



# Face New Challenges Under New Situation

**Center of Aviation Safety Technology, CAAC**  
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**New Situation of China Civil Aviation**

**New Challenges and Safety Goals**

**Safety Research in CAST**



# **New Situation of China Civil Aviation**

## **Fast Growth of China Civil Aviation**

- **One of the fastest growing industries in China**
- **Growth rate in the past 20+ years >18%**
- **Growth rate in 2004**
- **Rank in the world**
- **Playing an important role in the world**



# New Situation of China Civil Aviation

## Development Strategy of China Civil Aviation

**Develop** ----continuously, rapidly,  
harmoniously and healthily

**Target** : to build a powerful civil aviation  
country



# New Situation of China Civil Aviation

## Status of China Aviation Safety

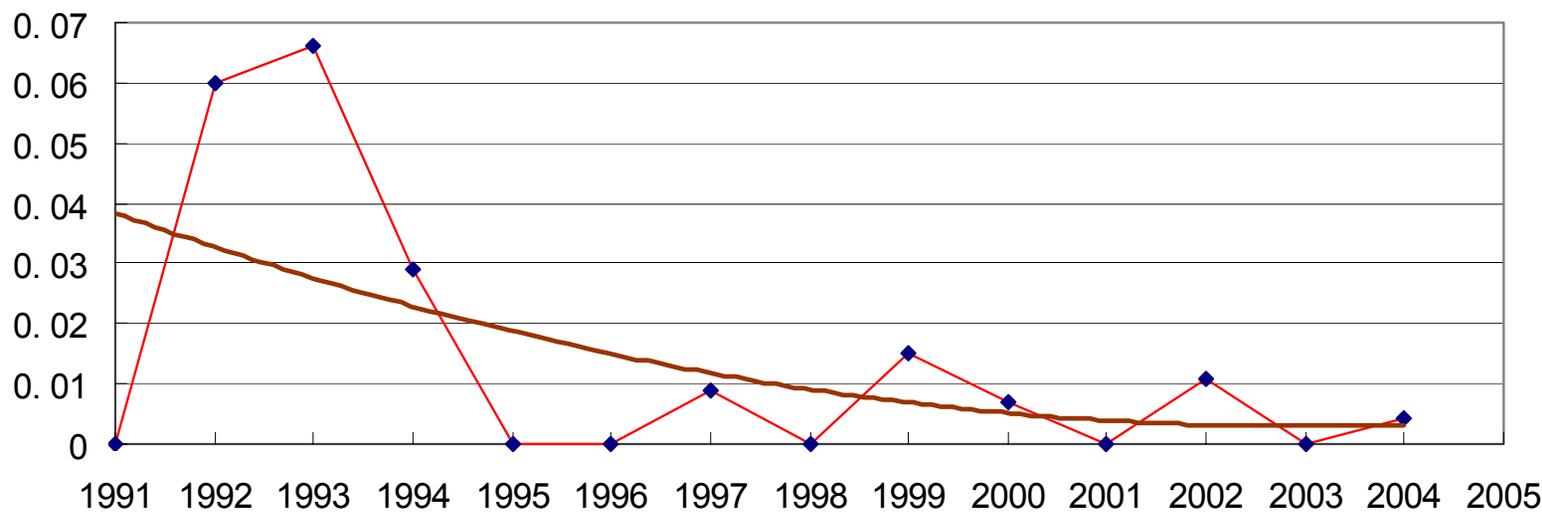
- ✓ Principle □ *safety first, precaution paramount,*
- ✓ Reformed organizational structure
- ✓ Systematic Regulatory framework
- ✓ Supervision with scientific measures
- ✓ Scientific researches



