



ICAO

The Fifth Meeting of the Aerodromes Operations and
Planning Sub-Group (AOP/SG/5)

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Agenda Item 4: Provision of AOP in the Asia/Pacific Region
– **Planning & Design of Aerodromes**

**INTRODUCTION OF THE FOUR CHARACTERISTICS
AIRPORT DEVELOPMENT GUIDELINES**

(Presented by China)

SUMMARY

In order to implement the new development concept, conform to the development trend of civil aviation in the new era, promote the construction of civil aviation comprehensively, and facilitate the high-quality development of civil aviation, the "Four Characteristics Airport Development Guidelines" was formulated by CAAC to give guidance to civil airports. And CAAC is willing to share the guidelines with partners in Asia/Pacific region to promote the high-quality development of airports.

1. INTRODUCTION

1.1 The Four Characteristics Airport Development Guidelines learn from the advanced concepts, experiences, and achievements of domestic airports and foreign airports in their construction and operation, study and judge the development trend of civil aviation, and absorb information of the innovative practices in relevant fields such as smart city, smart transportation, smart energy, ecological city, sponge city and safe city. The Guidelines also learn from the construction experience of transportation, electricity, and other industries, listen to the opinions and suggestions of experts in various fields.

2. DISCUSSION

2.1 Definition

2.1.1 The theory of Four Characteristics Airports defines the path of high-quality development of airport with safe, green, smart, and humanistic as the core.

2.2 Safe Airport

2.2.1 A safe airport is the one with a solid foundation of safe production, complete security guarantee system, and controllable safe operation.

2.2.2 To build a safe airport, within the entire scope of the airport, the management organization should highlight aircraft protection, public security, safe operation, and fire safety, to ensure a safe and stable public environment, a stable and orderly operation, and timely and effective emergency response.

Note:- The whole scope of an airport includes terminal area, airfield, and auxiliary function area.

2.3 Green Airport

2.3.1 It is an airport which is saving resources, low-carbon in operation, and environment friendly in its overall lifecycle.

2.3.2 To build a green airport, the management authority should highlight energy conservation and emission reduction, as well as sustainable development. The green airport should provide comfortable and environmentally friendly surroundings for air travel, but also a safe and efficient production and operation environment, then finally achieve the coordination of airport and regional environment.

Note:- The overall lifecycle of an airport includes planning, design, construction, operation, and other processes.

2.4 Smart Airport

2.4.1 Smart airport is the one that all factors of production are connected, data are shared with each other, and its operation is synergetic, efficient, and intelligent.

2.4.2 To build a smart airport, the management organization should highlight innovation in the whole business chain of the airport, achieving efficient production and operation, controllable safety management, personalized travel services, efficient linkage of transportation hubs, and precise interaction of commercial stakeholders.

Note:- The whole business chain of the airport includes production and operation, security management, travel services, integrated transportation, and business management.

2.5 Humanistic Airport

2.5.1 It is an airport that upholds the principle of people-oriented, riches in cultural heritage, reflects the spirit of the times and civil aviation, carries forward the core socialist values.

2.5.2 To build a humanistic airport, within the scope of users' activity, the management organization should pay attention to the humanistic experience, exhibit the national spirit, and highlight the distinctive literature, show the humanistic concern, and realize the harmonious development among different social groups.

Note:- The full scope of users' activity of an airport includes the activities of passengers, operational units, government administration departments and employees.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information contained in this paper.

Four Characteristics Airport Development Guidelines

1 General

1.0.1 The guidelines include the terms, construction objectives, basic principles, construction key points, implementation steps, etc. of the Four Characteristics Airport.

1.0.2 The guidelines are applicable to the newly built (relocated), reconstructed, expanded and operational civil transport airports (including the civil part of the military and civil airports). General airports and other civil aviation related units can refer to the guidelines for implementation.

1.0.3 On the basis of the guidelines, each airport should demonstrate and study further on the specific construction contents in combination with its own development needs and positioning, to ensure that it adapts to local conditions and make full use of the guidelines.

1.0.4 The guideline should be revised in time to meet the needs of development in the future.

2 Terms

The following terms apply to this Guidelines.

