



中航工业蓝天，是我国从事各类仿真装备研制和生产的高新技术企业，经多年努力，积累了坚实的技术基础，产品与服务受到国内外用户的好评。公司拥有一支朝气蓬勃和爱岗敬业的专业团队，建立了完善的管理体系。

我坚信，蓝天公司在中国航空工业集团的领导下，在国内外客户的支持下。通过持续改进、自主创新和多方合作，一定能够不断发展壮大，为中国仿真行业的持续发展做出贡献。

AVIC Bluesky is a high and new technology enterprise of China engaged in the development and production of various types of simulation equipment. Through years of efforts, accumulating a solid technical basis, our products and services have received good remarks from users in China and abroad. We have an energetic professional team featuring dedication and devotion, and have built a perfect management system.

I firmly believe that under the leadership of AVIC Group, with the supports of Chinese and foreign users, through continuous improvement, autonomous innovation and multi-party cooperation, Bluesky will definitely continue to grow stronger, and make contributions to the sustained development of China's simulation industry.

A handwritten signature in black ink, consisting of stylized Chinese characters.

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## 蓝天愿景



以创新汇聚卓越，以品牌引领未来，成为中国仿真行业的持续领军者，全球航空仿真的知名企业。

## 蓝天使命



专注于仿真行业的持续创新，为客户提供性价比最优的系统解决方案，追求卓越，兴业报国。

## 蓝天核心价值观



责任高于一切 客户永远第一  
团队利益至上 结果决定一切

## Bluesky Vision

Building excellence through innovation, leading the future with brand, becoming a sustained leader in Chinese simulation industry and a well known enterprise in world aviation simulation industry.

## Bluesky Mission

Concentrate on sustained innovation of the simulation industry, provide customers with system solutions of the best performance/price ratio, seek excellence, develop the industry and serve the country.

## Bluesky Core Values

Responsibilities on top of all  
Team interests always prevail

Customers always first  
Results decide all

# 公司介绍

## Introduction

中航工业北京蓝天航空科技有限责任公司（以下简称“公司”）成立于 1975 年，是专注于航空仿真模拟器的高新技术企业，隶属中国航空工业集团公司，是国内飞行仿真领域，集研制开发、生产、服务为一体的专业化高科技企业，是国内唯一的模拟机产品取得民航高等级鉴定的企业，同时也是国内唯一一家提供系列航空仿真产品出口的企业。

Beijing Bluesky Aviation Technology Co., Ltd. was founded in 1975. It is a high and new technology enterprise specialized in aviation simulators. Under AVIC Group, Bluesky is a specialized hi-tech enterprise combining research and development, production and services. It is the only enterprise in China with simulator products certified for high levels by the civil aviation authorities. At the same time, it is also the only enterprise in China providing series of export products of aviation simulators.

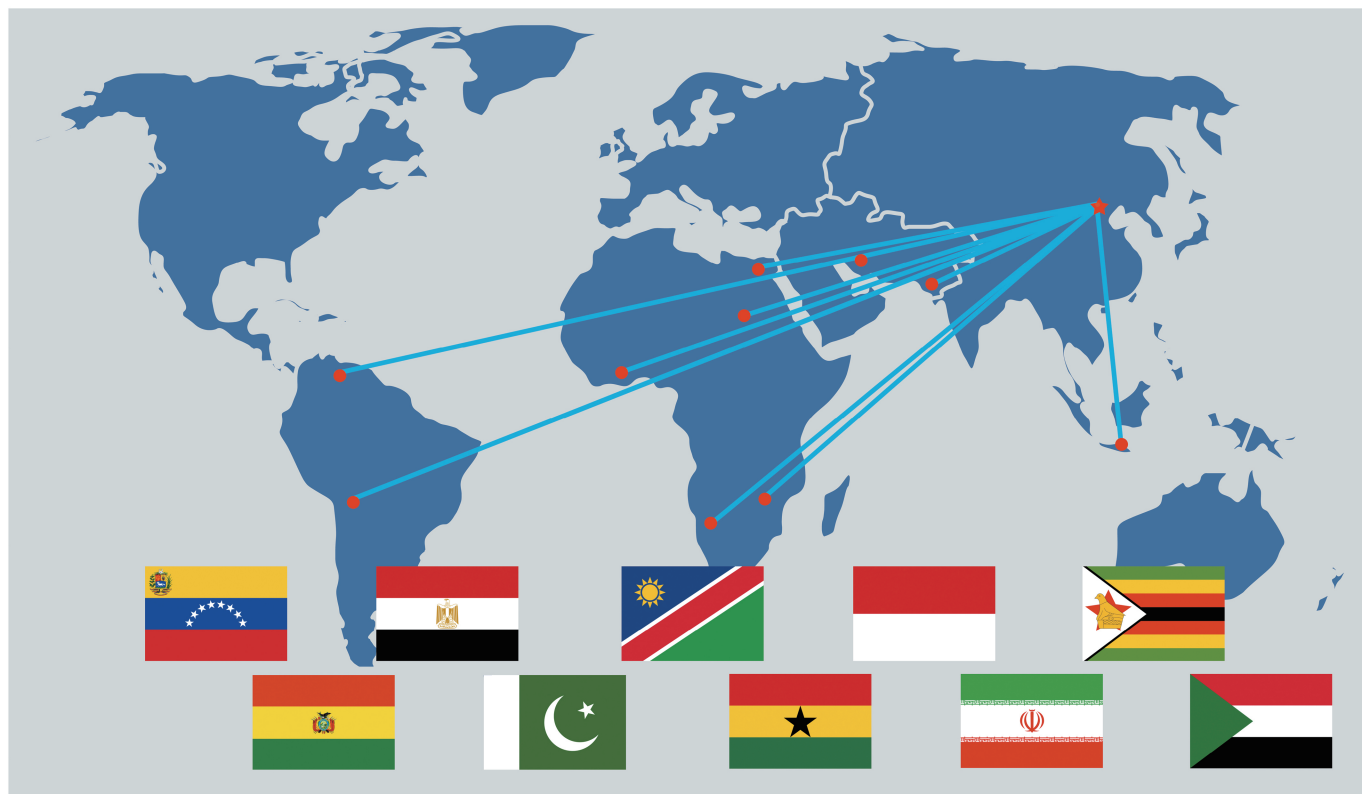


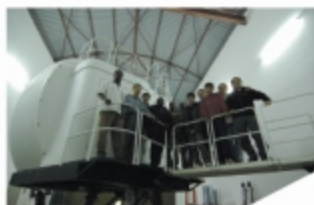
公司总部大楼  
Building of company headquarters



公司为国内最大的飞行模拟器供货商，除国内用户外，还出口到亚洲、非洲、美洲等多个国家。公司自成立以来研制生产交付了各种军用飞机、直升机、民用飞机、通航飞机等各类飞行训练模拟器、工程模拟器及模拟训练系统，同时还为非航空系统的客户提供了舰船模拟器、地震模拟器等多类高端产品，获得用户的一致好评。随着公司技术水平和制造能力的提高，公司业务正在向多元化、全球化拓展，致力于成为国际飞行模拟器及各类相关仿真产品的一流生产商。

公司着力为国内外客户提供完善的模拟飞行训练系统解决方案，交付性能优异、可靠的系列航空仿真产品，并支持全寿命周期内个性化技术服务。经过三十余年的发展，公司已经成为国内航空仿真行业的知名企业，多项成果填补了国内相关技术领域的多项空白，获得了国家及省部级多项科技进步奖。

