



Our Credentials

From government bodies to corporations and education institutions, Credent has won the confidence of clients from varied industries in both the public and private sectors since 1982.

For over 25 years in South East Asia, Credent has successfully worked with and provided solutions to more than 200 enterprise scale customers. Our clients are from both the government and private sector. Being one of the earliest geospatial solution providers in South East Asia, we continue to develop and deploy solutions that meet our customer's needs.

Our clients hail from varied industries, including large scale mapping agencies, defense related organizations, transportation providers, infrastructure development, natural resource management, utilities provision, environmental administration and public safety deployment.

Through airborne LiDAR services, Credent has collected, processed and delivered millions of hectares of data to date to customers throughout South East Asia. Credent owns and operates both large-scale wide area mapping and mid- to small-scale LiDAR scanning systems, offering our clients fast mobilization and quick turnaround time.

Credent's dedicated data processing center is one of the largest in the region, located centrally and in a highly secure environment. Running a time tested end to end data processing workflow, we offer our clients a one stop solution in LiDAR data acquisition to end product.

Data Processing Center

- LiDAR and IFSAR data processing
- Geospatial value added services
- Data management and hosting
- Latest LiDAR tool set
- Full time data editors



LiDAR Project - End to End Workflow

STAGE 1 - Project Planning, Mobilization *till* Collection

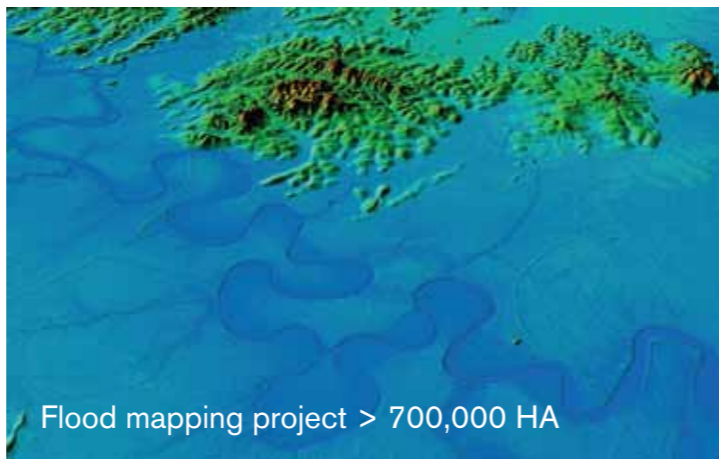
STAGE 2 - Raw data *to* Pre Process Cloud Point

STAGE 3 - Pre Process Cloud Point *to* Core Products

STAGE 4 - Generation of Application Specific Products

STAGE 5 - Delivery, Hosting, Distribution and Sharing

STAGE 6 - Data Maintenance, Updates and Validity



Flood mapping project > 700,000 HA

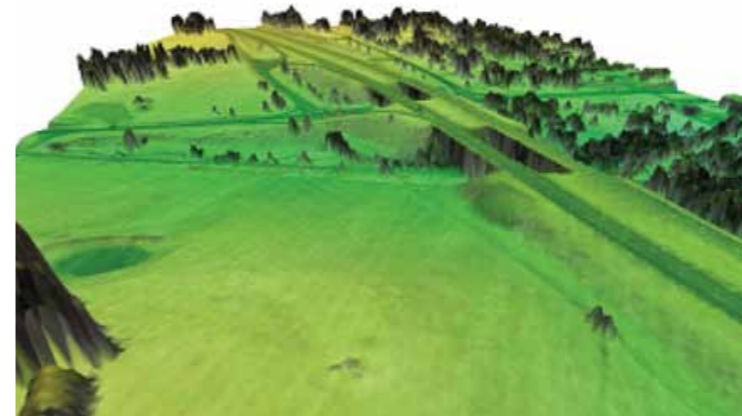
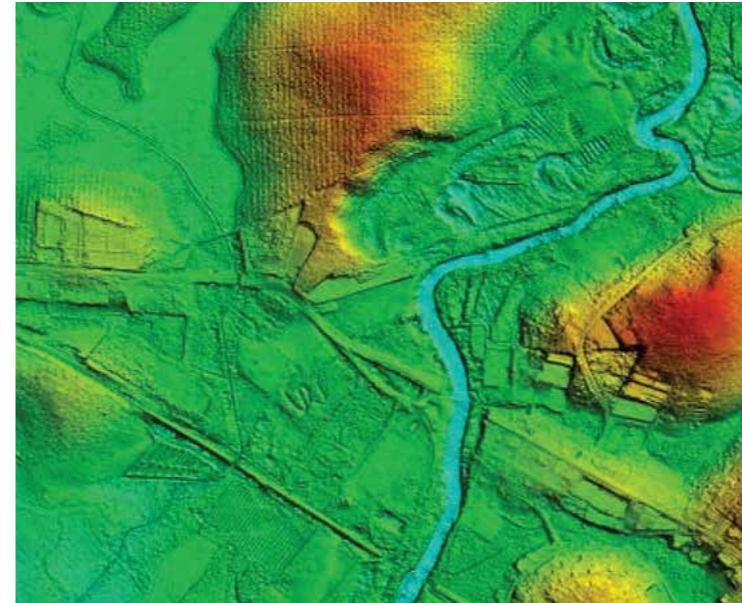
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Airborne LiDAR Services



