Top executives from Comac and Russia’s UAC yesterday took the wraps off their planned 280-seat Long-Range Wide-Body Commercial Aircraft, also referred to as the C929. The two companies are targeting an entry into service in 2027. The initial version will be powered by a Rolls-Royce or General Electric engine. A Russian engine, the UEC PD-35, should follow around 2030.

Electric Aircraft for China

China could manufacture up to 500 electric and hybrid-powered general aviation aircraft a year under a deal worth up to $550 million signed here between Pipistrel, a Slovenian company that has taken the lead in producing electric aircraft, and Chinese company Sino GA Group, a member of the Sino Group. They also plan a 19-seat hybrid electric aircraft.

Ivo Boscarol, general manager of Pipistrel (left), and Hao Danny Wu, CEO of Sino GA, celebrated their new partnership here at Zhuhai.
Utilization
/
 Defined.

noun ~

多少循环任你飞，飞到哪里任你选，出勤频率任你派。LEAP发动机为您提供高度的灵活性。LEAP，可靠性的理想架构。

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CFM International is a 50/50 joint company between GE and Safran Aircraft Engines
Qingdao Selects P&W PurePower Engines for A320neo
青岛航空选择普惠静洁动力发动机

Qingdao Airlines has selected Pratt & Whitney’s PurePower Geared Turbofan (GTF) engine to power its order of 18 firm Airbus A320neo family aircraft. The GTF family now has more than 8,400 orders, including announced and unannounced firm and option engines, with more than 80 customers from more than 30 countries.

GTF engines have logged more than 30,000 revenue hours and more than 20,000 take-offs and landings. Their in-service performance has confirmed that the engine reduces fuel burn by 16%, lowers regulated emissions by 50%, and reduces the noise footprint by 75%. PurePower currently powers 24 aircraft with eight airlines around the world. Two can be seen here at Airshow China on the Bombardier CS300 airliner in the static display.

Also at the show, three Chinese operators—two airlines and a leasing company—announced their selection of the V2500 turbofan engine to power a combined total of 41 Airbus A320 family aircraft. They were: Air China for 18 aircraft, Shenzhen Airlines 13, and Bank of Communications Financial Leasing Co, 10 aircraft.

Meanwhile Pratt & Whitney’s joint engine overhaul center with China Eastern airlines in Shanghai reported it had delivered the 600th renewed CFM56 engine to the airline.

11月1日，青岛航空公司与普惠公司签约，选择齿轮传动式涡扇(GTF)发动机为其18架确认采购的空客A320neo提供动力。包括已宣布和未宣布的确认和可选订单在内，GTF发动机已收获来自30多个国家的80多个客户的8400多台发动机订单。GTF发动机自投入运营以来，已经累计运营了30000多小时及20000多次起降。

Pratt Geared For Widebody Opportunities

Pratt & Whitney plans to offer a bigger, more powerful geared turbofan GTF engine for widebody aircraft but sees the immediate opportunity is for a mid-size aircraft.

“When Pratt next offers a widebody engine it will be a GTF,” says Alan Epstein, Pratt & Whitney VP technology and the environment.

“I don’t expect a new widebody aircraft to enter service before the end of the 2020s. So there isn’t a near term opportunity. You might expect the all new aircraft to be a so called ‘middle of the market’ aircraft from Airbus or Boeing or both,” says Epstein, referring to how the aircraft makers are considering developing an aircraft that fills the gap between the A320/737 and the A350/787.

Epstein says that whatever engine Airbus and Boeing select for “middle of the market” aircraft, it will be geared turbofan, made either by PW or another engine maker.
革新机队规划
改写商业战略

787梦想飞机，让我们飞得更好。787梦想飞机的先进技术为世界各地的航空公司带来了非凡机遇，我们称之为梦幻魔力。优秀的燃油效率和航程能力使航空公司能够开辟新的航线，优化机队和航线网络，而乘客则可获得特别的飞行体验。体验梦幻魔力。让我们飞得更好。
Beechcraft Sells Two King Air 350ERs
比奇获2架“空中国王”350ER 订单

Business jet charter operator Apex Air Co. is here in the static display with a 24-passenger Bombardier Challenger 850 that it operates in partnership with VistaJet, a global leader in premium long-range private jet travel.

VistaJet, which had for some time explored entering China’s business jet market, has Apex operate the CAAC-registered Challenger 850 on its behalf. A second Challenger 850 is planned to join the fleet.

Apex has a solid strength in airline hosting with Nantong, Jiangsu Province, as its main operating base, targeting customers mainly in the North, Yangtze River Delta and Pearl River Delta regions.

It has also announced plans to cooperate with Chinese ride-hailing service didichuxing.

Apex Air to Cooperate With Taxi-hailing
尊翔携手滴滴出行打造公务出行新模式

HAITE to Build Aviation Industry Platform
海特集团打造航空产业平台

HAITE Group signed two strategic cooperation agreements separately with China Civil Aviation University (CAUC) and TianJin Harbor Economic Area government to build an Aviation industry platform through Industry-University-Research Cooperation. With the cooperation of CAUC, HAITE Group will build a practice base for the university’s students, and develop talent together. The cooperation with TianJin Harbor Economic Area government will be in aviation funding, manufactured parts and aviation industrial park planning.
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Maximise your time and be where it counts.

Finmeccanica is now Leonardo - inspired by the vision, curiosity and creativity of the great master inventor - designing the technology of tomorrow.

