



Aviation Emissions Databases

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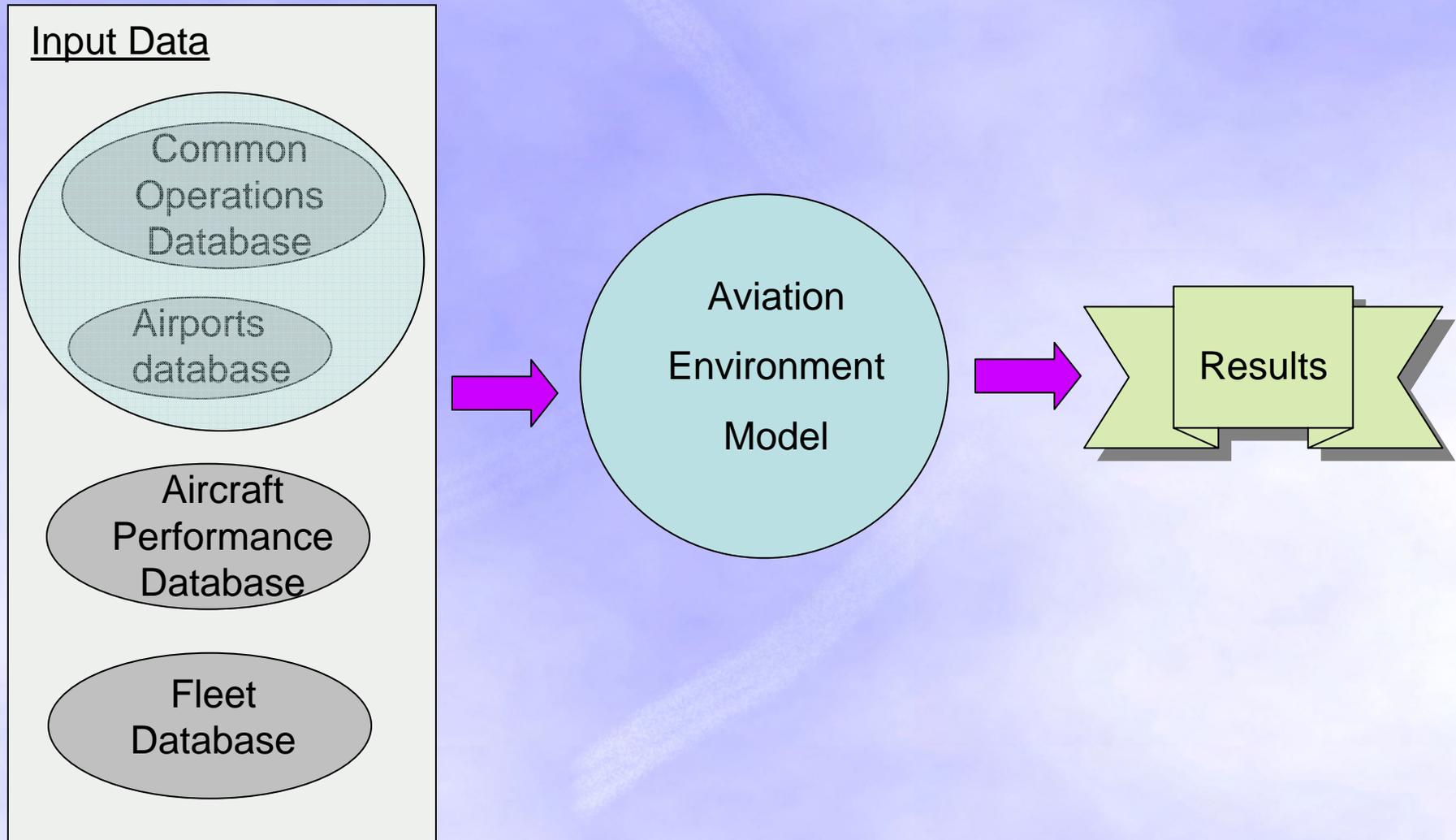
Outline



- The context
- Common Operations Database
- Airports Database
- Aircraft Performance Database
- Fleet Database
- Then what



