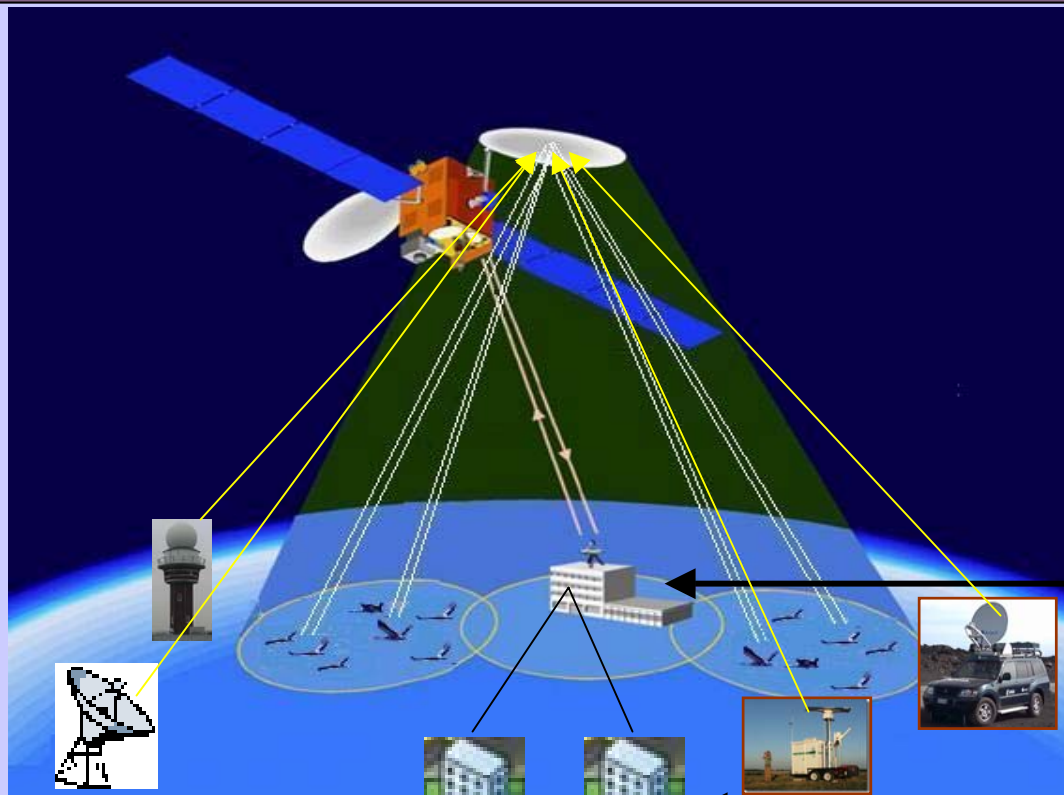


Bird Mobility / Flight Safety : Possible Precursor

Willem Bouten, Judy Shamoun-Baranes,
Amnon Ginati, Giovanni Garafalo

(with input of many others)

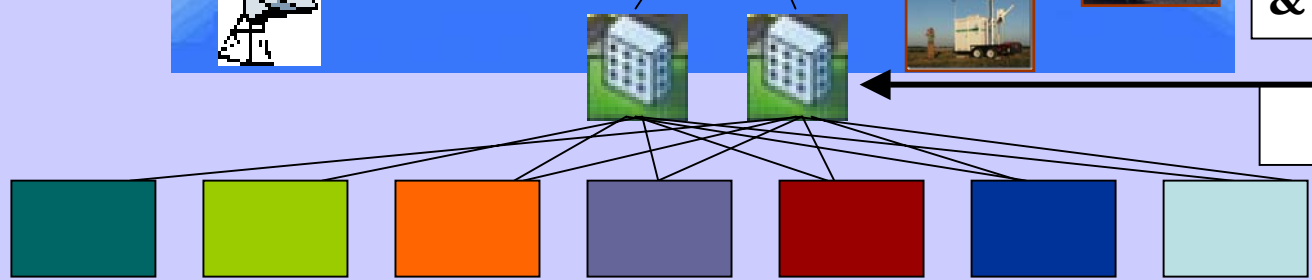
A point in time in the process of idea development



