



National  
Statistics Center

For the People,  
Society and the Future

Reliable Statistics and Competent Technology

# National Statistics Center - Change and Challenge -

Hiroe Tsubaki

President,

National Statistics Center

National Statistics Center

**1 . Overview of the National Statistics Center**

**2 . Measures for promoting improvement and efficiency in business operation**

**3 . Development of Statistical Service**

**4 . Challenges for the future**

---

# **1 . Overview of the National Statistics Center**

# Three Roles of the National Statistics Center

In order to complete the mission of accurate preparation of official statistical information as critical information for the citizens in their reasonable decision making and its efficient provision without delay, the National Statistics Center is required to undertake the following roles:

## 1. Produce Statistics

Preparation of fundamental national statistical data, such as those on demography, unemployment rate and consumer price index.



## 2. Exploit Statistics

Provisions of statistics-related services to general users of statistical data, respondents to a survey and researchers at their convenience and security.



## 3. Support Statistics

Implementation of system management and projects to produce statistical data for national government offices and ministries, local official entities, international organizations and governments of other countries.

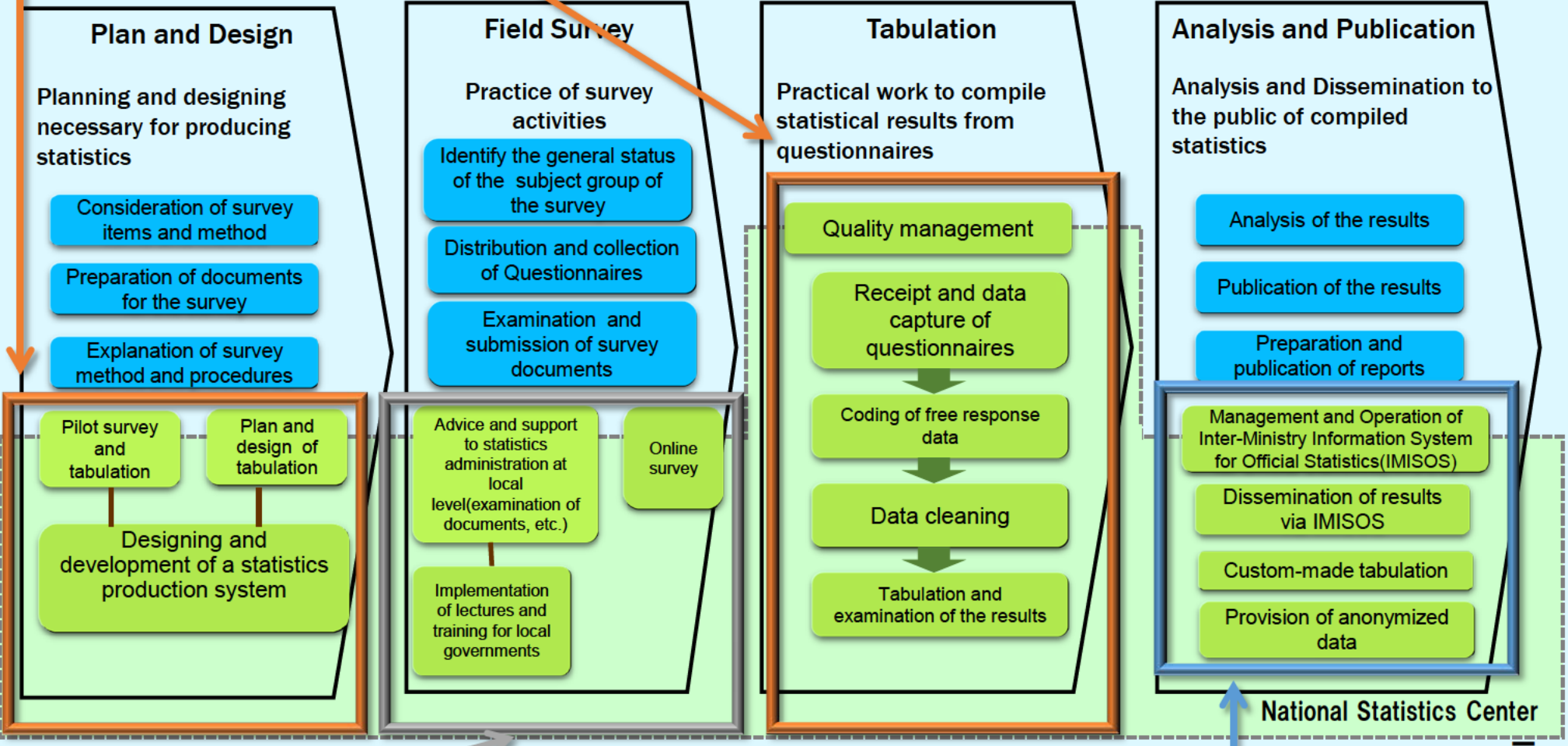


# Process of Statistical Data Production and Roles of the National Statistics Center

## 1. Produce Statistics

### Process of Statistical Data Production

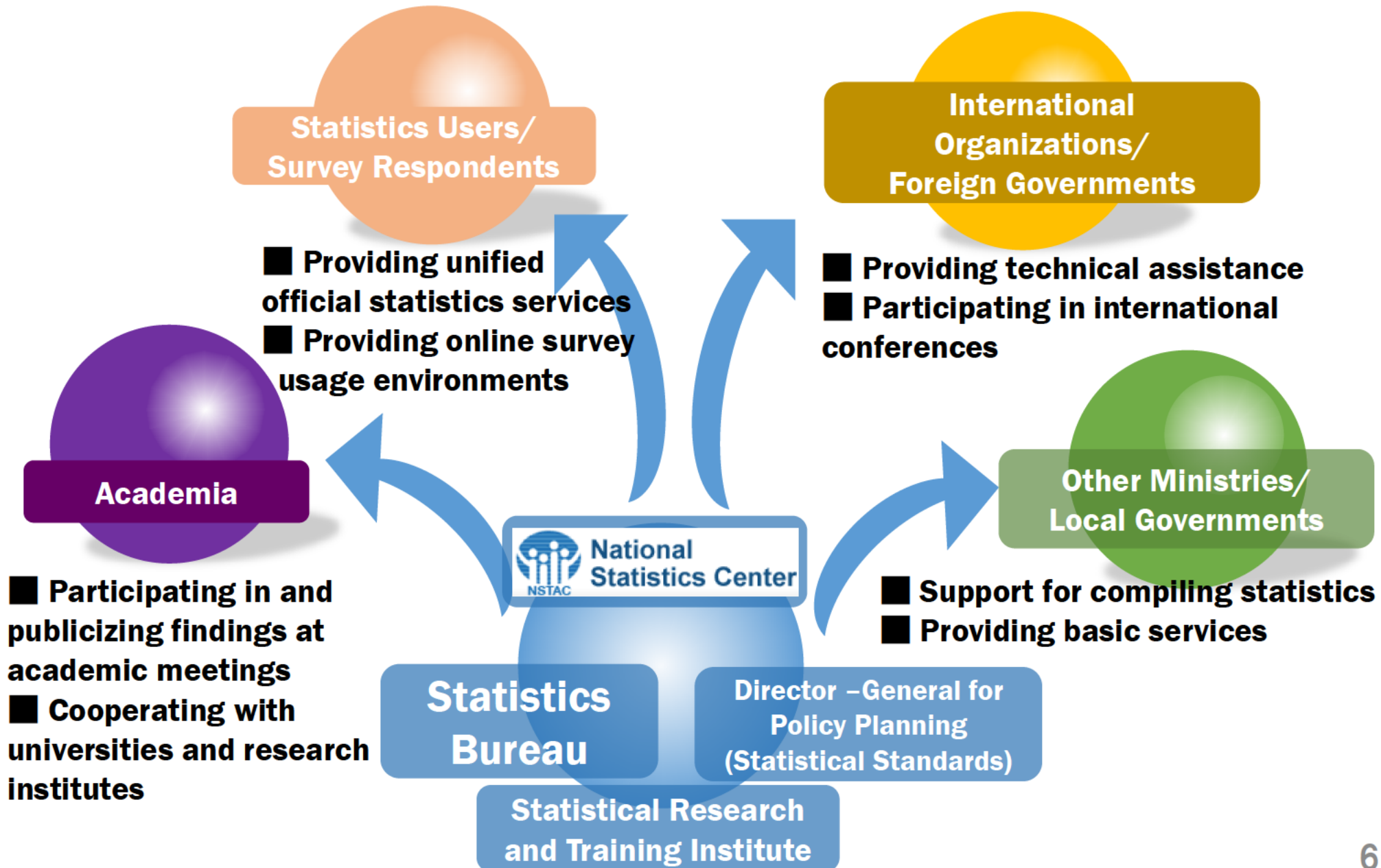
Statistics Bureau of Ministry of Internal Affairs and Communications, etc.



