

## **China Civil Aviation Report**

民航报导

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#### 中国通用航空理应向国际学习

美国知名的通用航空盛会 Sun 'n Fun (阳光欢乐飞行周) 将于 2013 年 4 月 9—14 日在中佛罗里达州 Lakeland Linder 机场举行。

这个以飞行实验、飞行体验、飞机静态展示、飞行动态表演、通用航空飞行器销售、飞行技巧讨论、通用航空维修技术研究、通用航空管理理念探讨为主旨,并辅以观光旅游的大型通航活动,已经连续举办 38 年,是一个每年有数千架飞机和数十万人参加为期一周的通用航空嘉年华会。

当前,中国的低空开放发展通用航空的进程在《民航报导》持续的推广、前后共 10 届中国通用航空商务交流会的举行和印发 4 版共 4 万本《什么是通用航空》科普教材的推动和影响下已经深入基层,造成举国讨论、研究、参与、建设和投资通用航空的基础设施、航空器制造,通航运营、体验飞行和参加展会等全国性热潮和脉动。

通用航空这个将由全民参与、企业投资、地方开发的全国性产业将是下个十年中国经济发展"保8"的重要元素。由于通用航空的门槛远远低于商业航空,所以这个产业的发展将会来的快,来的猛,立即进入"争地盘,抢客源,烧钞票"的空前盛况。

在中国,通用航空被视为新兴产业,等待着漫长的空域开放,盼望着私人飞行器的获得,寻觅一偿飞行夙愿的机会,寻找能畅谈通航的同好,期待参加全年度航空的活动。而在美国和欧洲,通用航空已经有百年的发展历史。通用航空在美国是成熟的、旺盛的、有条理的、规范的、理性的、自律的,能给国家带来丰厚的经济利益和应急救援实力,是整个航空产业发展的支撑、国防战备的支援,国家综合实力的表征,有太多值得中国通用航空学习和认识的内涵与成就。任何想要在通用航空发展中拔头筹,居领先的人都要好好学习中国民用航空的发展历程,尤其是自1979年改革开放以后的发展模式。与国际沟通、交流、学习,引进设备、技术、管理、法规和运营模式等等,都是中国商业航空快速发展的重要途径。中国民航在短短30年跃居世界第二并保持高度安全的运行绝不是浪得虚名。

通航业者和地方政府必须开始正视与国际通航社会的沟通与交流,认识通用航空草根性的基因,满足个人飞行的热情,了解实验飞行的必要性,发现航空活动的经济效益、社会效益和产业效益。国际通用航空的发展历程与方向和中国通用航空的发展必然有交叉的节点和互补性,任何能够洞察先机的地方政府和企业家都将是中国通用航空产业未来的主导者。

应阳光欢乐飞行周主办单位要求,《民航报导》将在大会期间设立"中国馆",协助国内业界与同好认识、了解并参与此一盛会, 欢迎您与我们同行。



galas

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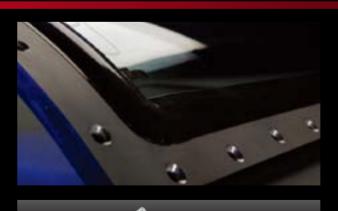








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## 马凯会见国际民航组织秘书长 李家祥等陪同 Senior Chinese Official Meets With ICAO Secretary General

Chinese State Councilor, Ma Kai, met with Raymond Benjamin, Secretary General of the International Civil Aviation Organization (ICAO) in 中南海会见了国际民航组织秘书长雷蒙•邦雅

During the meeting, Ma addressed a comment regarding the fine level of cooperation between China and the ICAO. He said that China's civil aviation industry had been developing rapidly and its overall air transportation amount, the whole passenger transportation amount and cargo transportation amount had all ranked the very high globally. Ma also said that China hoped to boost exchanges and cooperation with the ICAO in various areas and could play a more active role in promoting aviation safety in northeast Asia.

Raymond Benjamin thanked Ma for meeting with him and stated that 进本地区国际航空发展中发挥更大的作用。 the ICAO attached much importance to its cooperation with China and was happy to see a bigger role by China to promote aviation in the region.

During the meeting, Li Jiaxiang, Minister of the Civil Aviation 长李家祥等在座。 Administration of China (CAAC) was present.

国务委员兼国务院秘书长马凯9月下旬在

马凯对中国与国际民航组织间的良好合作 予以积极评价。他说,中国民航事业发展十分 迅速, 航空运输总周转量和客货运输总周转量 已位居世界前列。中国希望继续加强与国际民 航组织在各领域的交流和合作, 特别是更好地 发挥提升东北亚地区航空安全水平的作用。

雷蒙•邦雅曼感谢马凯的会见,并表示国 际民航组织重视与中国的合作,乐见中国在促

会见时,中国民用航空局 (Civil Aviation

## 夏兴华会见美国贸易发展署、运输部领导一行

## Xia Xinghua Meets with Officers from The U.S. Trade and Development Agency and Department of Transportation

In late November, Mr. Xia Xinghua, Deputy Minister of the CAAC met with Leocadia I. Zak, Director of the U.S. Trade and Development Agency and Susan Kurland, Assistant Secretary for Aviation and International Affairs. After the meeting, Mr. Xia Xinghua issued the China Civil Aviation Friendship Award to Mr. Joe Tymczyszyn, chief executive officer of the US-China Aviation Cooperation Program to thank him for his positive contributions to the development of China's aviation industry and US-China aviation cooperation.

The US-China Aviation Cooperation Program was launched eight years ago. Now 50 enterprises and 6 US government agencies have taken part in this project. They have been working closely with Chinese counterparts in flight safety, airport construction, ATM, personnel training and other related aspects, which shows a wide prospect of the aviation industry.

The cooperative partnership between the US and China has attained a series of achievements admired by the entire world. Not only have the bilateral governments maintained good exchanges and cooperation in each area of the aviation industry, the US' aviation related enterprises have also made eminent contributions to the US-China aviation cooperation in areas of air transportation. air manufacturing, airport technology services, biofuels and other relative areas.

11 月下旬,民航局副局长夏兴华在北京会 见了美国贸易发展署署长里欧卡蒂亚 扎克 和美国运输部助理副部长苏珊 克兰德一行。 会见后, 夏兴华还为美中航空合作项目执行总 监丁州颁发了"中国民航友谊奖",感谢丁州 先生为中国民航发展和中美民航合作做出的积 极贡献。

8年前启动的"中美航空合作项目",现 已涵盖了美国50家企业成员和6家美国政府 机构成员, 他们在飞行安全、机场建设、空中 交通管理、人员培训等方面与中国同行们通力 合作,展示了航空业未来广阔的发展前景。

美中双边航空合作伙伴关系取得了一系列 世人瞩目的成就。不仅两国政府部门之间在航 空业各个领域里有着良好的互动与合作,美国 航空企业也在航空运输, 航空制造, 机场技术 服务、生物燃料创新技术等方面为美中航空合 作出了卓越贡献。

## 民航飞行高度层与航路航线将灵活使用 Civil Flight Levels, Airways and Airlines to be Allowed More

## Flexibility

Starting from midnight, on October 18th, China's civil flight levels, airways and airlines will be allowed d more flexibility. A program to optimize the Yinchuan-Urumqi airway and the north end of the Beijing-Shanghai airway will be formally implied meanwhile. These measures are important in order to promote the reform of the country's airspace management system and are applied by both the military aviation sector and the civil aviation sector under the leadership of the State Air Traffic Control Commission.

In the flight level flexibility usage plan, the airspace above 8,400 meters will be able to be utilized by the civil aviation sector when needed and will also be utilized by the military on a regular basis. The flexible use plan can be adjusted according to the local regulations and rules, or to an agreement between the military and civil sectors. Airspace below 8,400 meters will be designated for use in accordance to the original plan. In the national airline flexibility usage plan, it is planned that one airline will be added to all of the airports that have only one scheduled airline and rank in the 30th range of aircraft takeoff and landing sorties of all the airports in the country. Also, temporary scheduled airlines will be added conditionally to regions that have had only airlines of this kind.

In addition, according to the general plan released by the State Air Traffic Control Commission, the trial operation of usage of flexibility flight levels, airways and air routes among the four airports in Beijing, Shanghai and Guangzhou had been implemented during the period between the 10th of March and the 18th of September. During the trial operational period, the effects were good. There were 11 airlines total that had used 976 back-up airways and air routes and 4,962 temporary air routes.

The implementation of this program marked the transition of usage of airways and air routes from the static state mode to combining both dynamic and static states, which will be a positive force in promoting the flight regularity rate.

On the day when civil flight levels, airways and air routes became flexible, the plan to optimize the airway connecting Yinchuan and Urumqi and the north end of the airway connecting Beijing and Shanghai had also been implemented.

10月18日零时起,民航飞行高度层 与航路航线将灵活使用,银川至乌鲁木齐 航路和京沪航路北端优化方案将同时正式 实施。这些措施是推动国家空域管理体制 改革的重要举措,是在国家空管委领导下, 由军民航双方共同推动实施的。

飞行高度层的灵活使用方案为: 8400 米(不含)以上均由民航灵活选择使用, 涉及军航固定穿越地段(使用空域)的, 按当地规定或军民航协议执行: 8400 米 (含)以下按照原有做法配备飞行高度层。 城际航线的灵活使用方案计划在起降架次 排名全国前 30 位的且目前只有一条班机 航线的机场之间增加一条航线, 及在划设 有临时航线的地区有条件地增设临时班机

此前,按照国家空管委统一部署,3 月10日起至9月18日,在北京、上海、 广州三地四机场之间航班实施灵活使用飞 行高度层和航路航线已经进行了试运行工 作。试运行期间成效明显, 共 11 家航空 公司使用备份航路航线 976 班, 临时航线 使用 4962 班。

此项工作实施意味着航路航线的使 用开始由静态向动静态结合的管理模式过 渡,将对提高航班正常率起到积极作用。

在民航飞行高度层和航路航线开始灵 活使用当日,银川至乌鲁木齐航路和京沪 航路北端优化方案也将正式实施。

#### 国内首个航空服务站落户海南

#### China's First Flight Service Station to be Located in Hainan

In early November, after being approved by the State Air Traffic Control Commission. China's first flight service station has been established and is located in Dongfang, in the Hainan province. This flight service station is expected to provide flight plan examinations and approval, alarm information, meteorological data, flight support and other related services to general aviation clients, in order to secure the safety, convenience and efficiency of general aviation flights.

This station will provide services for general aviation activities in the airspace over Hainan province and airspace over the offshore areas of the Hainan province. It will serve helicopters, small fixed-wing airplanes, dynamic parachutes and other general aviation aircraft.

11 月上旬, 经过国家空管委等相关单 位的验收,全国首个航空服务站正式落户 海南省东方市。该服务站将为海南地区通 用航空用户提供飞行计划审批、告警信息 气象数据、飞行支援等服务, 保证通用航 空飞行的安全、快捷、高效。

该服务站将全面覆盖海南陆地及近海 区域、主要服务区内的直升机、小型固定 翼飞机、动力伞等低空通用航空用户

## 国产最大无人直升机 V750 投入应用

## **Largest Domestic Unmanned Helicopter Put into Operation**

A V750, an unmanned helicopter capable of carrying a payload of 80 kg, has been delivered to the Shandong Provincial Department of Land & Resources. This helicopter is the largest unmanned helicopter made in China. Currently, the unmanned helicopter is being produced in Weifang, Shandong.

The V750 helicopter has an exterior "water-drop" appearance which can reduce the wind resistance of the helicopter when flying. The helicopter has a strong reduced noise performance, can fly as high as 3,000 meters with a cruising speed of 161 km/h and a ground control height of 150 km. The helicopter is jointly developed by Weifang Tianxiang Aviation Industrial Co., Ltd., AVIC Xi'an Flight Automatic 中国电子科技集团公司第十研究所等单位共同研 Control Research Institute, CETC-10 and other enterprises.

The helicopter has passed the application tests for surveying and drawing missions and other flight missions, which means that the helicopter has meet the requirements of geologic hazard investigation, forest fire fighting, oceanographic remote sensing, urban planning, power line inspection, emergency and disaster relief, aerial photography and flight duties.



近日, 一架有效载荷达 80 公斤的 V750 无人 直升机交付山东省国土部门, 这是迄今为止中国 企业生产的最大无人直升机。目前,这一无人机 已在山东潍坊实现批量生产。

V750 无人机具有滴水形外观设计,飞行阻力 较小, 抗扰动性能强, 最高可飞行至 3000 米高 度,最大巡航速度每小时161公里,地面控制距 离 150 公里。这款无人机由潍坊天翔航空工业有 限责任公司、中航工业西安飞行自动控制研究所、

通过与测绘等任务设备的应用测试,表明这 一无人直升机很好地满足了地质灾害调查、森林 防火、海洋遥感、城市规划、电力巡线、抢险救 灾和空中摄影等任务要求。

#### 首都机场与多莫杰多沃机场缔结姊妹机场

Beijing Capital Airport and Domodedovskaya Airport Become Sister Airports



During the 4th China Overseas Investment Fair, Beijing Capital International Airport (Beijing Capital Airport) and Moscow's Domodedovskaya International Airport (Domodedovskaya Airport) signed the Memorandum on Beijing Capital International Airport Co., Ltd. and Moscow Domodedovskaya International Airport Co., Ltd. Becoming Sister Airports and officially established relations of friendship and cooperation. General managers of the Capital Airports Holding Company and Domodedovskaya International Airport Co., Ltd. and other officers concerned with 有限公司总经理等领导出席了签约仪式。 the deal all attended the signing ceremony.

According to the memorandum, the two parties will enhance cooperation and exchange in the areas of hub airport construction, airport planning, airport management and other related areas, as well as push forward the two parties' exploration and practice of adding flights between China and Russia, so they may continually develop the fast growing Asian aviation market and create an efficient 桥梁。 and convenient bridge for exchanges between China and Russia.

Moscow's Domodedovskaya International Airport is the largest airport in Russia and has a terminal, a cargo building and three runways. In 2011, the airport's passenger throughput was 25.7 million people. In Russia, Moscow's Domodedovskaya International Airport is an unique airport, as it can accommodate the A380 aircraft. There are 84 airlines that are operating locally and Transaero Airlines, Ural Airlines, Moskovia Airlines, S7 Airlines and other 莫斯科航空、S7 航空等 8 家基地航空公司驻 several airlines. 8 total, that are based at the airport.

Currently, Beijing Capital Airport has become sister airports with 22 airports all over the world, including Hong Kong International Airport, Eleftherios Venizelos International Airport, Vancouver International Airport, Narita International Airport, Manchester Airport, Munich Airport and other major airports around the world.

近日, 在第四届中国对外投资合作洽谈会 上,首都机场与莫斯科多莫杰多沃机场共同签 署了《北京首都国际机场股份有限公司与莫斯 科多莫杰多沃机场管理有限公司缔结姊妹机场 备忘录》,正式缔结友好合作关系。首都机场 集团公司总经理、莫斯科多莫杰多沃机场管理

根据《备忘录》, 双方将在枢纽建设、 机场规划、机场管理等诸多领域进一步加强合 作交流,并推动双方在中俄航线拓展等方面的 探索与实践,不断开拓快速发展的亚洲航空市 场,为加强中俄往来架起一座顺畅高效的空中

莫斯科多莫杰多沃机场是俄罗斯最大的机 场,拥有1个航站楼、1个货站楼和3条跑道, 2011 年机场旅客吞吐量为 2570 万人次。莫斯 科多莫杰多沃机场是俄罗斯唯一能够接收空客 A380 机型的机场,目前共有 84 家航空公司在 本场运行, 拥有俄罗斯全禄航空、乌拉尔航空、 场运营。

截至目前, 首都机场已同包括香港机场, 雅典机场、樟宜机场、温哥华机场、成田机场、 曼彻斯特机场和慕尼黑机场等在内的 22 家机 场建立了姊妹机场关系。

## 美国 HMMH 公司协助全球机场处理日趋严重的 航空噪声问题

HMMH assists global airports on the aviation noise problems

#### HMMH 公司介绍

HMMH 公司成立于 1981 年,为机场提供最高质量的噪声咨询服务。目前 HMMH 公司现有员工 45 人,是环境噪声和空气质量分析、机场和空域规划、气候和能源方案以及联邦项目管理等业务领域的国际领先顾问咨询公司。

HMMH 公司向政府部门、私人业者客户提供一系列航空相关的顾问咨询服务,服务领域包括高速公路,铁路、运输、汽车、工业、施工、军事、休闲、娱乐以及再生能源等项目。HMMH 公司的阅览室中保存着完备的技术参考书籍、报告以及日志等资料。HMMH 公司拥有一整套噪声及振动的测量和分析工具。

由于大多数环境问题都与民众相关联,解决此类问题的成功要素之一即是对复杂技术问题的有效沟通。准确且清楚的阐述信息可以减少争端并建立公众的理解和认同。HMMH公司擅长通过简报、研讨会、演示、图形、书面材料等多方位的形象表述另复杂的技术问题变的浅显易懂。

HMMH 公司以对环保问题负责人的态度运行企业,并致力于为客户和员工建立环保问题和解决挑战的意识。HMMH 公司从自身出发,目前进行的环保努力有:降低旅行标准、降低温室气体排放量、使用可再生的办公室用品、管理能源浪费、保持项目现场的可循服务,并为员工提供教育和志愿者的服务机会。

HMMH 公司以提供最高质量的服务和创新的解决方案为傲。高效的团队合作、卓越的技术领导和廉正的服务态度是 HMMH 公司的运行准则和特点。

#### HMMH 公司业务

HMMH 公司的服务范围广泛,从复杂的仿真模型到客户化的软件工具,以及策略性的沟通计划等等。以下,我们将从航空及高速铁路噪声控制、空气质量分析、机场和空域规划、气候与能源解决方案以及项目规划与管理几个方面介绍 HMMH 公司的业务领域。



HMMH 公司全球业务分布

#### 航空及高速铁路噪声控制

#### I 航空噪声

HMMH 公司在全世界解决因航空而产生的环境噪声与振动问题。我们的客

户包括机场当局;土地使用控管机构;市政、州政与联邦政府主管机关;美国内政部与国防部;美国联邦航空局(FAA);美国国家航空航天局(NASA);以及联邦航空噪声跨部委员会(FICAN)。

#### (1) 环境研究与总体规划

HMMH公司为机场、空域与环境强化项目提供环境研究。我们的方法集中于两个主要方面: 1)采用及时而经济的方式取得与相关法规要求的完全一致性; 2)利用公共活动的方式尽可能地向相关公众展示透明化。HMMH公司的经验包括与噪声、空气质量、机场设计、容量与延误等方面相关的技术分析。HMMH公司已参与了为通用航空、航空公司、军航与军民两用机场提供机场总体规划研究工作。我们根据机场的需求提供客户化技术服务,尤其重视与建议执行、减少延误与重复工作相关的后续环境的潜在要求。

(2) 150 部噪声相容性计划研究与措施执行 HMMH 公司还针对降噪与相容性土地使用计 划, 具备协助 75 个机场执行美国联邦航空法规 150 部研究工作的丰富经验。我们的 150 部工作经 验涵盖了各种机场类型。FAA 已邀请 HMMH 公司对 150 部修订版提出改进意见, 并且在公布前评估综 合噪声模型 (INM) 的最新版本。HMMH 公司对提高 噪声相容性所设计的措施执行具备综合能力,包括 为减少噪声暴露而采取降噪措施, 为减轻现有不相 容性而采取的相容性土地使用措施, 以及为确保计 划有效性而采取的管理与监测措施。我们的成功经 验还包括:为确保航班按规划起降航线路径飞行, 而采取降噪起飞程序 (NADP) 与进近持续下降程序 (CDA), 目视与区域导航 (RNAV) 程序, 正式或非 正式优先跑道使用程序,直升机飞行走廊与运行程 序,通过屏障和地面试车围栏 (GRE) 设置实现表面 噪声控制, 隔音装置, 导航缓冲手段, 购买担保, 和谐区域,建筑编码,设立噪声办公室与人员培训。 即时噪声计划支持,噪声与运行监测系统 (NOMS) 的设计与使用。



#### (3) 航空器噪声与运行监测及模型

HMMH 公司作为业界领袖,为机场噪声与运行监测系统 (NOMS) 的设计、规范、采购、实施、测试与使用,以及噪声模型的自动化提供全套协助。我们在不同地区的65个机场都有成功经验,HMMH公司所设计的规范引领业界创新。例如,HMMH公司为新丹佛国际机场(美国科罗拉多州)提供的设计方案,对噪声事件识别与分类,及噪声与飞行航迹相关性引入了更为综合性的新一代系统。HMMH公司提供了一套特制的测量工具,用于便携式噪声测量与分析,及飞行航迹与运行数据的获取与显示。为了支持机场持续性地取得精确度更高的噪声等值线图,HMMH公司开发出了一套自主软件程序—RealContours。

#### Ⅱ 高速铁路噪声

HMMH 公司是美国高速地面运输噪声与振动评估领域的领先者。过去的 20 年时间,我们就高速地面运输提案中的噪声以及振动

问题进行了分析。我们的经验包括传统铁轮/铁轨、高速铁路以及高速磁悬浮列车等。HMMH 公司为美国联邦铁路管理局以及美国全国铁路旅客运输公司提供高速地面运输噪声与震动的分析。项目包括:



- ■美铁阿塞拉高速列车的噪 声与震动的说明以及其并 发问题的分析
- ■美铁高速燃气涡轮机车原型的噪声评估
- ■编撰美国联邦铁路管理局 的指导手册《高速地面运 输噪声与震动影响评估》
- 为美国联邦铁路管理局磁 悬浮发展计划提供磁悬浮 列车的噪声以及震动分析
- 为美国联邦铁路管理局的 国家磁悬浮提案进行噪声 研究

#### 空气质量分析

HMMH 公司为很多客户提供空气质

量顾问咨询服务,以解决空气质量的综合性问题。 我们的工作团队中由具备顾问资质的气象学家、科 学家和工程师们所组成,他们提供一系列广泛的服 务,包括:

- 空气质量许可证
- 空气传播模型
- 周围环境与气象监测
- 温室气体分析
- 移动来源分析
- 微观大气 / 中尺度分析
- 排放清单

HMMH 公司还为 FAA 推荐用于机场空气质量评估的排放与传播模型系统 (EDMS) 提供培训课程。



民航报导

#### 机场和空域规划

Harris Miller Miller & Hanson Inc. (HMMH) 公司与航空公司、机场以及民航当局合作,共同通过更有效的机场与空域设计增强其运行效率。我们的方法不仅利用空管与飞行专家的能力,还能够模型和模拟这些技能。HMMH 公司已通过参与FAA,欧控组织与众多机场,如芝加哥 O´ Hare 机场、迈阿密国际机场和费城国际机场的机场与空域设计项目,在这方面获得了专家的美誉。

我们的团队采用最新仿真技术,包括扇区设计分析工具 (SDAT), 全机场空域模块 (TAAM), 以及其他 FAA 认证的模型软件, 用以分析新建或扩建跑道, 全新地面活动模式与建议空域结构所产生的影响。我们的方法大量依据与相关单位的协调性, 包括空管代表、机场管理与受影响的居民。我们力争结合频繁的反馈与评估机会, 以确保最终分析的最高质量, 并缩短时间与成本。



#### HMMH 公司的更多优势

HMMH 公司针对复杂的设计项目具备独一无二的优势,那就是我们的运行分析与环境分析部门亲密无间地合作,使得我们避免了不同公司执行各自独立项目所造成数据在各公司之间传输所造成的成本与时间上的耗损。对于那些对机场或空域改造而需要的环境分析,

HMMH 公司开发了自主程序,将运行模型输出传输作为噪声与排放模型的输入,例如:INM 和 EDMS。针对此类项目,HMMH 公司的声学与排放方面的专家在建模团队中合作,以确保作为分析基础的推断鱼参数的准确性。

#### 气候与能源解决方案

HMMH 公司向客户提供项目进程中潜在的气候对环境影响的评估服务。我们开发了一套节省成本的解决方案,协助客户在项目的进程中获取政府方面的政策性支持。我们工作的领域包括:

- 温室气体排放清单及消减策略
- 空气质量数据收集和分析
- 可再生能源勘察和开发
- 风能技术支持
- 环境管理系统和可持续发展方案



#### 项目规划与管理

HMMH 公司素以精湛的技术经验赢得客户的青睐。我们的客户群包括:机场、机场管理部门、地方政府、州政府以及各联邦机构。由我们提供项目规划与管理的联邦机构包括联邦航空噪声跨部委员会 (FICAN)、美国联邦航空局 (FAA) 以及美国联邦航空局联合规划与发展办公室 (JPDO)。HMMH 公司在如下领域拥有广泛的经验:技术评估、程序开发、运行评估、政府转型计划、政策分析和开发、系统集成以及环保服务等。具体服务包括:

- 政策和法规分析
- 策略规划
- 运营理念设计
- 专业硬件及软件开发
- 数据库管理
- 系统工程
- 文件编制和培训

#### HMMH 公司与中国

#### 在中国推动机场噪声治理

商用喷气式飞机的出现使全球繁忙机场的航空噪声问题逐 渐尖锐。上世纪末中国北京,上海,广州等大城市的机场航空 噪声问题已十分严重, 其中以首都机场的问题最为突出。1998 年6月,民航总局赴美考察,随后在1999年4月8日-9日, HMMH 公司在北京首都机场的大力协助下。于北京举办了"机 场噪声影响控制"专题技术讲座。自此拉开 HMMH 公司为中国 民用机场提供航空噪声咨询服务的历史。此次讲座参会者包括: 民航总局规划司,财务司,适航司,飞标司,空管局,北京首 都国际机场,民航机场设计总院,民航适航审定中心,国家环 保总局, 北京市环保局, 北京市环保检测总站, 中国环境监测 总站,清华大学,河北科技大学,中科院声学所,中国设计设 计研究院等单位。讲座重点介绍了美国各级政府机构在机场噪 声影响控制方面的主要职责和美国有关政策法规,以及国际民 航业通行的五大类机场噪声影响控制的方法,包括二十多种具 体措施及其效果,成本(费用)等问题,是中国日后逐步开展 此类研究。制定相关管理规章的重要的基础参考材料。

2003年 HMMH 公司创始人之一 Andrew S. Harris 先生带领

的咨询团队与中国民航大学合作,受民航总局委托进行《国外民用机场噪声处置案例分析及管理政策研究》。完成总共八个国际机场(美国6个、英国1个、日本1)的案例分析,并形成管理政策报告。当时HMMH公司为民航总局提出了几个有建设性的意见即(1)建议中国民航采用昼夜声级(DNL)作为机场周边环境噪声的描述方式(2)建议中国统一立法,考虑使用FAR 150部的噪声土地使用相容性标准;(3)在中国采用FAR 150部的程序,该程序根据中国的特殊需求,作相应必要的修正;(4)噪声消减所需的资金可以通过向使用者收费的方式获得。这些经验均成为民航局治理中国机场噪声的引路石。

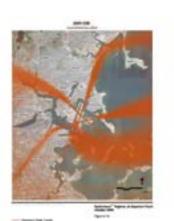
2005年,首都机场作为中国最为繁忙的中转站,航班流量不断增加,也使得周围居民的生活不堪其扰,时有发生当地居民恶意扰乱机场秩序、冲撞官府及民航局办公室等行为。一段时间居民与机场当局关系异常紧张。民航局了解当时的情况后,邀请 HMMH 公司和Andrew S. Harris 咨询团队对首都机场提供建立噪声与运行监测系统的咨询工作。之后随着首都机场第三条跑道的建立及面对奥运会的超大运载任务等,逐步对机场噪声监控和治理问题及机场管理问题产生了后续的咨询需要。2005 到 2009 年间,HMMH 公司及 Andrew S. Harris 咨询团队与首都机场先后签订了 4 个咨询服务合同,帮助首都机场完成了从系统设计系统到人员培训的全套流程。我们共为首都机场完成了从系统设计系统到人员培训的全套流程。我们共为首都机场提供了 3 大阶段共计 5 小项咨询服务。包括:(1)NOMS 概念设计方案;(2)NOMS 系统技术规范的设计;(3)审阅设备投标文件并总结评估;(4)审阅供应商文件并进行验收测试;(5)人员培训。目前首都机场 NOMS 系统运行平稳,为其日后的噪声治理工作奠定了必需的基础。

#### 噪声与运行监测系统(NOMS)项目经验

HMMH公司拥有卓越的资质为机场噪声及运行监测系统 (NOMS) 项目提供系统设计、技术规范编写、系统采购、设备安装和系统使用等方面的服务。HMMH公司在全球范围内已为 200 余家机场提供相应服务:

- 在联邦航空条例第 14 章第 150 部的指导下,为 80 余家机场开发并执行"噪声相容性规划"
- HMMH 公司助 50 余家机场完成 NOMS 系统相关的系统设计、技术规范编写、设备采购、安装监控、验收培训和 / 或系统使用的工作
- 设计并制作的低噪声监测系统可测得偏远地区背景噪音低于 3 分贝的噪声情况
- 协助机场噪声办公室进行人员组织、配备及培训事宜
- 开发、应用、安装及支持最先进的分析工具,如: RealContours 自动化飞行器噪声等值线图开发项目和 InFLIGHT ARTS 数据取得、处理、分析及报告软件
- 飞行轨迹数据处理及分析

