

David Hughes has been covering air traffic modernization for AVIATION WEEK from three continents this year.

Looming Gridlock Threatens Aviation Growth

In the next few years, the U.S. and Europe are likely to get an answer to the question of whether air traffic systems can keep up with the pace of growth. The answer may be ugly. Everyone has ideas on how to fix things, but the time for action is running short.

So as Boeing, Airbus and other aircraft makers talk about their sales prospects here at Le Bourget, don't forget this caveat: The optimistic sales curve depends on the air traffic system being able to accommodate all these aircraft. As New Englanders often say to drivers who ask for directions, you can't get there from here. If airline aircraft can't get there from here, sales are likely to slow down.

And a big hurdle on both continents will be getting around the systems of the past, invented after World War 2 to make room for the future. Radar's day has come and gone, but it still dominates surveillance over land masses. Automatic Dependent Surveillance Broadcast relying on GPS satellite navigation is the system of the future, and it is cheaper than radar. But until some of the existing radars and obsolete ground-based nav aids are decommissioned, it will be difficult to pay for the new system.

Yes, there are some flight trials going on to demonstrate new satellite navigation capabilities that would boost capacity and cut fuel burn, emissions and noise. But few U.S. or European airlines or airports are pushing ahead with operational capability in the next five years that will make a difference.

At Chicago O'Hare, the FAA has limited peak hour traffic to keep delays there from having a ripple effect nationwide. In the New York City area, delays at the major airports have led to a major probe of the problem. Look for more airports in the U.S. and Europe to join this list. The U.S. expects record delays this summer. Europe has headed off some of this with an aggressive approach to squeezing every ounce of capacity out of the current ATC system in a program known as DMEAN—the Dynamic Management of European Airspace Network.

In the U.S. two profitable airlines are making major commitments to air navigation progress to go operational with next-generation systems.

UPS just demonstrated its advanced ADS-B capability developed by ACSS (a Thales and L3 company). With merging and spacing software guiding UPS freighters onto continuous descent approaches at Louisville, Kentucky, UPS aims to save a million gallons of fuel per year. This is



AVIATION WEEK writer Dave Hughes has investigated air traffic modernization and management as far afield as Tibet.

in the next couple of years as it outfits all its 757s, 767s, 747-400s (and eventually other aircraft) with ADS-B out (transmission of GPS positions to the ground and other aircraft) and ADS-B in (so UPS jets can display the location of other aircraft on a cockpit display of traffic information).

Southwest Airlines, meanwhile, has decided to equip all of its 737s, including older -500s and -300s as well as new -700s, for required navigation performance (RNP) arrivals and departures. And it has hired Naverus Inc. of Kent Washington to develop 500 to 1,000 customized RNP procedures for it to use at every airport to which it flies. Alaska Airlines pioneered RNP into terrain-challenged airports, but Southwest is going to show the world how flying its 737s at idle power settings down tightly confined corridors of airspace with descent profiles tailored to the performance of its fleet can cut fuel burn, emissions and noise.

Continuous descent arrivals are perhaps the greatest single thing that airlines can do to cut fuel burn near-term, but few of them have yet made a major commitment to it. The European Commission is conducting trials in this area at Stockholm's Arlanda International airport and other places.

In Asia and the Middle East, where money is flowing freely into civil aviation modernization, many airports and air navigation service providers are moving straight to next-generation satellite navigation technology. But the progress in Asia, for example, is only loosely coordinated by the ICAO regional office in Bangkok.

In the U.S., moves afoot to create a "NextGen" ATC system are likely to sit in the doldrums for the next two years as the U.S. selects a new president and deals with bigger issues than civil aviation, such as Iraq. The first chief operating officer of the FAA recently left to join JetBlue, and so far there is only an acting replacement leading the 33,000-strong Air Traffic Organization. FAA Administrator Marion Blakey's five-year term is up in September, so the FAA could soon be rudderless at the top as well. And the leadership of the NextGen system has been relegated to a joint agency with little power in Washington while implementation is placed in an

FAA program office that is so low on the totem pole as to have little power or authority over funding.

In Europe, the Single European Sky ATM Research Program (SESAR) is much more

It will be interesting to see how much progress is made between now and the next meeting at Le Bourget in 2009. The too-late light is already flickering on and off today; no doubt by 2009 it will be fully illuminated.

tightly organized, with an industry consortium creating a plan and a joint undertaking set to take over research and development leading to implementation of a system similar to NextGen in the U.S. But Europe has a huge handicap: Single Sky is a concept, not a reality. Once SESAR comes up with a plan, it has to be implemented by 30 little FAAs in Europe in airspace carved up along the lines of national boundaries. The carve-up has little to do with air traffic efficiency and in fact adds hugely to pilot and controller workload.

So stay tuned. It will be interesting to see how much progress is made between now and the next meeting at Le Bourget in 2009.

The too-late light is already flickering on and off today; no doubt by 2009 it will be fully illuminated.

—David Hughes