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Helicopters | Aeronautics | Electronics, Defence & Security Systems | Space
Boeing, COMAC Collaborate on Environment

Boeing and Commercial Aircraft Corp. of China (COMAC) signed a new agreement here to expand their joint research into the long-term sustainable growth of commercial aviation through their renamed Boeing-COMAC Sustainable Aviation Technology Center.

The two companies signed an initial agreement in March 2012 to research ways to improve aviation’s fuel efficiency and greenhouse-gas emissions reduction, air traffic management (ATM) efficiency, environmentally sustainable manufacturing, cabin environment, air travel by aging populations, and safety during cabin and ground operations.

11月1日，波音公司与中国商用飞机有限责任公司签署了一份拓展双方合作的新协议，以支持民航业的长期可持续发展。双方曾在2012年3月签署了一份合作框架协议，联合开展市场研究和共建航空节能减排中心，以共同开展全球民用航空市场需求研究与双向交流，改进航空业燃油效率和温室气体排放的研究工作。新协议将双方合作延长5年，将进一步加强联合研究，选择并资助中国的高校和科研院所开展研究。

COMAC and UAC Disclose Widebody Details

UAC and Comac are targeting a 10% advantage in operating costs over aircraft that will compete with their planned 280-seat widebody.

The Russian and Chinese companies have pushed out the target for entry into service to probably 2027, about two years later than previously intended. They intend to register their joint company in Shanghai in the first quarter of 2017, which will apparently mark the beginning of full-scale development.

The partners plan that UAC will build the wing, which will be of composite, while Comac builds the fuselage, using aluminum and much composite, says Yuri Slyusar, president of the Russian aircraft company.

The initial version of what has been provisionally called the Long-Range Wide-Body Commercial Aircraft will be powered by a Rolls-Royce or General Electric engine. A Russian engine, the UEC PD-35, should follow around 2030, Slyusar tells ShowNews.

A preliminary design has been agreed upon. The proportions of a model unveiled here at Airshow China, show that a cabin width for nine-abreast economy seating, which appeared in early design studies, has been retained. Range will be 12,000 km (7,500 mi.).

For the targeted 10% advantage in operating costs, UAC does not identify the baseline competitor, but it is presumably the Airbus A330-900.

Almost all the advantage will come from superior structural and aerodynamic efficiency, since UAC expects that the chosen engine will have about the same technology level as is now enjoyed by Airbus and Boeing. So it looks like the gain in efficiency will, above all, come from the composite wing.

UAC and Comac have become steadily more conservative in their scheduling for the development. In 2014, when a formerly vague plan for the aircraft was becoming firmer, the target for first delivery was 2023-25; by early last year it had become 2025 and has now moved out by two years, only partly because of a delay in launch.

The development period is set at around 10 years, though Slyusar says “We will try to shorten this process by maybe one or two years.” An imprecise schedule discussed last year implied that the companies thought they needed nine years.

—Bradley Perrett
Shaping tomorrow’s regional aviation*

ATR is the world reference for regional turboprop aircraft. ATR airplanes fly in close to 150 countries. ATR 72 and ATR 42 provide airlines with the most cost-effective solution for the开通新航线 and reinforcement of their existing networks.

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CFM to Offer LEAP-1C MRO Training at AEMTC

CFM International plans to begin LEAP-1C line maintenance training at the Aero Engine Maintenance and Training Center (AEMTC) in Guanghan City, Sichuan Province. The LEAP-1C training engine, which was used as part of the engine certification test program, will be delivered to the facility in 2017.

“The new training program is an important part of our ongoing commitment to provide the very best support to our customers in China,” said Jean-Paul Ebanga, president and CEO of CFM International. “AEMTC was the first training center of its kind in China and the instructors there are world class. We look forward to welcoming our first students.”

In addition to the LEAP-1C, AEMTC also supports the operation of CFM56 and GE CF6 engines in China. The school is located within the CAFUC campus in Guanghan, Sichuan Province, and trains 700 to 800 students each year.

CFM International, which is a joint venture between GE and Safran, is the leading supplier of LEAP engines for commercial aircraft.

CFM International has invested in training facilities at AEMTC to improve its operational capabilities. The center provides training on CFM56-3, CFM56-5B, CFM56-7B, and CF6-80C2 engines, as well as guidance and teaching assistance.

China’s CDB Leasing Orders All LEAP Models

CDB Leasing has selected CFM LEAP-1A engines to power 100% of its first batch of next generation single-aisle aircraft orders. The firm engine order is valued at $1.26 billion at list price and deliveries are scheduled between 2018 and 2021.

It is the first Chinese lessor to order all LEAP engine models (-1A/-1B/-1C) for Airbus, Boeing and Comac C919 aircraft.

The LEAP-1A engine entered commercial service on August 2, 2016. A total of 10 aircraft have been delivered to date and the in-service fleet has logged nearly 3,000 flights.

11月1日，国银租赁与CFM国际公司签约，为其新订购的A320neo选用LEAP-1A发动机。发动机的确认订单目录价值达12.6亿美元，这批飞机将于2018—2021年交付，LEAP-1A发动机于今年8月2日投入商业运营。目前共有10架飞机在服役并已累计完成了近3000多个航班。国银租赁签署价值12.6亿美元LEAP-1A发动机确认订单
China Unveils B-2 Lookalike Stealthy Drone
“彩虹” 805隐身靶机

The China Academy of Aerospace Aerodynamics in Beijing unveiled at Airshow China a model of a new drone called the CH-805, which looks a lot like the Northrop Grumman B-2 stealth bomber.

