

China IFEC Review

中国客舱娱乐与商务观察



reviewing Inflight Entertainment, Systems, Content, Connectivity and Passenger technologies and services 对中国民航客舱娱乐、系统、内容、网络接入与乘客通讯技术与服务进行报道

IN ASSOCIATION WITH:



China **IFEC** Summit 2010
June 22nd - 25th, 2010 - Shanghai, China



Shanghai is the stage for the third annual IFEC summit taking place June 22nd-25th, organized by GIS Events. This unique three-day event addresses key IFEC issues tailored towards the China region. Organiser GIS Events has come up with a range of topics from listening to industry feedback and Chinese airline participation. Head of marketing, Jeni Walters said, 'This does match what we know the airlines are currently seeking to learn and considering for the future.'

A variety of leading names are sponsoring the event, and Chinese aircraft manufacturer COMAC will be present. There is a slow but gradual increase in IFEC developments in China, with some major IFEC purchases completed in 2009/early 2010. The three major carriers and others such as Shanghai Airlines, Sichuan Airlines and Shandong Airlines are watching developments closely.

With China growing into one of the largest aviation markets in the world, IFEC vendors such as Thales Avionics, Panasonic, and Rockwell Collins will be pushing through strategies to win a piece of this rewarding IFEC market. This is reflected in the interest and investment in the Summit. Walters said, 'We are excited to turn this event into a real China 'IFEC-Week' with the pre-conference, the official cocktails, the IFEC Gala Dinner and a group expo adventure.'

She added, 'A lot has been achieved since the first China IFEC Summit was held in Beijing in 2008 by introducing one to one meetings, private discussions and more panels to ensure a timely and valuable experience at these events. As China is a totally different market with different strategies required, it must be emphasised that companies with a more thorough understanding of how business is done in this region, will be more confident in expanding their resources into China.'

She added, 'Let's join all the IFEC decision makers of China's 12 airlines and the global players at the world's biggest China IFEC show this June in Shanghai.'

Key topics include: Chinese and Asian airlines' current place in connectivity; local perspectives on global cabin technology developments; synergies between global players and local airline market needs; China's business traveler versus tourist traveler; Chinese airlines' vision for IFE&C hardware for the medium term; revenue driven technology purchasing in China; impact of airline mergers in the China market on IFE&C vendors.

航空客舱商务娱乐发展论坛在中国举办

6月22日至25日，中国航空客舱商务娱乐发展论坛将在上海举办，由上海君实商务咨询有限公司主办。本次论坛期3天，专为中国市场量身定制的内容涵盖了机舱商务娱乐市场的全部重要主题。论坛的组织者上海君实商务咨询有限公司策划了一系列的论坛主题，包括倾听行业反馈以及由中国航空公司参加的项目等。上海君实的市场总监Jeni Walters表示，“本次论坛的安排契合了航空公司当前的学习兴趣 and 未来的发展思路。”

众多业界知名企业为本次论坛提供了赞助，中国商用飞机有限公司的代表也将莅临本会。在中国，航空客舱商务娱乐事业的发展虽然速度较慢，但增势稳健，2009年和2010年均有关重要的相关采购项目完成。三大航空公司及其它航空运输企业，例如上海航空、四川航空和山东航空等均对此发展保持了密切的关注，并将在适当的时机选择适当的产品进行投资。中国正在成为全球最大的民用航空市场，客舱娱乐商务设备的供应商包括Thales Aerospace、松下航电、及Rockwell Collins等公司均制定了相应的策略，以期在这利润丰厚的市场占据一席之地。

相关行业对客舱娱乐商务市场的热度，从对本次论坛的关注和投入可见一斑。Walters表示，“本次论坛成为了一次真正的‘中国航空客舱商务娱乐周’，包括一场正式的欢迎招待会，为中国航空公司安排的两场研讨会，在首日议程之后的官方鸡尾酒会，以及中国航空客舱商务娱乐发展论坛晚宴，并将在最后一天议程之后组织一次上海世博会的集体参观。”

Walters还表示，“自2008年在北京举办的首届中国航空客舱商务娱乐发展论坛以来，我们又取得了更多的进展。我们在本次论坛引入了一对一的客户介绍活动以及多个分组讨论的议程，帮助各参展单位节约时间，提高效率。中国是一个独具特点的市场，只有充分了解中国市场的商业规律，企业才会有信心在中国投入更多资源。”

Walter指出，“在本届论坛上，我们将第三次把本土市场与国际行业撮合到一起。”

重要议题包括：中国航空公司在接入方面的当前方向；

国际客舱技术发展的本地视角；中国航空公司市场需求与国际公司的协同；中国商务旅客与休闲旅客比较；中国航空公司如何看待客舱娱乐与商务硬件；中国的收入驱动型设备采购市场；中国航空公司合并对客舱娱乐商务设备供货商的影响。

China to grow into leading IFEC market

China is set to grow into one of the world's largest IFEC markets. Already China has replaced Japan as the largest airline in the APAC region, with 1,400 aircraft in China versus 530 in Japan.

According to the airline industry body, IATA, the intra-Asian market is larger than North America in size and volume with 647M passengers traveling in the Asia Pacific region in 2009 compared to 638M in North America.

China is also Boeing's biggest market., expected to result in thousands of new aircraft ordered. Boeing sold China nearly 300 aircraft in the last nine years.

China is set to evolve as one of the largest markets for aircraft deliveries. Expectations from passengers are for services of global standards.

China's economy expanded by 12 percent in the first quarter of 2010. A growing middle class is driving this growth and setting expectations for consumer products and services.

Consequently inflight entertainment and connectivity are becoming the big drivers in attracting and satisfying passenger's expectations onboard.

The majority of aircraft for China will continue to be single aisle aircraft such as the B737 or A320 family, designed for domestic flights. However, there will also be demand for more widebody aircraft.

Production of A320 family aircraft is on track at Airbus' new final assembly line in Tianjin, China. This is at the rate of two aircraft per month, and will ramp up to four a month by 2012. This fast track production is specifically aimed at meeting China's growing demand for efficient single aisle aircraft.

Since the start of this year, ten A320 family aircraft have been provided to customers from the Tianjin facility, bringing the total number to 21 since the Chinese final assembly line delivered its first aircraft in June 2009.

They include A320s for China's first private low-cost carrier Spring Airlines which now has 16 A320s in its all Airbus fleet. The A320 for Spring Airlines - configured in an efficient 180-economy seat layout - will be deployed on routes between

Shanghai and other Chinese cities.

Hong Kong Airlines has ordered six A330-200s as part of a larger order for 23 A330s. They will be used to launch the airline's first services to Europe.

Hong Kong Airlines president Yang Jian Hong said, 'Low operating costs and high levels of cabin comfort make the A330-200 the perfect choice to expand into the long haul market. We are looking forward to offering passengers a premium service on these routes.'

And another milestone was passed in March this year when Civil Aviation Administration of China (CAAC) completed an intensive review of the A380 following a Validation of Type Certificate from CAAC in December 2009. The intensive review verified the A380 to China Civil Aviation Regulations requirements. CAAC will now validate A380 entry-into-service for airlines planning to operate the next-generation aircraft in China.

The first Chinese customer for the A380 is China Southern Airlines, which ordered five of the double-deck aircraft in 2005. Deliveries are scheduled to begin during 2011.

Airbus' overall fleet in China has grown from one jetliner in 1985 to more than 530 today - and covers a full range of aircraft from the single-aisle A320 family to the widebody A330/A340.

Over four million passengers worldwide have already flown on board the A380. Twenty-six of these aircraft are in service with Singapore Airlines, Qantas, Emirates and Air France, flying to 16 major international destinations.

Besides Boeing and Airbus, China's own aircraft manufacturer, Commercial Aircraft Corporation of China, (COMAC) is expected to develop and deliver home-grown aircraft. The first test flight of a COMAC widebody aircraft is expected in 2014 with deliveries in 2016.

Whichever company sells aircraft - one thing is sure, it will need to have a minimum level of IFEC onboard. And where larger sized aircraft are concerned - the latest competitive IFEC systems and services will be required - to match airlines and passengers' expectations throughout the Asia Pacific region.

中国增长成为全球领先的客舱商务娱乐系统市场

中国正在增长成为全球最大的客舱商务娱乐系统市场。中国已经取代了日本的位置，成为亚太地区最大的民用航空公司，拥有飞机总量达到1,400架，超过了日本的530架

根据全球航空公司的行业组织国际航空协会（IATA），亚洲的洲内航空市场的规模和业务量均超过了北美，2009年共有6.47亿人次在亚太地区旅行，而北美则是6.38亿人次。中国也是波音公司的最大市场，预计将有近千架新飞机的订单。在过去9年里，波音总计向中国出售了近300架飞机。中国正在成为全球飞机交付最多的地区，乘客对航空服务质量的预期也是全球标准。在2010年第一季度，中国经济的增长达到了12%。一个正在扩大的中产阶级群体推动了这一增长，并成为消费产品与服务标准的制定者。因此，客舱娱乐与网络接入成为吸引乘客及令乘客得到满意的服务体验的最有力手段之一。中国机队中的大多数仍将是单通道飞机，例如波音B737或空客A320系列，用于国内航线的服务。但是，仍会有对宽体飞机的需求。空客A320系列飞机在空客公司位于中国天津的新设总装线的生产如期进行。每月可生产2架飞机，并可在2012年前达到每月4架的产能。这一生产能力的提速正是为了满足中国市场对高效单通道飞机的强劲需求。自今年初以来，天津总装线已向客户提供了10架飞机，而自2009年6月下线的首架飞机算起，在中国组装的飞机已达到21架。上述客户包括中国首家民营低成本航空公司春秋航空，该公司目前的全空客机队已经达到了16架的规模。为春秋航空生产的A320飞机 - 按照效率最高的180个经济舱座位配置 - 将服务于从上海飞往其它中国城市的航线。香港航空订购了6架空客A330-200飞机，其空客A330各型号飞机的订单总量达到23架。这些飞机将用于开启该航空公司首条飞往欧洲的航线。香港航空总裁杨建红表示，“空客A330-200飞机具有更低的运营成本和更高的客舱舒适性，成为远程市场的上佳选择。我们希望在上述航线中为客户提供优质的服务。”今年3月份，中国民用航空局完成了对空客A380飞机的全面审核，这是自2009年12月授予其型别检定证（Validation of Type Certificate）之后的又一里程碑。该项全面审核确定空客A380飞机符合中国民用航空局的监管规定，并批准该机型进入中国的机队，服务于计划运营下一代飞机的中国航空公司。

空客A380飞机的首家中国客户是中国南方航空公司，该公司于2005年订购了5架该型号的双层飞机，将于2011年开始交付。空客公司在中国的机队总数从1985年的1架增加到了今天的530架 - 其型号全面涵盖了各种类型，包括单通道的A320系列和A330/A340宽体飞机。