2.0.1 Four Characteristics Airport

Based on the core of "Safe, Green, Smart and Humanistic", the Four Characteristics Airport relies on the progress of science and technology, reform and innovation and collaborative sharing. Through the whole process, all factors and all-round optimization, the four characteristics airport realizes that there is strong security of safe operation, fine and intelligent production management, convenient and efficient passenger travel, green and harmonious environment, and the airport fully embodies the requirements of high-quality development in the new era. In which, "Safety" is the basic requirement, "Green" is the basic feature, "Smart" is the basic quality, and "Humanistic" is the basic function.

2.0.2 Safe Airport

A safe airport is the one with a solid foundation of safe production, complete security guarantee system, and controllable safe operation.

2.0.3 Green Airport

Green airport is the one which saving resources, low-carbon in operation, and is environment friendly in its overall lifecycle.

2.0.4 Smart Airport

Smart airport is the one that all factors of production are connected, data are shared with each other, and its operation is synergetic, efficient, and intelligent.

2.0.5 Humanistic Airport

Humanistic airport is the one that upholds the principle of people-oriented, is rich in cultural heritage, reflects the spirit of the times and civil aviation, carries forward the core socialist values.

3 Construction Objectives

3.0.1 The management organization optimize the planning, design, construction, and operation of the airports in an all-round way, and modernize the airport governance system and capacity. The airport governance system and capacity should be modernized, and to build a modern airport that is planned scientifically, orderly and safely, the foundation for security is solid, the resource guarantee is reliable and powerful, the business operation is coordinated with economy, the air travel services are excellent and convenient, the traffic connections are smooth and efficient, the information systems are integrated and shared, the environment is friendly, green and low-carbon. Airports should meet the requirements of high-quality development of civil aviation in the new era, and meets people's needs for better travel experience.

3.0.2 To build a safe airport, within the entire scope of the airport, the management organization should highlight aircraft protection, public security, safe operation, and fire safety, to ensure a safe and stable public environment, a stable and orderly operation, and timely and effective emergency response.

[Note] The whole scope of an airport includes terminal area, airfield, and auxiliary function area.

3.0.3 To build a green airport, the management authority should highlight energy conservation and emission reduction, as well as sustainable development. The green airport should provide comfortable and environmentally friendly surroundings for air travel, but also a safe and efficient production and operation environment, then finally achieve the coordination of airport and regional environment.

[Note] The overall lifecycle of an airport includes planning, design, construction, operation, and other processes.

3.0.4 To build a smart airport, the management organization should highlight innovation in the whole business chain of the airport, achieving efficient production and operation,

controllable safety management, personalized travel services, efficient linkage of transportation hubs, and precise interaction of commercial stakeholders.

[Note] The whole business chain of the airport includes production and operation, security management, travel services, integrated transportation, and business management.

