AT THE HEART
OF THE WIND FARM
SPECIALIST EXPERTISE

8.2 France

A great many wind farms have reached maturity, provoking a need for new skills. In the face of these increasingly demanding and atypical needs, **8.2 France** has worked hard to develop **highly specialized expertise**, more particularly in the field of wind farm inspections. Such expertise requires the implementation of specific skills and means, highlighted by the commitment of a team with optimal preparation in terms of capacity, know-how and experience. **8.2 France** is thus based on the solid references of its experts and partners, all renowned for their professionalism.

INSURANCE MATTERS

DAMAGE EXPERTISE

- Root cause analysis (fire, breakage of blades or major components...)

LEGAL EXPERTISE

- Electrical safety
- Fire safety
- Personal accidents
- Loss ratio in the industry
- Industrial risk
- Defects of design, manufacturing, assembly, start-up, running...

Produced in partnership with legal experts specialized in machinery/ lifting equipment/automation

SPECIFIC CONTROLS

- Generator insulation inspection
- Inspection of alignment of the kinematic chain
- Inspection of rotor imbalance
- Vibration inspection of the kinematic chain
- Inspection of hydraulic cylinder sets
- Thermographic inspection
- Ultrasound inspection of nuts and bolts
- Non-destructive inspection

MACHINERY DIRECTIVE AND ELECTRICAL CONFORMITY

Safety with regard to:

- Mechanical risks
- Electrical risks
- Reliability of the control circuits
- Means of access
- Intervention / maintenance

This audit can be carried out at any time in the life of a wind farm.

Produced in partnership with experts from Apave

FOUNDATION EXPERTISE

- In harmony with design (overall review of the design)
- During construction (monitoring of all the key stages: at the first casting, on addition of the cement grout when working on the watertightness)
- During operation (visual controls and dynamic measurement of the vertical lifting of the tower)

REMAINING LIFE ASSESSMENT OF WIND TURBINES

- Calculation of fatigue
- Taking imbalance phenomena into account
- Extension of life expectancy beyond 20 years
- In-depth audit of the state of wind turbines

Bruno HELLEBOID
Bruno has acquired 27 years' experience in the mechanical industry (equipment and ground material for aircraft) and 8 years in wind farms. He masters all the technical fields to which he can bring his expertise, particularly electrical aspects, turbine assessment and civil engineering, with specialization in **foundation expertise.** Bruno has often worked on **damage expertise** matters of various types

Pierre CAZALS
Pierre is an engineer in two fields, materials and electrictiy, and automation. For 25 years, he has accompanied Apave in inspections and technical expertise of all sorts in industrial processes. He now works as a **legal expert** and can, with the support of the experts from 8.2 France, cover all areas of expertise regarding wind farms with insurance companies.

Patrick MICHAUD
Patrick joined 8.2 France at the beginning and is part of the team of technical experts. He has 25 years of professional experience, including 16 in wind farms. On the strength of his experience and knowledge of the regulations, and in partnership with engineers from Apave, he carries **out conformity audits** in the context of European directives (machinery directive, electrical conformity).

AT THE HEART
OF THE WIND FARM
TRAINING AND OPERATING ASSISTANCE

8.2 France

On the strength of their high-level knowledge in the different models of wind turbine, the experts from **8.2 France** can now offer **advanced training course for your teams** responsible for the technical management of wind turbines (project manager(s)-asset manager(s), health and safety asset management supervisor(s), technical manager(s),...). The aim of these training courses is to accompany your teams responsible for operating wind farms, with a view to improving the quality of the technical management of turbines of all brands, in accordance with the **best standards** and the state of the art in the profession. **8.2 France** believes it has attained a level of excellence in its expertise, making it possible to provide top quality training courses.

FULL TRAINING

THEORY

- The various components of a wind turbine
- Weaknesses and obvious visual signs of **dysfunction**
- Focus of **technological particularities** and **inspections**
  - Strong points/weak points
  - Different technologies (yaw, pitch, generator, multiplier, blades and their improvements...)
  - Known recurrent defects of certain technologies
  - Aerodynamic and mass imbalance, CMS, insulation testing...
  - Examples of retrofitting that made it possible to improve performances
- Discussion around a preventive maintenance **checklist**

PRACTICE ON THE CLIENT'S SITE

- Training in **groups of 3**
- Practical application of the theory training
- Feedback from an **8.2 France** expert
- Identification of the **key points to inspect** in machinery

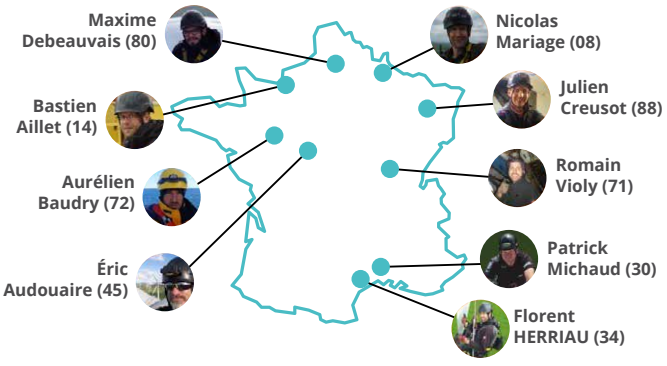
PERSONALIZED TRAINING

PRACTICAL TRAINING ON THE CLIENT'S SITE

- Machine accompaniment for an asset manager during a routine inspection
- Focus on the **key points** for inspection
- **Perfecting** inspections
- Feedback from an **8.2 France expert** on the technology
- Review of a **preventive maintenance checklist**

OPERATING ASSISTANCE

We can offer to take charge of your routine inspections autonomously or accompanying your teams. This, along with assisting your asset managers, will make it possible to obtain an external opinion of the state of your wind turbines.
As our experts are located all over France (see map), we are able to offer this assistance at a relatively low cost given that these operations can be flexible.



Our training courses can be adapted to the level required and are carried out using a digital tool developed jointly by Safenergy and 8.2 France. This tool is used by 8.2 France during its inspections.
8.2 France is a training organization referenced by Datadock

Datadock

8.2 | The Experts in Renewable Energy

Plus d'informations sur notre site :
www.8p2.fr
Téléphone : +33 4 67 29 74 43
E-mail : info@8p2.fr