



All-seasons inspections



April - May 2013

22nd - 24th April

2013 CIGRÉ Lisbon Symposium on Smart Grids

The Symposium on the subject «Smart Grids: Next Generation Grids for New Energy Trends» was held in Lisbon, Portugal. This was the first joint symposium by CIGRÉ and CIRED where Smart Grids were the core subject with focus in cases from Europe and Brazil.

Albatroz Engineering team attended sessions on the economics implications of Smart Grids, low carbon technologies, long term planning under variable demand trends, economic and technical regulation, technical performance, risk assessment, dynamic line rating, asset aging and information technologies.



On April 24th, the Portuguese Distribution System Operator, EDP, hosted a technical visit to InovCity in Evora, a city-sized Smart Grid demonstrator serving more than 50000 inhabitants.

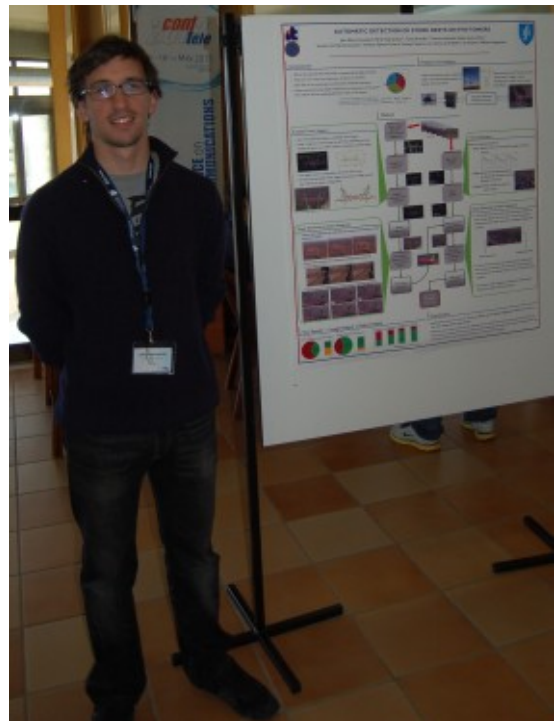
8th - 10th May

Stork nest detection at ConfTele 2013

João Ribas Fernandes, a MSc student completed his Master course with a research on nest detection from videos. He authored a paper on his work entitled «Automatic detection of stork nests on VHV towers» and presented it at ConfTele 2013 in Castelo Branco, Portugal.

This was sponsored by Albatroz Engineering in its capacity of bridge between industries and education and R&D units.

This work addresses a need by the Portuguese TSO to monitor the presence of stork nests on its towers, the condition of nesting platforms on «safe spots» and anti-nesting devices on «hazardous spots» and the effects of storks on the grid reliability. The over-head lines affected by storks are inspected every year and the goal is to optimise the counting methods and, later, to create an automated tool to compare year-to-year variations.



The author, João Ribas, by his poster

May

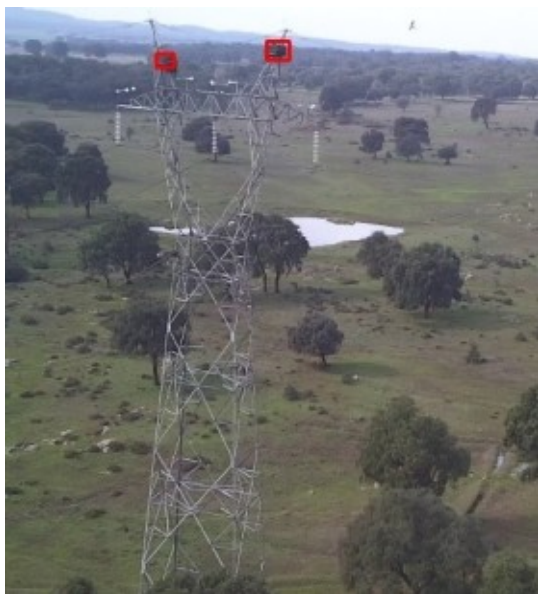
New stork nest detection module

Based upon previous work by Wei Liu, a 2010 Summer Intern and João Ribas Fernandes (see previous page), Albatroz Engineering team developed a module for automatic stork nest inspection based on photographs and videos.

Using image processing tools, the new module detects not only the very high voltage towers, as well as stork nests located in “hazardous spots” that can harm the normal power line operation.

One of the major difficulties has to do with separation of darker tones, like dry green (from trees) and brown (from nests). Since this step is a key point for the robustness of the new module, Albatroz Engineering team focussed much of the development in designing a new segmentation and classification algorithm specifically for nest detection, in order to complement the work done previously.

In the conducted tests, the developed module detected 95% of the present towers, and from the detected towers, 80% hazardous placed stork nests were correctly detected, with a 22% false positive rate. These results surpass those obtained previously and are not only a positive indicator of the work for the new module, but also a starting point for new feature detection modules to be developed next.



First step: Automatic detection of VHV towers

Second step: colour and shape based nest segmentation and classification inside detected towers

23th May

Albatroz Engineering joins «Movement for Jobs» initiative

Youth unemployment is a serious issue across the world, and is felt most acutely in Europe where thousands of university graduates struggle to find a job where they can put their knowledge to good use (see «Generation Jobless» at the Economist, April 27 for more information). In recession-hit Portugal, the perspectives are even bleaker.

Fundação Calouste Gulbenkian, a major NGO (gulbenkian.pt) launched an initiative to counter the situation, joining efforts with COTEC (cotecportugal.pt) and the Ministry of Economy and Employment to offer 5000+ young graduates a one year job experience by joining COTEC members, ranging from Telecommunications and Information Technologies, Pharmaceuticals, Agriculture and Food industries, as interns.

The protocol to launch «Movimento para o Emprego» (Movement for Jobs) was signed on May 23rd by the three parties: Ministry of Economy's IEFP (the Portuguese job and training agency), F. Gulbenkian and COTEC Portugal by their leaders in the presence of representatives of many of the 108 companies that support the initiative, including Albatroz Engineering.

The program will kick-off immediately as 3200+ internships are already on offer. See movimentoparaoemprego.iefp.pt.



*The Minister of Economy and Employment.
Photo: Government of Portugal*



*Signature of the protocol by the three parties.
Photo: Fundação Calouste Gulbenkian*



Photo: Government of Portugal

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Research, Development and Innovation

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