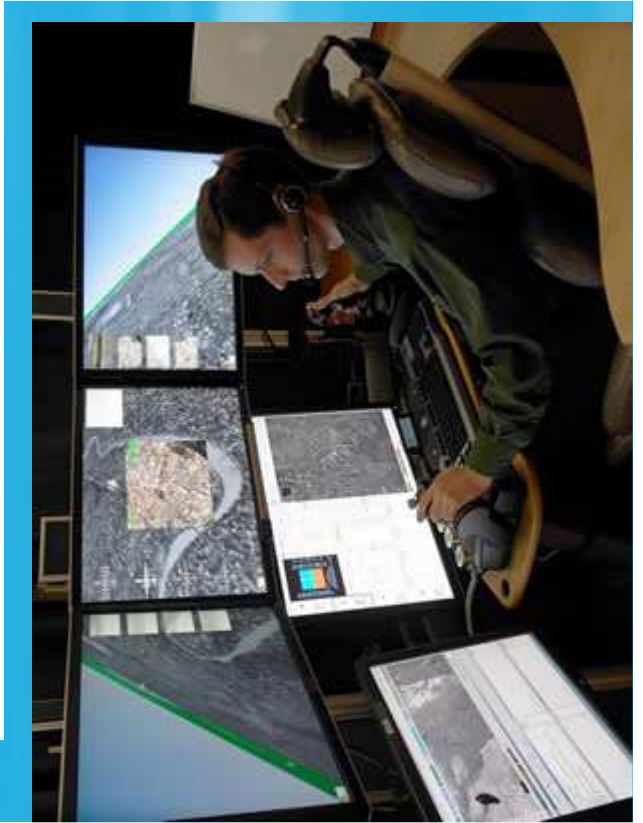
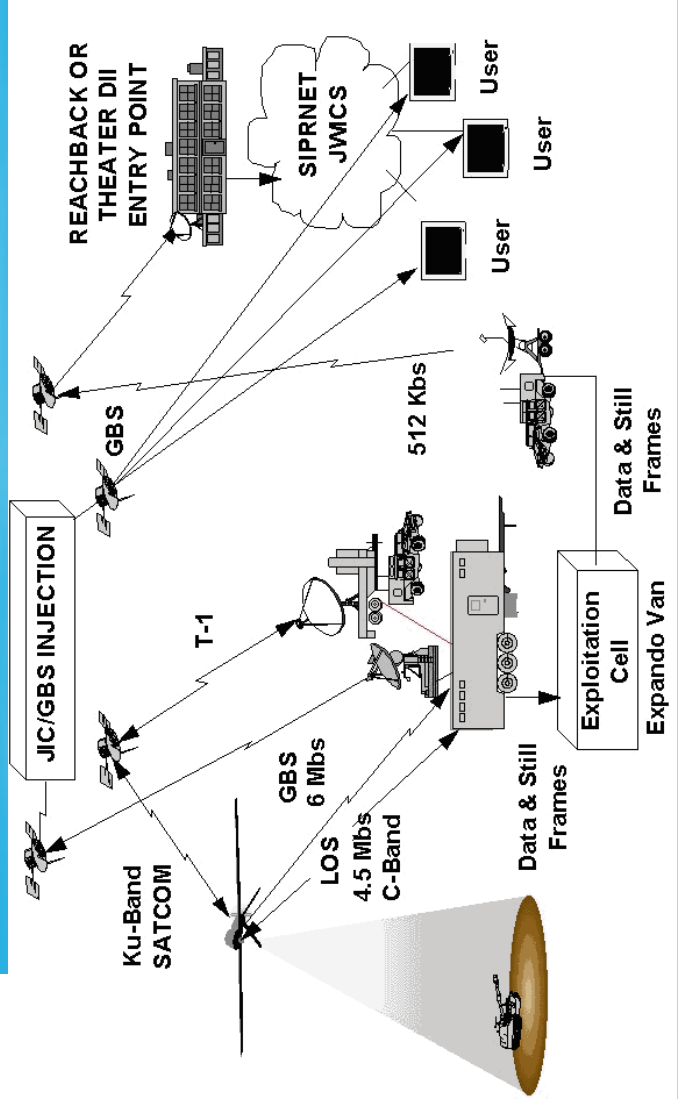