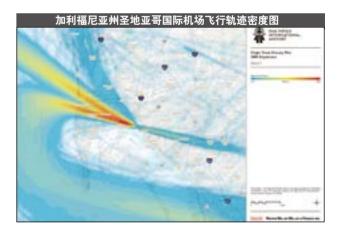
HMMH 公司开发了很多的内部工具用以获得、处理、分析和使用大批的雷达数据,包括 FAA ARTS 系统、无缘雷达应用及国际性的空中交通管制机构(包括意大利、南非和英国等)。我们在咨询项目以及永久性和暂时性噪声及运行监测活动中使用这些工具。例如,如下图片展示了了我们挑选及显示 NOMS 处理飞行轨迹的能力;HMMH公司设计了洛根国际机场典型的离场及到达的模型轨迹。





模拟洛根国际机场飞行器离场及进场的飞行轨迹(第一个为离场、第二个为进场)

HMMH 公司曾在如下机场安装飞行轨迹识别相关的硬件和/或软件: 纳什维尔国际机场(田纳西州); 明尼阿波利斯圣保罗国际机场(明尼苏达州); 夏洛特道格拉斯国际机场(北卡罗来纳州); 盐湖城国际机场(犹他州); 西雅图塔科马国际机场(华盛顿); 新奥尔良国际机场(加利福尼亚州)等。HMMH 公司运用其飞行轨迹识别的数据处理能力已为全球逾50 个机场提供咨询服务。另外,HMMH 公司开发了一个突破性的手段,即用空域密度图来呈现运行数据一图形描述了飞行器飞过附近社区空域的相对密度而不是噪声级别。以如下图形为例展示2004 年这项技术应用于圣地亚哥机场时模拟出的飞行器离场的飞行轨迹数据。



#### ■ 地理信息系统

从根本上讲,NOMS 的目的在于让机场了解在社区中由于航空器操作引发的噪声暴露情况,并运用这些信息来帮助社区所在区域加强噪声相容性建设。大多数 NOMS 有基本地理信息的地图,但是典型的土地使用信息还没有齐备。大多数的机场噪声研究都包括将航空器噪声暴露描述及飞行轨迹在基本地图上重叠以描述土地使用情况,并选择首选的噪声路径并评估其变化时产生的正面和负面的影响。HMMH 公司开发了广泛的测绘性能、地理信息系统、

演示及分析等性能并用一个有效的、精确的、可重复的、最前沿科技的形式来完成这些任务。如下图片是 HMMH 公司最近的一个噪声暴露地图,我们采用包裹级的地理信息系统分析来协助机场最大化的利用FAA 提供的资金执行土地兼容性测量。

在过去的 30 年间,HMMH 公司协助一系列机场完成了噪声监测系统项目,以此保证了自身在行业内的领先地位。在很多地区,HMMH 公司的技术规范推动了整个行业的创新。例如,在协助丹佛国际机场的设计项目中,我们开发并引进了新一代系统,这套系统做到了将噪声事件鉴别与分类、以及噪声和飞行轨迹关联的最高水平的集成。HMMH 公司熟识所有系统供应商并了解其系统性能,这确保了我们编写的技术规范的全面性、实用性和先进性。我们可以在不增加系统造价和复杂性的前提下"将技术发挥到极致。我们的经验涵盖了美国本土及国际范围内的众多机场。HMMH 公司雇佣高级技术人员,他们中大部分的专业是环境声学和噪声控制。我们已经建立了涵盖监测系统采购相关的全领域的专家团队,详细参考如下表格:



机场(按项目开始时间)	系统设计	监测地点选定	系统标准	协助采购	安装管理	验收测试	噪声硬件/软件	硬件及软件跟踪	人员培训	实时支持
百年机场,科罗拉多州		•		•	•				•	
巴尔的摩-华盛顿国际机场										
里诺国际机场,内华达州										
丹佛国际机场,科罗拉多州(系统设计)										
东汉普顿 , 纽约										
北京,中国										
港务局,马萨诸塞州(双机场系统)										
印第安纳波利斯,印第安纳州										
马丁县/競特曼机场,弗洛里达州										
圣克拉拉,加利福尼亚州(3个机场系统)										
罗伊斯维尔,肯塔基州										
10家南非机场										

机场(按项目开始时间)	系统设计	监测地点选定	系统标准	协助采购	安装管理	验收测试	噪声硬件:软件	硬件及软件跟踪	人员培训	实时支持
圣地亚哥,加利福尼亚州			•	•		•				
圣安东尼奥,德克萨斯州										
艾伦镇,宾夕法尼亚州 ( 双机场系统 )			•			•				
安克雷奇,阿拉斯加										
罗利杜汉,北卡莱罗纳州				•						
旧金山,加利福尼亚州										
坦帕市,弗洛里达州		•		•	•	•				
白原市,纽约州(更换,升级)										
那不勒斯,弗洛里达州		•		•	•		•		•	
迈阿密,弗洛里达州										
沙加缅度,加利福尼亚州(3个机场系统)										
芝加哥中途机场,伊利诺伊州										
芝加哥奥黑而国际机场,伊利诺伊州										
约翰韦恩,加利福尼亚州										
丹佛国际机场 , 科罗拉多州				•						
新奥尔良,路易斯安那州										
棕榈滩,弗洛里达州(3个机场系统)										
西雅图,华盛顿州										
劳德代尔堡-好莱坞,弗洛里达州										
劳德代尔堡伊格泽克尤蒂夫机场。 佛罗里达州										
明尼阿波利斯-圣保罗国际机场, 明尼苏达州				•						
纳什维尔,田纳西州										
夏洛特机场,北卡罗来纳州										
哥伦布机场,俄亥俄州										
丹佛斯泰普尔顿国际机场,科罗拉多州								- 5	- 50	-
盐湖城机场, 犹他州										

#### 选择 HMMH 公司作为顾问的原因

机场为噪声监测系统投入了巨大的资金。美国的机场通过向顾问寻求帮助来确保能够采购到能够买足他们需要的有效的 且高效的系统。在系统设计任务最初的需求评估往往是系统设计过程中最为重要的环节。为了尽快获得监测系统,一些机场 在开始供应商选择的同时进行系统设计工作。在机场完成供应商选择程序的前后,他们即可得到供应商需依照机场需求进行 系统安装的技术规范说明书。一个 NOMS 顾问也可提供我们内部了解的系统可用性以及供应商的信息用以协助机场进行供应 商及系统的选择。

计任务最初的需求评估往往是系统设计过程中最为重要的环节。为了尽快获得监测系统,一些机场在开始供应商选择的 同时进行系统设计工作。在机场完成供应商选择程序的前后,他们即可得到供应商需依照机场需求进行系统安装的技术规范 说明书。一个 NOMS 顾问也可提供我们内部了解的系统可用性以及供应商的信息用以协助机场进行供应商及系统的选择。

HMMH 公司拥有国际领先的信用可向机场提供有利条件最终帮助机场获得一套需最低初始资金及交付后运营费用的最合 适的监测系统 包括

- HMMH 公司在开始系统设计工作前会对机场的特殊要求进行评估,确保监测系统为机场的特殊要求量身定制。如果没 有这一步骤,供应商可能会提议使用一般现成的解决方案,而这样往往会增加一些不必要的费用同时不能表现某些特别 的当地情况。
- HMMH 公司对目前市场上的设备十分熟悉,我们可以保证购买的系统反应出最新科技、节省成本、并且是经过验证的 可靠的技术。
- HMMH 公司拥有相应的技术能力可提供详细的技术规格说明书,以确保监测设备供应商的工作建议和范围的要求等职 责被完全地且清晰地定义。
- HMMH 公司也拥有和系统测试及安装相关的全面的技术能力,以确保机场最终得到的系统真正按照技术规范满足了他们的要求。



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2013年4月9—14日



#### ● Sun 'n Fun 阳光快乐飞行周

1988年开始,每年4月,数以万计的航空爱好者从世界各地集结而来,汇聚在美国弗洛里达州雷克兰林德 地区机场的 Sun 'n Fun 大本营,参加这个全球最棒的通用航空盛会。6 天的活动时间,将有超过 4000 架通航飞 机飞临,逾500个商业参展商展示其最新产品,会举行450余场航空教育论坛、讲座,还有开放式的DIY飞机 组装车间。每天下午为参观者举行飞行表演,由全球最棒的特技飞行员完成,包括喷气机队表演、战斗机精准 地重现第二次世界大战飞机轰炸场面以及不可思议的烟火展示。更有"夜间飞行表演秀"将吸引大批的观众参 观和精彩绝伦的焰火表演·····可以说,Sun 'n Fun 阳光快乐飞行周是适合任何年龄段航空爱好者的嘉年华。

#### 对于国内人来说, Sun 'n Fun 阳光快乐飞行周有什么意义呢?

如果你是航空爱好者,阳光欢乐飞行周提供你超过4000架各式飞机观赏和与拥有人沟通交流的机会。你可 以认识了解各型号飞机的性能与操控模式,了解各飞机拥有人士使用该飞机的用途与经验。透过 500 家航空产 品与服务供应商的展台,你能了解到最新的科技与技术,新材料学在航空飞行器的贡献,新航空电子的应用如 何使飞行更容易安全。你更可透过 450 余场航空教学讲座获得最新的、必要的、有价值的航空信息与技术,让 你成为航空的专才和高端的爱好者。每日的飞行表 演更会让你感受到飞行的乐趣与挑战而进一步愿意 尝试飞行,学习飞行,最终成为全世界百万业余飞 行员中的一员。

如果你是航空管理人员, 阳光欢乐飞行周是 你必须参加的航空管理飨宴。一个巨大的航展是由 飞行器,操作者,参观者和许多后勤供应者所组成 的一个像交响乐团演奏般的盛大演出。有条理的, 安全的, 适时的, 有效的, 获利的进行规划, 准备 与执行是需要几十年的经验与知识才能一次又一次 的成功举办航空大展, 历久不衰。这是学习实践通 用航空机场管理,飞行管制,航空活动招商与举行, 人流控制, 商业盈利, 航空教学, 航空交流等最佳 机会和场合。认识了解每个环节,学习每个执行要 点,了解每个决策背后的原因与要素都可以在返回 国内后在工作岗位上更积极有效的完成工作,让当 地的通用航空像欧美发达国家一样快速向前发展达 成既定目标。

如果你是航空产业园建设单位主管, 阳光欢乐 飞行周是你推介产业园项目并招商的最佳机会与场 合。500 家航空产品供应商在展会都有展台介绍销 售该公司产品设备与服务, 这些制造运营销售商在 中国的低空开放发展通用航空的洪流中不会缺席。 他们将先后需要在中国有生产, 总装, 销售, 服务 等基地与机构,这是推介贵航空产业园的绝佳际遇。 4,000架飞机和20余万人的大型航空活动,可以 启发航空产业园许多运营管理上的构思与策略,这 些构思与策略将会是造成领先国内通用航空产业的 重要突破与关键。

如果你是个旅游购物爱好者, 阳光欢乐飞行周 将会是你梦寐以求的观光购物机会。阳光欢乐飞行 周的航展地点是美国知名的旅游购物重镇, 迪士尼 王国,海洋世界,乐高玩具城等都在近距离范围内, 周边更有无数高档购物中心与名牌专卖店。 在一 周的航空飞行, 旅游和购物穿插其间, 伴以垂涎的 佳肴与美食,阳光欢乐飞行周将会是你难忘的美国 度假之旅。



#### ● Sun 'n Fun 阳光快乐飞行周中国馆

为了服务国内通航业界顺利参加 Sun 'n Fun 阳光快乐飞行周,《民航报导》应 Sun 'n Fun 阳光快乐飞行周主办方邀请在大会期间建设中国馆以展示中国通用航空的发展与需求。

阳光欢乐飞行周中国馆是中国通用航空的国际舞台,是地方政府及航空制造商介绍航空产业园及产品的绝佳机会。阳光欢乐飞行周拥有 20 万观众、4000 位飞机拥有人、500 家航空产品及服务供应商,更因为阳光欢乐飞行周是美国航空界开年的第一个大型活动,在商务推广和招商上将会有很大的功效和成果。

在中国低空开放和全国各地普遍设置航空产业园的背景下,国际宣传与招商就成为地方政府拔头筹居领先的大好机会,争取国际航空制造商、供应商和运营商前来设厂设点,吸引其利用当地产业园区发展在中国的业务和市场。由于国际航空生产制造厂家有限,被动等待厂商前来洽谈投资,不如主动参加大型国际航空活动,积极推广和介绍地方优势和奖励措施,第一时间争取外商前来考察、洽谈,将这些企业带到本地,以繁荣本地航空业。欢迎报名成为中国馆的展商并代表中国与国际航空业界交流与互动。

中国馆共有6个10尺 x10尺标准展台(包括大型显示器、资料桌、座椅)可供地方政府或企业展示和宣传其通用航空产业园、产品、设备、服务等。参展单位宣传由主办方统筹办理。

## 为了方便抱有不同目的的参会者更有针对性地参加 Sun 'n Fun 阳光快乐飞行周中国馆,我们设计了不同的团队供报名参加,详情如下:

#### 通用航空运营管理营

- \* 为地方政府的航空产业管理人员及招商人员所设计,认识并了解通用航空展会和飞行表演的规划、运营和管理;
- \* 第一线观摩和了解全展会的组织架构及运营细节;
- \* 认识通用航空机场运营、航空展会和飞行表演对地方经济的作用及其与社区的关系:
- \* 全面了解通用航空的意义与发展空间。

#### 飞机学习探索营

- \* 对有意购买通用航空飞机或认识通航飞机的人士来说,是最佳活动;
- \* 介绍每一种飞机的设计构思、用途、特性、优缺点和性价比等;
- \* 参观并触摸每一种飞机并与拥有人对话,以便完全了解各飞机的操作细节;
- \* 了解飞机价格与二手飞机市场行情。

#### 体验飞行营

- \* 由资深飞行员带你亲身体验飞行各种通航飞机:
- \* 全程参与飞前准备、飞机检查、飞行操作等,深入体验拥有并驾驶飞行器的感受;
- \* 了解你是否适合飞行并有机会成为一名私人飞行员;
- \* 了解飞机的结构、原理和控制机件。

#### 航空飞行展参观团

- \* 亲自体会航空展会的气氛与乐趣,观赏每一种飞机,欣赏飞行特技表演,体验超音速军机冲场的震撼:
- \* 近距离观看每一种飞机并与拥有者和驾驶员交谈;
- \* 认识飞机的结构与用途;
- \* 航空摄影的绝佳机会与场所,近距离与上千架飞机接触。

#### 观光旅游购物团

- \* 阳光欢乐飞行周所在地与佛罗里达州奥兰多观光旅游胜地很近,拥有许多大规模精品专卖店与购物中心;
- \* 参观航展后可以前往迪士尼世界、奇幻世界、动物王国、明日世界等世界级主题公园游乐区;
- \* 更可以继续前往迈阿密等旅游胜地。

欢迎加入中国馆代表团 电话: 86-10-8559-0830

网址: www.uniworldchina.com/sun-n-fun/





民航报导

### 北京警方新购中型直升机首飞升空

### Beijing Police's New Medium Helicopter Succeeds in Maiden Flight



In late October, the delivery ceremony of a medium sized helicopter bought by the flight fleet of the People's Government of Beijing Municipality was held at the Police Flight Base in the Changping district. Ji Lin, Deputy Secretary-General of the People's Government of Beijing Municipality and Fu Zhenghua, police

commissioner of the Beijing Municipal Public Security Bureau, both attended the ceremony and unveiled the newly bought helicopter.

The medium helicopter has not only been equipped with the normal units that are typically equipped with other police helicopters, but has also been equipped with the Sky Eye towed bird system to achieve wireless transmission of Digital HD images with ultra-red function. By operating this system, the flight crew can transmit real-time HD images taken aerially to the ground control center so as provide information and images to the center for controlling support the ground situation.

10月底,北京市人民 政府航空队(北京市市人民 政府航空队(北京市市公 局警务航空总队)新购直升机交接首飞仪 型直升机交接首飞仪之 位于昌平的警航基地举行。 市委副书记、政法委书记 吉林,市委常委、市共同 局局长傅政华出席并共同 为新购直升机揭彩。

这架中型直升机除了 具备一般警务航空对对直升 机的配置要求外,还装备 了具备红外功能的数字统, 机组人员通过操作该系统, 可实现将空中采集到的指挥 中心,为指挥中心动态和 握地面情况提供信息和图 像支撑。 by private helicopters. The militia emergency rescue team will enlarge its service area and will join the PAFD of Guanghan and other organizations involved in order to launch a series of emergency response plans, establish an emergency command mechanism for natural disasters and to conduct well-targeted drills.

依托私人直升机编组起来的民兵直升机应急分队。 该民兵应急分队还将拓展遂行任务区域范围,会同 广汉市人武部等有关部门研究制定一系列紧急抢险 预案,建立自然灾害应急指挥机制,开展针对性演 练。



# 中航工业通飞举行西锐飞机购机项目签约仪式 AVIC General Aircraft Have Hosted Cirrus Aircraft Sales Contract Signing Ceremony

In mid-November, the AVIC General Aircraft Co., Ltd. (AVIC General Aircraft) held a Cirrus aircraft sales contract signing ceremony in the press center of the 9th China International Aviation and Aerospace Exhibition. At the ceremony, AVIC General Aircraft signed several sales agreements with several aircraft sales agencies and aircraft operators, totaling the sales of 60 Cirrus aircraft.

At the signing ceremony, AVIC General Aircraft signed agency contracts with Yunan Ruifeng Jet Co Ltd, Beijing Huade, Shanxi Jinggong General Aviation Co Ltd and Zhuhai Hanxing General Aviation Co Ltd as well as signed aircraft sales contracts with these firms. In addition, AVIC General Aircraft also signed two sales contracts with AVIC Flight Academy and the AVIC General Aircraft Club, both aircraft operators, to sell 20 Cirrus aircraft. This time, AVIC General Aircraft had signed contracts to sell 60 Cirrus aircraft and these aircraft are predicted to be delivered within the next three years.

The Cirrus SR20 and SR22 referred to in these contracts are both single-piston-engine all-composite aircraft, equipped with the Cirrus Airframe Parachute System.

11 月中旬,中航工业通飞在珠海航展新闻中心举行西锐飞机购机签约仪式,现场与多家飞机销售代理商及飞机运营机构签订了 60 架西锐飞机购机合同。

在签约现场,中航工业通飞与云南瑞峰、北京华德、陕西精功、珠海翰星等四家飞机销售机构分别签订了代理合同,并与这几家飞机销售机构签订了40架西锐飞机的购买合同。此外,与珠海中航飞行学校、中航通飞俱乐部两家飞机运营机构签订了20架西锐飞机购买合同。本次签约共签订了60架西锐飞机的购买合同,预计将在未来三年内交付。

本次所签订的西锐 SR20、SR22 飞机是全复合材料单发活塞飞机,配有整机降落伞系统。

### 西南首支"民兵直升机应急分队"成立

## Southwest China's First Militia Helicopter Emergency Response Team Established



The mission of this newly established militia helicopter emergency response team is to conduct aero-medical evacuations, aerial investigations, disaster reconnaissance, aerial photography, emergency rescue and other contingency missions. Currently there are three helicopters, an EC135, an EC120 and a B3E as well as 18 pilots and a maintenance crew that includes 16 personnel.

This is Southwest China's first militia helicopter emergency rescue team composed completely

该"民兵直升机分队"的任务是在地震、火灾、防汛等抢险救灾行动中主要担负空中医疗救护、空中侦查、灾情勘查、空中航拍和应急救援等空中应急任务。目前分队拥有EC135、EC120、小松鼠B3e等3种机型的直升机各1架,飞行员18名、机务维修人员16名

这是西南地区第一支

### 夏兴华出席国际民航组织第 12 届航行大会

#### Xia Xinghua Attends ICAO's Twelfth Air Navigation Conference

The Twelfth Air Navigation Conference (AN-Conf/12) of the International Civil Aviation Organization (ICAO) was held in Montréal in the middle of November of 2012, at the headquarters of the ICAO. Based on the concept of "One Sky" safety, capacity and efficiency, the AN-Conf/12 emphasized discussions and deliberated on the Global Air Navigation Capacity & Efficiency Plan (the original Doc 9750), especially the ICAO Aviation System Block Upgrades (ASBU).

The above two topics will generate a systemic global air navigation planning frame & mechanism in the future, and specify the ATM system's operation target and technology transformation for the future and will have a far-reaching impact on the global ATM systems in the next fifteen years.

Mr. Roberto Kobeh González, President of the Council of ICAO emphasized, "It is a mission for the entire international civil aviation industry to secure the feasibility of the air navigation system continually and to contribute to the global economy in a safe, secured and efficient manner." He grandly declared that the Asia-Pacific branch will be located in Beijing, China. This is the first regional branch of the ICAO. The establishment of this branch will promote even better cooperation among the countries in the Asia-Pacific region.

Some 1,100 representatives from over 120 countries, regions, international organizations and aviation enterprises globally all attended the conference. Mr. Xia Xinghua, deputy minister of the Civil Aviation Administration of China (CAAC) headed a group of 40 members, which consisted of members from the CAAC, the Civil Aviation Department of Hong Kong, the Civil Aviation Authority of Macau SAR and the China Satellite Navigation Office.

The ICAO's Air Navigation Conference is a professional conference focused in the area of navigation. Starting from the first Air Navigation Conference held in 1953 to the eleventh Air Navigation Conference in 2003, the conference had been held a total of 11 times. The goal of the conference is to continually provide new plans for the global navigation system and to promote the application of new technologies in the area of navigation so as to maintain a safe, efficient and orderly international navigation policy.

国际民航组织第 12 届航行大会于 2012 年 11 月中旬在加拿大蒙特利尔国际民航组织总部开幕。此次大会拟在"同一个天空"安全、容量与效率的主题下,重点讨论并审议国际民航组织《全球空中航行容量与效率计划》(原"全球航行规划"Doc.9750),特别是"航空系统组块升级"(ASBU)方法。

上述两项内容将确定未来全球航行系统规划框架和机制,明确未来空管(ATM)系统的运行目标和技术过渡路线图,将会对今后十五年全球 ATM 系统的发展产生深远影响。

国际民航组织理事会主席罗伯特 高 贝 冈萨雷斯先生在开幕式致辞中强调: "保证未来空中航行系统的可行性并继续以安全、 安保和高效的方式为全球经济发展做出贡献是 国际民用航空界的共同任务。" 并隆重宣布国 际民航组织决定亚太分办事处设在中国北京, 这是全球首个地区分办事处,分办事处的成立 将更好的促进亚太地区各国在民用航空方面的 交流与合作。

来自全球一百二十多个国家、地区、国际组织和航空企业的约 1100 名代表参会。中国民航局夏兴华副局长率领由中国民用航空局、香港、澳门地区民航局及中国卫星导航系统办公室人员共 40 人的中国代表团出席大会。

全球航行大会是国际民航组织主办的航行 领域专业大会。自 1953 年第 1 届大会至 2003 年已经召开了 11 届。会议的目的是不断为全 球空中航行系统制定新的发展规划,并推动最新技术在航行领域的应用,从而确保国际空中航行的安全、高效和有序。



In early December, the international terminal at Nantong Xingdong International Airport (Nantong Airport) had begun construction. The project was organized by the Investment & Construction Center of the Nantong Municipal Government. The total floor space of the terminal will be 8,175 square meters. Fire fighting, security check and office facilities will all be relocated. The helipad and other facilities and other related equipment will also be constructed and upgraded. The estimated cost of the project is 12.388 million yuan.

Nantong Airport has been included as a part of the National Twelfth Five-Year Plan. The international terminal project is designed to be constructed to meet the requirements needed of a national port and will be located north of the current terminal. The above ground portion of the building will have two floors. A boarding lounge with 250 seats is designed to accommodate enough passengers for one to two Category C aircraft per hour during peak hours. A commercial catering area will also be set up if the passengers believe it to be necessary. The terminal will include an international arrival floor and a domestic arrival floor designed to meet international standards.

This project is expected to be completed and put into operation in the second half of 2013. It is predicted that by 2013, Nantong Airport will be opened temporarily flights to Japan, Korea, Hong Kong and Taiwan will be opened. In the next five years, the passenger throughput of Nantong Airport will continue to increase as the airport opens new air lines and flights and optimize its current flight network. The airport is working hard to reach its goal of having its passenger throughput reach 1.2 million and the cargo and mail throughput reach 20 thousand tons by 2016.

12 月上旬,兴东机场国际候机楼工程 开工建设。这个工程由南通市市级政府投资 项目建设中心负责组织建设,建筑面积 8175 平方米,配套消防、安检办公迁建、通用机 坪及相应配套设施设备,概算投资 12388 万

南通机场口岸开放已列入国家"十二五"规划。结合国家口岸开放需要而启动的国际候机楼工程,地上设二层,位于现有候机楼北侧,按高峰时段每小时迎送1至2架C类飞机(空客320、波音737)的旅客数设置250座候机厅,同时根据旅客需要设置商业餐饮服务区域。候机楼按国际规范设有国际到达层和国际出发层。

兴东机场国际候机楼项目计划于明年下半年交付使用,届时将基本满足南通开通国际航线航班保障运行服务的要求。预计 2013 年内南通兴东机场可以实现口岸临时开放,届时将开通至日本、韩国、香港、台湾等国际和地区航线。未来五年内,通过新开航线航班,优化组合现有航线网络,南通机场的旅客吞吐量将逐年攀升,力争到 2016 年,年旅客吞吐量达到 120 万人次,货邮吞吐量达到 4 万吨。



英文作者: Nelson Chao, Written by Nelson Chao中文译文: 高瑞玲, Translated by Linda Gao

The National Business Aviation Association (NBAA) held its 65th annual Meeting and Convention at the Orange County Convention Center in Orlando, Florida, from October 30 - November 1st, of 2012. This event brought together business leaders, government officials, manufacturers, corporate aviation department personnel and all forms of people involved in nearly all aspects of business aviation and placed them all together under one roof. The annual meeting and convention of the NBAA is one of the premier events in the world for the gathering of the business aviation community. There was a beautifully laid out Static Display of Aircraft located at the Orlando Executive Airport, over 100 Educational and Maintenance and Operations Sessions (M&Os) and over 25,000 business aviation professionals who were interested in seeing and learning about all what is new in the world of business aviation. The annual NBAA meeting and convention is truly an amazing event for the business aviation community and the China Civil Aviation Report (CCAR), along with Beijing Capital Jet Company Limited (Capital Jet), was very proud to be a part of such an event as the host of the China Pavilion

2012 年 10 月 30 日 —11 月 1 日,美国国家公务机协会(英文 National Business Aviation Association,简称 NBAA)年会暨公务机展在美国佛罗里达州奥兰多市举行。来自世界各地的公务机领军人物、政府官员、制造商、公务航空工作者和公务航空领域其他几乎各个方面的人士汇聚一堂,参加了这个盛会。NBAA 年会暨公务机展是世界上公务航空界的顶级盛会之一。该活动在奥兰多公务机场举办一个大型公务机静态展,超过 100 场有关培训、维修和运行商的专题讲座,25000 名专家到现场观摩,了解其感兴趣的公务航空最新进展。在国际公务航空界,NBAA 年会暨公务机展是一个名副其实盛会。《民航报导》和首都公务机有限公司有幸参加了这个活动中,并再次在这个盛会上主办了中国馆。



The China Pavilion returned once again for the 65th annual NBAA 2012 Meeting and Convention. The purpose of the China Pavilion is to build a platform that bridges the gap between China and the rest of the international aviation community. The China Pavilion was set up in order to provide information to the international aviation community regarding China's aviation developments and to assist all parties in seeking out their correct counterparts in order to develop GA in China and to further grow aviation around the world. With the strong emphasis and support by the central government of China to develop General Aviation, China has been reaching out to the international aviation community in search for assistance and seeking to form mutually beneficial partnerships that would help China to develop their own General Aviation industry.