在全球，已经有超过400万名乘客搭乘了空客A380飞机。共计有26架同型号飞机服务于新加坡航空公司、卡塔尔航空公司、阿联酋航空公司和法国航空公司，飞往全球16个目的地。除了波音公司和空客公司，中国自己的飞机制造企业中国商用飞机有限公司将开发和生产国产飞机。预计由中国商飞生产的宽体飞机的首次试飞将于2014年机型，并从2016年开始交付。尽管飞机可以由不同的公司生产 - 但有一点是确定无疑的 - 至少需要安装有最基本的客舱娱乐系统。对于更大型的飞机 - 需要有最新型的客舱商务与娱乐系统及服务 - 以满足亚太地区航空公司与乘客的服务预期。

Lumexis的光纤系统获得奖项

Lumexis公司的光纤客舱娱乐系统FTTS（“光纤到屏幕”技术）获得了水晶客舱奖。据Lumexis公司介绍，传统系统所需要的座椅盒装置以及其它盒装置都可以被撤除了。每个座椅都可获得强劲的带宽，在长达30年的飞机寿命中，可以持续不断地添加新的功能。该项系统可以与座椅集成到一起，从而降低飞机重量，并可将其最终的采购成本降低至一半。

位于波斯湾的一家低成本航空公司flydubai将成为该系统的启动用户。该航空公司将为其波音B737-800NG机队购置44套Lumexis的FTTS系统，从今年10月开始装备。FTTS系统的特色是采用了光导纤维，而不是传统的铜质导线。

决定采用FTTS系统的重要原因之一是该系统可带来派生收入的机会，因为乘客可以直接通过客舱娱乐系统选购食品和饮料。

Lumexis公司首席执行官Doug Cline表示：“FTTS系统提供了无可比拟的传送速率，其独特的光纤网络效率高，使安装该系统之后的成本和重量仅有基于铜线的传统系统的一半。因此，采用最新技术的系统可以兼顾乘客娱乐和收入创造两个方面，使采用该系统的航空公司获得最佳的成本优势。”

Lumexis wins award for Fibre Optic System

Lumexis has won the Crystal Cabin Award in entertainment and communication for its fibre optic IFE system 'Fiber To The Screen'(FTTS). The FTTS system uses fibre optics rather than traditional copper piping. According to Lumexis, the seat box and half of the other boxes required by legacy systems are eliminated. Huge bandwidth is provided to each individual seat, so that future functionality can be added over the 30-year life of the aircraft. The system, integrated in the seat, reduces the weight and, as a result, the cost of ownership by half.

The system will launch on flydubai, a low cost carrier, in the Persian Gulf. The deal is for 44 systems on flydubai B737-800NG fleet, starting October.

FTTS offers ancillary revenue potential with passengers able to place orders for food and beverage via the IFE screen. Lumexis CEO Doug Cline said: 'While it provides unmatched delivery capacity, the unique FTTS fiber optic network is so efficient that the installed system is half the cost and weight of earlier generation, copper-based systems. As a result, the latest passenger-pleasing, revenue-producing services can be offered on board the most cost-competitive airline.'



Thales TopSeries comes Top in widebody market in China

Thales has been present in China for several years. The company estimates it is the number one supplier for IFEC systems on China's widebody fleets with 133 shipsets sold and delivered since 2004.

In terms of IFEC installations between 2007 and 2012 it is the second largest supplier of IFEC systems overall to the Asia Pacific region with a 19percent share of the total.

The number of Thales TopSeries systems on Chinese airlines totals 133. On Air China they include 15 B787 aircraft, 15 B777s and 43 A330s. On China Southern Airlines, ten A330s. On China Eastern, 15 B787s, on Shanghai Airlines 9 B787s and on Hainan Airlines, 8 B787 aircraft, and 15 A330s. Three further shipments are not included in these figures.

Overall, with 133 systems installed and on order the company reports 'massive fleet growth from September 2008 to 2014.'

Other Thales firsts include, the first full digital AVOD installation in China, the first repair station in China for IFE and avionics in Beijing, the first media integration in China, the first full cabin AVOD system based on Ethernet in China and the first airline training kiosk centre.

The only gap in the market for Thales is in the single aisle/narrowbody aircraft sector, which is an essential form of air transport in China. The company states, 'We currently do not have any narrowbody installations, but that market is very important to Thales.'

Thales is strengthening its IFE presence in China and building up support for airlines with service teams located across China and field support in Beijing, Shanghai, and Guangzhou. The Beijing centre specifically deals with IFE and avionics. The company is also close to MRO facilities and helps airlines with MRO requirements. Thales is also involved with a number of trade shows and events in China, in particular the China IFEC summit.

The Thales TopSeries system is a web-based IFE platform supporting broadband communications, entertainment, in-seat power and interfaces with personal electronic devices.



The digital head-end includes servers each storing over one terabyte of data. At the seat, passenger screens sizes range up to 32 inches with high definition capability and fast processing power.

The platform has been enhanced. Every aspect of the system, from the head-end to the seat equipment is smaller, lighter, and consumes less power. Thales has reduced the overall weight and power footprint through optimized architecture, integration of functionalities, and incorporation of advanced passenger screen designs.



above: the new 12.1" monitor integrated into B/E seat

Last month the company launched a new 12.1" display integrated into a stylised economy class seat. This is a thinner lighter modular display with a tilt mechanism and an intelligent touch screen passenger control unit. This PCU enables passengers to link to personalised onboard services. It can carry airline branding both in content and hardware. The display also contains a webcam incorporating a scanner which will read the barcode on a passenger's boarding pass. The software in the display will then use the information in the barcode, containing the passenger's choices of meal and entertainment and automate and personalise the entertainment and applications on offer. It also contains a smartcard reader so frequent flyers can swipe their frequent flyer card and the screen will come up with personalised menus and entertainment dedicated to the frequent flyer.

Pellegrini said, 'We are very excited by the launch of this new product. Our technical and marketing teams have really come up with an outstanding solution for airlines and their passengers.'

The latest IFEC installations are on China Southern with ten TopSeries systems on ten A330-300 aircraft. Each aircraft is equipped with audio and video on-demand at every seat.

China Southern vice president Mr. Dong Suguang said, 'We feel very positive about our selection. Thales's IFE system is proven in our region and we find that our relationship with Thales people is very strong with uninterrupted dedication and attention to our airline.'

Thales's IFE vice president and general manager Alan Pellegrini, says, 'China is a very important, strategic market for Thales. We are delighted to be selected for China Southern's A330 aircraft and appreciate their vote of confidence.'

Thales公司的TopSeries系列产品占领中国宽体机市场先机

Thales公司已在中国开展业务多年，据该公司估算，目前是中国宽体机队的客舱商务娱乐系统的第一大供应商，自2004年以来已售出并交付133套设备。

该公司的TopSeries系列产品安装在中国国际航空公司、南方航空公司、东方航空公司、上海航空公司和海南航空公司的飞机上。如统计2007年至2012年客舱商务与娱乐系统的安装总量，Thales公司是亚太地区第二大供应商，市场份额达到19%。

目前，共有133套Thales公司的TopSeries系列系统安装在中国的飞机上。在中国国际航空公司，上述飞机包括15架波音B787、15架波音B777和43架空客A330飞机。在南方航空公司，则包括10架空客A330飞机。在东方航空公司，包括15架波音B787飞机。在上海航空公司，包括9架波音B787飞机。还有海南航空公司的8架波音B787和15架空客A330飞机。上述数字未包括3套尚未交货的系统。拥有总计133套安装和订购系统，该公司称“从2008年9月至2014年，装机机队增长显著。”

Thales公司的唯一市场缺口是在单通道/窄体飞机领域，这也是中国民航市场中的一个重要细分。该公司表示，“我们目前还没有在窄体机上的装机数量，但Thales公司非常重视这一市场。”

Thales公司的其它领先业务还包括：在中国安装了第一个全数字视频与音频点播系统，在北京建立了中国第一个客舱娱乐系统和航电设备的维修站，中国的第一套媒体集成系统，中国的第一套基于以太网的客舱视频与音频点播系统，以及第一个航空公司培训中心。

Thales公司仍在不断加强其在中国的客舱娱乐系统业务。该公司在中国各地设立了服务团队，并在北京、上海和广州建立了现场支持中心，为航空公司客户提供支持。其中，北京中心是专用的客舱娱乐系统和航电系统服务中心。Thales公司还与飞机维修厂商密切合作，积极为航空公司的维修需求提供帮助。另外，该公司还参加了中国多个行业展览和会议等，其中特别是“中国客舱商务娱乐系统峰会。”

Thales公司的TopSeries系统是基于网络的客舱娱乐系统平台，支持宽带通讯、娱乐、座椅供电和与个人电子设备的接口。其数码主机包括了每个可存储T级数据的服务器。在座椅端，乘客的屏幕可最大达到32英寸，并具有高分辨率和强劲的处理速度。

该平台得到了全面增强，从主机到座椅端的每一方面都做到了更小、更轻、更省电。Thales公司通

过优化结构、功能集成及采用先进的乘客屏幕设计，达到了全面轻量化和节电化。

上个月，该公司发布了一款全新的，与经济舱座椅集成的风格化12.1英寸屏幕产品。这款产品具有更轻、更薄的特性，可倾斜，并具有智能触摸屏乘客控制单元。乘客控制单元可以将乘客接入客舱服务系统，并可供航空公司进行软件和硬件品牌化。该款屏幕还包括了一个附带扫描功能的摄像头，可以读取乘客登机牌上的条形码。其预装的软件可以识别条形码中存放的信息，包括乘客的餐食与娱乐选择等，为乘客提供自动化和个性化的服务。不仅如此，该屏幕还带有一个智能卡读卡器，拥有常旅客



卡的乘客在刷卡之后，屏幕即显示出专为该乘客定制的个性化菜单和娱乐内容。

Pellegrini表示，“发布这款产品令我们非常兴奋。我们的技术和市场团队为航空公司和乘客开发出了一款杰出的产品。”

南方航空公司的10架空客A330-300飞机安装了10套最新型的TopSeries系列客舱商务娱乐系统。每架飞机的每个座位都有视频和音频点播设备。

南方航空公司副总经理董苏光表示，“我们对自己选择的产品充满信心。Thales公司的客舱娱乐系统得到了广泛认可，我们与该公司缔结了深厚的业务关系，他们的专业人员表现出极高的客户专注和认真。”

Thales公司的客舱娱乐系统部门副总裁兼总经理Alan Pellegrini表示：“中国是Thales公司具有战略重要意义的市场。我们非常高兴能获得南方航空公司选用，为其空客A330飞机提供设备，我们感谢客户对我们的信任。”

Contracts from China for Rockwell Collins

Rockwell Collins has enjoyed sustained growth in China. The single aisle dPAVES system has had contract awards from China Eastern and Shandong Airlines.

In 2007 China Eastern Airlines (CEA) announced its selection of Rockwell Collins dPAVES inflight entertainment system for six new Boeing 737-800 and 30 A320 aircraft. This selection marks the debut of Rockwell Collins' dPAVES on Boeing aircraft. Globally the system has been installed on over 200 aircraft in the last two years.