Data Warehouse

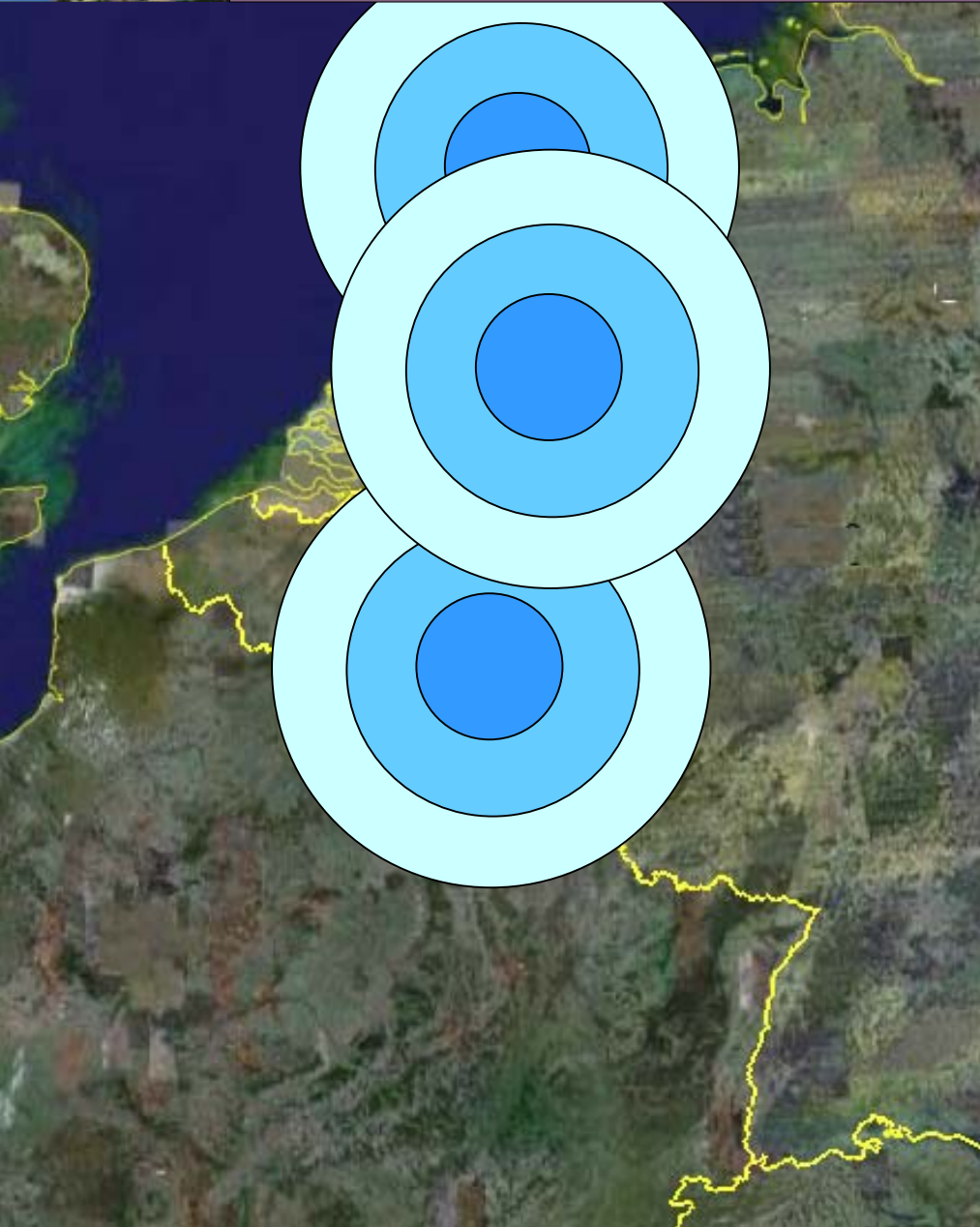
Model Developers & Service Providers

Various Users



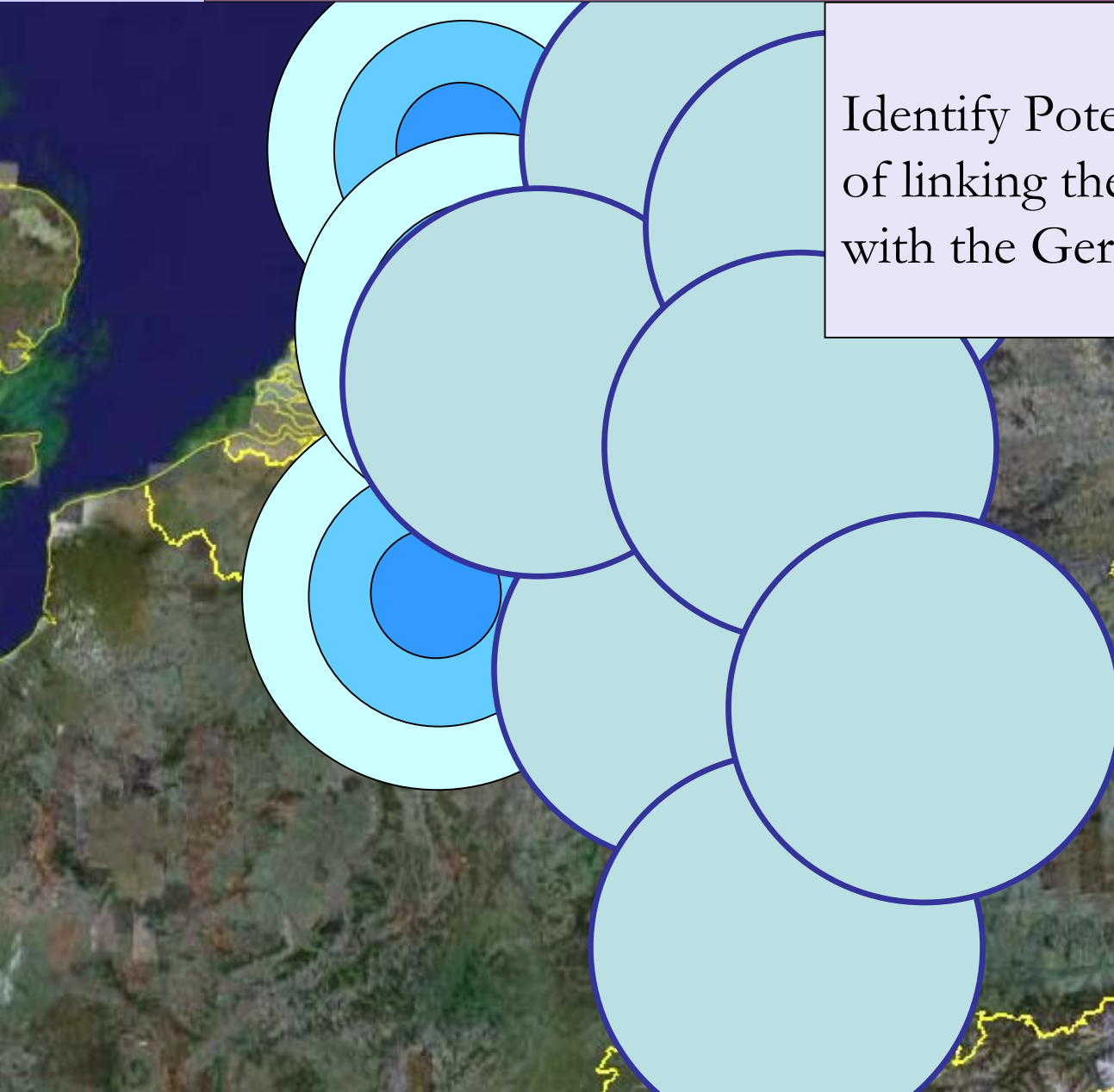
Main aim:

Develop broad international network that connects data/information providers and users



