



# Analysis-Oriented View for Cross-Border ATFM



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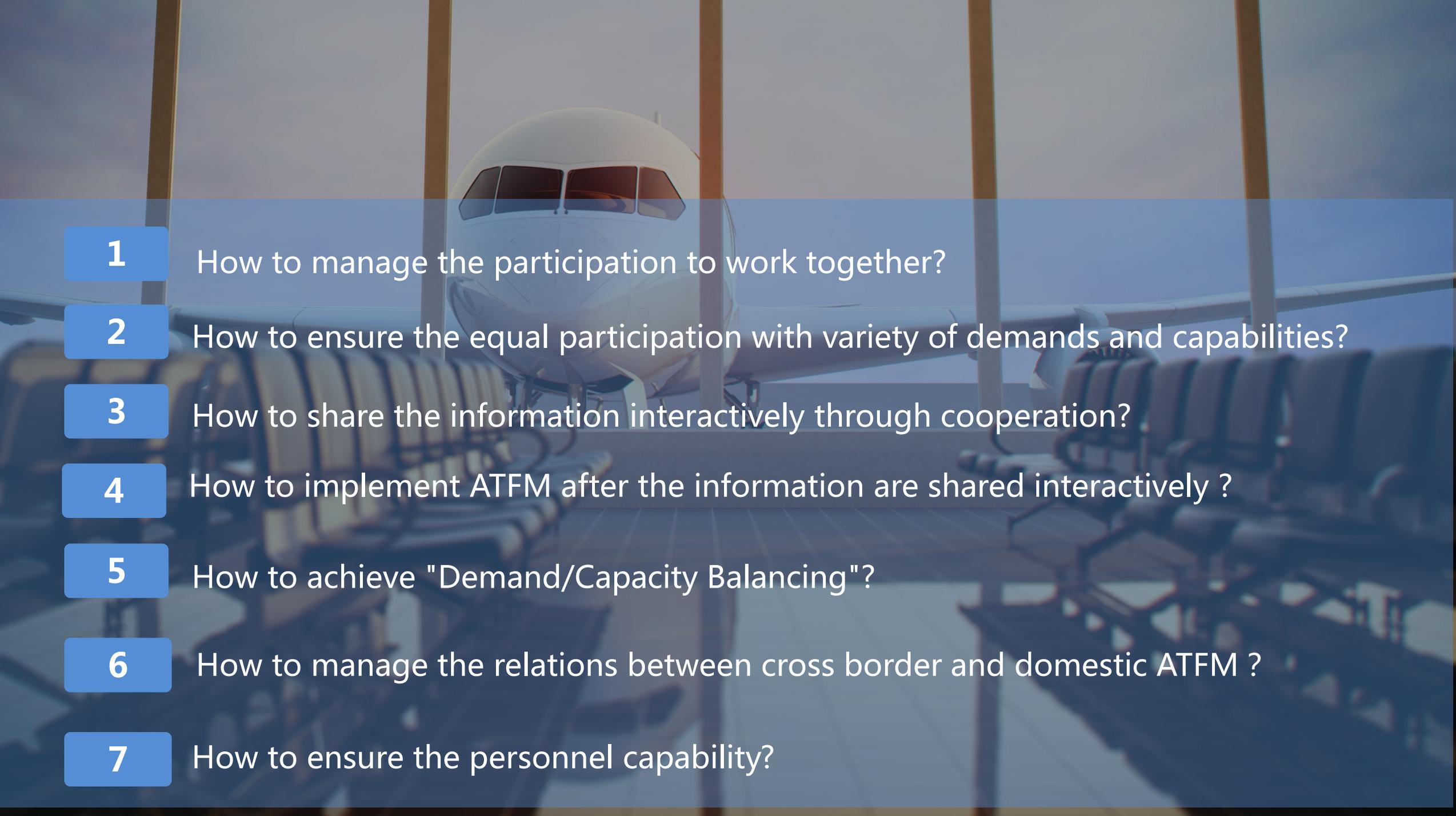
Chapter 1  
**Issues**

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**Summary**



Chapter 1  
**Issues**

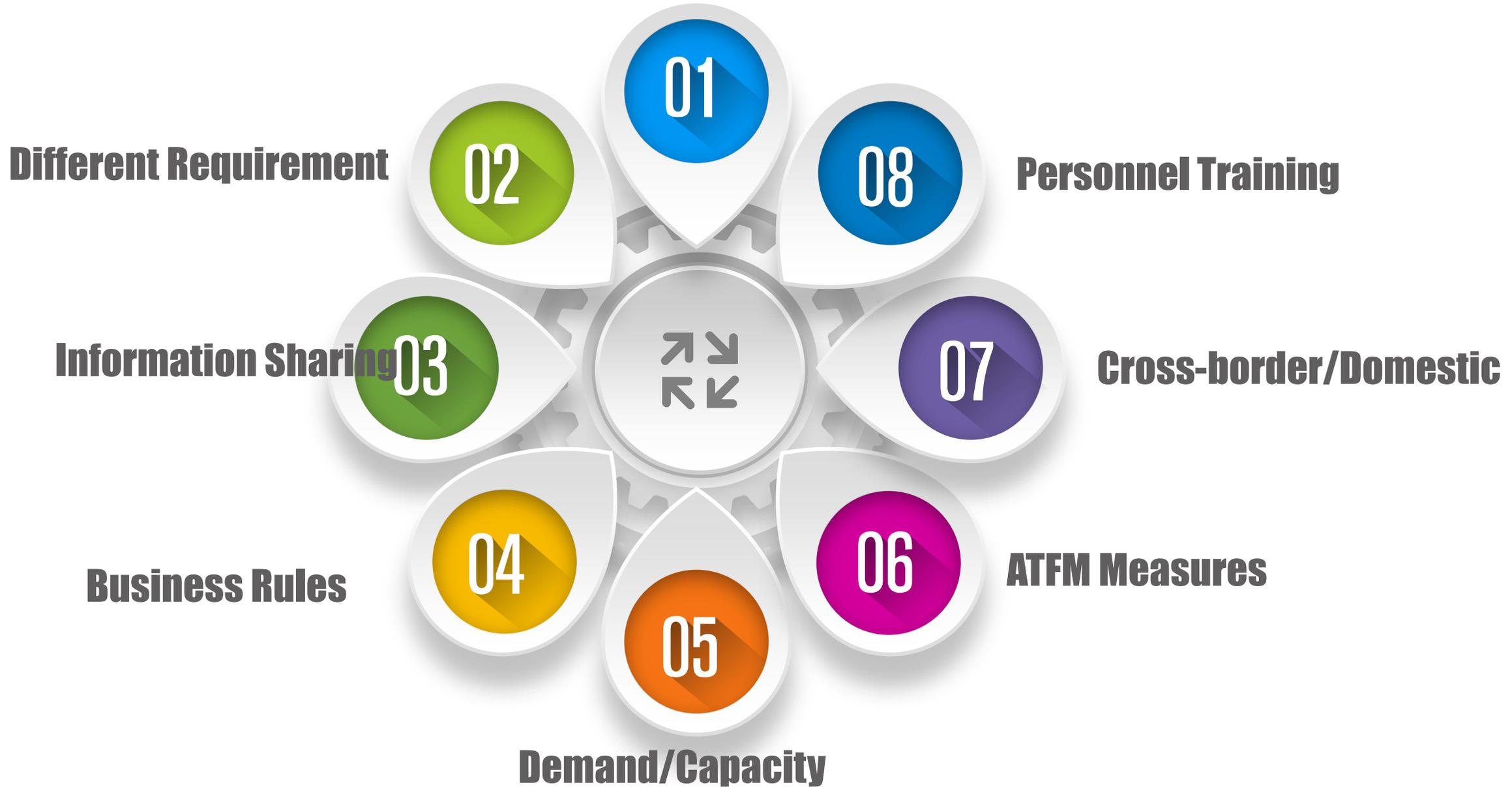
- 
- 1 How to manage the participation to work together?
  - 2 How to ensure the equal participation with variety of demands and capabilities?
  - 3 How to share the information interactively through cooperation?
  - 4 How to implement ATFM after the information are shared interactively ?
  - 5 How to achieve "Demand/Capacity Balancing"?
  - 6 How to manage the relations between cross border and domestic ATFM ?
  - 7 How to ensure the personnel capability?