China Eastern Airlines' dPAVES system which completes delivery to the airline this year, features the 160 gigabyte Broadcast Digital Server (BDS) integrated 3D Airshow moving map application, which can be customized with the Airshow Configuration Editor; high-quality 10-inch retractable Liquid Crystal Displays; Flyable Data Loader (FDL) for easy loading of digital content; and the capability to automatically deliver programming timed for the length route through automated scripting.

The dPAVES system provides up to an 85 percent reduction in volume, a 70 percent reduction in weight and a 75 percent reduction in power over the analogue system. It has up to 60 hours of video, including encrypted content, and 128 hours of audio on a 160 gigabyte hard drive. The large storage capability allows China Eastern Airlines to store two play periods of entertainment content, and the server automatically selects the new content when the new play period starts.

Airline marketing director Dave Vernon says, 'We anticipate continuing growth as the latest dPAVES innovations - like our new retractable 16:9, 12" LCD high definition (HD) ready displays, enhanced touch screen flight attendant interface, and improved content loading - are launched into service. China is one of the most dynamic markets in the world and with our dedicated account management team, field service personnel, and Shanghai Service Center, Rockwell Collins is positioned for excellent continued growth.'

Last month Rockwell Collins announced enhancements to dPAVES. A new High Definition Media Server (HDMS) offers 160 gigabytes of solid state digital audio and video storage capability. The large storage capability of the HDMS allows for multiple play periods of entertainment content, and the server automatically selects new content when the new play period begins. Other enhancements include integrated pre-recorded announcements (PRAM) and music functionality with embedded Airshow Moving Map - in a single 4 Modular Concept Unit (MCU) box.

Non-encrypted content can be handled by airlines independent of Rockwell Collins' content management system giving, airlines the flexibility to respond to commercial opportunities as they arise by replacing local content at any time or location.



above: dPaves installation showing drop down monitor and Airshow

One of Rockwell Collins' most established products is the Airshow moving map application for both single and twin aisle aircraft. Airshow is currently offered in both distributed (AS4200, AS4200D) and Interactive (ASXi) versions with the ASXi version availability limited to certain twin aisle in-seat systems.

The new version 2 software for Airshow 4200D incorporates a new dramatic 3D map and graphic design. The new 3D maps utilize NASA's Blue Marble map data to provide graphical realism. A new global map package that provides major improvements in detail and coverage worldwide, new time and flight status displays, realistic day and night views on all 3D maps, and a new heads-up display designed to offer a pilot's-eye view of the flight.

Says Vernon, 'An ongoing commitment to innovation has enabled Airshow Moving Map to continue to lead the field in single aisle and twin aisle markets across all regions. Our latest offering includes high focus maps, points of interest information, extensive 3D' graphics, and a new heads-Up display feature.'

Rockwell Collins公司的中国订单

Rockwell Collins的中国业务经历了可持续的增长。用于单通道飞机的dPAVES系统获得了中国东方航空公司和山东航空公司的订单。2007年，中国东方航空公司宣布选用Rockwell

Collins公司的dPAVES机舱娱乐系统，安装于6架波音737-800和30架空客320飞机。该项采购也开启了Rockwell Collins公司的dPAVES系统首次用于波音飞机的时代。在过去2年里，该系统在全球市场已安装于超过200架飞机。中国东方航空公司的dPAVES系统将于今年完成交付，包括有160G宽带数字服务器（BDS），集成了3D飞行路线的互动地图功能，可以Airshow Configuration Editor软件进行定制；还配置了10英寸可折叠液晶显示器和飞行数据加载器（FDL），可以轻松地载入数据内容。该系统可通过自动编程脚本将使用于航线时长的内容节目进行自动播放。

dPAVES系统还提供了高达85%的体积减少、70%的重量减轻和75%的模拟系统下的能耗降低，其160G硬盘可存放多达60小时的视频，包括加密内容和128小时音频。这一强大的功能使东方航空可存放2个播放时段的娱乐内容，而当新的播放时段开始时，其服务器可自动选择新的播放内容。Rockwell Collins公司的航空公司市场总监Dave Vernon表示，“我们的最新型dPAVES系统预计将有持续的市场增长，其创新特点包括新型的16:9 12英寸液晶高清显示器，增强型触摸屏客舱服务界面，改进后的内容载入 - 这些新功能均已投入生产。中国是全球最具活力的市场之一，我们配置了专注的客户经理团队、现场服务人员和上海服务中心，Rockwell Collins公司的定位是实现优质的可持续增长。”

上个月，Rockwell Collins公司宣布了对dPAVES系统的增强。由高清媒体服务器（HDMS）提供了160G清晰的数字视频与音频内容。来自HDMS的更高存储容量可支持多个播放时段的娱乐内容，并可在新的播放时段开始时，由服务器自动选择新的播放内容。其它的增强功能包括集成化的预先录制航班广播（PRAM），音乐功能和活动飞行地图（Airshow Moving Map） - 所有这些功能都集成于一套由4个概念模块单元（MCU）组成的机盒内。对于非加密的内容，航空公司可以自行管理，而无需Rockwell Collins公司的内容管理系统，使航空公司得到了更高的灵活性，能够及时应对随时出现的商业机会，随时随地对娱乐内容进行更换和调整。Rockwell Collins公司的最知名产品之一就是活动飞行地图，可用于单通道和双通道飞机。飞行地图产品目前包括分布式（AS4200，AS4200D）和互动式（ASXi）两种版本，其中互动式版本限于部分双通道的座椅系统。而AS4200D的新版本2采用了全新的3D地图和图形设计。新3D地图利用了美国航空航天局（NASA）的Blue Marble地图数据，可以提供图形化的实现效果。一组全新的全球地图包显著提升了细节的展现和全球覆盖，并有新的航班状态与时间显示，全部3D地图均有真实的日间与夜间视觉效果，并通过新设计的头顶式显示器展示了飞行员视角的航行景观。Vernon表示，“Rockwell Collins公司承诺不断创新，使其活动飞行地图产品继续在全球单通道及双通道飞机市场中占有领先地位。我们的最新产品包括高聚焦地图，特色地点信息，强大的3D图形和新的头顶式显示器。”

Images in Motion acquired by Post Modern Group

Images In Motion, which supplies programming and in-flight magazines to several Chinese airlines, will be expanding its services following its acquisition by Post Modern Group in California.

IIM executive director Pravin Jumabhoy said, 'Being part of the Post Modern Group will bolster our capabilities in Hollywood and international content acquisitions, as well as technical services.'

Images in Motion serves many Chinese airlines including Air China, China Southern, Hainan Airlines, Shenzhen Airlines, Sichuan Airlines and Xinjian Airlines. Other Asia Pacific airline customers include Bangkok Airways, Silk Air, East Star Airlines, MIAT Mongolian Airlines, OK Airlines and Viva Macau.

The services include audio and video programming in Mandarin and Cantonese. The company also sources original Asian content from regional producers throughout Asia and in all languages. IIM also provides audio programming for many global airlines as a subcontractor to other content service providers. It has the leading AVOD encoding facility in south-east Asia and also has linear and non-linear editing capabilities as well as audio and video cassette, CD/CD and DVD duplication capabilities in house. Other activities include production

services, as well as design and print for inflight publications.

The company has a staff of 13 including ten in Singapore and three in Beijing. Under the terms of the acquisition by PMG, IIM will retain its name and will operate as a Post Modern Group company, working closely with PMG's Airline Media Productions (AMP) division to provide content services and Post Modern Edit (PME) on the technical services side.

IIM airline customers will benefit from Post Modern's southern California location, near all the major AVOD hardware providers, as well as its close connections with the Hollywood and international distributor community.

PMG managing partner Amir Samnani said, 'The addition of IIM gives us a strong presence in Singapore and Asia which will enable us to provide a greater level of services to our existing clients such as Singapore Airlines. As a major supplier of audio programming, production and Asian destination programming, IIM also brings us added strength in those areas, as well as design and print for inflight applications.'

Images in Motion公司改进对中国航空公司的服务

Images In Motion公司为多家中国航空公司提供机舱杂志与节目，在被位于美国加利福尼亚州的Post Modern Group集团收购之后，将进一步改进为客户提供的服务。

IIM公司执行董事Pravin Jumabhoy表示：“加入Post Modern Group集团，增强了我们收购美国及国际节目内容的实力，并促进我们提升技术服务的水平。”

Images in Motion公司的服务对象包括众多中国航空公司，例如中国国际航空公司、南方航空、海南航空、深圳航空、四川航空和新疆航空等。其在亚太地区的其它客户还包括曼谷航空、胜安航空、东星航空、MIAT蒙古航空、奥凯航空和Viva Macau航空等。

该公司提供的服务包括普通话和粤语音像节目，并从亚洲地区的生产商处购买各语种的亚洲原创内容。IIM公司还作为其它内容服务提供商的分包商，为多家全球航空公司提供音频节目。该公司拥有自有的音像点播节目编码设施、线性与非线性编辑设备及录音磁带、录像磁带、CD/CD和DVD复制能力，在东南亚居于领先水平。其它服务能力还包括机舱出版物的设计、印刷与制作。

IIM公司拥有13名员工，其中10名位于新加坡，3名位于北京。根据PMG集团的收购条件，IIM公司将保留公司名称，作为PMG集团的一员运作，与PMG集团的航空媒体制作（AMP）部门合作提供内容服务，并与Post Modern Edit公司（PME）合作提供技术服务。

Post Modern集团位于美国加州的公司地址贴近所有主流音像点播硬件生产商，并与美国及国际节目分销商保持了密切的关系，IIM公司的航空公司客户也必将因此而获益。

PMG集团总裁合伙人Amir Samnani表示：“IIM公司的加盟为我们在新加坡和亚洲市场建立了有力的立足点，使我们能为现有的客户，例如新加坡航空公司提供更好的服务。作为音频节目制作和亚洲地区节目的主流供应商和机舱出版物的设计与印刷商，IIM公司也为我们带来了在上述领域的更多实力。”

Chinese airlines equip aircraft with AVOD from Panasonic

Panasonic Avionics is a leading supplier of IFEC systems to China, based on its X series. The company has secured many contracts in the widebody and narrow-body market and also opened several bases in China.

Panasonic Avionics Corporation CEO Paul Margis said, 'We began with an integration center in Shanghai and staff in Beijing and Guangzhou to support our operations. Now we have added a Regional Headquarters in Hong Kong to strengthen our core efforts across China.'

Panasonic has set a precedent with a number of Chinese airlines in the last six months, providing their fleets with AVOD for the first time.

This month sees the launch of Hong Kong Airlines' first fully AVOD equipped aircraft.

Hong Kong Airlines has installed eX2 IFEC system cabin-wide in each of its new A330-200 aircraft first in the airline's fleet to offer multi-language audio and video on demand (AVOD) services, including movies, television programs, CDs, and soundtracks to passengers. The first of the six A330-200 equipped with Panasonic's eX2 IFEC system enter service this month. Initial international long-haul routes will be between Hong Kong and Moscow.

HNA Group vice chairman of the board of directors and CEO Wang Jian said, 'As Hong Kong Airlines continues to expand its service to more international destinations, our goal will remain the same – to provide a best-in-class experience for our passengers. With eX2 installed in our A330-200 fleet, we can offer our passengers the most engaging in-flight entertainment available today.'

