



شركة البيانات الرقمية للتصوير الجوي
Digital Data for Aerial Imaging Co



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D-DATA

DIGITAL DATA FOR AERIAL IMAGING

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1- INTRODUCTION

D-Data is a full-service Aerial Survey & Geospatial Solutions provider based in Riyadh, KSA.

It is offering a spectrum of Customized Solutions to Public and Private sectors for various and multi-level projects and domains starting from the small to large scale projects such as infrastructure such as roads, power and water transmission lines, railways, bridges, dams, water reservoirs, airports, industrial complexes, oil and gas operations, and sea water desalination plants and complexes.

D-DATA also offers its clients a full spectrum of Geospatial products, GIS application and database chains including consulting, data collection, processing, storage and customized Software Solutions and services and a host of software products.

By combining D-DATA's customized, cutting-edge Geospatial offerings with its in-house team of professionals,

D-DATA is not only able to offer local support, but is also able to tailor its offerings to cater exclusively to individual Geospatial requirements. Innovation, Mobilization, Integration, Monitoring and Flexibility are the set of Values that we stand for.

D-DATA owns and operates several Vertical Takeoff and Landing UAVs equipped with high resolution cameras (42MP) for aerial survey.

These drones can offer from 1cm up to 30cm resolution imagery.

In D-DATA , we rely on a high qualified team with a core specialization in Aerial, terrestrial survey, 3d modeling in multiple levels and mapping solutions to multi-level clients in the kingdom of Saudi Arabia

2- CAPABILITIES

D-DATA is relied on a high qualified team with a core specialization in Aerial, terrestrial survey, 3d modeling in multiple levels and mapping solutions to multi-level clients in the kingdom of Saudi Arabia

Also rely on it won several Vertical Takeoff and Landing UAVs equipped with high resolution cameras (42MP) for aerial survey, some of these UAV's samples as below,



wingtra one with high capabilities for mapping production and topographic survey



Trinity F90 with high capabilities in LiDAR Survey



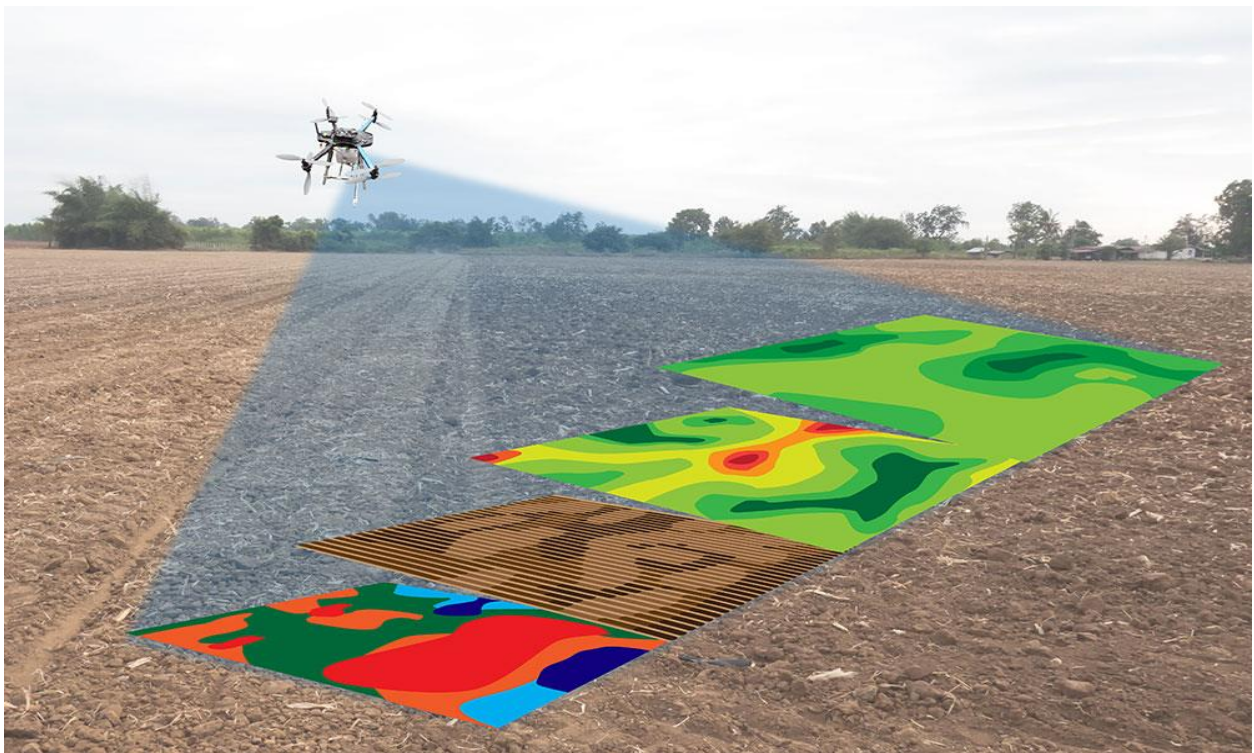
Matrice 600 with high capabilities for Oblique survey

