An international standard to reduce aircraft emissions

Initiative

Paul has been involved in an international collaboration to develop a measurement standard, which will reduce the emissions of soot from large aircraft engines.

Aircraft emit numerous pollutants, and whilst gaseous emissions are heavily regulated, the regulation on soot was last updated in 1970. This changed in 2009 when concerns about local air quality, especially health, were raised and a new regulation was proposed.

Paul, FSE and the standard:
• The International Civil Aviation Organisation (ICAO) will limit the number/mass of soot particles emitted from aircraft engines – a new standard on how to measure and report soot is required.
• EU funded projects from 2009 helped develop the measurement methodologies – they needed a particulate specialist and found Paul in FSE.
• The standard was written by a committee consisting of the European, N. American and Swiss regulators, scientists (including Paul) and the main engine manufactures (e.g. Rolls Royce).
• The limits on soot emissions set by ICAO will reduce over time, thereby forcing engine manufacturers to produce cleaner, more efficient, more environmentally friendly engines.
• 192 countries are signed up to ICAO. Aircraft flying in these countries must follow this standard and the global aircraft industry will become more environmentally friendly as a result.

How Paul has made a difference

Paul has worked on this program since the start, because of his expertise in particulates. As a result of the work, he is now a voting member of the committee producing the standard – i.e. he approves/disapproves the standard for ICAO and publication.

He is a member of an ICAO Aviation Environmental Protection working group. He is also an Environmental Independent External Expert for EASA. Paul has recently submitted an EPSRC proposal to look at emissions from turboprop engines, which are exempt from this standard. The goal will be to advise EASA if these emissions should be regulated as well.