

A large commercial airplane is shown from a low-angle perspective, flying towards the viewer. The aircraft's nose, cockpit, and two engines are visible. Three ducks are flying in front of the plane, one directly in front of the cockpit and two others to the right. The scene is set against a clear, light blue sky.

Avian radar

Effective use of avian radar

Mexico city, October 21st - 2014

By Ronald Tukker

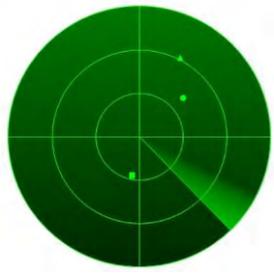
Int. Sales manager Robin Radar Systems BV

Radar capabilities

- Thousands of bird movements simultaneously
- Up to 10 km
- All around
- During day, night and low visibility conditions.
- Including their exact location, height, direction, speed and flight path



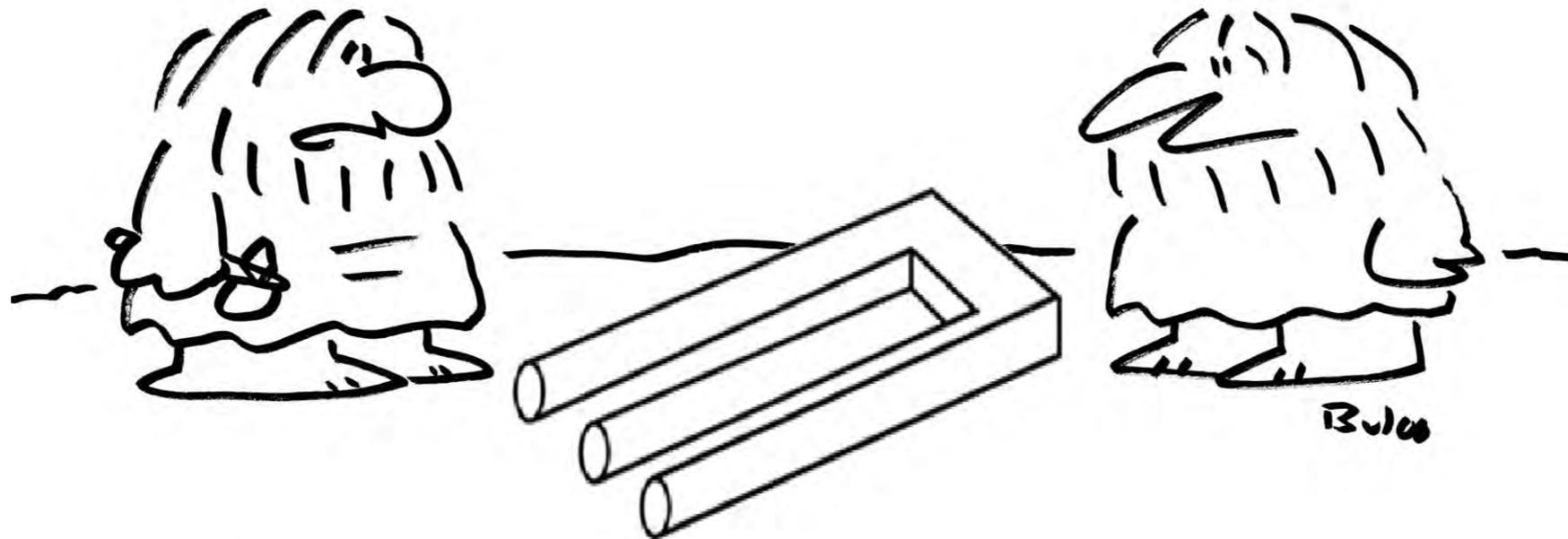
1 km



General Challenge



“Great technology, but what does that mean for an airport operator?”



