Our mission: Monitoring of infrastructure transparency for Bats by 3 dimensional Flight Path Tracking

- Egis Environnement™ in association with Cyberio has developed a non-intrusive ultrasonic bat call monitoring system.
- It consists of a bat call detection algorithm for species identification and accurate 3D plotting of each call.
- It provides indication of presence or absence of bats in a specific area.
- It brings significant improvement towards understanding both, behaviour of bats, and efficiency of wildlife corridor mitigation infrastructures.

Method

Automated recording
- 4 ultrasound microphone antennas sending coordinates of bat sonar calls to a computer.

3D positioning of bat calls
- "Bat3Data®" analyses the position of calls and triangulates the position in space.
- The sounds captured are post processed in a 3D GIS environment that allows the flight path to be positioned in its real-world coordinates with respect to an infrastructure project.

Results

- Bat3Data® provides an all in one package for monitoring bats and their flight behaviour.

Impressive outputs
Bat3Data® clearly demonstrates whether or not bats make use of mitigation infrastructures such as bat bridges. It removes doubt. This is appreciated throughout high profile projects.

Visual representation
- In combination with 3D GIS packages/photomontage, Bat3Data® can produce elegant, powerful images showing the use of structures by bats backed by hard irrefutable data from the field.

Other results

- The Bat3Data® system was used on a rail underpass (Macon, France). Bat3Data® identified 3 species: flying with the same pattern following the tree line along the railway.
- Use of the equipment in a forest (Citeaux, France) demonstrated the presence of different flight patterns of 5 species1, some very near the forest edge some in the open air at 20 m height, and others at canopy level.

1. Pipistrellus pipistrellus, Eptesicus serotinus, Rhinolophus ferrumequinum
2. Pipistrellus pipistrellus, Eptesicus serotinus, Nyctalus leisleri, Myotis nyctalus and Myotis nattereri

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