The B-2 has a very small radar signature, which means it can be used for reconnaissance, says the institute.

The model on display shows the aircraft is powered by two engines inside the main fuselage with air inlets at the front and exhaust at the back.

The stealthy drone appears to have been designed in such a way that the cool air flowing over the top of the fuselage will then come in contact with the hot air from the exhaust to cancel out the aircraft’s heat signature so it cannot be so easily detected.
GAMECO Plans First Landing Gear Overhaul Next Year

Guangzhou Aircraft Engineering & Maintenance (GAMECO) will perform its first full landing gear overhaul in next year's second quarter, a significant development as there is a shortage of such capability in China.

“There is not so much capacity in the market,” says GAMECO general manager, Norbert Marx, adding that airlines in China have been sending landing gears to the foreign original equipment makers (OEMs) to be overhauled.

The reason for so few third-party landing gear overhaul shops, is because of the financial and technical hurdles involved. GAMECO has built an 18,000 sq-meter building to house its landing gear MRO facility. It is split into sections: disassembly section, cleaning, storage, plating, machining and non-destructive testing (NDT).

“We will work on landing gears for the narrowbodies such as A320 family and 737 family. We will do A330. The facility is laid out to do 777. But initially we still stick with A320, 737 and A330. So the 777 is the capability we will approach after that,” he adds.

GAMECO General Manager Norbert Marx accepts landing gear certification from the CAAC.

Safran, China Eastern Form Landing Gear JV

China Eastern Airlines and Safran Landing Systems have combined their respective areas of expertise to create a joint venture for the maintenance, repair and overhaul (MRO) of landing gears on Airbus A320 and Boeing 737 airliners.

The new company, Xi’an Eastern Safran Landing Systems Services, Ltd., will be based in Xi’an, already the main maintenance hub for China Eastern’s fleet. It will primarily provide services for the Chinese domestic market.

Construction of a 10,000 sq-meters (108,000 sq ft) plant will start in the first half of 2017, with operations expected to start in 2018.

11月1日，东方航空公司和赛峰起落架系统公司签署协议，将在西安建立合资公司，为空客A320和波音737提供起落架维护、修理和大修（MRO）服务。新的合资公司还将兴建一个总建筑面积为10000平方米的厂房和配套设施，预计将于2018年开始投入运营。
国画激光投影机
感受不一样的视界
第11届中国国际航空航天博览会
H6H7展位
中国.广东.珠海
2016年11月1日 -6日
Aerosila to Develop APU for Heavy Helicopter

Cooperation between Russia and China on a new heavy helicopter, known as the Advanced Heavy Lifter (AHL), takes shape as the Russian company Aerosila chose Airshow China 2016 to sign a letter of intent with AVIC International and AVIC Nanjing Engineering Institute of Aircraft Systems (NEIAS) for joint development of the auxiliary power unit for the future rotorcraft.

This officially paves the way for the joint effort while the negotiations with Avic started a year ago, an Aerosila spokesman told ShowNews.

The new APU will be based on Aerosila’s TA18-100 auxiliary gas turbine engine initially designed for the Tupolev Tu-334 regional jet.

“The use of new progressive power generating equipment will enable us to reduce the powerplant’s weight,” says the Aerosila official. “Workshares have not yet been decided,” he says.

The AHL development was officially launched in May 2015, with a framework agreement signed between Russian Helicopters and Avic. Avicopter will be prime contractor, including the design, prototype assembly, testing, certification, series production, and marketing. Russian Helicopters are expected to develop the AHL’s main gear, tail rotor, and anti-icing system.

The new helicopter is to be certified by 2025. It will have a take-off weight of 38 tons, and to be able to carry 10 tons of cargo internally or 15 tons on an external sling.

Aerosila (Booth H5F4-1) also submitted a proposal for the APU for the new widebody airliner being developed jointly by COMAC and Russia’s United Aircraft Corporation.

— Maxim Pyadushkin

11月2日，俄罗斯Aerosila公司与中航国际和中航工业金城南京机电液压工程研究中心（NEIAS）在珠海航展上签署合作意向书，为中俄联合研制的先进重型直升机（AHL）研发辅助动力装置（APU）。

新APU将以图-334支线喷气机上使用的TA18-100辅助燃气涡轮发动机作为新APU的核心机。俄方与NEIAS还将就工作量的分配问题进行协商，中航国际将促进其兄弟企业中航直升机公司在AHL项目上采用这款APU产品。AHL项目于2015年5月正式启动，由俄罗斯直升机公司和中航工业合作研制。AHL直升机将在2025年前取得认证，该机起飞重量为38吨，可携带10吨机内货物或吊挂15吨的重物。

Aerosila公司还提议为中国商飞和俄罗斯联合飞机集团合作研制的新宽体机提供APU产品。这款APU可以从2015年11月取得认证的TA18-200MC衍生而来，可为载客人数多达250人的未来飞机提供动力。

— Bradley Perrett

Russia Helicopters to Strengthen Support in China

Russian Helicopters is talking to potential partners for expanding maintenance, repair and overhaul services for its products in China.

The initiative is part of a global program for raising Russian Helicopters’ standard of after-sales service, says the company.

