

SafeWind

Reducing collision risk of flying wildlife on wind turbines

Preventing and reducing birds and bats collision risk onto wind turbines while achieving production target is a growing challenge for wind farms operators and investors.

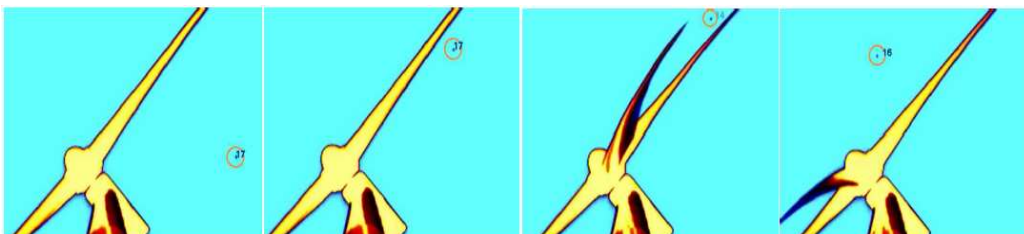
To address this critical issue, Biodiv-Wind SAS has successfully developed *SafeWind*.

SafeWind is a real time video-surveillance system dedicated to windfarm context and using an innovative motion detection algorithm allowing target tracking even between rotating blades.

SafeWind :

- Detects and tracks targets around and within rotor in real time,
- Records all intrusions and/or collisions,
- Carries out automatically a multicriteria risk analysis and, if relevant, starts scaring sounds or reduces turbine rotating speed,
- Stops every countermeasure immediately after the detected target moves away.

SafeWind is able to detect diurnal and nocturnal flying birds as well as flying bats in terrestrial or marine airspace, whatever the kind or highness wind turbines are.



Bat tracked by *SafeWind*, IR spectrum

Griffon vulture tracked by *SafeWind*



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SafeWind

A cutting edge innovation for flying wildlife detection !

Our unique detection efficiency and countermeasure strategy guaranty you the highest level of wildlife protection and minimize production loss :

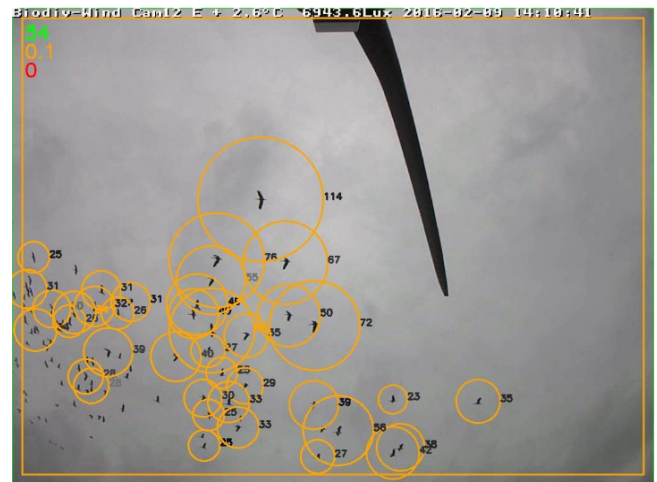
- *SafeWind* starts countermeasure only if needed and stop it immediately after disappearing of collision risk. Thus, deterrence habituation is avoided and production losses are minimized.
- *SafeWind* is the only system able to continuously detect flying wildlife around wind turbines in spite of moving blades.
- *SafeWind* is efficient even in bad weather conditions (rains and snow falls, fog...).
- *SafeWind* detects in 50 milliseconds, even in multitargets event.
- *SafeWind* uses professional HD cams and tried and tested components, adapted to wind farm industry.



SafeWind on Servion MM92



Kestrel tracked by *SafeWind*



Common Cranes tracked by *SafeWind*

SafeWind is highly flexible and address your specific needs

- One to four cameras per turbine, depending on targeted species and wind farm layout,
- Detection parameters, countermeasures thresholds and activity periods are set depending on targeted species and local conditions (eg acoustic level admitted). Parameters are changeable without limit.
- All intrusions are automatically recorded. Video files are stored onto our remote server and allow detection checking.

Flexible and upgradeable, *SafeWind* will secure your investment until repowering !