## 3. Support Statistics

## 2. Exploit Statistics

# A Specialist Agency Supporting Official Statistics System



---

## **2. Measures for promoting improvement and efficiency in business operation**









## Quality management



年	月	日	項目	値	標準差	標準化	順位	順位率	順位率の逆数	順位率の逆数の平方	順位率の逆数の立方	順位率の逆数の4乗	順位率の逆数の5乗	順位率の逆数の6乗	順位率の逆数の7乗	順位率の逆数の8乗	順位率の逆数の9乗	順位率の逆数の10乗	
2019	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

項目	値	標準差	標準化	順位	順位率	順位率の逆数	順位率の逆数の平方	順位率の逆数の立方	順位率の逆数の4乗	順位率の逆数の5乗	順位率の逆数の6乗	順位率の逆数の7乗	順位率の逆数の8乗	順位率の逆数の9乗	順位率の逆数の10乗
合計	72 120	49 557	50 001	115.6	123	85									
平均値	27 70	36 853	36 400	6.0	6.6	8.1									
標準偏差	264	532	612	6.1	6.1	8.1									
標準化率	35 200	121 435	146 208	18.4	21.0	24.2									

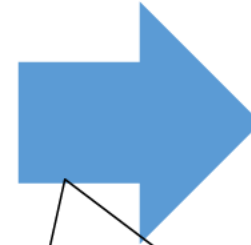
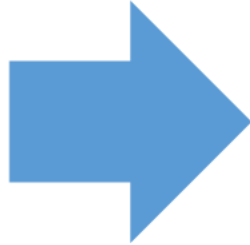
## Labor Intensity

More timely and accurate

## Utilization of ICT/automation

Standardization of System

Staff focus on high-level judgment based on their expertise



- Image capturing
- recognition of figures/marks

- recognition of characters
- management of data

## Features of Japanese text

Complexity of Character

Combination of various types

あいうえお

阿亜合相安

アイウエオ

Aa Bb Cc

Address field



Candidate characters

1	客	崎	県
2	宮	埼	具
3	官	城	呉
4	營	慎	貝
:	:	:	:

宮崎県 : 90 pt  
(Miyazaki prefecture)

宮城県 : 75 pt  
(Miyagi prefecture)

## Various kinds of expressions

11 勤め先・業主などの名称及び事業の内容	ABC代理店
・仕事をしている事業所(本支店 営業所 工場 商店など)の名称を書いてください(官公庁は課名まで)	勤め先・業主などの名称
・その事業所で主に営まれている事業の内容をくわしく書いてください	事業の内容
・労働者派遣事業所の派遣社員は 派遣先について書いてください	
12 本人の仕事の内容	営業外務員
・本人が実際にしている主な仕事の内容をくわしく書いてください	仕事の内容



**J (FINANCE AND INSURANCE)**

**D (Sales workers)**

**Coding by manpower**



## Various kinds of expressions

11 勤め先・業主などの名称及び事業の内容 ・仕事をしている事業所(本社・支店・営業所・工場・商店など)の名称を書いてください(官公庁は課名まで) ・その事業所で主に営まれている事業の内容をくわしく書いてください ・労働者派遣事業所の派遣社員は、派遣先について書いてください	勤め先・業主などの名称 事業の内容 仕事の内容	ABC代理店 保険代理業 営業外務員
----------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------	--------------------------

Character recognition



J (FINANCE AND INSURANCE)

D (Sales workers)