Hong Kong Express Airways and Hong Kong Airlines president Yang Jian Hong, President said, 'Hong Kong Airlines' goal is to be the market leader in passenger satisfaction, and we chose eX2 because its innovative features, rich functionality, and robust performance create an inflight entertainment experience that will engage and excite our passengers.'

He added, 'Offering an enhanced entertainment experience on our international flights enables us to further differentiate our brand and create greater customer loyalty for our airline in Hong Kong's rapidly growing transportation industry.'

Hong Kong Airlines' IFEC configuration uses touch-screen smart monitors and multifunction handsets to provide an interactive AVOD experience in each seat throughout the aircraft cabin.

'The eX2 has been installed on Sichuan Airlines' new A330 aircraft which entered service in February.

The eX2 equipped A330 aircraft is the airline's first audio and video on demand (AVOD)-equipped aircraft. Sichuan Airlines is the first Panasonic customer in mainland China to adopt the eX2 system cabin-wide onboard.

Sichuan Airlines operates over 51 aircraft to 50 international destinations. Based at Chengdu Shuangliu International Airport, Chongqing Jiangbei International Airport and Kunming Wujiaba International Airport, Sichuan Airlines has the largest Airbus fleet in southwestern China.

Sichuan Airlines chairman Lan Xinguo said, 'We chose

the Panasonic eX2 system because it has the most innovative features and the richest functionality that will engage and excite our passengers. By being the first to install eX2 in mainland China, Sichuan Airlines will certainly differentiate our brand in China's rapidly growing transportation industry. We aim to lead our market with passenger satisfaction, and expect that the addition of Panasonic's eX2 system will create greater customer loyalty for our airline.'

Panasonic Avionics Corporation executive director Charles Ogilvie said, 'Sichuan Airlines' pioneering spirit sets the stage for the company's long-term vision for customer satisfaction and growth opportunities in the region. Panasonic is committed to serving the Chinese travel market and we're honored to be working with Sichuan Airlines.'

Shanghai Airlines has installed Panasonic's eFX system on ten A321 aircraft. eFX is a scalable system offers audio and video on demand, games, and other entertainment options.

The digital IFE system has an open architecture to provide maximum performance and flexibility. Shanghai Airlines can add advanced functionality to the system as its long-term strategy evolves.

Shanghai Airlines chose Panasonic because of its ability to offer a comprehensive inflight entertainment solution, and its proven success in the industry.

Shanghai Airlines senior vice president Xiaoyun Shao said, 'After great analysis and discussion, we decided the Panasonic system was the right one for us.'

Ogilvie said, 'This market is changing so quickly that all companies who help airlines deliver passenger experience must design their structure and products to be both flexible and dependable, which is something we've done in the establishment of this new region for Panasonic Avionics.'

Panasonic has launched a new Integrated Smart Monitor, which won the Crystal Cabin Award in industrial design at Aircraft Interiors Expo in Hamburg last month. The Integrated Smart Monitor is a collaboration with Weber Aircraft and Teague to produce an integrated IFE seat solution. Their aim was to create an integrated product that would decrease costs, reduce complexity and create a premium entertainment experience for travelers. The smart monitor is significantly lighter than other solutions, integrated into a seat with fewer parts which streamlines the manufacturing process.

Weber business development senior director Jean-Marie Daout said, 'Starting with R&D and at every step of the seat design, Weber ensures the IFE integrates in a way that creates the most living space while minimizing the impact to the overall seat weight. We've taken cooperation a step further.'

Teague design director Sebastian Petry said, 'This is a collaborative solution that allows airlines to offer a personal entertainment space, closer to the home entertainment experience. It will help make travel a better lifestyle experience.'

Margis of Panasonic added, 'Working together with Weber and Teague, we made considerable progress in changing the profile of our IFEC systems.'

中国航空公司装备松下AVOD系统

松下航空电子公司是面向中国的领先机载娱乐与通信系统提供商，主打X系列型号。公司在宽体与窄体机市场上已达成多份订单，并在其中设立了多个基地。

松下航空电子公司首席执行官Paul Margis表示：“我们以上海集成中心作为起点，并在北京和广州召集人力以提供操作支持。我司同时又在香港另设了地区总部，以增强覆盖中国的核心能力。”

松下已在过去的6个月中与多个中国航空公司促成了交易，第一次向它们的机队提供AVOD系统。

本月度，公司将与香港航空同庆第一架AVOD全装备飞机的投放。

香港航空已在其各架新A330-200飞机中安装了全舱的eX2机载娱乐通信系统。在国际航线上的飞机是航空公司最先提供多国语言音频视频点播（AVOD）的机队，乘客点播内容包括电影、电视节目、音乐光盘以及影视音乐原生唱片。最先安装松下eX2机载娱乐与通信系统的6架A330-200飞机于本月起服役。国际长线航班的首条航线将连接香港与莫斯科。

海航集团副董事长兼首席执行官王建表示：“随着香港航空国际目的地城市业务的继续拓展，我们目标保持不变——为乘客提供同级服务中最好的体验。有了安装eX2的A330-200机队，我们可以向乘客提供当今现有最为诱人的机载娱乐系统。”

香港快运航空以及香港航空总裁杨建红表示：“香港航空的目标就是在乘客满意度上面领先市场。我们之所以选择了eX2是因为它具有创新的特色、丰富的功能以及良好的表现，这将创造出吸引乘客并让他们一振的机载娱乐体验。在我们的国际航班上提供优等娱乐体验让我们的品牌更为区别化，并在香港这个迅猛增长的运输市场中提高对我们航空公司的忠诚度。”

香港航空的机载娱乐与通信系统配置了触摸屏智能显示器以及多功能手持控制器，让机舱内所有的座位都能够享受到AVOD的互动体验。

松下航空电子公司首席执行官Paul Margis表示：“这一最新声明显示了我们对香港旅游市场的长期专注，我们期望与香港航空一道研究出新型创新的机载娱乐与通信系统方案，为他们的乘客带来更有力的娱乐方案。”

在2月服役的四川航空新A330飞机中已经安装了eX2。安装eX2的A330飞机是该航空公司第一架安装音频视频点播（AVOD）系统的飞机。与此同时，四川航空也是松下在中国大陆第一家采纳整舱eX2系统的客户。

该航空公司经营的51架飞机飞往全球50个目的地城市。总部位于成都双流国际机场、重庆江北国际机场以及昆明巫家坝国际机场的四川航空拥有中国西南最大规模的空客机队。

四川航空董事长蓝新国表示：“选择松下eX2系统，是因为其最为创新的特色和最为丰富的功能性，足以吸引乘客，让他们为之一振。作为中国大陆第一家安装eX2的航空公司，四川航空必将在中国迅猛增长的运输产业中达成品牌差异。我们的目标就是以乘客满意度领先市场，并预期松下eX2系统装备将为我公司创造更强的客户忠诚度。”

松下航空电子公司执行总监Charles Ogilvie表示：“四川航

空的前驱精神为公司对客户满意度和该地区增长机遇的长期愿景搭建了平台。松下专注于中国旅游市场，我们为能与四川航空合作感到荣幸。”

上海航空已在10架A321飞机上安装了松下的eFX系统。eFX这一可扩展系统提供了诸如音频视频点播（AVOD）和电玩等娱乐选择。

数字机载娱乐系统具有开放架构，最大限度地提供系统性能和灵活性。上海航空可以根据公司长期战略的演进向该系统添加先进功能。

上海航空之所以选择松下，是因为公司有能够提供综合机载娱乐系统方案，并在该领域中有着成功记录。

上海航空的高级副总裁邵晓云表示：“经过深度的分析与讨论，我们认为松下系统是正确的选择。我们期待与松下的不断合作以及成功的未来。有了eFX，上海航空将有能力提供令乘客更为满意的高质量娱乐内容。”

松下航空电子公司的Margis表示：“很高兴上海航空选择了eFX作为其记在娱乐系统。上海航空对eFX的选择证明了他们完全专注于向上航乘客提供世界级体验的决心。松下使航空公司们轻松在它们的飞机上安装这些新技术。eFX具有灵活且集成的架构，支持最新的产业技术。”



图片注释：松下的新集成机座监视器

Ogilvie指出：“上海航空决定在窄体机上安装机座内机载娱乐点播系统代表了中国创新的一大步。”

他同时指出：“市场变化如此之快，以至于所有帮助航空公司改进乘客体验的企业必须在设计中保证架构和产品的灵活和可靠，这也正是我们为松下航空电子在建立这一新领域所做的工作。”

为了帮助航空公司削减成本并同时提供最新的技术，松下投放了新的集成智能监视器，并在上月汉堡举办的“飞机内饰博览会”中荣获“钻石机舱奖”。“钻石机舱奖”是飞机内饰创新领域的唯一国际大奖。由德国汉堡颁发的这一奖项是对乘客舒适度巨大改进的认可。参赛者的评审按照独有特色、市场兼容性、美感、工程做工、可用性以及经适性等标

准展开。奖项于2007年设立，在每年度的飞机内饰博览会上颁发。

集成智能显示屏是松下与韦柏飞机和Teague协作的结晶，生产出了集成的机载娱乐系统机座方案。它们的目标就是创意出一个能够削减成本、减少复杂性并为旅客创造优良娱乐体验的产品。其产品就是一个集成松下下一代触摸屏机载娱乐系统显示器的机载娱乐系统机座方案，具有超轻薄经济型机座但却前所未有的品味与舒适度。

智能显示器比其他方案轻得多，但可靠性更强。显示器用更少的部件便可集成到机座中，使制造流程更为顺畅。

韦伯业务拓展高级总监Jean-Marie Daout指出：“从研发开始并在机座设计的每一环节中，韦伯确保着机载娱乐系统的

集成创造出最大的活动空间而同时又尽量降低对整体机座重量的影响。我们进一步加深了合作。”

Teague设计总监Sebastian Petry表示：“这是一个让航空公司提供接近于家庭娱乐体验的个人娱乐空间的合作解决方案。它将让旅行成为更轻松的生活体验。” Margis称：“与韦伯和Teague的合作让我们在自身机载娱乐与通信系统形象改进方面取得了长足的进步。”

松下航空电子同时被空客选择成为了空客A350 XWB的机载娱乐与通信系统供应商。有了整舱安装的AVOD，乘客获得了大量的电影、视频节目和音乐的选择。接口选项包括机载移动电话业务、企业级宽带虚拟专用网络支持的互联网接入以及松下机载电视网络。

Astronics投放新型EmPower系统，为乘客设备提供电源

专业生产机座内电源以及其他电源/照明产品的Astronics公司已经布局中国。其EmPower产品已在多家中国航空公司服役，其中包括：国泰航空、中国国际航空、中国东方航空、中国南方航空、上海航空以及四川航空等。

逾140家航空公司共至少500,000个机座安装了Astronics的机座内电源系统。Astronics的EmPower机座内电源系统用来为乘客的个人电子设备、笔记本电脑以及飞机机载娱乐系统提供电源。随着越来越多的乘客将自己的个人设备带入机舱，单通道飞机上机座内电源的需求以及整机（全机舱）安装EmPower系统的机型也在不断增加。其中最为重要的因素是尺寸、重量以及尖端的功能特色。