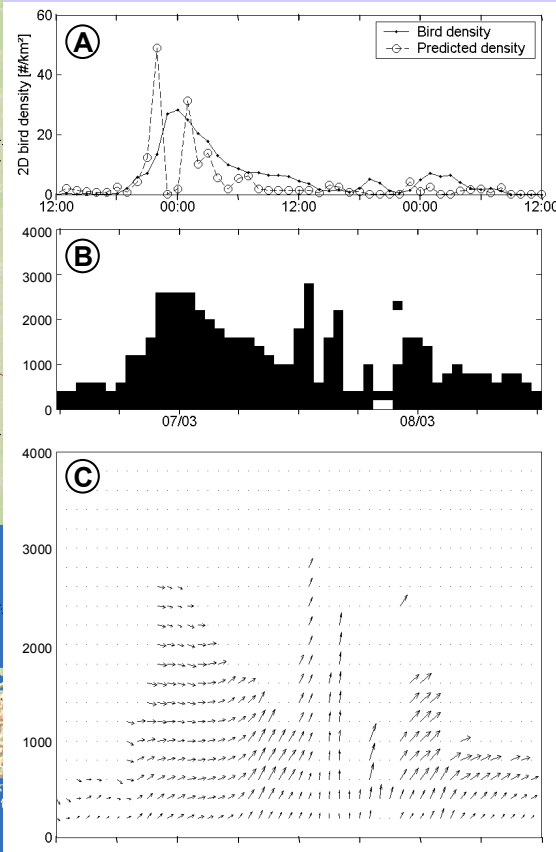
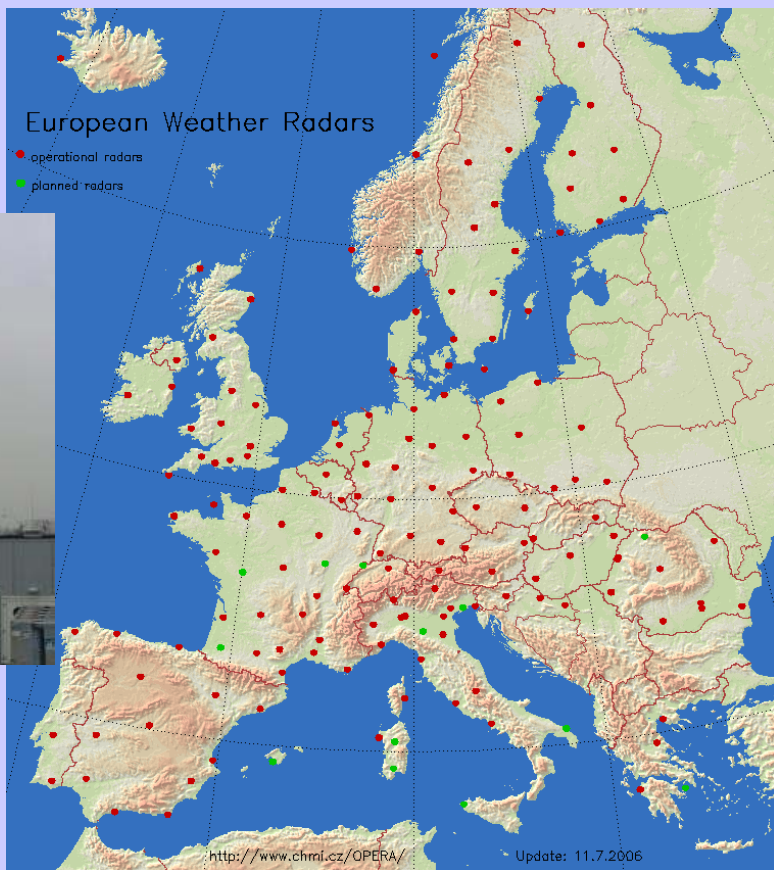
Medium Power Surveillance radars Wier, Nieuw Millingen, Glons

- set up database and link the three radars and provide integrated visualization
- spatial analyses within radar image, correction errors (e.g. side view effect, anomalous propagation...)
- calibration and quality control (between radars)
- spatial-temporal modelling of bird migration (reference for interpretation)