China is a focus in part because of strong prospects for orders here, Igor Chechikov, deputy director general for after-sales service, tells Aviation Week.

At the end of 2015 Chinese civil operators had 23 rotorcraft made by Russian Helicopters or its predecessor companies, according to Hong Kong consultancy Asian Sky Group. The Chinese fleet of helicopters of the company’s Mil brand had declined to 11 at that time from 16 two years earlier, but the Kamov fleet had risen to 12 from two.

Chechikov expects the rate of deliveries to trend higher in the next few years. In addition, the Chinese military is a large operator of Mil and Kamov helicopters.

— Bradley Perrett
CETA and Rockwell Collins Expand Partnership

China Electronics Technology Group's avionics business CETCA signed an agreement yesterday with Rockwell Collins to expand their cooperation.

The impetus for the new agreement is the Comac C919 program, says CETCA, which signed the agreement at Airshow China.

The two already had an earlier agreement to do research and development together in support of the C919 program.

But the new agreement has been expanded to cover production and maintenance of avionics systems, says CETCA.

It says it is establishing a joint-venture company with Rockwell Collins to do that and it is contributing $80 million to develop the new capabilities.

Besides the C919 program, CETA says it and Rockwell Collins plan to also work on other civil aircraft programs in China, such as the Xian Aircraft MA700, a new commercial turboprop aircraft in development.

Honeywell Lowers Business Aviation Forecast

It will get better, later, says Honeywell in its 25th annual Global Business Aviation Outlook released this week. While it lowered its expectation for new business jet deliveries some six percent to 8,600 aircraft worth $255 billion through 2026, it also expects improved interest in new aircraft acquisitions in the medium term.

“Developed economies are generally faring better, but the price of oil, foreign exchange and political uncertainties remain as concerns,” said Brian Sill, president, of Business and General Aviation for Honeywell Aerospace. “These factors continue to affect near-term purchases, but operators we surveyed this year indicated plans to increase usage of current aircraft modestly in the next 12 months, providing some welcome momentum to aftermarket activity, which has been flat recently.”

Operators in Asia Pacific report new jet acquisition plans for 28% of their fleet over the next five years, roughly doubling from 2015 levels and reflecting optimism extending beyond the China market.

Based on the improved level of purchase plans, Asia Pacific could garner up to a six percent share of global new jet demand over the next five years, the survey said.
跨越发展二十年
Airshow China Witness AVIC
20 Years of Leaping Development
价值源于创造。中国航空工业集团公司秉承“航空报国，强军富民”的宗旨，践行“敬业诚信，创新超越”的理念，努力推动中国航空工业由战略先导产业向战略支柱产业的转变。

20年的中国（珠海）航展，见证了中航工业的跨越发展。航空武器装备实现了对世界先进水平从“总体跟跑”到“主体并跑”的跨越。从第二代战斗机到第四代战斗机、从中小型飞机到大型飞机、从机械化装备到信息化装备、从陆基装备到舰载装备、从有人机到无人机、从偏重局部突破到注重体系化发展的跨越。
China and Russia have signed a strategic agreement to collaborate on advanced research projects involving aerospace.

At Airshow China, the Chinese Aeronautical Establishment signed the agreement with Russia’s National Research Center (Zhukovsky Institute). Based on the agreement, the Chinese and Russian organizations will each set up a national coordination center (NCC). Under the guidance of government authorities the two NCCs will be in charge of the management of upcoming research projects.

The statement fails to mention what the projects are, but China has ambitions to build its expertise in aero engines, a key technology that Russia has. Many of the advanced fighters in the Chinese air force are powered by Russian engines, while China’s civil aircraft programs are powered by western engines.

“The signing of this strategic cooperation agreement is an important step for the Chinese Aeronautical Establishment in expanding international cooperation based on exploration, innovation, openness and sharing,” says Chinese Aeronautical Establishment president Zhang Xingguo.

“This is a significant agreement because it demonstrates the cooperation between China and Russia’s aviation industries, he adds.

AVIC CARERI Displays Future Cockpit Concept

中航工业上电所推出未来航电概念座舱

在本届航展上，中航工业上电所展示了融入最新理念的未来航电概念座舱。这些概念座舱既体现5~10年后航电综合应用的发展方向，也适用于先进的航电系统人机界面开发、验证与评估工作。

其中，一款名为Flight-i-Deck概念座舱以面向未来的座舱人机交互设计技术为核心，展示了先进的设计手段和“平台+APP”的人机界面运行模式。它可用于快速确定用户需求，高效实现设计和开发，并提供真实的沉浸式体验，可完成集成验证、同步实施效能评估等工作。

除了Flight-i-Deck概念座舱之外，中航工业上电所还在中航工业展台同时展示了面向未来宽体客机的新一代民机驾驶舱显示系统，它采用高精度宽屏多点触控技术，具备融合显示外部环境和交通态势信息，改变传统的飞行员“See-to-Avoid”模式为“See-to-Follow”的协同决策能力，通过综合信息管理和告警，降低飞行员工作负荷，支持未来高密度空域和全天候飞行的要求。
中国航空研究院与俄罗斯茹科夫斯基国家研究中心签署战略合作协议