This year's NBAA conference seems to be proof that China's new "reaching out" policy is in full effect, as there was a noticeable increase in the amount of Chinese attendees at the event compared to last year. Even more

importantly, a delegation from the city of Zhengzhou had attended the event as a special guest of the China Pavilion. The delegation from Zhengzhou consisted of both members from the private sector as well as from government agencies. The delegation was headed by Ma Yi, Mayor of Zhengzhou, and consisted of Wu Zhonghua, Zhu Heshun, Song Jie, Wei Dong, Lv Jian, who are leaders from the People's Government of Zhengzhou, and Li Wei, Chairman of Synear Group, Wang Xiaoxing, Chairman of Henan Meijing Real Estate Co., Ltd and Zhou Suiji, Chairman of Henan Sizhitang Pharmaceutical Co., Ltd.. The purpose of

在国际大活动中举办中国馆的目的是搭建中国和国际航空界沟通的桥梁,也为国际航空界认识和了解中国航空产业发展的现状提供信息,并且帮助国际航空界寻找中国合作伙伴以便在中国发展通用航空、在全世界范围拓展其航空事业。在中国政府大力倡导和支持发展通用航空的政策背景下,中国通用航空也已经开始走出国门,在国际范围内寻求协和互利的合作对象,帮助发展自己的通用航空产业。

今年的 NBAA 年会暨公务机展似乎也在证明中 国新的"走出去"政策奏效了,因为相较往年,明 显有更多的中国面孔出现这个活动上。更重要的是, 来自中国河南省郑州市的代表团,作为中国馆的特 殊客人参加了这个活动。郑州代表团由郑州市市长 马懿带领, 由民营企业和政府单位共同组成。政府 部门代表有郑州市人民政府秘书长吴忠华、郑州市 商务局局长朱河顺、郑州市上街区区长宋洁和市发 改委副主任魏东以及郑州市政府外事侨务办公室副 主任吕剑等: 民营企业代表有思念集团董事长李伟、 河南美景置业有限公司董事长王小兴以及河南省四 知堂制药有限公司董事长周遂记等。郑州市代表团 参与第65届NBAA年会暨公务机展的目的是向国 际航空界发布其在郑州建立航空产业园的计划,并 在国际活动中征寻有意在郑州成立合资企业或者未 来在郑州航空产业园成立运营办公室的合作伙伴。 在2012年10月30日下午2点由《民航报导》举 行的新闻发布会上,各个媒体、业内观众把新闻间 挤得满满当当, 郑州代表团趁此机会宣布了其参加 NBAA 年会暨公务机展的意图。



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the delegation form Zhengzhou in attending the 65th Annual NBAA Meeting and Convention was to inform the international aviation community about their plans and desire to develop an aviation industrial park in the city of Zhengzhou and to seek those who 会者提供了很多有价值的信息。对于中国通用航空 are interested in forming a joint venture, or desire to set up future 发展历史的介绍,赵先生从 1979 年中国的改革开 operations in the Zhengzhou Aviation industrial park. The Zhengzhou 放说起。从那时起,中国的航空事业开始迅速发展, delegation made their big announcement to a nearly packed room 当时中国的航空产业位居世界第 56 位,现如今中 during the press conference hosted by the CCAR. The press 国已经发展成为世界第二大航空国,仅次于美国。 conference was held on Tuesday, October 30th, at 2:00pm.

The first half of the press conference was hosted by the CCAR 从以难以置信的速度发展的商业航空, 到受限而发 and was a brief overview of the history of China's GA industry. Mr. 展缓慢的通用航空,还特别说到了中国的公务航空 Francis Chao, the publisher of the CCAR and the host of the press 以及这几年它在中国的迅速发展。 conference, gave a very informative presentation to the attendees regarding the history of China's aviation development. Mr. Chao's 介绍了中国公务航空的现状和市场潜力,并且向与

新闻发布会由《民航报导》发行人和新闻发布 会的主持人赵嘉国先生首先开始对中国的通用航空 产业和中国航空产业发展历史做了简要介绍,向与 赵先生的演讲涵盖了中国航空业发展的方方面面,

随后, 首都公务机公司副总工程师靳永发先生

presentation followed China's aviation developments from its earliest stages, to the reform of 1979' and China's rapid emergence from being ranked 56th to becoming the 2nd ranked aviation nation in the world only behind the United States. Mr. Chao's presentation covered all aspects of aviation in China, from the incredibly rapid development of commercial aviation in China, to the hurdles GA is facing in its development, as well as a strong 高品质,安全舒适的服务。接着郑州市市 emphasis on business aviation and its rapid development in China.

After Mr. Chao's presentation, the delegation form Zhengzhou took the stage, and the mayor began his presentation to the audience. In their presentation, they introduced the audience to the city of Zhengzhou and demonstrated their capability to manufacture extremely technical high end products by explaining to the attendees that the new iPhone 5 is being manufactured in their city. In their presentation, they expressed their desires to develop the aviation industrial park in their city and are seeking those who

会人士介绍了首都公务机公司在北京首都 机场的运营。靳总更向国际公务航空业界 发出邀请共同努力向中国正在发展的公务 航空市场提供设施,管理技术和服务,让 中国的公务航空能尽速与国际接轨,提供 长马懿代表郑州代表团做演讲。马市长首 先介绍了郑州市, 向大家展示了郑州制造 高新科技产品的能力,郑州现在正在生产 iPhone 5。马市长向与会者表达了郑州要发 展其航空产业园的愿望,目前正在寻找有 意利用这个城市的制造能力和其他利好政 策的合作伙伴。郑州是中国第36个建立航 空产业园的城市, 却是第1个响应中国政





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are interested in utilizing the city's manufacturing capabilities and other 所的"走出去"策略,到大的国际航空活动中寻求 benefits. Zhengzhou is the 36th city in China to begin development of an 机会发展他们的航空产业园的城市。最后马市长与 aviation industrial park, but they are the first city to fully embrace China's 所有参与新闻发布会的人员分享了他们发展航空产 new "reaching out" policy and travel to the premier Business aviation 业园的愿望和目标,欢迎所有感兴趣的朋友就未来 event in the world to seek opportunities for further development of their 的合作进行洽谈。 aviation industrial park. They concluded their presentation by sharing with the attendees their hopes and goals in developing the aviation industrial 后,郑州代表团和赵嘉国先生来到 NBAA 官方展位 park and welcomed all interested parties to speak with them regarding 前,与NBAA主席Ed. Bolen 先生做了预定的会面。 future developments.

After the presentation by the Zhengzhou delegation, Mr. Chao then 带来的礼物,表达了与 NBAA 合作以发展郑州的通 began taking questions from the audience on behalf of both the CCAR

and the city of Zhengzhou. There was quite a bit of interest regarding the development of aviation in China as the amount of questions that were asked went over the allotted time allowed for the press conference, and the Q&A session had to be moved into the hall in order to allow the next scheduled press conference to start on time.

After all the questions had finally been answered, the Zhengzhou delegation, along with Mr. Chao, headed over to the official NBAA booth to have a quick meet and greet with NBAA president, Mr. Ed. Bolen. The Zhengzhou delegation presented Mr. Bolen with the gifts they had brought over

回答完记者和观众关于中国航空产业的问题 郑州代表团为 Bolen 先生送上了他们从自己的城市





from their city, and expressed their desire to work with the NBAA in order to further develop aviation in Zhengzhou, and that one day, they hope to be able to host their own NBAA event in Zhengzhou. Mr. Bolen graciously accepted their gift and thanked them for their commitment to the development of aviation.

For the remainder of the NBAA convention, the China Pavilion continued to play its 谢他们为航空产业发展做出的贡 role as a bridge between China and the international aviation community by answering the 献。 questions of those who were interested in the China Market, and consulting them on the many different hurdles and options to entering this new market.

The return of the China Pavilion to the Annual NBAA Meeting and Convention was a huge success. The amount of interest in the current state of aviation development in China by the international aviation community supports shows the need for the China Pavilion.



With the success of the China Pavilion at NBAA, it is no wonder why those who were involved in the China Pavilion are already looking forward to its next appearance at Sun 'n Fun and EAA.

用航空产业的愿望, 并表示希望 有一天他们也能在郑州举办自己 "NBAA 大会"。Bolen 先生情切 地接受了郑州代表团的礼物,感

作为在 NBAA 大会扮演中国 和世界沟通桥梁角色的中国馆, 继续发挥作用, 回答所有关于中 国市场的疑问,帮助所有来访者 做咨询,解答其对进入这个新兴 市场的障碍和选择的问题。

今年是第二次在NBAA年 会暨公务机展举办中国馆,十分 成功。我们发现,国际航空界对 中国航空产业发展现状十分感兴 趣。有了中国馆在 NBAA 上的成 功, 也就不难理解那些已经参加 过中国馆的团员为什么也在等着 参加《民航报导》在 Sun 'n Fun 以及 EAA 上举办的中国馆活动 了。

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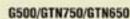
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### 珠海市与中南空管局签署《珠海空管站保障协议》

### Zhuhai Municipal Government Signed an Agreement with the Central South ATMB



In mid-October, the Zhuhai Municipal government signed a settlement for the operational security of the CAAC Zhuhai ATM station with the Central South ATMB. Mr. Chen Renfu, an aide to the mayor, and Mr. Chen Songlin, director-general of the Central South ATMB, signed their names on the agreement respectively on behalf of the Zhuhai municipal government and the Central South ATMB. Related leaders from the Zhuhai Traffic Management Bureau, the Zhuhai Development and Reform Bureau, the Finance Division of the Central South ATMB, the Zhuhai Terminal Control Center, the Zhuhai Aviation Industrial Park and the Zhuhai Aviation Industrial Development Group Co., Ltd. all attended this meeting.

The CAAC Zhuhai ATM Station is the only unit that is jointly managed by both the local government and the CAAC in China's civil aviation system. In 1995, the Zhuhai municipal government and the Central South ATMB signed an Agreement for Managing the CAAC Zhuhai Flight Operation Station with Independent Personnel and Finances. According to this agreement, the finance problems are managed by the Zhuhai Flight Operation Station, and the personnel and industrial management is operated by the civil aviation sector and this mechanism has been implemented ever since then and has provided powerful security for the sustainable development of the Zhuhai ATM Station. Because the personnel and the finance issues of the Zhuhai ATM Station were independently managed, the investment plan of this unit had not been included into the nation's civil aviation development program. Therefore, the facilities and equipment are too old to meet industrial development requirements and the risk to operating the facility is getting higher and higher. The potential safety hazards are starting to stand out, which has severely prohibited the rapid development of Zhuhai's aviation industry. In addition, according to the Agreement on Managing the CAAC Zhuhai Flight Operation Station with Independent Personnel and Finances, all the

10 月中旬,珠海市政府与民航中南空 管局共同签署了《关于民航珠海空管站运 行保障协议》, 珠海市陈仁福市长助理 民航中南空管局陈松林局长分别代表珠海 市政府和民航中南空管局在协议书上签 字。珠海市交通局、发改局等职能部门以 及中南空管局财务处、民航珠海进近管制 中心、珠海航空产业园、航空城集团的领 导均参加了此次会议。

民航珠海空管站是全国民航唯一一家 由地方政府和民航共同管理的单位。1995 年,珠海市政府与民航中南管理局签订了 《关于民航珠海航务管理站实行人财分离 管理办法的协议》, 本着珠海市政府负责 经济管理, 民航负责人员和行业管理的原 一直实施至今,为珠海空管站可持续 发展提供了有力保障。由于珠海空管站实 行独特的人财分离体制,珠海空管的投资 规划未能纳入国家民航发展规划之中, 使 得珠海空管站设备设施更新改造工作滞后 于行业发展需求,设备运行风险逐年加大, 安全隐患突显,将严重制约珠海航空产业 的快速发展。并且根据人财分离协议的要 求、珠海市政府将承担着珠海空管设备设 施更新改造的全部费用,据统计,在未来

investment used for upgrading the facilities and equipment of the Zhuhai ATM Station will be undertaken by the Zhuhai government. In the next five years, expenses being spent on upgrading these facilities and equipment may reach 300 to 500 million Yuan. which will be a heavy pressure for the Zhuhai municipal government. Therefore, to adjust to the nation's general plan in the civil aviation industry, to utilize the nation's investment policy for the air traffic management of the civil aviation industry and to integrate all its resources, the Zhuhai municipal government and the Central South ATMB officially signed a settlement on the Operational Security of the CAAC Zhuhai ATM Station after long negotiations, which transferred the property of Zhuhai ATM Station's fixed assets, including facilities and equipment, land, houses, etc. to the Central South ATMB.

The signing of the settlement on the operational security of the CAAC Zhuhai ATM will be of great significance to the development of ATM around the Zhuhai region and to Zhuhai's aviation industry. Mr. Chen Songlin, director-general of the Central South ATMB said that starting the day of the signing, the Central South ATMB will execute scientific evaluations to the current facilities and equipment, so as to make a complete and systematic upgrade and reconstruction plan. The Central South ATMB will strengthen negotiations with the CAAC so that the reconstruction plan of Zhuhai's ATM Station can be included in China's Civil Aviation Development Plan During the Twelfth Five-Year Plan Period and the construction of Zhuhai's ATM system could move forward.

五年内, 珠海空管的设备设施改造费用将 达到 3-5 亿元人民币, 无疑也大大增加了 珠海市政府的财政压力。因此, 为了适应 全国民航空管发展的统一规划。合理利用 国家对民航空管的投资政策和整合资源, 经珠海市政府与民航中南空管局协商,于 2012 年 10 月 17 日正式签署《民航珠海空 管站运行保障协议》, 将珠海市政府投资 建设的珠海空管设备设施、土地物业等固 定资产产权移交民航中南空管局。

《民航珠海空管站运行保障协议》的 签署,对珠海空管以及珠海航空产业的发 展都具有十分重要的意义。民航中南空管 局陈松林局长表示: 民航中南空管局将从 协议签署之日起对珠海空管现有设备设施 进行科学的评估, 做出全面系统的更新改 造规划。并积极加强与民航局的协调,争 取将珠海空管设备设施改造计划调整到民 航"十二五"发展规划之中,加快推进珠 海空管系统的建设。

## 西南至北京空中航路分流方案全面实施 Southwest-to-Beijing Airway Diversion Plan Fully Implemented

Started from 0:00 of November 20th, flights from the small airports of Kunming. Chongging, Guiyang and Yunnan to Beijing, Tianjin and Northeast China have had 阳及云南省境内的小机场至北京、天津及东北 their routes diverted to the newly opened airways in order to bypass the commonly 方向的航班全部改道沿新辟路线飞行,避开西 congested routes over the Xi'an area and to ease the congestion situation.

To ease the issues regarding congestion and severe delays of flights between 流,缓解航路拥堵。 Beijing, Northeast China and the Southwest China region, the related authority added new airways from Southwest China to Beijing and Northeast China in 班拥挤、延误严重等问题,报经国家有关部门 September. To insure safe and smooth flights, the civil aviation sector has decided 批准, 今年9月中旬新增了西南至北京、东北 to implement the plan by increasing flights along the newly added airways step 地区航班路线。为确保空中飞行安全、顺畅, by step and at starting opening day, flights from Kunming to Beijing, Tianjin and 民航部门实施了逐步增加新增交通路线的飞行 Northeast China have been diverted to the newly added airways. Since the 流量的方案,于新航路开辟当日首先将昆明去 implementation of the plan, the flight operation situation has been good, which 往北京、天津及东北的国内航班调整至新路线。 means that the plan has achieved positive results. According to partial data, the 方案实施至今,运行平稳、效果显著。据不完 regularity rate of flights from Kunming Changshui International Airport to Beijing 全统计,昆明长水机场至首都机场的航班正点 Capital International Airport has been promoted by 19%; the flight delay rate 率提升了 19%, 空管原因导致的航班延误率 resulted from ATM has dropped by 9.3%; the average daily saved flight length is 下降了 9.3%, 日均节省飞行距离约 880 公里 880 km, fuel saved is 4.8 tons and carbon dioxide emissions reduced by 15 tons. 节省燃油消耗约4.8 吨,减少碳排放约15 吨。

When flights from Chongging, Guiyang and other airports in Yunnan to Beijing, Tianjin and Northeast China have been diverted to the new airways, the flight 天津及东北方向的航班也调整至新路线后,将 punctuality rates of these flights will be greatly improved and the average daily 进一步提高西南地区的航班正常率,日均节省 saved flight length and fuels will be increased to three times of the current amount. 的飞行距离和燃油消耗将扩大至现行的 3 倍。

自11月20日零时开始, 昆明、重庆、贵 安地区上空的常规拥堵地段,实现空中交通分

为了缓解北京、东北地区往返西南地区航

重庆、贵阳及云南省内其他机场飞往北京、

China Civil Aviation Report



## 中航工业昌飞获得 AC311、AC313 生产许可证

Production Certificates for the AC311 and the AC313 Have Been Issued to the AVIC Changhe Aircraft Industries Group

In mid-November, the CAAC East China Regional Administration and the AVIC Helicopter Co. held an AC311 & AC313 Production Certifications Issuing Ceremony on the field of the 9th China International Aviation and Aerospace Exhibition. At the ceremony, the CAAC East China Regional Administration issued the Production Certificates for the AC311 and the AC313 civil helicopters to the AVIC Changhe Aircraft Industries Group.

The AC311 is a new domestic multipurpose light helicopter with a weight rating of 2 tons. Its maximum take-off weight is 2,200 kg, with a maximum passenger capacity of 6 persons and a maximum range of 590 km. This aircraft was issued the type certificate by the CAAC in June of 2012.

The maximum takeoff weight of the AC313 is 13.8 tons and can transport up to 27 passengers, or 15 wounded persons. The maximum range of the AC313 is 900 km. The AC313 was issued the type certificate by the CAAC in January of 2012.

11 月中旬,中国民用航空华东地区管理局(简 称"华东局")和中航工业直升机公司在第九届国 际珠海航展现场, 举行了 AC311、AC313 民用直升 机生产许可证 (PC 证)的颁证仪式, 华东局向中 航工业昌飞颁发了 AC311、AC313 两型机的生产许

AC311 为 2 吨级国产新型轻型多用途直升机, 最大起飞重量 2200kg, 最大乘员数 6 人, 最大航 程 590km。该型机于 2012 年 6 月取得中国民航局 颁发的型号合格证。

AC313 型直升机最大起飞重量为 13.8 吨,可 一次性搭载 27 名乘客或运送 15 名伤员,最大航程 为900公里,该型机于2012年1月取得中国民航 局颁发的型号合格证。

## 利捷公务航空有限公司合资项目获民航局批复 NetJets China Business Aviation Limited Approved by the CAAC

In October, the Civil Aviation Administration of China (CAAC) approved the joint venture established by the Hony Jinsi Investment Management (Beijing) Co., Ltd., NetJets Air (Asia) Limited and Fengshi Air (China) Co., Ltd.. The total investment of the joint venture is 600 million yuan and the registration investment is 200 million yuan, among which the Chinese party makes up 51%, that is, 102 million yuan and the 市,其中中方控股 51%,出资 1.02 亿元;外资 other party makes up the remaining 49%, that is, 98 million yuan.

The operation area of the joint venture includes business flights, business aircraft escrow, business charter flights and other similar businesses. The headquarters is located in the Zhuhai Aviation Industrial Park. The operation of the project will promote and guarantee the service performance capabilities of the business aircraft market around the Pearl River Delta region and will benefit the development of the economy and meet the demands of business flights in Zhuhai.

10月,中国民用航空局(简称"民航局" 批准弘毅近思投资管理(北京)有限公司、利 捷航空亚洲有限公司、冯氏航空中国有限公司 合资成立利捷公务航空有限公司项目,合资公 司总投资6亿元人币,注册资本为2亿元人民 占 49%, 出资 0.98 亿元。

合资公司经营范围为公务机飞行、公务机 代管业务、公务机包机飞行等相关业务,合资 公司主运营基地落户珠海航空产业园。该项目 的实施将进一步提高珠江三角洲地区公务机市 场的保障能力和服务水平, 有利于珠海市社会 经济迅速发展以及满足当地对公务飞行的需求。

## 星联商务航空有限公司获颁运行合格证 Star Jet Issued Air Operator Certificate

At the end of November, Mr. Tang Weibin, deputy minister of the CAAC East China Regional Administration issued the Air Operator Certificate regarding the CCAR-135 OPERATIONS SPECIFICATIONS and the Repair & Maintenance License regarding the China Civil Aviation Regulation-Part 145 to Star Jet Business Aviation Co Ltd (Star Jet). This means that Star Jet, now the third Shanghai based GA company specializing in business aviation. is now qualified for formal operation.

Star Jet was set up in May, 2011. It is a private business aviation provider based at Shanghai Hongqiao International Airport. The registration capital of Star Jet was 80 million yuan. The company's areas of operation include operation, maintenance, escrow, sales, ground handling procurator, flight planning, aviation supplies import and export and other related business for business iets.

Currently, the company has a Gulfstream G200 and will introduce a 名飞行员、17 名维修人员、7 名运行控制人员以及 Gulfstream 550 business jet by the end of this year. Currently, the company has 10 pilots, 17 maintenance personnel, 7 operation control personnel and 4 stewards.

11 月底, 民航华东地区管理局副局长唐伟 斌向星联商务航空有限公司总经理王雪峰颁发了 CCAR-135 部航空运营人运行合格证和 CCAR-145 部维修单位许可证。这标志着上海第三家专门提供 公务航空服务的公司具备了正式营运的资格。

星联商务航空有限公司成立于2011年5月, 是一家以上海虹桥机场作为主运营基地的民营公务 机航空公司。公司的注册资本为人民币8,000万元。 主要经营范围为:公务机运营,公务机维修,公务 机托管, 公务机销售, 公务机地面服务代理, 公务 机飞行计划代理,航空器材进出口业务等。

公司现有一架湾流 G200 型飞机, 今年年底 前还将引进一架湾流 550 型公务机。公司拥有 10 4 名乘务员。

## 飞鸿 300 喷气公务机获局方颁发型号合格证书 Embraer Executive Jets' Phenom 300 Validated by the CAAC

Embraer Executive Jets announced that its Phenom 300 aircraft had recently received its Validation of the Type Certificate issued by the Civil Aviation Administration of China (CAAC) during the 9th China International Aviation 天博览会(2012 & Aerospace Exhibition (Airshow China 2012) held in the city of Zhuhai, in the Guangdong Province.

The light Phenom 300 accommodates up to 11 司宣布该公司的 occupants. With NBAA IFR fuel reserves and six (3,650km).

Its unique Oval Lite® fuselage shape creates the highest and widest cross section in its class to give passengers more head and leg room. The aircraft's berthable seats, externally serviced lavatory with rigid door for enhanced privacy and two windows for natural light, as well as its belted toilet seat certified for taking-off and landing, the largest baggage compartment and the best air-stair door in its class are all features that set this aircraft apart from the rest.

在中国广东 省珠海市第九届 中国国际航空航 中国航展)上, 巴西航空工业公 飞鸿 300 喷气公 国民用航空局

(CAAC) 为其颁发的型号合格证书。

飞鸿 300 轻型喷气公务机最多可搭载 11 名乘员。在符合 NBAA IFR 规定的备份燃油条件下,搭载六名乘员时,飞机航程为 3,650 千 米 (1,971 海里)。

该款飞机拥有同级别飞机中最高及最宽的椭圆形 (Oval Lite ) 机身截面,增加了乘客的腿部活动空间和头顶空间。飞鸿300的其他 显著特色包括可展开平躺的座椅,可从机外排污且配有可提升私密性 的刚性门的盥洗室和可供自然采光的大尺寸舷窗。获得起降认证的带 式座便椅以及同级别飞机中最大的行李舱和最好的带阶梯的舱门。

#### 数字看民航

### China's Quickly-Developing Civil Aviation: Based on Data

编译: 高瑞玲 Compiled and Translated by Linda Gao

为了全面而详细地了解中国民航,我们今天让 数字和事实来说话。

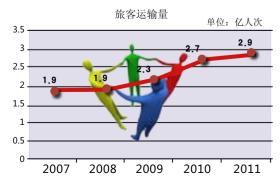
#### 一、中国民航安全指标达到了世界先进水 平。



2008年~2011年,中国民航运输航空百万小时重大事故率为0.05,同期世界平均水平约为0.3,其中美国为0.18;中国民航百万架次重大事故率为0.11,同期世界平均水平为0.56,其中美国为0.27;中国民航亿客公里死亡人数为0.003,同期世界平均水平为0.01。

#### 二、中国民航年运输总周转量居世界第二





Want to have a more complete idea of China's civil aviation industry? Today, I will give you a bird's eye view into China's civil aviation industry through facts and data.

## I. The safety indexes of China's civil aviation industry have reached advanced international level.



From 2008 to 2011, the fatal accident rate per million hours of China's civil air transportation industry was 0.05 with the global average being 0.3 and that of the US being 0.18 during the same period. The fatal accident rate per million sorties of China's civil air transportation was 0.11, with the global average being 0.56 and that of the US being 0.27. The death toll per 100 million passenger km was 0.003 with the global average being 0.01.

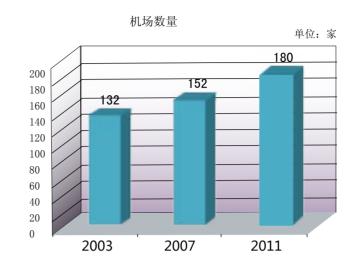
## II. The annually total throughput of China's civil aviation industry ranked second globally.

2008年~2011年,中国民航运输总周转量、旅客运输量、货邮周转量年均分别同比增长15.3%、16.3%、13.3%,而同期全球民航年均分别同比增长4.7%、4.6%、5%。中国民航年运输总周转量、旅客运输量连续5年排名世界第二位,成为仅次运输系统。

三、民航机场覆盖全国 91.5% 的经济总量

From 2008 to 2011, the total throughput, the passenger throughput and the cargo & mail throughput of China's civil aviation industry had respectively grown 15.3%, 16.3% and 13.3% year-on-year and that of the average global had respectively grown 4.7%, 4.6% and 5% year-on-year. The total transporation throughput and the passenger throughput of China's civil aviation had both ranked fifth successively for 5 years. China's civil aviation system has been the second largest globally after the US.

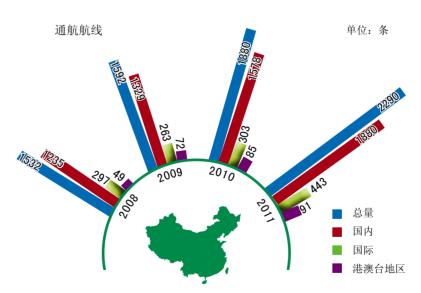
III. China's airports has covered 91.5% of the entire economy.





目前,中国运输机场数量达到 182 家。截至 2011 年,旅客吞吐量超过 1000 万人次的机场数量由 2007 年的 10 座增至 21 座。其中,北京首都机场旅客吞吐量达 7868 万人次(居全球第二),上海浦东机场货邮吞吐量达 1158 万吨(居全球第三)。机场密度为每 10 万平方公里 1.89 个,覆盖全国 91.5% 的经济总量、77% 的人口和 74% 的县级行政单位。2008 年~ 2011 年,中国民航新增机场 21 座,改(扩)建机场 77 座,迁建机场 5 座。

#### 四、航线网络优化 民航辐射力增强



截至 2011 年底,民航国内航线已达 1847条(含港澳台地区),比 2007年底增加 341条;国内通航点为 175个,比 2007年底增加 29个;国际航线443条,比 2007年底增加 153条。从 2008年至今,中国大陆已经有 41个通航点连接中国台湾地区 9个通航点,每周往返定期航班已经达到 558班。中国民航国内网络都得到了进一步拓展和优化。各地相继开通的航线,联系起了更多的地区。同时,各大航空公司相继加入天合联盟、星空联盟等国际航空服务网络,丰富了中国民航在国际市场上的航线网络。

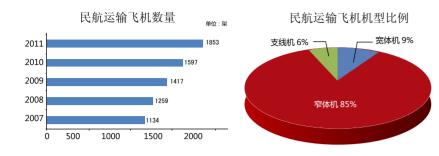
#### 五、机队规模不断扩大 机型日趋多样化

Currently, the number of China's air transportation airports has reached 182. At 2011, the amount of airports with a passenger throughput of over 10 million person-time increased from 10 in 2007 to 21. Among these 21 airports, the passenger throughput of Beijing Capital International Airport reached 78.68 million person-time (ranking second globally) and that of the Shanghai Pudong International Airport reached 11.58 million person-time (ranking third globally). The airport density was 1.89 per 100 thousand square km. China's airports covered 91.5% of the entire economy, 77% of the total population and 74% of the counties. From 2008 to 2011, 21 airports had been newly built; 77 airports had been re-constructed or expaned and 5 airports had been relocated.

