

November 4th, 2016

## **Civil and military surveillance: HUCHEZ winches present on all fronts**

In a context where aerial surveillance is developing, new airborne surveillance and reconnaissance systems are necessary for better anticipation of threats. Along with drones, balloons are becoming essential for carrying out reconnaissance, observation and mapmaking missions linked to civil applications (events, infrastructures and road traffic) or defence (maritime and frontier areas, military bases).

The French leader of this sector, A-NSE, has recently called on HUCHEZ Engineering to optimise its performance.

**Presentation of this innovative solution, used at Euro 2016 in Paris.**

### **Managing a captive balloon with HUCHEZ's DPO**

The expanding French company specialising in the design, manufacture and operation of airborne surveillance systems had just prepared a captive balloon for which it wanted **accessory equipment – an umbilical cable – to hold it and control its position**. The equipment also had to meet **the requirements of civil aviation regulations**.

Backed by its expertise, HUCHEZ Engineering developed a solution based on an electric haulage winch with:

- **The patented Dynamic Power Optimization (DPO) system** allows a variator to adapt the speed of the winch to the required effort at all times,
- A rotary collector for the power supply to the balloon and the optical fibre,
- A manual emergency control for handling the balloon even without electricity.

The proposed system also had to:

- Be compact for adaptation to a small trailer,
- Handle sudden variations in the winch tension (wind, loss of height, etc.), with good winch winding.

### **Challenge faced**

**The HUCHEZ electric haulage winch for captive balloon with DPO system was successfully deployed for surveillance of the Champ de Mars fan zone in Paris throughout Euro 2016.**

The HUCHEZ Engineering teams were involved in every stage of the project: studying the specifications, technical feasibility analysis, advice, design of the preliminary project, preparation, tests, technical assistance and even on-site commissioning and staff training, etc. Between 5 and 6 months were needed to finalise solutions as the different functions were tested in HUCHEZ's workshops, then at the customer's premises and finally in a flying situation.

**Performance and innovation are bringing new projects for HUCHEZ Engineering in this business sector.**

*Photos and technical specificities on the following page.*

## **About HUCHEZ**

*HUCHEZ designs, manufactures and sells more than 5,000 units of professional lifting equipment in France each year. It is the leading French company in the manufacture of a large range of manual and electric winches to meet the needs of customers from all sectors (industry, construction and public works, craftsmen) renowned for their quality, robustness and reliability.*

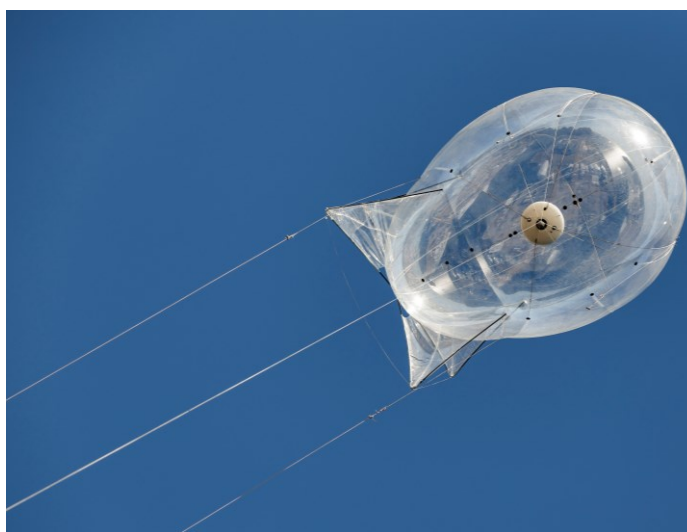
*HUCHEZ follows a specific product innovation policy which led it to win the 2013 INPI Innovation Trophy for the Picardy region. The Huchez Engineering department uses its expertise to develop custom-made solutions for complex projects. The company has a turnover of €7.6 million (2015) and has around 50 employees. 35% of its turnover is gained internationally.*

*More information on [huchez.fr](http://huchez.fr).*

**Communication : HUCHEZ - [contact@huchez.fr](mailto:contact@huchez.fr)**

## Appendix

*Photos: DR HUCHEZ*



### **Technical specifications of the HUCHEZ winch with DPO system for captive balloon applications**

- Mechanically welded chassis structure and drum.
- Maximum brake retaining force on the first layer: 1,800 daN (1,300 daN on the last layer).
- Haulage speed on the last layer: 59 m/min with DPO\*.
- DPO: Dynamic Power Optimisation .This allows the speed of the winch to be increased with little effort.
- Capacity: 180 m of rope.
- Upper and lower limit safety switch.
- Electrical unit including:
  - "Voltage present" and "Emergency stop" light on the box.
  - Variable speed drive using variable frequency.
  - Fully programmable acceleration and deceleration ramp.
  - Braking resistance.
  - Very low voltage button-activated remote control with flexible 5 m cable.
  - Double depth buttons (slow/fast).
  - 230 V single phase switch-box power supply from generator.