# New Situation of China Civil Aviation

## Accident rate drops significantly

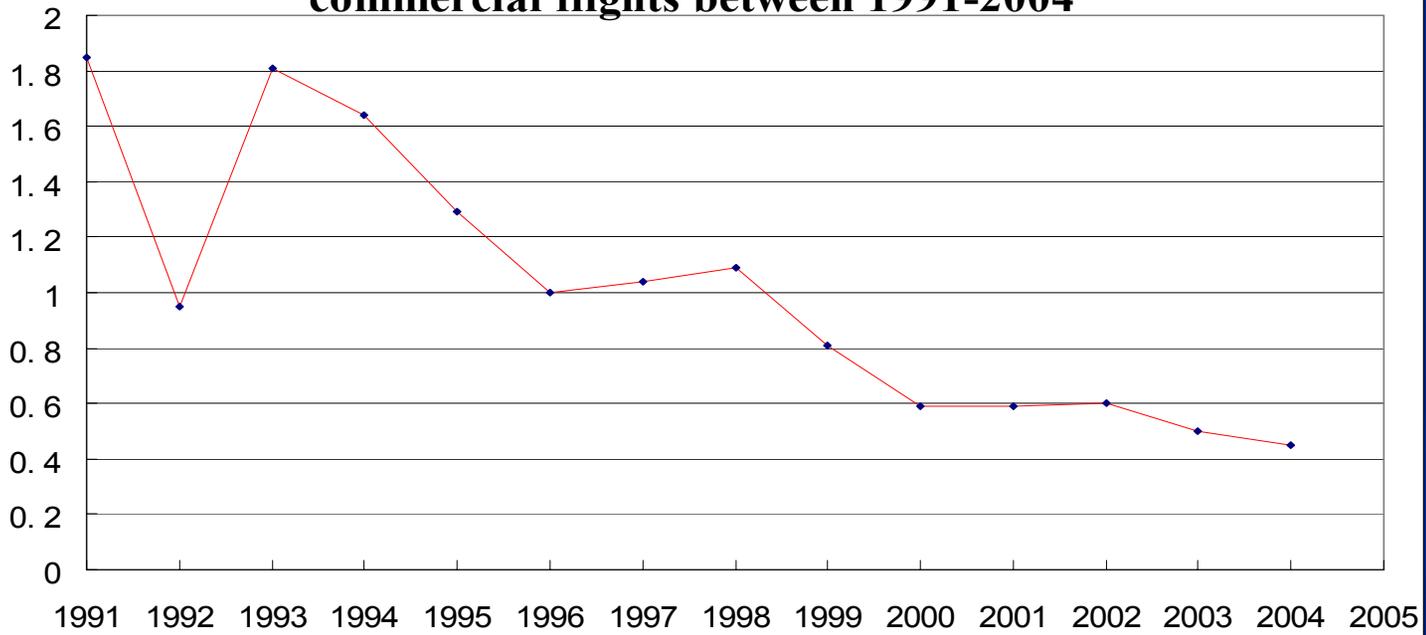
**CAAC statistics of accident rate per ten-thousand-hour in commercial flights between 1991-2004**





# New Situation of China Civil Aviation

**CAAC statistics of incident rate per ten-thousand-hour  
in  
commercial flights between 1991-2004**





# **New Situation of China Civil Aviation**

## **Summary:**

**Accident rate in China aviation is lower than the world average, but higher than those in the advanced countries.**

**Safety infrastructure is still insufficient for the fast development of civil aviation.**



## **New Challenges and Safety Goals**

**Immense challenges in safety and security**

**(1) Fast growth of national economy and international exchanges and the liberalization trend of global air transportation bring valuable opportunities for the development of civil aviation, also bring high pressure to aviation safety and security.**



## **New Challenges and Safety Goals**

**(2) China civil aviation is experiencing a transition from the old administrative and operating system to a new one. The safety supervision system has been newly built.**



## **New Challenges and Safety Goals**

**(3) ATM system is facing challenges caused by the increasingly growth of aviation activities, the diversification of requirements, and insufficient capabilities of air traffic services.**