3- UAV SERVICES

Unmanned Aerial Vehicle (UAV) data capture, process and analysis is D-DATA's main industry of proficiency and expertise as UAV are widely now used to capture aerial data with downward-facing sensors, such as RGB or multispectral cameras, and LIDAR payloads.

“The process of surveying and mapping a construction site used to be long and expensive. Infrastructure companies undertaking large projects had to spend days and weeks with ground-based instruments or rent a helicopter to fly over their sites to take the necessary photos.

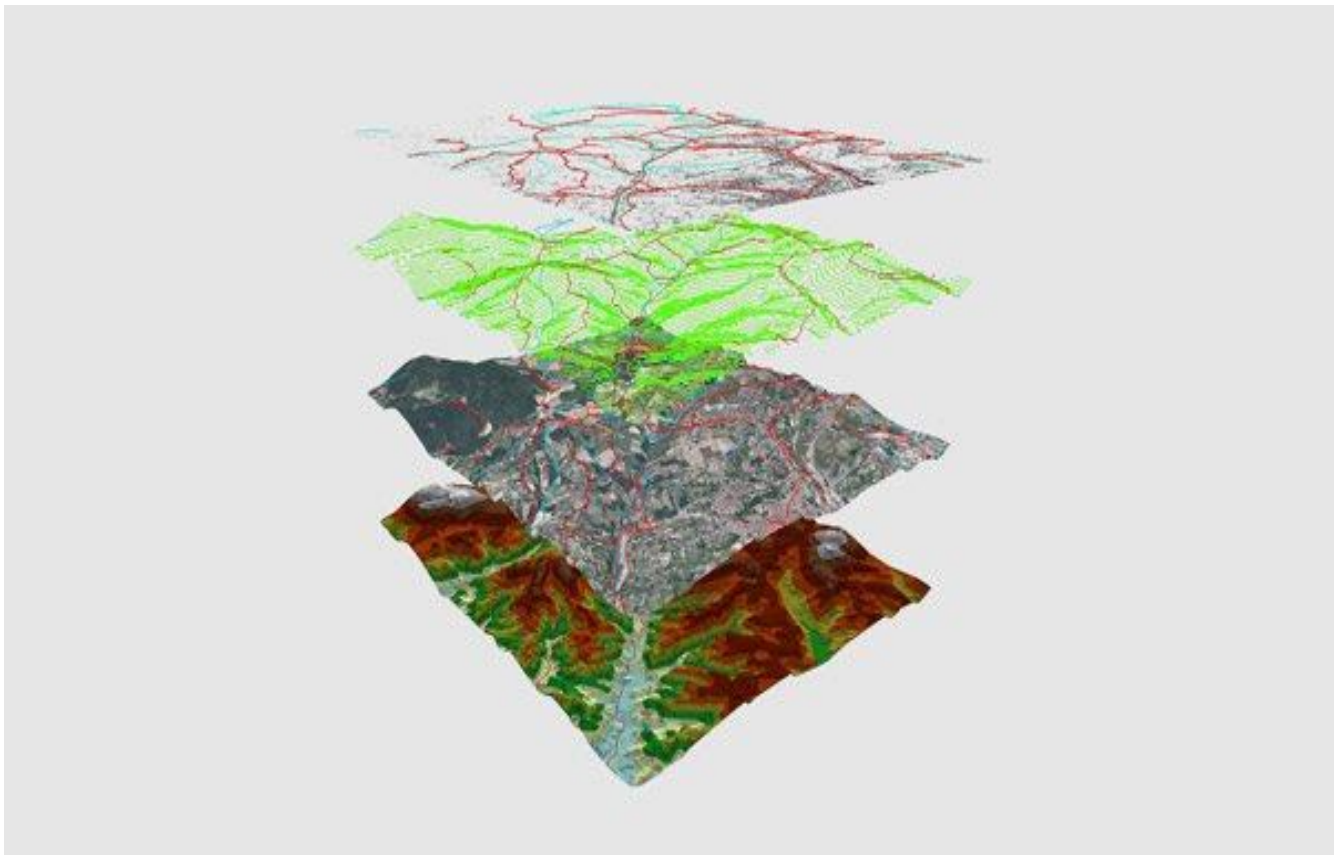
Today, a UAV can survey a large area in short time and at a very low cost”