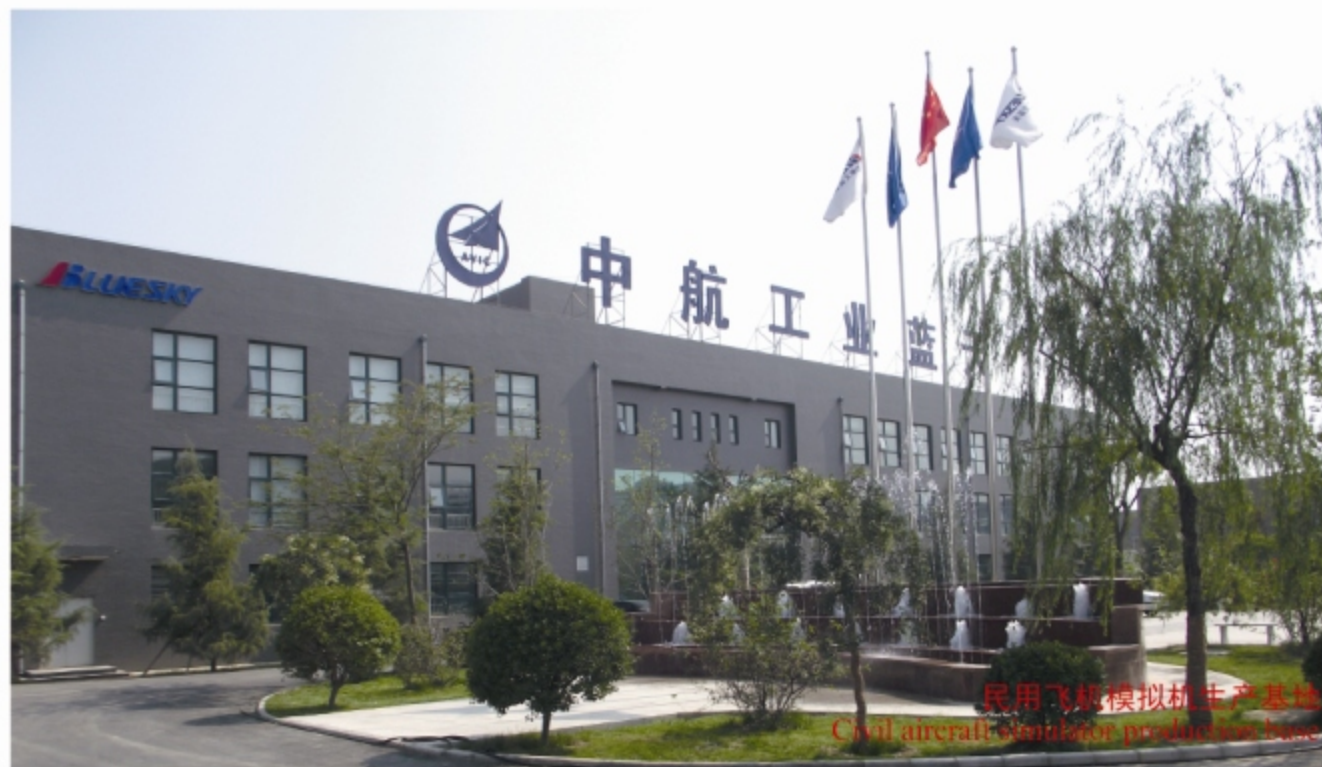




Bluesky is the largest flight simulator provider in China. Beside Chinese users, its products are also exported to a number of countries of Asia, Africa and America. Since its founding, Bluesky has developed, produced and delivered various types of flight training simulators, engineering simulators and simulation training systems for military aircraft, helicopters, civil aircraft and general aviation aircraft, and at the same time, it has provided several types of high end products of ship simulator and earthquake simulator for customers of non aviation systems, all winning good remarks from the users. With the improvement of the technical proficiency and manufacture capabilities of the company, the businesses of Bluesky are expanding towards diversification and globalization, aiming at becoming an international first class manufacturer of flight simulators and all related simulation products.

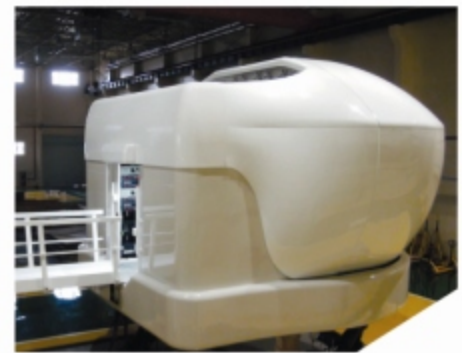
Bluesky strives to provide perfect flight simulation training system solutions for Chinese and foreign users, to deliver series aviation simulation products of excellent performance and high reliability, and support personalized technical services in the whole product life cycle. After over 30 years of development, Bluesky has become a well known enterprise in Chinese aviation simulation industry, with several achievements filling the blanks of the relative technical fields in China, winning several national, provincial and ministry level awards for technical advancement.

为了快速提高公司在高等级民用模拟机领域的科研生产能力，公司于 2007 年 6 月出资 5000 万元设立了西安蓝天仿真科技有限公司，主要从事民用系列航空仿真产品的研制、以及飞行模拟训练解决方案和产品全寿命周期技术服务。目前已研制完成的新舟 60 飞机全动模拟机、新舟 600 飞机全动模拟机、新舟 60 飞机维修 / 飞行训练器以及新舟 600 飞机飞行训练器、为中国商用飞机制造公司研制的国产新支线客机 ARJ21 飞行训练器和新一代国产大型客机 C919 高等级工程模拟机均取得了民航局方的高等级适航证，为中国新一代支线客机和大型民用客机的自主研发制造起到了积极地促进作用。





In order to fast improve the research and production capabilities of the company in the area of high level civil simulators, Bluesky invested 50 million yuan to set up Xi'an Simulation Science and Technology Company in June 2007, mainly engaged in the development of series civil aviation simulation products, flight simulation training solutions and technical services of whole product life cycle. Till now the development finished simulators like MA60 aircraft FFS, MA600 aircraft FFS, MA60 aircraft maintenance/flight FTD, MA600 aircraft FTD, the FTD developed for the new home-made regional airliner ARJ21 and the high level engineering simulator for the new generation home-made large passenger plane C919 for COMAC all obtained high level airworthiness certificates from the civil aviation authorities, playing an active promotion role for the autonomous development and manufacture of new generation regional airliner and large passenger plane in China.







为了更好地发展通航仿真产品及培训业务，公司于 2011 年 6 月出资 5000 万元设立德清蓝天航空科技有限公司，主要从事通航飞机全系列飞行模拟训练产品研发生产及通航专业飞行培训、航空科普培训业务。由政府授牌的国内首家航空科普培训中心已于 2011 年 9 月 26 日正式对外营业，并已研发出科普飞行训练模拟器和通航飞行训练器的系列产品，目前已陆续投入批量生产。

公司致力于打造“中航工业蓝天”的专业化品牌形象，加快建立适应未来发展的模拟器研发、生产新体系，提升核心竞争力，推动我国航空仿真行业的持续、快速发展。



In order to better develop general aviation simulation products and training businesses, Bluesky invested 50 million yuan to set up Deqing Bluesky Aviation Technology Co., Ltd. in June 2011, mainly engaged in the development and production of general aviation aircraft whole series flight simulation training products, general aviation professional flight training, and aviation popular science training business. The first aviation popular science training center entitled by the government in China has formally opened public service since September 26, 2011, and has developed series products of popular science flight training simulators and general aviation flight training devices, which have now been put into batch production gradually.

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## 公司资质



ISO9001:  
2008 质量管理体系认证证书  
Certificate issued by ISO9001:  
2008 Quality Management System



GJB9001A-2001  
武器装备质量体系认证证书  
Certificate issued by GJB9001A-2001  
Armament Quality System



装备承制单位注册证书  
Certificate registered  
as armament manufacturing unit





# 产品介绍

## Products Introduction

中航工业蓝天，以创新汇聚卓越，以品牌引领未来，其产品涉及军机仿真、民机仿真、直升机仿真、通用飞机仿真、非航空领域仿真，以及分系统和部件等六大板块，同时公司业务已拓展到飞行培训、科普教育和娱乐等领域。目前，公司产品除占领国内市场外，还出口到亚洲、美洲、非洲等多个国家和地区。

中航工业蓝天以中航工业集团及所属厂、所为强大的航空专业背景支持，并在多年的飞行模拟器研制、生产和服务过程中积累了大量的工程经验及全面专有的技术体系，形成了独特的技术优势。

AVIC Bluesky, building excellence through innovation, leading the future with brand, has its products for six major areas of military aircraft simulation, civil aircraft simulation, helicopter simulation, general aviation aircraft simulation, non aviation simulation, subsystems and components. At the same time, Bluesky businesses have expanded to the areas of flight training, popular science education and entertainment. Now, beside the Chinese market, Bluesky products have been exported to several countries and regions of Asia, America and Africa.