Astronics机舱电子业务拓展总监Dennis Markert表示：“客户为我们带来机会，我们向他们提供快捷的创新方案。由于Astronics对客户需求的关注与响应，公司已经站到了电源产品市场的领先地位。”

公司确定了中国这一目标市场的定位，而其EmPower产品或是整合入机载娱乐系统供应商的产品中，或是成为了上述航空公司的独立解决方案。

Astronics已向其EmPower机座内电源产品组合中又添加了两条新产品线。其最新产品特别满足了机载乘客个人电子设备不断增加的电源需要。这一新套件可以承载最多三台笔记本电脑并同时支持三个USB设备的电源需要。

新套件为每一个个人电子设备（PED）提供200伏安电力，为例如智能手机、iPod、相机以及其他标准5伏以上乘客设备供有三个通用串行总线（USB）电源输出。完成这一切能力的套件比上一代EmPower产品线尺寸小了很多。

最新版（P/N 1191-3x）是直接根据旅客反馈和要求设计的。

Markert称：“添加了5伏以上的USB输出这一步具有意义，越来越多的旅客将电子设备提上飞机，航空公司也开设了例如移动登机证等新业务，需要旅客设备带电。”

Markert同时指出，当世界各航空公司开始提供机外乘客接口服务以及其他业务时，对Astronics机座内电源系统的需求也在攀升。世界各大航空公司曾要求Astronics在其EmPower产品中添加更多的功能特色，并使产品更加轻薄。

“有了EmPower系统，航空公司将不再听到价值客户们的担忧，无法在机舱里找到电源。这些航空公司同时可以放心，他们向乘客提供的最新便利服务将物尽其用，移动设备与笔记本电脑的充电状态将不再是问题。”

Astronics是唯一为乘客电子设备提供110伏交流电系统和5伏以上USB电源的机座内电源供应商。

Astronics同时开发了小型以及轻型套件以适应多种应用。这一新的直/交流电源将115伏交流、360Hz到800Hz的飞机电源转换成150瓦28伏以上直流电。电源从四个独立28伏以上直流出口流出，每个出口电流限于1.5安以内。这一紧凑轻型产品满足了航空环境以及飞机制造商的严格要求。

输出并行后可以形成单独的150瓦输出，多个套件也可并行以转换为300瓦或450瓦电流共享输出。套件具备200微秒的电源保持能力，因此插电设备能在总线正常转换以及电源中断时保持通电。

新电源（P/N 1314-3）根据不断增加的市场需求以及客户反馈的需要进行了改进。来自全球各地的飞机座位制造商、座位电机促动器制造商、机载娱乐系统供应商以及飞机制造商要求Astronics开发通用型交/直流电源以满足多种应用需要。

Handheld IFE – holding on to China

There are several companies who have sold or leased portable players in the Asia Pacific region, but only a few who have signaled definite interest in China. Globally the market consists of digEcor, IMS Inflight, e.Digital, Bluebox Avionics, AIRVOD, Panasonic, and more recently IFE Services. Another company, Mezzo, also supplies portable players to airlines as an agent or broker.

digEcor has made specific efforts to enter the Chinese market. In 2009 digEcor entered an agreement with Chinese company Lefeel Media Technology based in Shanghai, to offer portable players for the China market. Established in 2007, Lefeel already has experience as a vendor in offering portable entertainment solutions to several airlines including China Southern, Spring Airlines, Deer Air and ChongQing Airlines. The company has developed its own Aircraft Portable Entertainment System (APES). APES consist of a portable personal computer independently developed by Lefeel, with battery recharge cabinet, content upgrade system, support systems and statistical analysis system. The system is patent pending.

But together with digEcor, the companies are developing a new joint product, branded L Series, specifically for China. The L Series is a global offering though the sales territories are divided into two regions. Lefeel will handle all sales and marketing in China and other parts of Asia. digEcor will handle the sales and marketing for the rest of the world. Naturally the companies will offer Chinese language content (both Hollywood content with dubbing or sub-titles and native content).

digEcor and Lefeel are nearing completion of the digEplayer L Series development with production to follow shortly. digEcor CEO Brent Wood said to *Gethin's China IFEC Review*, 'We received valuable feedback from airlines who viewed the player at the Aircraft Interiors Expo last month.'

Wood added, 'The new digEplayer L Series offers the latest in technology and innovation to airlines and passengers alike. The rugged and reliable design of the device

is suited for the abuses of inflight use. Further, our experience and expertise in content sourcing and encoding provides a complete solution to airlines at a very competitive price.'

digEcor is also offering its FAA approved aircraft interior replacement parts to the Asian market. For example, airlines considering retrofits or upgrades can source LED lights, video and audio reproducers, and LED monitors of various sizes.

IMS Inflight is also a successful portable player vendor with contracts around the world and also wants to sell portable players to China. The company has had several conversations and meetings with airlines in China, but notes that only a few have made efforts to introduce any handheld IFE onboard their aircraft. According to IMS, the reluctance stems from several concerns such as a lack of choice from Chinese vendors and cultural acceptance.

IMS says it will continue efforts to market its products and services around the world, including China.

Recently a new portable player entered the inflight market. IFE Services is working with Sony Computer Entertainment America (SCEA) to distribute the PSP (PlayStation Portable) system to airlines. Six airlines have agreed to distribute the PSP onboard their fleets.

IFE Services is a leading provider of entertainment solutions including audio and video programming, audio and video on demand (AVOD), branded content, custom publishing, animation, original productions and software development. The company already has a base in Singapore as well as in other major hubs.

The PSP system contains games and programming such as movie and television. Like other products on the market the PSP can be customised by the airline in terms of branding. It has a high-resolution, widescreen TFT display and a sleek, lightweight design.

To provide an enhanced experience to passengers, the PSP systems will be equipped with an extended battery life offering from 5.5 to 11 hours while playing games. IFE Services provides comprehensive crew training and full logistical support and can tailor, load and refresh content to suit airline requirements.

'We're delighted to be able to bring the PSP system to the airline industry,' said IFE Services CEO Mark Hogg. 'With up to 11 hours of battery life and full aircraft certification, our view is that this has been long awaited by the airline industry and the passengers they fly.'

'We currently have six airlines signed up and many more very interested, including several in China which is a market we are interested in developing. We opened up an office in Singapore in 2008 with the specific aim of growing our presence within the Asian market.'

California-based e.Digital is also targeting China with its e.Vu portable player already in service on multiple airlines.

Below: Several airlines will be offering their passengers the Sony PSP from IFE Services



Airlines in China who are interested in bringing handheld IFE onboard should bear in mind several factors. Portable players are often perceived as a low cost alternative to embedded inseat IFE. They are certainly an attractive option for narrowbody fleets and regarded as a more flexible and scalable solution, since they can be taken on and off the aircraft without expensive installation which inseat systems require. When using portable players it is important to remember that the players need to be well maintained and supported, since, being a handheld option, they are subject to excessive wear and tear by passengers. They also need battery charging during aircraft turnaround times. In addition, security of content and management is essential. All content, especially the most popular type of content like movies, must be encrypted to ensure copyright protection and prevention against theft or illegal downloads.

Inseat power can also play a part in powering the players. Players can be used without batteries if there is inseat power in the seat to connect the player and enable its operation. Astronics is a specialist inseat power supply company that has experience in supplying such power sources for handheld IFE. The advantage in powering the players with inseat power is the reduction in weight onboard (since in this case they do not require batteries for their operation) and therefore a reduction in fuel burn.

Finally, Chinese airlines should explore all the commercial and economic models available. Some portable player providers are also offering flexible finance models. When portable players first entered the inflight market, many airlines tended to purchase them outright. Today it is not always necessary to buy the players upfront. It is sometimes more economical to lease or rent the players. Bluebox Avionics in the UK even helps airlines source the finance from global investment and banking firms.

Leasing and renting players is an attractive option for airlines that may want to upgrade to newer technology or the latest versions of players as their fleets change and consumer habits evolve. Airlines should also bear in mind their passenger profile. Portable players are usually offered free of charge to passengers in premium class. However an airline can use the portable players to create ancillary revenue through a rental/hire fee to the passenger in economy class or in all economy class aircraft, and also by selling advertising space on the video content. Another option is to charge 'pay per view' of movies. Some portable players even incorporate a credit card swipe facility in order to enable customer transactions.

Other points to bear in mind: content storage capacity and battery power. Traditionally the more powerful the battery, the heavier the unit. But today's new generation of players are usually lightweight, even when they incorporate batteries. But even a little extra weight can create extra fuel burn for the aircraft – so these small details can add or subtract costs to an airline.

IFE Services will present a session on the morning of day two of China IFEC summit, entitled 'Providing a PSP Alternative to Content Managed IFE Devices';

digEcor will present a session on the afternoon of day two entitled Case Study: Hawaiian Airlines Success Personalising their IFE Service with digEcor's Content Management and Revenue Generative Programs

手持式机上娱乐设备 – 细节发挥作用

目前已经有几家公司在亚太地区出售或租赁便携式播放器，但是明确表示希望进入中国市场的寥寥无几。在全球市场上，比较知名的服务提供商包括digEcor、IMS Inflight、e.Digital、Bluebox Avionics、AIRVOD、松下以及最近的几个机上娱乐服务提供商。还有一家公司Mezzo作为代理或中间商也为航空公司提供便携式播放器。

digEcor曾为进军中国市场作了很多努力。2009年，digEcor与一家总部设在上海的中国公司 – 乐程传媒签署了合作协议，为中国市场提供便携式播放器。乐程公司2007年成立，它曾向几个航空公司提供过便携式娱乐解决方案，包括南方航空、春秋航空、金鹿航空和重庆航空，因而积累了一定的经验。乐程自行研发了飞机便携式娱乐系统（APES）。该系统包含了乐程独立开发的便携式个人电脑，具有充电座、内容升级系统、支持系统和统计分析系统。目前该系统正在申请专利。

乐程目前正在与digEcor联手为中国市场打造新的联合产品 – 一种新的加强型播放器，命名为L系列。L系列将在全球推出，尽管销售区域划为两部分。乐程将负责其在中国和亚洲其它地区的销售和营销。digEcor将负责全球其它地区的销售和营销。自然而然，将提供中文内容（既有好莱坞娱乐节目，有中文配音或字幕，也有纯本土节目内容）

digEcor和乐程即将完成digEplayer L系列的研究，很快将会投产。digEcor CEO Brent Wood对Gethin的《中国机舱商务娱乐回顾》说，“我们从参加上个月飞机内饰展览会并观看了该款播放器的航空公司那里得到了宝贵的反馈意见。”

