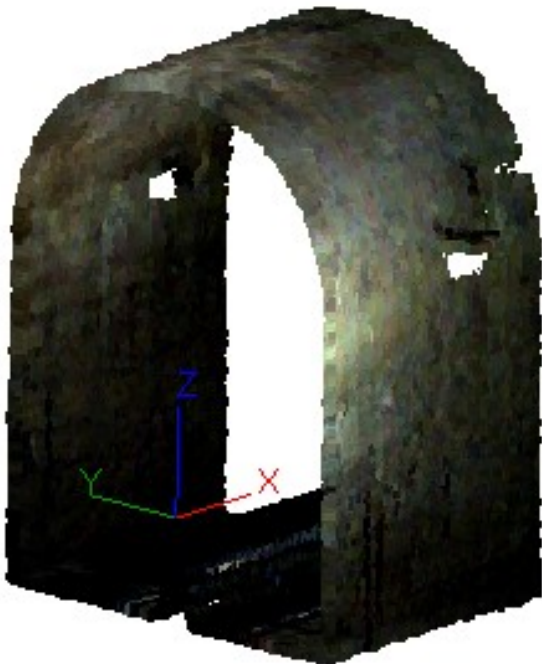
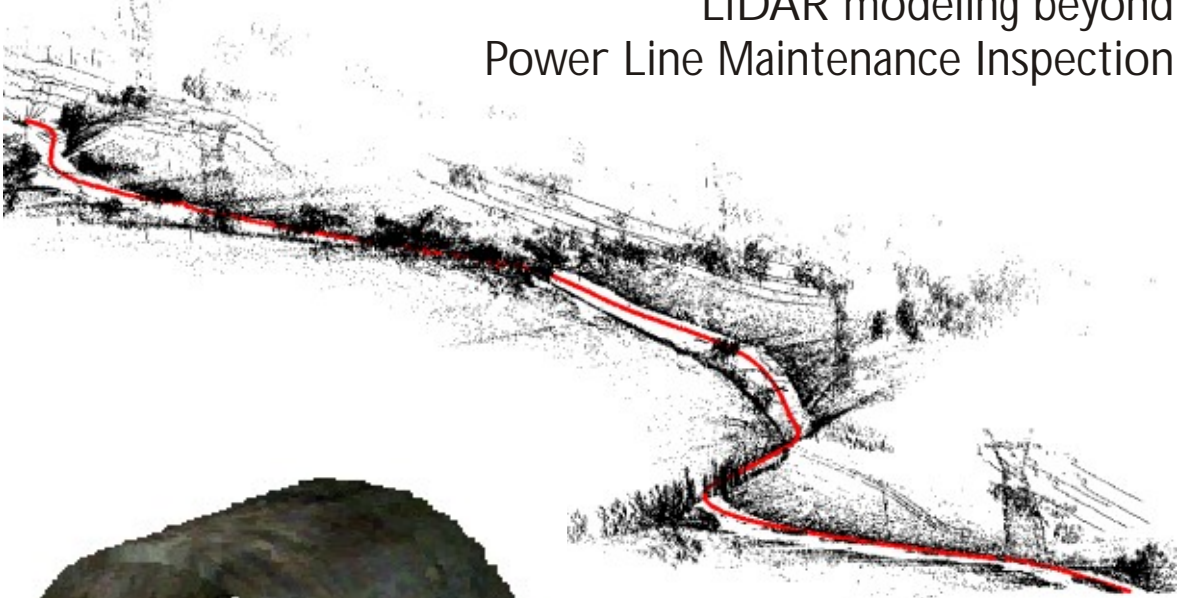


Geometry in Motion

LiDAR modeling beyond Power Line Maintenance Inspection



Albatroz Engineering
January - March 2012

January 2012

More than 32000km inspected in 2011

Albatroz Engineering set a new maximum for the distance inspected in one year across different voltage ranges: from 10kV to 400kV.

The development of PLMI began in 2006 and it was validated during a few hundred kilometres before entering operation in late 2007. Then, in about 20 days, 1536km of very high voltage (VHV: 100kV and above) transmission lines were inspected.

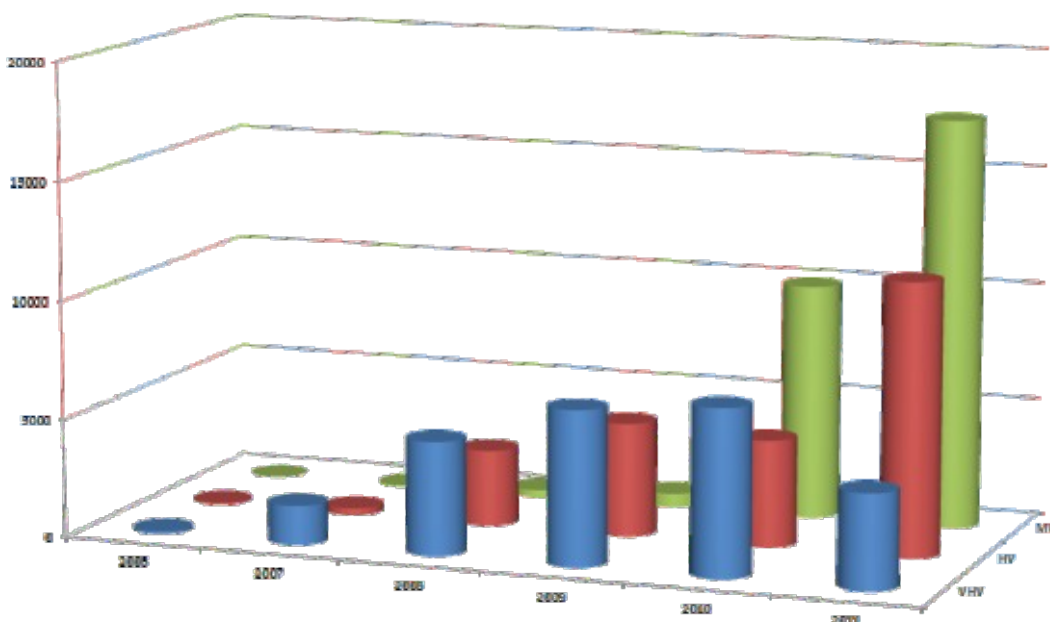
In 2008, regular operation extended from VHV to high voltage lines (HV: from 50kV to 99kV) and the total line extension reached about 8000km.