AVIC Bluesky enjoys the supports of the strong aviation professional background of AVIC Group and the factories and institutes under the group, and has accumulated large amounts of engineering experiences and all around technical expertise system during years of flight simulator development, production and service, forming unique technical advantages.



# 民机部分

## Civil Aircraft Area



北京蓝天公司多年来致力于国内民航客机仿真领域的研发及生产工作。近几年公司通过国际合作，借鉴国外的先进技术，结合自主研发软、硬件平台，生产了多台不同级别的飞行训练设备，均取得国内民航适航证并已投入使用。

作为国内行业中唯一取得 C 级模拟器适航证的生产厂家，蓝天公司以帮助用户从模拟器运营中获取最大利益为目的，向用户提供从 IPT、FTD 到 FFS 的全系列训练解决方案。



Beijing Bluesky Aviation Technology Co., Ltd. has devoted itself to the development and production in the area of Chinese passenger plane simulation for years. In recent years, through international cooperation and adopting foreign advanced technologies, and combining autonomous development of software and hardware platforms, Bluesky has produced a number of flight training equipments of different levels, which have all obtained Chinese civil aviation airworthiness certificates and been put into use.

As the only manufacturer with level C airworthiness certificate simulators in the industry in China, Bluesky takes its goal as assisting the users to get the maximum interests in simulator operation, providing users with full range of training solutions from IPT to FTD and FFS.





## IPT—Integrated Procedures Trainer

IPT 是飞行训练中一种非常经济有效的解决方案，通过由完全仿真的座舱构成的三维环境来对飞行员进行正常和非正常操作程序的训练。IPT 按实际的尺寸比例使用多个触摸屏来显示座舱环境。另外，IPT 可以通过重新配置来实现多种类型飞机的训练，通过增加飞行操纵硬件设备来提高飞行员训练的效果。通过增加配置，IPT 最高可达到 FFA 60 FTD 5 级训练器的标准。

An IPT is a kind of very economical and effective solution in flight training, providing the pilots with normal and abnormal operation procedure training through the three dimensional environment made up of fully simulated flight cabin. An IPT uses several touch screens to display the flight cabin environment in actual size scale. Besides, an IPT can realize multiple aircraft type training through reconfiguration, and improve pilot training effect by adding flight control hardware equipment. By enhancing the configuration, an IPT can reach as high as the FFA 60 FTD level 5 standard.

### 典型实例

Typical real examples



 **ARJ21 综合程序训练器**  
ARJ21 IPT

## FTD——Flight Training Device

FTD 是一种经济性较高且具有高逼真度的飞行训练设备。FTD 中通过集成真实的座舱设备或仿真件来为飞行员模拟驾驶舱操作环境，在 FTD 上可以完成 40% 以上的初始培训课程，从而节省 FFS 上宝贵的培训时间。

An FTD is a kind of flight training equipment relatively economical and with high fidelity. An FTD combines real aircraft flight cabin equipment and simulated parts to provide the pilots with the simulated flight cabin operation environment. Over 40% of the primary training courses can be carried out on the FTD, thus saving the valuable training time in the FFS.

### 典型实例

Typical real examples



MA600 飞行训练器

MA600 FTD



**ARJ21-700 飞行训练 / 维护训练器**

ARJ21-700 FTD



## FFS——Full Flight Simulator

FFS 是目前技术水平最高的飞行训练设备，其具有极高的逼真度，完全真实的座舱环境，配合运动、视景、操纵负荷、音响等系统，为飞行员提供了完全真实的飞行感受。目前为止 FFS 分为 A、B、C、D 四个等级。最高等级的 D 级模拟机在转机型培训中可完全替代实际飞行。

The FFS is of the highest current technical level flight training equipment, with extremely high fidelity, totally realistic flight cabin environment, associated with the motion, visual, control loading, and sound systems, providing the pilots with totally realistic flight feeling. Currently there are four levels for FFSs, A, B, C and D. The top level D simulator can fully replace actual flight in transition training.



### 典型实例

Typical real examples



MA60 飞行模拟机

MA60 FFS





**MA600 飞行模拟机**  
MA600 FFS

## 新型新研飞机综合工程模拟机

New type and new development aircraft comprehensive engineering simulator

### C919 工程模拟机

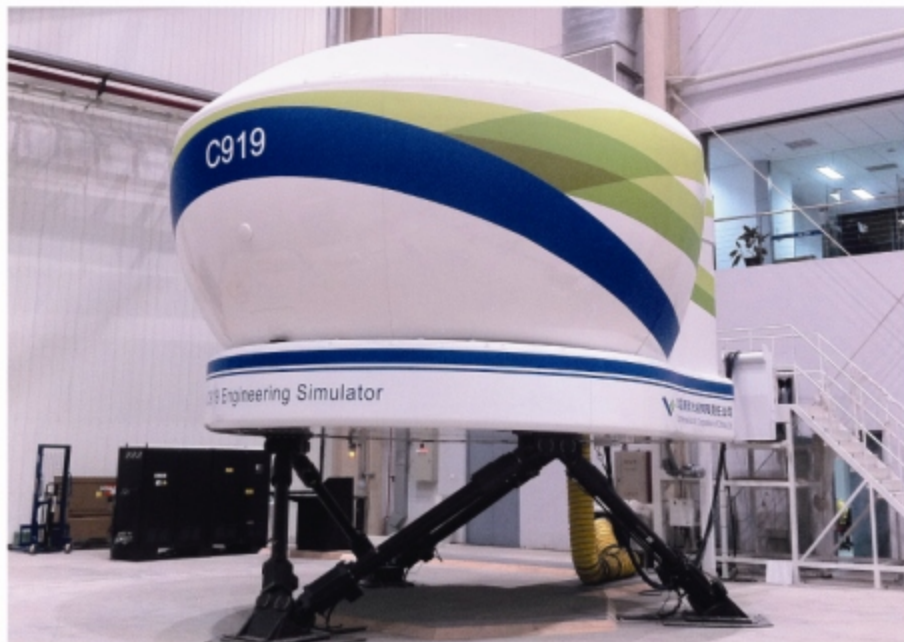
C919 飞机工程模拟机是中航工业蓝天与 Collins 合作为中国商飞上海飞机设计研究院研制的人在回路的飞机半实物仿真平台，采用世界领先的数字式电动操纵负荷系统、六自由度电动运动平台和拥有全球数据库的计算机图像生成视景系统 EP8000，为 C919 飞机飞行控制律的设计、验证与优化以及飞机操纵性、稳定性和飞行品质的分析与评估提供逼真的试验环境，C919 飞机工程模拟机还将支持首飞飞行机组人员培训以及相关适航符合性验证试验。

### C919 Aircraft Engineering Simulator

The C919 aircraft engineering simulator is a man-in-loop aircraft semi-physical simulation platform jointly developed by AVIC Bluesky and Rockwell Collins STS for COMAC Shanghai Aircraft Design And Research Institute. It uses world leading digital electric control loading system, 6DOF electric motion system and EP8000 IG with world database, providing a realistic experimental environment for C919 aircraft flight control rule design, verification and optimization, as well as the analysis and assessment of the aircraft control performance, stability and flight performance. The C919 aircraft engineering simulator will also support the first flight crew training and the relative airworthiness conformity verification test.

