



Synopsis of Air Traffic Flow Management In China

空中交通流量管理工作简介

Air Traffic Control Division of ATMB, CAAC

民航局空中交通管理局 空中交通管制部

Oct. 2014

Overview 报告纲要

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Current situation of ATC System
空中交通系统运行面临的现状

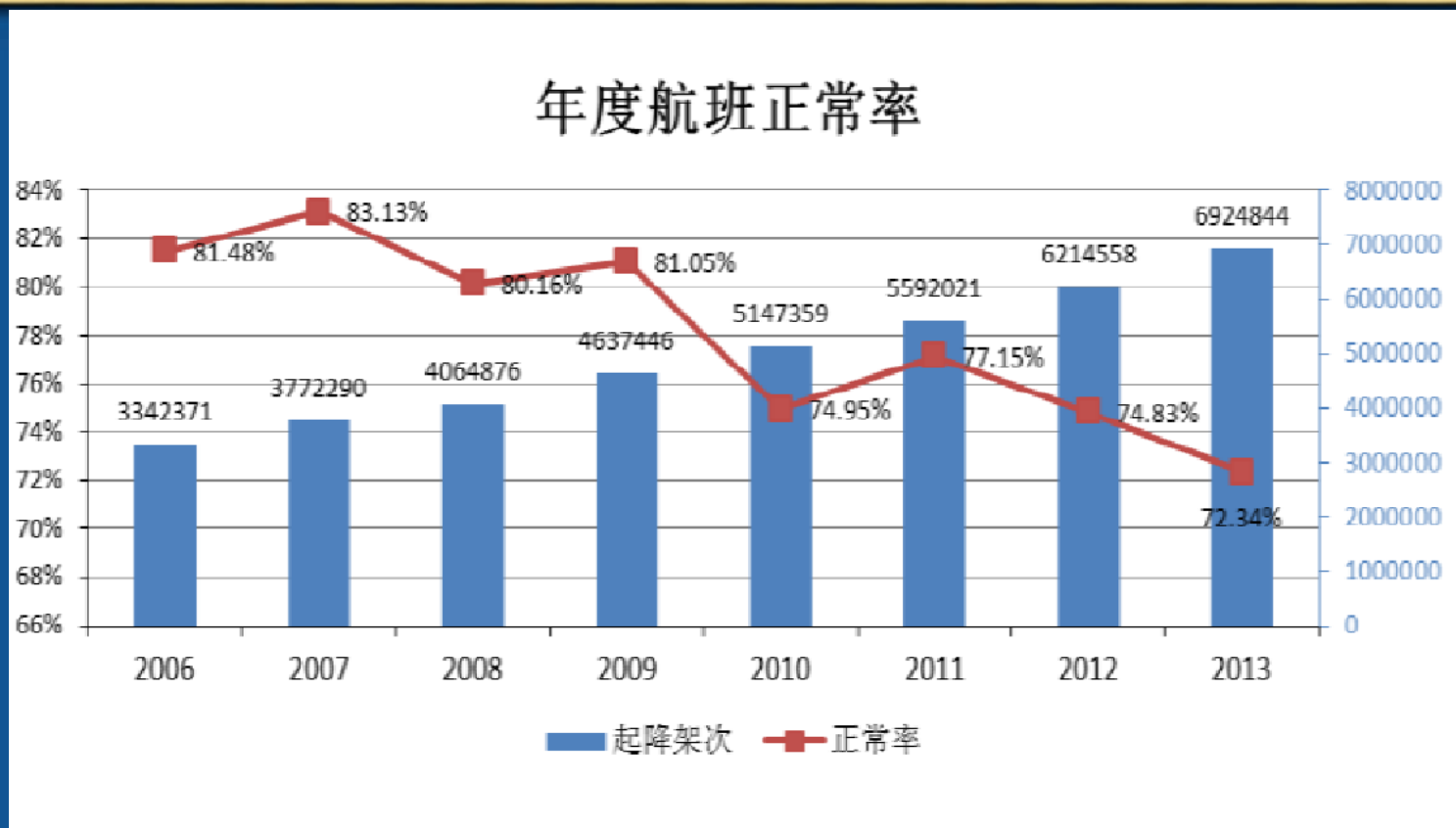
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Briefing of on-going work
已开展工作情况简介

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Future work focus and plan
后续重点工作和计划

一、 Current Situation of Operations 航班运行面临的现状



Seen from the overall trends of the relationship between Chinese traffic flow and delays, the deviation between traffic volume and flight punctuality index has been continuing since 2007. How to reduce the flight delay and alleviate the negative impact has become the focus of China Civil Aviation.