Support by ICT

Focusing on Difficult coding



Coding rules



Useful rules generated by staff exploiting their expertise

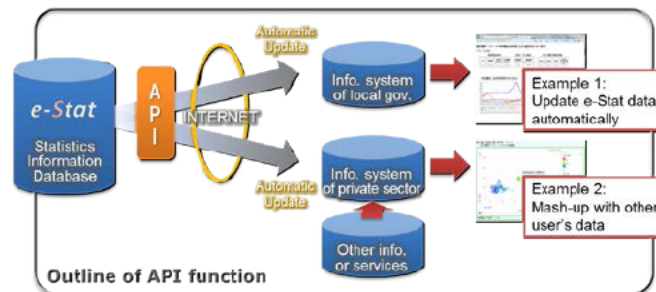
Rules generated by machine learning

## Purpose of business

Production of Tables  $\Rightarrow$  Production of Database



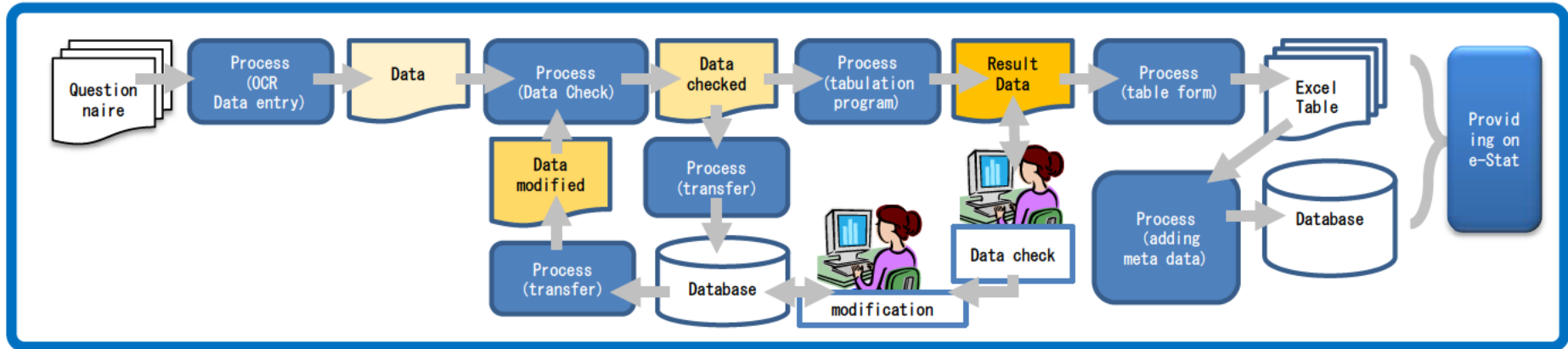
Advanced utilization of data



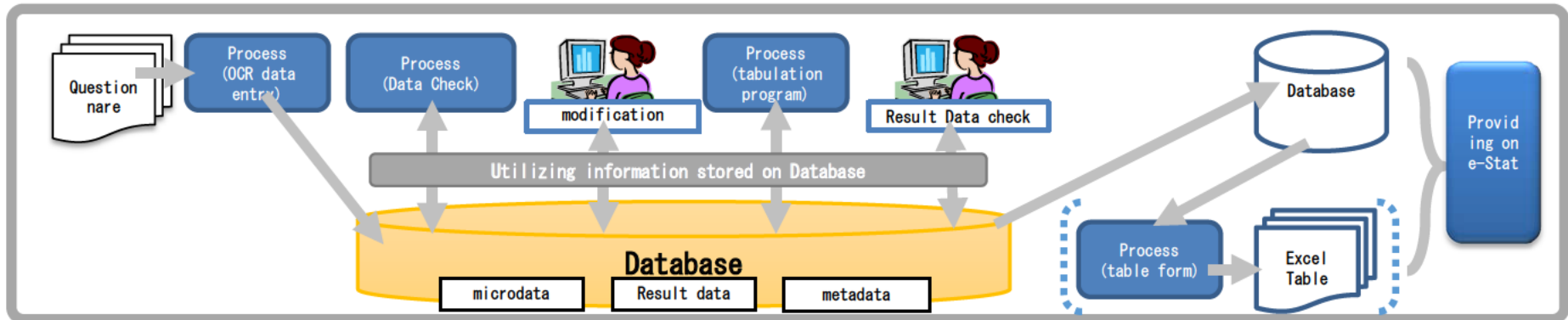


# Reform of business process

So far : Data file exists/managed in each process “Process oriented”



Future : Change to “Data oriented approach”



- Efficient data management, easy to expand functions
- Development infrastructure toward data provision/utilization services



---

## **3. Development of Statistical Service**

## **2007 Statistical Act was fully revised Official Statistics as “information infrastructure for society”**

**New framework for contributing to the development of  
scholarly investigation and higher education**

### **Provision of the Anonymized Data**

The data allows application of advanced statistical analysis, such as multivariable analysis.

