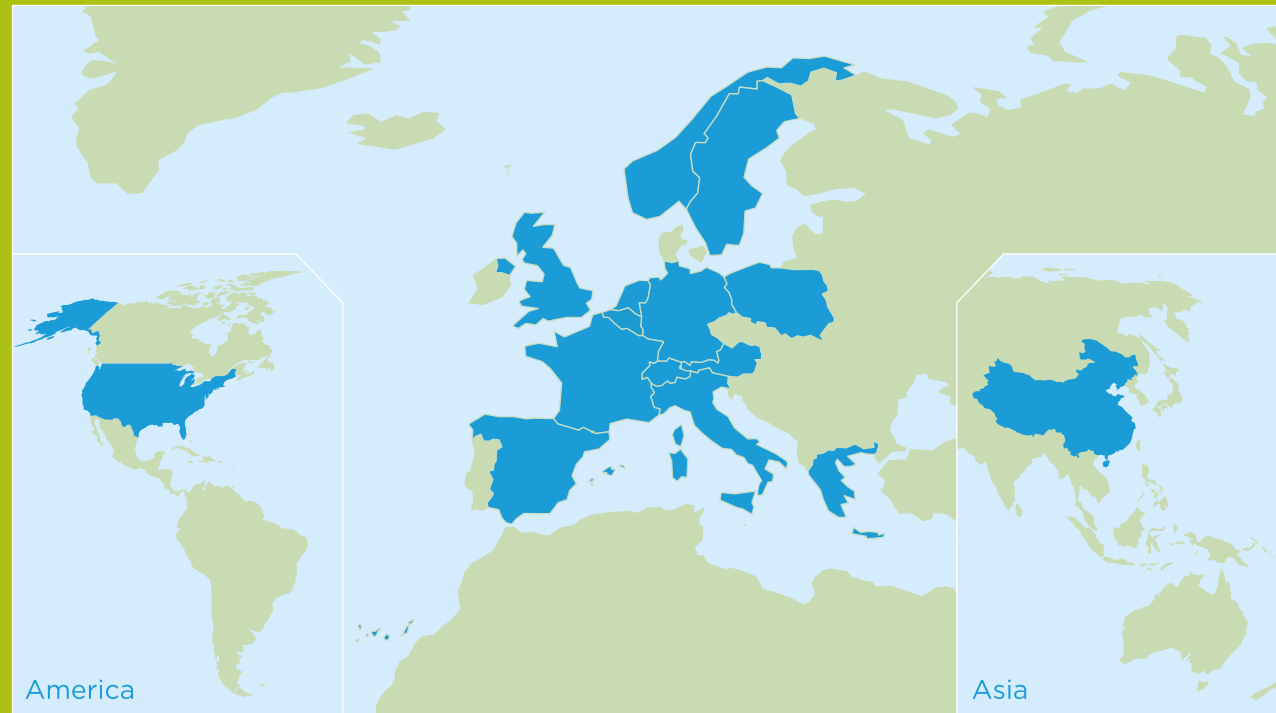


DTBat[®] System: a Worldwide Reference for Bat Protection at Wind Farms

APRIL 2023



DTBird[®] & DTBat[®] features are demanded by environmental administrations of an increasing number of countries.

+400 DTBird[®] & DTBat[®] units have been installed at 90 existing / projected, onshore / offshore wind farms in **15 countries** (Austria, Belgium, China, France, Germany, Greece, Italy, Norway, Poland, Spain, Sweden, Switzerland, The Netherlands, the United Kingdom and the United States).

DTBird[®] is operating at WTG since 2009 and DTBat[®] since 2012.

Bat Monitoring & Reduction of Collision Risk with Wind Turbines

DTBAT[®] SYSTEM

SEPTEMBER 2022

dtbat[®]



www.dtbird.com
info@dtbird.com



dtbat[®]

Bat Protection Automatic & Real-Time

DTBat® System automatically surveys the airspace around Wind Turbines (WTG) detecting bat passes in real-time; and optionally, reduces the collision risk by triggering WTG Stops linked to bat activity thresholds and/or environmental variables measured in real-time.

DTBat® has 2 modules available: Detection and Stop Control.

Bat Detection

Automatic and real-time detection of bats with ultrasound recognition.

Features

- **Detection sensors:** Bat detectors installed at WTG height (1 - 3 units).
- **Environmental sensors:** Temperature, Rain and Humidity (optional) and Wind Speed (from the WTG).
- **Location:** WTG Tower (steel or concrete) and/or Nacelle.
- **Surveillance area:** Rotor Swept Area.
- **Service period:** Continuous monitoring during bat activity periods.
- **Precision** of real-time detection > 0.97 (97% of detections are actual bats).

Recorded Data

- Sonograms of every bat pass.
 - Bat pass time.
 - Environmental data and WTG operational parameters.
- Species or group identification can be noted from sonograms review.

Stop Control

Automatic WTG Shutdown linked to real-time bat detection.

Features

- **Interface with WTG:** DTBat® hardware and software compatible with all WTG manufacturers.
- **Automatic Stop trigger:** linked to real-time bat activity thresholds and/or environmental variables.
- **Stop trigger:** < 2 s after bat pass detection.
- **Rotor Stop init time:** Depending on WTG manufacturer, 2 - 18 s after DTBat® stop trigger.
- **Complete rotor Stop:** Depending on WTG manufacturer, 15 - 35 s after WTG stop init.
- **Stop duration** according to bat activity detected. Typical stop program covers > 90% of bat activity. Adjustable to Client/Environmental Authority requirements.
- **Automatic restart** of the WTG.
- Automatic **notification** of every Stop: Trigger (first notification), end time and duration (second notification).

Recorded Data

- Stop time data: Init time, end time and duration.
- Sonograms of all bat passes detected.



Data Analysis Platform

DTBat® online Data Analysis Platform provides:

- Access to bat calls, environmental data, WTG operational parameters, and shutdown actions.
- Data summarization in charts and graphics.
- Automatic Service Reports.