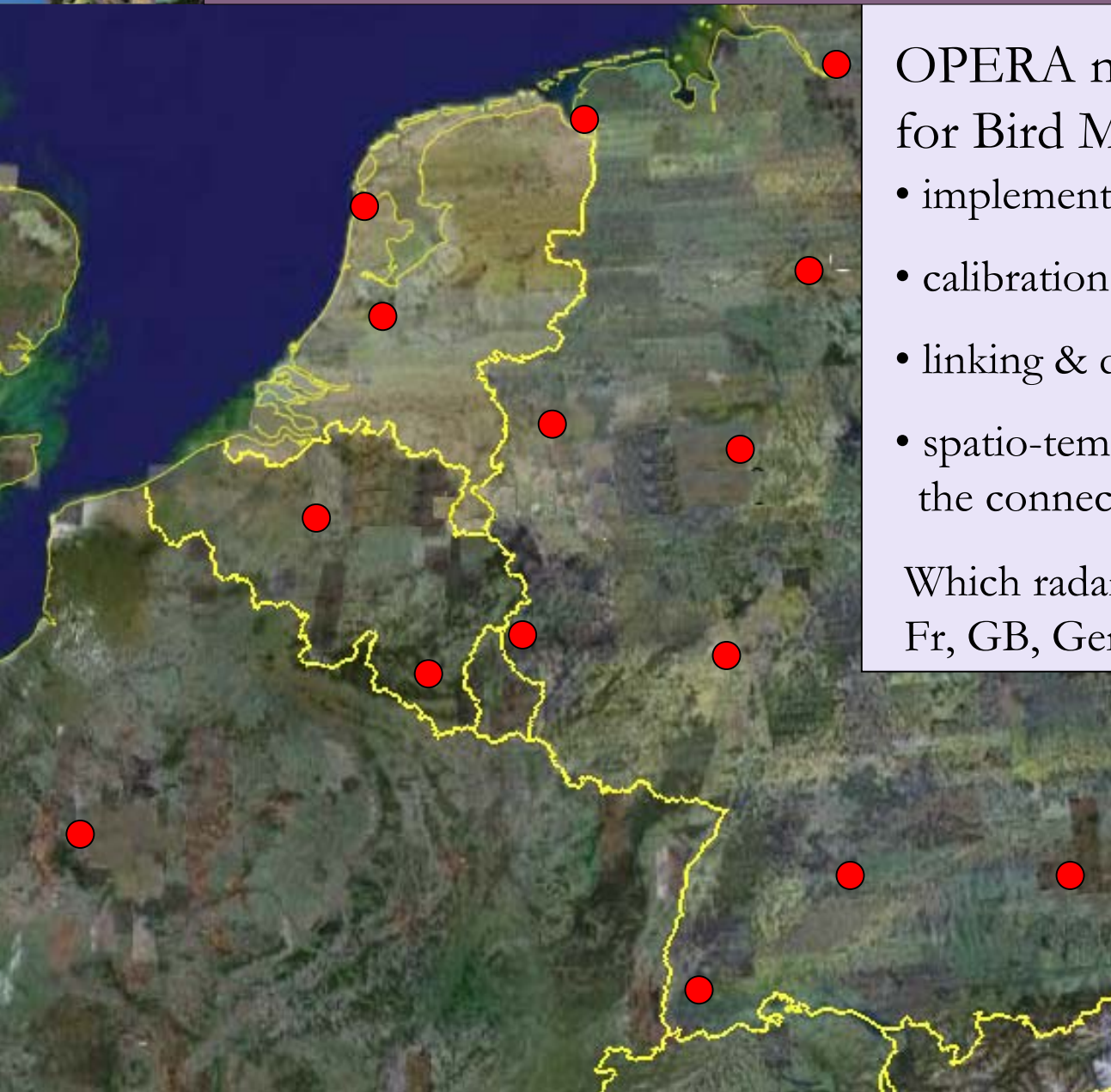
A satellite-style map of Europe and the Mediterranean region. Overlaid on the map are several overlapping circles representing radar coverage areas. Two circles on the left (Spain and France) are blue with concentric rings, while the others are light blue with dark blue outlines. A yellow lightning bolt symbol is visible in the bottom right corner of the map area.