从我国航班流量和延误关系总体趋势看，从2007年开始，航班运行量和航班正常性指标出现背离趋势持续，如何减少航班延误以及缓解航班延误带来的不良影响成为民航界关注的焦点。

二、 Briefing of on-going work 已开展相关工作简介

- (一) Construction of operation standards and specifications
运行标准和规范建设
- (二) Construction of System, Tool and Mechanism
系统、工具和机制建设
- (三) Achievements and Problems
收到的成效和存在的不足

(一) Construction of operation standards and specifications 运行标准和规范建设

1

"Guidance on Collaborative Delivery of Flights"(Interim)
《航班协同放行指导材料》（暂行）

2

"Guidance on ATFM of China Civil Aviation"(Interim)
《民用航空空中交通流量管理指导材料》

3

"Guidance on Management of Air Traffic Capacity"(Interim)
《空中交通通行能力管理指导材料》（暂行）

4

"Guidance on Emergency Response of Large Scale Flight Delays"(Interim)
《大面积航班延误应急响应指导材料》（暂行）

(二) Construction of System, Tool and Mechanism 系统、工具和机制建设

2. Startup 23 airport CDM projects

CAAC approved the construction of airport CDM system in PEK and 22 other airports, in which passenger throughput is more than 10 million per year, to enhance the collaborative operation among ATC, airports and Airlines.

July 2013 (2013年7月)

4. Implement MDRS Flight Delay Warning

The MDRS is launched by ATM Bureau of CAAC on June. 25th and has issued 75 warnings with 64 times startup by Aug. 31th, the guarantee efficiency achieved 85%. The collaborative operation mechanism between airports and airlines has been set up and achieved remarkable success.

June 2014 (2014年6月)

April 2011 (2011年4月)

1. Completion of the first phase of ATFM

ATM Bureau of CAAC completed the development of first phase of ATFM system, and has set up the Traffic Flow Surveillance Department to enhance the collaborative operation between different Regional Administrations of CAAC.

March 2014 (2014年3月)

3. Completed an upgrade of the first phase of ATFM

Completed and updated the construction of ATFM system of the first phase, and put the system to use in ATM Bureau of CAAC.

July 2014 (2014年7月)

5. Startup integration of Flight Plan Process

ATM Bureau of CAAC organized Regional Administrations to implement "Integration of National Flight Plan Process", which can lay a good data foundation for collaborative operation.

(三) Achievements and Problems

收到的成效和存在的不足

- Preliminary construction of ATM-specific ATFM operation specifications
- 初步建立了空管系统内部流量管理运行规范；
- Preliminary construction of collaborative operation mechanism among ATC, airports and airlines.
- 初步建立了与机场和航空公司间多方协同运行机制；
- Preliminary construction of ATFM framework, and training of a group of ATC controllers with ATFM knowledge.
- 初步建立了流量管理组织架构，培养一批具备流量管理知识的管制员；
- Developed and applied ATFM tools.....
- 开发并应用了流量管理工具...

- 与机场航空公司之间的运行规范有待进一步完善；
- The operation specifications among ATC, airports and airlines are to be perfected;
- 用于流量管理的数据质量有待提高，如飞行计划...
- The data quality for ATFM is to be improved, such as Flight Plan...
- 结合气象因素的通行能力评估方法和能力待提高；
- Assessment method and ability for air traffic capacity combining weather is to be perfected;
- 流量管理工具尚未成体系，集成性、信息化程度不高。
- ATFM tools cannot form a system, integration and informationization is still at a low level;
- 流量管理组织结构，职责、权限和流程需完善，流量管理方法有待提高；
- Organization, responsibility, authority and procedure of ATFM are to be perfected, ATFM method is to be improved

三. Future work focus and plan 后续重点工作和计划

(一) Focus on “Integrated Processing of National Flight Plans”, and improve the quality of kernel data. 开展全国飞行计划集中处理专项工作，提高关键数据质量

Implement integrated processing of national flight plans for the pre-tactical and the next day; Establish unified national flight environment database (aircraft types, flight number, airport code, airlines call signs, and scheduled flight routes etc.)

