



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



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Our consortium includes a mix of aviation, space, ornithology and legal expertise

Consortium members and role

The logo for HELIOS, featuring the word "HELIOS" in a grey, sans-serif font. The letter "O" is replaced by a stylized sun icon with radiating lines.

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

The logo for gmv, featuring the lowercase letters "gmv" in a red, italicized, sans-serif font. Below the letters, the tagline "INNOVATING SOLUTIONS" is written in a smaller, black, sans-serif font.

- Space technology specialist
- Demonstrator development

The logo for Manchester Metropolitan University, featuring a blue square with a white stylized flower or star shape inside. Below the square, the text "Manchester Metropolitan University" is written in a blue, sans-serif font.

- Ornithologists
- Practical airfield bird management experience

The logo for BIRD & BIRD, featuring the text "BIRD & BIRD" in a white, sans-serif font on a dark blue rectangular background.

- Legal analysis
- Space and aviation specialists

We also already have agreements from a number of airports to support the project...

BAA Heathrow 

- 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



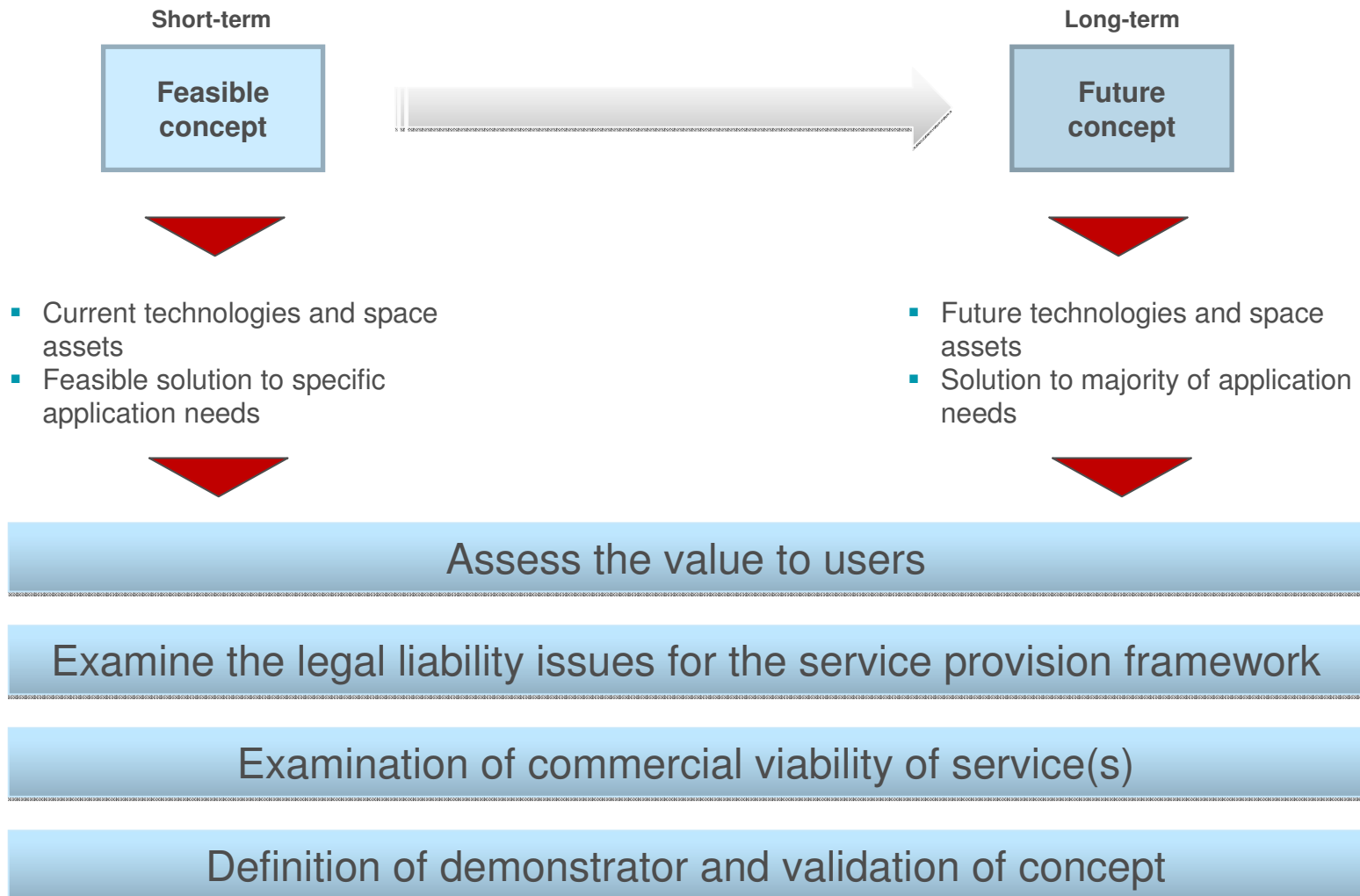
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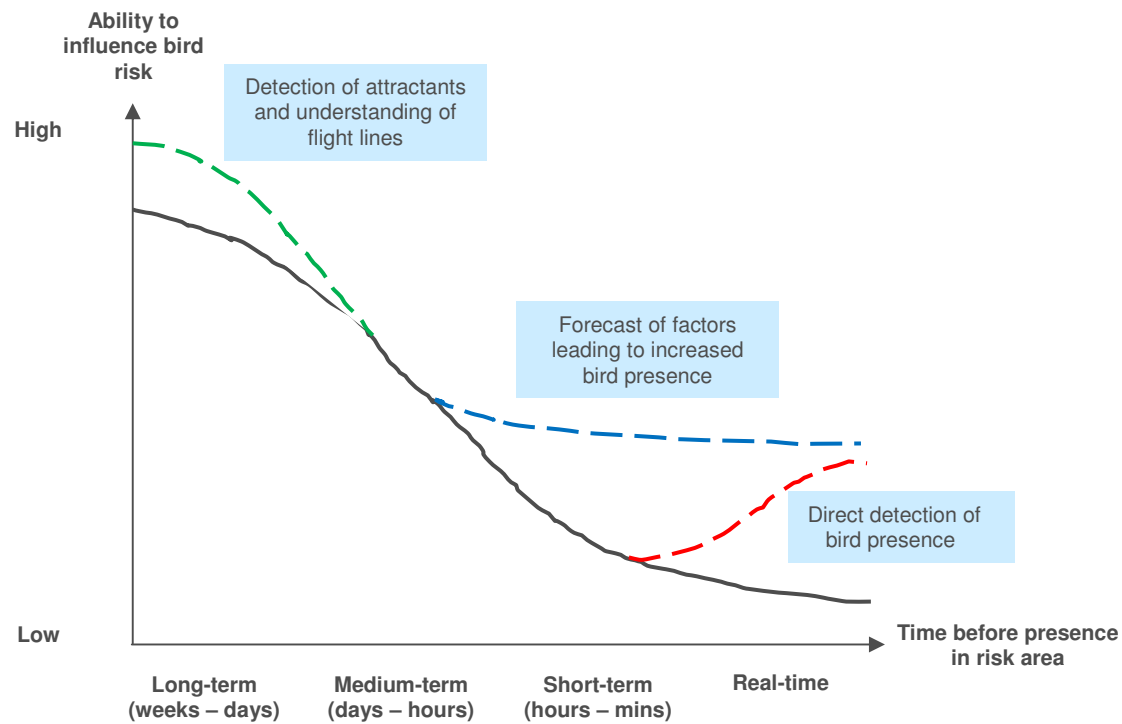
The BSRR project is concerned with the development of sustainable services...

