Overview of the objectives and approach to the Bird Strike Risk Reduction for Civil Aviation study

Steve Leighton
Helios
Overview of presentation

- Introduction to our consortium
- Overview of the project objectives
- Overview of the project approach and methodology
Overview of presentation

- Introduction to our consortium
- Overview of the project objectives
- Overview of the project approach and methodology
Our consortium includes a mix of aviation, space, ornithology and legal expertise

Consortium members and role

- Project Management
- User requirements, commercial & market analysis
- Aviation specialists

- Space technology specialist
- Demonstrator development

- Ornithologists
- Practical airfield bird management experience

- Legal analysis
- Space and aviation specialists
We also already have agreements from a number of airports to support the project…

- 466,393 movements (2009)
- 66,036,957 passengers (2009)

- 446,569 movements (2008)
- 47,430,019 passengers (2008)

- 172,515 movements (2009)
- 18,724,889 passengers (2009)

- Planned new Lisbon airport
- In planning phase

…and we welcome support from any other stakeholders willing to be involved
Overview of presentation

- Introduction to our consortium

- Overview of the project objectives

- Overview of the project approach and methodology
The BSRR project is concerned with the development of sustainable services…

- Examining technology based services to reduce the risk of hazardous bird strikes to aircraft

- Interested in the role and added value of space based assets
  - But not constrained to only using space based solutions

- Concerned primarily with civil aviation flight operations
  - But not excluding the possibility of military use of any service

- Focussed “at and around airports”
We are looking at the development of both near and long term applications.

**Overview of project objectives**

- **Short-term**
  - Feasible concept
  - Current technologies and space assets
  - Feasible solution to specific application needs

- **Long-term**
  - Future concept
  - Future technologies and space assets
  - Solution to majority of application needs

**Assess the value to users**

- Examine the legal liability issues for the service provision framework

- Examination of commercial viability of service(s)

- Definition of demonstrator and validation of concept
In developing the concept we are looking to see where technology can assist in reducing risk.

Overview of project objectives

- Direct detection of bird presence
- Forecast of factors leading to increased bird presence
- Detection of attractants and understanding of flight lines

Time before presence in risk area:
- Long-term (weeks – days)
- Medium-term (days – hours)
- Short-term (hours – mins)
- Real-time
The ultimate aim being to allow for greater control of the risk of a risk bearing bird strike incident.
Overview of presentation

- Introduction to our consortium
- Overview of the project objectives
- Overview of the project approach and methodology
The study is organised into two phases, the latter only proceeding if the former outlines a viable concept.
Our initial activities have therefore been focussed on understanding the needs of the stakeholders.
We are looking at a system of systems solution, recognising the diversity of the requirements

- Direct detection of birds by observation
  - high-resolution passive visible/infrared technology, radar technologies (ground and space), acoustics, CCTV, LIDAR, etc.

- Modelling techniques using remote sensing data as input
  - assess the added-value that remote sensing data may present for the development of bird movement/presence models

- Direct detection of birds and modelling techniques that can take advantage of tagging (e.g. GPS based)
  - assess the added value of such space systems for the direct detection of birds as part of a bird strike mitigation system

- Communication technologies
  - will explore several communication technologies, such as SATCOM, GPRS, DVB
The second phase is concerned with developing a near-term concept and demonstrator.
The viability of any near-term concept will have to be vigorously demonstrated

- Business case
- Identifiable market
- Legal and liability issues resolved
- Technology available and implementable
- End-user demand
The project is tasked with developing a demonstrator to prove the viability of any near-term application.

- Demonstrator development being led by GMV-Skysoft
- Will not necessarily be a real time system
- Most likely be specific to a selected demonstrator airfield with data to allow at least a partial validation of results
- Looking for candidate airfields with good bird data to apply the demonstrator to
The study is due to run until the end of September, if extended to Phase 2 it will complete in May 2011.
Thank you for your attention

Steve Leighton
www.askhelios.com
steve.leighton@askhelios.com