## IV. The radiating power of China's civil airline network is further enhanced.

AT the end of 2011, the number of China's domestic airlines (including that in Hong Kong, Macau and Taiwan) reached 1847, 341 more than that at the end of 2007; the number of waypoints in China reached 175, 29 more than that at the end of 2007; the number of China's international airlines reached 443, 153 more than that at the end of 2007. From the year of 2008 to now, there have been 41 waypoints connecting 9 waypoints in Taiwan and the number of round regular flights has reached 558. The domestic airlines of China's civil aviation have been further expanded and

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过去 5 年,中国民航运输飞机数量年均增加 180 架左右。截至 2011 年底,民航飞机总架数达到 3098 架,其中运输飞机 1853 架,通用航空飞机 1245 架。 民航飞机机队的发展为民航大众化战略的推进和满足经济社会发展开始提供 了保障。

近几年, 航空公司加速机型更新换代,淘汰老旧机型,引进了新型飞机,升级了旅客的飞行体验。从结构看,目前中国民航机队宽体机(250座以上)约占总架数的9%,窄体机(100座~250座)约占85%,支线机(100座以下)占6%。

#### 六、中国各地发展通用航空热情渐增



2010年,国务院出台了《关于深化中国低空空域管理改革的意见》,并将通用航空列为战略性新兴产业,促进了各地发展通用航空的热情,通用航空成为了许多民间资本关注的热点。中国将从 2013 年开始在全国范围内逐步推开低空空域管理改革,低空空域使用审批程序将更为便捷。目前,中国低空空域管理改革试点已扩大到东北地区、中南地区,以及唐山、西安、青岛、杭州、宁波、昆明、重庆等地,即"两大区、七小区"。

过去 5 年,民航局不断完善通用航空政策、法规、规章标准体系。2011 年,中国通用航空完成作业飞行 50.27 万小时,比 2007 年增长 3.6 倍。截至 2011 年底,中国持有通用航空经营许可证的企业共有 123 家,已批准开展筹建工作的企业 96 家,正在申请筹建的企业有 112 家;通用航空机队在册总数为 1245 架,比 2007 年增长 74.6%。

#### 七、民航空管空域优化成效明显

optimized. Airlines put into operation across the nation have connected more areas. In addition, all large airlines have joined in the Skyteam, the Star Alliance and other international aviation service networks, which have enriched China's international airline network.

## V. The scale of China's fleet grows continually and the aircraft models are being more and more versatile.

In the pase 5 years, about 180 aircraft had been added into China's civil air transportation aircraft annually. At the end of 2011, the number of China's civil aircraft reached 3,098, among which 1,853 were transportation aircraft and 1,245 were general aviation aircraft. The development of China's civil aircraft fleet has begun to push forward the popularization of the air travel and meet the demands of the development of economy and society.

In the recent years, China's airlines have been replacing old aircraft, introducing new aircraft, upgrading the fleet and the flight experience of passengers. As of the fleet structure, 9% are wide-bodied aircraft (with over 250 seats); 85% are narrow-bodied aircraft (with 100 to 250 seats) and 6% are regional aircraft (with fewer than 100 seats).

## VI. China's passion to flights has been growing gradually.

In 2010, the State Council issued the Opinions on Deepening the Reform of China's Low-altitude Airspace Management and listed the general aviation industry as a strategic emerging industry, which promoted the passion across the nation so that the general aviation industry has been the focus of private capitals. From next year, China's goverment will carry out low-altitude airspace management reform across the whole country and will make the screening procedure more easy. Currently, China has expanded experimental sites for low-altitude airspace management reform in Northeast China, Central & South China, Tangshan, Xi'an, Qingdao, Hangzhou, Ningbo, Kunming and Chongqing, the





平均每年节省燃油成本约5亿元,相当于年增加30万飞行架次

临时航线为 4.3 万公里

从 2009 年至 2012 年 6 月底,临时航线从 77 条增加到 125条,航线数量年均增长 23%,使用航班量年均增长 30%;共计 106.5 万架次航班使用临时航线,节省距离 3925 万公里,节省燃油消耗 21.2 万吨,减少二氧化碳排放 67.2 万吨。目前,中国民航航路航线总距离为 17.7 万公里。其中,固定航路航线为14.3 万公里,占 80%;临时航线为 3.4 万公里,占 20%。这些临时航线平均每年为航空公司节省燃油成本约 5亿元,相当于年增加 30 万飞行架次。

#### 八、民航对经济发展促进作用凸显

民航投入和产出比例

投入 产 8

so-called two big regions and seven small regions.

In the past five years, the CAAC has been improving and optimizing the standard system of related policies, laws, regulations, rules for the general aviation industry. In 2011, China's general aviation industry has completed operation flights of 502.7 thousand hours, 3.6 times more than that in the year of 2007. By the end of 2011, China had 123 GA enterprises with General Aviation Air Operator's Certificates and approved 96 enterprises to construct for GA operation. There were 112 enterprises applying for an approval to construct GA enterprises. The number of GA aircraft was 1,245, 74.6% more than that in the year of 2007.

#### VII. Civil Aviation ATM Optimization Succeeded.

From 2009 to the end of June, 2012, the amount of temporary airlines has increased from 77 to 125. The number of airlines has increased by an annual rate of 23%, and the flights being used has increased by an annual rate of 30%. There are a total of 1.605 million sorties of flights using temporary airlines and a total distance of 39.25 million km has been saved; a total of 212 thousand tons of fuels have been saved; a total of 672 thousand tons of carbon dioxide was reduced. Currently, there are 177 thousand km of air routes for civil aviation use in China. Among which the permanent air routes account for 143 km, accounting for 80% of the total air routes; the temporary air routes make up 34 thousand km, accounting for the remaining 20%. These temporary air routes save 500 million yuan for airlines each year, which equates to adding 300 thousand flight sorties.

VIII. The civil aviation industry further enhanced the economic development.



民航报导

过去5年,民航对地方经济和社会发展的带动作用逐步显现。据国际权威机构测算,民航投入和产出比是1:8。国际机场协会(ACI)研究认为,机场每百万旅客吞吐量可以产生经济效益1.3亿美元及相关就业岗位2500个。据国内研究结论,中国机场每百万旅客吞吐量可以产生经济效益总和18.1亿元,相关就业岗位5300多个。

自 2010 年以来,已有 36 个机场所在地提出发展临空经济的构想,力图 依托机场发展临空经济,带动关联产业的发展。北京、天津等地的临空经济效应正逐步显现。

九、民航人才培养成绩斐然

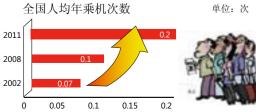


为适应民航发展对人才的需求,民航局党组始终注重人才培养,加强民航院校建设,使院校人才培养能力不断增强。目前,民航有中国民航大学、中国民航飞行学院、民航管理干部学院、广州民航职业技术学院、上海民航职业技术学院 5 所院校,培养着民航人才。

2007年~2011年,民航局积调国家有关部门,累计争取国家奖助学金约6500万元,使3.5万名学生收益。通过计划调控,逐年扩大院校民航特有专业人才培养规模。2011年,上述5所院校招生1.6万人,比2007年增加0.4万人。在校生规模达到5万人,比2007年增加1.4万人。为推动民航特有专业人才培养模式创新,2009年民航局出台了《民航院校飞行、机务、空管专业建设规划》,加强建设师资队伍和课程教材,推动教育资源共享。

截至 2011 年底,全行业持有现行有效驾驶执照的飞行员共 27569 人(中国籍 25853 人),较 2010 年底增加 3293 人。全行业从业人员 120 万人,其中直接从业人员 59.7 万人。

#### 十、全国人均年乘机次数 5 年增加 1 倍



During the past 5 years, the civil aviation industry has been further stimulated the local economy and society developments. According to data of an international agency, the proportion of investment to production is 1:8. The According to a study of the Airports Council International, a passenger throughput of one million people will generate an economic benefit of 130 million US dollars and 2,500 related jobs. According to a domestic study, in China, a passenger throughput of one million people will generate an economic benefit summation of 1.81 billion yuan and 5,300 related jobs.

From the year of 2010, there have been 36 airports formulating a proposal to develop airport economy with their airports as the basis to stimulate associated industries. The airport economy effects in Beijing and Tianjin are begining to show.

## IX. China's personnel training for the civil aviation industry has made brilliant achievements.

In order to meet the personnel demands of the civil aviation industry, the Party organization of the CAAC unswervingly focus on personnel training and enhance civil aviation college construction, which makes the personnel training capability stronger and stronger. Currently, there are five colleges in the civil aviation industry, including the Civil Aviation University of China, the Civil Aviation Flight University of China, the Civil Aviation Management Institute of China, the Guangzhou Civil Aviation College and the Shanghai Civil Aviation College.

During the period of 2007 to 2011, the CAAC had actively contacted the related organization to get state scholarships of 65 million yuan, which benefited about 35 thousand students. The CAAC is also gradually expanding the scale of civil aviation major of all related colleges by planned regulation and control. In 2011, the above five colleges recruited 16 thousand students, 4 thousand more than in 2007 and there were 50 thousand students at school, 14 thousand more than in 2007. In order to promote the personnel training mode of the civil aviation specialty, in 2009, the CAAC issued the Construction Plan for the Majors of Flight, Aircraft Maintenance Management and Air Traffic Management in Civil Aviation Colleges, to enhance the faculty and curriculum materials to push forward sharing of education resources.

By the end of 2011, there were 27,569 pilots with currently valid pilot licenses (25,853 pilots are Chinese), 3,293 more than at the end of 2010. Currently, there are 1.2 million jobholders in the civil aviation industry, among which 597 thousand are direct workers.

X. Average national frequency of air travel doubled in five years.

"十一五"期间,中国民航旅客运输量超过10亿人次,年均增长速度14.1%,在全球航空运输业中,继续保持了最快的增长速度。过去5年,社会大众人均乘机次数2011年达到0.2次,比2008年的0.1次增加了近1倍,比2002年的0.07次增加了近3倍。预计到2020年,全国人均年乘机次数将达到0.5次,会有更多居民坐飞机出行。

#### 十一、航空货邮吞吐量 5年增长 34.5%

During the Eleventh Five-Year Plan period, the passenger throughput of China's civil aviation transportation had exceeded 1 billion person-time, attaining an annual growth rate of 14.1% and continued to maintain the highest growth speed in the global air transportation industry. In the past 5 years, the average frequency of China's air travel has reached 0.2, nearly 0.1 more than in 2008 and almost three times of 0.07 in 2002. It is predicted that by 2020, the average national frequency of air travel will reach 0.5. By then, there will be more people traveling by air.

XI. The air cargo and mail throughput had increased by 34.5% in past 5 years.



为适应国家经济贸易发展对航空运输的需要, 过去5年,民航把航空货运作为新的经济增长点, 出台《关于进一步促进航空货运发展的政策措施》 支持货运发展。

2011年,中国共有11家货运航空公司,比2008年增加2家;全货运飞机91架,比2008年增加21架;完成货邮吞吐量1157.8万吨,比2007年的861.1万吨增长了34.5%;形成了一定规模的国内(含内地航空公司飞港澳台地区航线)、国际货运航线网络。

十二、公务机市场快速成长 机队规模达 157 架 In order to meet the air transporation demands of the nation's economy and trade, in the past 5 years, China's civil aviation sector had classed air cargo transportation as a new area of economic growth and issued the Policy and Measures on Further Promoting Air Cargo Transporation Development to support the development of air cargo transporation.

In 2011, there were 11 air cargo transporation airlines in China, 2 airlines more than in 2008. there were 91 air freighters, 21 more than in 2008; China completed cargo and mail throughput of 11.578 million tons, 34.5% more than 8.611 million tons in 2007. A certain scale of domestic air transportation network (including airlines to Hong Kong, Macau and Taiwan) and international air transportation network.

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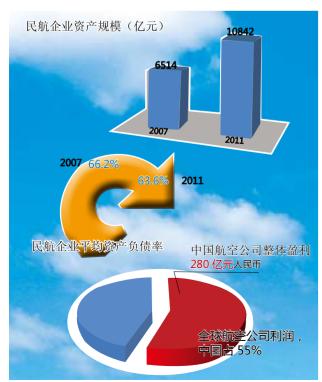
XII. Business aviation grew fast with a fleet of 157 bizjets.



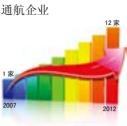
近3年中国民航的发展中,公务机增长最快,超过普通航空客、货运的增长。2007年,中国只有一家公务机公司;而2007年之后,国内公务机市场开始加快发展,公务机公司增加到12家,公务机总数从不到60架增加到现在的157架。在现有的102家筹建的通用航空企业中,拟开展公务机飞行业务的有38家。

#### 十三、民航企业资产规模增加近七成

截至 2011 年,民航企业资产规模总计达到 10,842 亿元,比 2007 年增加了 4,328 亿元,增长 66.4%。民航企业平均资产负债率由 2007 年底的 66.2% 下降为 2011 年底的 63.6%。其中,航空公司由 81% 下降为 77%,机场由 49% 下降为 42%。2011 年,中国航空公司整体盈利 280 亿元人民币,整体利润占全球航空公司利润总额的 55%。



以公务机为主营业务的通航企业



中国内地公务机机对规模单位:架

During last three years, business aviation developed fastest in the entire Chinese civil aviation industry. In 2007, there was only 1 business aviation company. After 2007, China's bizjet market has been developing rapidly. Currently, there are 12 bizjet operation companies and the number of bizjets had increased from 60 to 157. There are 38 enterprises planning to operate bizjet flights among the 102 beingestablished general aviation enterprises.

## XIII. The capital scale of civil aviation enterprises had increased by 70%.

Up to 2011, the capital of civil aviation enterprises had reached 1,084.2 billion yuan, 432.8 billion yuan more than in 2007, with a growth rate of 66.4%. The average asset-liability ratio has descented from 66.2% in 2007 to 63.6% at the end of 2011. Among the asset-liability ratios, the airlines' have descented from 81% to77% and the airports' have descented from 49% to 42%. In 2011, the total profits of all China's airlines was 28 billion yuan, taking up 55% among the globle's airlines.

全国民用机场布局规划分布图(2020年)



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Peter Horton, Director of Airports, Key West Int'l Airport, FL, Nov. 2011
 Peter Horton, 美国佛罗里达州基韦斯特(Key West)国际机场主任, 2011年11月\*



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### 夏兴华会见国际民航组织秘书长

#### Xia Xinghua Meets With ICAO Secretary General

In mid-September, Xia Xinghua, deputy minister of the Civil Aviation Administration of China (CAAC), met with Raymond Benjamin, Secretary General of the International Civil Aviation Organization (ICAO). The two exchanged their views on China's application for the establishment of an Asia-Pacific branch of the ICAO and cooperation issues between China and the 交换了意见。 ICAO.

After the meeting, Guan Wuping, assistant dean of the China Academy of 院长关武平与雷蒙 邦雅曼还签订了关于建设 Civil Aviation Science and Technology, and Mr. Benjamin signed a cooperation agreement on the construction of the Chinese version of the public website for the ICAO and the ICAO disaster recovery website. Mr. Xia Xinghua and other leaders from the CAAC witnessed the signing ceremony.

9月中旬,民航局副局长夏兴华在北京会见 了国际民航组织 (ICAO) 秘书长雷蒙 邦雅曼, 双方就中国申办国际民航组织亚太分办事处以 及中国与国际民航组织的合作情况等议题深入

会谈结束后,中国民航科学技术研究院副 国际民航组织公共网站中文版以及国际民航组 织网站灾备的技术合作协议, 夏兴华及民航局 相关司局领导现场见证了签约仪式。

### 南充机场新跑道试飞成功

#### Flight Test for the New Runway at Nanchong Airport is Successful

The new runway at Nanchong Airport is 2,800 meters long and 60 meters wide with the aircraft movement area designed in accordance to 4C standards, allowing it to accommodate the takeoff and landing of large sized aircraft such as the Boeing 757 and Airbus 321, which both have a passenger capacity of 250 people. The current runway is 2,400 meters long and 45 meters wide and can only accommodate the Boeing 737, Airbus 319 and 320, which only has a passenger capacity of fewer than 150 people. After the new runway is put into operation, more than 27 sorties of aircraft can land at or take off from the airport 达 27 架次。 per hour.

Nanchong Airport mainly operates flights to Shanghai, Beijing, Guangzhou, Shenzhen and so on. According to the long-term plan, flights to Urumqi, Jiuzhai Huanglong Airport, Kunming, Haikou, Xi'an, Xiamen, Hangzhou, Panzhihua, and 西安、厦门、杭州、攀枝花等航线。 other locations are in the works.

The expansion project of Nanchong Airport was put into construction in 动,是四川省政府确定的重大项目,总用地面 March, 2011. Taking up an area of 3,112 mu and with a total investment of 2.741 billion yuan, this is a major project set up by the Sichuan government. Currently, an apron of 13,800 square meters, the new runway, the navigation station and 建设已全面完工。 the lighting systems have all been completed.

此次试飞成功的新跑道长2800米、宽60米, 飞行区等级按照 4C 标准进行规划设计, 可供波 音 757、空客 321 等大型客机起降, 这些大飞 机的载客量都将达到 250 人。现有跑道长度为 2400 米, 宽度为 45 米, 只能供波音 737, 以及 空客 319、320 起降,这些飞机的最大载客量为 150人以下。新跑道投运后每小时起降飞机也可

南充机场主要航线有南充飞往上海、北京、 广州、深圳等地。根据机场的长期规划,还将 陆续开通乌鲁木齐、九寨黄龙、昆明、海口、

南充机场扩建工程于2011年3月正式启 积 3112 亩, 总投资 27.41 亿元。目前, 13800 平米民航站坪、新跑道及导航台站、助航灯光



In early December, a foundation stone laying ceremony for Shiyan Wudangshan Airport, located in Hubei, was held. When the airport is fully completed in 2015, there will then be six airports in Hubei with another five airports located in West Hubei.

Shiyan Wudangshan Airport will be located along the border of the village of Fangkuai in the Shiyan Economic Development Park and the village of Jiancao in the Maojian district in the city of Shiyan. The total investment of the project is 1.54 billion yuan and will take up an area of 2,800 mu. The airport will be constructed in accordance to regional 4C airport standards. The Shiyan Wudangshan Airport is about 15 km away from the center of Shiyan and is about 40 km from the Wudangshan Mountains, just a short 30 minute bus ride away.

Currently, there are six 5A National tourist areas in Hubei province, that is, the Yellow Crane Tower in Wuhan, the Sanxia Dam tourism area in Yichang, the Sanxia tourism area in Yichang, the Wudang Mountains in Shivan, the Badong Shennong Creek and the Shennongjia in Enshi. There are civil airports in Hubei, including Wuhan Tianhe International Airport, Enshi Airport, Xiangyang Airport, Yichang Sanxia Airport and Shennongjia Airport, as well as the Shiyan Wudangshan Airport, which is currently being constructed. Among all the airports in Hubei, five of them are located in Hubei's West Hubei Ecological & Culture Tourism Loop. The shortest traveling distance between the airports is 2 hours by bus and the longest is within 3 hours by bus.

12 月上旬,湖北武当山机场举行了开工 奠基仪式。该机场 2015 年建成通航后, 湖北 将拥有6座机场,其中5座分布在鄂西。

武当山机场位于湖北十堰市经济开发区 方块村和茅箭区枧槽村交界处, 项目总投资 15.4 亿元人民币, 占地 2800 亩左右, 按照 4C 支线机场标准建设。武当山机场距离十堰市中 心约 15 公里, 距离武当山景区约 40 公里, 半

目前,湖北有国家 5A 级景区 6个,分别 是武汉黄鹤楼、宜昌三峡大坝旅游区、宜昌三 峡人家景区、十堰武当山、恩施巴东神农溪、 神农架。而客运机场除武当山机场外,有武汉 天河机场、恩施机场、襄阳机场、宜昌三峡机 场和在建的神农架机场,基本与景区分布一致。 其中 5 座支线机场均分布在该省鄂西生态文化 旅游圈,相邻机场之间车程最短2小时以内, 最长也在3小时以内。

民航报导

#### 夏兴华会见加拿大运输部长德尼・勒贝尔

## Deputy Minister of the CAAC, Xia Xinghua Meets with Canadian Minister of Transport, Infrastructure and Communities, Denis Lebel

In mid November, Xia Xinghua, Deputy Minister of the Civil Aviation Administration of China met with Denis Lebel, Minister of Transport, Infrastructure and Communities, and Minister of the Economic Development Agency of Canada for the Regions of Quebec during the 9th China International Aviation and Aerospace Exhibition. The two parties exchanged views on advancing aviation cooperation between China and Canada and signed amendments to the existing bilateral air transport agreement and an action plan that opens the door for closer cooperation between the two countries in regards to aviation safety.

Although in 2012, China's economy has grown more slowly than in former years, it is still obvious that China's aviation industry is developing faster than the average rate of the rest of the world. All aviation enterprises are optimistic about the potential of China's aviation industry and consider China as an important market they need to develop in order to survive. Therefore, many foreign governments and enterprises are cooperating and communicating with Chinese governments and enterprises in the aviation field. As the world's third largest aircraft manufacturer after the Boeing Company and Airbus S.A.S., Bombardier Inc. is the main supplier of cars for China's subways and the main supplier of China's business aircraft. In addition to the markets of North America and West Europe, China is also an attractive market for Bombardier Inc.. Bombardier Inc. has already provided 26 regional aircraft to China and its joint venture in China has employed 1,000 people.

11 月中旬,民航局夏兴华副局长在珠海 会见了来华出席第九届中国国际航空航天博 览会的加拿大政府运输、基础设施和社区部 部长德尼 勒贝尔一行,双方就进一步加强 两国民航合作交换了意见,并共同签署了《关 于修订<中华人民共和国政府与加拿大政府 航空运输协定 > 的议定书》和《中国民用航 空局与加拿大运输部关于民用航空安全的行 动计划》。

虽然今年中国经济增长经济放缓, 但中 国航空业的增长却明显居世界前列。世界各 航空企业也看准了中国航空工业发展的巨大 潜力、纷纷把中国作为其存续乃至发展的重 要市场, 多国政企与中国政企的航空合作与 交流也日益增多。紧随波音和空中客车之后 的全球第三大飞机制造商庞巴迪公司,是中 国地铁车厢及支线与公务飞机的主要供应商。 在北美和西欧市场之外, 中国也是对庞巴迪 最富吸引力的市场。庞巴迪已为中国提供了 26 架支线飞机,它在中国的合资企业已经拥 有 1000 名员工。

### 南充机场跑道建设已全面完工

### Runway Construction at Nanchong Airport Completed

In October, the earthwork and the runway construction of the extension project of the Nanchong Airport were completely finished. The accessory projects were still being rapidly constructed. The new runway at the airport is expected to be put into operation at the end of this year.

The total investment of the Nanchong Airport is 2.447 billion Yuan. It is planned to use a land of 3112 mu. A runway and other facilities will be constructed according to high standards. Two category C civil aprons of 54 thousand square meters will be extended. The current runway will be extended to 2,800 meters. The aircraft movement area code will be designed according to 4C standards. When the whole extension project is completed, it can accommodate the Boeing 757, Airbus 321 and smaller sized aircraft. 27 sorties of aircraft can take off or land on the runway in one hour. Currently, the pavement of the new runway, 2,800 meters long and 50 meters wide, has been laid. Other extension projects, such as the ATM equipments, the lighting units, the meteorology use facilities and greening projects have been put into construction.

10月, 南充机场扩建项目土石方工程 和跑道建设已全面完工, 其附属工程正在加 紧建设之中,机场新跑道在年底有望实现通 航。

南充机场扩建工程总投资 24.47 亿元, 规划用地 3112 亩,新建高标准跑道 1 条和 其他设施, 扩建两个 C 类民航停机坪 54000 平方米, 还将现有跑道延长至 2800 米, 飞 行区等级按照 4C 标准进行规划设计。机场 扩建工程竣工后,可供波音 757 及空客 321 起降,每小时起降飞机可达27架次。目前, 2800 米长 50 米宽的新建跑道"道面"已浇 筑完毕, 空管、灯光、气象、绿化等扩建项 目的附属工程也已启动。

## 中国首款全复合材料公务机下线 并获8架订单 China's First All-Composite Business Aircraft Has Rolled off the **Production Line**

In the middle of November, the AVIC General Aircraft Co., Ltd. held a signing ceremony in Zhuhai in honor of the Primus 150. The Primus 150 is China's first all-composite business aircraft with the intellectual property rights owned by China, and has rolled off the production line. The AVIC General Aircraft Co., Ltd. signed an order 材料轻型公务机总装下线,并在现场签订8 at the ceremony to sell 8 Primus 150s.

Tan Ruisong, general manager of the Aviation Industry Corporation of China, along with Meng Xiangkai, chairman of the AVIC General Aircraft Co., Ltd. and relative officers from the Ministry of Finance and Guangdong Province and some of the shareholders of the AVIC General Aircraft Co., Ltd. were all in attendance at the 约仪式。

The Primus 150, a new 5-to-6-seat, single-engine, turboprop, allcomposite light aircraft is developed by the AVIC General Aircraft Co.. Ltd. in accordance to both the CCAR23 and the FAR23. As a globeoriented business aircraft, the Primus 150 is also the first general aircraft developed by the AVIC after the opinions of the State Council and the Central Military Commission regarding the Deepening of the Reform of China's Low-altitude Airspace Management was issued. The aircraft was designed with a strong focus on private flights and 中航工业集团立项批复,全面加快了研制进 business aircraft operators.

In June of this year, the development of the Primus 150 was 快的机型,该型飞机具有结构简单、重量轻、 officially approved by the AVIC who fully accelerated the process. Among similar single-engine aircraft all over the world, the Primus 150 has the fastest top speed. The aircraft is simple in structure. light in weight, high in speed, safe, comfortable and economical. Its maximum speed can reach 600km/h and the maximum range can reach 2,500 km. Daring attempts at exploration had been made while designing the structure and selecting the materials for the aircraft. The whole airframe had been made of carbon fiber composites, which significantly improves relative performance indexes. The aircraft has a friendly interface, an advanced avionics system, easy-to-use control mechanisms and quality interior furnishings, such as comfortable leather seats, noise-proof honeycomb layers and a positive pressure cabin, which fully marks a perfect combination of aviation technology with modern aesthetics.

11 月中旬,中航工业通用飞机有限责 任公司(简称"中航工业通飞")在珠海基 地举行领航 150 飞机原型机下线揭幕暨签约 仪式、中国首款具有自主知识产权的全复合 架启动用户订单。

中国航空工业集团公司(简称"中航工 业")总经理谭瑞松、中航工业通飞董事长 孟祥凯, 以及财政部、广东省、中航工业通 飞股东方面等有关领导出席了下线揭幕暨签

5-6 座全复合材料单发涡桨轻型公务 机领航 150 飞机,是中航工业通飞同时按照 CCAR23 部和 FAR23 部。面向全球开发的一 款新型飞机, 也是中航工业集团在国务院、 中央军委《关于深化我国低空空域管理改革 的意见》发布之后立项研制的第一款通用飞 机,主要针对私人飞行和公务机运营商应用。

今年6月、领航150飞机研制正式获得 程。作为世界同类单引擎涡桨飞机中飞得最 速度快、安全舒适、经济性好等特点, 最高 飞行时速可达 600 公里,最大航程可达 2500 公里。该机型在结构设计、材料选择上进行 了大胆的尝试和探索, 机体全部采用了碳纤 维复合材料, 显著地改善了性能指标; 友好 的人机界面、先进的航电系统、便于操作的 驾纵机构, 配以高品质的内饰, 如舒适的真 皮座椅、阻碍噪音的蜂窝夹层、满足高空飞 行的增压座舱等都体现了航空科技和现代美 学的完全交融, 能够很好地满足高端客户的

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民航报导 China Civil Aviation Report

### 宁波栎社机场三期扩建工程项目获批

## Ningbo Lishe International Airport's Phase III Expansion Project Gets Approved

The project proposal for the Ningbo Lishe International Airport (Ningbo Airport) phase III expansion project has received the official approval from the NDRC. With a total investment of 7.7 billion yuan, the expansion project will be designed to meet the requirements of an annual passenger throughput of 12 million people and a mail and cargo throughput of 500 thousand tons.

Ningbo Lishe Airport was completed and put into use in June, 1990. In 2005, the airport was upgraded to an international airport. After construction of the first and second phases, Ningbo Airport has a terminal of 43.5 thousand square meters and designed to meet the requirements of an annual passenger throughput of 3.8 million people. The cargo warehouse takes up an area of 8 thousand square meters and was designed in accordance to an annual mail and cargo throughput of 80 thousand tons. By 2011, the passenger throughput has exceeded 5 million person-time and the mail and cargo throughput has reached 85 thousand tons. Currently the passenger flow and the mail and cargo flow have both exceeded the designed capacity. Especially during peak hours, the pressure is even 旅客吞吐量 1200 万人次、货邮吞吐量 50 greater.

The Ningbo Airport phase III expansion project was designed according to the requirements of a passenger throughput of 15 million people and the cargo and mail throughput of 50 tons by 2020. In the phase III expansion project, a second terminal of 103 thousand square meters, a business flight terminal of 3,000 square meters, a cargo station of 50 thousand square meters, an express mail center and a ramp of 412 thousand square meters will all be constructed and the taxiway system will also be improved. In addition, the Yandong navigation station will be upgraded. A Doppler weather radar station, an integrated ATM building and a dormitory building will also be constructed. The oil house will be reconstructed. The air gas station will be relocated. A fueling line to the apron and a special vehicle fueling station as well as related production and living facilities will be constructed.

When the phase III project is finished, Ningbo Airport will be an integrative transportation hub, including air transportation, rapid ground transport vehicles and rail systems, in order to be an important traffic hub for the south of the Yangtze River delta region.