- 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”

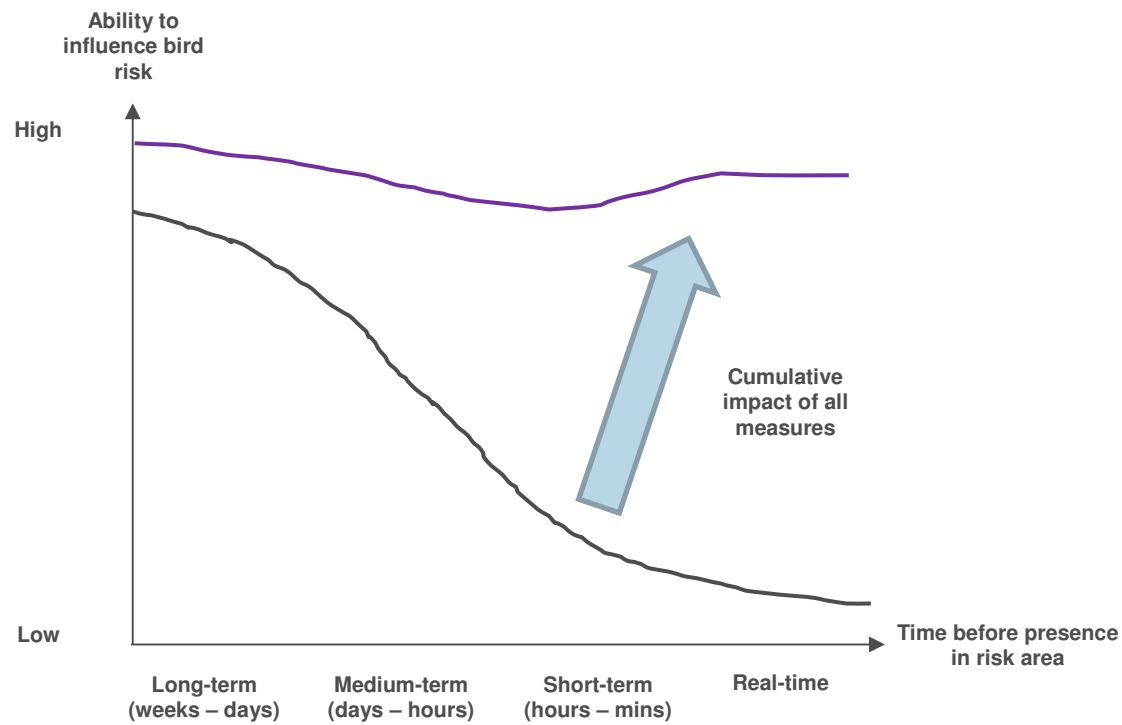
We are looking at the development of both near and long term applications



In developing the concept we are looking to see where technology can assist in reducing risk



The ultimate aim being to allow for greater control of the risk of a risk bearing bird strike incident