***"Yeah, it's a neat invention,
but I haven't found a practical
use for it yet."***

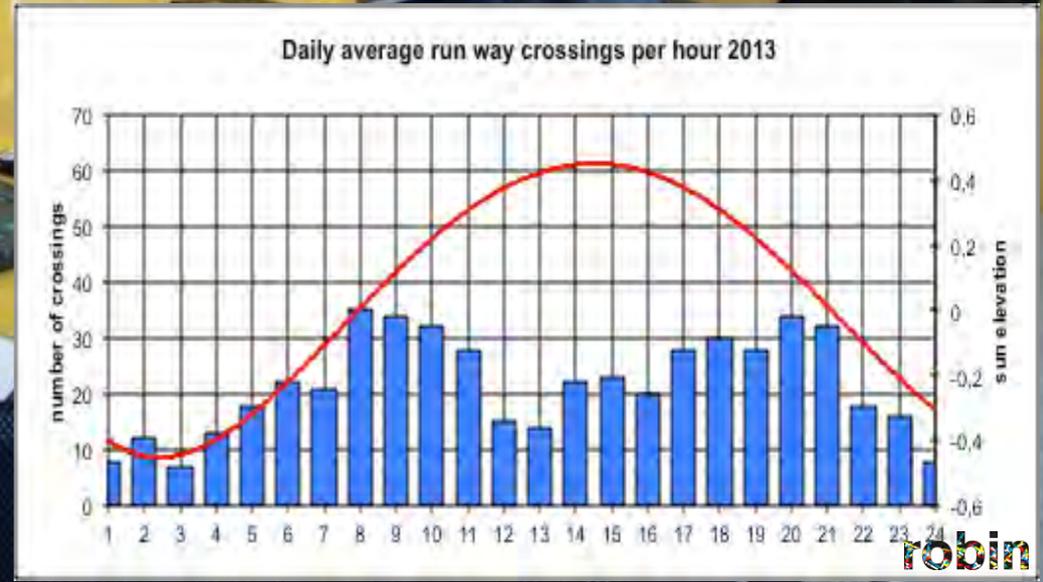
A magnifying glass is positioned over a line graph and a data table. The graph shows several colored lines (red, green, blue, orange) with data points connected by lines. The table below the graph contains numerical data in columns. The background is a light gray with a grid pattern.

Strategic applications

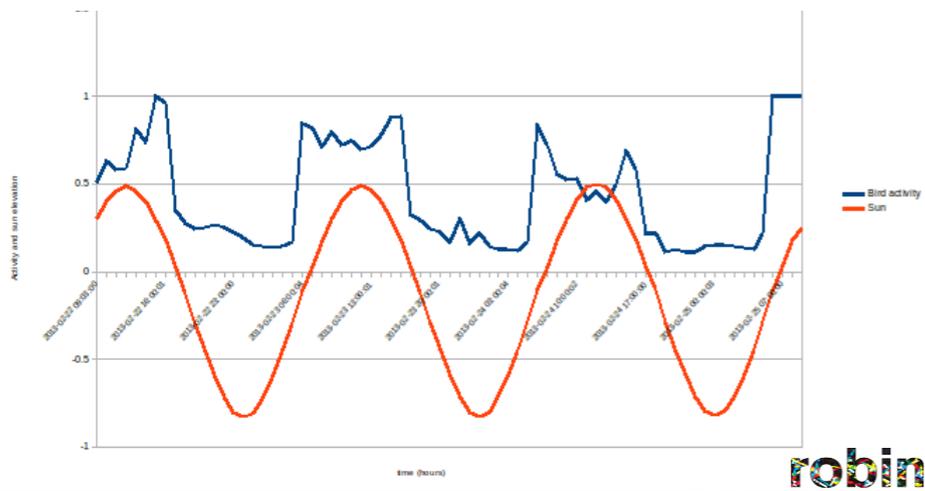
Using bird information for
backoffice analysis

Determine the effectiveness of mitigation policies

“We invest in numerous bird strike mitigation measures, ranging from grass policies to politically sensitive population reduction. We want to quantify how effective these investments are.”

