



SIRENA

Aeronautical Project (EC DG RTD)

External EMC simulation for radio electric systems,
in the close environment of the airport



PARTNERS



OKTAL SE
(France)



EURO INTER
(France)



TUBS
(Germany)



IBK
(Germany)



ICCS
(Greece)



AIRBUS
(France)



ONERA
(France)



EADS CCR
(France)
(Subcontractor)



IKT
(Norway)



OBJECTIVES

High level Objectives

- “Improving environmental impact with regard to emissions” in the field of electromagnetic compatibility.



OBJECTIVES

Technical Objectives

- To get EM (Electro Magnetic) source realistic mock-up.
- To get EM field value as close as representative as possible within the airport vicinity.
- To get airfield mock-up as close as possible to reality.
- To have EM fields interpretation as simple as possible.
- To set up recommendation and advice.



INNOVATIONS

- Accurate modelling of unitary diagram for near electromagnetic field environment
- Capability to:
 - define a large set of complex materials from a reduced set of basic reference materials.
 - address materials attributes to 3D complex geometrical scene.
 - assess large objects when compared with the wavelength using a new ray-tracing forward method.



INNOVATIONS

- Interactive visualisation of electromagnetic fields.
- Capability to merge in a single process the computation of a targeted object with its environment.



EXPECTED ACHIEVEMENTS

- Fast 3D modelling of large areas applied to airports and their environment.
- To provide a general process for aircraft and equipment manufacturers in order to quantify the ambient EM field.



WORK PACKAGES

- WP1: Operational requirements.
- WP2: Technical requirements.
- WP3: Exploitation requirements.
- WP4: Database modelling.
- WP5: EM field computation.
- WP6: EM field analysis.



FIGURES

- Project of small enterprises serviced by SCRATCH (<http://www.aero-scratch.net>).
- Duration: From 01/12/03 to 30/11/05.
- 8 Partner from 4 EU states (and associated).
- Budget: € 1.9 Million.
- Dissemination on <http://www.aero-scratch.net>