Chapter 2

**Response programs**

# How To Work Together



# How To Work Together



## Chapter 2 Response programs

### 2.1 How To Work Together

Cross-border ATFM should be implemented in 38 contracting States, 2 Special Administrative Regions and 13 other Territories.

**Response**

Distributed Multi-Nodal concept

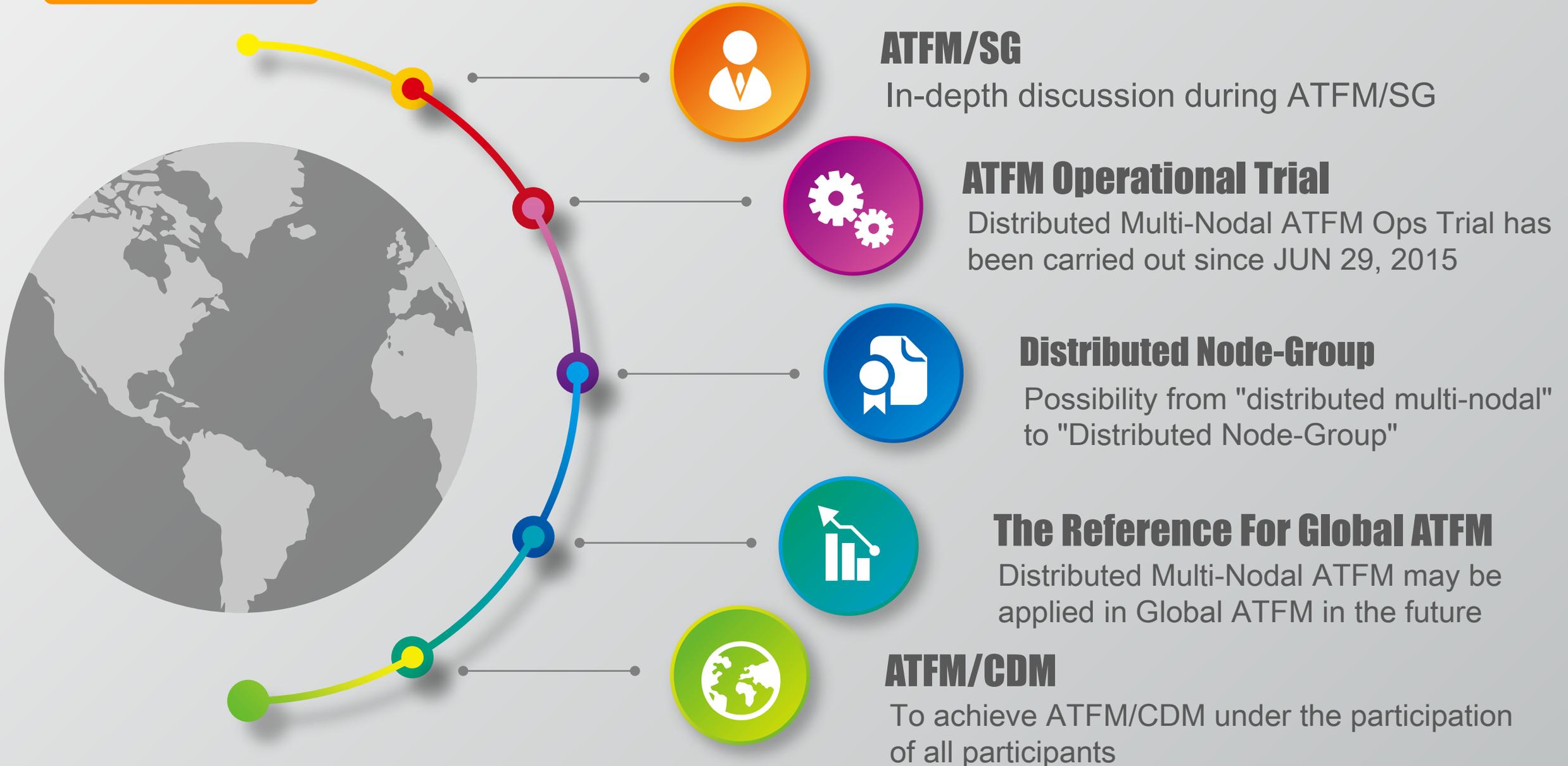
**Effect**

All participants take participation equally



## 2.1 How To Work Together

### Main points



# How To Work Together

**Different Requirement**



## Chapter 2 Response programs

### 2.2 Different Requirement

Different participants with variety of demands and capabilities

**Response**

A Phased Approach with Tiered Participation

**Effect**

Dynamic Levels

## 2.2 Different participants have different abilities and demands

### Main points

01

### Abilities and Demands

ANSP,AU,AO have variety of capabilities and demands in ATFM

02

### Adjust the level

Adjust the level of participation of each participant in accordance with it's present capabilities/demands and the future upgrades