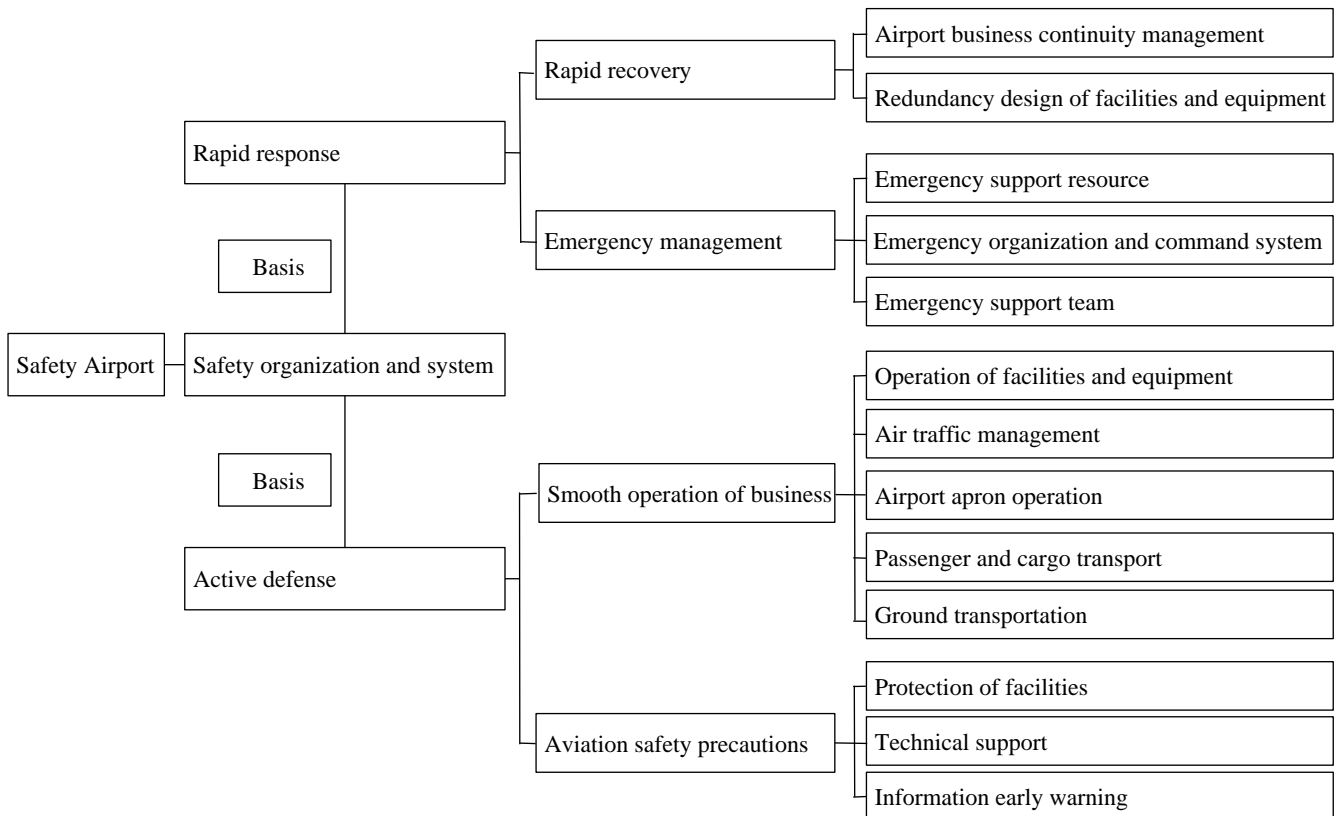
3.0.5 To build a humanistic airport, within the scope of users' activity, the management organization should pay attention to the humanistic experience, exhibit the national spirit, and highlight the distinctive literature, show the humanistic concern, and realize the harmonious development among different social groups.

[Note] The full scope of users' activity of an airport includes the activities of passengers, operational units, government administration departments and employees.