Identify Potentials & Limitations
of linking the Robin systems (Nl+Be)
with the German Radars

Opera European Radar Network



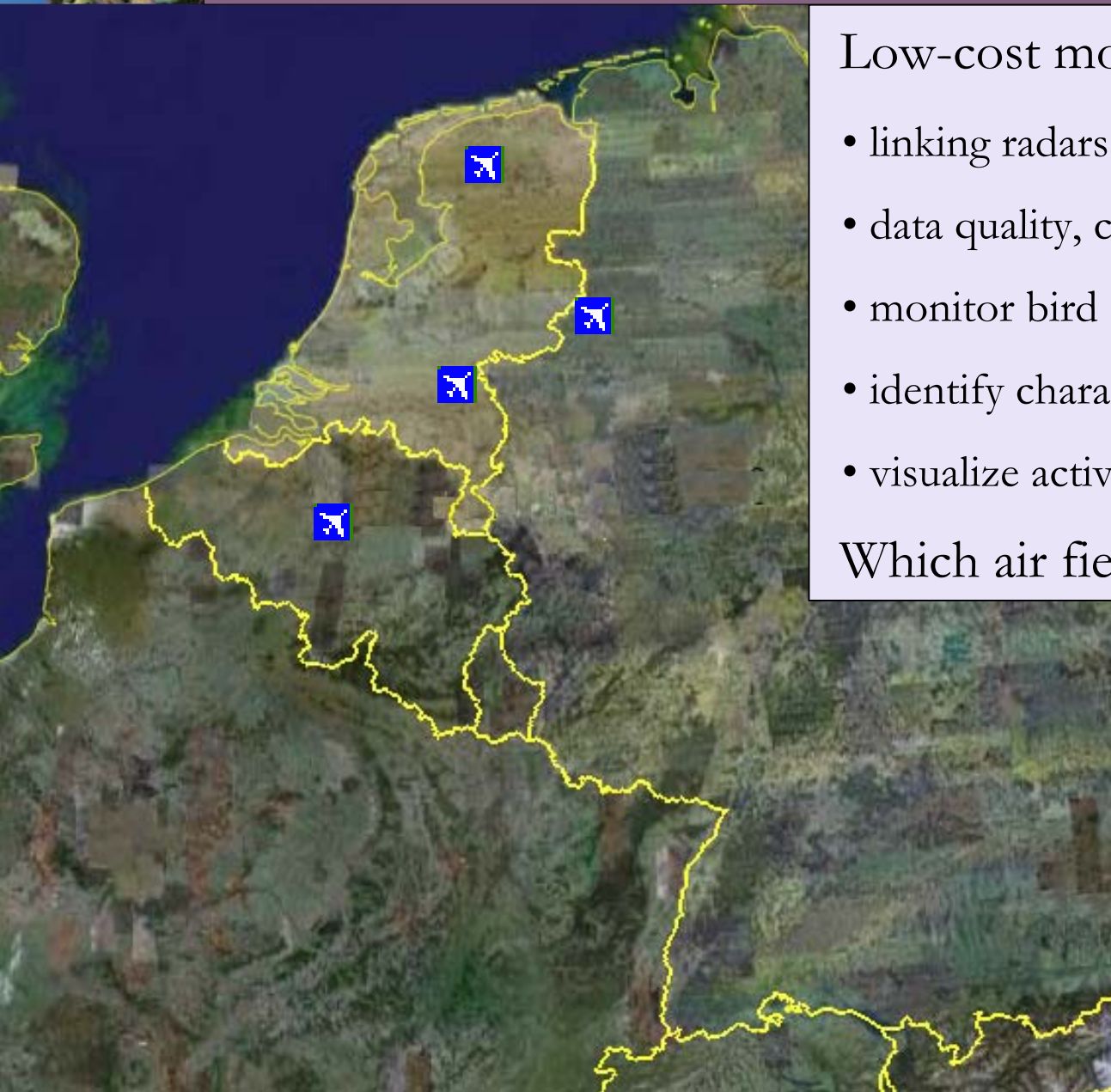
Gasteren et al. 2006



OPERA network for Bird Migration