Wood补充道“新的digEplayer L系列为航空公司和乘客提供了最新的技术和创新。强大可靠的设计适合在飞机上使用。另外，我们在寻求内容和编码方面的经验和专业技术使我们能够以非常具有竞争力的价格为航空公司提供完整的解决方案。”

digEcor还为亚洲市场提供经由联邦航空局批准的飞机内饰配件。例如，打算进行飞机翻新或改造的航空公司可以考虑LED灯、视频和音频改造和各种尺寸的LED显示屏。

IMS Inflight也是一个成功的便携式播放器制造商，产品销售至全球各地，也期望向中国销售便携式播放器。该公司已与中国的多家航空公司洽谈会晤，但发现只有少数航空公司有意向在他们的飞机上引入手持式机上娱乐设备。据IMS了解，这种态度主要源于几点担忧，例如缺少中国制造商的选择以及文化认同感。

IMS表示他们将继续努力将产品和服务推广至全球，包括中国。

近期，一种新的便携式播放器进入了机载娱乐系统市场。IFE Services正在与索尼电脑娱乐美国公司（SCEA）联手向航空公司推广其PSP®（PlayStation Portable）系统。六家航空公司已同意将PSP引入他们的机队。

IFE Services是一家领先的娱乐解决方案提供商，包括音频和视频节目、音频和视频点播、品牌娱乐、按需出版物、动漫、原创作品和软件。该公司在新加坡和其它一些主要关键地区设有分支。

PSP系统包含游戏和节目，如电影和电视。如市场上的其它产品，PSP可以根据航空公司的需求更改品牌。它具有高清晰度、大屏幕TFT显示屏，线条优美流畅，重量轻盈。

为给乘客提供更好体验，PSP系统将配备待机时间更长的电池，玩游戏时可以持续使用5.5到11个小时。IFE Services提供综合机组培训和全套后勤支持，可以定制、传送和更新内容适应航空公司需求。

“我们非常高兴将PSP系统引入航空业，” IFE Services CEO Mark Hogg说，“长达11个小时的超长待机时间和充分的飞机认证，我们认为这是航空业和乘客期待已久的。”

“我们目前已与六家航空公司签订合作协议，还有很多家有合作意向，其中包括中国的几家航空公司。我们对开发中国市场很有兴趣。2008年我们在新加坡设立了办公室，目的在于扩大在亚洲市场的参与。”

总部位于美国加利福尼亚州的e.Digital公司也将中国作为了目标市场，其e.Vu便携式播放器已经在全球数家航空公司投入服务。

中国有意向引入手持式机上娱乐设备的航空公司应记住以下几个因素。便携式播放器通常被视为后座嵌入式娱乐设备的低廉替代品，对于窄体飞机机队无疑是一个具有吸引力的选择。由于可以随时带上和带下飞机，而且无需像后座嵌入系统那样花费大量的安装费，因而也被视作一种更为灵活和可升级的解决方案。然而，当选择便携式播放器时，必须记住这些播放器需要很好地维护和支持，因为作为手持式设备，它们的损耗会非常严重。在飞机停航时，还需要对电池进行充电。另外，内容的安全性和管理非常关键。所有内容，尤其是非常流行的内容，如电影，必须进行加密，以保护版权，防止盗版或非法下载。

也可以使用后座电源为播放器供电。如果座位上有电源接口并且可以为其供电，播放器可以不使用电池。Astronics是一个专业的座位供电公司，在为手持娱乐设备供电方面有着丰富经验。使用座位电源为播放器供电的优点是减少机上重量（因为它们操作期间无需电池），因而减少燃油消耗。

最后，中国的航空公司应当探索所有可行的商业和经济模式。有些便携式播放器提供商还提供灵



活的财务模式。当便携式播放器首次进入航空市场时，许多航空公司倾向于完全购买下来。如今，有时无需购买。有些情况下，租赁会更加经济。英国的Bluebox Avionics甚至帮助航空公司从全球投资和银行业融资。

对于那些希望在机队更新和客户喜好变化时采用较新技术或最新版本播放器的航空公司，租赁播放器是一个颇具吸引力的选择。航空公司还应时刻谨记他们顾客的特点。通常对高级舱位的乘客会免费提供便携式播放器。但航空公司可以通过向经济舱乘客出租便携式播放器以及出售视频娱乐节目中的广告时段创造副业收入。另一个方法是对电影“按次计费”。有些便携式播放器甚至内置信用卡刷卡装置，以方便客户交易。

其它应记住的要点：节目存储容量和电池动力。以前，电池越强劲，重量越重。但如今新一代的播放器即使内置充电电池重量也通常很轻。但即使重一点点，也会增加燃油消耗 - 因此细节会增加或减少航空公司的成本。

IFE Services将在中国客舱商务娱乐发展论坛第二天上午出席名为“为内容管理的客舱娱乐设备提供PSP替代方案”的会议

digEcor将参加第二天下午名为“案例研究：夏威夷航空公司成功定制客舱娱乐服务采用digEcor内容管理和创收计划”的会议

IFEC and retail technology drive onboard revenue

Emerging from the worst financial decade in aviation history, the airlines with the most sustainable business models today are those who have moved away from relying entirely on seat revenue, focusing instead on ancillary revenues, which offer higher margins. Fluctuating costs and fading loyalty from passengers have made it difficult for airlines to earn revenue per available seat kilometre growth difficult.

Inflight connectivity, including wi-fi access, creates potential for higher value selling using real-time credit card authorization. Inflight entertainment, access to the internet and onboard retail technologies, are converging to create new online and offline sales opportunities for carriers, enabling them to capitalise on the cabin experience and beyond.

Mobile networking is also providing new ways for carriers to connect with travelers and for consumers to personalize their travel experience using their own devices. GuestLogix is already working with IFEC vendors to bring these revenue opportunities to airlines.

On-Board Retail Then & Now



The onboard retail marketplace allows airlines to monetise more touch points with travellers. Asia Pacific accounts for more than 8,300 flights and 1.2 million travellers daily. China is Asia-Pacific's largest player, with the top ten Chinese airlines representing over 200 million passenger trips a year. GuestLogix predicts that in the next decade, China and India alone will produce one billion new middle class consumers who will travel.

This presents a huge opportunity for revenue growth for airlines in China through onboard selling. Onboard retail includes ancillary sales previously bundled into the airfare as well as products and services that are destination-based. Examples include tickets for ground transportation or special events. This has already been successfully implemented in US and Europe, and Asia is quickly catching on.

Most airlines have been selling onboard duty-free and catalogue merchandise for years. Operators are, in general, offering the same products today as they did 20 years ago. Onboard retail still involves mainly duty-free and drink or snack food sales.

Yet its potential remains enormous and is now being harnessed. Hong Kong-based Inflight Sales Group, which operates duty-free concessions is developing onboard sales oriented towards destination. The Centre for Asia Pacific Avi-

ation (CAPA) predicts that the airline industry will generate USD\$50 billion in ancillary revenues this year. As a leading onboard retail technology provider GuestLogix believes that more than 10 percent of ancillary sales will be attributed to onboard initiatives. This growth trend is expected to continue well into the decade as a result of technological innovation and changes in consumer behaviour.

GuestLogix is the world's onboard store technology leader, providing solutions to help carriers build, manage and control onboard stores tailored to both their requirements and their passengers' needs. The company has captured over 35percent of the world airline market, based on annual passenger trips, with deployments of its onboard retail technology. GuestLogix has partnered this year with Inflight Services Group in Hong Kong, Alpha Flight Services in Australia, to help develop its business in China and the Asia Pacific region. It also has a long standing partnership with IT Well, its POS handheld manufacturer in South Korea.

Among 4,000 airline travelers in Europe, North America and Asia Pacific, a GuestLogix survey showed that passengers take advantage of offers when planning their travel. Through its OnTouch™ merchandising platform, GuestLogix provides numerous travel-relevant, destination based, products and services serving over 400 destinations worldwide, such as entertainment tickets, ground transportation, catalogue shopping, communications services, advertising and much more.

Passengers can be captive for an average of 3.5 hours at a time. Most traditional retailers on the ground have consumers for an average of only 30 minutes in retail outlets on the ground. In order to maximize onboard revenues, airlines must create a branded onboard store, reducing exposure to competitors and accessing total passenger journey to monetize more touch points with the customer.

contributed by GuestLogix Asia Pacific director John Devins

How GuestLogix works:

OnTouch is GuestLogix' branded onboard store technology and merchandising platform. It incorporates a core transaction processing engine which can operate in an online and offline environment, accepting any form of payment, and across all borders and tax regimes, in any currency. It records all transaction data and keeps it secure.

The platform can be integrated into an IFEC system to support onboard retailing. This can be accomplished by integrating the airline booking path with Point-of-Sale (POS) devices, IFE servers, and personal devices, such as Smartphones and laptops. The IFE servers can provide the cataloguing and promotion of content with fulfillment being completed through the POS and or personal devices. So for example, the popular onboard SkyMall catalogue can be stored on the IFE server rather than providing a print copy to each traveler. The passenger can browse the catalogue on the seat back screen, enter all their information including delivery address, and send the purchase information to the onboard point-of-sale device. The flight attendant completes the purchase using credit card or cash currency by using the onboard POS device. Similarly this same process can be used to purchase ground transportation tickets and the POS receipt is used as the proof of purchase voucher. In the event that a bar code can be used as entry, the POS device is capable of distributing the appropriate bar code to the traveler's Smartphone.

机舱娱乐系统与零售技术推动机舱内收入增长

航空业正在走出财务最困难的10年，业务模式最稳固的航空公司是那些不再完全依赖座位收入，而是重视利润率更高的派生收入的公司。成本的变化及乘客忠诚度的降低，使航空公司更难通过提高单位座位里程的收入实现增长。

机舱网络接入，包括无线网络接入等技术，可以提供信用卡实时授权交易，帮助创造更高价值的机舱零售。**GuestLogix**提供的机舱娱乐系统、互联网接入以及机舱零售技术，为航空公司创造了更多的在线与线下销售机会，使航空公司可以更好地提升乘客的机舱服务体验，并创造更多价值。移动网络技术使航空公司增加了与乘客沟通的渠道，也为消费者提供了可以使用个人设备实现个性化旅程的体验。**GuestLogix**已经与**Thales**等机舱娱乐系统供货商结成合作伙伴，为航空公司客户提供更多的增加收入的机会。

GuestLogix对欧洲、北美和亚太地区的近4,000名航空公司乘客进行了调研，结果显示乘客更倾向于使用在制定行程计划时获得的促销机会。更多乘客愿意在使用**GuestLogix**零售系统时，利用信用卡完成交易。

GuestLogix通过其**OnTouch™**销售平台，可提供众多与旅行和目的地相关的产品与服务，覆盖全球超过400个目的地，例如娱乐票务、网上购物、通讯服务、和广告等。

机舱零售中心可以使航空公司利用其现有的乘客关系实现更多收入。亚太地区每天有超过8,300个航班和120万旅客。中国是亚太地区最大的市场，前10大中国航空公司每年完成2亿多人/次旅客运输。**GuestLogix**预测，在今后10年内，中国与印度的中产阶级旅客将出现10亿人的增长。



以上数字表明，中国的航空公司面对了巨大的机遇，可以通过机舱销售实现收入增长。机舱零售业务包括提前与票价捆绑的派生销售、以及与目的地有关的产品和服务等。例如：地面交通票务或特殊活动票务等。这些业务已经在美国和欧洲等地成功开展，亚洲市场也将很快地跟进。

