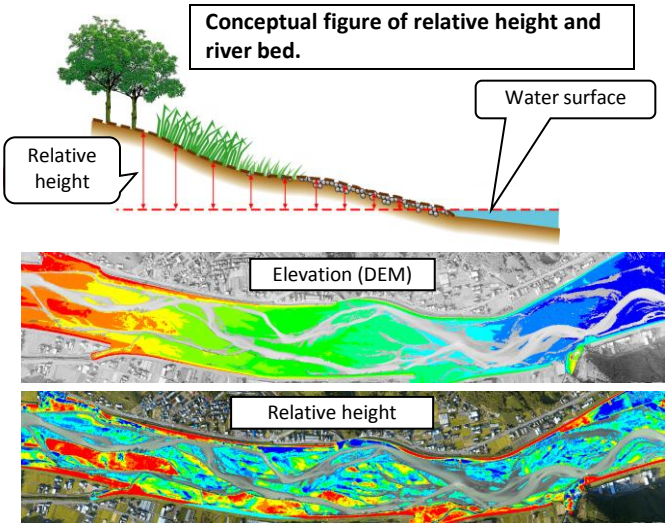
LASER BIRD

Airborne LiDAR system for making digital elevation model

Rapid acquisition of high quality 3D data for wide variety of applications

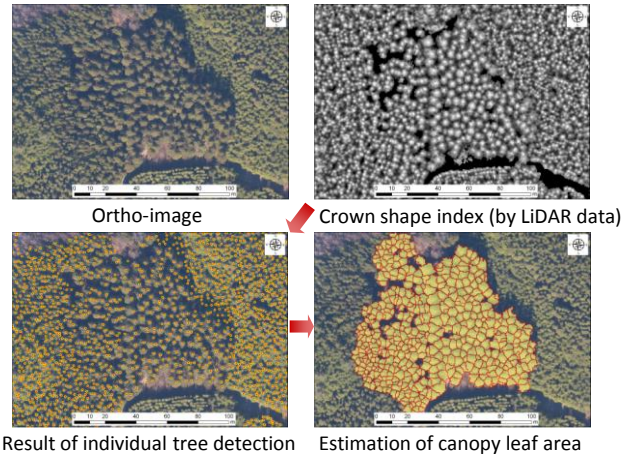
Asia Air Survey (AAS) operates an integrated LiDAR system, ***LASER BIRD***. State of the art LiDAR sensor is installed on company owned aircraft together with a digital camera. For ensuring high quality 3D data and image acquisition, ***LASER BIRD*** system is configured for automatic data processing controllable by a human operator. We can offer high standard geo-information acquisition and processing services for various applications.

River



Estimate the frequency of the occurrence of inundation by using relative height data calculated from LiDAR data. It is the good index for environmental disturbance along a river.

Forest

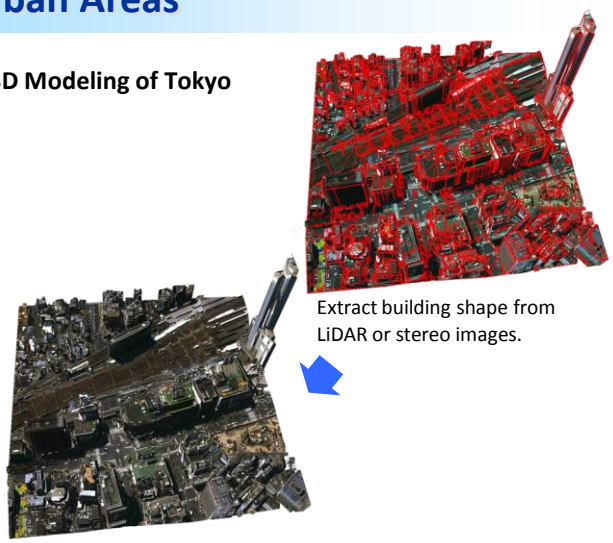


Canopy area segmentation and individual tree detection*1.
Katsumasa Oono, Yoichi Numata, Atsushi Hirano, "An improved method of individual tree detection using airborne LiDAR," in *Proc*. SilviLaser 2008, pp. 508-516, 2008.

*1: Protected by parent 4279894 in Japan.

Urban Areas

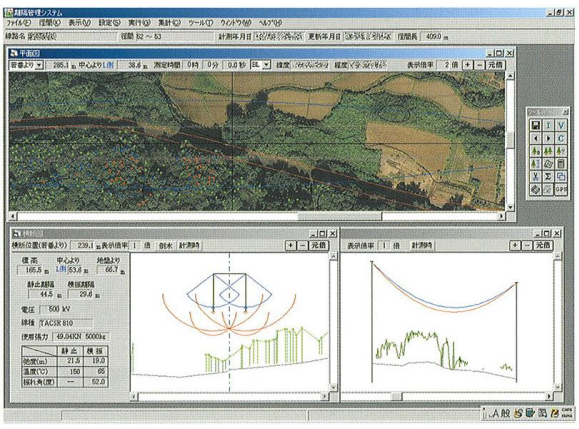
3D Modeling of Tokyo



Extract building shape from LiDAR or stereo images.

