

Executive Summary

Interdependency Modelling

Results of a Workshop performed in close Collaboration with X3-NOISE, QUANTIFY, ECATS, and ANCAT/MITG

held at NLR, Amsterdam on January 17th and 18th, 2008



The general conclusion was that a European interdependency modelling capability in form of a models toolset is needed. Some steps / models / modules have already been done or developed. Some future needs are still to be met.

Status

- Through EEMA a European basic modelling system has been developed in prototype form to address policies directly related to regulation. This basic system comprises European and ICAO data sources and models and the links between them, based on a Data Warehouse concept. Identified gaps are technology modelling and economics modelling subsystems.
- Some tools / processes for technology interdependency modelling have been developed in large European programs like SILENCER (focussing on noise but also including also noise / emissions trade off capabilities).
- Some capability has been developed in economic interdependency modelling (e.g. Cost Efficiency Analysis tools) but there is still a long way to go for functioning Cost Benefit Analysis tools and monetization of impacts.
- The AERO+ reconnaissance study was aimed at exploring the future options for the developing the Dutch AERO responsive modelling system.
- Some aviation climate impact tools like the AirClim model are available. CAEP discussions have shown that at the current stage monetization is not possible and the acceptance of monetization is limited as some ethical issues are concerned.
- Concerning the local and airport air quality issue a European strategy on this issue is missing. Harmonised procedures for case studies on airports Local Air Quality as well as baseline health effects measures are needed.
- From the noise point of view more research is needed for the impact assessment, i.e. the cost benefit analysis method, the monetisation and the Cost of health effects and performance loss.

Future needs:

- An AERONET study “To investigate the operational aspects related to noise and fuel burn/emissions reduction” came to promising conclusions related to CDAs. The trade off analysis of FDR data and radar data of 8 trial flights at the Bucharest Henri Coanda Airport showed noise reduction (by modelling) and fuel savings. More work is needed, i.e. more flights need to be assessed to have a clearer view.
- The TEAM (Toolset for Environmental Aviation Modelling) project proposal will define, as concluded in the EFEMTA and EEMA study, a European view of the analytical requirements for CAEP policy considerations for CAEP/8 and to set out the likely requirements for Europe-based econo-environmental modelling of aviation in the medium term. A European toolset combining various existing modelling modules will be developed.
- On CAEP level the MODTF (CAEP Modelling and Databases Task Force) expert group has been created to examine the CAEP 8 short term modelling requirements.
- Concerning the Euro modelling data management capabilities several options have been considered. These are necessary once a European has been developed and related to the operational aspects of such a toolset.
- Another important issue in this respect is the handling of IPRs for an interdependency modelling system. This is an open question.