实现全国预先和次日飞行计划集中处理；建立全国统一的飞行环境数据库（机型、机号、机场代码、航空公司呼号，班机航线）

Implement integrated processing of national flight plans and piloting programs, and establish two flight plan processing centers which can back up each other. Implement management of route direction and estimated block-off time of pre-departure flights through collaboration and information sharing with airlines. Prepare high quality data for pre-tactical ATFM and ATM automation system.

实现全国飞行计划和领航计划报集中处理，建立两个互为备份的飞行计划处理中心。通过与航空公司信息共享和协同，实现对起飞航班预计撤轮档时间和航线走向的管理，为预战术流量管理和空管自动化系统提供高质量数据。

2015.2

2015.12

2016.12

Implement integrated processing of flight plans in all Regional Administrations of CAAC. The traffic flow management unit in each Regional Administration is responsible for dynamic information collection, review and distribution.

各地区空管局实现飞行动态集中处理。各地区空管局所辖管制中心流量管理室负责飞行动态报文收集、审核和发布。

Improve data quality, meet operational requirement
提高数据质量，满足运行需求

2013年繁

B339POLHO-LADIX (北京)	周口 (郑州区域)
A593大王庄-APOGO (北京)	天河 (广州区域)
B215大王庄-GODON (北京)	合肥 (上海区域)
A461龙口-OBLIK (广州)	龙口 (广州区域)
G212DABMA-OKVUM (北京)	MAMSI (广州区域)
A461魏县-OBLIK (郑州)	烟庄 (西安区域)
A461大王庄-P285 (北京)	MAKNO (大连区域)
A599桐庐-切筑桥(上海)	青岛 (青岛区域)
R343合肥-MADUK (上海)	河口 (广州区域)
H27大连-P09 (大连)	贵阳(贵阳区域)
A470杏林-福清 (厦门)	OBLIK (郑州区域)
A593大王庄-EPGAM (北京)	魏县 (郑州区域)
G471龙门-XEBUL (广州)	
R343合肥-MADUK (合肥)	
B330二塘-三江 (广州)	
B330叙永-OMBON (成都)	
A470DOTMI-IKATA(广州)	

