



ICAO

**The Fourth Meeting of the Aerodromes Operations and
Planning Sub-Group (AOP/SG/4)**

10 to 13 November 2020

Agenda Item 4: Provision of AOP in the Asia/Pacific Region

- **Planning & Design of Aerodromes**
- **Certification and Operations of Aerodromes**

THEORY AND PRACTICE OF FOUR-CHARACTERISTIC AIRPORT

(Presented by China)

SUMMARY

Four-Characteristic Airport takes *safety, green, smart, and humanistic* as its core, relying on technological advancement, reform and innovation, as well as collaborative sharing. Through the optimization covering whole process and all elements, the airport could achieve strong safety guarantee, intelligent production management, efficient travel-experience, and ecological environment.

1. INTRODUCTION

1.1 This paper mainly introduces the theory and practice of *Four-Characteristic Airport*, which has become the guiding ideology of China's civil airport development.

2. DISCUSSION

2.1 As China's civil airport transportation business growing rapidly, the theory of Four-Characteristic Airport has become the guiding ideology of airport development.

2.2 Definition of Four-Characteristic Airport:

2.2.1 **Four-Characteristic Airport** takes *safety, green, smart, and humanistic* as its core, relying on technological advancement, reform and innovation, as well as collaborative sharing. Through the optimization covering whole process and all elements, the airport could achieve strong safety guarantee, intelligent production management, efficient travel-experience, and ecological environment.

2.2.2 **Safe airport** needs a solid foundation for safe production, a complete safety guarantee system, and a stable safe operation.

2.2.3 **Green airport** requires intensive resource conservation, low-carbon operation, and environmental friendliness throughout its whole life cycle.

2.2.4 **Smart airport** is manifested in comprehensive IoT, data sharing, efficient collaboration, and intelligent operation.

2.2.5 **Humanistic airport** means people-oriented, rich cultural heritage, showing the spirit of the times and civil aviation, and carrying forward socialist values.

2.3 Comparing with NEXTT and Next Gen

2.3.1 **The NEXTT** proposed by IATA and ACI focuses on optimizing passenger services and applying new technologies.

2.3.2 **Next Gen** was first proposed by US Office-JPDO in 2004, concentrating on needs of airport operation management.

2.3.3 Comparing with NEXTT and Next Gen, China's **Four-Characteristic Airport** theory takes the entire life cycle and all elements of the airport into consideration, and has formed a systematic and thorough theoretical framework.

2.4 Further Explanation

2.4.1 Four-Characteristic Airport does not ignore the past. It integrates the new development concept fully into every-day work, and improves business processes.

2.4.2 Achieving Four-Characteristic Airport does not happen overnight, it requires long-term planning and gradual implementation. The reform in management concepts, business models, facilities, technologies, and human resources, should not only be deep, comprehensive, active, and stable, but also suitable for China's civil airport.

2.4.3 Four-Characteristic Airport can never be implemented behind closed doors. Airport is a complex system supported by operation guarantee, passenger service, air traffic control, airlines, jet fuel, customs, etc. It is also tightly connected with urban transportation, municipal infrastructure, and airport industry. Efforts must be made on resource matching, information sharing, coordinated operation, and interconnection, between various departments inside and outside the airport, in order to make airport system more efficient.

2.4.4 Four-Characteristic Airport is not just for hub airports. Large airports often use smart means to relieve operational pressure, while small and medium airports focus on improving safety and services. In the future, we will pay more attention to the overall and regional airport planning and layout, which means that small and medium airports are highly involved.

2.4.5 Four-Characteristic Airport is not just the application of new technologies. It is necessary to make full use of technological support, and to optimize the management system as well. Meanwhile, Four-Characteristic Airport not only serves passengers, but also fully considers the needs of employees.

2.4.6 The development goal of China's civil aviation airport has transported from fast speed to high quality, and from investment-driven to innovation-driven. We are glad to share our idea on Four-Characteristic Airport with civil aviation airports around the world.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any relevant matters as appropriate.

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