宁波栎社国际机场三期扩建工程项 目建议书已获国家发改委正式批复。该 机场总投资 77 亿元的三期扩建工程,将 按照年旅客吞吐量 1200 万人次、货邮吞 吐量 50 万吨的运行需要设计建造。

宁波栎社国际机场于1990年6月建 成通航, 2005年升格为国际机场, 经过一、 二期建设, 宁波机场现有航站楼 4.35 万 平方米,按年旅客吞吐量380万人次设计, 航空货站 0.8 万平方米, 按年货邮吞吐 量 8 万吨设计。但截至 2011 年, 机场旅 客吞吐量超过500万人次,货邮吞吐量 达 8.5 万吨。该机场目前运行流量已超 过原设计保障能力, 尤其在高峰时刻保 障压力剧增。

宁波机场三期扩建工程按照 2020 年 万吨目标设计。三期扩建工程涉及:新 建 10.3 万平方米的第二航站楼、3000 平 方米的公务机候机楼、5万平方米的货运 站、1.4万平方米的快件中心、41.2万 平方米的停机坪, 完善滑行道系统。更 新庵东导航台,新建多普勒天气雷达站、 航管综合业务楼和值班宿舍楼。改造机 场油库, 迁建现有航空加油站, 新建站 坪加油管线、特种车辆加油站。配套建 设其他辅助生产生活设施。

机场三期建成后,宁波空港将成为 集航空、地面快速交通和轨道交通于一 体的立体化综合交通枢纽, 实现多种交 通方式的综合集成,成为长三角南翼又 一个重要的交通枢纽。

#### 西双版纳机场新国内航站楼正式启用

## New Domestic Terminal in Xishuangbanna Airport is Put into Operation



The new domestic terminal in Xishuangbanna Airport was put into operation in late November. As an airport connecting South and Southeast Asia, the expansion of Xishuangbanna Airport will push forward the development of the air transportation industry and transnational tourism in the greater Mekong Sub-region.

Xishuangbanna Airport is an airport architecturally designed with heavy influence from the culture of the Dai Nationality. The new domestic airport has a floor space of 33 thousand square meters. The newly completed ramp has a floor space of 59.6 thousand square meters with 8 gate positions. The newly constructed parking lot utilizes an area of 34 thousand square meters. There are also supporting facilities for cargo storage, fire fighting, drainage and power supply system.

Before the expansion, Xishuangbanna Airport was designed to be a medium hub airport acting as the main access to South and Southeast Asia. It was planned in accordance to the 4D standards with a total investment of 987 million yuan. The newly established domestic terminal has 18 gate positions and can accommodate 13 sorties landing and taking off and 24 sorties operating on the ground during peak hours, with a passenger flow of 2,400 people.

Xishuangbanna Airport was formally put into operation in 1990 and in 1996 was approved by the Port Administration Office of Xinjiang to be a port airport. Now there are 16 domestic air routes and 2 international air routes operating in Xishuangbanna Airport. It is estimated that the annual passenger throughput will exceed 2.2 million people in 2012.

西双版纳机场新国内航站楼 11 月下旬 正式启用, 作为连接东南亚、南亚的口岸 机场, 西双版纳机场本次改扩建将促进大 湄公河次区域的航空与跨国旅游合作。

具有傣族建筑文化特色的西双版纳机 场新国内航站楼建筑面积为3.3万平方米, 同期建设停机坪 5.96 万平方米,新增机位 8个,新建、改造停车场共2.4万平方米, 配套建设货运仓库、消防、给排水、供电 系统等设施。

西双版纳机场本次改扩建定位为中国 通向东南亚、南亚的中型枢纽机场, 按照 4D 类等级机场规划,总投资 9.87 亿元。 新建成的国内航站楼有 18 个停机位供飞机 停场使用 并保证小时跑道高峰起降量 13 架次, 地面运 24 架次, 高峰小时旅客流量 2400人。

西双版纳机场于1990年正式通航运 营, 1996 年经国家口岸办批准为口岸机场。 目前, 西双版纳机场有国内航线 16条, 国 际航线 2 条, 2012 年的旅客吞吐量预计将 突破 220 万人次。

### 空客天津向中国首家高高原航空公司交付一架飞机

The Tianjin Airbus Delivery Center Has Delivered an A319 to China's First High-altitude Airline



In late November, the Tianjin Airbus Delivery Center Limited delivered an A319 assembled by the Tianjin Airbus Final Assembly Co., Ltd. to China's first high-altitude airline.

This A319 is a high-altitude aircraft that uses the world's highest-altitude airport as its operational base. This is the first aircraft that Tibet Airlines as received from the Airbus (Tianjin) Final Assembly Co Ltd. The aircraft has been equipped with a CFM-56 engine and the cabin has been divided into a business class and an economy class with a total of 128 seats. The aircraft has received flight certification for high-altitude airports and can land at or take off from airports 14,500 feet above sea level. This aircraft has also been equipped with the gaseous oxygen supply system to provide oxygen to passengers while in flight.

In addition, the aircraft has been equipped with the RNP procedure, designed and carried out by Quovadis, a wholly-owned firm of Airbus and has also been equipped with the Satcom positioning system. The new aircraft will fly the Lhasa-Shenzhen round-trip route.

Nigel Varley, general manager of the Tianjin Airbus Delivery Center, stated that a high-altitude aircraft has higher requirements in its engines, oxygen, navigation and communication systems. The RNP (Required Navigation Performance with Authorization Required) navigation system is the most advanced navigation technology in the world. Aircraft equipped with this system can make use of the on-board navigation system and satellite positioning system to fly the fixed line accurately, which is very important to an airline, such as Tibet Airlines, with a high-altitude airport as its base.

Tibet Airlines is China's first high-altitude airline.

11 月下旬,空中客车天津飞机交付中心向中国首家高高原航空公司——西藏航空公司交付了一架空中客车天津总装的 A319 高原型飞机。

这架 A319 高原型飞机将以世界最高机场之一的拉萨贡嘎机场为基地。这是西藏航空首次接收空中客车天津总装的飞机。飞机配备了CFM56-5B发动机,采用两级客舱布局,共有128个座位。此架飞机已经获得了高高原机场飞行认证,可以在高达 14500 英尺的机场起降。该飞机还安装了气态氧供给系统,在高原飞行时为乘客提供氧气。

这架飞机同时选装了空中客车全资拥有的飞行运行服务公司 Quovadis 公司为其设计并实施 "所需导航性能(RNP)"精密导航程序,并安装了 Satcom 星定位系统。该新飞机将执飞拉萨 至深圳往返航线。

空中客车天津飞机交付中心总经理奈杰尔瓦莱介绍,高原型飞机无论在氧气系统还是发动机以及导航、通讯系统方面的要求都很高。 "所需导航性能(RNP)"精密导航系统代表当今世界上最先进的导航技术,装配了这种系统的飞机能够使用机载导航系统和卫星定位系统,精确地依照既定航线飞行,对西藏航空这类以高原机场为基地的航空公司尤为重要。

西藏航空是中国首家高高原航空公司。



Luguhu Airport, a civil use airport, was included in the twenty major fundamental facilities that the CPC Yunnan Provincial Committee and Government have decided to construct this year. It is also Yunnan's first airport project to be put into construction during the Twelfth Five-Year Plan period. With a total investment of the project at 1.214 billion yuan, the project was designed in accordance to the requirements of an annual passenger throughput of 450 thousand and an annual mail & cargo throughput of 900 tons by 2020. The airport is designed as a domestic regional airport and will mainly be used for tourism around Luguhu Lake in Ninglang county and the surrounding areas, business activities and other related activities, as well as emergency and disaster relief and to promote the growth of GA in this region.

Luguhu Airport is an important traffic facility for the development of Yunnan. It is an important part of the layout of the Yunnan airport network, with Kunming Changshui International Airport acting as Southwest China's international hub and other airports in Yunnan as its complements. The Luguhu Airport is a key project in the development of Yunnan as a civil aviation powerhouse. The construction of the Luguhu Airport will be of great significance in pushing forward the formation of the modern integrated transportation network, accelerating transformation of the economic development pattern, opening even wider to the outside world, promoting balanced development between regions, making the tourism industry bigger and stronger, lifting ethnic minority areas out of poverty more quickly and maintaining the prosperity and stability of border areas.

泸沽湖民用机场,是云南省委、省政府确定今年开工建设的 20 个重大基础设施项目之一,也是云南省"十二五"期间首个开工建设的机场项目,总投资 12.14 亿元,工程按照满足 2020 年旅客吞吐量 45 万人次、货邮吞吐量 900 吨的设计。机场建设定位为国内支线机场,主要服务于宁蒗县泸沽湖及周边地区的旅游、公务商务活动等需求,兼顾保障抢险救灾和通用航空业务发展。

泸沽湖民用机场,是桥头堡建设的重要 交通基础设施项目,是云南省构建以昆明长 水国际机场为中国西南门户国际枢纽、省内 各支线机场为辅助的机场网络布局的重要组 成部分,是民航强省建设的重点工程项目。 泸沽湖民用机场的开工建设,对于推动形成 全省以航空为先导的现代综合交通运输体系, 加快转变经济发展方式、扩大对内对外开放、 促进区域协调发展、做大做强旅游产业、加 快民族地区脱贫致富步伐、维护边疆繁荣稳 定具有极为重要的意义。

## Business Aircraft and how it was a major contributor to the success of Knight **Industrial Equipment:**

公务航空如何成为 Knight Industrial Equipment 公司业务成功的主要推力

Written by Robert C. Knight, President

作者: Robert C. Knight, President



As far back as 1963, I had a strong desire to learn to fly and in 1964 even attend the Naval Flight Training School in Pensacola, Florida, but quickly decided I was not interested in a career in the military. I had already served two years on active duty in the Navy and a total of five years in the Naval Reserve. Still I very much wanted to be a pilot and fly my own plane.

早在1963年,我强烈希望学习飞行。1964 年,我甚至进入位于佛罗里达州彭萨科拉市的 海军飞行训练学校学习飞行, 但我很快发现我 自己对军事领域的职位不感兴趣。我在海军服 了2年现役以及5年预备役。我仍然非常希望 成为一个飞行员并能够飞自己的飞机。

After college in 1965 I moved to Lakeland. Florida and went to work for an Engineering Firm for the next two years. During that same time, I started taking private flying lessons and earned my Private & Commercial License and was rated for Multi-engine and Instruments. About the same time that I completed my training, I had the opportunity to go to work for a heavy equipment dealer in their engineering department. This company had offices throughout the State of Florida and owned several aircraft.

It wasn't long before I was back in the air flying for business, not only going to the company's offices, but throughout

the Southeastern part of the USA where our engineering department often guoted engineering and construction jobs. By 1975 I was promoted to Vice President of Sales and Engineering for the company. While I had to know the business inside and out, it was a real boost in my career to also be a pilot and able to cover such a wide territory. This became a valuable tool not just for the engineering department but many times I flew our salesmen in the equipment division to remote locations. In addition, often I flew VIP's, which proved invaluable in broadening our company's recognition and influence in the political and business environment. At the same time, I made many contacts and friends as a result of my ability to fly and earned a reputation as not only a knowledgeable industrial engineer but also someone that could be called on in short notice without spending a lot of time driving. That was a comfort factor for our customers and being able to fly myself, separated me from the competition.

My next big opportunity came in 1984 when I made the decision to\_\_\_业务领域都是一个推动。不论对于工程部门来说, start Knight Industrial Equipment. Specializing in providing turnkey services as equipment dealers, engineers and contractors, gave our customers the opportunity to place all responsibility with one company.

However, the one thing I was missing was the ability to fly around the 这些贵客要么对于拓展我们公司的知名度发挥了巨 country as I had previously done. I spent many wasted hours driving and staying overnight at places I called on in a matter of hours in our company aircraft. Fortunately, one of my best customers and long time friend recognized this and to my surprise, he purchased a Beechcraft Bonanza and made me a partner in the ownership. Of course I had very little money in the early days of our company and was not able to pay for my share in the plane. Nevertheless, he knew that and simply said, I know you will be 利好因素,对于我个人来说,开飞机使我在同行前 successful and you have to have this plane to reach that goal

Over the next 26 years I must say, that plane and the confidence our customers placed in us led us to many great projects, throughout the USA 年,我决定成立 Knight Industrial Equipment。Knight and out of the country in places like Russia, Canada, Puerto Rico and



1965 年大学毕业后, 我移居到了佛罗里达州 雷克兰市,在一家工程公司工作了两年。在这两年 时间里 我开始了私人飞行训练课程并考取了自己 的私人/商业飞行驾照,获得了多发飞机和仪表飞 行等级。大约就在同一期间, 我完成了训练, 这使 我获得了去一家重型设备经销商的工程部门工作的 机会。该公司在整个佛罗里达州都有分公司,并且

没多久我就重回了商业飞行领域,不仅开飞机 到公司到佛罗里达州各地办公室, 还飞到美国东南 部,我们公司的工程部门经常在那里揽工程建造生 意。到 1975年,我被公司提升到了销售和工程部 门的副总裁。我需要打理这项工作里里外外的所有 事宜,这对我作为一名飞行员和掌管如此大的一个 还是从我常常开飞机把设备部的销售人员送到很多 偏远地方这个方面来讲, 飞机都是一个很有价值的 工具。而且, 我还常常开飞机迎送我们公司的贵客, 大作用,要么在政治领域和商务领域具有相当的影 响力。同时,由于我能开飞机,我结识了很多熟人 和朋友。对于这些熟人和朋友来说,我不仅是博学 多才的工业工程师,还能随时载他们飞到各地,为 他们省去了很多驱车行路的时间,这为我赢得了一 个好名声。对于我们赢得客户来说,开飞机是一个

我的下一个大好机会在1984年到来。在这一 Industrial Equipment 专门提供工程承包服务,从事

Morocco. As our company grew, we ultimately decided to relocate our offices to the local airport where we could combine our business and aircraft 户可以跟我们一家公司合作,完成所有业务。然而, hangar to save time in our travels. This proved to be an excellent decision and as our reputation grew as a mobile company covering a large territory, I was invited to join several key aviation organizations including the Lakeland Airport Advisory Board, the Tony Janus Distinguish Aviation Society and Sun N Fun, located here on the airfield at Lakeland Linder Regional Airport. Serving as a Board Member at Sun N Fun, I recently was elected Chairman of the Board. Sun N Fun for those not familiar, is the second largest Air Show and International Convention in the United States and has year round



activities on campus including the Central Florida Aerospace Academy and Florida Air Museum.

I can not emphasize enough how important the use of aircraft has been 做了一个研究,调查我们公司的销售额和使用飞机 over my career and how it has contributed to the success of Knight Industrial Equipment. Recently we did a study to compare our company's sales volume to the use of our company plane. As with a lot of companies here in 售情况出现的下滑,我的飞行小时也一样。幸好我 the US, the economy has not been all that good and starting around 2009 们公司的销售情况最近开始增长了,并且我们发现 until recently, our sales had dropped off significantly and so had my flying hours. Fortunately our sales are now climbing and we have found a direct 关。诚实地说,我喜欢开飞机和会开飞机对我的个 correlation between hours flown and sales volume. I can honestly say that 人生活和生意状况产生了重要影响。做一个飞行员 my personal life and business life have been enhanced greatly by my love and ability to fly. There's just something about being a pilot and getting to 别人无法匹敌的优势。 take advantage of flying that just can't be beaten.

设施经销、工程师服务和工程承包、我们的客 公司成立伊始, 我忽略了一个重要因素, 那就是我 可以像从前那样开飞机到全国各地迎送客户。我开 车前往以前为了节省时间开着公司飞机去的各个地 方拜访客户,还常常需要在那些地方过夜,这浪费 了大量时间。幸运的是,我一个最好的客户,也是 一个交往了很长时间的老朋友意识到了这个问题。 令我惊奇的是,他买了一架 Beechcraft Bonanza 飞 机,还让我成为该飞机的联合拥有人。当然,在我 公司的成立之初, 我几乎没有钱, 也就没有能力 支付成为该飞机联合拥有人的费用。然而,他知 道这个情况, 只是简单地跟我说, 他知道我会成功, 我必须用这架飞机来达成我的成功。

我必须说,在接下来的26年里,这家飞机和 客户对我们的信任,让我们在美国境内以及在俄罗 斯、加拿大、波多黎各和摩洛哥等其他国家和地 区做成了很多大项目。随着我们公司业务的增长, 我们最终决定将公司办公地点迁移到当地机场,这 样可以把我们的业务和飞机库并到一处,以便节省 货运时间,后来的发展证明这是一个很棒的决定。 我们成为了一家灵活度很高的公司、业务范围很 大,公司的声誉越来越好,我被邀请加入一些重要 航空组织,包括Lakeland Airport Advisory Board、 Tony Janus Distinguish Aviation Society 和坐落 于雷克兰林德支线机场的 Sun N Fun。作为 Sun N Fun 的董事会成员,我最近被选举为董事会主席。 对于不了解 Sun N Fun 的朋友来说,它是美国第二 大飞行表演大会和国际性大会。在自己的场地和 中佛罗里达航空航天学院和佛罗里达航空博物馆, 一年到头都在举行活动。

我不能完述使用飞机对我的职业生涯和 Knight Industrial Equipment 带来的影响和作用。最近我们 的关系。由于在美国有很多公司,经济也不是一直 很好。大约从 2009 年开始到现在, 我们公司的销 在我们公司的销售额和公司飞机的飞行小时直接相 和善于利用自己会开飞机这一特点,使我拥有一些







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### 贝尔 429 直升机总重量增加获得中国民航局签署认证

## Civil Aviation Administration of China Approves Gross Weight Increase for the Bell 429

The Civil Aviation Administration of China (CAAC) has approved the increased maximum gross weight for the Bell 429. This approval makes China the twelfth country to endorse the increased maximum gross weight for the Bell 429 based on Transport Canada's certification.

Transport Canada approved the operation of the Bell 429 at 3400 kg (7,500 lbs) in January of 2012, after an extensive technical evaluation. The Bell 429 serves the full spectrum of aviation segments including air medical, law enforcement, oil & gas, utilities and private VIP flights.

The Bell 429 is certified for both Single or Dual Pilot IFR, Cat. A / JAROPS Performance Class 1 at the maximum gross weight. It is the first helicopter certified through the MSG-3 process, resulting in reduced maintenance costs for operators. The increased gross weight configuration includes a Helicopter Terrain Awareness Warning System (HTAWS), a radar altimeter, cockpit voice/flight data recorder and forward flashing lights.

The increase in the maximum gross weight of the Bell 429 allows operators to carry more payload and/ or fuel, expanding the capability of the aircraft for any mission requirement. With additional fuel or mission equipment on board, aircrews can fly farther with the tools needed to deliver services critical in supporting the growth of China's infrastructure and economy. This is important given China's large and geographically diverse landscape.



中国民用航空局(Civil Aviation Administration of China,简称"民航局")已签署认证贝尔 429 直升机增加总重量。基于加拿大交通运输局的认证,民航局该项认证意味着中国成为世界上第十二个批准贝尔 429 直升机总重量增加的国家。

经过全面的技术评估,加拿大交通部于 2012 年 1 月批准了贝尔 429 直升机可在 3400 公斤 (7500 磅) 的总重量下运营。贝尔 429 直升机,适用于各领域,包括空中医疗、执法、石油和天然气、公用事业和企业 VIP 专机。

贝尔 429 直升机具有单人或双人飞行 IFR 认证,最大总重量达到 Cat. A / JAROPS 性能 1 级。它也是通过 MSG-3 认证的第一架直升机,为运营商降低了维护成本。总重增加的配置包括:直升机地形感知警告系统(HTAWS)、雷达测高计、驾驶舱语音/飞行数据记录器,及前闪光灯。

贝尔 429 直升机最大总重量的增加,使运营商能够装载更多的货物和/或燃料,提高飞机在各类任务中的执行能力。为飞机准备更多的燃料或任务设备,使机组人员可在所需设备支持下飞得更远,为支持中国基础设施建设和经济增长提供重要服务。这一点对于适应中国幅员辽阔和地形多样的地理特点至关重要。

## 中国・铜川通航旅游秀生运动示范园

诚邀战略合作伙伴共绘西部通航蓝图! Sincerely Inviting The Strategic Partners

中国。据川通航旅游养生运动示范指通路生态、低级、环保、健康的现代改资理念与方向。借助我阅通规数空发展与跨通省部间域市场连转型的历史领域。综合范围大力 《的休闲旅游、现代休闲农业、中医多生、体育健身的产业方向。在陕西省提川市约王山景区旁规划建设的新型摄航器游动等生产业综合体

理目包括通轨机场、通轨主题资度、通机科各体物馆、多生农庄、中区多生浸度体验馆、生态农业观光管理、产品设施、民格文化保险等规域、企具"通机"、"说动" "各类"、"投资"的核心理论、企业保险或高度通过飞行关系基础、高度方式代表通过发动的核心,可可以完成现实是不是特别的原理,这个现实是可以会对对对对对

增长极、成为铜川一流的旅游度假目的地和市场引领者

项目占地约4.6平方公里。总投资为6亿元。位于陕西省俱用市、地理区位优势明显、交通便利、距西安市区68公里、胜西安城阳国际机场72公里。西安至黄陵高速公路40分钟可达、咸明。 梅七两条支线铁路与铁海大动脉相连。











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## 山东齐翔通航公司顺利通过局方运行合格审定 Shandong Qixiang GA Passes Operation Certification



In early November, the operation certification conference for Shandong Qixiang General Aviation Company Limited (Shandong Qixiang GA) regarding the CCAR-91 OPERATIONS SPECIFICATIONS was held in the Shandong Mansion. Leaders of the CAAC East China Regional Administration, Li Ping, deputy administrator of the CAAC's Shandong Administration of Civil Aviation Security and main officers from this organization as well as related officers of Shandong Qixiang GA all attended this conference.

Shandong Qixiang GA passed the operation certification requirements and acquired the Commercial Air Operator Certificate, which marked the Shandong province's first private general aviation company can now officially be put into operation.

Shandong Qixiang GA is Shandong's first general aviation company to operate aircraft escrow and flight training abroad. It is also a private GA company that has registered in the U.S. under the name AW Sky Aviation INC. It is a company that wholly owns the American flight training school, California Aviation Services, which is approved by the FAA. Meng Xiaodong, chief operating officer of Shandong Qixiang GA said that their company was contacting Bell Helicopter Textron, McDonnell Douglas Helicopter Company and ROBINSON Helicopter Company in a bid to buy some helicopters. The company plans to buy 10 to 15 large and medium helicopters in 3 to 5 years and will focus on developing the R44 fight fleet. The company has its own advantages in private pilot license training and commercial pilot license training abroad.

11月初,山东齐翔通用航空有限公司(简称"齐翔通航") CCAR-91 部运行合格审定颁证会在山东大厦举行。中国民用航空华东地区管理局(简称"华东管理局") 领导,中国民用航空山东安全监督管理局(简称"山东监管局") 李平副局长及飞标处、适航处、航务处主要领导,参加了会议。齐翔通航相关负责人也参加了会议。

齐翔通航通过了运行合格审定,并取得《商业非运输航空运营人运行合格证》,这意味着山东省会首家民营通用航空公司可以正式投入运营了。

齐翔通航是山东省唯一一家可以进行飞机托管和飞行员境外培训的通用航空公司;是国内通用航空首家在美国注册跨国公司 (AW Sky Aviation INC) 的民营企业;是国内通用航空首家全资拥有FAA (美国联邦航空管理局)认可的美国航空驾校(California Aviation Services, INC)的企业。运营总监孟晓东介绍,目前该公司正在与贝尔公司、麦道直升机公司、罗宾逊直升机公司沟通相关购机意向,计划在3-5年内引进10到15架大中型直升机,尤其重点发展R44飞行机队,大力开展经营项目,在私人飞行驾照、商用飞行驾照境外培训上具备特别优势。

民航报导



# Leading by Example 参加 AMTSociety 的 MSC 大赛,以身作则推动中国航空维修产业的发展

作者: AMTSociety 主席 Ken MacTiernan 先生 By: Ken MacTiernanDirector AMTSocietyChairman MSC

翻译:高瑞玲

Translated by Linda Gao

When trying to promote an image, idea or belief the best way to go about it is to be visible, professional and educated. This is exactly what Lode Technology Co., Ltd. from Beijing is doing in regards to promoting Chinese aviation. March 2013 will be the fourth year in a row in which Lode Technology Co., Ltd. will field a team of 5 AMEs to compete in the AMTSociety's Maintenance Skills Competition (MSC) in Las Vegas, NV.

Lode Technology Co., Ltd. Specializes in the processing and testing of cable and wiring harnesses as well as being involved in the inertia measurement field. Lode brings their team as an unofficial representative of China whereby they, along with four other countries, are promoting the proud, skilled profession of today's Aircraft Maintenance Engineer (AME). With China's rapid growth in the aviation industry being able to promote the men and women that are entrusted with keeping China's aircraft safe and airworthy it is comforting to know that Lode Technology Co., Ltd. is leading by example. Although Lode Technology Co., Ltd. is currently the only Chinese aviation company competing in the AMTSociety's MSC they are setting the standard for other Chinese aviation companies to follow.

当宣传推广一张图片、一个概念或者一种信仰时,最好的方式是让它被人看到,且具有专业性和教育意义,这也是北京诺典科技有限公司(英文名称为Lode Technology Co., Ltd., 简称诺典公司)就推动中国的航空产业正在做的事情。2013年的3月份,北京诺典科技有限公司将继续组织一个5名飞机维修工程师的团队,第四次参加AMTSociety在内华达州拉斯维加斯市举办的维修技能比赛(英文名称为Maintenance Skills Competition,简称MSC)

诺典公司是专业从事电缆和线束加工及测试的公司,业务范围还涉及惯性测试领域。该公司把这个团队当作中国的非官方代表,连同其他四个国家的代表一起参加这个比赛,推动今天的飞机维修工程师这个领域广阔的技能性行业。今天,中国正在迅速发展其航空产业,它也在迅速培养人才以保障其飞机的安全和适航性,诺典公司正以身作则地在



The MSC is the only venue where teams of Aircraft Maintenance Engineers and Aircraft Maintenance Technicians (AMT) can go head to head in events that highlight just some of the many responsibilities that are carried by these skilled professionals. There are 17 events that range from basic safety wiring to electrical and avionic troubleshooting. Other events include composite repair, cockpit window sealing, wheel and brake removal/installation, regulatory research as well as a written test on Charles E. Taylor the world's first aircraft mechanic. All of the events are given twenty minutes to be completed in and scoring is arrived at how much time each team uses accomplishing all of the events. The teams with the lowest scores in each category are awarded 1st, 2nd and 3rd Place Plaques and prizes.

The categories teams can enter are Commercial Aviation, General Aviation, Military Category, School Category and Maintenance- Repair-Overhaul/Original Equipment Manufacturing Category (MRO/OEM). Lode Technology Co. Ltd. Competes in the MRO/OEM Category and for three years in a row they have shown how professional Chinese AMEs are. Going up against teams from Boeing and American Airlines in past MSCs Lode Technology Co., Ltd. has indicated that they are serious about representing their company and their country.

Having China field a team of AMEs to compete against AMEs from Mexico, Canada, Australia and the United States is leading by example in promoting the highly skilled and proud craft and profession of today's AME/AMT. Hopefully other companies within China will follow Lode Technology Co., Ltd.'s example and themselves field teams to come to Las Vegas NV each March and help promote China's aviation industry. If companies are interested in competing they may contact Ken MacTiernan, Director AMTSociety and Chairman for the Maintenance Skills Competition at JETDR@SAN.RR.COM or at (619) 395-6681.

这方面帮助中国。尽管诺典公司是目前唯一代表中国参加 AMTSociety 的 MSC 的航空领域公司,他们却在为其他代表中国航空产业的公司起了模范作用。

MSC 是唯一一个由飞机维修工程师(英文名称为 Aircraft Maintenance Engineer,简称 AME)和飞机维修 技师(英文名称为 Aircraft Maintenance Technicians,简称 AMT)以小组形式面对面竞技的比赛,这个比赛 只凸显了参赛人员从事工作所需的众多技能中的一部分。这个比赛共有大小 17 个比赛单元,分别考验参赛人员从最基础的安全布线到电力和航空电子排障等各方面的技能。其他的比赛内容则包括复合材料维修、驾驶舱窗玻璃密封、机轮和刹车系统拆卸及安装、法规调研以及包括 Carles E. Taylor (世界首位飞机技师)类别的笔试。这些比赛都给参赛人员 20 分钟来完成测试内容,然后根据每个小组完成测试内容的时间来打分。完成比赛时间最少的前三名分别被颁发第一名、第二名和第三名的奖牌和奖品。

参赛团队可以进入的领域有商业航空、通用航空、军用航空、培训学校,还有飞机保养、维修、大修及航空产品原始设备制造商领域(Maintenance

Repair Overhaul / Original Equipment Manufacturing Category,简称 MRO/OEM)。诺典公司的参赛团队参加的比赛单元是 MRO/OEM,该公司已经连续 3 年参加这个比赛了,展现了中国 AME 们高超的维修技能。由于曾经在 MSC 中与来自波音和美国航空公司的小组为对手,诺典公司人员非常注重代表自己公司和国家。

诺典公司组成的一个中国 AME 小组将与来自墨西哥、加拿大、澳大利亚和美国的 AME 同仁们比赛,旨在以身作则推动今天的 AME/AMT 高超的技能和这个专业的领域。希望中国其他的公司以诺典公司为榜样,也组织 AME/AMT 人才参加每年在内华达州拉斯维加斯市举行的这个比赛,来帮助推动中国的航空产业。

有兴趣参加竞赛者,请联系 AMTSociety 的主管兼主席 Ken MacTiernan 先生

邮箱地址: JETDR@SAN.RR.COM





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#### 新中联航正式成立

#### China Eastern Airlines Re-launches China United Airlines

In late November, the Shanghai-based China Eastern Airlines (China Eastern) re-launched China United Airlines (China United). China Eastern 称 "东航") 全资的中国联合航空有限公司(简 consolidated the assets of its former Beijing-based China United subsidiary with 称"中联航")和原中国东方航空股份有限公司(简 Hebei Branch Co. to further expand into the Beijing market.