National Statistics Center produces  
approximately 180 Data files  
every year

### **Tailor-made Tabulations**

The tabulation enables statistical tables processed as requested

National Statistics Center produces  
Approximately 100 tables  
every year

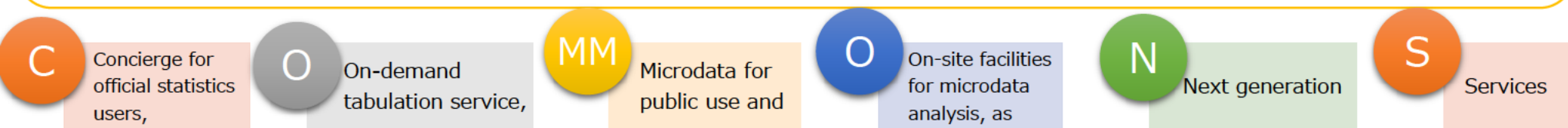
# Development of Statistical Service

**“COMMONS”**

= Common resource of all



Contributing to further effective utilization of Official Statistics by expanding statistics services for people

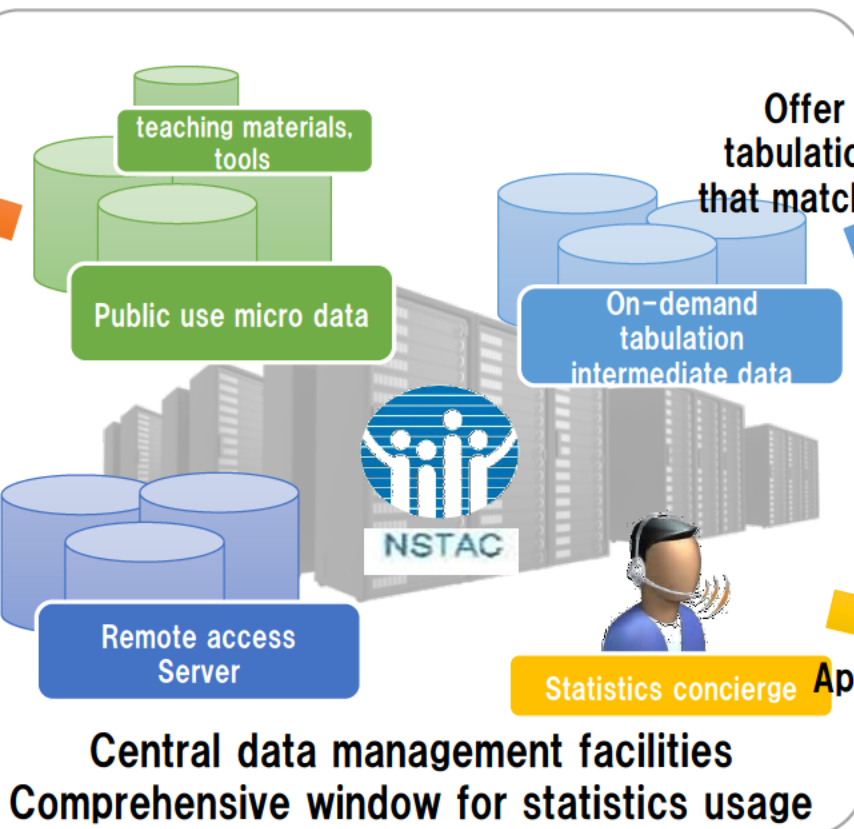


Students, programmers

Experience of statistical analysis, Enhancement of statistics education



Raw Data construction of the environment



Offer of the tabulation tables that matched needs



Researchers, local official entities

Appropriate information, Guidance of the statistics service



Statistics users 18

---

## **4 . Challenges for the future**

- **Importance of data-based decision making and forecasting. Necessity of Data literacy**  
⇒ **The increasing responsibility of  
the National Statistics Center in society**
- **As a professional agency of statistics,**
  - **producing useful data and information,**
  - **promoting utilization of data**
- **The National Statistics Center shall play a central role in the data and information community**  
⇒ **- improving value of statistics data**
  - **contributing to realize a “Better society with data”  
in Japan, and around the world**

**Thank you very much for your attention**



**National  
Statistics Center**

**For the People, Society, and the Future**