4 Key Points of Construction

4.1 Safe Airport

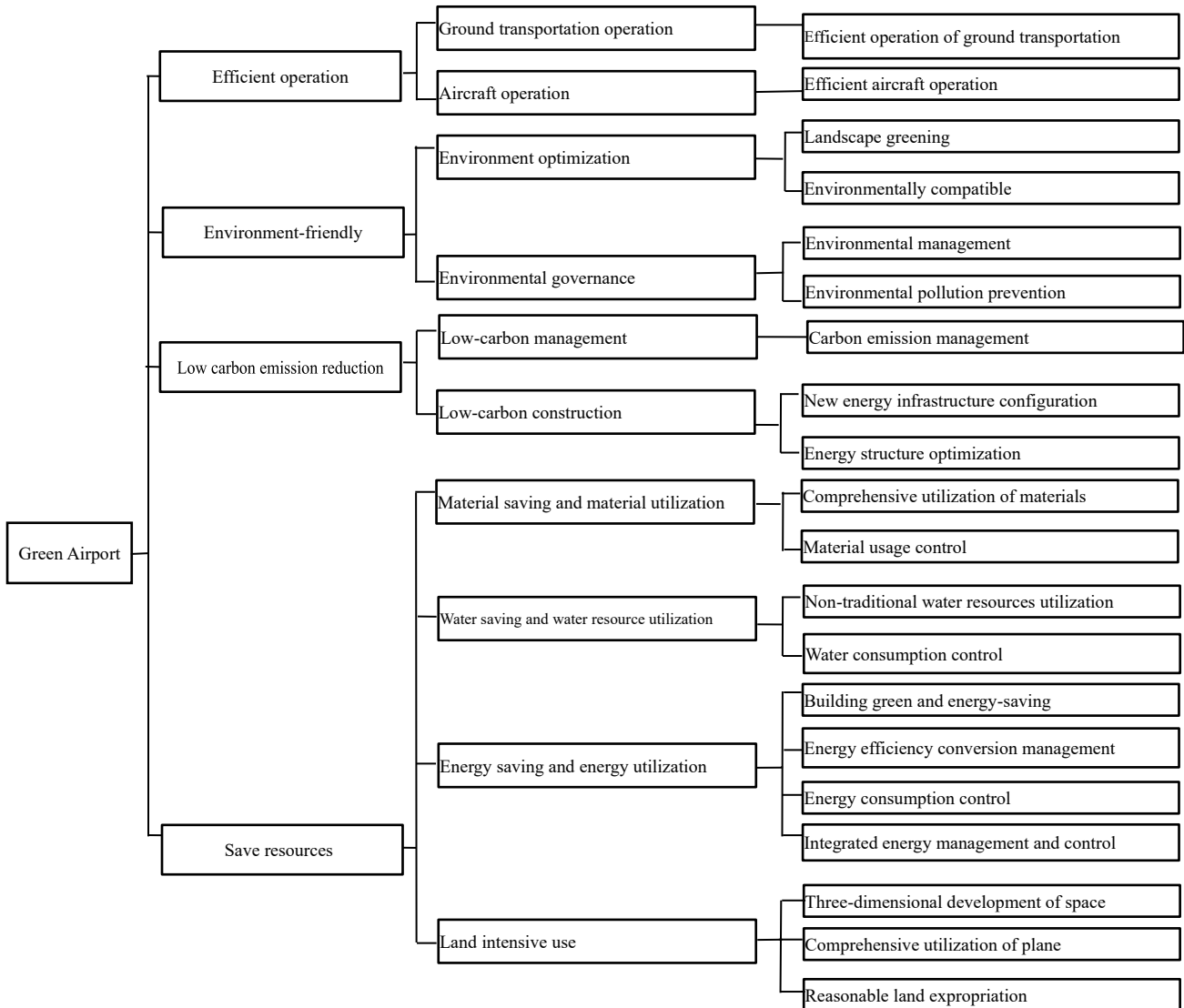
The construction of Safe Airport should focus on the basic requirements of civil aviation safety, such as aircraft protection, public security safety, operation safety and fire safety, implement the safety policy of "safety is with the highest priority, emphasizing prevention method and comprehensive management", apply the concept of system security, strengthen the support of information technology, strengthen the prevention means of aircraft protection, defending with hardware and technology, and strengthen the safety risk assessment, improve the safety assurance system and enhance the safety management ability comprehensively.