中航工业通飞是国内最大的以通用飞机研发制造、运营服务为主业，涵盖支线航空、通勤航空、水上飞行、新材料、锻造、液压等业务的多元化公司，以“传播航空文化，实现飞行梦想，引领中国通用航空产业发展”为使命，实施全面提升产品和服务的价值创造能力发展战略，致力于成为“国内领先、世界一流的”通用航空解决方案提供商，全球化、全谱系、全产业链、全价值链发展模式不断完善。

通飞以市场需求为牵引，统筹国内国外两种市场、两种资源，加快通用航空器研制全谱系化进程。大型水陆两栖飞机AG600在珠海总装下线；与法国飞鲸公司签署了重载飞艇项目投资协议；单发轻型喷气式公务机愿景SF50首架批产飞机成功首飞；西锐向客户交付第6000架飞机，连续12年稳居全球单发涡桨/涡扇飞机榜首。批量生产小鹰500、运五B、A2C及金雕系列飞艇、系留气球等通用飞机和浮空器，国际合作生产赛斯纳208B、奖状XLS+公务机，正在研制领世AG300轻型公务机、海鸥300轻型水陆两栖飞机、AG100初级教练机、领翼AG50飞机等。

通飞以全产业链发展为目标，重组产业链的价值环节，拓展通航新兴业务。在内蒙古、新疆探索发展通用航空和通用航空旅游；所属多家通航公司取得CCAR-91部、CCAR-135部、CCAR-145部运行资质；建立珠海、呼伦贝尔、河北、湖北机场管理公司；UL91、100LL无铅航空通过适航评审进入市场。爱飞客控股集团落户南京，通航示范区加速布局，荆门、武汉、南通、阿勒泰等地全面建设；举办爱飞客飞行大会，传播航空文化，促进产业发展。“通用航空+”发展模式得以践行。
Eaton Opens New Facility in Shanghai
伊顿上飞航空管路新制造工厂开业

Power management company Eaton Corp.’s joint venture with Shanghai Aircraft Manufacturing Co., Ltd. (SAMC), a subsidiary of Commercial Aircraft Corporation of China (COMAC), has opened a new facility in Shanghai to manufacture fuel and hydraulic conveyance systems for China’s C919 airliner. Senior executives, including Jin Zhuanglong, chairman of Comac and Craig Arnold, Eaton chairman and chief executive officer, presided at the inauguration ceremony.

The joint venture, Eaton SAMC (Shanghai) Aircraft Conveyance System Co., Ltd., was the first for the Comac enterprise with a foreign company, and also the first to be granted a business license, in March 2011.

Located at Zhuqiao Town, Pudong New Area of Shanghai, the new plant has a floor area of 16,500 sq. meters and will start production by the end of 2016.

“This new facility is an exciting milestone in our joint venture with Comac and we look forward to working with them to develop products for the global civil aviation market,” Arnold said.

Dowty to Control MA700 Propellers
道蒂为“新舟”700提供螺旋桨电子控制系统

General Electric’s Dowty Propellers has been selected to supply the propeller electronic controller (PEC) on the 70-90-passenger twin-engine MA700 regional aircraft from Avic’s Xi’An Aircraft Company.

It was earlier selected to provide the six-blade propeller system for the MA700’s two Pratt & Whitney Canada PW150C turboprop powerplants.

The PEC manages the propeller system’s automatic control, including propeller speed and pitch, through all phases of flight. For the MA700, Dowty Propellers’ solution is a dual-band PEC, based on a flexible, modern design which incorporates the latest technology and utilizes an open architecture.

The propellers for the MA700 “incorporate new blade aerodynamic designs, along with a highly-reliable and proven propeller system. The propeller will allow the aircraft to deliver optimal levels of endurance and fuel efficiency, while achieving a low-noise environment for the cabin, and at competitive life-cycle costs,” the company says.

Dowty also supplies propellers for the Bombardier Q400 turboprop regional airliner and Lockheed Martin’s C-130J transport.
Sikorsky Targets China Search and Rescue Market
西科斯基看好中国搜索和救援市场

The oil and gas market in China and around the world is in the doldrums, which has adversely affected the sale of large helicopters, but Sikorsky has achieved some success in China with the search and rescue segment.

“We delivered eight Sikorsky S-76D helicopters to China last year and another one prior to last year,” a senior Sikorsky official said here.

Eight were for search and rescue, and the other a utility transport helicopter.

Sikorsky says the advantage of the D-model is it has more powerful Pratt & Whitney Canada engines and a new, integrated all-glass cockpit from Thales. The total number of Sikorsky helicopters in China, excluding Schweizer models, is between 50-55.

A Sikorsky S-76D of China Rescue before delivery.
Liebherr JV Delivers First Chinese ARJ21 Landing Gear
利勃海尔合资企业交付首个ARJ21起落架

Liebherr LAMC Aviation (Changsha) celebrated the delivery of the first Chinese-assembled main landing gear for the ARJ21.

The first main landing gear assembled in China for Comac’s ARJ21 regional airliner was delivered on September 27. Liebherr LAMC Aviation (Changsha) Co., Ltd., the joint venture between the Chinese company LAMC (AVIC Landing Gear Advanced Manufacturing Corp.) and German-based Liebherr-Aerospace Lindenberg, set up Liebherr LAMC Aviation (Changsha) to develop and manufacture landing gear systems for the Chinese aviation industry as well as the international aviation market.