## 典型实例

Typical real examples



**C919 工程模拟机**  
C919 aircraft engineering simulator



**C919 工程模拟机工程师界面**

C919 engineering simulator's engineers interface



## 各层次训练设备的技术组成

Technical compositions of training equipment of various levels

|                                     | IPT | FTD | FFS |
|-------------------------------------|-----|-----|-----|
| 课件制作 Course ware creation           | ★   | ☆   | ☆   |
| 课程管理 Course management              | ★   | ☆   | ☆   |
| 系统原理图 System principle sketch       | ★   | ☆   | ☆   |
| 电子手册 Electronic manual              | ★   | ☆   | ☆   |
| 虚拟飞机 Virtual aircraft               | ☆   | ☆   | ☆   |
| 虚拟座舱 Virtual flight cabin           | ★   |     |     |
| 飞行仿真 Flight simulation              | ★   | ★   | ★   |
| 环境仿真 Environment simulation         | ★   | ★   | ★   |
| 航电系统仿真 Avionics system simulation   | ★   | ★   | ★   |
| 教员台 IOS                             | ★   | ★   | ★   |
| 简易视景系统 Simplified visual system     | ☆   | ☆   |     |
| 高逼真视景系统 High fidelity visual system |     |     | ★   |
| 座舱设备 Flight cabin equipment         | ★   | ★   | ★   |
| 机械结构 Mechanical structure           | ★   | ★   | ★   |
| 运动系统 Motion system                  |     |     | ★   |
| 声音系统 Sound system                   | ★   | ★   | ★   |
| 操纵负荷系统 Control loading system       | ☆   | ★   | ★   |
| 供电管理 Power supply management        | ☆   | ★   | ★   |

注：☆为可选配置，★ 为必选配置。

Note: ☆ for options, ★ for compulsory configuration.

# 军机部分

## Military Aircraft Area



公司成立伊始就致力于军用航空领域模拟训练设备的研制和生产，经过不懈努力，目前公司已形成了各级别单机模拟装备和多机种、多武器平台组网的战术级仿真训练装备的完整产品序列。

所涉主要机型有：歼击机、歼击轰炸机、高级教练机、军用运输机及空军航空兵战术对抗系统、陆军航空兵战术训练系统等，可为用户提供完善的训练装备，以全面提高航空武器装备的训练水平。

As one of the designated weaponry equipment manufacturers in China, AVIC Bluesky has been always following the core ideology of “Serve Aviation and Serve the Country, Strengthen the Army and Enrich the People”, and devoted itself to the development and production of military aviation simulation training equipment ever since its founding. Through restless efforts and struggles by Bluesky people, the company has formed complete product lines of single simulation equipment of different levels and tactical level simulation training equipment with networking between multiple aircraft types and multiple weapon platforms.

The main aircraft types involved are: fighters, fighter-bombers, advanced trainers, military transport aircraft, as well as air force tactical confrontation system and army aviation tactical training system, etc, able to provide the users with perfect training equipment, and improve the training levels of aviation armament equipment overall.

# 固定翼军机模拟器

## 基本型训练模拟器

模拟器可以完成训练大纲要求的训练科目，并能进行武器使用和基本战术训练及特殊情况处置训练。

## 多功能训练模拟器

模拟器可以完成训练大纲要求的训练科目，并能进行武器使用和基本战术训练及特殊情况处置训练以外，还可进行战术应用飞行训练。

## 专项训练模拟器

模拟飞机的某种特定系统，为受训人员提供专项训练的模拟器，主要用于受训人员进行复杂度较高、技巧性强的课目训练。

## Fixed wing military aircraft simulators

### Basis type training simulators

These simulators can complete the training items required by the training program, and can also do weapon using and basic tactical training and special situation handling training.

### Multiple-function training simulators

These simulators can complete the training items required by the training program, and can also do weapon using and basic tactical training and special situation handling training. Besides, they can also do tactical application flight training.

### Special training simulators

These are simulators which simulate some special systems of the aircraft, providing the trainees with special items of training, mainly used for trainees to carry out training items of relatively higher complexity with relatively higher skills.



## 某型固定翼机多功能飞行模拟器

Some type fixed-wing multiple-function flight simulator



## 典型实例

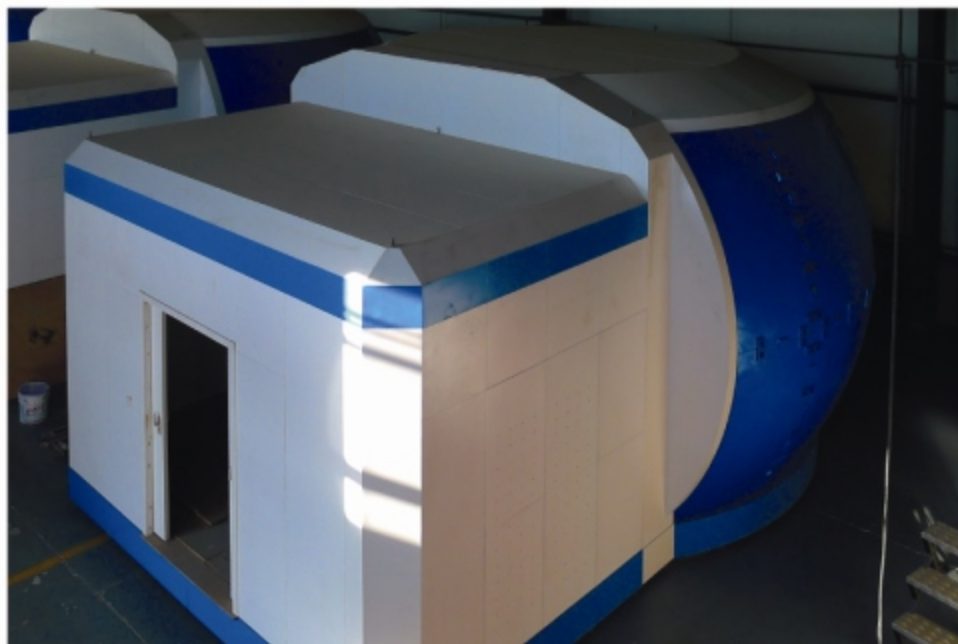
Typical real examples



## K-8P 多功能飞行训练模拟器

K-8P series multiple-function flight training simulator





## **某型固定翼机多功能飞行模拟器**

Some type fixed-wing multiple-function flight simulator



**K-8Z 多功能飞行训练模拟器**

K-8Z series multiple-function flight training simulator



## 旋翼军机模拟器

由于直升机与固定翼飞机在飞行方式、驾驶员操纵方式和所执行的任务存在较大的不同，因此直升机飞行模拟器的研制有着特殊的要求。根据任务的需要，直升机经常需要贴地飞行并在十分靠近地面的高度上作剧烈的机动，因此，直升机飞行模拟器需要为驾驶员提供大的模拟视场、详细的地面景象和逼真的动态性能。

随着部队进一步实现作战现代化转型以及直升机装备与技术的发展，军用直升机在未来战争中将发挥着越来越重要的作用。而直升机飞行模拟训练也随之成为各军种提升作战能力、创新作战方法、保障飞行安全和培养飞行学员的重要手段。

针对军用、民用市场的需求，蓝天公司已完成多种型号的直升机飞行模拟器，并已交付部队使用。同时还在研发民用直升机和反潜、着舰等特型直升机模拟器。

## Rotor wing military aircraft simulators

As helicopters are quite different from fixed wing aircraft in terms of flying mode, pilot control mode and missions to carry out, there are special requirements in helicopter flight simulator development. According to the mission requirements, helicopters often fly close to the ground and make extreme maneuvers at altitudes very close to the ground. So, helicopter flight simulators need to provide the pilots with large simulation field-of-views, detailed ground views and realistic dynamic performances.

As the army further carries out warfare modernization transformation and with the helicopter equipment and technology development, military helicopters will play more and more important roles in future wars. Then helicopter flight simulation training will thus also become important means for different military forces to raise combat capabilities, innovate warfare methodology, guarantee flight safety and foster pilot students.

Targeting military and civilian market demands, Bluesky has completed several types of helicopter flight simulators and has delivered them to the military troops for operation. At the same time, it is also developing helicopter simulators for civil helicopters, and special type helicopter simulators for anti-submarine and ship landing applications, etc.