4- SERVICES

D-Data is honored to provide the following services;

- 1- Topographic survey by drones
- 2- Mapping Production using drones
- 3- LiDAR survey
- 4- Oblique survey by drones
- 5- Inspection by drones for transmission power lines, towers, industrial facilities
- 6- Projects monitoring progress by drones
- 7- Land Survey
- 8- GIS Services: GIS application and database chains including consulting, data collection, processing, storage and customized Software Solutions and services and a host of software products
- 9- Satellite imagery services



5- PRODUCTS

D-Data is honored to provide a rich product for its clients as below list,

1- ORTHOPHOTO

Whether you require a first-generation base map or the next generation 3D fly-through. We apply the most appropriate technology to produce comprehensive and rich digital orthophotos.



2- TRUE ORTHOPHOTO

D-Data also use special techniques to process and create digital true orthophoto from 1 cm to 30 cm image resolution that should

be provided in case the client will need to create a base map or feature extraction.



3- 3D FEATURE EXTRACTION

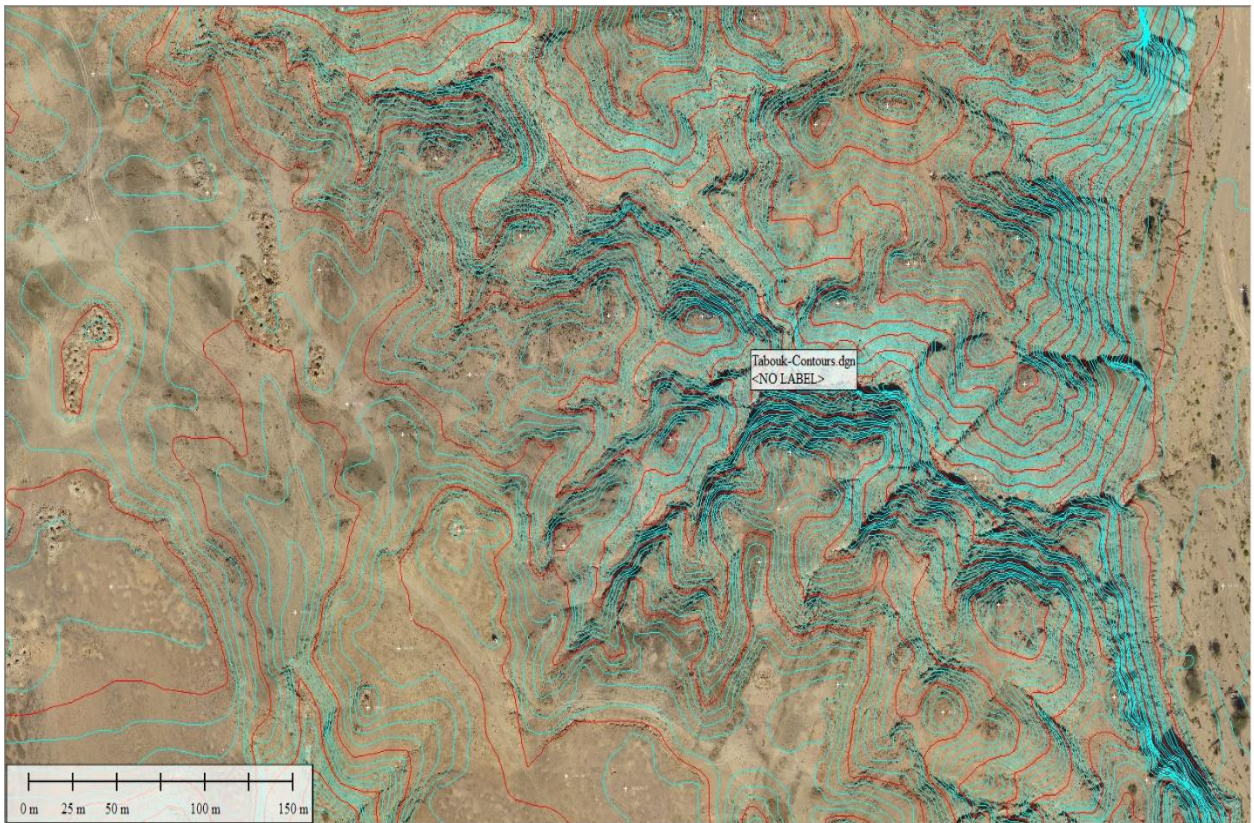
D-Data understands that the requested assignment is to build a new Digital Geospatial Data compiled from the new UAV Campaign. The Vector compilation will be made from the set of UAV imagery, All features will be extracted using the newly captured UAV images. All visible features will be extracted in 3D from the stereo images, (Buildings , Roads ,

Agriculture areas , Terrain classification , Trees , Walls , Fences
 , Gates , Manholes , Poles , Spot heights , Wadis , etc...



4- CONTOUR LINES AND GRID POINTS

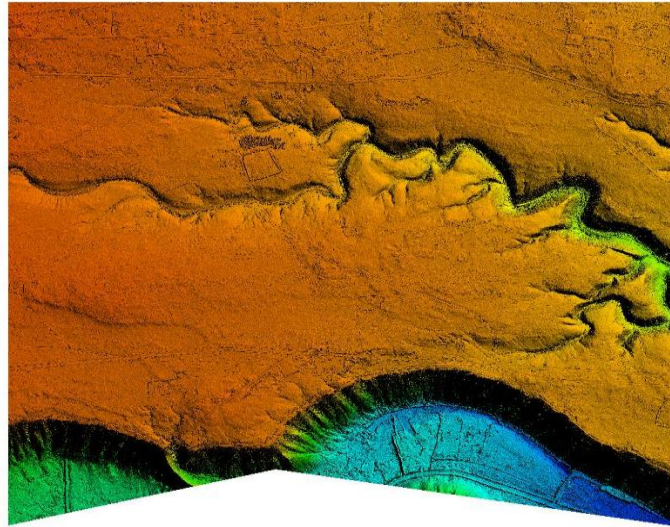
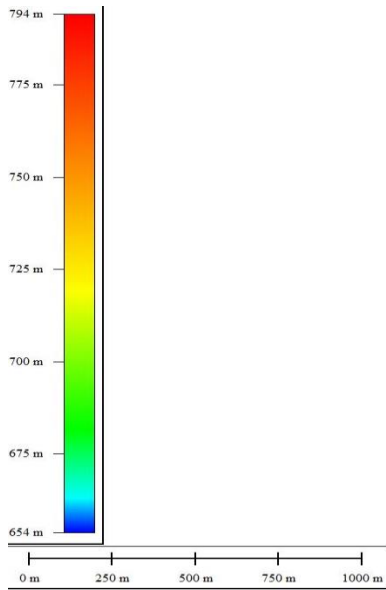
D-Data also produces Contour Maps from the data collected off UAV survey , those Contour Maps shows the hierarchy of the site and shows the heights and decreases and level of gradation, by any terminator starts from 25 cm and extends to several meters and according to the request of the client





