



cellular in the skies

Cellular technology could prove to be the best way of providing in-flight phone services. Brendan Gallagher talks to the Inmarsat service providers about their wireless plans

Imagine a time when passengers will be able to walk aboard an airliner and carry on using their own mobile phones throughout the journey. There will be no card-swiping to activate the onboard phone, no puzzling over instructions, no wait for large and complex bills. Passengers will just hit those familiar buttons and talk.

Worries about the unwelcome effect of mobile phones on the aircraft's safety systems and the cellular networks on the ground currently mean that onboard cellphone use is banned. But that could soon change.

Inmarsat service providers are already offering a number of cellular-related services, including the routing of ground cellphone calls to onboard wired-in phones. So they are confident they know what's needed to deliver the last step in convenience for passengers – an onboard base station that will command cellphones to work at low power levels and isolate them from direct contact

with the cellular networks. The phones will be linked first with the aircraft base station, which will then feed calls to the satcoms system for delivery to mobile and fixed phones on the ground.

"Technically the integration of cellular and satellite is not a problem. The challenge is purely a regulatory one," says Stephen Brunskill, Head of GSM applications at Canadian-based service provider Stratos. "We've been working on a technical solution for a number of years, initially with BAE Systems and now with Irish company Altobridge, which specialises in in-building cellular systems, and a leading Inmarsat aero manufacturer."

Innovative software

As well as the aircraft base station, the Stratos solution also takes care of the software subtleties in the background, such as the interface between the base station and ground systems, billing – airborne calls will

show up on the user's normal mobile phone bill – and 'roaming' to other networks. Stratos already supplies similar systems to the cruise ship industry, whose customers use them to make and receive mobile calls in mid-ocean. When might airline passengers start to enjoy similar facilities? Brunskill believes it will take at least another 18 months for the air transport authorities to approve the use of airborne base stations.

The other service providers share Stratos' view of the potential of cellular/satellite convergence. "We've been studying this for some time and are quite interested in its potential," says Tom Surface, spokesman for Telenor Satellite Services of the USA. "We feel the technology holds promise for travellers and represents a potential new revenue source for service providers."

Keeping it simple

Veronique Blanc, passenger and cabin communications director for Geneva-based SITA, says the key to making in-flight phone a commercial success is to offer services that are as close as possible to what people are used to on the ground. "That means ensuring they can pay through their cellular accounts and allowing them to use their own handsets on the aircraft."

SITA has surveyed both passengers and its airline customers about the potential of onboard cellular. "We're convinced it has tremendous potential as long as we can achieve two things," says Blanc. "It's essential that there are no changes to people's phones or the way they operate. And the price to passengers must be in line with the high end of cellular international roaming charges, say US\$2-3 per minute."

Additional revenue

"Both airlines and passengers are demanding this," says David Coiley, director of passenger services business development for US-headquartered Inmarsat service provider ARINC. "And if we make it more convenient for passengers, they will make more calls and we and our airline partners will earn more revenue."

With its GLOBALink/Mobile programme, ARINC aims to introduce billing of onboard calls to cellphone accounts and uplinking of cellular calls to passenger seats within 12 months. "These initiatives require no additional aircraft hardware," says Coiley. "The third

"Technically the integration of cellular and satellite is not a problem. We see the challenge as a purely regulatory one"

phase – onboard cellphone operation – is primarily a matter of additional hardware to support a low-power cellular network in the aircraft." Coiley estimates that the technology could be ready to be introduced within 12-18 months. But he cautions that pending regulatory issues mean that it is likely to be another two or three years before a full commercial service is available.

Stratos www.stratosglobal.com

SITA www.sita.aero

ARINC www.arinc.com

ESYS www.esys.co.uk

Surveys reveal great opportunities

"The airlines are desperate to recapture their high-margin business travellers and regard the provision of voice and data connectivity as an essential part of their future strategy." So says Dr Andrew Rogoyski of UK consultancy ESYS who recently carried out market analysis as part of the European Commission-funded Wireless Cabin project.

The project, which aims to show the potential of wireless technologies in airliners, is benefiting from input from a diverse cross-section of market leading companies including Inmarsat, Airbus, Ericsson, Information Society Technologies and Siemens.

"The evidence so far indicates there is a real opportunity to use wireless technologies to reduce the engineering and operational costs associated with wiring up passenger seats for

existing offerings such as in-flight phone, films and games," says Rogoyski.

Another consultant, Wale Adepoju, CEO of UK-based Inflight Management Development Centre, has also carried out a survey in which he found 50% of passengers said would use an onboard cellphone service. They have expressed interest in being able to use their own mobile phones on aircraft. But, he warns, "they are worried about 'noise pollution' in the aircraft – they don't want to be stuck next to someone shouting into his mobile for the whole flight."

Rogoyski expects to see European airlines making the early running in cellular/satellite. "Europeans enjoy greater use of mobile phone technologies and can be expected to be the first to put pressure on their airlines to provide this form of connectivity," he predicts.