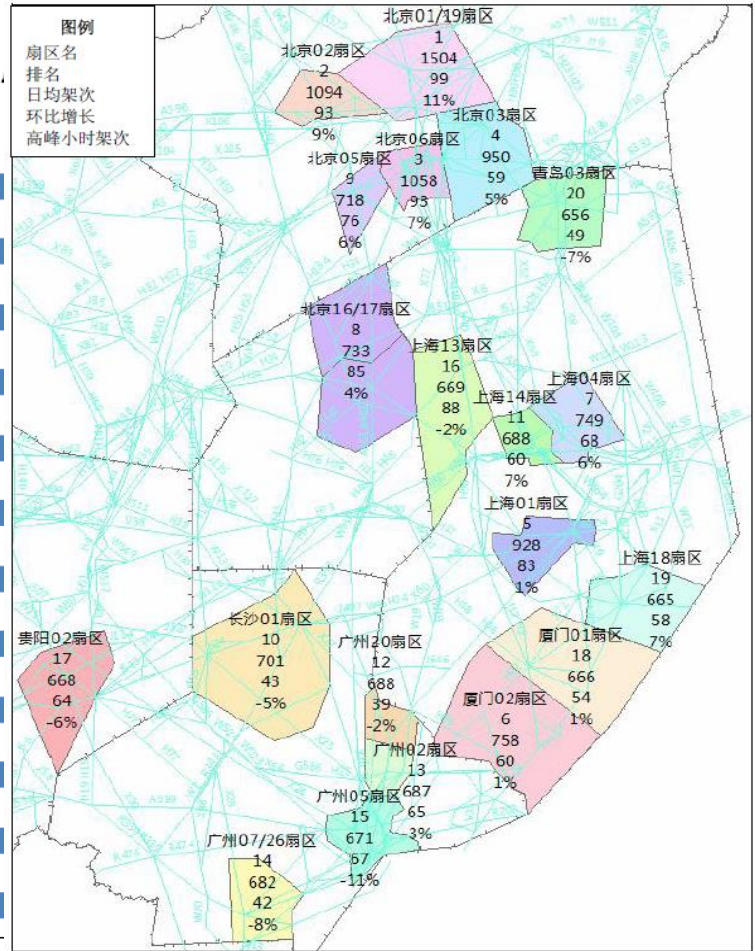


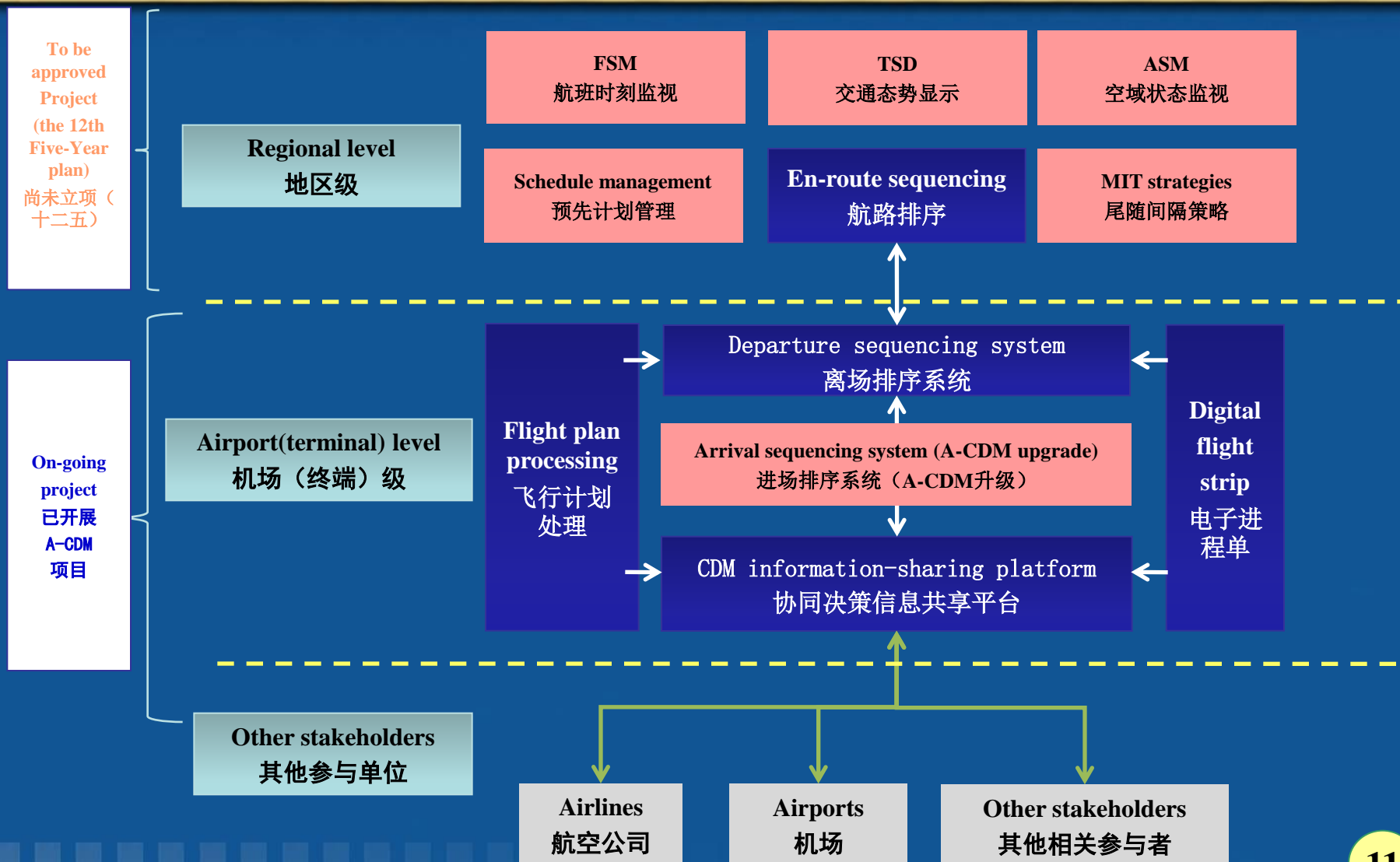
图6 区域日均流量前20位扇区

The work of ATM Bureau this year is mainly on air traffic capacity assessment of 23 busy airports. Next step is on air traffic capacity assessment of busy routes, important fixes and sectors.

