunrise state of Andhra Pradesh, Amaravati. Armed with experience spanning several decades in planning and implementation of major urban projects across the world, Surbana is the leading Planning company in Singapore.

# Our Clients



We did one of the biggest land survey project using UAV in India!! IPage is the survey partner of Surbana Jurong Consultants Pte Ltd, Singapore. IPage has completed the Survey of 350 Sq.km including 217 Sq.Km capital area for Surbana client APCRDA. We have also surveyed additional 133 Sq.Km of buffer area surrounding the capital for planning purposes. The traditional surveys would require at least one to one and a half years to get the job done, but still the data collected will not be so extensive.



Pilot study of MG Road, Eluru Road, Krishna Lanka Katta, Ring Road, Veterinary Colony, Bundar Canal and Eluru canal in Vijayawada for VMC. The 5cm GSD data samples also provided to the concerned stakeholders. This high resolution data is very useful for Property Tax management, Designing the traffic junctions in Vijayawada, for metro alignment planning and also for identifying traffic bottle necks in Vijayawada. Setting up of Ground Control Point (GCP) Permanent Bench Mark Monuments in the City of Vijayawada. A well planned network of GCP benchmarks was installed in Vijayawada for a reliable reference system of Ground Control Points which greatly helps in improving the accuracy of DGPS surveys and eliminating the need for long observations to fix Control points.



## Contact Us

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