## 典型实例

Typical real examples

### 某型武装直升机全动飞行模拟器

Some type gunship motion flight simulator



### 直 9 系列全动飞行模拟器

Z-9 series motion flight simulator





**MMI17-QR/D 全动飞行模拟器**

MMI17-QR/D motion flight simulator



**直 9 系列飞行模拟器**

Z-9 series flight simulator



**某型武装直升机飞行模拟器**

Some type gunship flight simulator



# 战术训练系统

模拟训练装备由单机驾驶术训练向多机战术训练升级是全世界作战部队模拟训练平台的必然趋势。战术训练系统，在完成飞行员飞行技术训练的基础上，兼顾指挥员的模拟训练，提供空地一体化联合训练平台，为实施战术训练及战法研究提供手段支撑，为提高整体作战能力服务。

战术训练系统，采用多个单机战术仿真终端互联，并涵盖战场环境仿真、蓝军对手模拟、计算机兵力生成、地面指挥控制、战术科目设置、空空 / 空地 / 地空武器设置与仿真、作战效果评估等战术应用核心功能，是一个通用的、适用于多机种战术对抗训练的仿真应用平台。

目前，适用于不同军兵种的两型战术对抗系统已经完成研制，后续将全面装备部队。

## Tactical training system

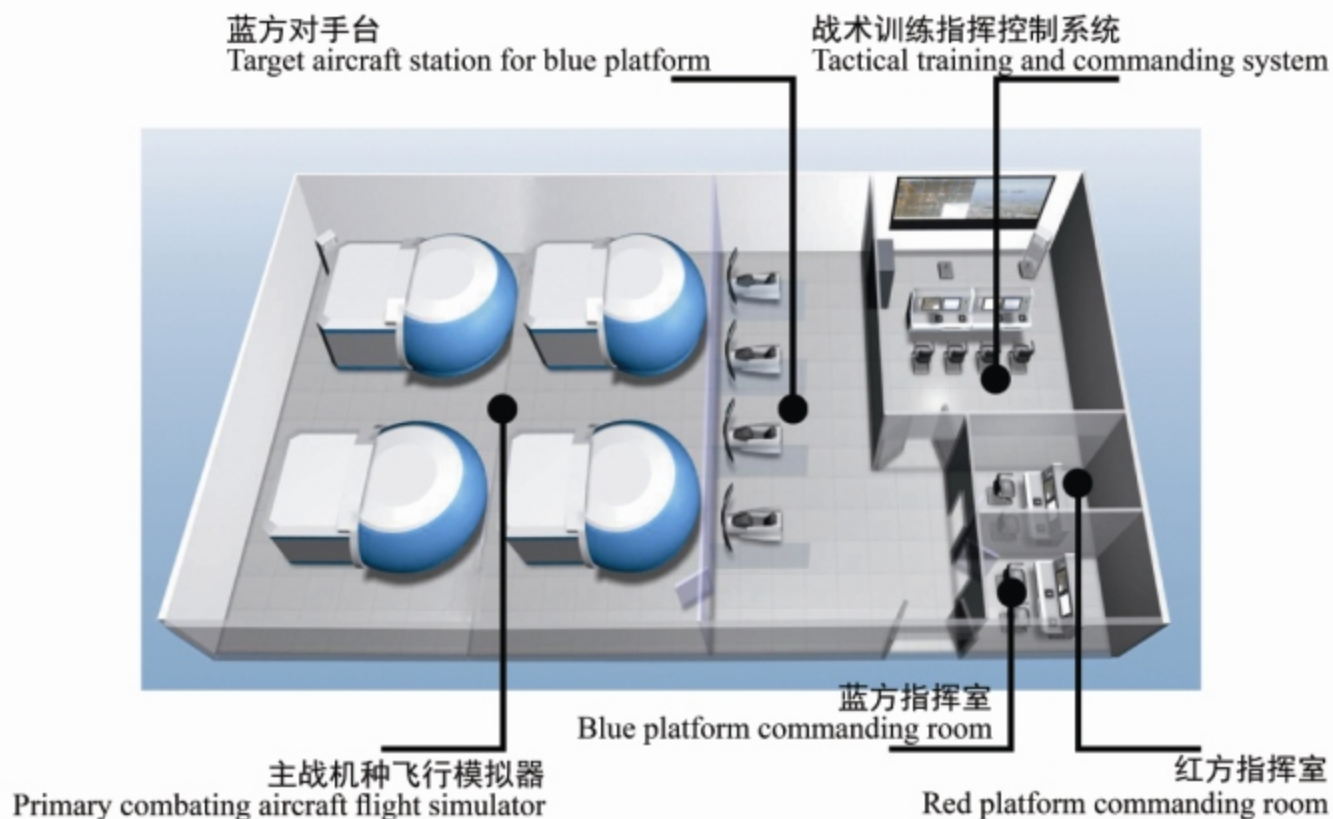
The upgrading of simulation training equipment from single-unit piloting skill training to multiple-unit tactical training is a certain trend of the world combat troops simulation training platforms. The tactical training system, on the basis of completing pilot flying skill training, takes into consideration of commanders simulation training, providing an air-ground integrated combined training platform, offering supporting means for carrying out tactical training and warfare methodology research, serving the upgrading of the whole combat capabilities.

The tactical training system, using several single-unit tactical simulation terminals linked through network, and covering the tactical application core functions such as the battle field environment simulation, blue force opponent simulation, computer-generated forces, ground commanding, tactical items setting, air-air/air-ground/ground-air weapons setting and simulation, and combat effect evaluation, is a generic simulation application platform suitable for multiple-aircraft-type tactical confrontation training.

Now, Bluesky has completed the development of two types of tactical confrontation systems suitable for different military forces, which will be equipped to the military troops overall afterwards.