Reference Frame for Safe Airport Construction

4.2 Green Airport

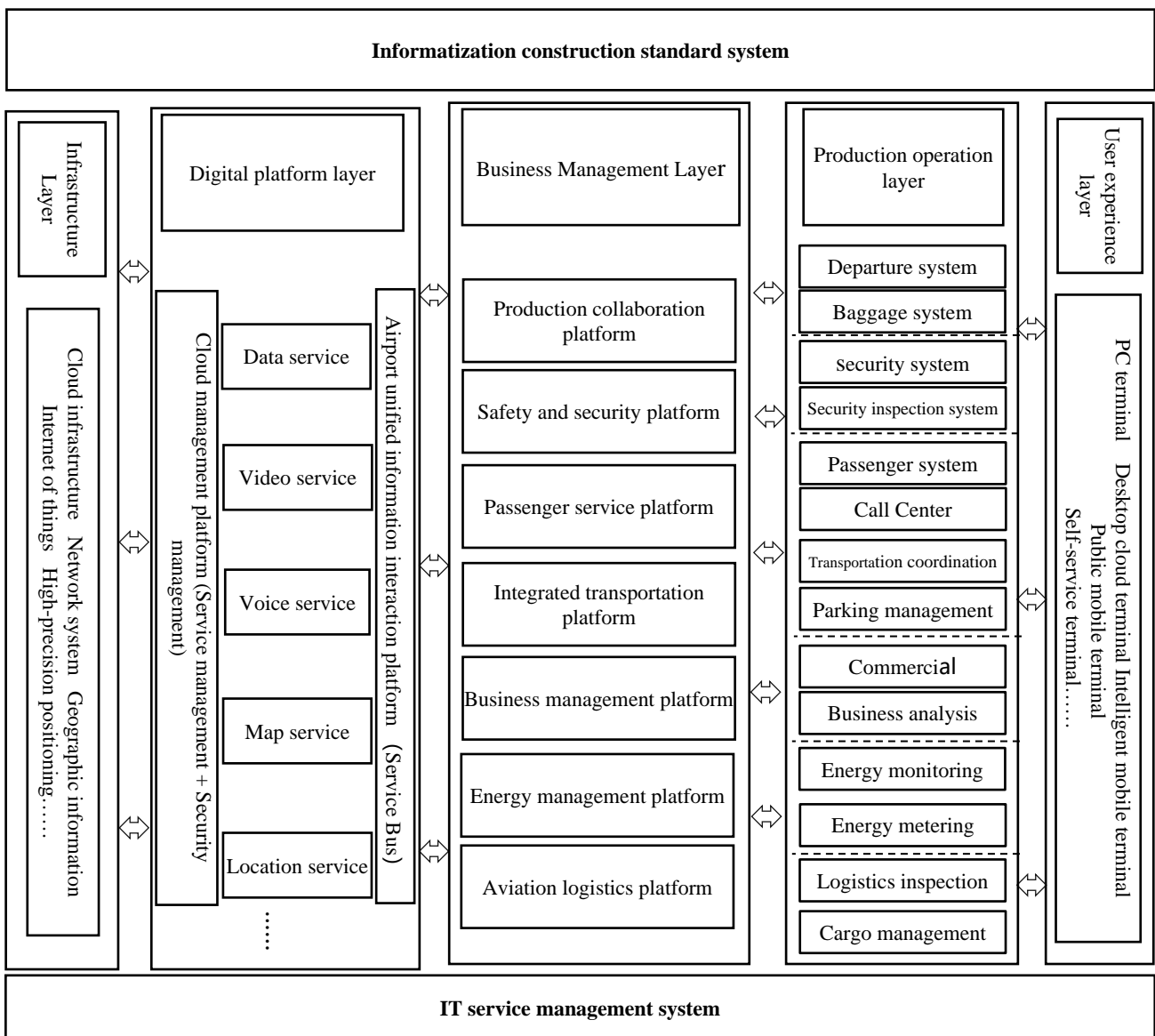
Green airport construction should adhere to the concept of green development, scientific planning and design, green construction, system operation practice, resource conservation and utilization, comprehensive management and control, resource utilization efficiency, energy structure optimization, operation efficiency improvement, airport carbon emission reduction, environmental management enhancement, environmental optimization and environmental compatibility enhancement Enhance the endogenous power of airport green development, and finally realize the sustainable coordinated development of airport and region.



Green Airport Construction Reference Framework

4.3 Smart Airport

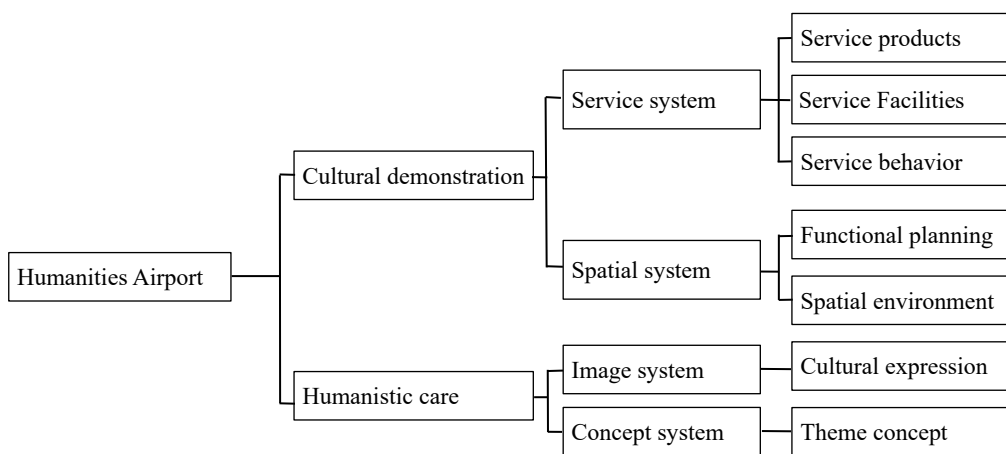
The construction of smart airport should base on advanced management concept, make full use of cutting-edge new technology, optimize production and operation, improve airport capacity and operation efficiency, improve passenger experience and service quality, build information hub, and realize networking, visualization, collaboration, intelligence, personalization, and refinement of the whole business.