Airborne LiDAR Data Collection

- Wide area collection with fix wing airplane
- Corridor mapping with helicopter

LiDAR Data Processing

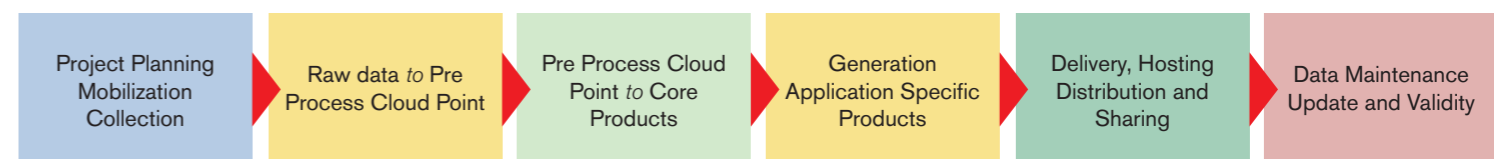
- DSM, DTM, Intensity Image and Contour Map
- Cloud point and digital image fusion
- Bare Earth and Non Ground Classification
- Breakline Collection
- Building Extraction and Reconstruction

Credent is the leading integrated geospatial data provider in Southeast Asia specializing in the modeling and visualization of the earth's surface in 3D using airborne remote sensing technologies. Our airborne sensors include integrated digital mapping cameras, LiDAR systems, inertial measurement and positional systems, digital photogrammetry and imaging technology.

Our core focus is to provide data acquisition services combined with value-added data processing, analysis and interpretation. Our standard products include Digital Surface Models (DSM), Digital Terrain Models (DTM), intensity images and contours together with metadata and reports containing accuracy verification and quality assurance.

Furthermore, Credent also provides customized data collection and application services across a broad range of industries such as Mining, Oil & Gas, Telecommunication, Engineering and Infrastructure and Forestry. Our professional services include extraction of feature data fully integrated with Geographical Information Systems (GIS) and web-services including hosting of geospatial data for our clients.

Our core strength is the depth of our services coupled with more than 25 years of experience serving a range of clients in the region. Our locally-based equipment facilitates quick response, minimizes mobilization fees, and enables rapid turnaround providing information quickly for important decision making.



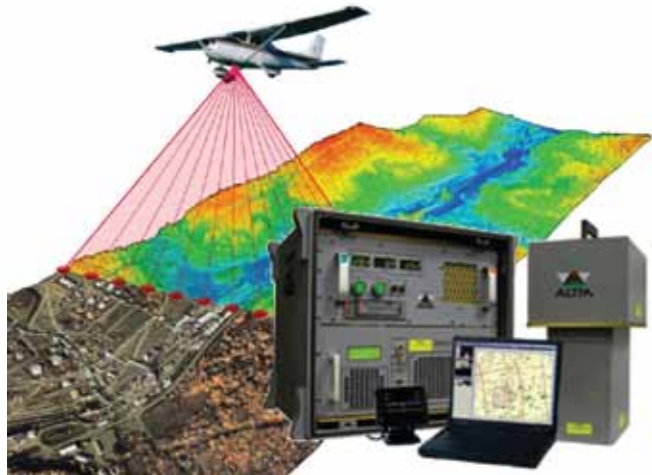
Wide area mapping



Credent has access to a wide range of airborne technologies from the leading global providers including Optech, Toposys, Reigl, Applanix and Vexcel. All our sensors integrate with state-of-the-art inertial measuring units and global positioning systems in the aircraft to provide the highest degree of positional and orientation angle accuracy required by our clients.