03

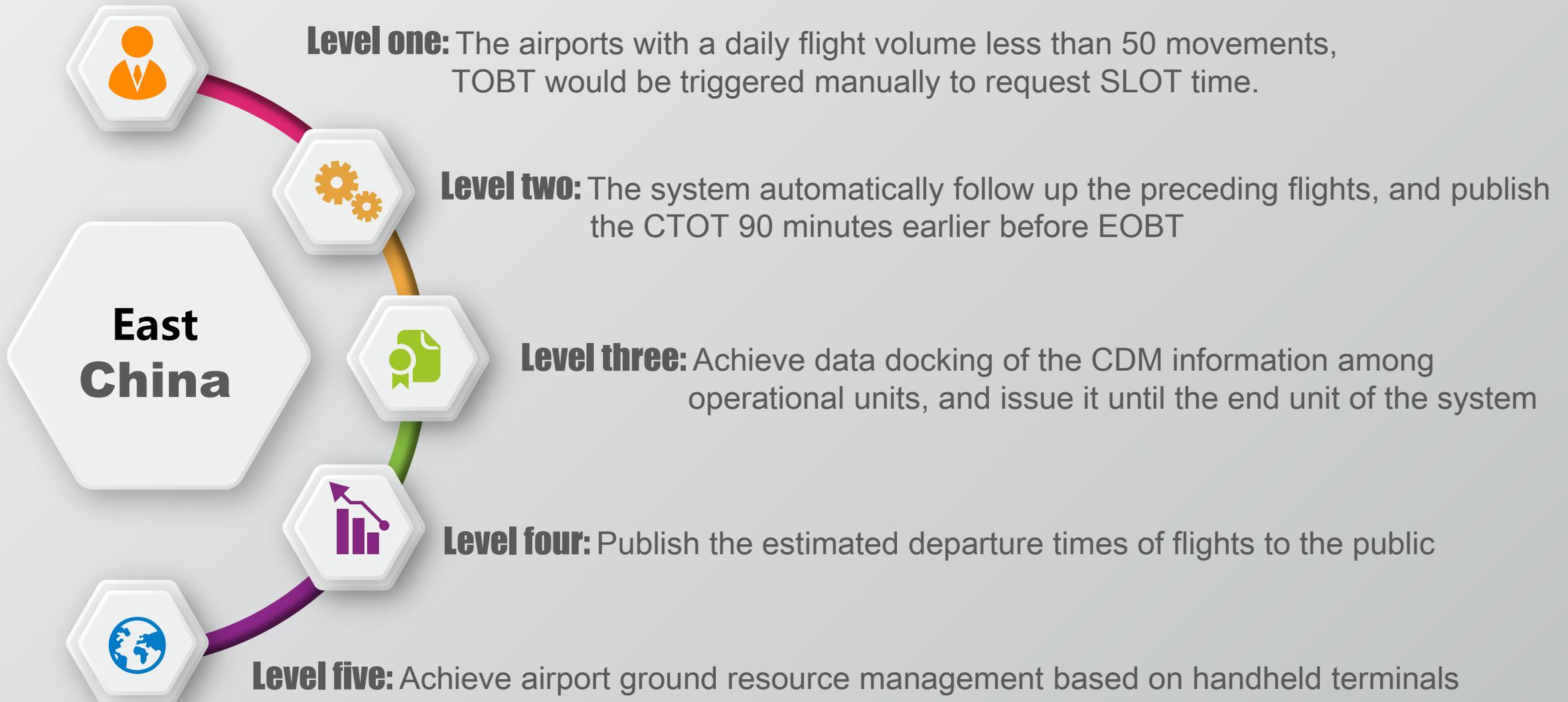
### Choose

Each participant can choose it's Levels according to it's abilities and demands freely