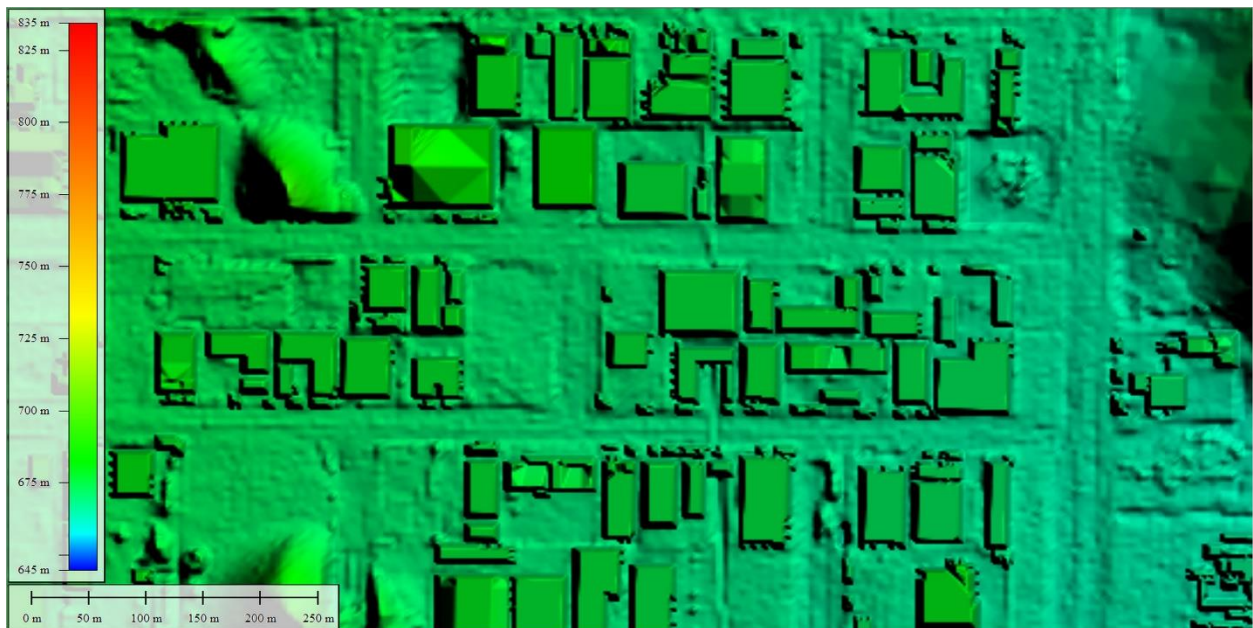
5- DIGITAL ELEVATION MODEL - DEM

Fully detailed Digital Terrain Models (DTMs) for Contour Generation and Flood Plain Mapping as well as Digital Elevation Models (DEMs) for specialized applications such as 3D Modeling and Volumetric Calculations.



6- DIGITAL SURFACE MODEL – DSM

D-Digital create a DSM that is especially useful in 3D modelling because objects extrude from the Earth, and it is relevant in Telecommunications, Urban Planning, Aviation and Forestry, etc.