- implement algorithm for bird detection
- calibration with a mobile bird radar
- linking & data storage
- spatio-temporal modelling for making the connections

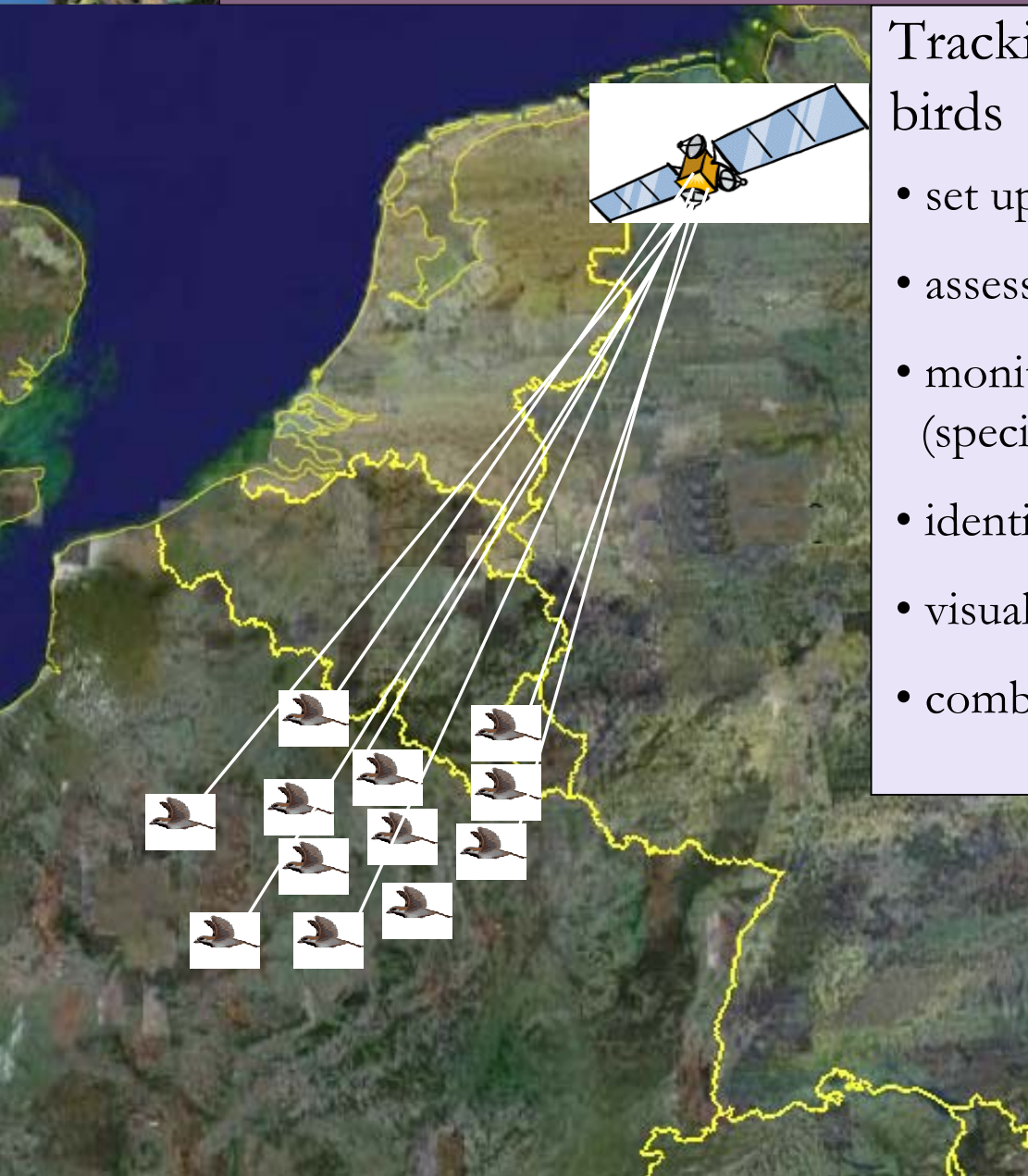
Which radars / countries participate ?
Fr, GB, Ger, Be, NI?