## 2.2 Different participants have different abilities and demands

### Main points



# How To Work Together

**Different Requirement**

02

01

**Information Sharing**

03



## Chapter 2 Response programs

### 2.3 Information Sharing

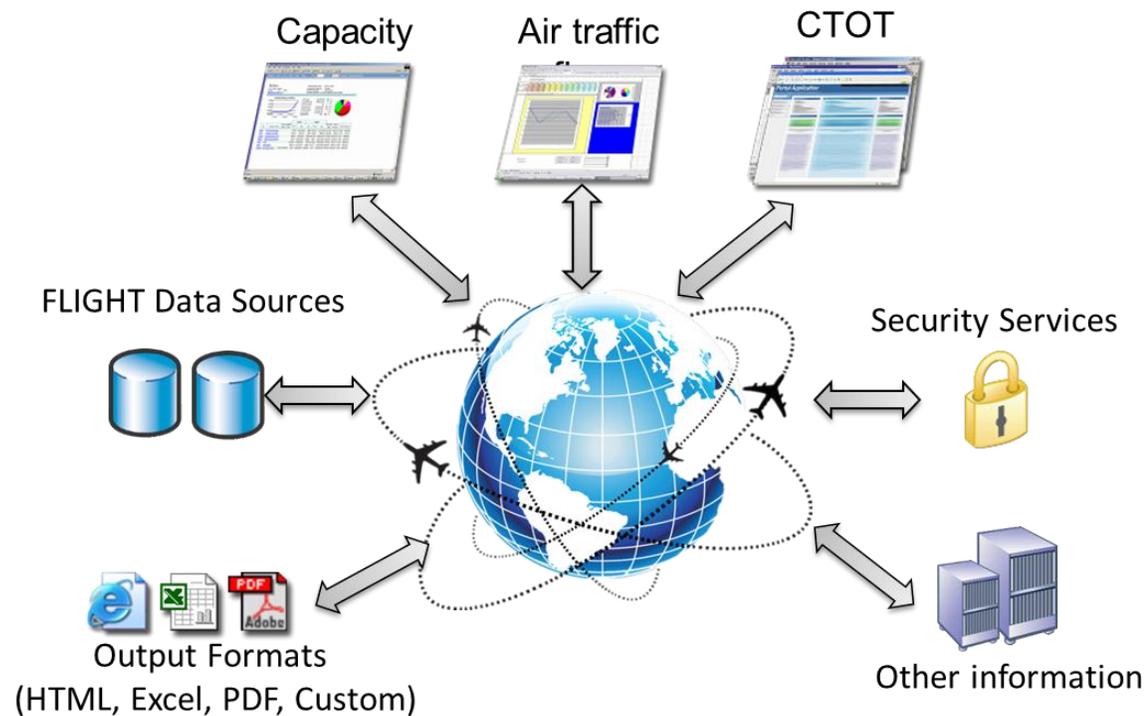
One of the core problems of ATFM: Data

**Response**

Information Sharing Technology

**Effect**

Exchange and interaction of the information

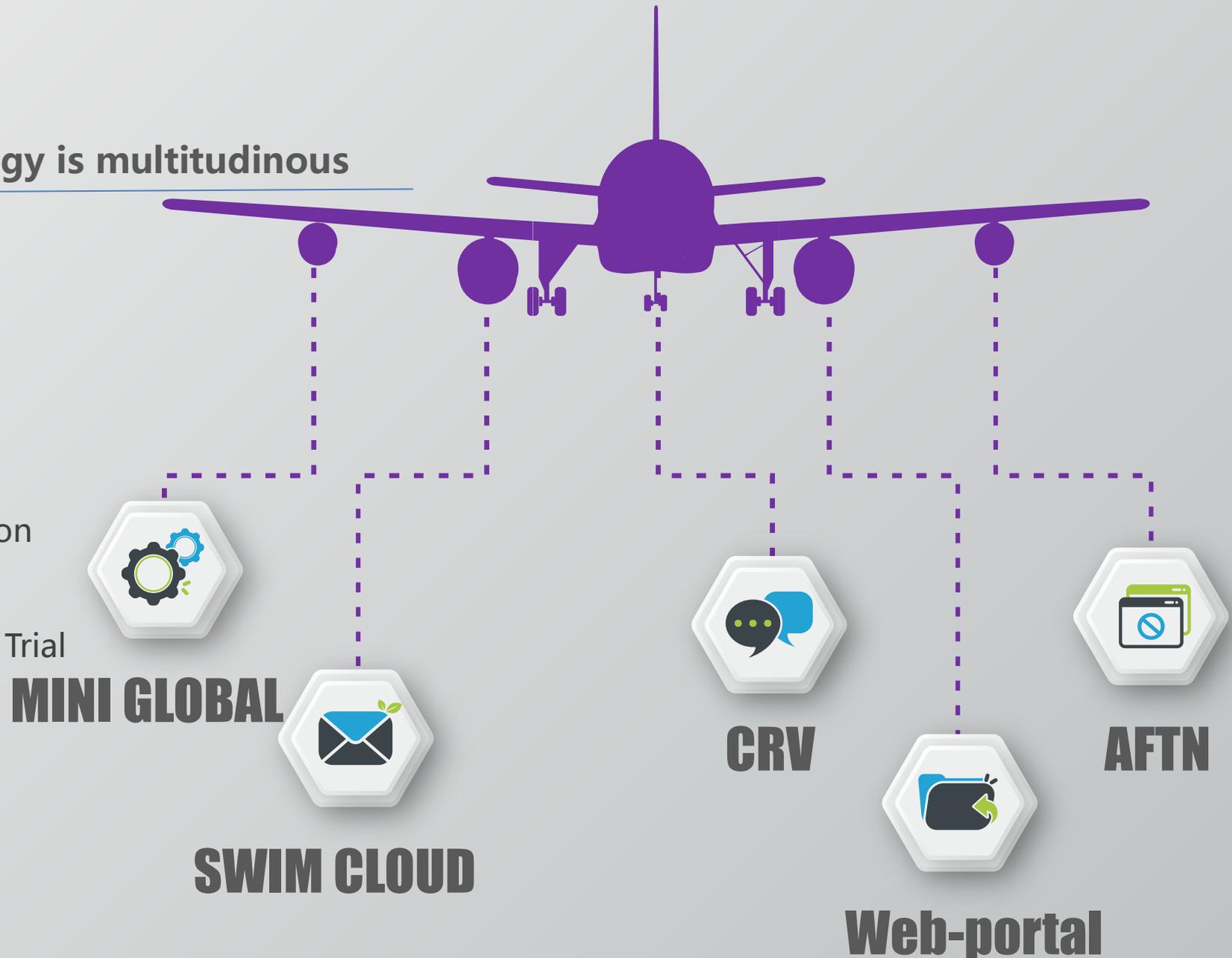


## 2.3 Information Sharing

### Main points

#### Information sharing technology is multitudinous

- MINI GLOBAL of FAA;
- SWIM CLOUD  
including FIXM, WXXM, AIXM
- CRV (Common Regional Virtual Private Network)  
pushed in the Asia-pacific Region
- Web-portal  
used in Multi-Nodal ATFM Ops Trial
- ATFN





## 2.3 Information Sharing

### Main points

#### Information sharing

We need a more inclusive way of information sharing instead of the most advanced way

#### Info Sharing in ATFM Ops Trial

Chooses a web portal which is simple to use with strong inclusive and low threshold, and E-mails, AFTN as well