The operating base will still be located at Beijing Nanyuan Airport, 13 km 的中国联合航空有限公司(简称"新中联航")。 away from Beijing Tian'anmen. It will be another "air portal" to Beijing in addition to Beijing Capital International Airport. Currently, the new China United has 23 (简称"南苑机场"),距离天安门仅 13 公里, aircraft - all Boeing - and has three branches or subsidiaries, including the Hebei 是除北京首都国际机场(简称"首都机场")外 Branch Co., Beijing Nanyuan Airport Management Co. and Foshan Shadi Airport 另一条进出北京的"空中门户"。目前,新中联 Management Co., with all assets added up to 1.4 billion yuan. It is predicted that 航拥有 "清一色"的波音飞机 23 架, 下设中联 by 2015, the fleet size of the New China United will reach 50 aircraft and the 航河北分公司、北京南苑机场管理公司、佛山沙 annual passenger transportation volume will exceed 10 million passengers.

In 2012, the total passenger throughput will exceed 3.5 million person-time 达到 14 亿元。预计到 2015 年,中联航的机队规 and will reach a new record. In July, 2012, modern reconstruction for Nanyuan 模将达到 50 架, 年旅客运输量将超千万, Airport had been completed. Now there are 3 baggage claim units and 8 security check channels, which can now meet an annual transportation volume 再创历史新高。南苑机场于 2012 年 7 月完成了 of 6 million passengers. All distances between the parking lot and the terminal, 现代化改造,拥有3个行李转盘,8条安检通道, between the check-in counters and the security check channels, between the 可满足 600 万人次的年旅客运输量。南苑机场停 security check channels and the boarding gates are no longer than 100 meters. 车场到候机楼、值机柜台到安检通道、安检通道 The flights landing or taking off from the airport are not as limited by the flight 到登机口的距离均在百米以内,起降航班受北京 and flow control of the Beijing region and this allows for a high flight regularity 空域流量限制较少,航班正点率高。 rate to be maintained.

11 月下旬,中国东方航空股份有限公司(简 称"东航")河北分公司完成联合重组 成为新

新中联航的主运营基地设在北京南苑机场 堤机场管理公司三家分(子)公司,公司总资产

南苑机场 2012 年客运吞吐量将突破 350 万.

#### 庆阳机场复航 飞行区等级升为 4C 级

#### Qingyang Airport Put Back Into Operation with the Aircraft Movement Area Upgraded to Level 4C

In late November, a grand ceremony was held to commemorate the recommencement of Qingyang Airport. The resumption of the airport will be a positive force in the economic growth of East Gansu and exchange between this region and the outside world.

Qingyang Airport was completed and put into operation in 1977 and in 1993, it was forced to suspend operation due to not having the appropriate aircraft and was put into resumption in December, 2005. To meet the requirements of the economic development of Qingyang, the airport began reconstruction and expansion in March of 2011 and passed the flight inspection in July of 2012. Then in August, the aircraft movement area project passed inspection and industrial examination smoothly.

During the expansion project, the length of the runway was extended to 2,600 meters from 2,000 meters and the width was extended from 30 meters to 45 meters. The aircraft movement area reference code was upgraded from 3C to 4C. All of the expansion items have significantly promoted



11 月下旬, 庆阳机场降重举行复航庆典仪式, 此次复航,将对甘肃陇东经济发展和对外交流起到 重要的基础支撑作用。

庆阳机场 1977 年建成通航, 1993 年由于无适 航机型被迫停航, 2005年12月复航。为适应庆阳 the support capability for the flights. This expansion has the year of 2020 as its target completion year and was designed in accordance to the requirements of a passenger throughput of 160 thousand people annually and a mail landing sorties of 3,200 annually. The airport will now also accommodate the takeoff and landing of the Boeing 737 and Airbus A320 and other similar sized aircraft.

经济快速发展需要,2011年3月庆阳机场开始4C级扩建改造,并 于今年7月顺利通过飞行校验,成功试飞。8月,飞行区工程顺利 通过竣工及行业验收。

此次扩建将原有 2000 米的跑道延长至 2600 米、并由 30 米加 and cargo throughput of 550 tons, with aircraft takeoff and 宽至 45 米, 飞行区等级由 3C 级升格为 4C 级, 航班保障能力大大 提升。此次扩建以2020年为目标年,按满足旅客吞吐量16万人次, 货邮吞吐量 550 吨,飞机起降 3200 架次设计,以满足波音 737、空 中客车 A320 等机型起降。

#### 武汉将在江夏建第二机场 打造国际航空物流港

#### Wuhan to Construct an Airport in the Jiangxia District in a bid to Create an International Logistics Airport

The Wuhan Logistic Industry Space Development Plan of 2012-2020 passed during the Wuhan municipal standing meeting, stated that Wuhan is plotting an 流业空间发展规划 2012——2020》,继 1995 airport in the Jiangxia district, in order to construct an international Jiangnan (means 年启用位于黄陂的武汉天河国际机场(简称 the south of the Yangzte river) Logistics Airport.

The to-be-plotted second airport in Wuhan will be the result of the re- 局第二机场, 主要建设江南机场国际航空物 construction of the Jiangxia Shanpo Airport. The Jiangnan Logistics Airport 流港。 was located in the Jiangxia Shanpo Airport. It will be located near the highway connecting Beijing to Hong Kong and Macao to the west and is next to the 107 national trunk way and the Beijing-Guangzhou railway. The airport will mainly operate full-freighter transportation.

According to the plan, the international logistics airport will take up a total area of 5.5144 million square meters, among which the logistics storage area will utilize 3.6341 million square meters. It will emphasize air transportation and air transit shipments regarding machinery equipment parts, engineering equipment spare parts and electronic products.

Currently, there are only 5 full-freight flights and the air cargo transportation volume is far less than that of Beijing, Shanghai, Guangzhou and other major cities. This situation stacks against the logistics industry of Wuhan and the advantages of 一现状不利于武汉市物流业发展,也不利于 utilizing Wuhan as a traffic hub.

In June, the feasibility reports of Wuhan Tianhe Airport's phase III construction was approved by the NDRC. The Wuhan Tianhe Airport phase III is designed in accordance to meet the requirements of a passenger throughput of 35 million people and a cargo & mail throughput of 440 thousand tons by the year 2020. This year, Wuhan has opened 10 international flights to Paris, Bangkok and other countries / regions, which makes Wuhan an airport with 20 international flights and the most regional and international flights in the central China region. Currently, the cargo & mail throughput has reached 61.5 thousand tons.

Wuhan will plot a Tianhe Integrative Logistics Park next to Tianhe Airport. The 空港综合物流园。它以航空货运转运中心建 park will emphasize the construction of the air cargo transit shipment center and will be set up as a logistics park, integrating international cargo transportation. bonded logistics and modern air logistics to serve the whole country and to connect China with the rest of the world.

武汉市政府常务会上通过的《武汉市物 "天河机场")后,武汉市正在江夏规划布

第二机场主要是对江夏山坡机场民用化 改造而成。江南机场国际航空物流港位于山 坡机场、它西临京港澳高速公路、东靠 107 国道和京广铁路,将以全货机运输为重点。

据规划。该国际航空物流港总面积 551.44 万平方米, 其中物流仓储用地面积 363.41 万平方米, 重点发展以机械设备配件、 工程机械备品备件、电子产品等为主的航空 运输、航空转运。

目前武汉全货机航线数量仅5条, 航空 货运量远低于北京、上海、广州等城市、这 充分发挥武汉市交通枢纽的优势。

今年6月,武汉天河机场三期建设工程 可行性研究报告获批, 按满足 2020 年旅客 吞吐量 3500 万人次、货邮吞吐量 44 万吨的 目标设计。今年武汉市已新辟武汉至巴黎、 曼谷等10条国际和地区航线,武汉国际航 线已达 20 条,成为中部地区开通国际和地 区航线最多的城市; 货邮吞吐量达 6.15 万吨。

紧邻天河机场, 武汉市还将规划建天河 设为重点,建设集国际货运、保税物流、现 代航空物流于一体的服务全国、连接国际的 空港综合物流园。

民航报导 China Civil Aviation Report



从左至右: Francis Niss (利勃海尔宇航与运输集团总裁)、吴光辉 (中航商用飞机有限公司高级副总裁及总设计师)、耿汝光 (中 国航空工业集团公司副总经理)、徐军(中航飞机起落架有限责任公司董事长)

#### 中航工业起落架与利勃海尔宇航合资公司揭牌 Liebherr-Aerospace and LAMC Celebrate Their Future Joint Venture at the 2012 China Airshow

In mid-November, the unveiling ceremony for the Liebherr LAMC Aviation (Changsha) Co. Ltd. was held in Zhuhai. This was the second landmark event between Liebherr-Aerospace and the AVIC member Landing Gear Advanced Manufacturing Co., Ltd. (LAMC) after their first joint venture Contract signing at 合同》以来又一个具有里程碑意义的事件。 the Paris Air Show in June, 2011.

With a total investment of 12 million dollars, the new company, Liebherr LAMC Aviation (Changsha) Co., Ltd. is held by the two parties by a 50:50 split and will be based in the Aviation Industrial Park at the Changsha Wangcheng Economic Development Zone in the Hunan province in China. Both companies will use the joint venture as a platform and make full use of their advantages in technology, experience, market and cost to jointly undertake the development, manufacturing, certification and after-sale services of the landing gear system for the C919 and will gradually launch the development, manufacturing and maintenance of the landing gears of the ARJ21 and other civil use landing gears. The two parties agreed on more investments as the cooperation project 方同意,后续随着合作项目的深入和拓展,将 is being embed and enlarged.

11 月中旬,"利勃海尔中航起航空(长沙) 有限责任公司"揭牌仪式在珠海举行。这是继 2011年6月双方在巴黎航展上签署《合资公司

"利勃海尔中航起航空(长沙)有限责任 公司"是中航工业飞机起落架有限责任公司和 德国利勃海尔宇航公司以50:50的股权比例成 立的合资公司,公司投资总额为1200万美元, 注册地湖南长沙望城经开区航空工业园。合资 双方将以合资公司为平台, 充分利用各自的技 术、经验、市场和成本优势, 共同承担 C919 起 落架系统的研制、生产、取证、售后服务,并 逐步开展 ARJ21 起落架生产, 其它国内外民用 起落架研发、制造,以及起落架修理业务。双 进一步增加投资。

#### 国务院、中央军委正式批复新建锦州民用机场

#### The State Council and the Central Military Commission Officially Approved the Construction of the New Jinzhou Airport

At the end of 2008, the Jinzhou Municipal Committee and the Jinzhou Municipal People's Government decided to relocate the Jinzhou Airport. In October, the State Council and the Central Military Commission issued a document to give written approval for the construction of the new Jinzhou Airport. The Civil Aviation Administration of China has also approved the name of the airport to be Jinzhouwan airport.

According to the approval from the State Council and the Central Military Commission, the new Jinzhou Airport will be a domestic regional airport and will be located near the Hetun Salt Field in the Jinzhouwan village, in the Jianye township, in the Linghai city. Here are the main items in this project to be constructed: an aircraft movement area in accordance to 4C standards, a runway of 2,500 meters long, a terminal area to meet annual passenger throughput requirements of 550 thousand passengers and an annual mail and cargo throughput of 3,750 tons by 2020, a terminal of 7,200 square meters, an apron with 5 gate positions and supporting production facilities for communication, navigation, meteorology, power, water, fuel supplies and fire fighting. The total investment is 762 million Yuan.

The headquarters for Jinzhou Airport is now very busy carrying out tasks regarding the feasibility report, the general program and the preliminary design in an attempt to start constructing the airport as soon as possible.

2008年年底, 锦州市委、市政府正式决 定迁建锦州民用机场。新建锦州民用机场项目 已于今年10月由国务院、中央军委下发文件 正式批复。中国民用航空局已批复该机场命名 为"锦州湾机场"。

按照国务院, 中央军委的批复, 新建锦 州民用机场性质为国内支线机场、场址位于凌 海市建业乡锦州湾村何屯盐场附近。本期工程 建设规模为:飞行区按 4C 标准设计,新建一 条长 2500 米的跑道, 航站区按满足 2020 年旅 客吞吐量 55 万人次、货邮吞吐量 3750 吨的目 标设计, 航站楼 7200 平方米, 站坪机位 5 个: 配套建设通信、导航、气象、供电、供水、供油、 消防救援等辅助生产设施。项目总投资 7.62

锦州民用机场迁建工程指挥部正在抓紧 推进机场可研报告、总体规划和初步设计等准 备工作, 力争早日开工建设锦州湾机场。

#### 襄阳机场改扩建工程预可行性报告获正式批复

#### Pre-feasibility Study Report for the Reconstruction and Extension Project of Xiangyang Airport Receives Official Approval

At the end of August, the Hubei Development and Reform Commission officially approved the pre-feasibility study report of the reconstruction and extension project of Xiangyang Airport.

The approval agreed on the reconstruction and extension of Xiangyang Airport. The project was designed in accordance to the requirements of a passenger throughput of 1.05 million, mail and cargo throughput of 7,500 tons and 12 thousand aircraft landing and takeoffs by the year 2020. The aircraft movement reference code is 4D. The main construction items are: to extend the runway from 2,400 m to 2,600 m to the north; to increase 5 more gate positions, to add a vertical taxiway and to construct a new terminal of 16,000 square meters; to install navigation and lighting works, fire fighting projects and security & protection systems; to construct ATM, communication, navigation and meteorological installations and water supply and drainage and refrigeration units and other related tasks. The approval also pointed out that the project will try to get subsidy funding from the central government and the provincial government and the rest of the investment will be paid by the Xiangyang Municipal Government.

8月底,湖北省发展改革委正式批 复了襄阳机场改扩建工程预可行性报告。

批复同意实施襄阳机场改扩建工程。 扩建后的工程按照 2020 年吞吐量 105 万 人次、货邮 7500 吨、飞机起降量 1.2 万 架次的目标设计,飞行区等级为 4D。主 要建设内容为跑道向北延长 200 米达到 2600米, 扩建机坪5个, 增加北垂直联 络道1条,新建航站楼16000平方米。 新建助航灯光工程、导航工程、消防工 程、安防工程,同期建设空管通信、导航、 气象等配套工程,建设供水、给排水、 制冷等辅助生产生活设施。批复还指出, 此次改扩建的资金除了争取国家和省安 排的补助资金,其余由襄阳市政府筹措 解决。



每年我都会赴美享受自由的飞行之旅。今年的最后一次旅行安排在 12 月 9 号,我从上海启程飞往旧金山,拜访了我的好朋友赵嘉国先生,同时还在空中饱览了旧金山湾区的风景。

12月13号,赵先生带我乘车来到旧金山东湾康柯德县的 Buchanan Field (CCR) 机场,该机场是一个典型的通航机场,有三条六千英尺的跑道,可以起降双引擎的中小型喷气公务机,就在机场附近的停机坪,整齐地停放着三百多架单引擎的私人飞机,其中以赛斯纳,派珀,比奇为主,这些飞机通常只在周末飞行,航空学校的飞机和公务机,使用率极高,平均每年的飞行时间可以达到一千多小时。机场的固定运营基地(FBO)简单而整洁,进入服务大厅,门口放着一台初级飞行模拟器,用于训练新飞行员的起落程序。地面上躺着一只黑色的宠物狗,还有两只小型犬快乐地跑来跑去,充满了浓郁草根性的生活气息。

赵先生替我预约的飞机是四座的 PIPER, PA28—150 型单引擎下单翼 飞机,装有一台 150 马力的莱康明航空发动机,最大起飞重量 975 公斤, 四座、翼展 9.2m, 机长 7.12 米。为方便地空联络、我聘请了一名导航员 凯文, 他是一个大块头, 身材魁梧看起来像一个拳击手, 凯文具有美国式 的幽默感,常会和我们开玩笑。首先我们进行三分钟的飞行简报,听取了 凯文介绍飞机的起落航线参照点,再听气象广播,介绍风速,风向,云量 和云高等内容。一切就绪,赵先生和我在凯文的带领下进入停机坪,一架 白色的 PA28 编号为 N 1109X 的下单翼飞机就是我们的坐骑。首先进行飞 行前的检查,按顺序从机首到机尾,目视检查飞机。我仔细观察全金属的 双叶定距螺旋桨,这架飞机的螺旋桨前缘被沙石长期磨损,变得比较粗糙, 而且在接近翼尖的位置有一个绿豆大小的凹坑,显然是地面试车时被吹起 的石头所击伤, 我告诉凯文并建议他进行处理, 附近的机械师过来帮助维 修, 凯文用双手紧握螺旋桨, 仅用一把大号锉刀的机械师咯咯吱吱的锉了 起来。两分钟后就将创面修成圆弧,圆满完成修复的任务,这样可以降低 螺旋桨的疲劳应力,使螺旋桨可以继续使用。我问凯文:"这个桨叶使用 多少小时,为何不买一片新桨叶?"凯文说:"这片桨叶使用大约五千多 小时, 买新的桨叶需要五千多美元, 太贵了, 所以继续用"。我恍然大悟,

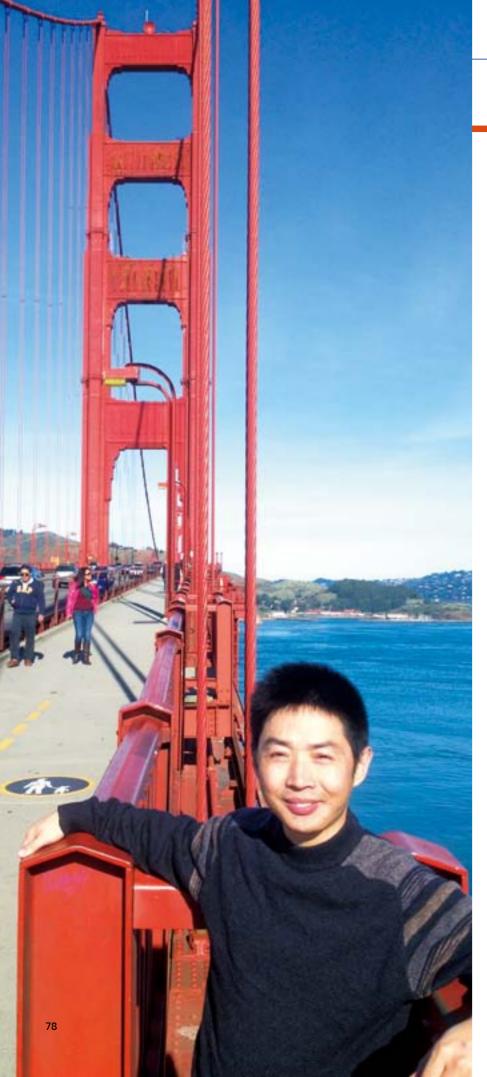


作为一名飞行迷,对我最有吸引力的国家,非美国莫属。因为美国是世界上通用航空最发达的国家,超过24万架通航飞机翱翔在美国的天空,在任何时间美国的天空中都有超过五千多架商业飞机在空中飞行,是中国商业航飞机总飞行架次的4倍数量。同时美国的通航飞机使用成本低,单引擎的CESSNA152或J3PIPER等双座飞机每小时租金仅有70到80美元,加上飞行教官的小时费仅有一百多美元。中国目前同类的飞机租金高于美国5倍,而且常因空域问题不能起飞,飞行驾照的培训周期比美国长,大约有半数以上的中国飞行学校都不能按计划时间完成培训。美国的通航机场超过一万九千余个,低空充分的开放,所有的飞行员都可以尽情享受飞行的乐趣。





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使用时间过长而导致的磨损,从另一个方面可以看出美国的通航维护水平很高,在中国民航这样的桨叶早就强制报废了,而在美国可以根据实际情况继续使用,以降低运营成本。美国本土有75%的小型飞机的机龄超过35到40年,只要能达到FAA 适航标准,都可以继续使用,甚至一战和二战时期的老式飞机,都有FAA 颁发的适航证,我们在各大航展都可以看到老骥伏枥的身影,这就是美国的航空精神所在,凡是历史上的飞机,都有相应的铁杆粉丝在不懈努力保养和维护,收藏和进行飞行表演。

虽然我第一次飞下单翼飞机。对于这架 PA28 的布局还是很快就适应了, 我松开脚刹, 左手稳住驾驶盘, 右手将油推到最大, 飞机的 引擎轻快地轰鸣着。在跑道上加速到65节空 速时我柔和地将飞机拉起来,飞机迎风的爬升 角比较大, 爬升率在15英尺/秒, 和赛斯纳 172 接近。一边高度爬到 700 英尺左转进入一 转弯, 两边继续爬升到 900 英尺平飞, 三边平 飞报高度,准备着陆,空速减低到90节,右 手用力上提襟翼杆,一个比汽车的手刹车还要 长的拉杆很有意思,第一档拉起(放下)15度 襟翼, 进入四边放 30 度襟翼, 下降高度到 700 英尺. 四转弯后再放 40 度襟翼. 位于跑道延 长线, 依靠油门维持高度, 飞机在70节空速 拉平, 随着飞机的下降再轻微拉杆, 起落架柔 和地接地,完成一次起落。接着收起襟翼,推 满油门连续起飞,很快就连续完成了十个起落。 飞机着陆后沿滑行道回到泊位,这十个起落着 陆非常柔和, 后座的赵先生沐浴着温暖的北 加州阳光,不知不觉中入睡。下单翼飞机接地 的趋势很顺滑, 平飘距离相对较上单翼要小一 些, 更容易目测着陆点。而且下单翼飞机的操 纵性能更好一些。总体上感觉 PA28 飞机操控 品质优良,对空观察视野很开阔,座舱很宽敞, 我和凯文两人并列坐下双肩可活动自如, 比起 CESSNA172 的空间大许多。

12月15号,赵先生开车带我来到两个半小时车程的内华达县 Nevada County Airpark (GOO) 机场,这是一个建筑在山顶的小型机场,只有一条700米长的南北走向跑道,我们要拜访的朋友就在这里飞行。进入机场时打开一扇小巧的栅栏门,右手边是一个飞行情报室,一间四十平方小木屋,内有一个办公桌,几个老年人围着咖啡在谈飞行,屋顶上吊挂着



很多大比例的航模。我们同值班的经理打了个招呼,告诉他我们来找 John,然后被许可进入机场。步行来到机场的最北侧,看到左侧第一个机库内停着一架红绿相间的初教六飞机。飞机的拥有者是 John,我要和他一起体验飞行初教六飞机。 John 是一名退休的海岸防卫队救生员,已经有 70 岁的他看起来精神矍铄,年轻时曾经在西科斯基的搜救型直升机服役做救生员拥有救援 7 名受难人员的记录,退休前迷上了飞行,曾经拥有过好几种固定翼的飞机。目前有 1500 多小时飞行经验。目前这架二手的初教六飞机是十年前买的,飞机头部涂装了橘红色,机身是军绿色,尾部是典型的二战 P51 野马飞机的方格点缀图案。

我仔细地观察这架飞机,发现前座舱盖被换成了突起的气

泡式座舱,飞机原来的电台被拆掉, 更换为美国的无线电设备。John 告诉我,他将飞机座舱盖改掉,是 因为他喜欢戴飞行头盔, 原来的舱 盖很矮无法戴头盔飞行, 最后索性 改装新的舱盖。最重要的改装是前 起落架,有一半的零件是用美国的 Piper 飞机零件改装, 前轮的强度提 高,在高速滑跑阶段不会发生抖动。 此外飞机的水平尾翼也进行了强化 处理, 可以经得起高过载的特技飞 行。我看到这架飞机的油漆喷涂得 很精致, 快卸螺丝换成不锈钢的, 其余部分还保留着原机的样式。特 别有意思的是这架飞机的头部写着 几个字: NOTAYAK! 这不是雅克飞 机! 因为很多航空爱好者常误认为 这是雅克飞机, 所以 John 在机首

特意写下这句话。总体上 John 的这架 初教六改装的非常成功,而且是在美国 的职业航空工程师的指导下完成的,其 性能已经超越中国空军的标准版飞机,由此可见美国的业余航空爱好者的水平 之高。

初教六是中国空军的初级教练机,从六十年代使用至今。初教六参考了前苏联雅克 18 教练机的设计,机身和机翼非常相似,所不同的是初教六飞机机身机翼是全金属的设计。九十年代从中国空军退役的初教六开始销售到美国市场,目前有三百余架二手的初教六翱翔在美国的天空,并组成红星飞行员协会(Red Star Pilot Association),定期编队飞行参加大型航空会展如 EAA 和Sun 'n Fun 等航展。美国的许多私人飞行员特喜欢二战风格的战斗机,初教六

的布局和性能都是属于"战鸟"(War birds)的级别,受到了很多军机飞行员粉丝的追捧。我问 John:"为什么买中国的初数六飞机?" John 回答道:"初教六飞机很好飞,操控性和稳定性很出色,是很好的飞机"!然后 John 拿出记号笔,让我在后座签上我的名字,以作合影的纪念。

检查完飞机一切就绪,打开开关按压点火按钮,因为天气较冷,发动了四次才成功点火,引擎口喷出一阵蓝色的烟雾,这是因为气缸的滑油流入排气管后燃烧时引起的,飞机轻快地向前滑出,我们一边慢慢滑行,一边等待飞机引擎的滑油和气缸头温度上升,暖机完成,飞机刹住车,油门和桨距推到最大,





引擎在 2200 转时松刹车起飞,飞机加速到 75 公里时速,拉起机 头飞机离地,保持爬升,三边向北继续爬升,我们直接飞到内 华达山脉的群山之中, 下面到处是白雪皑皑的山峰, 郁郁葱葱的 树木,还有众多湖泊点缀其间,构成了一副巨大的山水写真画。 John 拿出相机给我拍了一些照片,我这时接过驾驶杆操纵飞机。 当我们爬升到相对机场标高 2200 米高度时,相当于标准气压高 度 3000 米左右, 飞机的巡航速度达到 230 公里, 比起在国内的 170 公里的巡航速度高出不少。我通过无线电告诉 John: "我来 操控。""你来操控。"John 回应。我加大油门,向左做了一个 80 度的大坡度转弯, 目视前面的天地线几乎与风挡成垂直状态, 飞机的正过载开始使身体变得异常沉重,只是驾驶杆操控起来相 当的轻松,因为杆的动力臂比驾驶盘要大,所以相对省力。我用 力转头才能移动一点位置。改出坡度身体立即变得轻松,再次加 速到 260 公里,然后向前推杆,加速到 350 公里的时速,向上柔 和有力地拉起飞机,准备做出一个半滚倒转机动作。飞机在大坡 度爬升状态下空速衰减很快,动能正在快速变为势能,到了筋斗 的顶点, 也就是头朝下倒飞的瞬间, 向右压杆使飞机横滚 180 度, 将飞机改为平飞机状态。飞完机动的动作,我们在群山之中翱翔 很久, 饱览了巍峨的群山之巅, 依依不舍地返航。回到机场上空, John 又给我露了一手,使我领教到美国的发烧友的超级水平。 在五边上约 400 米高, John 加大油门, 通场之后拉起做一个 180 度左转弯, 急剧的顶杆下降高度并且带着大油门, 飞机很快超 过 380 公里的时速(初教六的手册写明飞机时速禁止超过 380 公 里!),然后再四转弯时继续顶杆加速,在距地面十米的超低空, 飞机在无边改平时空速达到了 420 公里/时, 我将手放在驾驶 杆上, 很想向后拉起飞机, 让飞机减速到 380 公里以内, 特别担 心飞机严重超速后会解体! 飞机在 John 操纵下终于开始迅速爬 升,飞机空速减到 220 公里,由地面跃升到 300 多米高度,紧接 着左转弯进入两边,在三边高度飞机减速到 170 公里 / 时,放 下起落架, 160 公里 / 时放下襟翼,听到飞机气压作动筒的"嗤 嗤"放气声音,指示灯和指示杆显示飞机起落架正常,飞机在着 结束,我们返回本场着陆。