Low-cost mobile radars on air fields

- linking radars & set up data storage
- data quality, calibration, sensitivity
- monitor bird densities & altitude profiles
- identify characteristic commuting
- visualize activities in GIS /GE

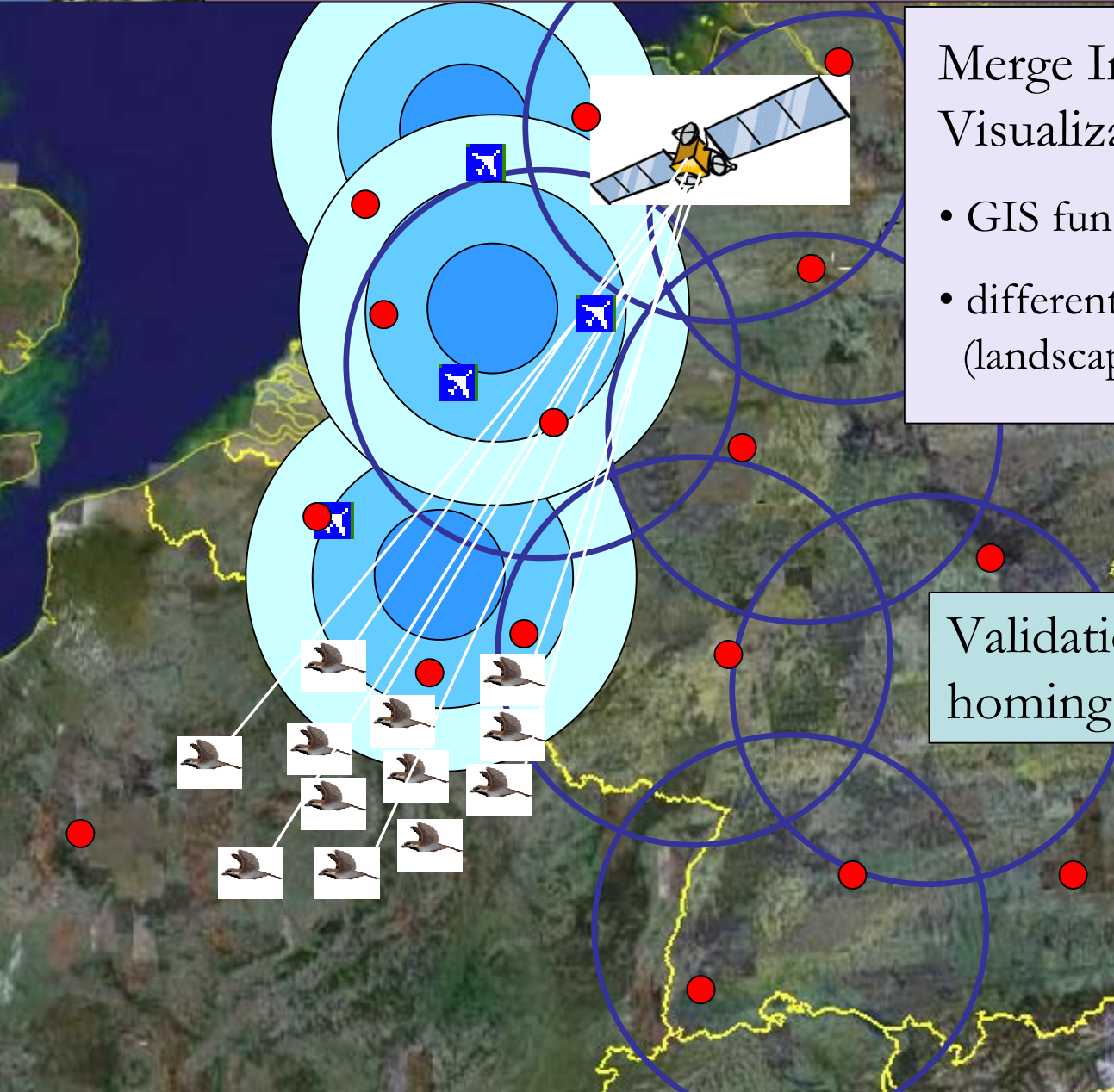
Which air fields / countries ?