#### ATFM/IR/SWG

ATFM/IR/SWG is to be set up in the Asia-pacific region on the meeting ATFMSG5

#### ICD

The XML used by ICD has a relative strong versatility in the next stage

# How To Work Together

**Different Requirement**

02

01

**Information Sharing**

03

**Business Rules**

04



## Chapter 2 Response programs

2.4 Different situation on ATFM of each participant

**Response**

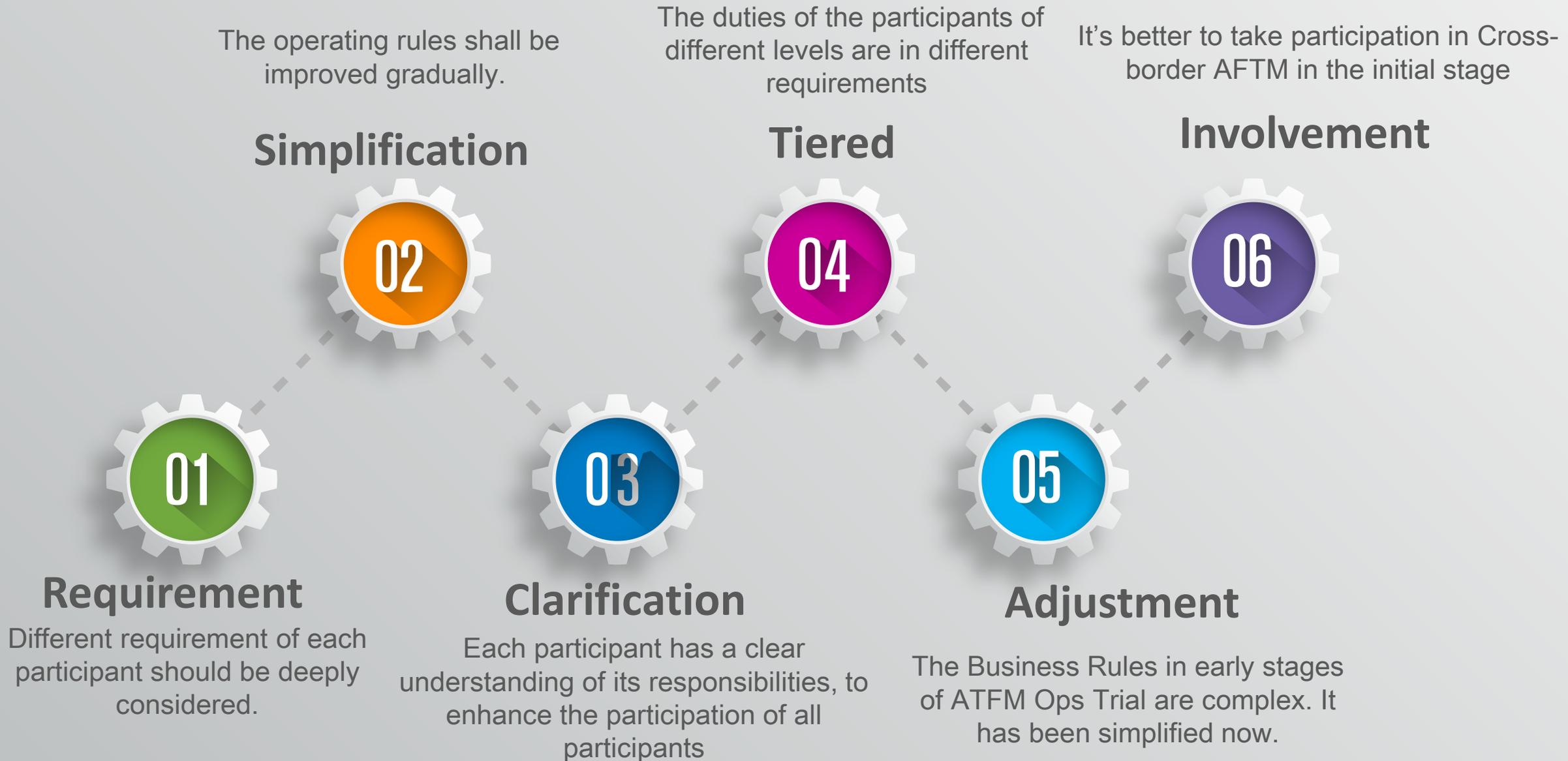
**Business Rules**

**Effect**

**To promote common development**

## 2.4 Business Rules

### Main points



# How To Work Together

**Different Requirement**

02

01

**Information Sharing**

03



**Business Rules**

04

05

**Demand/Capacity**



## Chapter 2 Response programs

### 2.5 Predictive accuracy of Demand and Capacity

**Response**

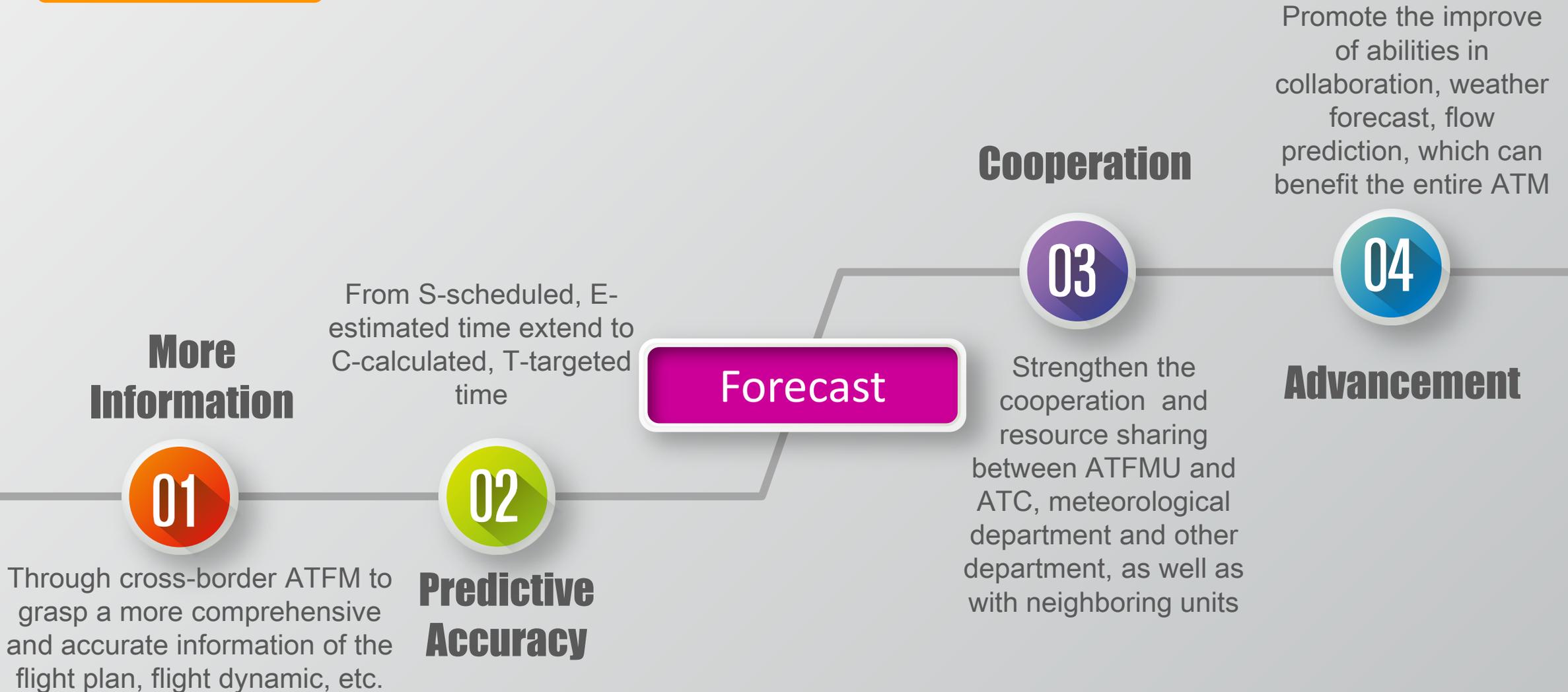
All-round cooperation

**Effect**

Promote forecasting ability to improve, which can benefit the entire ATM

## 2.5 Predictive accuracy of Demand and Capacity

### Main points



## 2.5 Predictive accuracy of Demand and Capacity

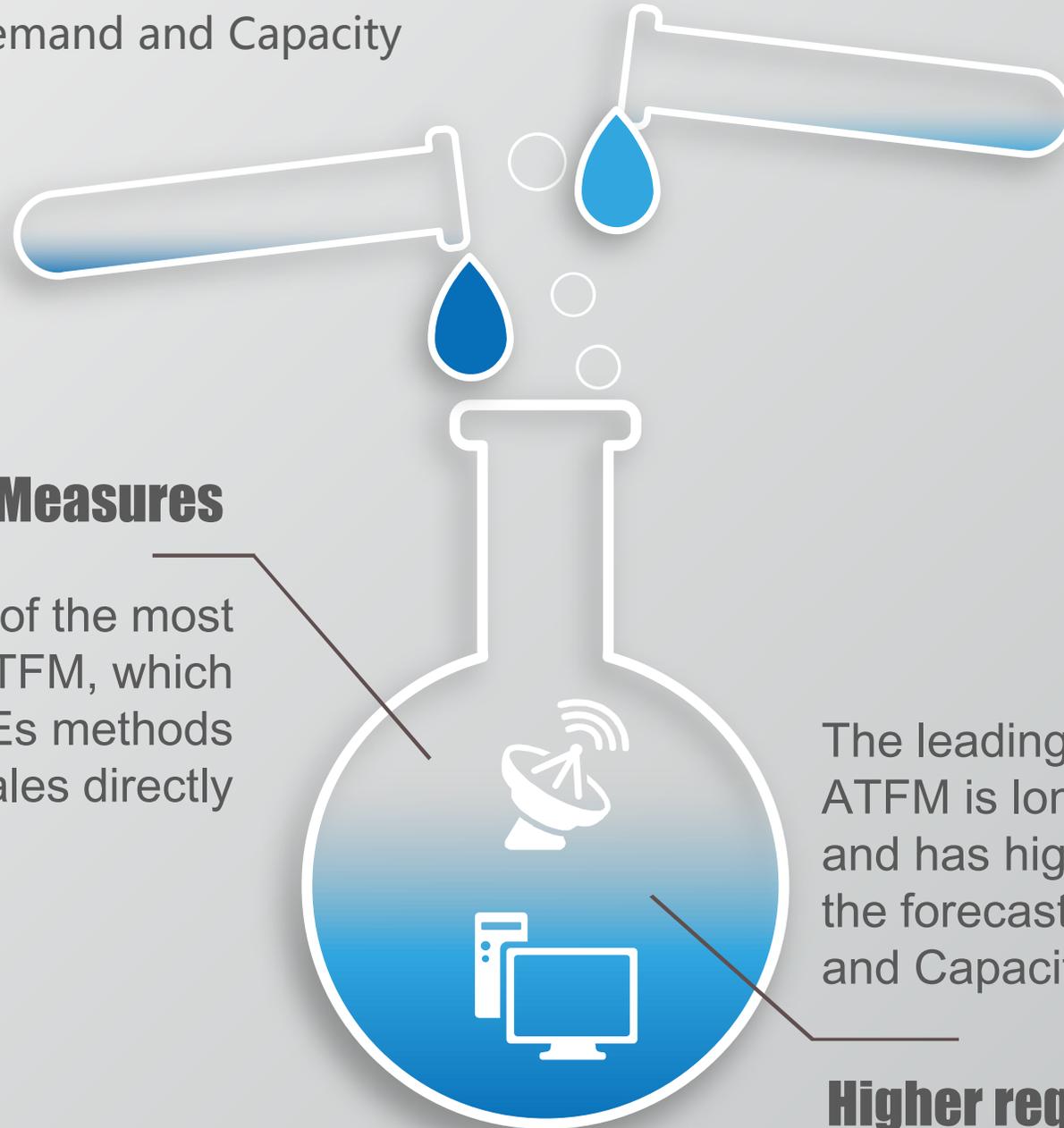
### Main points

#### **Predictability ↔ Measures**

Predictability is one of the most important things in ATFM, which decides ATFM MEASUREs methods and scales directly