Liebherr-Aerospace Delivers First System to Hafei-Harbin Helicopters
利勃海尔宇航向哈飞交付首套冷却系统组件

Liebherr-Aerospace in May delivered its first cooling system to the Chinese manufacturer Hafei-Harbin (AVIC Group) to equip the AC312E helicopter. The cooling system, which is part of the air management system, was shipped from Liebherr-Aerospace Toulouse SAS, (France), to Hafei-Harbin’s final assembly line in Harbin, in the North of China.

“The contract is of major significance for us, as Hafei-Harbin is our first helicopter-manufacturing customer in China,” said Nicolas Bonleux, managing director & chief sales officer of Liebherr-Aerospace & Transportation SAS.

In China manufactured the first ARJ21 main landing gear assembly by duplicating the assembly fixtures and testing equipment it uses in Europe.

“The delivery of the first ARJ21 main landing gear assembled in China represents a major milestone,” said Arndt Schoenemann, Chairman of the Board of Directors of Liebherr LAMC Aviation (Changsha).

The JV will assemble the next ARJ21 main landing gears in Changsha. It will take over step by step the direct procurement of the parts delivered by approved suppliers of Liebherr-Aerospace. In parallel, it will do local sourcing from LAMC and others for the machining of landing gear parts, and will also prepare the assembly line for the ARJ21 nose landing gear.

A sister company, Liebherr-Aerospace Toulouse SAS, provides a major system on board the ARJ21, the integrated air management system.

Liebherr LAMC Aviation (Changsha) was established in 2012 to develop and manufacture landing gear systems for the Chinese aviation industry as well as the international aviation market.

Liebherr is here at Booth H3D1.
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Tel : 010-84936181    010-84936540
Web : www.aerodb.cn
The Pipistrel Alpha Electro will be produced in China.

China could manufacture up to 500 electric and hybrid-powered general aviation aircraft a year under a deal worth up to $550 million signed here between Pipistrel, a Slovenian company that has taken the lead in producing electric aircraft, and Chinese company Sino GA Group, a member of the Sino Group. They also plan a 19-seat hybrid electric aircraft.

An initial seven-year agreement calls for building new centers with aircraft production facilities for Pipistrel’s Alpha Electro and Panthera Hybrid aircraft,
a runway, and maintenance and training facilities for both types in Taizhou, Zhejiang Province, and Yinchuan.

The two companies said they are entering a long-term partnership that will see increased numbers of research and development projects, and support the transfer of technologies. To achieve stronger business ties between the two partners, they will exchange a part of their capital shares with partial cross-ownership ownership during the duration of the contract.

Pipistrel will use a part of its new funding to develop a new, very innovative zero emission 19-seat aircraft, powered by hybrid electric technology and hydrogen low temperature PEM fuel cells, planned for public transport between the cities in China and all over the world.

The cooperation between the companies, after the property development, is valued at more than $380 million. It will enable Sino GA Group Co. to benefit from Pipistrel’s exclusive rights to use the technology and to produce the Alpha Electro and Panthera Hybrid within China. It will also have the exclusive right for the sales of the two aircraft models in Chinese territory and in neighboring countries.

The contract also includes the delivery of 50 aircraft of each model, and training and supervision of Chinese assembly plants.

中宇通航与斯洛文尼亚蝙蝠飞机制造厂于11月2日宣布，经过两年的准备，双方同意相关知识产权转让并在中国成立新的飞机制造公司，负责电动飞机的生产，尤其专注于阿尔法电动飞机和“大黑豹”油电混合性飞机，年产量不低于500架。双方将在11月5日在拉托维亚共和国举行的中国与中东欧国家经贸合作框架16+1总理级首脑会议期间正式签署合资建厂协议，这意味着该项目被正式列为中国与斯洛文尼亚两国国家级双边经贸合作项目。本届航展期间，中宇集团和旗下飞虎雄鹰通用航空有限公司在本届航展上展出蝙蝠品牌旗下3款轻型类飞机。

The Pipistrel Alpha Electro will be produced in China.
High-Speed Train Will Boost Its Plane: Embraer

Embraer China predicts that high-speed rail will completely reshape China's airline industry in the coming years and carriers, in order to maintain networks and frequency, will switch to regional jets.

The 70-130 seat segment in which Embraer competes accounts for 6% of China's fleet today, but in the next 20 years this segment market share will increase to 21%, says Guo Qing, Embraer VP sales and marketing.

Embraer forecasts that 1,030 70-130 seat regional jets will be delivered in the 2016-2035; last year there were only 104 such aircraft operating in China.

Of those 1,030 deliveries, 310 will be 70-90 seaters and 750 will be 90-130 seat aircraft.

Guo says high-speed rail will connect 80% of China's capital cities and many secondary cities as well. This will take passenger traffic away from domestic airlines, so to maintain network and frequency airlines will need to operate smaller aircraft, namely regional jets in the 70-130 seat segment.

A key advantage airlines have over rail is a more extensive network, plus rail starts to become less competitive once the train ride gets over 2hrs, says Guo.

Another factor working for regional jets is the central Government's new ruling that startup airlines must operate aircraft with less than 100 seats for the first 25 aircraft in the fleet.

Embraer says that 63% of commercial flights in China only have 50-130 passengers on board and that 69% of flights, on various routes across the country, have a frequency of less than two flights per day.

P&WC to Build More Efficient Engine for MA700

Pratt & Whitney Canada's PW150C engine for the new Xi'an Aircraft MA700 turboprop promises to provide 4-5% fuel savings over the PW150A engine that powers the Bombardier Q400.