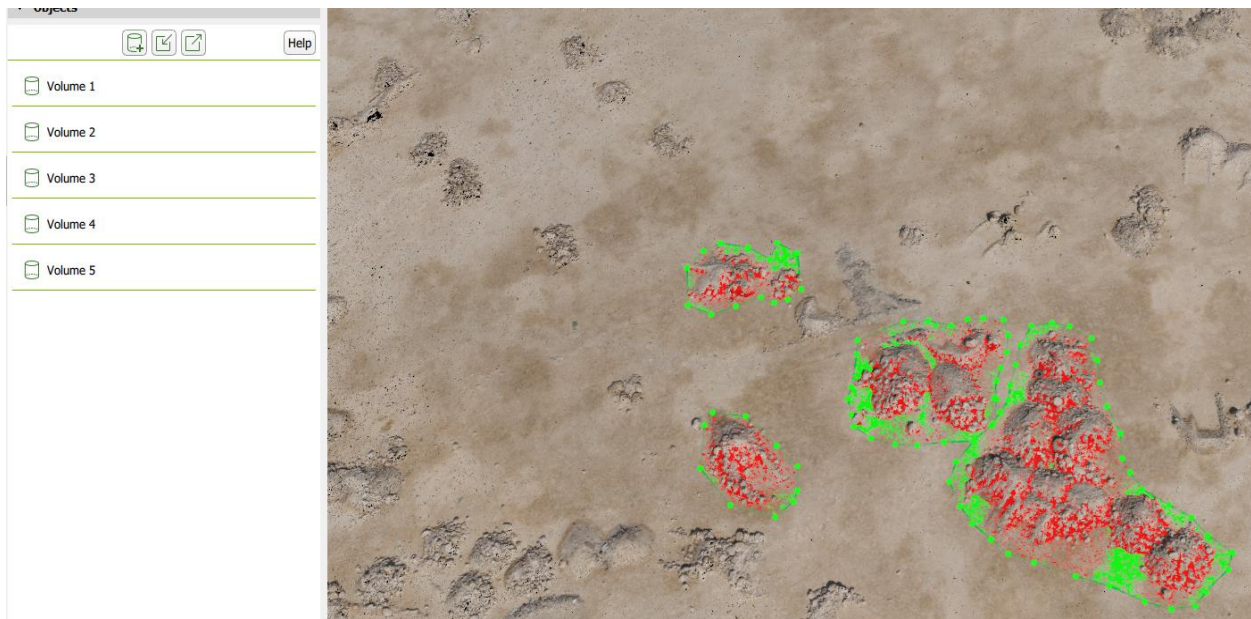
7- 3D POINTS CLOUD

In a three-dimensional coordinate system, these points are usually defined by X, Y, and Z coordinates, and often are intended to represent the external surface of an object. For example, in Aerial Survey and GIS, point clouds are one of the sources used to make digital elevation model of the terrain, it is also used to generate 3D models of urban environment



8- VOLUMETRIC

The Survey Data is collected by UAV techniques based on Ground Control Points. This data is processed to shape a 3D Digital Terrain Model (DTM) which forms the basis for Volume Calculations, Surface Area Measurements and Cross Sections.



9- 3D MODELLING

D-Data is able to execute an accurate scanning of any object and deliver a 3D model.

To be able to build a detailed and accurate 3D model of any object, and avoid gaps and dead angle, we should conduct a high resolution (1cm) oblique survey of the concerned object using a copter type drone with high resolution camera.

The oblique images will also be captured along with airborne GPS information that will be used to geo locate the images.

Additionally, so we should install and survey a marked ground control points

that will be also used for the aerial triangulation of the block.