Reference Framework for Fully Quantitative Construction of Smart Airports

4.4 Humanities Airport

The construction of humanistic airport should always adhere to people-oriented, take the needs of passengers, resident units, employees and government management departments as the starting point, practice true service, carry forward humanistic spirit, highlight cultural self-confidence, shape brand image, adhere to and transfer social positive energy, cultivate and carry forward core values, and make the airport the carrier and disseminator of Chinese excellent traditional culture and socialist core values.

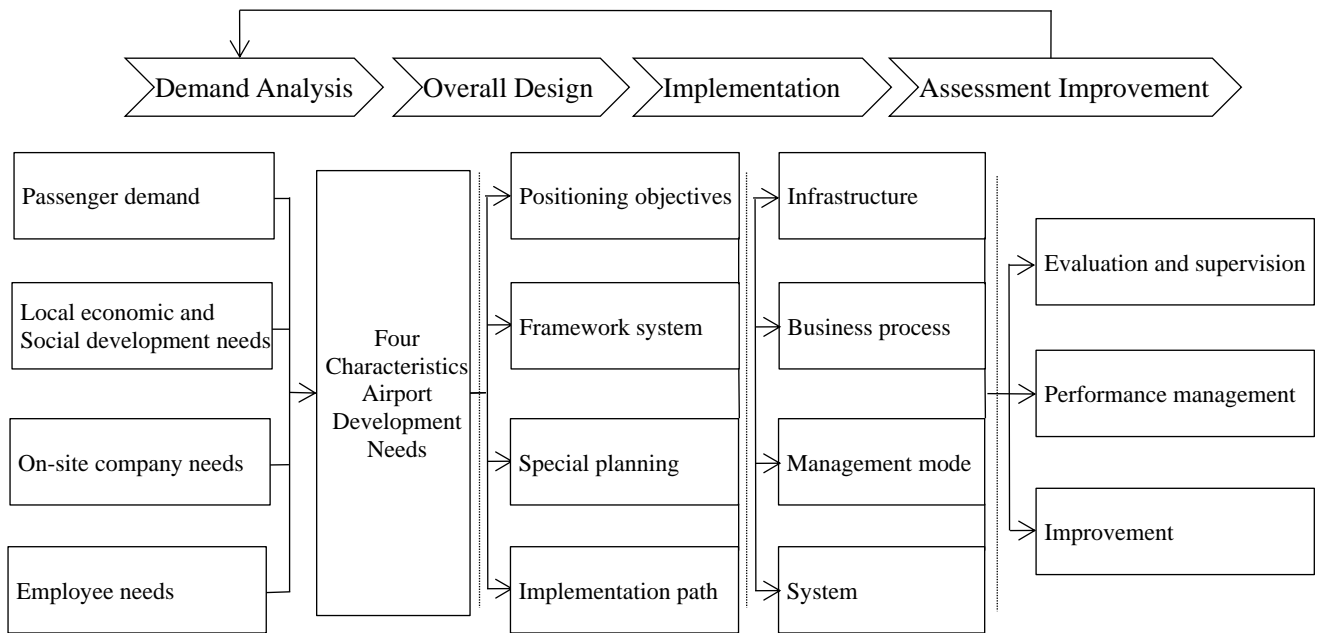


Reference Frame of Humanistic Airport Construction

5 Implementation Steps

5.1 The construction of Four Characteristics Airport should be based on the specific construction objectives, decompose the objectives from top to bottom, and plan and design the framework system, construction tasks and implementation path of Four Characteristics Airport.

5.2 The basic process of Four Characteristics Airport construction includes demand analysis, overall design, implementation, evaluation and improvement. The process framework of Four Characteristics Airport construction is shown in Figure 6.1.2.



Process Framework of Four Characteristics Airport Construction