P&WC VP sales and marketing for regional airlines, Frederic Lefebvre, says the PW150C has a power turbine with a third power spool, making it a third stage power turbine, whereas the 150A is a two-stage power turbine.

Lefebvre confirmed the new timeframe for the MA700 program, saying first flight will be 2018 followed by entry into service in 2020.

Xi'an Aircraft opting for a derivative of the PW150 means it has gone for a larger, more powerful engine, making the MA700 a fast turboprop with a high approach speed into airports, yet it will have short take-off and landing capability.

Lefebvre says P&WC has a long relationship with Xian Aircraft and that its turboprop engines already power the current generation of turboprop, the Xian Aircraft MA60 and MA600.
AJW Technique Achieves CAAC Approval

AJW Technique has achieved certification from the Civil Aviation Administration of China (CAAC) for overhaul and repair of more than 3,000 airframe and engine components. Coverage includes most Airbus, Boeing and Bombardier derivatives.

“We can now offer operators in China a unique one-stop-service, across all OEM products, streamlining repairs for both regional and international operators as well as trade organizations, offering truly flexible, tailored solutions for all of our customers,” said AJW Technique general manager Gavin Simmonds.

“Securing CAAC approval is recognition that our technicians provide world class component repair and overhaul support and will give us greater access to the booming Chinese Aviation market.”

AJW Technique’s 160,000 sq-ft MRO facility is one of the world’s leading component repair workshops with 200 dedicated technicians and support staff.

AJW Technique's 160,000 sq-ft MRO facility is one of the world's leading component repair workshops with 200 dedicated technicians and support staff.

NLR Brings Test Results Home

Dutch research agency NLR-Netherlands Aerospace Center in September conducted contaminated-runway tests to determine how an aircraft’s braking system performs under extreme conditions. The knowledge gained will be used to optimize applicable regulations, which in turn will help increase safety.

The tests were part of a European project Future Sky Safety project aimed at improving aviation safety. The NLR's research Cessna Citation carried out brake tests on a runway at Twente Airport, the Netherlands, that was coated with a top layer of Possehl Antiskid material and then sprayed with water. Additional brake tests were carried out in a water pond test facility.

Such tests, says NLR, bridge the gap between research and practical applications. They allow NLR’s cutting edge technology to find its way into successful aerospace programs of OEMs, including Airbus, Embraer and Pilatus.

NLR is here at the show, at Booth H3F3, to discuss the full spectrum of its activities.
2017郑州航展
暨首届世界编队特技飞行锦标赛
2017 / 04 / 28
至
2017 / 05 / 03
举办地点：郑州市上街区通航机场

国际航联权威主办：全球最顶尖的12支特技飞行表演队，50余架特技飞机巅峰对决；100多年历史上的首个编队特技飞行世界冠军。

携手美国EAA顾问团队（美国EAA大会运营执行机构），打造亚洲最具规模通航盛会；室内展馆2万平方米，室外展馆10万平方米；参展企业将达到100家；参观飞机200多架，展示飞行飞机50余架。

亚洲首次夜间特技飞行表演，激光秀、烟火秀、露天音乐会……一场全新视觉盛宴。

开设汽车营地基地，各大房车厂厂商参与，近千辆房车自驾露营，开启狂欢之夜。

举办中原飞行大会，邀请国内外飞机主和飞行爱好者驾机来展示交流。

预计航展总人数将超过50万人次，电视观众数更将高达20亿人次。

“2017郑州航展”全球寻找冠名企业、赞助企业、合作企业、指定商品、指定服务商、指定供应商等合作伙伴！
“2017郑州航展”全球寻找通航公司、飞行制造商、零配件制造商、飞行学校、飞行俱乐部、私人飞机拥有者、航空爱好者等参与航展！

2017郑州航展
暨首届世界编队特技飞行锦标赛
2017 / 04 / 28
至
2017 / 05 / 03
举办地点：郑州市上街区通航机场
Meggitt to Supply HUMS for Chinese Helicopters

Two multi-engined Chinese helicopter types will be equipped with Meggitt Sensing Systems Health and Usage Monitoring Systems (HUMS) under a $48 million contract from Guangzhou Hangxin Avionics Co Ltd.

The equipment will be fitted to Avicopter AC313/SJ and AC352 helicopters.

The lifetime contract covers the design, development and delivery of on-board hardware - vibration sensors, data acquisition and processing electronics - and ground station software for detailed data analysis and after sales support.

HUMS helps flight crew and maintenance staff monitor the health of engines, cabin, drive train and rotor gearboxes to minimise cabin vibration and detect impending failures. The system promotes the safe running of aircraft. However, it plays a critical role in promoting effective operating economics, the key to which is predictable and therefore cost-effective maintenance.

The Avicopter AC313/SJ is the firefighter version of the three-engine, 13-ton class AC313, the heaviest helicopter developed in China. The AC352 is the Chinese version of the twin-engine, multi-purpose EC175 helicopter developed jointly by Avic (the Aviation Industry Corporation of China) and Airbus Helicopters. Deliveries start in 2019. Sales of up to 500 units of each platform have been forecast over the next 20 years.

Meggitt is at Booth H3D3.

Airbus to Start HUD Retrofit In China

The pilot’s view through a Rockwell Collins HGS head-up display.

The Civil Aviation Administration of China (CAAC) requiring that all commercial aircraft have head-up displays (HUD) by 2025 has led Airbus to launch a HUD retrofit program in China.