In 2009, the product matured and a second unit specialized in clearance inspection (right-of-way) was deployed. The new ASLMS2009 offered higher quality 3D modelling, improved weather protection and a whole new ground software. The extension inspected was 11500km.

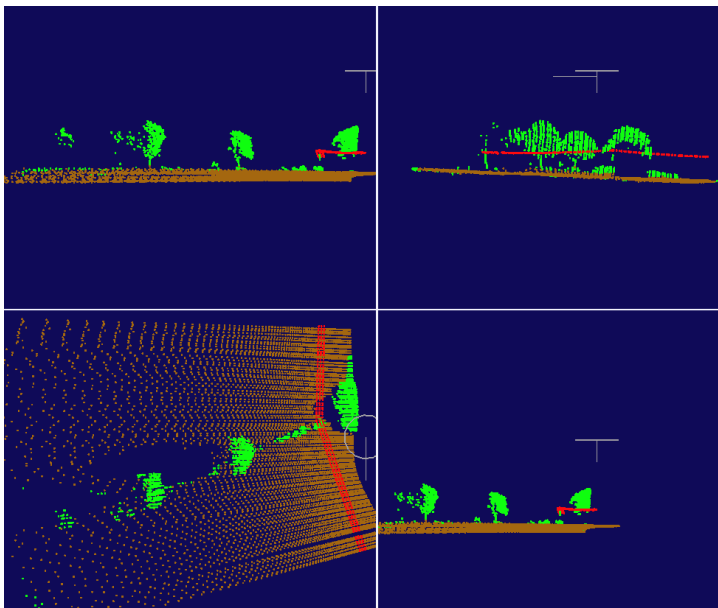
In 2010 routine operations in medium voltage (MV: from 1kV to 49kV) lines were launched and a third PLMI unit entered service. The total length of grid inspected was 21000km.

In 2011, MV lines became the standard for clearance during 2011 as they represent about half of all lines inspected by four PLMI units.

Since then, two PLMI units featuring Airborne Digital Recording System and clearance inspection (ASLMS2007) and two ASLMS2009 dedicated to clearance inspection operate in Portugal, Spain and France, in all kinds of terrain and weather conditions (*see next news*).



PLMI operates under cold weather



The Power Line Maintenance Inspection system [PLMI] was designed in Portugal where extreme weather occurs mostly during the Summer. Significant efforts were made to reduce electrical consumption of components and to increase passive heat diffusion through metal surfaces. In some regions, cabin temperatures of 45°C and hardware temperatures of 60°C have been recorded.

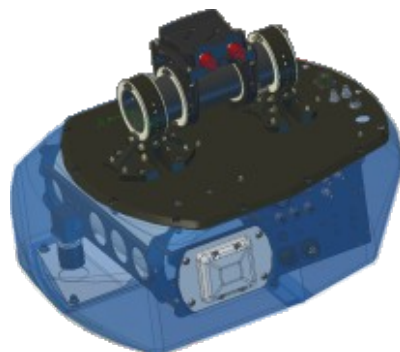
The most important component of PLMI is the Airborne Sweeping Laser Measurement System [ASLMS]. The original ASLMS2007, was designed with sensors outside the cabin and processing computers inside the cabin. The newer system, ASLMS2009, was designed as a full external system where the additional ventilation proved to be a side benefit.

On the opposite sense, PLMI was put into regular operation under severe Winter weather in the regions of Brittany and Normandy in North-West France. Temperatures on the ground below freezing point were common, with some records of -4°C. The system operated reliably under these conditions and limits were set by prudent enforcement of Visual Flight Rules [VFR] rather than by the ASLMS2009.

Winter inspection in Normandy



ASLMS2007



ASLMS2009

December 2011

Upgrade in computation and network infrastructure

Albatroz Engineering enhances information infrastructure to respond to the increase demand for Power Line Maintenance Inspectio processing.

As clients demand more inspection processing and the volume of data grows, the company met the new targets with the two heavy duty servers featuring four multi-core processors and dense RAID arrangements. Simultaneously, all company was cabled at 1Gbit/s grid allowing more users to get fast LiDAr and video data.

The move towards server-centred computing will benefit also the environmental data analysis and probabilistic calculations associated with Grid Intelligence and Optimization.

26th-31st August 2012

Albatroz Engineering at CIGRE Exhibition in Paris

Albatroz Engineering will be present at the Technical Exhibition during CIGRÉ Session 44 next August in Paris, France.

During the five day exhibition, detailed information and field cases about Power Line Maintenance Inspection and the recent work on power grid intelligence will be provided.

It's a great opportunity to share experiences and concerns on how to improve the quality of service, the reliability of the grid or the efficiency of maintenance.



Albatroz Engineering booth at prior Session

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Research, Development and Innovation

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