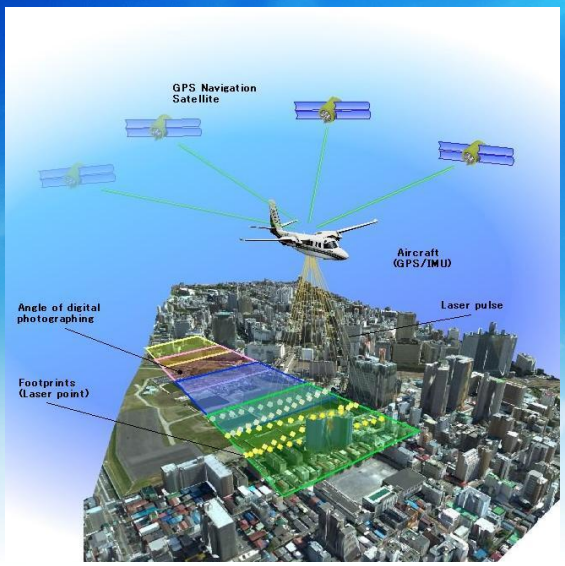
Attach digital photo onto 3D model.

Power lines



This software system evaluates*2 the distance between forest canopy (LiDAR data) and power line.

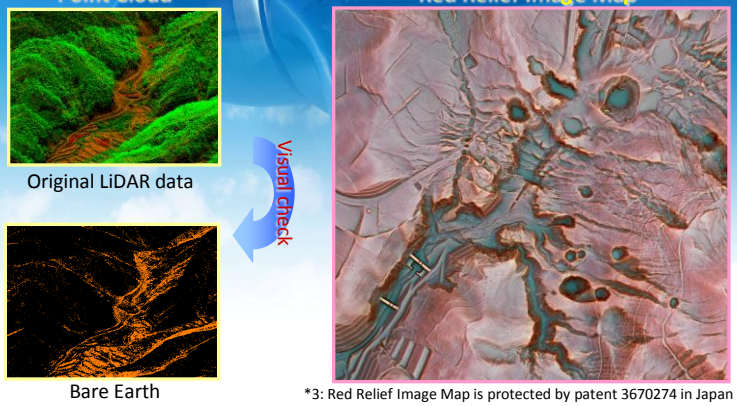
*2: Protected by parent 3927660 in Japan.



LiDAR data acquisition concept.

Reliable Data Processing

Original LiDAR data consists of various kind of returns (bare earth, builds, trees ...). Then data classification is one of the important process for positional / thematic accuracy. Our patented visualization method, ***Red Relief Image Map****[3]*, makes data error checking easy. Final terrain data of ***LASER BIRD*** are nearly error free.



*3: Red Relief Image Map is protected by patent 3670274 in Japan and 285852 in Republic of China (Taiwan). Patent pending in U.S. 10/533,675, and People's Republic of China.

Laser Bird Specifications

Model	ALTM3100	ALS50 Ⅱ	ALS60	Harrier56
Pulse Repetition Rate (max)	100kHz	150kHz	200kHz	240kHz
Max Scan Rate	70Hz	90Hz	90Hz	160Hz
Operating Altitude	80～3,500m	200～6,000 m	200～5,000 m	30～1,000 m
Number of Returns	1st,2nd,3rd,last	1st,2nd,3rd,last	1st,2nd,3rd,last	1st,2nd～7th
Scan Angle (max)	50°	75°	75°	60°
Laser Safety	Class 4	Class 4	Class 4	Class 1

LANDVIEWER

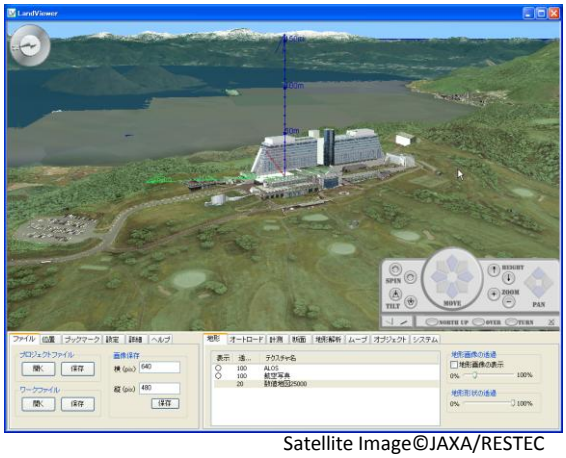
LandViewer is a cutting edge technology software that allows users to overlay various kind of images (aerial photos, satellite images) and GIS data onto 3D high resolution terrain data. ***LandViwer*** has various functions to manipulate 3D view in interactive manner – indispensable tool for 3D data visualization.

Supported data

- DEM (digital elevation model)
- Raster image (Aerial photo, satellite image, topographic map, etc.)
- 3D model data
- GIS Vector data

System requirements

CPU:	Intel® Pentium® 4 or higher
Memory:	1GB RAM or greater
Graphic cards:	NVDIA Quadro FX series 128MB or more
Display:	1024×768
OS:	Windows 2000, XP



Satellite Image©JAXA/RESTEC

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