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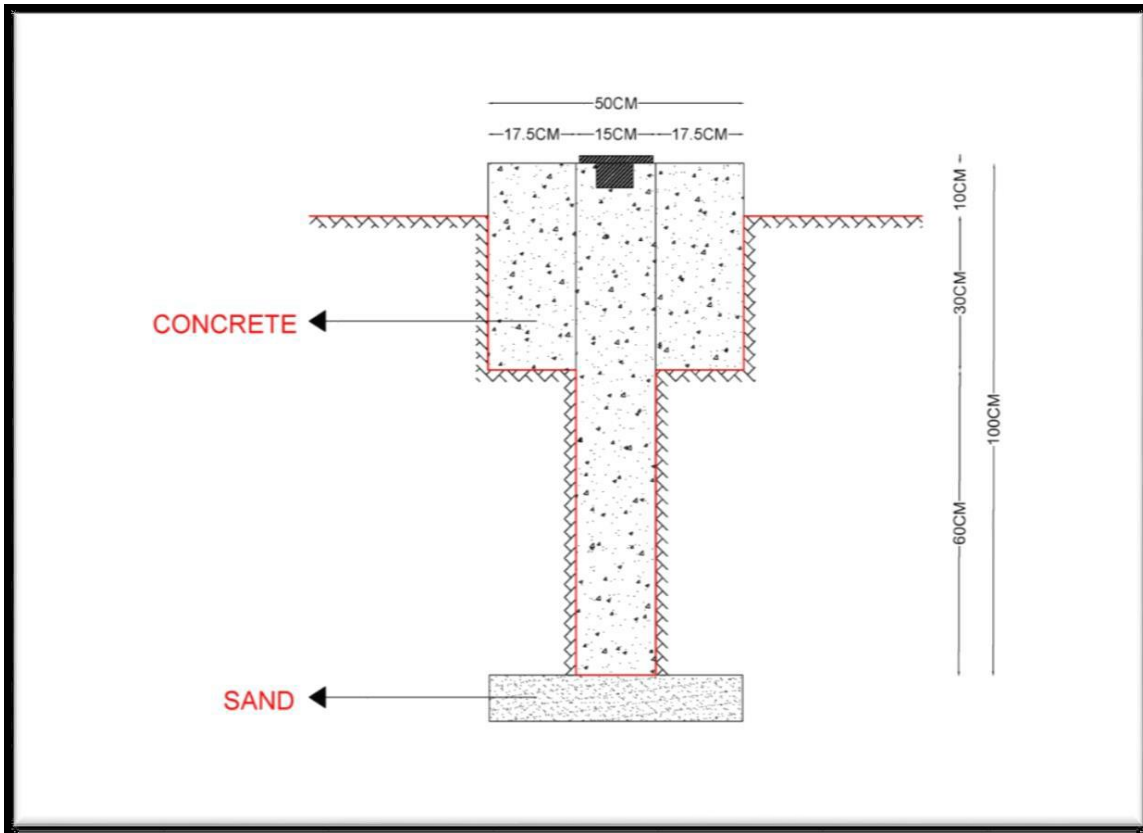


10- PERMANENT BM

In case required by the client we can install permanent BM with the following specification or as any other specification,

- Concrete foundation with dimension Diameter 50cm*40cm in sandy area and Diameter 30cm*30cm in hard area.
- PVC pipe 6 inch diameter with length 0.5 to 1 meter to be planed inside the concrete foundation and filled with concrete
- Copper or steel plate will be covering the pipe showing the number of the point and client's logo.
- The coordinates of the BM shall be surveyed using GPS static Technique.

We will submit a report showing the methodology and the obtained accuracy as well other relevant information



11- AERIAL VIDEOGRAPHY BY DRONES

D-Data able to provide a video shooting for the ongoing projects, covering different sites in the KSA, and therefore has a very good experience in the video acquisition and editing,

following the corridor centerline, showing a global view, with zoom in on interesting and specific location as per the client requirements,

Regarding the editing, it will be based on the client requirement if it will be a regular editing (merging the different videos in 1 single file), knowing that we could also add graphics, 3d text, name of the locations, areas, etc...