陆标志线前轻巧地着陆,滑跑了 100 多米,John 用力刹车使飞机尽快减速,滑行到机库前停车。

中午我请 John 一起到镇上吃饭,以作感谢!这是一个曾经最繁华的美国西部淘金小镇(Nevada City and Grass Valley City,双子星城),来自各地的淘金客在 1849 年汇聚到此地,曾经创造了巨大的财富,但也有很多心酸的故事,这就是美国西部开发史中著名的淘金者 (49ers) 称号的发源地。关于早期很多华人在旧金山淘金做苦力和开发西部山区铁路的历史,我在镇上公共停车场入口处看到了当地政府为纪念华人对基础建设贡献所立的纪念碑,还有一个中国式的大水缸不断涌出水来,寓意着滴水之恩当以涌泉相报的情怀。

18号是个好天气, 因为冷空气的来袭, 空中的能见度非常高, 我们如约而至 Buchanan Field 机场。这次我和凯文做了一个计划, 准备飞到旧金山大桥和海湾上空。飞行前在办公室听取了气象简 报,空中的能见度良好,起飞有侧风。我们步行至飞机泊位,检 查飞机,一切正常,开车,滑行进入跑道,起飞沿一边直接爬升 至2000英尺,向旧金山金门大桥方向飞去。沿途的气流比较平稳, 我用左手轻轻地捏着驾驶盘, 双脚柔和地放在舵的上面。环顾四 周的美景令人心旷神怡。我不时的取出手机, 左手驾驶, 右手拍 摄照片。飞到旧金山海湾, 我们沿四千英尺的高度进入, 因为旧 金山大桥是著名景区,为保证安全,所有轻型飞机要保持安全高 度通过,不能超低空飞越。雄伟的旧金山金门大桥就像一条红丝 带,镶嵌在湛蓝的海湾之中。以金门大桥为圆心,我向左压低坡 度,做出一个四十度的左转弯,使左侧机翼沉下可以更好地观看 大桥。穿越大桥右前方就是著名的恶魔岛 (Alcatraz), 一个世纪 之前这里是美国关押重犯的监狱, 因为小岛四面环海, 而且旧金 山海湾的海水常年冰冷,没有船的接送这些囚犯是无法越狱的。 得天独厚的条件使得这里的犯人生活舒适, 越来越健康, 且每天 可以享受北加州舒适的阳光。后来美国政府将此监狱搬迁到其他 地方,现在的恶魔岛已经是著名的旅游景点。一小时的航程很快

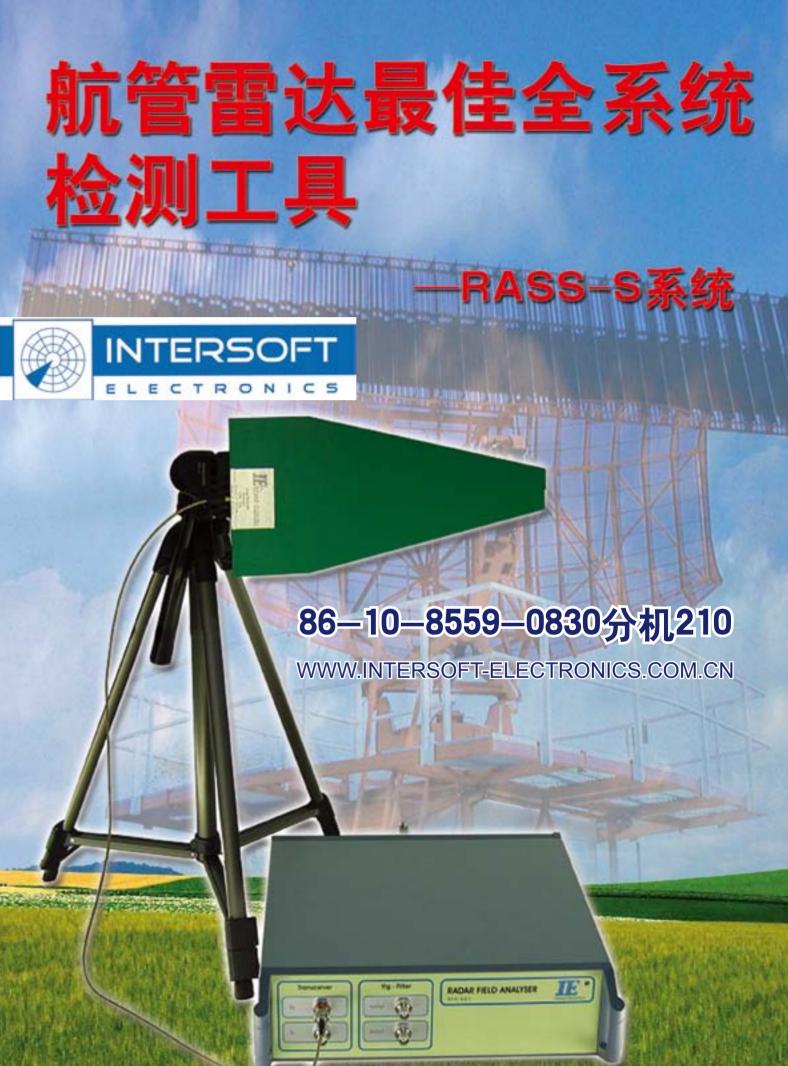


10 天的旧金山飞行之旅一晃眼就结束了,我很有把握地说我将会再回来享受这种自由飞翔,以航空会友,由空中饱览美国秀丽山河,品尝各式美食的机会。同时我也期望能早日在国内享受同样的飞行乐趣和便利,中国通航加油!



# 美国精密飞行控制公司 专业飞行训练模拟器领导者!





#### 直升机模拟培训中心落户南京

#### Helicopter Flight Simulation Training Center Located in Nanjing

The Helicopter Flight Simulation Training Center invested by the Asia Link Group Inc. is located at the Nanjing Lukou Aviation Industrial Park. The project 拟飞行器培训中心, 落户南京禄口航空产业园。 was expected to take up an area of 100 mu with an estimated investment of 1 billion Yuan. When the center is established at the end of 2014, flight students will no longer need to go abroad to receive helicopter flight training, but can 到国外, 在南京就可以通过模拟飞行器完成全 wholly complete all programs by utilizing simulators in Nanjing

由北京联亚集团投资的国内首家直升机模 该项目初定占地 100 亩、预计投资 10 亿元。 2014年底建成后,培训直升机驾驶员不用再跑 部训练教程。

#### 中航工业与 GE 合资建立中航通用电气有限公司

AVIC and GE Establish a Joint Venture



In October, the Aviation Industry Corporation of China (AVIC) and the General Electric Company (GE) established a joint venture, the GE AVIC Civil Avionics 美国通用电气公司 (GE) 合资建立的民用航 Systems Company Limited (GE AVIC), whose new headquarters is located in the AVIC Civil Aviation Electronics Industrial Park in the Shanghai Zizhu Hi-tech Industrial Development Zone. Construction of the new GE AVIC headquarters has 正式揭牌成立,其位于上海紫竹中航民用航 been put into construction. GE AVIC Civil Avionics Systems Company Limited is the first enterprise to be established in the AVIC Civil Aviation Electronics Industrial Park.

Expected to be operational by 2014, the new office building of the GE AVIC Civil Avionics Systems Company will have an area of 36 thousand square meters (360 thousand square feet) and will be able to accommodate between 800 to 1.000 staff members.

In November of 2009, AVIC and GE reached an agreement to establish a 成协议成立一家专业提供民用航电产品和服 ioint venture that would provide civil avionics and related services. In 2011, the GE AVIC Civil Avionics Systems Company Limited, while still in its preparation stage. was chosen by the Commercial Aircraft Corporation of China, Ltd. (COMAC) to 中国商飞公司选中,为中国首个民用大飞机 supply the core avionics systems, display systems, airborne maintenance systems and integrated avionics services to the C919, an indigenous Chinese aircraft.

中国航空工业集团公司(中航工业)和 空电子系统供应商中航通用电气民用航电系 统有限责任公司(中航通用电气),10月 空电子产业园的新办公总部也举行了奠基仪 式。中航通用电气将成为首个入驻园区的企

中航通用电气的新办公楼使用面积超过 3.6 万平方米(36 万平方英尺), 能够容纳 800 到 1000 名员工, 预计于 2014 年启用。

2009 年11月,中航工业与GE 航空达 务的合资企业。2011年,仍处于筹备阶段的 中航通用电气民用航电系统有限责任公司被 项目 C919 机型提供核心航电系统、显示系 统、机载维护系统和航电系统综合服务等。



#### 郑州通用航空试验区产业规划通过专家评审

#### Industrial Plan for China (Zhengzhou) General Aviation Business and Low Economic Demonstration Area of Scientific Development Passes **Professional Review**

At mid-October, the professional review and discussion conference for the industrial development strategic plan of the China (Zhengzhou) General Aviation Business and Low Economic Demonstration Area of Scientific Development was held in Zhengzhou. The conference passed the industrial development strategic plan of the China (Zhengzhou) General Aviation Business and Low Economic Demonstration Area of Scientific Development. Hu Quan, Zhao Ruidong and other Leaders from the Zhengzhou government were present at the professional review and discussion 州通航试验区发展战略规划,拟规划面 conference.

In the industrial development strategic plan of the China (Zhengzhou) General Aviation Business and Low Economic Demonstration Area of Scientific Development worked out by Deloitte Consulting, an international consulting company, the zone will be designated an area of 60 square km2, including a core area of 13.2 square km2. The zone uses the Shangie Airport as its center and mainly contains the flight area, the flight service area, R & D area and business area. The zone will focus on developing GA professional training, aircraft charters, aircraft manufacturing, business jet operations, commercial transportation, FBA and aviation materials, and is also expected to develop high-end business, re-creative tourism, high-end manufacturing and new materials. It will attempt to develop 15 companies, with a fleet of 50 aircraft and 50 thousand flight hours annually.

10 月中旬,郑州通用航空试验区产 业发展战略规划专家评审论证会在郑州 举行。会议原则通过了郑州通用航空试 验区产业发展战略规划。市领导胡荃、 赵瑞东、薛云伟、张建慧出席评审会。

由国际咨询公司德勤公司编制的郑 积60平方公里,核心区13.2平方公里。 以上街机场为核心,主要包括航空飞行 区、飞行服务保障区、研发设计制造区、 商务服务区等, 以发展通航职业培训、 飞机租赁、飞行器高端制造、公务机运行、 商业运输 FBO (固定基地运营者) . 航 空材料等通航产业为核心, 带动发展高 端商务、休闲旅游、高端制造及新材料 等产业。力争到 2015 年,通航试验区公 司达到 15 家,机队规模达到 50 架,年 实现飞行5万小时。

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#### 武汉开建警用直升机机场

#### Wuhan Begins Building Police Heliport

In the middle of October, the Wuhan police heliport, located at the police's actual combat training base in the Huangpo district, was put into construction.

The temporary landing pad for police helicopters has acquired approval and was designed by the Air Force Design Institute at Guangzhou. Once completed, it can accommodate 3 EC-135 at once. The heliport will take an area of 50 mu. In the aircraft movement area, there will be a runway of 200\*30m, a by-pass taxiway of 60\*23m (including the shoulders), an apron of 100\*30m. The project will be constructed in two stages and is expected to be completed at the end of April.

10 月中旬, 武汉警方直升机机场, 在位于黄 陂区的警察实战训练基地动工。

此次开建的警用直升机临时起降点, 报经军 方同意并由广州空军设计院设计,满足3架设计机 型 EC-135 规划建设。占地约 50 亩,飞行区包括 跑道 200×30m, 联络道含道肩 60×23m, 停机坪 100×30m, 项目分两期建设, 明年4月底完工。

#### 大白熊航空获批 北京公务机航空公司增至3家 Big White Bear Jet Company Approved, 3 Business Aviation **Enterprises Now in Beijing**

At the end of September, the CAAC North China Regional Administration issued the Air Operator Certificate and the CCAR-135 OPERATIONS SPECIFICATIONS to Big White Bear Jet Co. Ltd. (Big White Bear), which signifies that Big White Bear has achieved the necessary requirements to operate small civil aircraft to fly nonscheduled passenger flights. There are now 3 airlines that operate 任务。至此,北京地区公务机航空公司已增 business jets in Beijing.

In March of 2011, Big White Bear was approved to be established with an investment of 200 million Yuan and with Beijing Capital 本 2 亿元,以北京首都国际机场为主运营基 International Airport as its main operation base. Now Big White Bear has three aircraft, a G200, a G450 and a Global5000. Big White 3架飞机,可承担公务飞行、航空器代管业 Bear can operate business flights, aircraft agent and general aircraft 务、通用航空包机飞行等任务,是继北京首 charter flights. It is another airline that operates business flights after Capital Jet Company Limited and Beijing Capital Airlines Co., Ltd.. The development of these enterprises operating business jets will make 公务机公司的发展,将对增强华北地区通用 a large impact on increasing the services of general aviation around 航空服务能力、完善城市功能、满足不同层 the north China region and in meeting the demands of clients of all 次旅客需求起到重要作用。 different levels.

9月底,中国民用航空华北地区管理局 向北京大白熊商务航空有限责任公司颁发 《航空运营人运行合格证》和《运行规范》 这标志着大白熊航空顺利获得民航小型航空 器运营资质, 可以执行非定期载客运输飞行 至三家。

大白熊航空去年3月获准筹建,注册资 地, 目前拥有G200、G450、Global5000等 都公务机公司、北京航空公司之后又一家具 有 CCAR-135 部运行资质的公务机航空公司。

#### 西部区首家私人通航公司成立

#### West China's First Private GA **Enterprise Established**

In late September, the Sichuan Xilin Fengteng General Aviation Company Limited (Xilin Fengteng GA) was officially formed, which signifies the establishment of the first Private GA enterprise in west China.

The Xilin Fengteng General Aviation Company Limited was approved by the CAAC in May, 2011. The registered capital of the company is 50 million Yuan. Now the company has ordered seven helicopters, including one EC135, two EC120s and four Schwarzer 300C. The investment scale and the level of the planes are both in leading positions.

Mao Junfu, the Secretary of the Guanghan Municipal Committee of the CPC stated that the development of the GA industry is a key step for Guanghan's local economy during the Twelfth Five-Year Plan period. In November of last year, the Guanghan Government and the Civil Aviation Flight University of China, Eurocopter S.A. and Xilin Fengteng GA signed a ioint agreement to create an industrial park that contains aviation technology education, aviation manufacturing and aviation maintenance & repair. Depending on the Civil Aviation Flight University of China's advantages in human resources, technologies and international cooperation, the nonstate capitals, with Xilin Fengteng GA as a representative, can enter into the general aviation industry. Xilin Fengteng GA will introduce Eurocopter S.A.'s advanced equipment to develop, expand and strengthen the general aviation industry in the Guanghan region.

#### 美亚航空获民航局颁发通用航空 经营许可证

#### **CAAC** Issues the General Aviation Air Operator's Certificate to Meiya Air

In mid September, the CAAC Central and Southern Regional Administration issued the General Aviation Air Operator's Certificate to Meiya Air Co., Ltd. (Meiya Air). This is the first time that the CAAC has issued a General Aviation Air Operator's Certificate to a seaplane and air travel operator utilizing amphibian planes.

Administration for Industry & Commerce of the People's Republic of China (SAIC) and approved by the Civil Aviation Administration of China. Meiya Air was formed on September 28th, 2011. Its headquarters is in the city of Sanya, in the Hainan province. According to the prescript of the certificate, Meiya Air can operate business flights, aircraft escrows, flight rentals, GA charter flights and other related tasks.



9月下旬,四川西林凤腾通用航空有限公司(简 称"西林凤腾")正式成立,标志着西部地区有了 第一家私人投资经营的通用航空公司。

西林凤腾于2011年5月获得民航局批复筹建 注册资金 5000 万元, 目前已订购欧洲直升机公司 EC135 一架、EC120 两架、施瓦泽 300C 四架, 共 计7架直升机。投资规模、机型层次均处于西部领 先地位。

广汉市市委书记毛君甫介绍, 发展通用航空产 业是"十二五"期间广汉地方经济的重点布局。去 年11月, 广汉市政府与中国民航飞行学院, 欧洲 直升机公司、西林凤腾签署联合协议, 打造航空科 教、航空制造和航空维修等多位一体的产业集群。 依托于飞行学院在人才、技术和国际合作方面的优 势,以西林凤腾为代表的民营资本得以进入通航产 业,通过引入欧直先进设备,发展、壮大广汉地区 的通用航空产业。



9月中旬,美亚航空获得由中国民用航空中南地 区管理局颁发的通用航空企业经营许可证, 这也是 民航局颁发的国内首家以水陆两栖飞机作为主力机 型的专业航空旅游及水上飞机运营商第一张通用航 空企业经营许可证。

美亚航空是由国家工商行政管理总局 (SAIC) 核准,中国民用航空局(CAAC)批准设立的甲类航 空公司,于2011年9月28日注册成立,总部设立 于海南省三亚市。按照此次所获经营许可证的规定, 美亚航空可以在公务飞行、航空器代管业务、出租 飞行、通用航空包机飞行等范围内开展经营活动。



## 通用航空 体验飞行度假营地

享受美国自由飞行的乐趣,体验各类通用航空飞行器(包括中国制造的初教6飞机),住山中别墅,游太浩湖(Lake Tahoe),逛雷诺赌城(Reno),探幽淘金小镇,遍访百年古迹,这是一个充满欧洲游客的著名观光胜地-北加州内华达市(Nevada City)。

营地占地 4 英亩位于美国旧金山以北 3 个小时车程, 260 平 米 4 房 3 厅 3 卫浴度假屋, 无线网路和卫星电视,可供家庭或团队使用。可安排所有接待和旅游活动,让您尽情享受大自然和飞行的乐趣与体验。

在体验飞行之余更可探索美国通用航空的发展历史,规模与现状,通航机场运营和通航业者的经营之道。有兴趣者更可探讨中国通用航空的未来发展趋势,投资选项和参与模式。

这是一个集体验飞行,通航顾问咨询和观光旅游的活动。认识欧美通用航空试验飞行和飞行热情的草根性,体会美国成熟的通用航空产业,寻觅中国低空开放后的种种商机。同时徜徉在大自然中用宁静的环境洗涤你疲惫的身心,让你回国后又有高昂的斗志与精神继续拼搏。

有意者请联系 Info@UniworldUSA.com



<mark>北加州内华达市</mark> Nevada City, California











民航报导

#### 杭州机场第二跑道试飞成功

#### Flight Test for the 2nd Runway at Hangzhou Airport is Successful

In early November, the MU2999 flight flown by an A330-200 aircraft from China Eastern Airlines Corporation Limited (China Eastern Airlines) landed safely at Hangzhou XiaoShan International Airport (Hangzhou Airport). That was the first large sized civil aviation aircraft the runway had received after its construction.

This means the second runway at Hangzhou Airport is now able to be fully utilized. When the acceptance test procedures are accomplished by the end of this year, Hangzhou Airport will enter into an era of utilizing two runways and then the runway capacity and takeoff frequency will be raised significantly.

Runway II is one of the two items of the second stage of Hangzhou Airport's phase II expansion project and construction began in June of 2010 and was completed in September of this year. The runway is located north of the airport and is parallel to runway I south of the airport. The runway runs from east to west. Compared to the first runway, this runway is more advanced and a higher level. The first runway is 3,600 meters long and 45 meters wide with the aircraft movement area reference code being 4E, which means it can accommodate a Boeing 747 aircraft or other aircraft of approximate weights. The second runway is 3,400 meters long and 60 meters wide, noticeably wider than the first one. The overall aircraft movement area reference code will be 4F, which means it can accommodate the largest sized civil aviation aircraft, the Airbus A380.

11 月上旬,担负试飞任务的中国东方航空股份有限公司(简称"东航")MU2999 航班(机型为空客 A330-200)平稳降落在杭州萧山国际机场(简称"萧山机场")第二跑道上,这是该条跑道竣工验收后迎来的首家大型民航客机。

这也标志着第二跑道已经具备了开放使用 条件,只待相关验收手续完成,萧山机场便有 望在今年年底迈入"双跑道时代",跑道容量 和起飞频率将大幅提高。

第二跑道是萧山机场二期扩建工程二阶段的两大主要项目之一,于2010年6月开工建设,今年9月竣工验收。其位于机场场区北侧,与南侧的第一跑道平行布局,呈东西走向,相比于第一跑道,在技术、等级上都有提高。据了解,第一跑道长3600米、宽度45米,飞行区等级为年级,可以全重起降波音747大型客机;而第二跑道长3400米、宽度达到了60米,更加宽敞。第二跑道的飞行区等级将提高到4年级,这意味着可以起降号称"空中巨无霸"的世界最大民航客机A380。

#### 丹东机场新航站楼揭开"盖头"

#### The New Terminal at Dandong Airport is Unveiled

Dandong Airport, a civil use airport, was built in 1985 and expanded in 1993 to reach an aircraft movement area of reference code 4C. Now the new apron has an area of 20 thousand sq. m. and can accommodate 4 medium passenger aircraft. As the airport was built and extended in accordance to relatively low standards, facilities in the airport were out-of-date while entering into the 21st century and it was obvious that the terminal was too small and the joint inspection units were too old to meet the development of Dandong's economy and the new requirements due to the opening of Dandong to the outside world. In one single year in 2011, Dandong had received 26.862 million domestic and foreign tourists and a revenue of 27.96 billion yuan. Mainly due to the opportunity brought by the PRC-DPRK project of "One Bridge & Two Islands", Dandong has become the focus of the world, and as a result, Dandong has attracted many domestic and foreign

丹东民航机场始建于 1985 年,在 1993 年扩建后达到了民航 4C 级标准,现有停机坪两万平方米,可停靠 4 架中型客机。不过由于当时建设标准低,进入 21 世纪机场设施已显陈旧,航站楼面积和联检设施明显不适应丹东经济发展和对外开放需求。仅 2011 年,丹东市接待的国内外旅游者人数就达 2686.2 万人次,旅游总收入 279.6 亿元。特别是中朝"一桥两岛"合作开发的世纪机遇,让丹东成为世界瞩目的焦点,国内外投资者、游客纷至沓来。作为一座国际化开放城市的"空中门户",丹东机场规模、设施、功能以及形象远不能满足大开放、大开发、大发展的需求。

investors and tourists. As the "portal" of Dandong, a city opened to the rest of the world, the scale, facilities, functions and image of Dandong Airport are designed to meet the requirements of developing, opening and progressing.

According to the extension plan, a new terminal, an apron of 20 thousand sq. m., a parking lot of 11 thousand sq. m. and an oil house will all be built. Once that is completed, then the airport can accommodate 6 medium passenger aircraft at once. The designed annual throughput will reach 2 million people. During its peak hour, the passenger flow will reach 900 passengers per hour.

Including an international boarding lounge, two domestic boarding lounges and three VIP boarding lounges, the to-be-built terminal will have an area of 20 thousand sq. m., nine times the size of the original terminal.

这次改扩建除了新建航站楼,还扩建了两万平方米的停机坪和1.1万平方米的停车场及油库,可同时停靠6架中型客机,设计年吞吐量达200万人次,高峰达900人次/小时,在国内同类支线机场中规模、设施均位居前列。

新建航站楼面积两万平方米,是原航站楼面积的9倍,设有一个国际候机厅、两个国内候机大厅、三个贵宾候机室。

## **腾冲机场扩建总规划获批**General Expansion Plan for Tengchong Airport Receives Approval

The general expansion plan for Tengchong Airport has been approved by the CAAC Southwest Regional Administration and the preliminary feasibility report for this project has also been formulated. The expansion will begin in the second half of next year and will be completed and put into operation by the end of 2015. Other related construction will coincide with the main construction.

In January, Tengchong Airport was completed and put into operation. With the rapid development of the economy and population in Tengchong (a county in the Yunnan province), along with the increase in popularity in China and around the world, the passenger throughput of this airport has grown rapidly. In 2011, the amount of passenger aircraft sorties was 5,258 and the passenger throughput was 517,838 people, ranking it fourth place among the province's 12 civil airports and allowing it to reach the scale of a mid-sized airport. As the planned volume of the airport cannot meet the requirements of the rapid development of Tengchong's tourism industry and its market, the Yunnan Airport Group Co., Ltd. and the Tengchong County People's Government decided to expand the Tengchong airport ahead of schedule.

The main construction items of the short-term expansion contain the construction of a terminal of 25,300 square meters and an international boarding lounge. Also planned in the expansion is the addition of an SeMS and to expand gate positions from 7 to 12. The evaluated investment of the short-term expansion is 910 million Yuan.

腾冲驼峰机场扩建总体规划已获中国 民用航空西南地区管理局批复,项目预可 行性研究报告也已编制完成。扩建工程将 于明年下半年开工,并于 2015 年底竣工 投入使用,机场航空口岸建设也将同步建 成。

2009年1月,腾冲机场建成通航。 随着腾冲经济社会的快速发展和国内外知 名度的迅速提升,机场旅客吞吐量迅速增 长。2011年,该机场客机起降架次5258 架次,完成旅客吞吐量517838人次,在 全省12个民用机场中位列第4位,达到 中型机场规模。因其现有设计规模已不能 满足腾冲旅游业和航空市场快速发展的需 要,云南机场集团公司和腾冲县政府决定 提前对腾冲机场进行扩建。

近期扩建工程主要建设内容包括:新建 25300 平方米规模的航站楼,建设国际候机厅,增设飞机拦停系统,停机位由现有 7 个扩建为 12 个等。机场近期扩建工程估算总投资约 9.1 亿元。

#### 安徽首所飞行学院在阜阳"起飞" Anhui's First Flight Academy Established in Fuyang

In late October, the Anhui Sky-Aviation International Flight Academy was unveiled. The Anhui Sky-Aviation International Flight Academy is Anhui's first and China's eleventh flight academy. Its flight training base is located in the Fuyang Airport and its education base is located in Hefei.

The Anhui Sky-Aviation International Flight Academy will utilize five sections of airspace for training of students and plans to train 300 students to become skilled private and commercial pilots. There are three airlines utilized by the flight academy to train students. The first one is Fuyang-Xuzhou-Longkang-Fuyang: the second one is Fuyang-Longkang-Fuyang; and the third one is Fuyang-Xuzhou-Fuyang. The longest ferrying flight route will reach 500 km.

The Anhui Sky-Aviation International Flight Academy will not train only private pilots, but will also train commercial pilots for all of the nation's airlines. It also operates photographic flights, tourism flights, advertising flights, business flights and urban fire prevention flights and other related general aviation duties.

After a student is welcomed by this school, he will receive half a year of 广告、公务飞行、城市消防等领域。 aviation theory study and a year of flight training. After the student accomplishes all of the required courses and passes the uniform examination organized by the CAAC, the student will be issued his pilot license and can begin to work as a professional pilot. The school will also open private pilot training courses targeted to millionaires and the tuition fee for that program is about 200 thousand yuan.

Currently, China needs an additional 8,000 civil pilots. In China, a seasoned pilot can enjoy an income of between 300 and 500 thousand yuan a year.

10 月下旬, 蓝天国际飞行学院正式挂牌 成立。这也意味着,安徽第一所、全国第11 所飞行学院在安徽成立, 飞行教学基地设在阜 阳机场、理论教育基地设在合肥。

飞行学院将在阜阳机场上空设5个训练空 域、计划每年培训成熟私、商执照飞行员 300 名。飞行教学航线一共有三条,第一条航线为: 阜阳 - 龙亢 - 徐州 - 龙亢 - 阜阳:第二条航 线为:阜阳-龙亢-阜阳;第三条航线为: 阜阳-徐州-阜阳。上述转场航线最远可达

蓝天学院不仅可以培养私照飞行员, 而且 还为全国各大航空公司培养、输送商照飞行员。 经营业务还拓展到航空摄影、航空旅游、航空

学员被正式录用后, 将在学院进行半年的 航空理论学习,一年的飞行学习。学成后,经 过民航局的统一考试,将获得飞行员驾照后走 上岗位。学院还将开设针对富豪的飞机驾驶培 训班, 学费在 20 万元左右。

目前,中国民航飞行员缺口在8000名以 上、成熟的飞行教员年收入三五十万元。

aircraft such as the A319 and A320 have been taken into consideration. Airlines to domestic cities in the northeast region and major coastal cities in the eastern region with direct flight routes no longer than 1,500 km away from Baicheng will be planned.

In the medium-term, aircraft within the reference code C category, such as the A321 and the B737-800 will be increased appropriately. In the long-term goal of the airport, a few aircraft within the reference code D category will be accommodated appropriately to fly directly to major large and medium domestic cities. It is currently planned to open air routes to Changchun, Shenyang, Beijing, Yanji, Harbin, Dalian, Qingdao and other to be determined locations. The airport has been planned to formally start construction in May of next year and is predicted to be put into operation in August of 2014.

中期飞行区适当增加 A321、B737-800 等 C 类机型 远期可适当考虑起降少量D类飞 机,直达国内主要大中城市。初 步设计开通白城到长春、沈阳、 北京、延吉、哈尔滨、大连、青 岛等地的航线,机场计划明年5 月正式开工建设,2014年8月 竣工投入运营。



In late October, the FedEx Corporation and the Shanghai Airport Authority signed an agreement in Shanghai to declare that it should establish a brand new Shanghai International Express Mail and Cargo Center at the Shanghai Pudong International Airport (Pudong Airport).