大多数航空公司都在机舱内出售免税商品和其它邮购商品，这种业务已经开展多年。一般而言，航空公司目前提供的产品与20年前相比基本没有变化。机舱零售业务仍然会涉及免税山品、和食品饮料等。

这一业务潜力巨大，目前正在日益得到应用。总部位于香港的**Inflight Sales Group**是一家经营免税品商店的公司，目前正发展与目的地内容有关的机舱零售业务。根据亚太航空中心（**CAPA**）的预测，整个航空行业今年将可创造500亿美元的派生业务收入。作为一家领先的机舱零售技术提供商，**GuestLogix**相信，超过10%的派生业务销售将来自机舱内的销售活动。随着技术的创新和消费者行为模式的转变，预计这一增长趋势将可延续至下一个十年。

飞机乘客搭乘每次航班，相当于平均停留3.5个小时。而大多数传统地面零售业通过地面零售店铺获得顾客停留的时间只有平均每次30分钟。

为实现机舱收入的最大化，航空公司应该建立具有品牌的机舱商店，降低面临的竞争，并将销售界面触及乘客的整个旅程，以尽可能地利用与乘客的每一个接触点。

John Devins, GuestLogix

可将机舱娱乐系统平台作为一个技术平台，用于支持机舱零售。为此，可将航空订票路径中的POS终端设备、机舱娱乐系统服务器与乘客个人终端设备，例如智能手机或便携电脑等集成于一体。机舱娱乐系统服务器可以提供商品目录和促销内容，POS及个人终端设备则用于完成交易。例如，可将较为普遍的**SkyMall**机舱商品目录存储在机舱娱乐系统的服务器上，而不再是纸质的印刷品。乘客可在自己座椅的屏幕上浏览商品，输入信息，例如送货地址，并将购买信息发送给机舱POS设备。机舱乘务员则可协助乘客完成交易，无论是使用信用卡还是现金。同样的程序也可用于购买地面交通票务，POS机回执则可作为购票凭证。如果可将条形码作为检票工具，则机舱POS机可将相关的条形码传送至乘客的智能手机。

A new land of opportunity for inflight connectivity

China represents an untapped market for inflight connectivity. Globally the inflight connectivity market is dominated by a handful of companies. Internationally, those planning to offer service in China include OnAir, Panasonic/AeroMobile, and Row44.

In a statement to *Gethin's China IFEC Review*, OnAir said, 'At the moment, we are actively working on the regulatory process to introduce connectivity into China. We have a dedicated team working on it, alongside Airbus China.'

Airbus is a shareholder in OnAir and therefore has close ties with the company's operations. A sign of this is a change at the top tier of management. Former OnAir CEO Benoit Debains has returned to Airbus in Toulouse, France. Ian Dawkins, former senior vice president, head of future programmes, of Airbus SAS, has become OnAir's new CEO.

OnAir's board members have tasked Dawkins, age 52, with furthering OnAir's 'profitable pace of growth, including its global reach onboard connectivity solutions and internet services to increase market share, profitability, customer loyalty and satisfaction,' according to a company statement. The company adds, 'Those objectives, in line with the company's objectives and strategy, will translate into an economically viable business model for the transport industry.'

When OnAir originally announced agreements in China, its former CEO Benoit Debains said, 'China is a significant and fast growing aviation market and we are proud to be able to deliver our innovative services that will provide increased levels of passenger services and additional revenues.'

Based on the information to date, it appears that gaining regulatory approval in China is fundamental to success.

OnAir has enjoyed continued success in other target markets where western companies usually face challenges. Recently it announced service with Libyan Airlines. It also has a cellular roaming agreement in place for the Russian market. Besides airlines, OnAir has customers from governments and VIP aircraft operators, and maritime operators. Overall OnAir has signed agreements with more than 15 airlines worldwide.

Its service portfolio includes inflight mobile voice, data and internet using SwiftBroadband from Inmarsat. Besides Airbus, OnAir is owned by SITA, the leading IT solutions provider to the air transport world and is a member of the GSM Association and an Inmarsat Distribution Partner for SwiftBroadband services. The company celebrated its 100,000th commercial flight at the end of last year.

The other contender for inflight connectivity services in China is Panasonic Avionics Corporation, a solution based on a Ku band spectrum. Panasonic's Global Communications Suite (GCS) consists of email, internet, and live television. The Suite will be installed on Lufthansa, Virgin Atlantic, Air New Zealand, V Australia, Qantas and also to Turkish Airlines. The company is offering GCS on a global basis.

GCS consists of three products. The internet product,

eXConnect is an inflight wireless high-speed broadband Internet and data service that provides access to real-time content for passengers and the flight crew. Passengers can access eXConnect via a laptop, PDA or other Wi-Fi enabled device. Airline crews can also use the service to transfer data on and off the aircraft in five key areas—cabin operations, maintenance, flight operations, airline operations, and airport.

eXPhone is an inflight mobile phone service. An important so-called ingredient brand of this product is leading inflight GSM operator AeroMobile. Headquartered in the UK, AeroMobile delivers successful onboard mobile phone service to Emirates passengers. AeroMobile has partnered with Panasonic to provide eXPhone. As a partner to the GCS service, AeroMobile's parts and products are branded to Panasonic and carry the Panasonic warranty and worldwide support for airlines.

The third part of the suite is the live television product: Panasonic Airborne Television Network. Yet to launch, this will be a broadcast TV distribution system and service across multiple regions on a near-global basis. Airlines can generate revenue using the opportunity for advertisements or tv commercials to be included in the live programming or for pay-per-view access. At its heart is the first worldwide in-flight television distribution system powered by the same Ku based satellite network as eXConnect.

MTN Satellite Communications will provide the satellite network via the Ku band spectrum. EMS Technologies' Defense & Space Division will provide the advanced dual-panel, satellite-tracking antenna, developed collaboratively by Panasonic and EMS. The antenna delivers strong performance and global coverage, especially at lower latitudes such as near the equator. The antenna's dual polarization receive-capability, unique to the EMS Technologies antenna system, doubles the available receive bandwidth.

Another Ku band connectivity provider, Row44, has just launched service on US low cost carrier Southwest Airlines. The company has not confirmed its strategy relating to China but the service is planned to provide coverage across vast tracts of the world over the next few years. Even if China is not included in this global coverage, Row44 says it is interested in partnering with other ku band global providers (such as Panasonic) to give its international airline clients seamless coverage in other regions. In other words, Row44 would be interested in partnering on another provider's network, following the same commercial model as in terrestrial roaming providers.

Row44 president Gregg Fialcowitz explained, 'Other providers have approached us about potential relationships. And we're interested in all potential relationships primarily because we don't think the world needs very many of these networks.'

'There's a precedent in the cellphone industry. Every cellphone operator roams on each other's networks. We don't believe the market is large enough to support many of these networks in fact possibly not more than one so you might see in the future providers figuring out how to co-operate and work with each other.'

The Row44 portfolio of services includes internet for both passengers and airline operations, as well as a full suite of wi-fi applications across both laptop and PDA type devices. Live television offering sports and news is planned for later this year.

Row44 uses a state of the art antenna by two companies TECOM and QEST for global coverage. Since airlines need to install a ku band antenna, the cost and installation is of vital importance.

Fialcowitz said the company has found 'the best antenna on the market that could work across all global zones. The criteria revolved around global regulation, physics, and economics.'

'Our requirements for a global antenna have to meet some difficult milestones, not only a performance milestone, but it has to live inside the regulatory restrictions, to meet the physics of what an aircraft can actually carry, and what makes money. The TECOM/QEST antenna comes close to everything we need. It has a number of things about it that operationally allows us to more efficient and for cost of operation to airlines to be lower than the previous antenna.'

Currently Row44 has acquired licences to deploy on the B737 aircraft and is working on gaining certification on other aircraft. Row44 also has licences for satellite networks to deliver the two way Ku broadband in North America, Canada and Mexico. Later this year it will have satellite licence coverage in Europe for its next airline customer Norwegian Air Shuttle on 40 aircraft.'

In the first quarter of 2011 Row44 will have transatlantic ku band coverage to Europe. Pre-recorded programming such as video content and movies will be contained in the onboard server, freeing up more capacity in the connectivity pipe. The server has a terabyte of capacity combined with a management server unit for storing video content to be distributed in broadcast mode from the cabin.

Row44 has a flexible business model for price setting and revenue generation, as follows: 1) Row44 sets price to the passenger, collects the fees, and shares the revenue with the airline; 2) The airline pays Row44 a set fee for every passenger who boards, then the airline sets the price, Row44 collects the fees and gives 100percent revenue back to the airline, so the airline 'gets all the upside potential'. Both customers, (Southwest, Norwegian Air shuttle) have adopted the latter.

Row44 is also offering an inflight internet portal (commonly termed a 'walled garden') and branded Skytown. With Skytown Row 44 establishes a revenue-sharing arrangement with the airline for the specific content and advertising they choose to deliver within their walled garden. Row44 supplies a menu of content options (games, shopping partners, video content and other entertainment options, texting services,

etc) and the airline selects the options it wants to offer. A number of popular brands are available, including Skymall, iTunes, eBay etc. While the content is free to access, any transactions made by passengers via the portal for any of the brands' products or services, generates ancillary revenues for Row44 and the airline.



TECOM/QEST antenna KuStream 1000

From the statements made by connectivity service providers and their achievements to date, it is still too early to see which companies will successfully enter the Chinese market. As stated earlier, a major factor is regulatory approval and certification on the relevant aircraft types. But Chinese airlines can be confident at least, that if and when they do choose one of the global connectivity service providers, that the technology and commercial viability is proven in other parts of the world.

A market study by IMS Research in the UK found that in 2009 a total of 1400 aircraft were equipped with connectivity. This will increase tenfold by 2015, to more than 14,000 aircraft worldwide. The company states, 'This will be good news both for business travellers and for others just wanting to surf the web to pass the time or to chat to friends online. Most important, this may become a lucrative revenue stream for the many airlines struggling to make a profit. A \$5 charge for connectivity for a short flight of up to 1.5 hours equates to significant revenues with today's passenger numbers.'

It is worth remembering that such achievements are no mean feat, since regulatory approval and certification can take years to accomplish in any region. This new market sector has been growing for more than ten years, which is still a very short period of time for any new aviation technology to start operation. It was the efforts from two separate providers: the Boeing service, (Connexion By Boeing), a full internet broadband Ku band solution, and Tenzing L band narrowband (since acquired by SITA, and subsequently OnAir) that initiated the race.

The new service providers have learned lessons in many ways from the Connexion costly Ku band solution which eventually folded due to economics. For example Row44 and Panasonic have created newer, far more economic Ku band solutions.

Tenzing also demonstrated its operational validity onboard Singapore Airlines. Tenzing was also the precursor to today's successful OnAir.

What does all this mean for China? One thing is apparent: when China eventually opts for inflight connectivity, the country's airlines will have the benefit of more mature and more economical solutions than ever before.