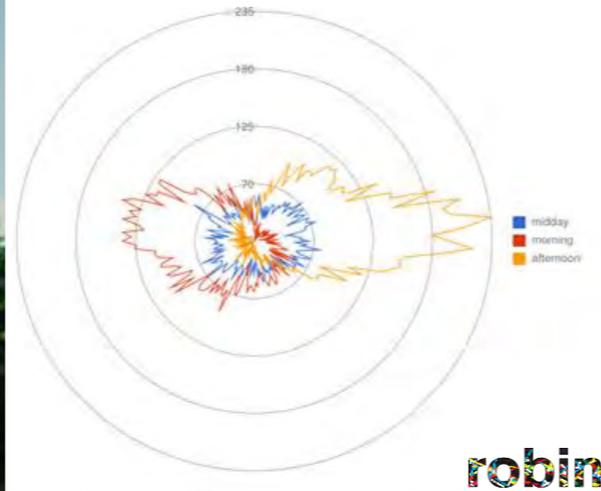


Bird activity versus sun elevation



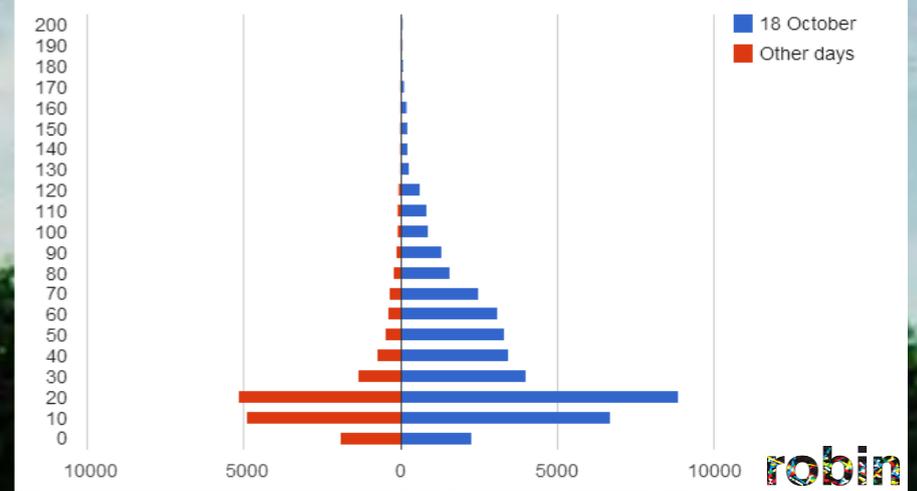
robin

Flight directions



robin

Height distribution



robin

“We aim to make the airport vicinity as unattractive as possible for birds . We needed to understand their behaviour before we could start influencing it”

Unique quantified information as input for Habitat Management

robin
radar systems

“The system identified a new ‘hot spot’ for birds. It turned out a local farmer altered his policy, in violation with previous arrangements.”

Identify new bird activity
‘hot spots’



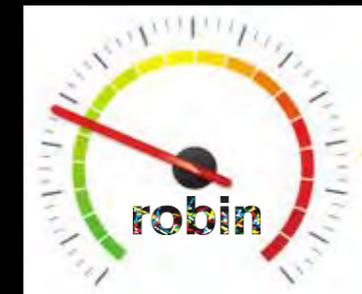
Convert bird behaviour patterns
into risk profiles