FedEx will invest over 100 million dollars into this project. The center will be an important FedEx facility in the Asia-Pacific region and will provide more convenience and connectivity for transporting cargo between the Eastern China region to and from Europe and the US.

The new Shanghai International Express Mail and Cargo Center will take up a total area of 134 thousand square meters, making it the largest of all the businesses located at the Pudong Airport. The center can sort 36 thousand pieces of mails and packages per hour. The center is expected to be operational by 2017. This facility will utilize green design, use a fully automatic sorting system and will develop an integrated system to match China's Customs procedures and comply with the regulations of the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China so that paperless clearance could be achieved. The annual sorting capability of the new facility will exceed 90 million pieces, which will meet the estimated expansion needs of the region for the next 20 years.

10 月下旬, 联邦快递 (FedEx) 和上海 机场 (集团) 有限公司在沪签约, 宣布联邦 快递将在浦东机场建设全新的上海国际快件 和货运中心。

联邦快递在该项目上投资将超过1亿美 元, 其将是联邦快递在亚太区的重要设施之 一,为华东地区来往欧洲以及美国之间的货 物提供更大的便利性和连诵性。

全新的上海国际快件和货运中心总占地 面积约为13.4万平方米,是浦东机场中最 大的同类型设施,它每小时最高可以分拣3.6 万个包裹和文件,预计于2017年投入使用。 该设施将会运用绿色环保的设计,配置全自 动分检系统, 并将发展与中国海关和中国出 入境检验检疫的集成系统, 力争实现无纸化 通关。新设施每年包裹和文件的分拣能力预 计将超过 9000 万件, 能满足联邦快递在该 区域未来 20 年的拓展能力。

#### 白城长安机场举行奠基仪式

#### Foundation Stone Laying Ceremony for Baicheng Chang'an Airport Was Held

In late October, the foundation stone laying ceremony for Baicheng Chang'an Airport was held in Baicheng. Baicheng Chang'an Airport is included in the National 11th Five-Year Plan and is an important part of Jilin's overall airport layout with one main airport and four ancillary airports. The airport is a key 的重要组成部分,是省重点交通项目。 transportation project in Jilin province.

The total investment of the Baicheng Chang'an Airport project is 454.78 million yuan. It is designed as a comprehensive domestic regional airport utilized for both commercial and tourism usage. Three gate positions will be constructed at this airport. In the short to medium term use, the aircraft movement area reference code will be 4C. Airlines to domestic cities with direct flights ranging no longer than 1.500 km away from Baicheng will be opened. The airport will be capable of accommodating regional transportation aircraft such as the ERJ145 and the domestic MA60 and application requirements of the B737 series and

10 月下旬,吉林省白城长安机场奠基仪 式在白城举行。白城长安机场是国家"十一五" 规划项目, 吉林省"一主四辅"机场规划布局

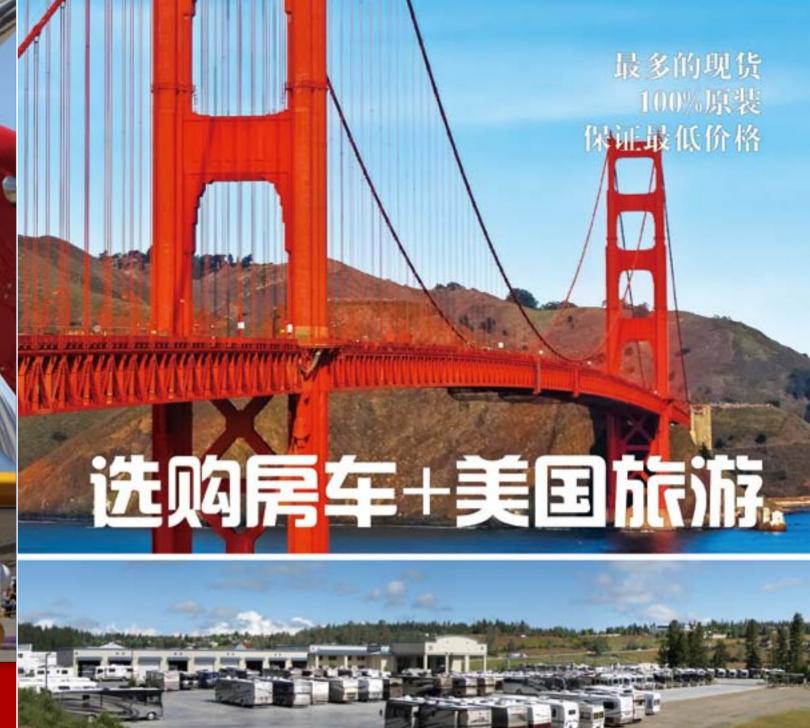
白城长安机场总投资45478万元,兼商务、 旅游为一体的综合性国内支线机场,设停机位 3 个。近期、中期飞行区等级指标为 4C, 规划 直达航程在1500公里范围内的国内重要城市。 可满足 ERJ145 新舟 60 等国产支线运输机型 并兼顾B737系列及A319、A320等机型的使 用要求。规划直达航程在1500公里范围内的 东北地区重要城市及部分国内重要的东部沿海 开放城市。



## 通用航空国际合作

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In late October, the maiden flight of the MA600F civil freighter was successfully completed at the Xi'an Yanliang International Airport. Leaders from the Northwest Regional Administration of the CAAC, the Shaanxi Provincial Development and Reform Commission and other coordinated governmental sectors attended the ceremony for the maiden flight. Leaders from the AVIC Technology Foundation Establishment, AVIC Strategic Planning Establishment, AVIC Aircraft Corporation Ltd., AVIC Flight Test Establishment, AVIC Aircraft Strength Research Institute, AVIC Qing'an Group Co., Ltd. and AVIC Shaanxi Aircraft Industry (Group) Corporation Ltd. all witnessed this monumental 基础上研制的货运型飞机,继承了"新舟" moment.

The MA600F civil freighter was based on the research and design of the 性,新增了集装货物装载系统。 MA600 passenger aircraft. It "inherits" the good safety, economy and reliability of the Modern Ark series aircraft and has been equipped with a containerized cargo loading system.

10 月下旬, MA600F 民用货机在西 安阎良机场成功首飞。中国民用航空西 北地区管理局、陕西省发改委等政府部 门领导出席了首飞仪式,中航工业科技 与信息化部、战略规划部和中航工业飞 机、试飞中心、强度所、庆安、西飞等 有关单位的领导见证了这一重要时刻。

MA600F 民用货机是在 MA600 客机 系列机型良好的安全性、经济性和可靠

#### 南阳机场扩建工程批复内容全部交付使用

#### The Approved Items of the Extension Project of Nanyang Airport Has All Been Put into Operation

In mid-October, nearly 20 organizations from the engineering supervision area and more than 70 experts from the civil engineering, structure, water supply & drainage and electricity fields carried out the examination and verification for the expansion project of Nanyang Airport for China Southern Airlines Company Limited.

The expansion project of Nanyang Airport is Henan province's key construction project and is also a key national project for increasing domestic demand and growing the economy. The project was approved to be initiated in April, 2009 and in July of the same year; the preliminary design was jointly approved by the Henan Province Development and Reform Commission and the CAAC Central and Southern Regional Administration.

This extension project included the aircraft movement area, the business infrastructure and living amenity along with other items. The time limit for the project was 18 months and 61.72 hectares of land had been requisitioned. The estimated budget was 51,188 Yuan and the project was formally put into construction in October, 2010. In September, 2012, the new aircraft movement area passed the acceptance check and went into operation. One month later, the extension project regarding the aircraft maintenance house, the special vehicle garage, the sewage treatment facility and the integrative pipelines passed their acceptance checks smoothly. All of the approved items of the expansion project of Nanyang Airport has been completed and has been put into operation.

10 月中旬,近20 家工程监督和监理单位以及 70 多位涉及土建、结构、给排水、电气等相关领 域的专家,对中国南方航空股份有限公司南阳机场 扩建工程生产生活配套设施工程进行检查审核,工 程顺利通过验收。

南阳机场扩建工程是河南省重点建设项目 也是国家扩大内需促进经济增长投资项目。工程于 2009年4月经河南省发改委批复立项, 2009年7 月经河南省发改委和民航中南地区管理局联合批复 初步设计。

此次扩建主要包括飞行区、生产生活配套设施 等工程,工期为18个月,建设共征用土地61.72 公顷。工程概算为51188万元,扩建工程于2010 年 10 月正式开工建设。2012 年 9 月新飞行区通过 验收并正式开放使用,一个月后,南阳机场机务用 房、特种车库、污水处理、综合管线等生产生活配 套设施扩建工程顺利通过验收,至此,南阳姜营机 场扩建工程原批复内容已全部建成,通过验收,交



民航报导

#### 国家发改委批准数个机场 NDRC Approves Several Airports

The National Development and Reform Commission (NDRC) has approved several airport construction projects and re-construction projects recently.

The NDRC approved the proposal for the extension project of Dunhuang Airport in the Gansu province in September, the feasibility report for reconstruction of Linfen Airport in the Shanxi province and the feasibility report for the construction of the Huolin Gol Airport in the Inner Mongolia autonomous region.

The phase of Dunhuang Airport is designed in accordance to a passenger throughput of 960 thousand and mail and cargo throughput of 500 tons by 2020. The main construction items are: to construct a new terminal of 6,000 square meters, to extend the parking lot, the apron, the ATM and the oil supply and other accessory facilities.

The Linfen Airport reconstruction project is designed according to the requirements of passenger throughput of 430 thousand and mail and cargo throughput of 1,500 tons by 2020. The main construction items are: to construct a runway 2,600 meters long and a terminal of 4,200 square meters, an apron with 4 gate positions and the supporting facilities for ATM, oil supply and others.

The Huolin Gol Airport is designed in accordance to the requirements of a passenger throughput of 150 thousand, with mail and cargo throughput of 1,000 tons. The main construction items areas are: to construct a runway 2,700 meters long, a terminal of 3,000 square meters, an apron with 3 gate positions and the supporting facilities for ATM, oil supply and other related facilities.

国家发改委批准数个机场新建或改扩建 项目。

国家发改委于 9 月批复了甘肃省敦煌机 场扩建工程项目建议书、山西省临汾机场复 航改造工程可行性研究报告、新建内蒙古自 治区霍林郭勒机场可行性研究报告等三个机 场项目。

敦煌机场本期按满足 2020 年旅客吞吐量 96 万人次、货邮吞吐量 500 吨的目标设计,主要建设内容有:新建 6000 平方米的航站楼,扩建停车场 5500 平方米、站坪 46700 平方米以及空管,供油等相关配套设施。

临汾机场复航改造本期按满足 2020 年 旅客吞吐量 43 万人次、货邮吞吐量 1500 吨 的目标设计,主要建设内容有:新建一条长 2600 米的跑道,4200 平方米的航站楼,四 个机位的站坪以及空管、供油等相关配套设 施

霍林郭勒机场本期按满足 2020 年旅客吞吐量 15 万人次、货邮吞吐量 1000 吨的目标设计,主要建设内容有:新建一条长 2700米的跑道,3000平方米的航站楼,三个机位的站坪以及空管、供油等相关配套设施。

#### 宿州规划建设民航机场

#### City of Suzhou Plans to Construct a Civil Airport

The Suzhou Civil Airport project and the Suzhou GA Airport, the Yongqiaonan GA Airport, the Dangshan GA Airport, Xiao County GA Airport, Lingbi GA Airport, Si County GA Airport and Jiagou Airport projects were all included in the Anhui Provincial Comprehensive Traffic & Transport Plan for the Twelfth Five-Year Plan Period. Currently, the city of Suzhou is actively making plans and choosing sites for the civil airport and GA airports.

The Suzhou Civil Airport is planned to take up an area of 3,200 mu, among which the airport runway will take up an area of 2400\*45 m2 and the terminal will take up an area of 5000 m2. The airport is designed to be constructed according to 4C standards, which can accommodate the Boeing 737 and the Airbus 320 and other similar sized aircraft. In the long-term, the land use demands are planned in accordance to 4D standards. The total investment of the project is about 600 million Yuan. Now the task to choose the site is going on.

日前,宿州民航机场和宿州、桥南、砀山、萧县、灵璧、泗县、夹沟等7个通用机场项目已列入安徽省"十二五"综合交通运输规划,目前该市正积极开展民航机场和通用机场的规划和前期选址工作。

宿州民航机场规划占地面积 3200 亩,机场跑道 2400 米×45 米,航站楼面积 5000 平方米,拟建设 4C 级标准机场,设计使用机型为波音 737、空中客车 A320 等。远端规划用地指标按 4D 级标准控制。项目计划总投资约6亿元,现正在开展民航机场前期选址工作。

#### 红河州将有民用机场 取名"红河蒙自机场"

### Honghe Autonomous Prefecture Will Have a Civil Airport Named Honghe Mengzi Airport

As one of China's 30 autonomous prefectures with a heavy population of minorities, the Honghe autonomous prefecture belongs to Yunnan province and is more economically developed than some others, as its comprehensive economic power ranks fourth among the province's 16 prefectures and cities. Over the years, the Honghe autonomous prefecture has made many efforts in improving its traffic and transportation conditions. Now, there are highways totaling 19.7 thousand km and two super-highways connecting to the Honghe autonomous prefecture (one connects Shilin and Mengzi and the other connects Shilin, Yuxi and Mengzi). The three electric railways from Yumeng, Menghe and Yungui to Mengzi have been put into construction with a total length of 350 km. On September 26th, the Yumeng railyway was put into trial operation, which was the first standard railway in the Honghe prefecture. In 2011, the Honghe autonomous prefecture received 13.1737 million foreign and domestic tourists, ranking it 2nd in the Yunnan province. While there were still no air transportation conditions in the Honghe autonomous prefecture.

In 2008, the Honghe Airport Construction Field Conference was held by the Yunnan Provincial Government in Mengzi. During the conference, the Yunnan Provincial Government agreed on the airport site at Daguoxi village, in the Yuguopu township, in the Mengzi county, on the airport that is currently utilized for both military and civilian use. At the conference, the airport was named the Honghe Mengzi Airport. In early October, the Honghe autonomous prefecture gained approval from the Central Military Commission and the State Council for the project.

The Honghe autonomous prefecture is an important hub for the international channel connecting Yunnan and Southeast Asia, so it is located at a strategic position. It can help to support the development of the local economy and bring benefits to the local society and assist with national defense. The project of Honghe Mengzi Airport had not only been listed as a part of the new airport construction projects of the Tenth Five-Year Plan for the National Economic and Social Development of the People's Republic of China, but also in the eleventh Five-Year Plan and the Twelfth Five-Year Plan.

A representative of the Honghe Autonomous Prefectural Commission of Development and Reform stated that the Honghe Mengzi Airport would take up an area of 5,000 mu, with an investment of 3 billion Yuan. The Honghe autonomous prefecture has long been planning for the construction of a civil airport. According to the plan, the airport will be constructed utilizing both civil and military capital and will also be for military and civil use. It will fill the void of no civil aviation system in the Honghe region. The construction of the airport will re-write the history of the Honghe autonomous prefecture and bring new opportunities for Honghe's economic and social development.

作为全国 30 个少数民族自治州之一, 红河州是云南省的经济强州, 经济综合实力在全省 16 个州市里排名第四名。多年来, 红河州在改善交通运输条件方面下了大力气。目前全州公路通车里程达到 1.97 万公里, 通往红河州的高速公路有两条(石林到蒙自和经玉溪到蒙自); 玉蒙、蒙河、云桂三条电气化铁路先后开工, 在建里程达 350 公里。9 月 26 日玉蒙铁路试运营通车, 红河州结束了没有准轨铁路的历史。2011 年, 红河州接待国内外游客1317.37 万人次, 游客人数跃居云南省第二位。但没有空中交通的软肋始终存在。

2008年,云南省政府红河机场建设现场办公会在蒙自召开。在这次会议上,省政府同意拟选的蒙自县雨过铺镇大郭西村为机场场址,同意机场性质为军民合用并命名为"红河蒙自机场"。今年10月上旬,在等待14年后,红河州终于盼来了一个好消息,红河州蒙自军民合用机场获得中央军委、国务院批准,获准立项。

红河州是云南省通向东南亚的国际大通道上的重要枢纽,战略位置十分重要,建设红河蒙自机场不仅可以服务当地经济社会发展,同时也是支持国防建设的需要。红河蒙自机场建设项目首先被列入国家"十五"机场布局规划的新建机场项目,在"十一五"、"十二五"期间,红河蒙自机场再次被列入规划。

红河州发改委负责人表示,红河州蒙自机场占地面积5000余亩,预计投资30亿元。红河州对建设民用机场规划已久。按照规划,机场将采用军民合建、军民合用的方式进行,为红河州社会经济发展弥补民航体系的空缺。机场的建设,将改写红河州没有民用机场的历史,为红河州社会经济发展带来新的历史机遇。





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#### 民航乌鲁木齐区域管制中心工程奠基仪式举行 Foundation Stone Laying Ceremony for the CAAC Urumqi Regional Control Center Project Held

In late September, the foundation stone laying ceremony for the CAAC Urumqi Regional Control Center was held in the western outskirts of Urumai. Yu Bo. the chief engineer of the CAAC/ATMB. Xuhao, administrator of the CAAC Xinjiang Regional Administration, Tan Hucheng, vice chief of the staff of the Urumgi Airbase, Shi Xinhui and other leaders from all related units, were present at the 航各相关单位领导共 100 余人出席了奠基

The CAAC Urumgi Regional Control Center is one of the seven CAAC regional control centers, is one of the key projects during the Eleventh Five-Year Plan period and is a landmark project in 重点工程项目之一,是新疆空管局实现跨 the CAAC Xinjiang ATMB's plans to leapfrog development. The 越发展的标志性工程。建设项目包括管制 items to be constructed include the ATM center, the training center and accessory facilities. The total investment is 519 billion Yuan. The control area utilized by the CAAC Urumgi Regional Control 心所辖乌鲁木齐情报区空域管制范围约 200 Center takes up an area of 2 million square meters. The center has established ATM control handover task with 6 foreign ATM control units and 1 domestic ATM control unit. There are 14 international flight routes in its control area and 31 domestic flight routes with the total length of 20,219 km. The flight routes are considered the lifeline 国通往欧洲、中亚重要的空中大动脉。 for China to Europe and central Asia.

In the recent years, as China applied s the Partner Assistance 步实施以及自治区经贸往来和旅游业的进 Policy in Xinjiang and Xinjiang's economy, trade and tourism developed rapidly, many big airlines increased transportation capacity in these areas and the flight throughput has been growing rapidly 势。2012年7月份,乌鲁木齐机场日起降 here. In July, 2012, the daily takeoff and landing sorties in the Urumgi Airport smashed through 400 sorties and this airport has ranked in the list of airports with more than 1,000 takeoff and landing sorties. This rapid growth underlines the urgency of the development of the 迫性。 fundamental civil aviation facilities.

When the CAAC Urumqi Regional Control Center is constructed, 将充分整合新疆辖区内通信和雷达监视资 the communications and radar monitoring resources will be integrated. The automatic processing capacity of Xinjiang's ATM on promoting Xinjiang's ATM level and improving flight safety 义。 performances.

9月下旬,民航乌鲁木齐区域管制中心 工程奠基仪式在乌鲁木齐市西郊举行。民 航空管局总工程师余波、民航新疆管理局 局长许浩、民航新疆空管局局长覃琥诚、 空军乌鲁木齐基地副参谋长史昕辉以及民

民航乌鲁木齐区域管制中心是中国民 航七大区域管制中心之一,是民航"十一五" 中心、培训中心、附属配套设施等, 总投 资约 5.19 亿元。民航乌鲁木齐区域管制中 万平方公里,周边与6个国外管制单位和1 个国内管制单位建立了管制移交工作,管 制区现有国际航路航线 14 条, 国内航线 31 条, 航路航线总里程为 20,219 公里, 是中

近年来, 随着全国对口援疆政策的逐 一步升温,各大航空公司进一步加大在新 疆的运力投入, 航班流量保持快速增长态 架次突破 400 架次, 跨入全国月起降 10000 架次以上机场行列。航班流量快速增长 凸显民航基础设施设备建设超前发展的紧

民航乌鲁木齐区域管制中心建成后。 源,全面增强新疆空管自动化处理能力, 对新疆地区空中交通管理水平的提升和飞



At the end of September, the new terminal, which was included in the reconstruction and extension project of Quanzhou Jinjiang Airport (Jinjiang Airport) was formally completed.

The original terminal of Jinjiang Airport has an area of 15 thousand square meters, and was designed to accommodate an annual passenger throughput of 1.34 million people. In 2009, the passenger throughput of Jinjiang Airport had reached 1.656 million and in 2010, 2 million. The terminal could not meet the continued demands of passenger throughput. In April, 2009, the State Council of the People's Republic of China approved Jinjiang Airport to become a national aviation port, so the demand for the airport to be expanded was urgent. To meet the demands of the increase in passenger volume and to open to the outside world, the Quanzhou government decided to expand the airport.

The total investment of the reconstruction and extension project of Jinjiang Airport was 907 million Yuan and kicked off in March, 2011. The main construction items were: to enlarge the apron; to construct a new terminal, a cargo transportation center, an accessory house for the aviation port, an aviation security space, to reconstruct the original terminal and the original ATM and the meteorology, communications, navigation, airfield lighting, water, power and fuel supply facilities. The project is almost complete. The items completed and put into use include: the port office, cargo transportation center, the substation of the cargo transportation center, the navigation lighting aids and the VOR/DEM navigation facilities.

The floor space of the new terminal is 40,195 square meters and 5 single aerobridges have been set up. If the terminal passes the acceptance inspection, it will improve the annual passenger throughput to be able to met 4 million people. Meanwhile, it is essential to improve the airport waiting environment, to increase the efficiency of customs clearance and promote service performances.

9月底,泉州晋江机场改扩建工程中 的新航站楼项目正式竣工。

泉州晋江机场原有航站楼面积 1.5 万 平方米,设计年旅客吞吐量 134 万人次。 2009 年泉州晋江机场旅客吞吐量达 165.6 万人次, 2010年达 200万人次, 航站楼已 不能满足需求。2009年4月, 国务院批准 泉州晋江机场开放一类航空口岸,机场改 告扩容升级的需求更加迫切。为满足客流 量增长和对外开放的需要, 泉州决定对机 场进行改建扩容。

泉州晋江机场改扩建工程总投资 9.07 亿元人民币,于2011年3月全面开工建设, 建设内容主要包括: 扩建停机坪, 新建航 站楼、货运中心、航空口岸配套用房、航 空保障用房,改造旧航站楼以及航管、气象、 通信、导航、助航灯光、水电、供油等配 套设施设备,目前已经基本完工。已完工 并投入使用的工程有口岸办公用房、货运 中心、中心变电站、助航灯光以及 VOR/ DEM 导航设备设施等项目。

新航站楼建筑面积 40.195 平方米、设 单元登机桥5个。验收投用后,新航站楼 不仅将晋江机场可满足的年旅客吞吐量提 升至 400 万人次,同时也将对改善机场旅 客候机环境,提高口岸通关效率,提升机 场的服务水平发挥重要作用。

#### 果洛机场正式奠基

#### Foundation Stone Laid for Guoluo Airport

In mid-September, the foundation stone was officially laid to mark the start of the construction of Guoluo Airport, a civil airport, in the Dawutan Grassland. Re Qiangwei, the Secretary of the Qinghai Provincial Committee of the CPC and Chairman of the Standing Committee of the Qinghai Provincial People's Congress, Luo Huining, the Deputy Secretary of the Qinghai Provincial Committee of the CPC and governor of Qinghai province, Wang Zhiqing, the Administrator of the Northwest Regional Administration of the CAAC, Cheng Zhuzu, the Standing Deputy President of the China West Airport Group and other related officers participated in the laying of the foundation stone for Guoluo Airport.

The Guoluo Tibetan Autonomous Prefecture is the source of the Yellow River and is southeast of Qinghai province. The government of the Guoluo Tibet Autonomous Prefecture is located in the Dawu township in Maqin county and is 440 km from Qinghai's capital, the city of Xining. The total area of the prefecture is 76.3 square km2, with a population of 181.8 thousand people, among which 91.2% are of Tibetan nationality. The Guoluo Tibet Autonomous Prefecture is an important livestock production base for Qinghai province and is in an altitude with a larger area, fewer people, broader grass-land and richer resources. The infrastructures in the Guoluo Tibet autonomous prefecture had been too few for too long. There had only been a highway traffic system that was low in density and rank, which has had a profound impact on the region's exchanges with external regions and the reform and opening-up policy has restricted the economic and social developments in this region.

The Guoluo civil Airport project is one of the key projects in the 12th Five-Year Plan of Qinghai Province. As a high plateau airport, it will be a regional airport. The aircraft movement area reference code is designed as 4C, which will accommodate Airbus 319s, Boeing 737s and other similar sized aircraft, with the runway designed to be 4000 meters long. The airport is designed according to the requirements of a passenger throughput of 150 thousand and mail and cargo throughput of 375 tons by the year 2020. The terminal will be 3000 square meters. The investment of this project is valuated at 1.24 billion Yuan. The flight routes to Xining, Lhasa, Chengdu, and other important destinations have been planned. The Guoluo Airport is planned to be completed by 2015.

During the Twelfth Five-Year Plan period, the China West Airport Group will complete the Xining Caojiabao Airport expansion project and the GOLMUD Airport expansion project, as well as try to complete the construction of the four civil airports of Delhi Airport, Huatugou Airport, Guoluo Airport and Qilian Airport. In addition, the China West Airport Group will try to start construction on Qinghaihu Airport and Huangnan Airport, so that the Qinghai civil airport layout design of one main airport with 8 complementary airports will be completed.

9月中旬,果洛民用机场在大武滩草原上正式奠基。省委书记、省人大主任强卫,省委副书记、省长骆惠宁,民航西北地区管理局局长王志清,西部机场集团常务副总裁程珠祖等领导为果洛民用机场培土奠基。

果洛藏族自治州是黄河之源头,位于我省的东南部,东临甘肃省甘南藏族自治州,南接四川省阿坝藏族羌族自治州和甘孜藏族自治州,西与玉树藏族自治州、西与玉树藏族自治州、西与玉树藏族自治州、西与、公路里程约440公里。全州总面积约7.63万平方千米,人口约18.18万人,其中91.2%为藏族,是青海省重要牧业生产基地之一,是一个面积大、人口约块、地势高、草原广、资源丰富的民族自治州。长期以来该地区基础设施薄弱,仅有公路交通体系,且公路网密度小、等级低,极大地影响了对外交往和改革开放的步伐,制约了该地区经济社会的发展。

新建果洛民用机场是青海省"十二五"重点建设项目之一,为国内支线机场,属高高原机场,设计规模为飞行区等级 4C,按满足空客 319、波音 737 机型设计,跑道长 4000 米,按照满足 2020 年旅客吞吐量 15 万人次、货邮吞吐量 375 吨设计,航站楼面积 3000 平方米,项目估算总投资约为 12.4 亿元,规划的航线主要有果洛至西宁、拉萨、成都等地区。果洛民用机场计划 2015 年竣工通航。

"十二五"期间,西部机场集团除完成西宁和格尔木 2 个机场的改扩建工程外,还将努力完成德令哈、花土沟、果洛、祁连 4 个支线机场建设,并力争开建青海湖和黄南两个机场,努力打造"一主八辅"青海民用机场格局。

#### 南阳机场新飞行区正式开放 飞行区等级为 4D

## New 4D Aircraft Movement Area at Nanyang Airport Opened

In September, the CAAC Central and Southern Regional Administration officially issued a new Civil Airport Operating License with the reference code Y2562012301803 to Nanyang Airport. The new aircraft movement area of Nanyang airport was put into operation on 0:00 of September 11th, 2012.

The new aircraft movement area was put into construction in October, 2010. After almost 2 years of construction and document collection, the newly established Nanyang Airport passed the flight inspection, flight test and acceptance inspection and other related checks and was issued the new Civil Airport Operating License. The aircraft movement area reference code is 4D. The runway of the airport has been extended from 2,300 meters long to 2,800 meters long. The passenger transportation use gate positions have been increased from 4 to 10. The newly added blast pad, the de-icing pad, the rapid exit taxiway, the by-pass taxiway, the end-around taxiway and the parallel taxiway have all been put into operation.



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9月,中国民用航空中南地区管理局(简称"中南管理局")正式为南阳机场换发编号为 Y2562012301803 的新《民用机场使用许可证》。南阳机场新飞行区于 2012 年 9月 11 日零时、正式投入使用。



新飞行区于 2010 年 10 月正式开工建设,经过 1 年 10 个月的紧张施工、材料收集、文件整理,南阳机场通过了飞行校验、建成试飞、扩建验收等审核工作,于 9 月成功取得了《民用机场使用许可证》,明确南阳机场飞行区指标为 4D 等级,机场跑道由原来的2300 米延长到2800 米,客运停机坪也由原来的4 个增加到10 个,新增防吹坪、除冰坪、快速脱离道、跑道端的联络道及中间联络道和平行滑行道全部投用。



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