In our airborne LiDAR collection service for wide area mapping, we acquire a data suitable for large scale applications such as water management, agriculture and forestry, engineering infrastructure, urban planning, land development, and environmental and emergency applications. Our core strength is in providing clients with exactly the right combination of data acquisition expertise, enhanced data processing, analysis and interpretation capabilities and application oriented value-added mapping products to meet their unique requirements.

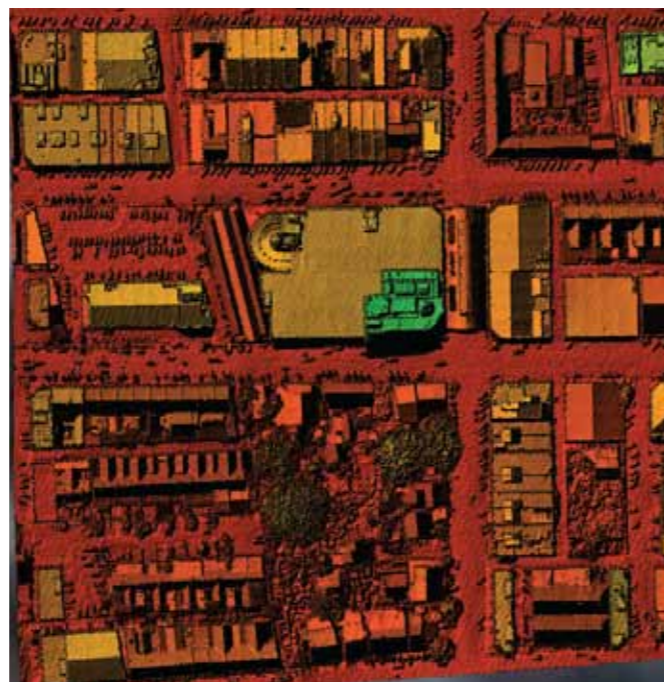
Credent has a unique advantage in providing locally based equipment that facilitates a quick response, providing rapid turnaround for important decision making. In addition to our standard products such as Digital Surface Model (DSM), Digital Terrain Model (DTM), and LiDAR intensity image, we also offer value added products for a wide range of applications.



Applications

We provide integrated geospatial data, which serves as the basis for a wide range of applications:

- Urban Planning** Wireless communication tower location assessment, flood impact study, 3D City modeling, city planning.
- Forestry Applications** Tree count / Volume calculations (Biomass), Development and route planning, Vegetation study.
- Emergency Response** 3D data for public safety planning, evacuation route planning, disaster assessment and hazard mitigation.
- Oil and Gas** Pipelines corridor, access road study, plant location, well sites planning and development.
- Transportation** Airport Obstruction Identification Surface, support for engineering design and construction.



Corridor mapping



KESTREL
Helicopter platform
Fast Corridor and Mid Scale Mapping System

and engineering managers the ability to leverage on this highly effective mapping technology.

Kestrel offers advantages over conventional means of land survey that include:

- Collection of millions of elevation points per hour - much faster than traditional methods.
- Speed in mobilizing and a rapid turnaround time.
- Better than +/- 15 cm (RMS) on open and flat terrain.
- Use of a local helicopter and easy to mobilize.
- Option of high resolution photos with LiDAR.

Often clients have small projects which need a rapid response without compromising accuracies of the delivered products, such as for open pit mine planning, development and operations, corridor mapping for road, pipelines and transmission line planning and development or scanning of power lines for catenary profiling.

Our Kestrel LiDAR System was specifically designed with a small form factor, ensuring quick mobilization and ease in installation and operation. Our crew can be on site and airborne in the shortest interval, minimizing the number of billable project days and shortening the time to deliver the data.

Kestrel is a helicopter-based LiDAR system and we offer fittings for various helicopter types. Its highly flexible operation and resulting accurate data provide local government agencies, surveyors, GIS professionals



Applications

- Mine Sites** Pit, Tailings and Volume Surveys, quantitative change detection enabling accurate material removal estimates.
- Transportation Corridors** Highway mapping, preliminary design, safety assessments, route selection, design and construction.
- Power and Transmission Lines** Route planning, tower locations, catenaries modeling, ground, buildings and vegetation clearance.
- Pipeline Corridors** Route planning, right of way assessments, updating of alignment sheets, disaster assessment/hazard mitigation.