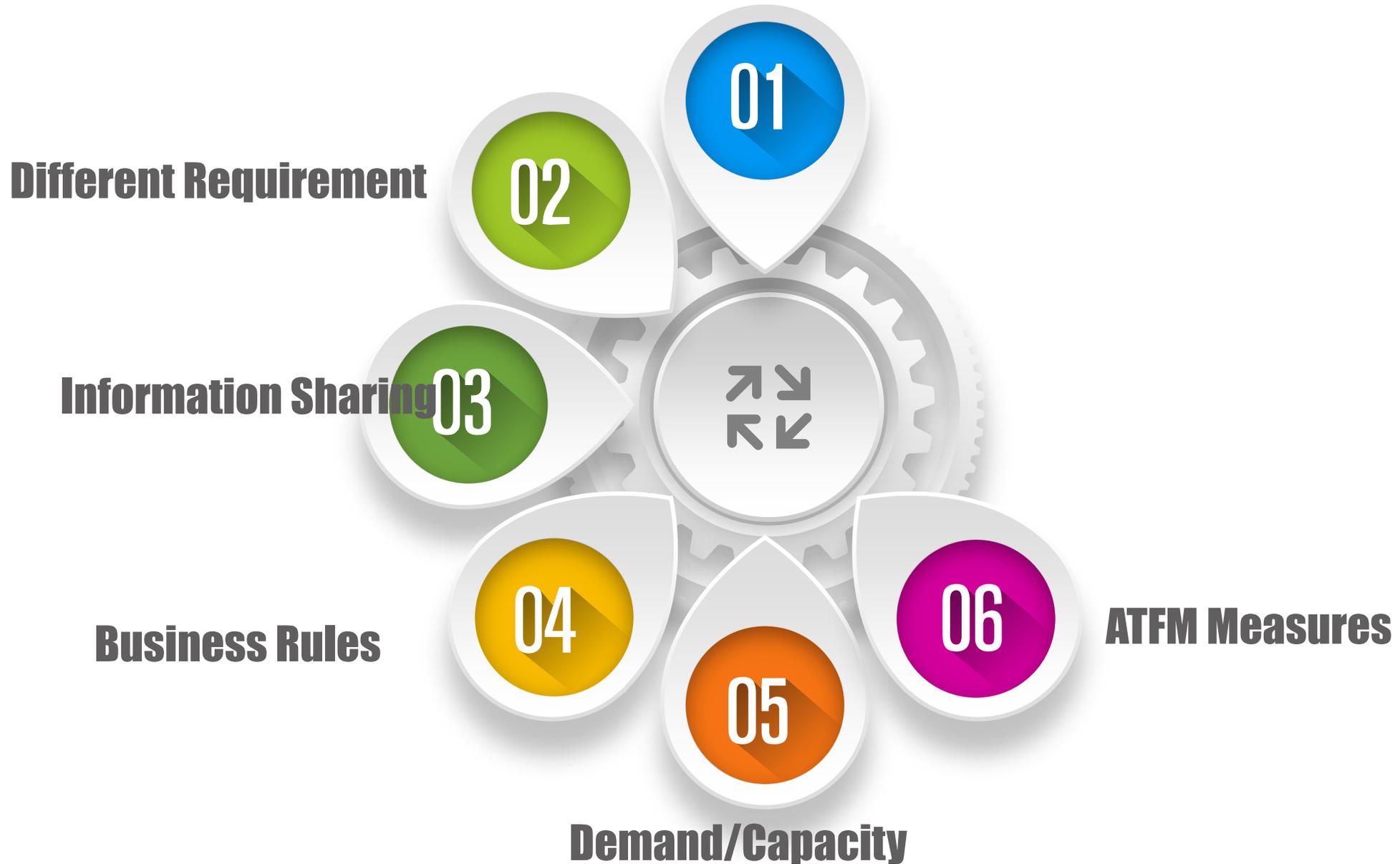
The leading time of Cross-border ATFM is longer than domestic, and has higher requirements of the forecast accuracy in Demand and Capacity.

**Higher requirements**





# How To Work Together



## Chapter 2 Response programs

### 2.6 Different measures in ATFM

**Response**

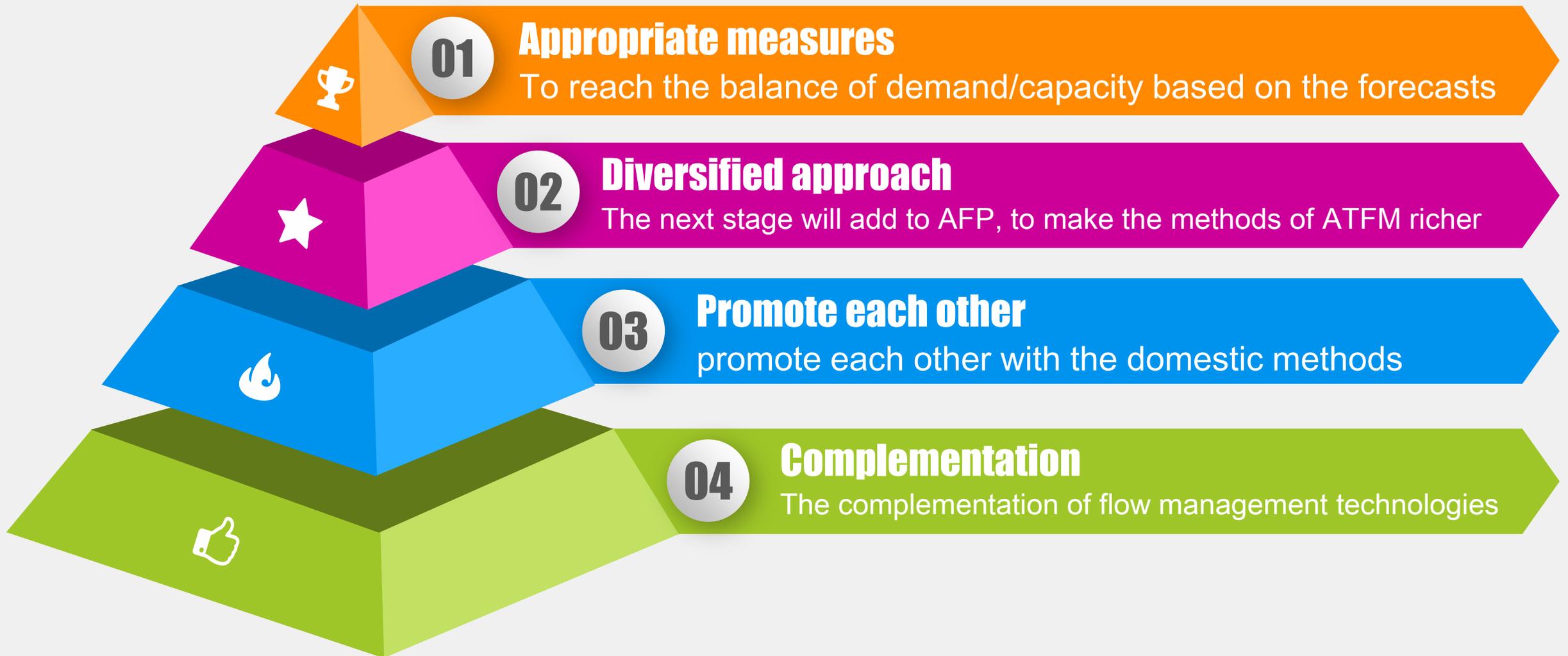
Universal, diversified, collaborative flow management technology