Bird activity
Runway 1

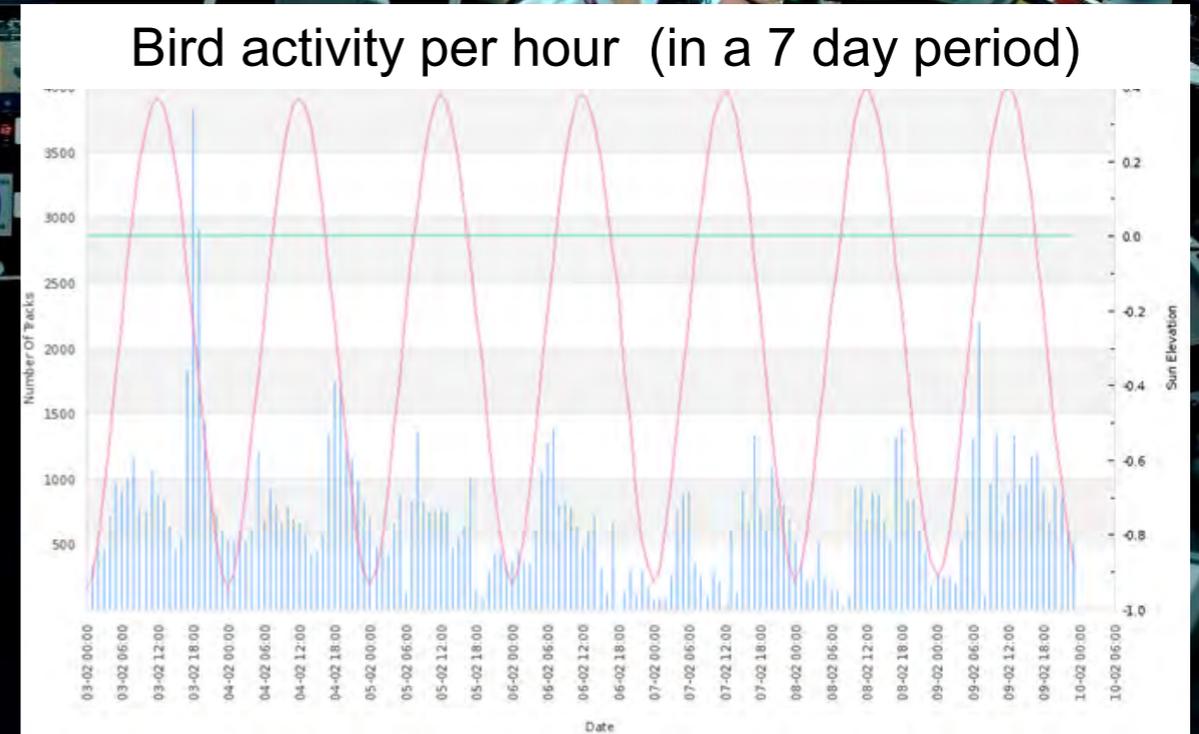


Bird activity
Runway 2



Bird activity
Runway 3

*"In June we start using runway 3
from 7 am because we've
learned hundreds of gulls
typically cross it between 6:00
and 6:30"*





“Once a landing is set in motion I will not evade birds but I do appreciate a warning to be prepared.”

Increase the ‘Situational Awareness’ of pilots

A close-up photograph of a person's hands holding a pair of black binoculars. The binoculars are held horizontally, with the two objective lenses facing the viewer. The lenses are clear and reflect some light. The person's hands are visible, with fingers gripping the binoculars. The background is a soft-focus field of tall green grass under a bright sky. The overall scene suggests a field of observation or surveillance.

Tactical applications

Using bird information in real time by Bird Control
Extending their visibility



“Quite a few birdstrikes happen during fog. When we can’t see a thing, ...radar becomes our ears and eyes.”

See the bigger picture
even when visibility is low



robin
radar systems

A night view from an airplane cockpit looking out over a runway. The runway is illuminated with a series of lights, and the city lights are visible in the background. The text "See the bigger picture even when visibility is low" is overlaid in the top right corner.