## 空军战术对抗模拟训练系统

air force tactical confrontation simulation training system



## 战术训练指挥控制系统

Tactical training and commanding system



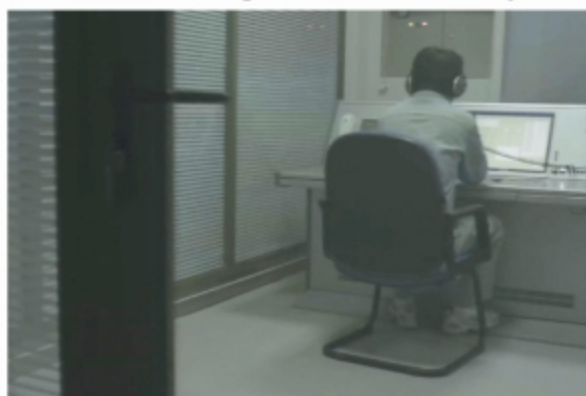
### 蓝方指挥室

Blue platform commanding room



### 红方指挥室

Red platform commanding room





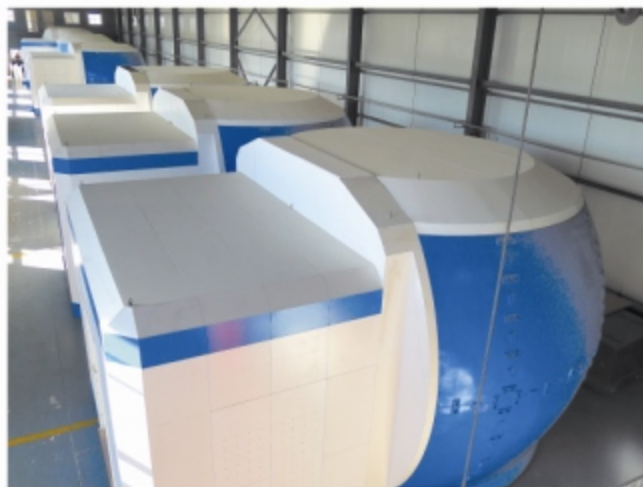
## 蓝方对手台

Target aircraft station for blue platform



## 主战机种飞行模拟器

Primary combating aircraft flight simulator





# 通航部分

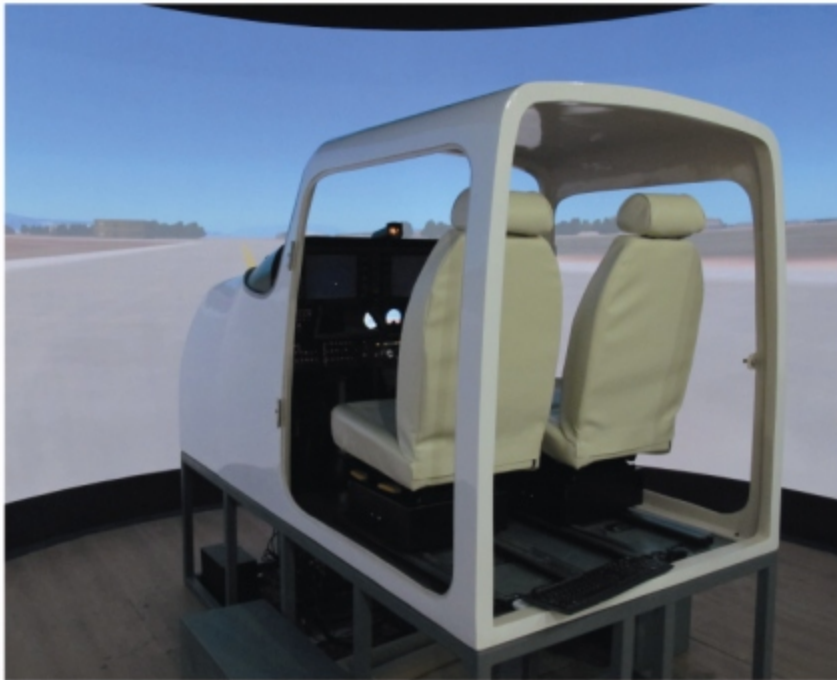
## General Aviation Area

### 通航模拟器

随着我国国家低空市场的升级，通用航空市场将无比繁荣，通航飞机模拟器市场也无比广阔。公司已对塞斯纳 172R 和西锐 SR-20 通用飞机的模拟训练器进行先期研制，现已推向市场，后期将逐步完善对通航飞机飞行模拟器的产业链建设。

### General aviation simulators

With the upgrading of the low airspace market of China, the general aviation market will be unrivaled and prosperous, and the general aviation aircraft simulator market will also be unrivaled and broad. Bluesky has carried out early development on Cessna 172R and Cirrus SR-20 general aviation aircraft simulation training devices, and has launched the products to the market. To follow up, it will gradually improve the industry chain construction of the general aviation aircraft flight simulators.



**塞斯纳 172R 训练器**  
Cessna 172R training device



# 非航空部分

## Non-Aviation Area



我们的仿真技术在非航空领域和大众娱乐方面同样有着广泛的应用，可以针对不同的用户需求提供多样化的解决方案。正在交付的某型军工船工程模拟器和地震虚拟仿真运动平台系统，都以其高端的品质备受行业赞誉。

Our simulation technologies also have broad applications in non-aviation areas and public entertainment aspects, able to offer diversified solutions against different user requirements. A military ship engineering simulator and an earthquake virtual simulation motion platform system under delivery are all winning good industrial remarks with their high-end qualities.

## 典型实例

Typical real examples

## 某舰船全动模拟机

Some type ship motion simulator





## 轨道车辆驾驶器

Railway vehicle driving simulator



## 4D 影院娱乐设备

4D theater entertainment equipment



## 地震虚拟仿真运动平台

Earthquake virtual simulation motion platform

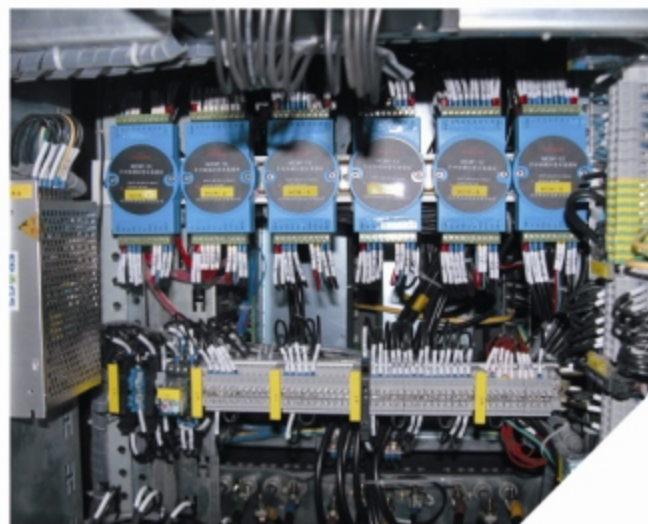
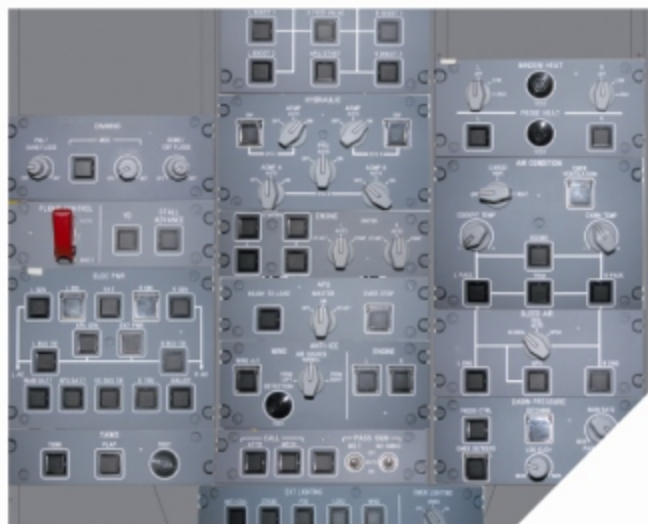


## 专业技术能力

航空仿真产品用户定制性强，部组件配置灵活，可能的技术路线数量、系统架构的复杂性、要求的知识技能以及材料的多样性远远超过了普通的大规模制造产品。以全动飞行模拟机为例，产品通常划分为 13 个分系统、66 个独立类别的软硬件二级子系统、388 个三级部组件，是典型的复杂产品系统。

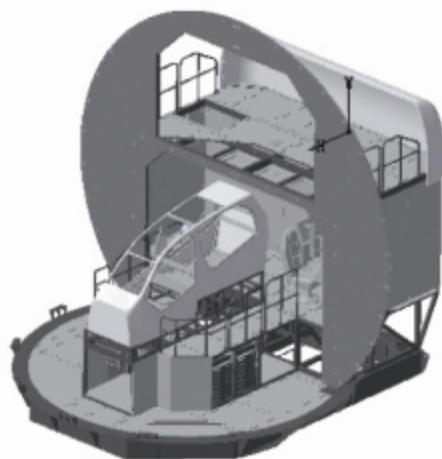
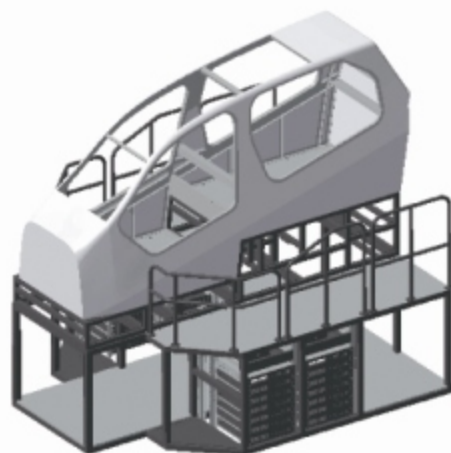
## Professional technical capabilities

The aviation simulation products have strong customized features, with flexible parts and components configurations. The number of possible technical approaches, the complexity of the system structures, and the verification of the required knowledge and skills as well as materials are far beyond those of the common large scale manufactured products. Take the FFS as an example, a product is usually divided into 13 subsystems, 66 secondary subsystems of independent categories of software and hardware, and 388 tertiary components, being a typical complex product system.