12- INSPECTION DATA ,

D-Data able to conduct Inspection by drones for transmission power lines, towers, industrial facilities and provide images , videos as a visual or using thermal cameras to detect any damaged or problems in the objects .



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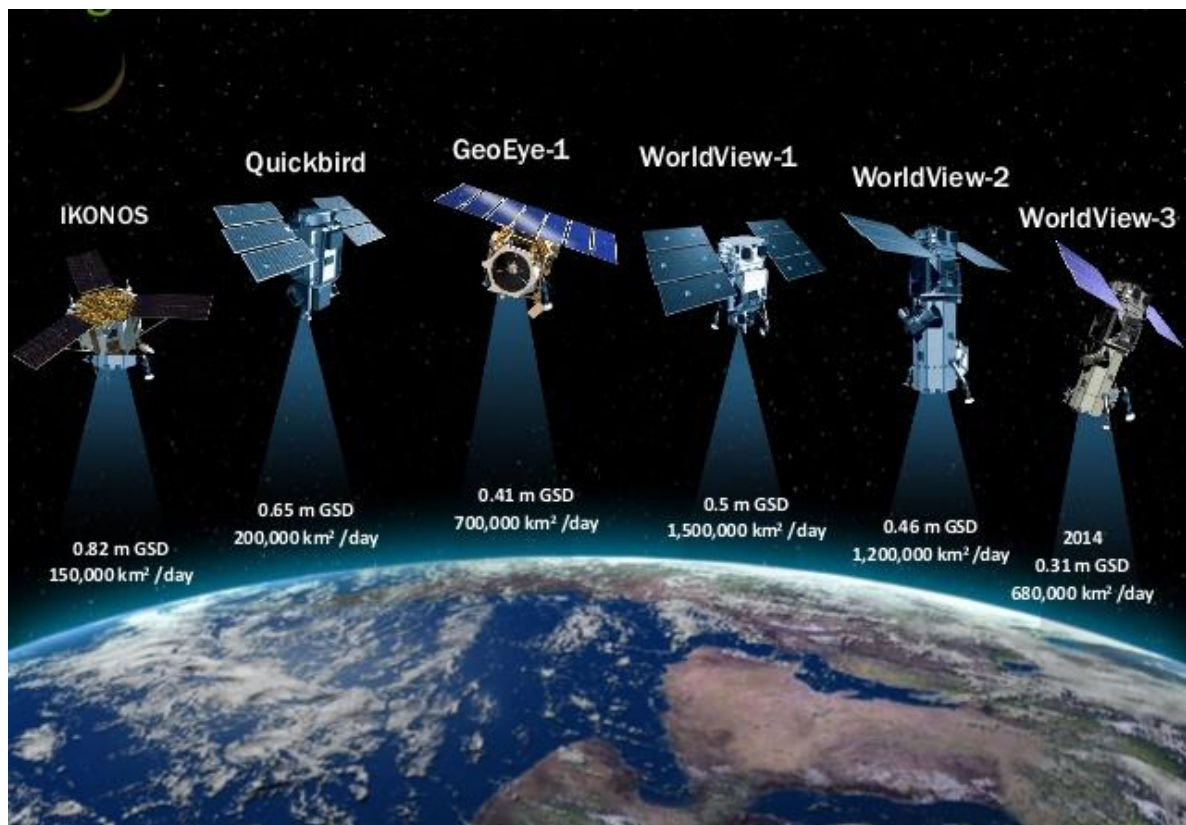


13- SATELLITE IMAGERY PRODUCTS

D-Data able to provide a high-resolution satellite imagery at 30cm and 50cm, in mono and stereo mode for photogrammetric mapping production,

D-Data can provide the below deliverables,

- Orthophoto
- Contour lines
- DEM
- DSM
- Mapping production



6- KEY CLIENTS,

As D-DATA is just recently started the work but Our team has been honored to implement a several projects with the following clients,