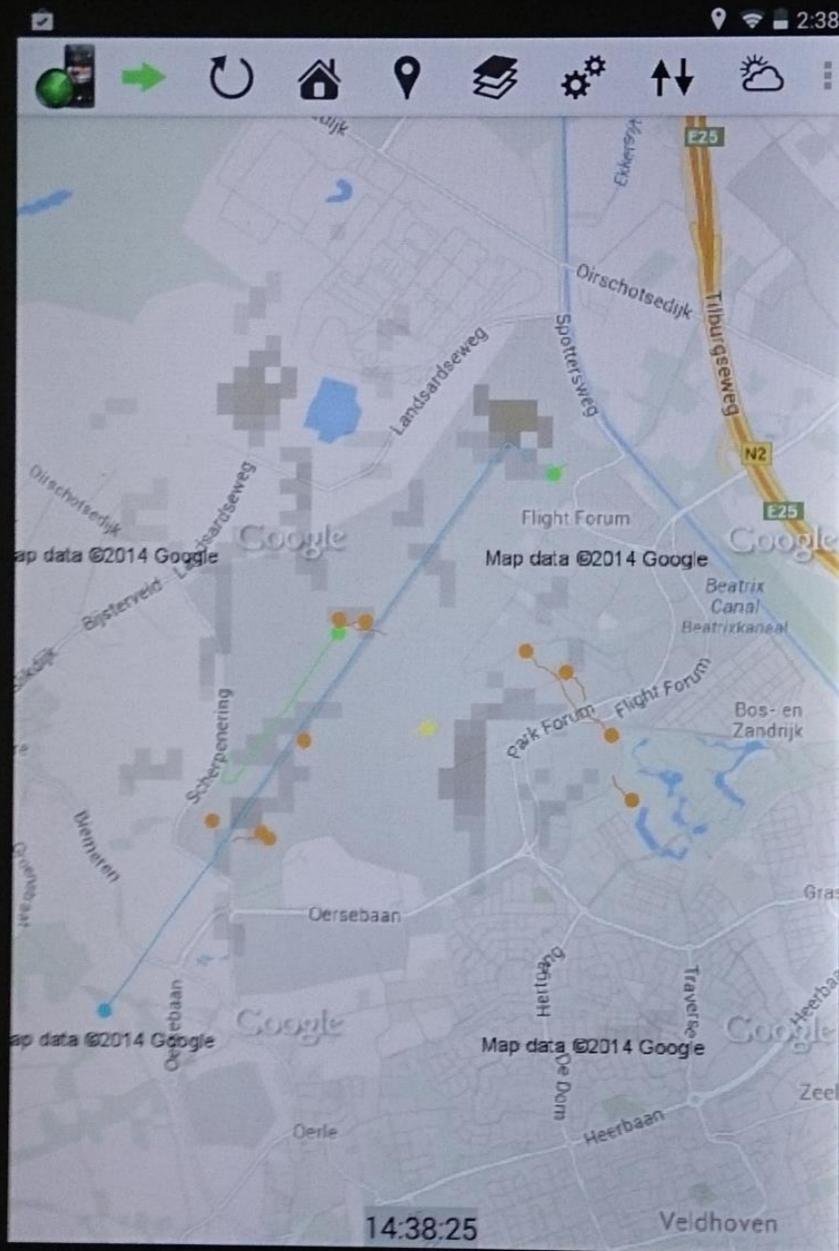
See the bigger picture
even when visibility is low

*“Before Avian Radar,
we were blind at night.”*

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Extending the eyes
of Bird Control Units

*“For me, the Robin
Radar is like a high tech
‘Ultimate Binocular’”*



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radar systems



Help
set priorities



*“I was deterring a falcon at
runway 1 when the system
notified me that a large flock
of geese was approaching
runway 4.”*

robin
radar systems

Communication
tool



“We both look at the same live image. I see my own exact location on the map and that of my colleague. That really helps in communication and divide tasks.”

'Light version' Ground
movement radar

*“By detecting planes and
vehicles and integrating (ADS-B)
transponder information, the
system supports avoiding
runway incursions”*

Questions ?