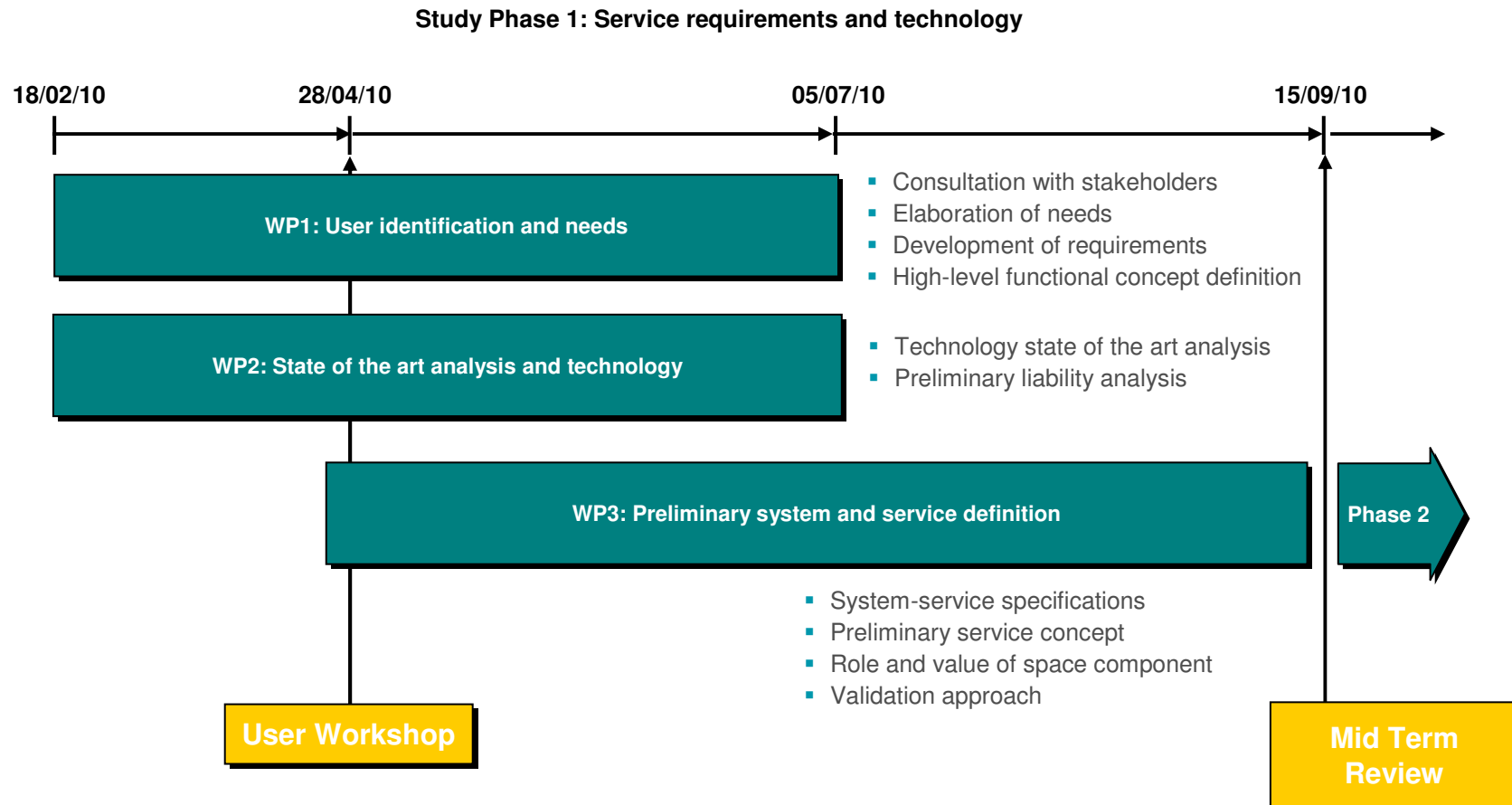




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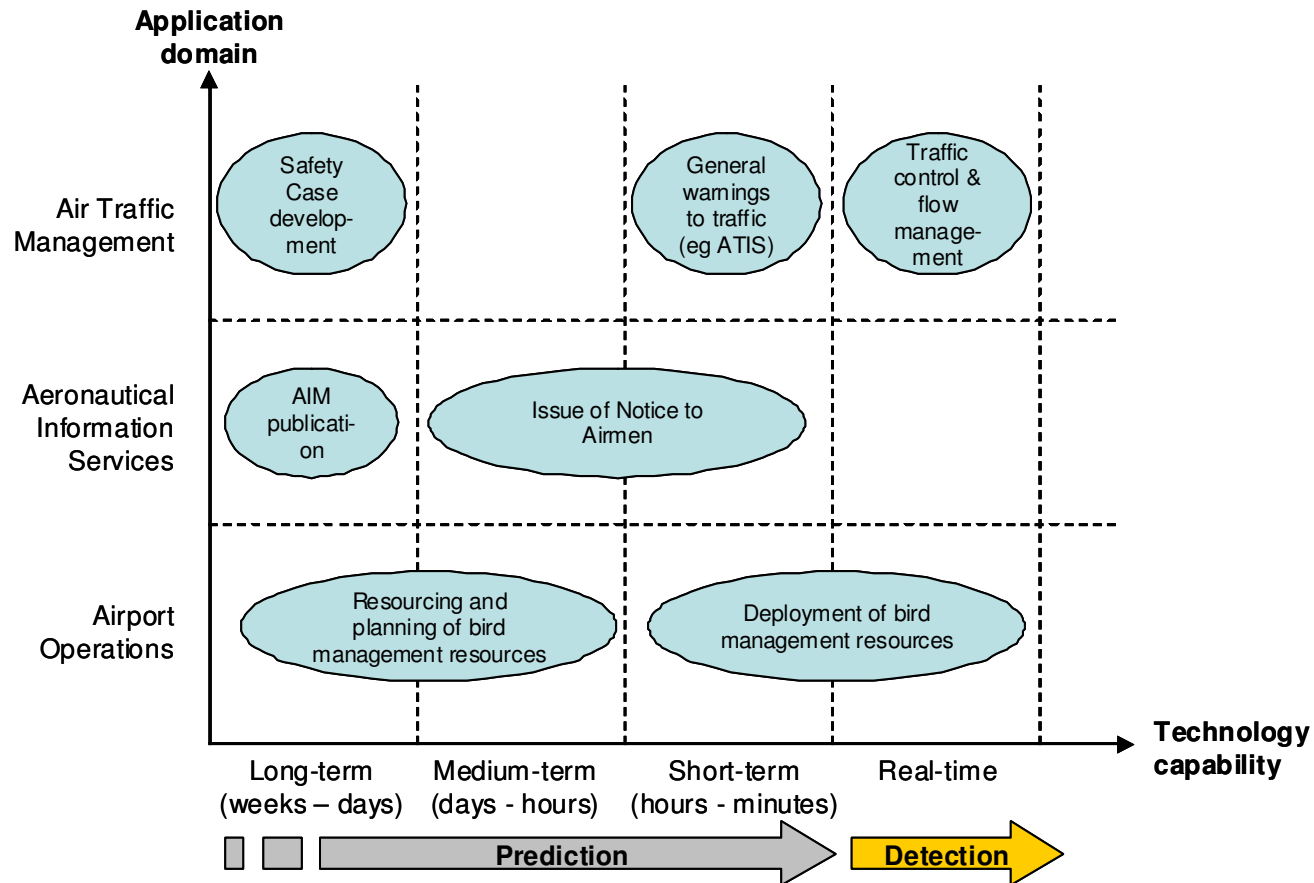
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The study is organised into two phases, the latter only proceeding if the former outlines a viable concept



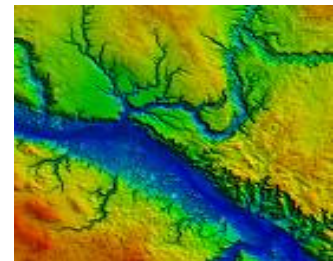
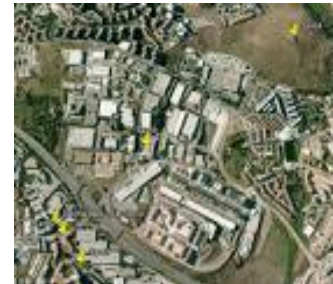
Our initial activities have therefore been focussed on understanding the needs of the stakeholders

