



# SEMAFOR

## Observation and prediction of bird migration from weather radars

**ADEME**



AGENCE DE LA  
TRANSITION  
ÉCOLOGIQUE



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**Duration : 3 years (2022-2025)**  
**Total budget : €840K**

### CONTEXT

Every year, considerable flows of birds migrate and cross the national territory, flying over sea and land. However, knowledge on the migratory routes of birds is still incomplete. In parallel, the airspace is increasingly used through the development of wind power on land and now at sea.

### CONCERNED TECHNOLOGIES



Onshore  
wind power



Offshore  
wind power

### OBJECTIVE



SEMAFOR's objective is to develop a real-time monitoring tool for bird flights and migration via the Météo-France weather radar network

Map of the Météo-France weather radar network  
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### SCIENTIFIC CONTENT

- Analysis of the state of the art, **feedback and framing** of the study
- Development and validation of an **algorithm for the detection of bird echoes** on radar echoes
- Field calibration/validation protocol
- Construction of a **predictive model of bird flows** on the maritime facades

### WHAT'S AT STAKE?

- To acquire knowledge on the migratory routes of birds, essential for both basic research and planning aspects of wind farm projects
- To acquire a capacity to detect migratory peaks at sea, in order to alert the operators of offshore wind farms of an increased risk of collision

### EXPECTED RESULTS

- Bird detection algorithm, script of the predictive model of bird flows at sea and user guide
- Real time bird monitoring platform and associated database

### PARTNERS