Tracking local mobility individual birds

- set up database
- assess data quality
- monitoring of individual behaviour (species depends on selected air field)
- identify and model characteristic behaviour
- visualise bird activities in GIS/GE
- combine tracking with mobile radar(s)

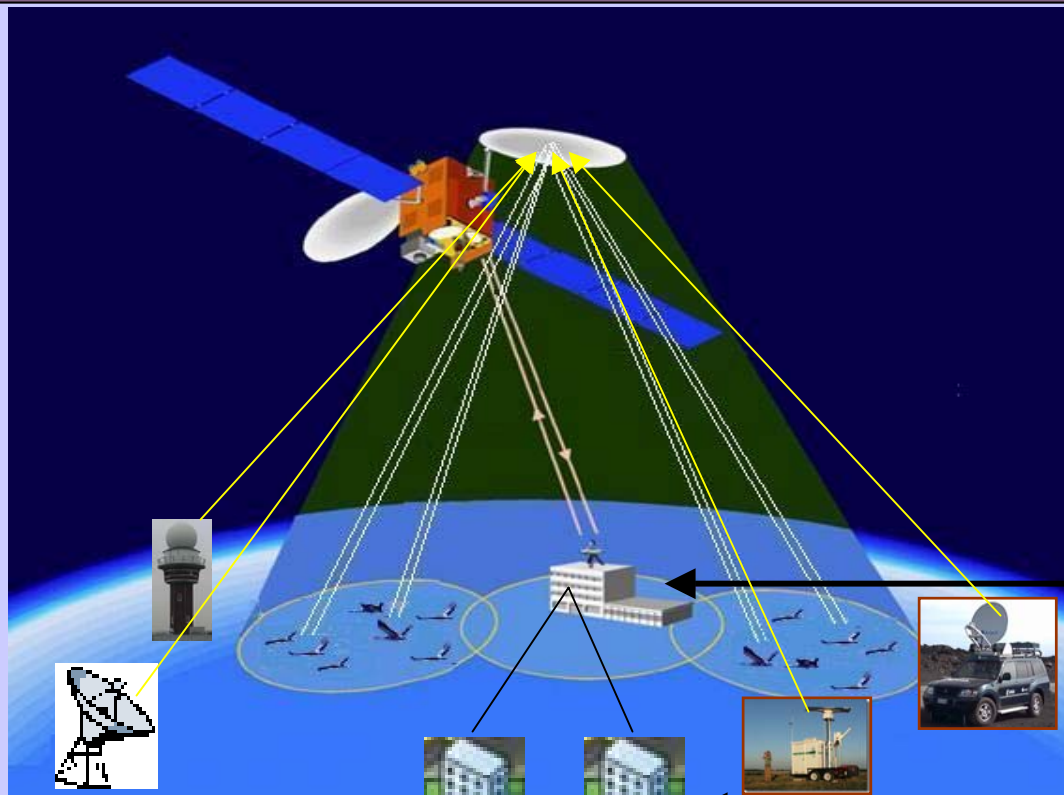




Merge Information Sources & Visualization

- GIS functionality (zoom, pan, ...)
- different layers of background (landscape, weather, bird info, ...)

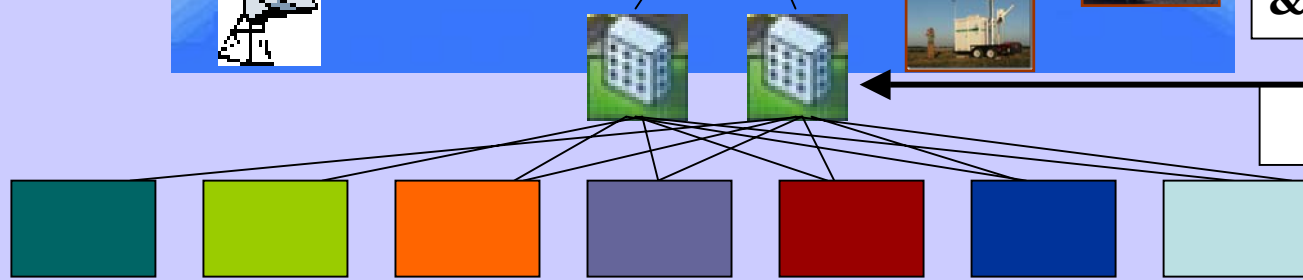
Validation of SoS by:
homing pigeon race



Data Warehouse

Model Developers & Service Providers

Various Users



Main aim:

Develop broad international network that connects data/information providers and users