Summary of envisaged use of bird presence information



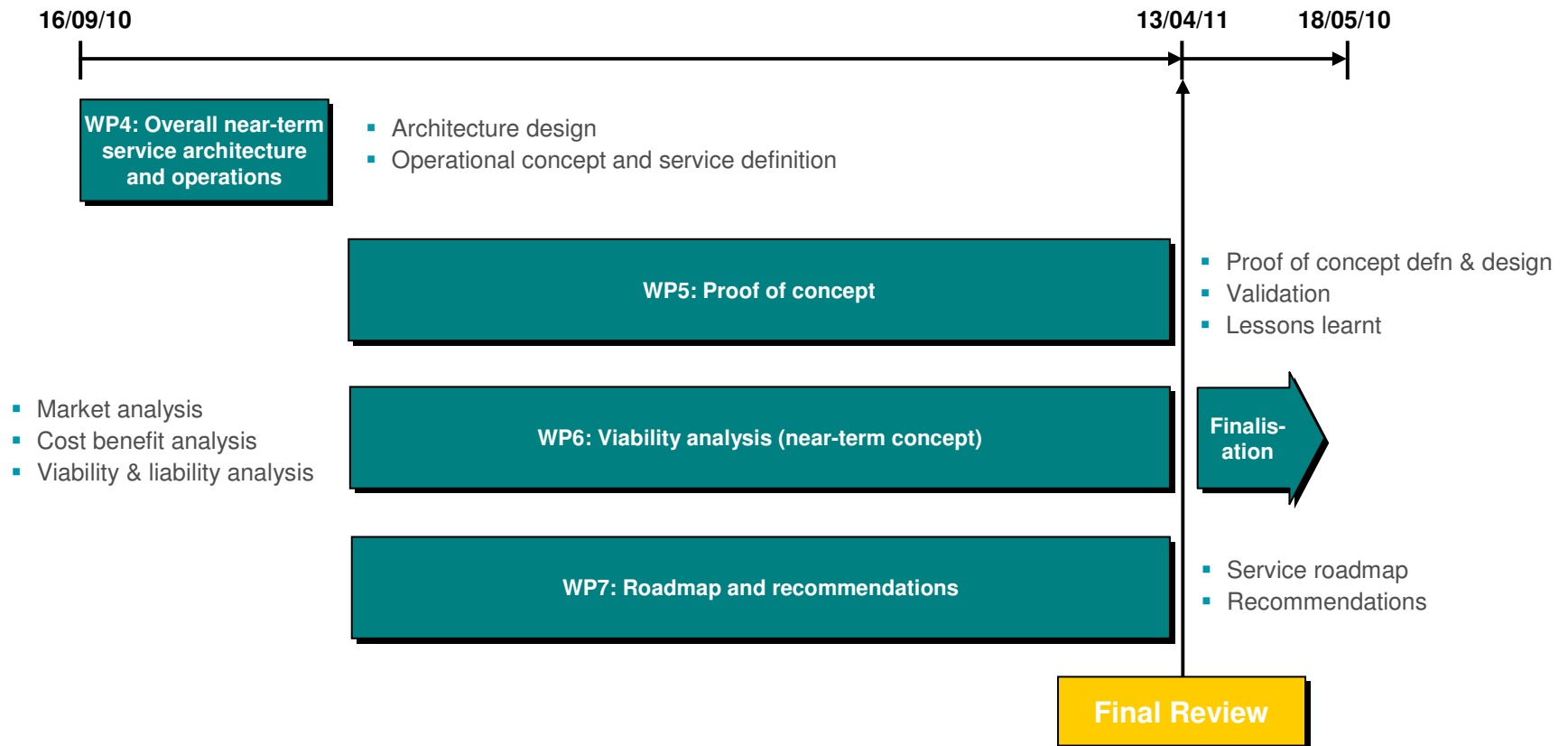
We are looking at a system of systems solution, recognising the diversity of the requirements

- 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

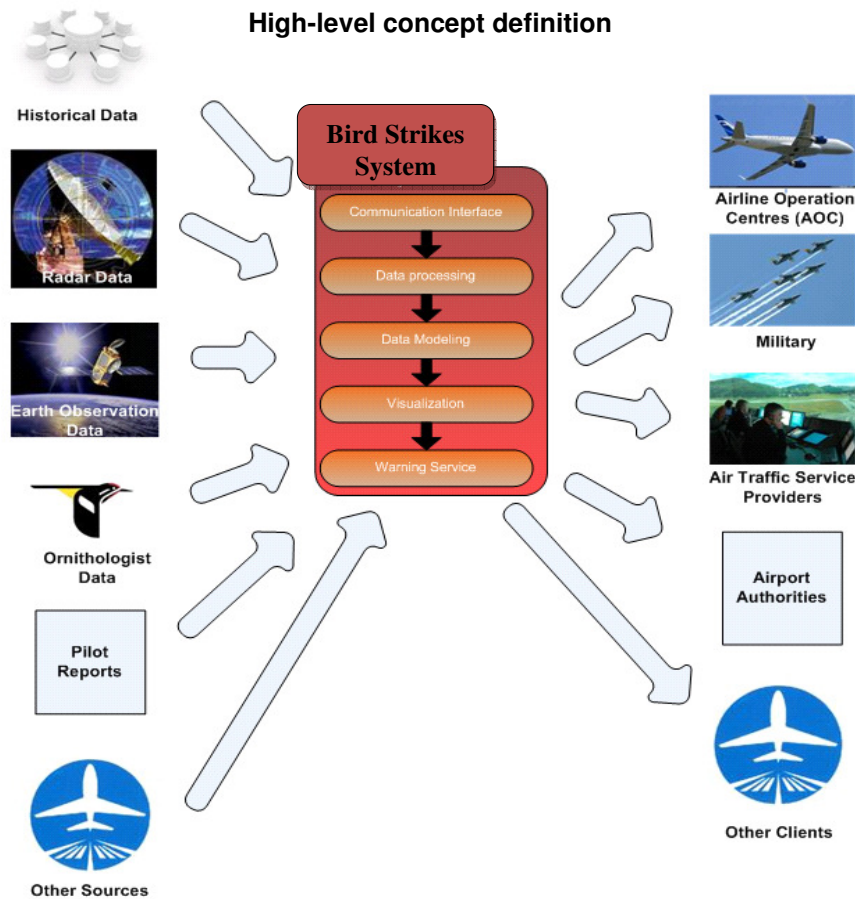
Study Phase 2: Near-term service definition and validation