**Effect**

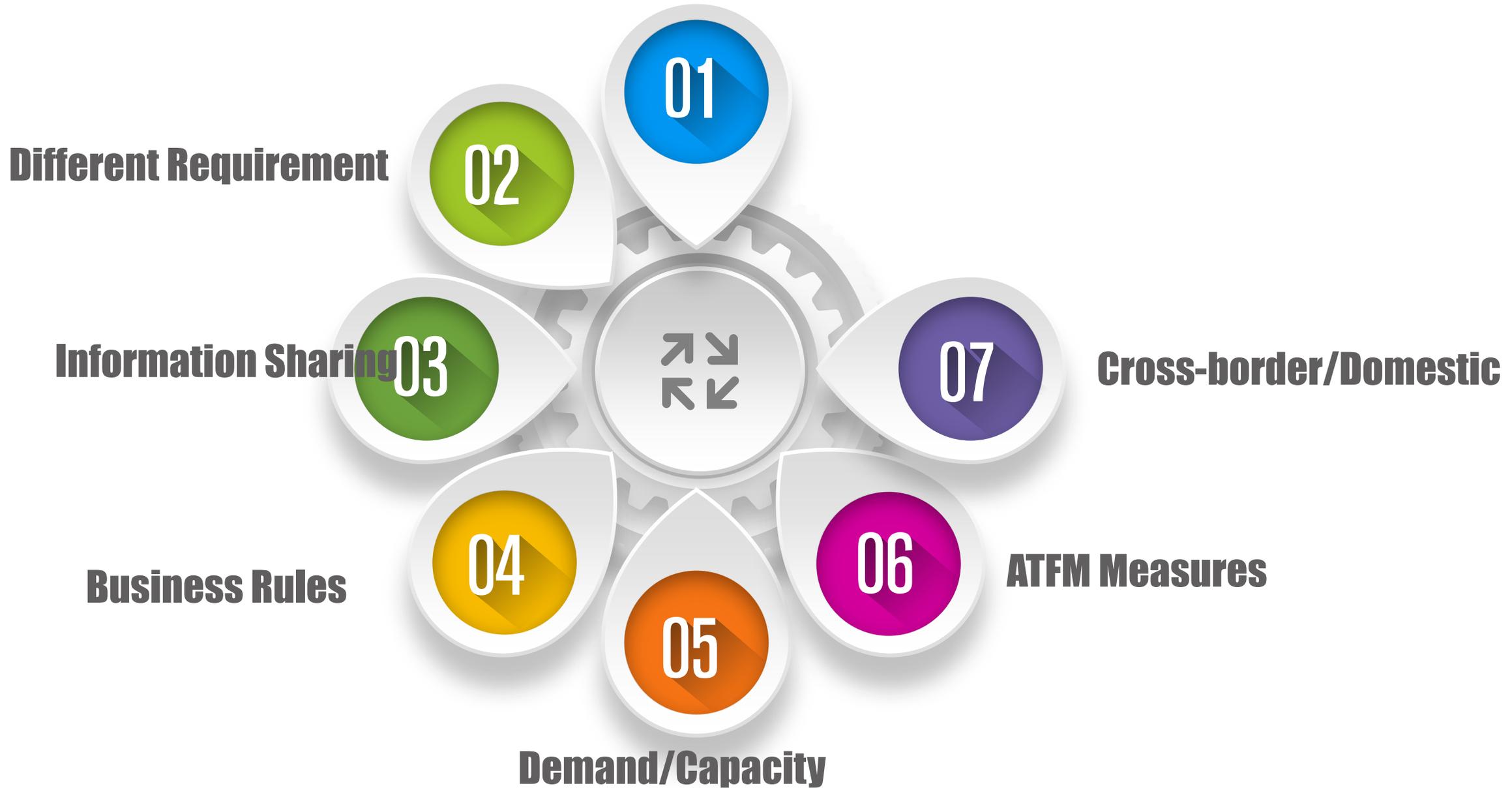
Promote collaboration

## 2.6 Method difference in ATFM

### Main points



# How To Work Together



## Chapter 2 Response programs

### 2.7 Integration of domestic and Cross-border ATFM

**Response**

Integrated ATFM model

**Effect**

Overall progress of ATFM



**Domestic flight**



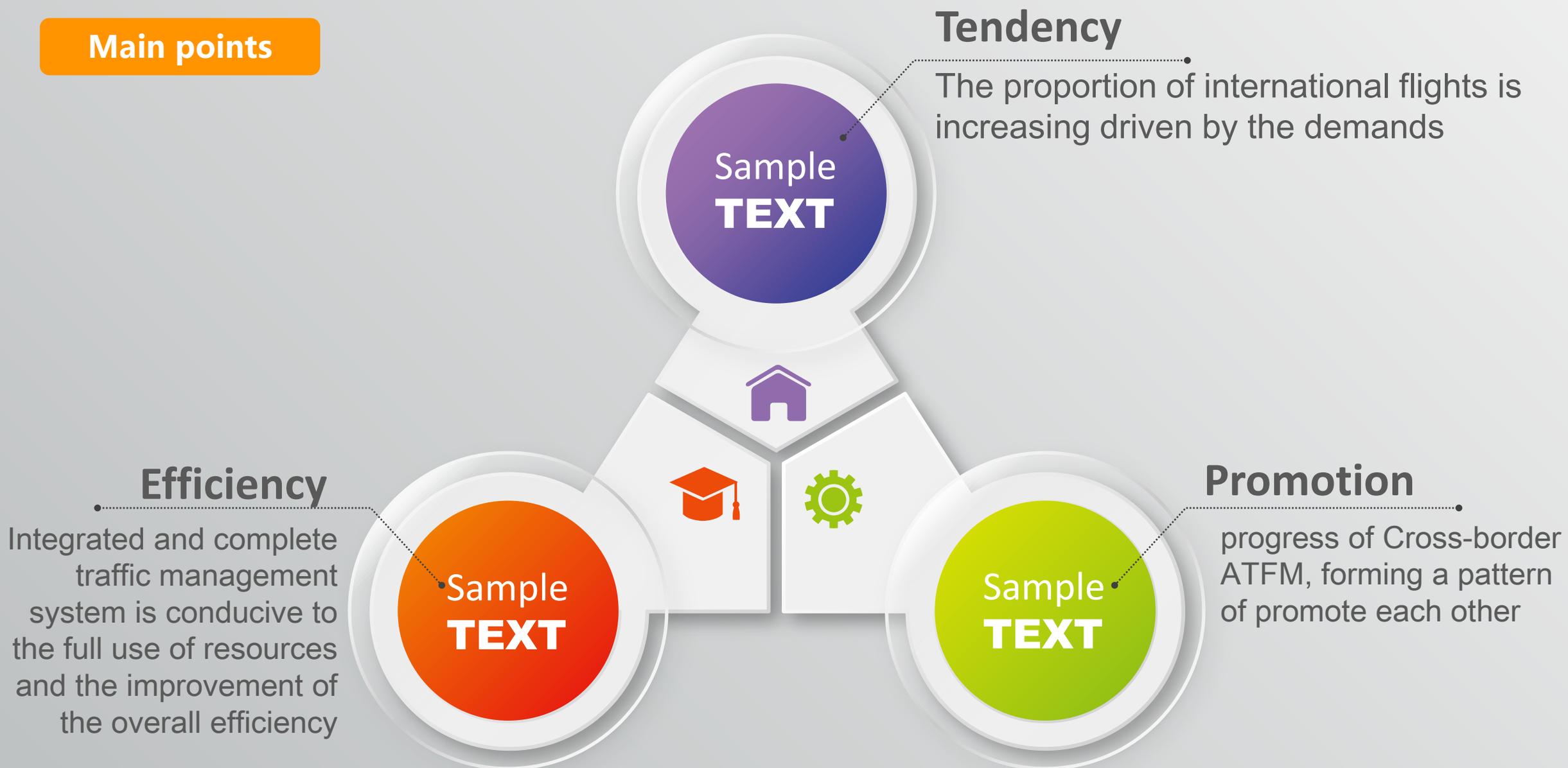
**International flight**



**Demand Increasing**

## 2.7 Integration of domestic and Cross-border ATFM

### Main points



## 2.7 Integration of domestic and Cross-border ATFM

### Main points



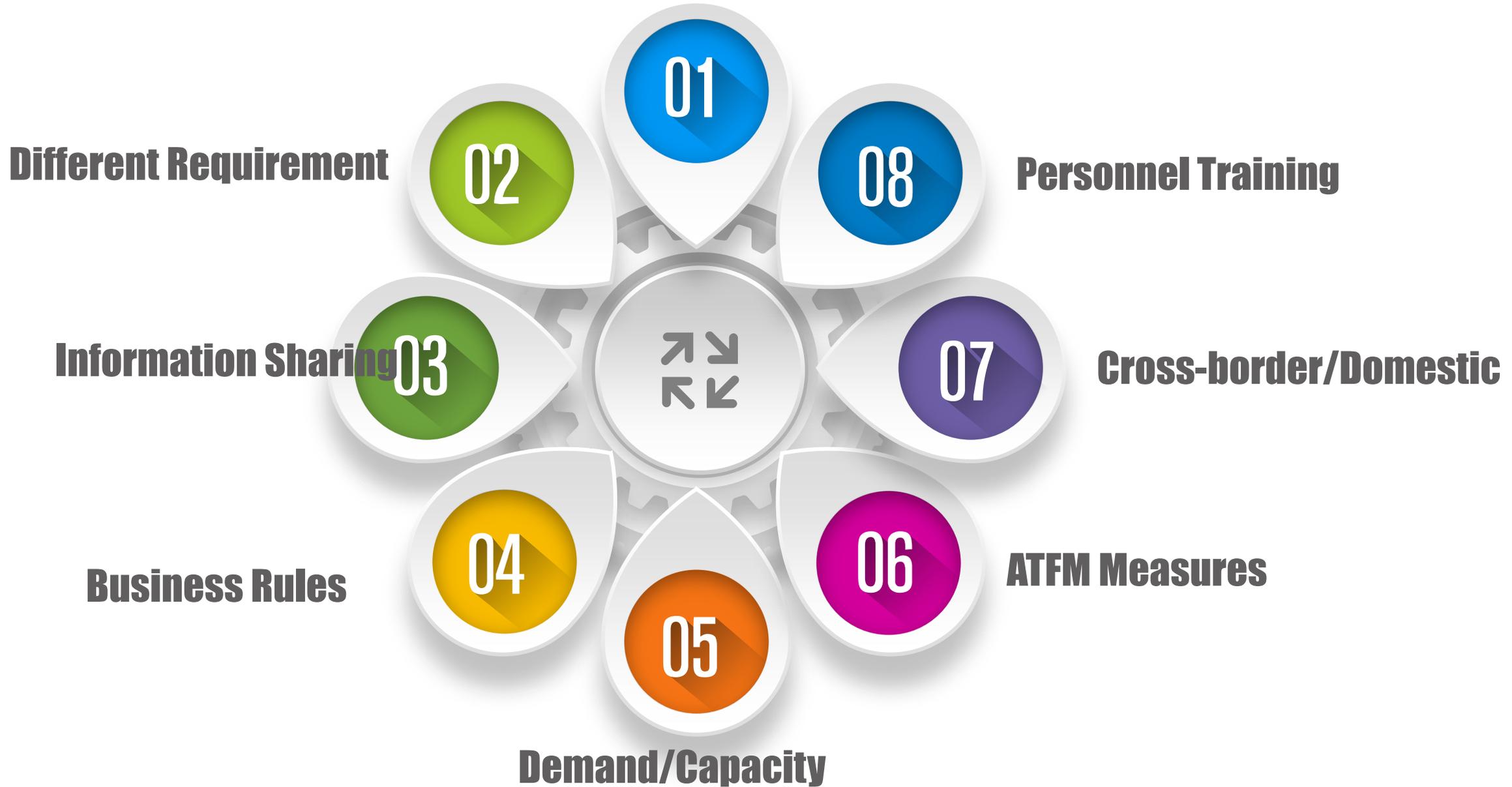
### **Integrated development**

Integrated development of ATFM process (strategic, pre-tactical and tactical) and tools

### **Two-Levels CDM**

The coordination between international and domestic ATFM shall be realized by a two-Levels CDM, one international and one domestic.

# How To Work Together





## Chapter 2 Response programs

### 2.8 Personnel abilities of Cross-border ATFM

**Response**

Study and Practice

**Effect**

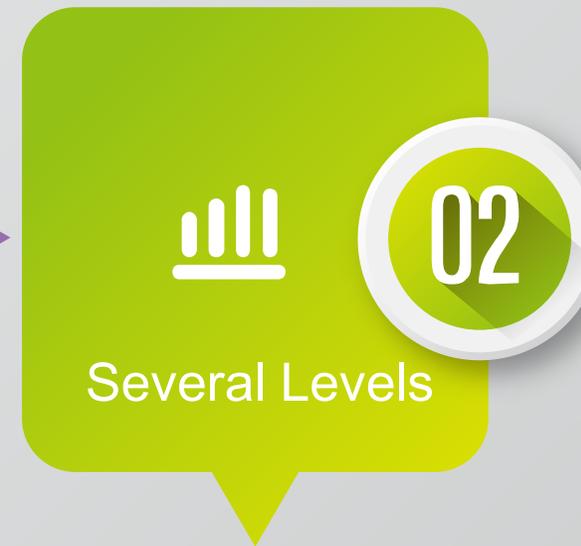
Training, to promote personnel abilities

## 2.8 Personnel abilities of Cross-border ATFM

### Main points

#### Initial stage

It is an accumulation process for all participants in aspect of personnel abilities at the initial stage of Cross-border ATFM in the Asia-pacific Region



#### Several Levels

Personnel capacity requirements in ATFM are divided into several levels, and training should be different for each Levels

#### Starting early

the earlier to take participation in, the easier to accumulate experience and to promote personnel abilities



#### From practical

Training personnel ability from the practical participation for Cross-border ATFM is on of the most effective way



Chapter 3

**Summary**

# Comprehensive development of ATFM



## Issue-oriented Cross-border ATFM

01

### **Tendency**

Asia-Pacific cross-border ATFM is the inevitable trend of future development

02

### **Early**

Take participation in the cross-border ATFM as early as possible

03

### **Promote**

Promote the overall development of civil aviation

04

### **Together**

Join together, realizing the win-win

01

Tendency

02

Early

03

Promote

04

Together



**one Sky, one Dream**

A stylized world map in shades of blue and white, centered on the Atlantic Ocean, set against a dark blue background with a light blue grid pattern.

# THANKS



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