“Moreover, the timetable requires that at least half the Chinese fleet be fitted with HUDs by 2020,” says Airbus, adding that “to address this, the Airbus-managed retrofit program will enable operators to phase-in their HUD installations concurrently with other upgrades or scheduled maintenance checks.”

Airbus aircraft fitted with HUD “will benefit from lower minimum landing requirements, which in turn will allow increased traffic volumes to and from Chinese airports - as landings and take-offs become more efficient.”

Non-HUD equipped aircraft may have to wait for landing slots.

HUMS equipment was first introduced on fighter aircraft but is relatively new to commercial aviation. It comprises a transparent display screen in the pilot’s field of view that provides key information on trajectory, speed and altitude as well as an artificial horizon and other primary flight data.

Using the HUD increases pilots’ situational awareness, particularly during the approach and landing phases in bad weather and fog, says Airbus.

中航直升机公司的AC313/SJ直升机和AC352直升机将采用美捷特公司（展位H3D3）的健康与使用监控系统（HUMS）。该项目包括了对系统的开发和交付，其相关硬件包括机载振动传感器、数据采集和处理设备，以及用于详细数据分析和售后服务的地面站软件。

HUMS可帮助飞行机组和维修人员监控发动机、机舱、传动系统和齿轮箱的健康状况，从而最大限度地减少机舱振动并检测即将发生的故障。该系统可促进飞机的安全运行，在促进经济有效运行上起着至关重要的作用，其关键在于飞机的健康情况是可预测的。因此，该系统更具有成本效益的维护工作。

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相关系统的交付于2019年开始，预计在未来20年内，每个机型平台上最多可销售500台。AC313/SJ是中航工业直升机公司研制的三发13吨级AC313直升机的消防型。AC352是中航工业直升机公司与空客直升机联合研发的H175直升机的中国版。
第十七届
北京国际航空展
AVIATION EXPO/CHINA 2017 (17TH EXPO)
2017年9月19日-22日 国家会议中心 CNCC. BEIJING
WWW.BEIJINGAVIATION.COM
China Southern Orders Rolls-Royce Trent 700
罗罗获得南航遄达700发动机订单

Rolls-Royce has won a $700m order from China Southern for Trent 700 engines to power ten Airbus A330 aircraft. The order includes TotalCare long-term engine service support.

The order was signed yesterday at Zhuhai Airshow by Li Ming, Vice President of Maintenance and Engineering Department, China Southern, and Paul Hallam, Rolls-Royce, Vice President, Greater China – Civil Aerospace. The signing was witnessed by Li Tongbin, Executive Vice President, China Southern, and Paul Freestone, Rolls-Royce, Senior Vice President, Customers – Civil Aerospace.

The engine has won more than 70% of new A330 orders globally over the last four years and accounts for a similar percentage on future A330 deliveries. More than 1,600 Trent 700s are now in service or on firm order.

11月2日，罗罗公司宣布获得中国南方航空公司价值7亿美元的遄达700发动机订单，为空客10架空客A330-300飞机提供动力，该订单还包括TotalCare长期支持服务协议。南航机务工程部副总经理李明与罗罗大中华区民航客户副总裁海波（Paul Hallam）代表双方签署协议。

南航副总经理兼总工程师李彤彬表示：“罗罗公司现役发动机的性能给我们留下了深刻印象，希望新订单能够进一步加深我们的合作关系。罗罗公司为南航机队的壮大发挥着重要的支持作用。”

罗罗民航客户高级副总裁付波（Paul Freestone）表示：“我们很荣幸能够继续支持中南航的机队。我们期待南航的长途航线能够继续选择遄达发动机助力其机队。”

南航选择GEnx发动机助力波音787-9机队

China Southern has selected GE’s GEnx-1B engines to power its twelve newly purchased and eight leased Boeing 787-9 Dreamliner aircraft. The engine order is valued at $1.1 billion at list price. Delivery of these aircraft will begin in 2018.

The airline was the Asia launch customer for the GE90 engine on the Boeing 777 aircraft in the 1990s.

昨天，GE航空集团与中国南方航空公司珠海航展上签署谅解备忘录，为其12架新订购和8架租赁的波音787-9飞机选择GEnx-1B发动机。发动机订单目录价值达11亿美元，这批飞机将于2018年开始交付。

“南航致力于选择先进、可靠的航空发动机产品以给旅客提供环保、舒适的出行体验。自2013年我们首批787-8飞机投入使用以来，GEnx-1B发动机在我们的机队运营中一直表现非常出色，”南航股份公司副总经理兼总工程师李彤彬表示，“这款发动机为动力的787飞机给我们的业务增长做出了很大的支持。通过双方的深度合作，我们使用GE发动机的机队放行可靠度已经居于世界领先水平。”
China officially unveiled the stealthy Avic J-20 fighter on Nov. 1, flying two prototypes at the Zhuhai exhibition, with one of the twin-engine aircraft performing aerobatics for several minutes. The J-20 first flew in January 2011, but no details have yet been released.

Stealthy and Secret
歼20隐身飞机公开亮相

China officially unveiled the stealthy Avic J-20 fighter on Nov. 1, flying two prototypes at the Zhuhai exhibition, with one of the twin-engine aircraft performing aerobatics for several minutes. The J-20 first flew in January 2011, but no details have yet been released.
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