## 数模结构

Digital model structure





中航工业蓝天凭借雄厚的技术知识、丰富的实践经验，逐步形成了以总体技术为牵引、通用部件建立足够技术宽度与深度的跟踪、核心系统基于自主知识产权平台开发的技术体系。建立了基础坚实的航空仿真产品技术能力，主要包括：

- ✎ 复杂产品系统总体技术
- ✎ 航空仿真建模技术
- ✎ 仿真软件框架及平台技术
- ✎ 图形图像生成及数据库建立技术
- ✎ 模拟机结构设计技术
- ✎ 座舱设备仿真技术
- ✎ 系统接口平台技术
- ✎ 声音仿真技术

AVIC Bluesky with its strong technical knowledge and rich practical experiences has gradually formed its technical system led by overall technology, with generic components built with tracking of adequate technical width and depth, and with the core system based on autonomous IP platform development. It has built the aviation simulation product technical capabilities with sound foundations, mainly including:

- ✎ Complex product system overall technology
- ✎ Aviation simulation modeling technology
- ✎ Simulation software framework and platform technology
- ✎ Graphic and image generation and database construction technology
- ✎ Simulator structure design technology
- ✎ Flight cabin equipment simulation technology
- ✎ System interface platform technology
- ✎ Sound simulation technology

## 科普教育

中航工业蓝天，始终未能忘记自己对社会 的责任，我们在德清建设的飞行模拟器培训基地已经完成。通过启蒙教育、理论培训、模拟器亲身体 验等科普教育方式，进行全民航空技术和飞行知识的普及，为国家航空技术的发展奠定基础。

### Popular science education

AVIC Bluesky always remembers its responsibility to the society. We have finished the construction of a flight simulator training base in Deqing of Zhejiang Province. Through the popular science education methods of enlightening education, theory training, and simulator hands-on experiences, we carry out whole population aviation technology and flight knowledge popularization, laying foundation for the development of national aviation technology development.

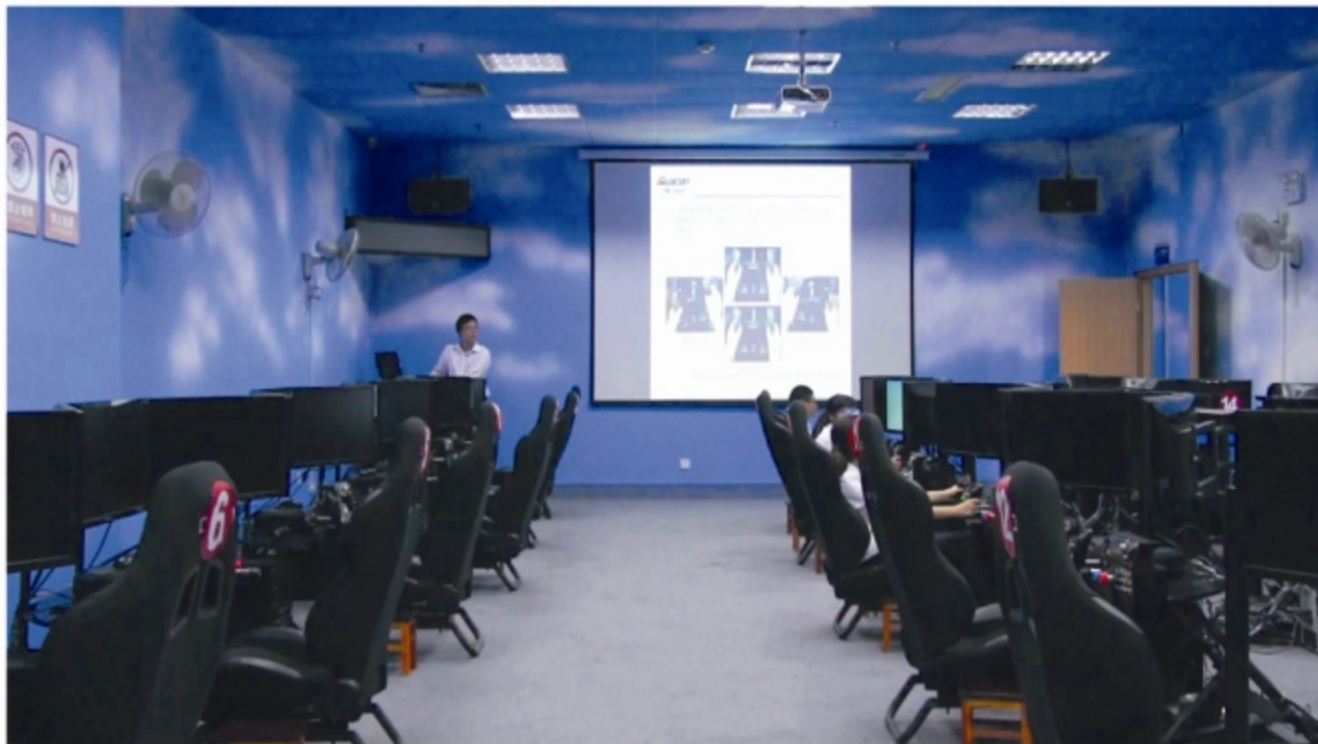


# 飞行培训

公司不断进行业务拓展与完善，现正在进入模拟器飞行培训领域，形成研发、生产、服务一条龙的良性循环。

## Flight training

Bluesky continuously expands and improves its businesses, now has entered the simulator flight training field, forming a chain of development, production and services of virtuous cycle.





## 娱乐



我公司研制的 S&S-1 双座飞行游乐机、S&S-2 格斗飞行游乐机、S&S-3 体验飞行游乐机可以为使用者提供逼真的飞行驾驶环境、体验环境和作战环境，获得基本的飞行驾驶体验，并支持联网操作，在激烈对抗过程中竞技者们可以尽情的施展各自的绝技，挑战彼此的潜能，体验最大的刺激和满足。其中的 S&S-3 体验飞行游乐机尤其适用于低龄儿童群体。

可以根据用户需要更改视景系统、座舱设备配置、系统配置等。



## Entertainment

The S&S-1 two-seat flight entertainment simulator, S&S-2 combat flight entertainment simulator, and S&S-3 experience flight entertainment simulator developed by Bluesky can provide the users with realistic flight operation environment, experience environment and combat environment, who can obtain basic flight operation experience. The simulators can also be networked and operated. In the fierce competition process, the competitors can fully demonstrate their extreme skills, challenge the potentials of each other, and experience the maximum stimulation and satisfaction. Among the simulators, the S&S-3 experience flight entertainment simulator is especially suitable for little kids.

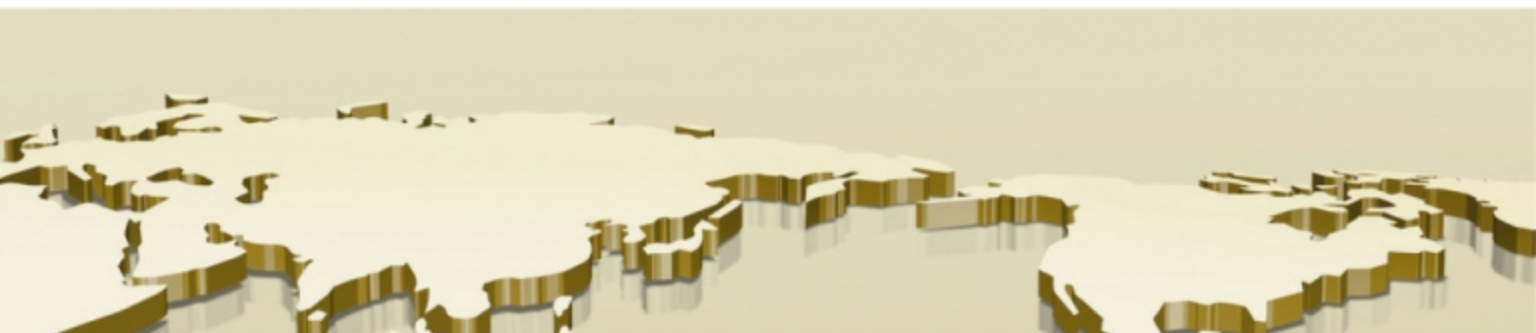


The simulators can be modified in the visual system, flight cabin equipment configuration and system configurations, etc, according user requirements.