## **News Challenges and Safety Goals**

**(4) Aviation security is threatened by many factors, including both domestic and international hazards.**



## **New Challenges and Safety Goals**

### **Main goals in *China Civil Aviation Safety Plan***

**(1) Transportation flights: reduce fatal accident rate by 80% in 2006-2010 compared with that in 1990-1999. That is, the fatal accident per million flight hours will be less than 0.3.**



## **New Challenges and Safety Goals**

- (2) Aviation security: eliminate destructive events caused by unlawful interferences.**
- (3) Ground safety: reduce major aviation accidents on the ground and minimize the losses.**
- (4) Personal injury and death: raise the survival rate of aviation accidents.**



# **New Challenges and Safety Goals**

**To improve our safety and security,**

**CAAC will be stricter on:**

**Organization and guidance**

**Regulations and standards**

**Training and education**

**Supervision and Inspection**

**System improvement**



# New Challenges and Safety Goals

To improve our safety and security,

This year CAAC will focus on:

- The consolidated airliners should strictly comply with the certification manual on operation;
- Airliner's crews, maintenance men, and dispatchers should strictly comply with the regulations on limitations for duty time.
- Operation environments of airport should be accordant with the operation permits of airports.
- Restricted Areas of airports should be in good order.
- Airliners should develop the flight procedure for one engine failure in plateau airports and in complex airports.
- AC orders should be properly evaluated and serviced as being implemented.
- Flight conflicts, cargo security, cargo load, bird strike should be addressed.



# New Challenges and Safety Goals

To improve our safety and security □  
CAAC will rely more on science and technology.



# Safety Research in Cast

**Center of Aviation Safety Technology, CAAC**

## **Background**

**A major non-profit research institute in civil aviation**

- scientific research to improve civil aviation safety and economic management**
- Technical supports for CAAC to implement its management responsibilities**
- Comprehensive services for domestic and international enterprises to promote the development of civil aviation industry**



## Safety Research in CAST

### Advantages :

- Professional team
- Key labs
- Long-term data accumulation



# Safety Research in CAST

## Main Safety Research Fields

- Analysis methods and techniques of air accident investigation
- Safety prevention measures
- Safety Assessment
- Security Technology



# Safety Research in CAST

## Main Achievements

- a. *FOQA and Flight Data Simulation Application* won National Scientific and Technological Progress Award by State Council in 2000. It was extended to many Chinese Airlines to use to ensure flight safety.



## Safety Research in CAST

### Main Achievements

- b. *Human Factor Research*, which won CAAC's First-Class Award of Science and Technology in 2003 and First-Class Award of the National Science and Technology Awards for Safety Production by State Administration of Work Safety. In this project, a comprehensive database of human factors was built, training materials were published, and effective measures were adopted by CAAC regulations.**



## Safety Research in CAST

### Main Achievements

- c. Preventive Measures on Flight Conflict and Collision, which won CAAC's First-Class Award of Science and Technology in 2003. Its main results were adopted in the regulatory circular issued by CAAC.*



# Safety Research in CAST

## Main Achievements

### d. Accident Investigation Methods and Technology

- a flight data analysis lab
- a material analysis lab
- a professional team with over 10 years experiences



## Safety Research in CAST

### Main Achievements

#### e. Bird-strike Prevention

- ✓ developed the working guide manuals
- ✓ published a set of technical materials
- ✓ established the information system

([www.birdstrike.cn](http://www.birdstrike.cn))



## **Safety Research in CAST**

### **New Projects**

#### **a. Evaluation and Prediction Methodology of Aviation Safety**

##### **Risks**

#### **b. Flight Safety at Plateau Airports**

#### **c. Ground safety**

#### **d. Prevention against Accidents and Incidents in the Phases of Approach and Landing**

#### **e. Establish a new division specially for security research**



**Let's join hands ----**

**to face the new challenges under  
the new situation,**

**to build a safer sky in the future!**

**Thank you!**