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 ✓ ✓

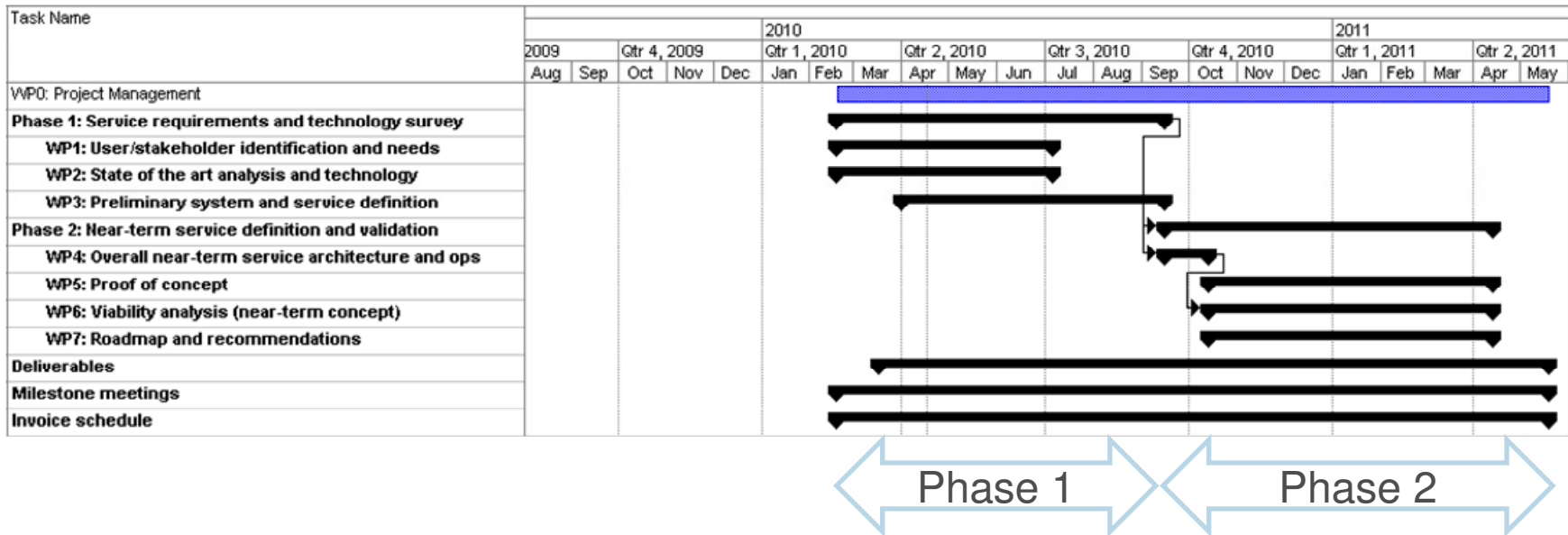
The project is tasked with developing a demonstrator to prove the viability of any near-term application



- 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

Overview of study timescales





Thank you for your attention

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