中国在飞行中通信系统方面仍是一个未打开的市场

中国在飞行中通信系统方面仍是一个未打开的市场。目前，全球飞行中通信系统市场被为数不多的几个公司所控制。国际上准备向中国提供该领域服务的运营商有OnAir、松下/AeroMobile和Row44。

在对Gethin的中国机载商业娱乐系统回顾所做的陈述中，OnAir航空公司说，“目前，我们正在积极制定监管程序以便将飞行中通信系统引入中国。我们有一个特殊团队正在与空中客车中国公司携手进行这项工作。”

空中客车是OnAir航空公司的股东，因此与OnAir的经营密切相关，这一点可以从其管理层的变动窥见一斑。原OnAir航空公司CEO Benoit Debains业已返回空中客车位于法国图卢兹的总部任职。空中客车SAS原高级副总裁，未来企划部部长Ian Dawkins现任OnAir的新CEO。

公司的一份陈述指出，OnAir董事会为52岁的Dawkins设定的目标是进一步提高OnAir的“利润增长速度，包括拓宽飞行中通信系统解决方案和因特网服务在全球的推广范围，从而提高市场份额、收益率、客户忠诚度和满意度”。公司方面补充道：“这些目标，符合公司的目标和战略，将转变成运输行业一种经济上可行的业务模式。”

当OnAir最初在中国宣布签署协议时，原CEO Benoit Debains说，“中国是一个重要的、快速发展的航空市场。我们很自豪能够为之提供创新的服务，为乘客提供更高层次的服务，也为我们带来更多的收入。”

根据目前所获得的信息，取得中国政府的行政审批是成功的前提。

OnAir在西方公司通常会面临很多挑战的其它目标市场也持续获得成功。近期，OnAir宣布为利比亚航空公司提供服务。另外，为俄罗斯市场准备的蜂窝漫游服务协议也已就位。除了航空公司，OnAir的客户还包括政府部门、VIP航空器经营人和航运经营人。OnAir已与全球超过15家航空公司签署了服务协议。

其服务内容包括采用Inmarsat公司SwiftBroadband技术的飞行中移动语音、数据传输和因特网。除了空中客车，OnAir航空公司的股东还有SITA – 全球航空业中领先的IT解决方案提供商，也是GSM协会会员和Inmarsat SwiftBroadband服务的经销合作伙伴。该公司于去年年底庆祝成功售出第10万架商用飞机。

在中国，飞行中通信服务竞争者还有Panasonic Avionics Corporation，它提供一种基于Ku波段技术的解决方案。松下的全球通信套件（GCS）包含电子邮件、因特网和电视直播。该套件将被安装在汉莎航空、维珍航空、新西兰航空、V Australia航空、澳洲航空以及土耳其航空公司的航班上。该公司也在全球范围提供通信套件。

全球通信套件包含三个产品。因特网产品eXConnect是飞行中无线高速宽带因特网和数据传输服务，为乘客和机组人员提供实时信息。乘客可以通过手提电脑、掌上电脑和其他Wi-Fi装置连接到eXConnect。机组人员可以使用该服务，在客舱、维护、飞机操纵、航线运营和机场五个领域将数据传至/传出飞机。

eXPhone是一项飞行中移动电话服务。该产品一个重要的所谓要素品牌便是处于领先地位的机载GSM运营商AeroMobile。AeroMobile总部位于英国，它成功地为阿联酋的乘客提供机载移动电话服务。AeroMobile与松下公司联手

提供eXPhone产品。作为GCS服务合作伙伴，AeroMobile的零配件和产品冠以松下的品牌，并由松下提供质保和全球技术支持。‘

该套件的第三个组成是电视直播产品：松下机载电视网络。该产品尚未发布，它是近乎覆盖全球的多区域广播电视传输系统和服务。航空公司可以利用直播节目中的广告和电视商务机会或按次付费收看创造更多的收入。其核心是全球第一个由类似eXConnect的Ku波段卫星网络驱动的飞行中电视传播系统。

MTN卫星通信系统提供Ku波段卫星网络。EMS Technologies防御和空间部将提供先进的双频卫星跟踪天线，该天线是由松下和EMS共同开发完成，性能强大，覆盖全球，尤其是在低纬度地区，如赤道，更能凸显其优势。

另一个Ku波段通信技术提供商Row44刚刚开始为美国廉价航空美国西南航空公司提供服务。该公司尚未确定其中国市场战略，但计划在未来几年中覆盖全球大部分地域。即便中国不在其服务覆盖范围，Row44表明愿与其它ku波段运营商（如松下）合作为其国际航空业客户提供其它区域的无缝覆盖。换句话说，Row44愿与其它运营商在网络覆盖方面合作，如同地面漫游运营商的商业模式。

Row44总裁Gregg Fialcowitz对此加以解释，“其它运营商与我们接洽商谈合作机会。我们愿意与之合作，主要因为我们认为太多的网络没有必要。”

“蜂窝式无线电话行业有过先例。每一个移动电话运营商都会与其它运营商有网络漫游合作。我们不认为这个市场大到可以支撑很多网络，事实上可能一家就够了，将来你会看到运营商考虑如何与其它运营商合作。”

Row44的服务包括为乘客和航空公司运营提供因特网服务，以及为手提电脑和掌上电脑之类的装置提供全套Wi-Fi应用软件。今年晚些时候还会提供体育类和新闻类的电视直播。

Row44采用了TECOM和QEST两家公司顶尖的天线服务为其实现全球覆盖。由于航空公司需要安装ku波段天线，成本和安装非常重要。

Row44总裁Gregg Fialcowitz声称该公司已经找到“市场上最棒的天线，可以覆盖全球任何地区。衡量标准包含法规要求、物理性能和经济性能方面。”

“覆盖全球天线必须满足一些严苛的要求，不仅仅是性能要求，而且必须符合监管要求，满足飞行器的实际物理条件，并且能够带来收入。TECOM/QEST天线紧密贴合我们的需求。与之前的天线相比，它使我们能够更加高效率、低成本本地运营。”

目前Row44已经获得了在B737飞机上装配的许可，目前正在申请在其它飞机上的认证。Row44还取得了北美、加拿大和墨西哥地区双向Ku波段宽带卫星网络许可。今年晚些时候，还将获得欧洲地区的卫星网络许可，以便为其下一个航空业客户挪威航空公司的40架飞机进行装配。”

2011年第一季度，Row44将获得覆盖欧洲的跨大西洋u波段网络许可。预先录制的节目如视频内容和电影将被存储在机载服务器中，留出更多的传输通道。该服务器具有兆兆字节的存储空间，并配置一个管理服务器单元，以便将存储的视频内容以广播模式传输到客舱。

Row44具有灵活的定价和创收业务模式，如：1) Row44为

乘客制定价格、收费、与航空公司分享收入；2) 航空公司为每位乘客向Row44支付固定费用，而航空公司自己制定价格，Row44收费并将收入全部返还航空公司，因此航空公司“享有潜在收益”。两家客户，即美国西南航空公司和挪威航空公司都倾向于后者。

Row44还提供飞行中因特网门户（统称“围墙花园”）以及Skytown。Row44通过Skytown与航空公司就他们选择在围墙花园中投放的特殊内容和广告建立了收入分享计划。Row44提供一份内容目录（游戏、购物、视频和其他娱乐节目、文字服务等），由航空公司选择内容。目前有多个品牌可选，如Skymall、iTunes、EBay等。由于这些内容都是可以免费浏览的，乘客通过该门户所作的任何交易（包括这些品牌的产品和服务）都可以为Row44和航空公司创造副业收入。

根据通信服务提供商的陈述和他们迄今所取得的业绩，哪家公司将成功进入中国市场尚言之过早。如之前所表明的，决定成功与否的一个重要因素是行政审批和相关机型的认证。但是中国的航空公司至少可以有信心，因为当他们对全球通信服务提供商作出选择时，其技术和商业可行性已在世界上其它地区得到了验证。

但是要记住成功绝非易事，因为任何地区的行政审批和认证有可能需要几年的时间。这个新领域的发展已经超过了10年，但对于任何即将启用的航空技术而言仍然非常短暂。波音服务（波音Connexion – 专门从事因特网Ku波段宽带解决方案）和Tenzing LL波段窄带（与SITA合资后组建OnAir）独立供应商的努力开启了这项竞赛。尽管Connexion服务当时太过昂贵，而且客户市场相对不成熟，波音Connexion仍开创了全因特网宽带的先例。而且，自2003年投入使用，空中使用效率很高。新的服务供应商从这个昂贵的Ku波段解决方案中汲取了很多经验，而由于经济方面的因素，这个方案最终被停用。例如，Row44和松下在经验的基础上制定了更新、更经济的Ku波段解决方案。

Tenzing也在为新加坡航空公司提供的服务中展现了其运营有效性。Tenzing同时也是如今成功运营的OnAir的先驱。

这些对中国来说意味着什么？至少有一点是显而易见的：当中国最终选择机上通信服务，中国的航空公司将从更加成熟和经济的解决方案中受益。

Astronics launches new EmPower systems

Astronics inseat power systems have been installed on over 140 airlines to power over 500,000 seats. Astronics' EmPower inseat power systems are used to power passengers' personal electronic devices and laptop computers as well as aircraft inflight entertainment systems.

As increasing numbers of passengers bring their own personal devices onboard, the demand for inseat power in single aisle aircraft and nose to tail installations (cabin-wide) of the EmPower systems has risen. Size, weight and cutting edge features are paramount.

The company confirms China is a target market and its EmPower products are either integrated with IFE suppliers offerings or installed as a stand-alone solution on the carriers listed above.

Astronics has launched two new product lines to its EmPower inseat power supply range. In particular the latest product addresses the growing demand for powering passenger's personal electronic devices inflight. This new unit will allow use of up to three laptops and power up to three USB devices simultaneously.

The new unit produces 200VA for each Personal Electronic Device (PED) and includes three Universal Serial Bus (USB) power outputs for passenger devices such as smart phones, iPods, cameras, and other standard +5 Volt devices. This is all accomplished in a unit smaller than previous generations of the EMPOWER product line.

This newest version (P/N 1191-3x) is in direct response to customer feedback and requests. Astronics cabin electronics business development director Dennis Markert said, 'Adding the +5 Volt USB output was a logical step as more passengers carry on electronic devices and airlines deploy new services such as mobile boarding passes that depend on charged passenger devices.'

As airlines around the world offer off-aircraft passenger connectivity and other services, Astronics is experiencing an increasing demand. 'With the EmPower system, airlines will no longer receive calls from their valued passengers concerned that they will not have power available during flight.'

A new AC to DC power unit converts 115VAC, 360Hz to 800Hz aircraft power to 150 Watts of +28VDC. The power is provided by four individual +28VDC outputs with a current limited at 1.5Amps each. It is a compact and lightweight product that meets the stringent requirements of the aviation environment and the aircraft manufacturers.

The outputs may be paralleled to create a single 150 Watt output and multiple units may be used in parallel to create 300 Watts or 450 Watts with current sharing.

The unit provides hold-up of the outputs to 200 mSec so that connected devices stay powered during normal bus transfers and power interruptions. The new power supply (P/N 1314-3) is in direct response to increasing market demand and customer feedback.

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