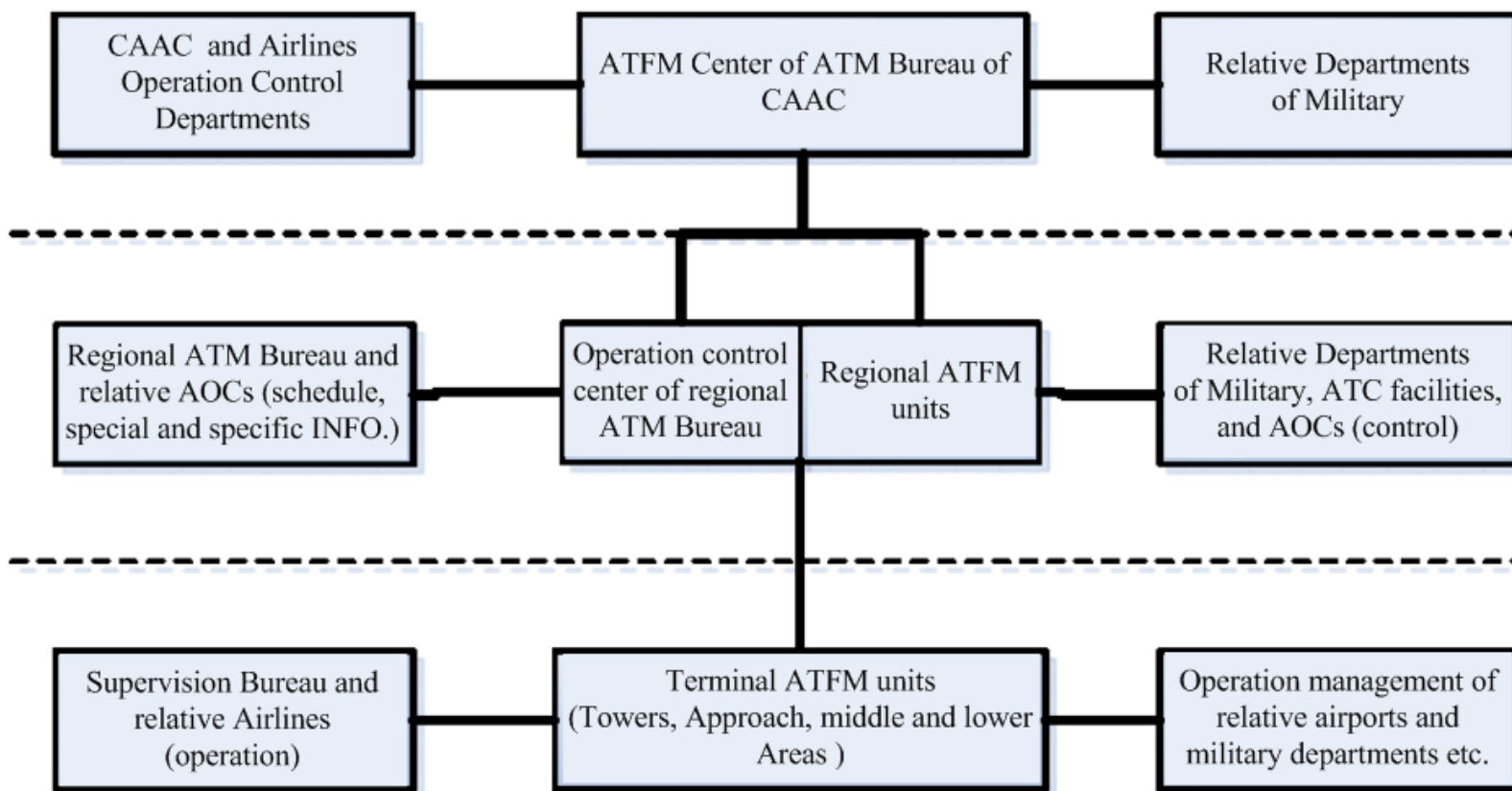
今年主要针对23个繁忙机场开展通行能力评估，下一步将推进繁忙航段、重要点和扇区的空中交通通行能力评估。

(三) Further perfect the regional ATFM system, improve the integration of system

进一步完善地区级流量管理系统，提高系统集成性



(四) Further perfect the organization of ATFM, as well as the ATFM system 进一步完善流量管理组织结构，健全流量管理体系