A systems of systems view of ASTRAEA

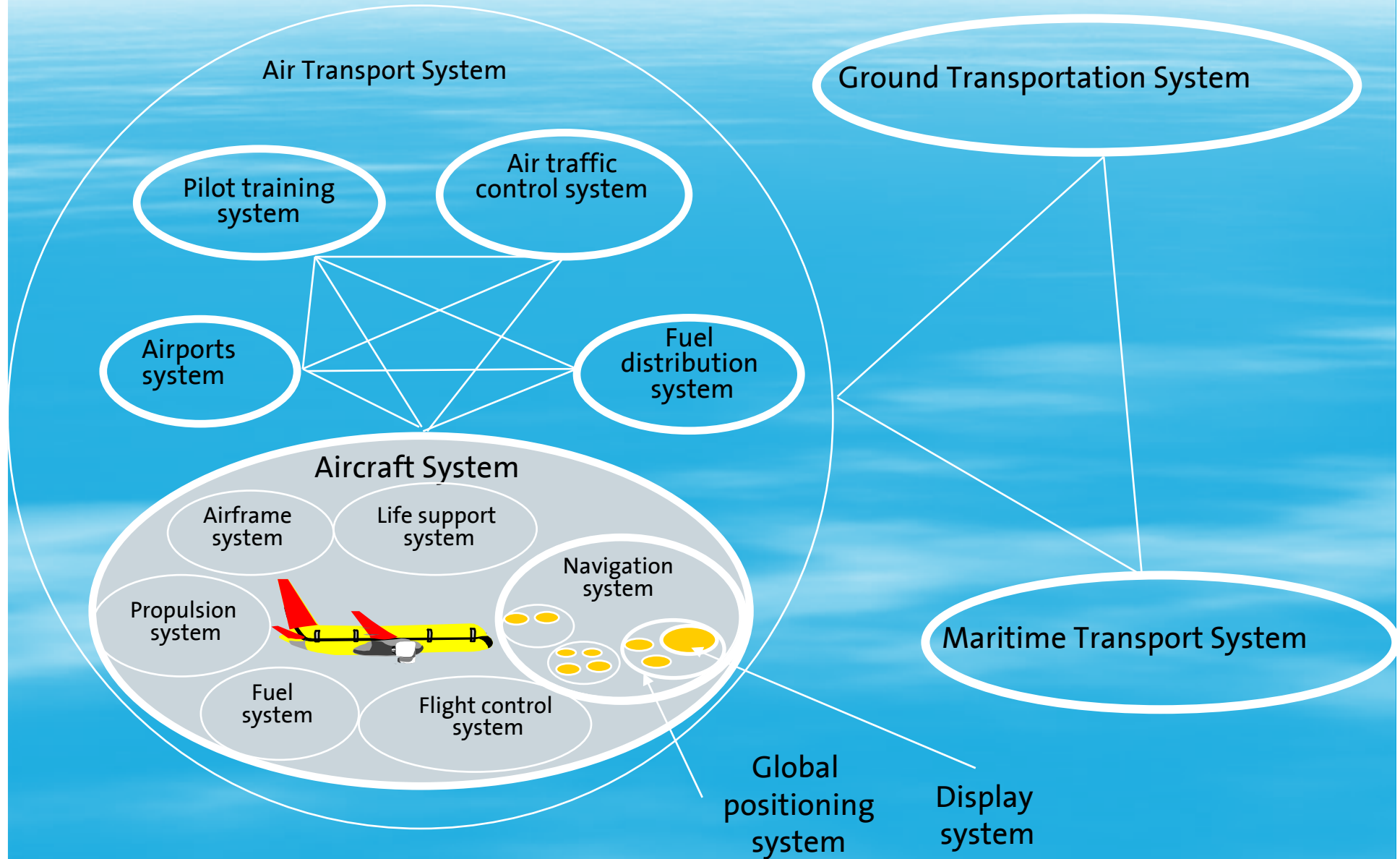
Professor Brian Collins
Ex CSA, BIS and DfT
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UCL

Agenda

- What is a systems of systems view
- The nature of the opportunities and problems
- The role of innovation
- Provocation for discussion



System of systems



Wicked problems

- The problem is not understood until after the formulation of a solution.
- Wicked problems have no stopping rule.
- Solutions to wicked problems are not right or wrong.
- Every wicked problem is essentially novel and unique.
- Every solution to a wicked problem is a 'one shot operation'
- Wicked problems have no given alternative solutions

Innovation

in the context of S of S and WP

- Design and architecture as well as process and widgets are candidates
- Description of interdependencies and resilience should be explicit in requirements and designs
- Configuration and change management critical to ongoing operation
- Regulation should be about whole concept, not just properties of one component

Provocation for discussion

- Is there a killer application or service that can be use to demonstrate the principles?
- What are the weakest parts of the system of systems and are they being strengthened?
- Is the governance structure appropriate for a wicked problem?
- Is a breakthrough needed , more targeted R&D or 'just' systems integration?

Thank you