# 产品服务

## Product service



北京蓝天航空科技有限责任公司作为国内生产飞行模拟机的专业公司,将充分发挥本土优势,为用户提供优良、快捷、满意的技术服务。客户服务部是北京蓝天公司的常设机构,是北京蓝天公司售后服务工作的具体执行和组织协调单位,负责从市场开发到项目交付期间的技术服务和产品全寿命期的技术支持。客户服务部是一支具备飞行模拟机设计、集成、调试和维护的经验丰富的专业技术队伍,在其业务范围内,可以调动北京蓝天公司内部资源和协作单位的资源,为用户提供产品质保期和产品全寿命周期维修服务。

Beijing Bluesky Aviation Technology Co., Ltd. as a professional Chinese flight simulator manufacturer will give full play to its advantages as a local enterprise, to provide the users with excellent, prompt and satisfactory technical services. The Customer Center is a permanent organization of Bluesky, which actually implement, organize and coordinate the after-sales service work of Bluesky. It is responsible for the technical services in the period from market development to project delivery and the technical support in the whole product life cycle. The Customer Center has a professional technical team of rich experiences in flight simulator design, integration, tuning and maintenance. Within its business scope, the Customer Center can mobilize the internal resources of Bluesky and the resources of its cooperative organizations to provide the users with maintenance services in the warranty period and whole product life cycle.

## 技术服务的整体内容包括：

- ✎ 提供飞行模拟机研制的技术咨询、总体解决方案；
- ✎ 用户机房设施建设过程中的技术解决方案；
- ✎ 模拟机安装前的场地筹划、协调、产品运输、产品安装和恢复；
- ✎ 用户地的产品交付、交付后的技术支持、维护与维修；
- ✎ 用户地的产品等级鉴定支持；
- ✎ 飞行模拟机的技术培训、维护培训和教员培训；
- ✎ 产品备件、通用测试设备、专用工具、专用设备的信息咨询、推荐和采购；
- ✎ 产品全寿命周期的技术服务。

## The overall content of technical services include:

- ✎ Providing technical consultation and overall solutions regarding flight simulator development;
- ✎ Technical solutions in the process of user facility construction;
- ✎ Site planning and coordination before simulator installation, product transportation, installation and recovery;
- ✎ User site product delivery, technical support and maintenance after product delivery;
- ✎ User site product level certification support;
- ✎ Flight simulator technical training, maintenance training and instructor training;
- ✎ Information consultation, recommendation and purchase of product spare parts, generic testing equipment, special tools, and special equipment;
- ✎ Technical services in whole product life cycle.

## 售前技术支持和建议

用户在论证、筹建模拟机训练基地阶段，往往要进行大量的市场调查；得到模拟机生产供应商的帮助是不可或缺的，在未签订正式模拟机制造合同前，北京蓝天通常可为用户提供如下帮助：

- ✎ 提供模拟机筹建中应该特别注意的事项和关注的重要事项；
- ✎ 提供模拟机机房的必要设施建议和水、电、气需求量建议；
- ✎ 提供模拟机工程师队伍配置、维护费用和备件储备最低限的建议；
- ✎ 提供用户用于模拟机维护、修理、运转等基础设施配置建议。

## Technical support and suggestions before sales

In the period of user demonstration and construction preparation of a simulator training base, usually large amounts of market survey are needed. It is necessary to get the assistance from the simulator manufacturer and supplier. Before signing a formal simulator manufacture contract, Bluesky can provide the following assistances to the users:

- ✎ Providing the items for special attention and notice during simulator preparation and construction;
- ✎ Providing suggestions on necessary facilities of the simulator building, and suggestions on the requirements of water, electricity and gas;
- ✎ Providing suggestions on the makeup of the simulator engineers team, and the minimum limits of maintenance costs and spares inventory;
- ✎ Providing suggestions on the infrastructure configurations by the users for the simulator maintenance, repair and operation.



## 合同签订后的支持

模拟机合同签订后，用户会很快进入到机房设施基建阶段。这时北京蓝天客户服务部会派专人和用户保持联系，对用户机房建设提供一系列技术支持，配合建筑设计承包商搞好如下设计，包括：

- ✎ 机房水、电、气的配置；机房模拟机用电的配电设计；空调及环控设施的设计；
- ✎ 提供模拟机维护工程师队伍的资质标准和选择标准的建议；
- ✎ 模拟机机房消防、监控设施、安全通道的设计；
- ✎ 模拟机机房照明、地板、电缆通道、维修电源插座的设计；
- ✎ 模拟机机房平面图的评审，机房、维修间、备件库房、资料室、阅览室、教室、讲评室、休息室的配置设计；
- ✎ 模拟机安装基座的设计和施工；安装用的吊装、起重设施的配置和设计。

## Supports after contract signed

When a simulator contract is signed, the user will soon enter the phase of facility construction. At that time, Bluesky Customer Center will send dedicated people to keep contact with the user, providing a series of technical supports regarding user facility construction, and working together with the construction design contractor to work out the following designs, including:

- ✎ Configuration of water, electricity and gas of the building; design of simulator electricity distribution of the building; and design of the air conditioner and environment control facility;
- ✎ Providing suggestions on the qualification standard and selection standard on the simulator maintenance engineers team;
- ✎ Design of the simulator building fire fighting, monitoring facilities and safety exits;
- ✎ Design of the simulator building lighting, floor, cable channel, and maintenance power supply sockets;
- ✎ Review of the simulator building floor map, and design of the configurations of the building, maintenance room, spares warehouse, library, reading room, class room, debriefing room, and rest room;
- ✎ Design and construction of the simulator installation base; configuration and design of the installation crane and lifting facilities.



## 售后服务

蓝天产品售后支持的目的是帮助用户从模拟器运营中获取最大利益，为所有产品提供售后支持，并提供产品全寿命周期内的技术保障。产品售后支持包括下列项目：

### 客户服务

客户服务的核心是客户经理。客户经理在项目经理的协助下，组织客户服务工程师和相关技术人员展开客户服务工作，并监控模拟器的相关需求。

### 备件供应

蓝天将给客户提交一份备件清单及模拟器维护操作所推荐的组件。

推荐使用的备件清单应该保证备件利用率与模拟器运营目标相一致。部件的选择和数量由多年的数据统计及科学的分析计算决定。

### 技术支持

设备支持根据客户的维护思想，对客户的模拟器进行维护分析。以确定模拟器维护过程中所需的通用工具和测试设备，并向客户提供电子维护手册。

### 技术培训

技术培训包括操作和维护培训。蓝天客户中心为客户维护人员在生产现场或用户地现场提供操作和维护的培训课程。

课程结束后，维护人员将具有模拟机操作及板级替换的模拟机操作、维护和故障判断与排除能力。

### 视情维护

蓝天客户中心将定期向客户了解模拟器的使用情况，根据模拟器的使用频率和强度，参考模拟器的整体状态，组织客户服务工程师和相关技术人员对模拟器进行必要的维护，保障模拟器的良好运行。

## After-sale services

The purpose of Bluesky supports after product sales is to help the user to obtain the maximum interests from the simulator operation. After-sales supports are provided to all productsk, and providing whole life-span technical support for the product. Product after-sales supports include the following items:

### Customer service

The core of customer service is the customer manager. Under the assistance of the project manager, the customer manager organizes customer service engineers and relative technical staff to carry out customer service work, and monitors the simulator related requirements.

### Spares supply

Bluesky will provide the customer with a list of spare parts (including simulated instruments/panels) and recommended components for simulator maintenance operation.

### Technical support

In accordance with user's maintenance idea, a maintenance analysis will be made on the user's simulator, so as to determine the general tools and testing equipment needed in the simulator maintenance processk, and providing softcopy of maintenance manual for customer.

### Technical training

Including operation and maintenance training. Bluesky Customer Center will provide the customer maintenance staff with operation and maintenance training courses at the production site or user site.

### Maintenance based on situations

Bluesky after-sale service center will know the simulator operation situation periodically from customer, based on simulator's operation frequency and strength and referenced to simulator whole state, necessary maintenance on simulator will be carried out by organizing services engineers from after-sale service center and relevant technical personnel in order to ensure simulator in good condition.