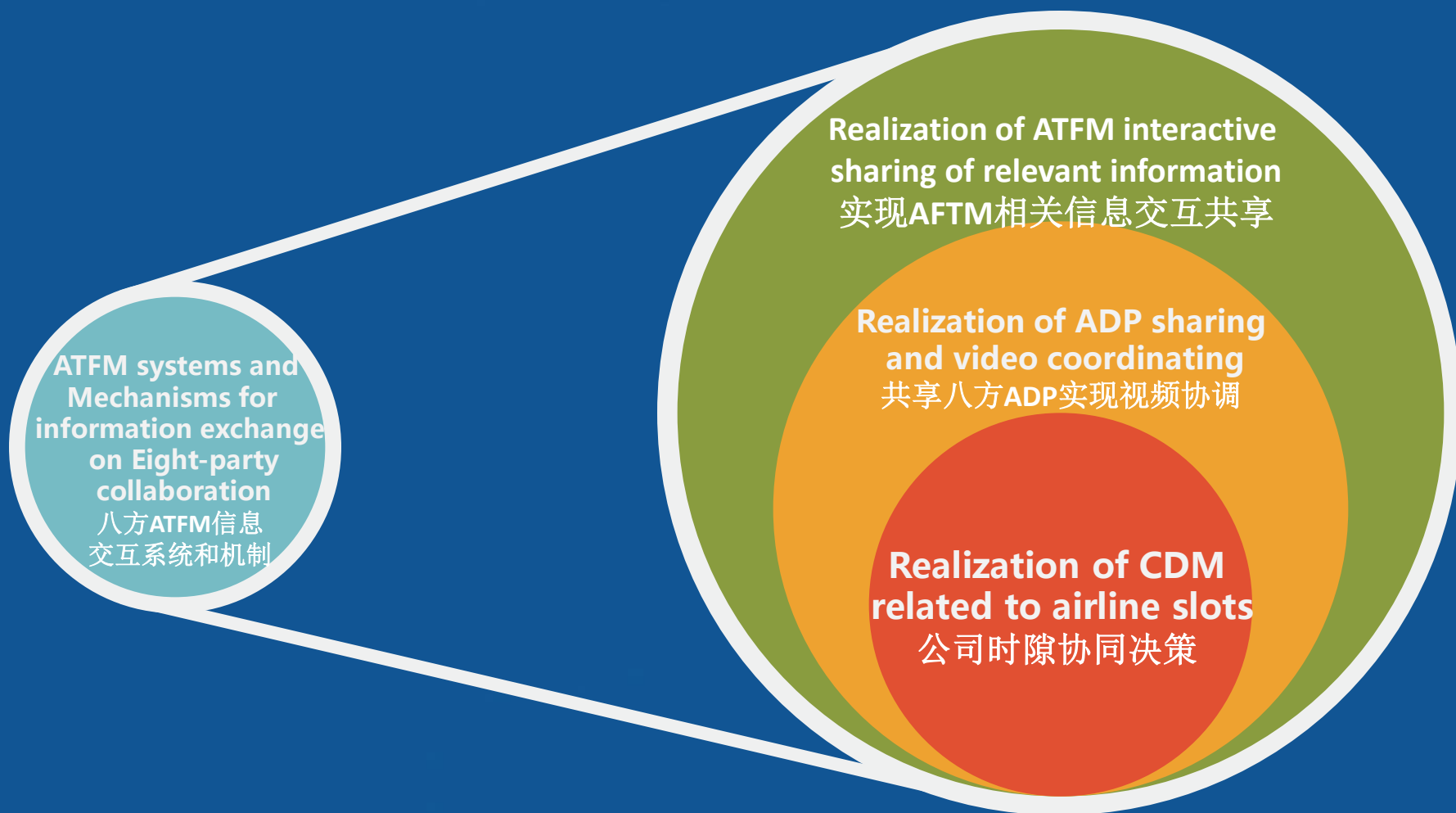


The ATFM Positions have been set up in 8 large upper area control centers, the busy control towers which are responsible for more than 450 aircraft movements per day, the busy Approach and area control centers which are responsible for more than 650 aircraft movements per day. The current plan is to construct the ATFM framework which can meet the operational requirement.

在全国八大高空管制区设流量管理室，在全国日均起降450架次以上的繁忙塔台、日均650架次以上的进近和区域管制室设流量管理席位。目前计划于2015中，建立起满足流量管理运行需要的流量管理组织架构。

(五) To be a good partner of ATFM /CDM in the Asia-Pacific area

成为亚太地区流量管理工作的好伙伴





谢谢！

Thank You !

Oct. 2014