The Context





CAEP COD



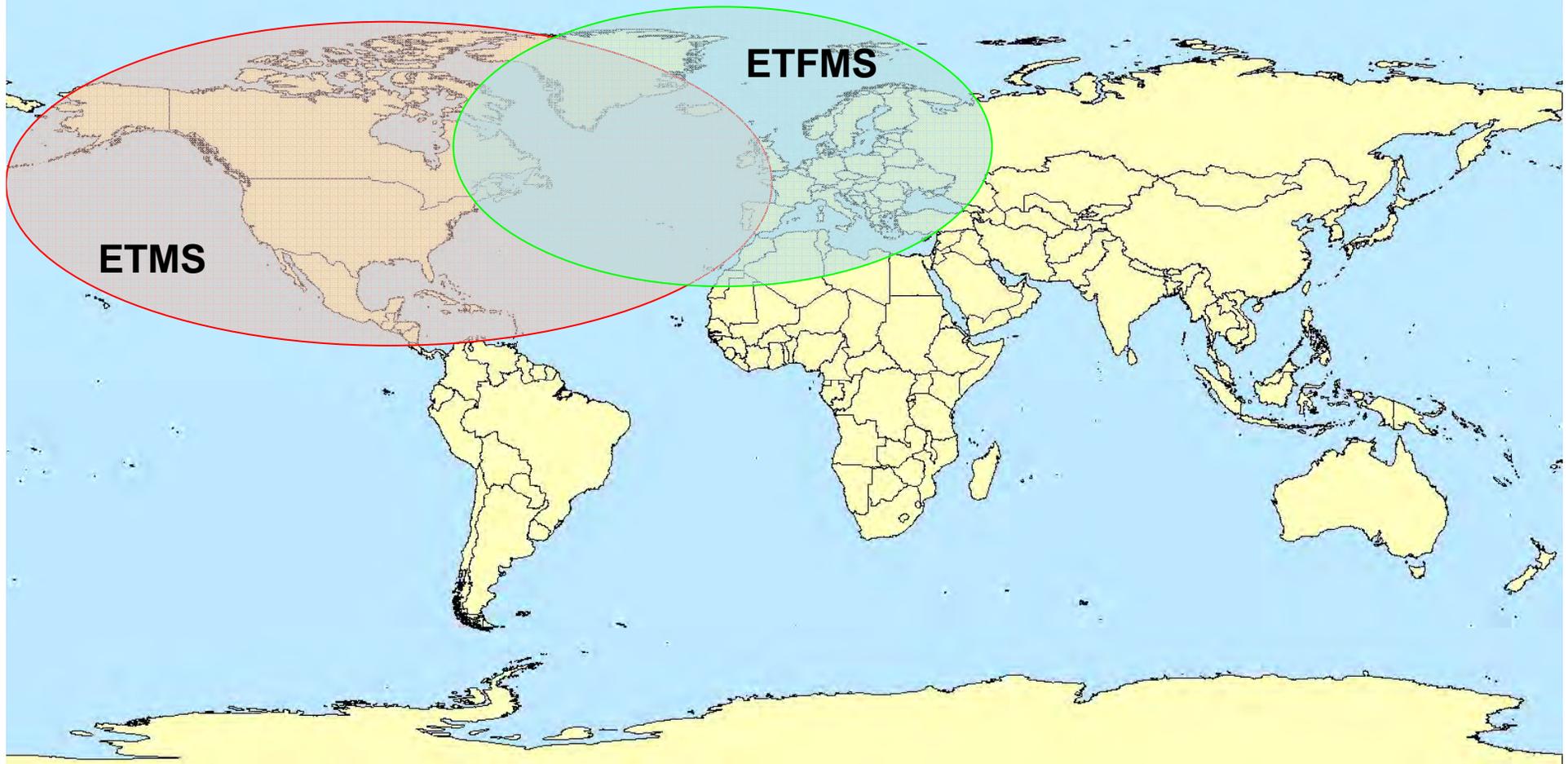
SAGE



WISDOM

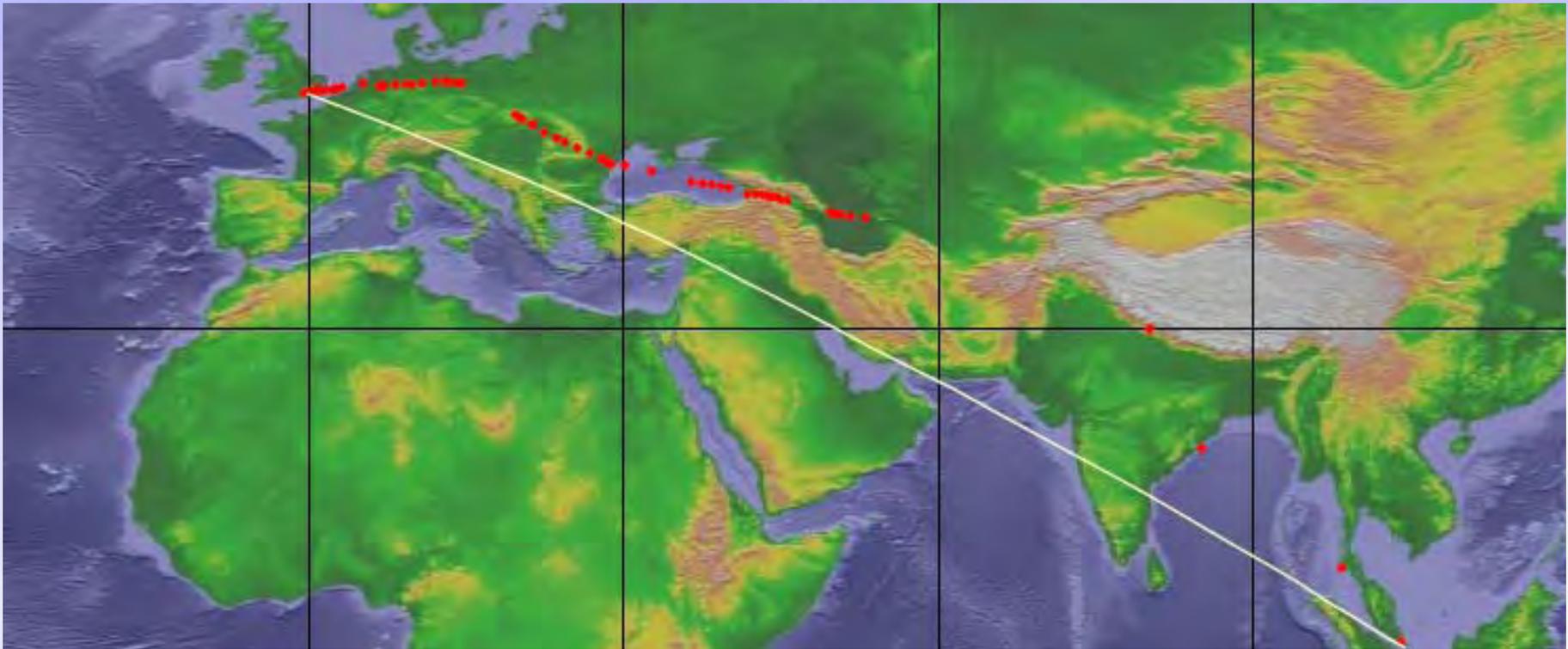


Data Collection





Flight Trajectory Representation



B744 : Singapore - London



Improving Global Coverage (1)



In April 2006, State letter AN1/17-IND/06/4 was sent:

- Australia
- Brazil
- China
- Egypt
- India
- Japan
- New Zealand
- South Africa
- South Korea



Improving Global Coverage (2)



Sydney - Hong Kong

Radar – pink

COD - yellow



Hong Kong - Sydney

Radar – pink

COD - yellow



Aircraft Performance Data



ANP - View Data - Microsoft Internet Explorer provided by EUROCONTROL - EEC

Address: http://www.aircraftnoisemodel.org/FrontOffice/scripts/makepage.php?data=Complete=

Download data

ACFT_ID	Description	Source of data	Engine type	Number of engines	Weight class	Owner category	Max gross takeoff weight (lb)	Max gross landing weight (lb)	Max landing distance (ft)	Max sea level static thrust (lb)	No ch
707	Boeing B707-120UT3C		Jet	4	Heavy	Commercial	302400	188900	6682	10120	1
707120	Boeing B707-120BJT3D-3		Jet	4	Heavy	Commercial	302400	188900	6893	14850	1
707320	Boeing B707-320BJT3D-7		Jet	4	Heavy	Commercial	334000	247000	5622	19000	1
707GN	Boeing B707-320BJT3D-7GN		Jet	4	Heavy	Commercial	334000	247000	5622	19000	2
717200	Boeing B717-200 / BR 715		Jet	2	Large	Commercial	121000	110000	4600	18000	3
720	Boeing B720UT3C		Jet	4	Large	Commercial	223500	155600	4871	10120	1
720B	Boeing B720BJT3D-3		Jet	4	Large	Commercial	234000	175000	5717	18000	1

Currently two “available” sources of aircraft performance data

Possibility of future convergence



Fleet Database



- The global fleets (a.k.a. Campbell-Hill) database provides the necessary linkages between flight plan data and specific aircraft registration information.
- Originating from commercially available databases (JP etc), the Campbell-Hill database is enriched through IATA sponsored detailed surveys.
- By-airframe, engine distributions can be used to create a virtual engine for each carrier's airframe, or used to develop a by-airframe distribution for each carrier. For entries in the movements database that actually include registration number, the fleet database provides detailed information about the specific aircraft/engine combination.
- The fleet database also includes noise and emissions certification data. This information is critical to conduct the NOx stringency assessment that may be undertaken as part of the CAEP/8 Work Programme,



The Future



- General trend towards global harmonisation through CAEP
- Common input assumptions and data to drive all environmental models
- Further consolidation of radar based trajectory data for rest of world
- Harmonisation of aircraft performance data through Industry (ICCAIA) & Technical working groups (SAE).



- Data is the key
- We need your help for this!
- Please engage with the CAEP effort

Thankyou.