Progress of Land Administration and Geospatial Information in Taiwan

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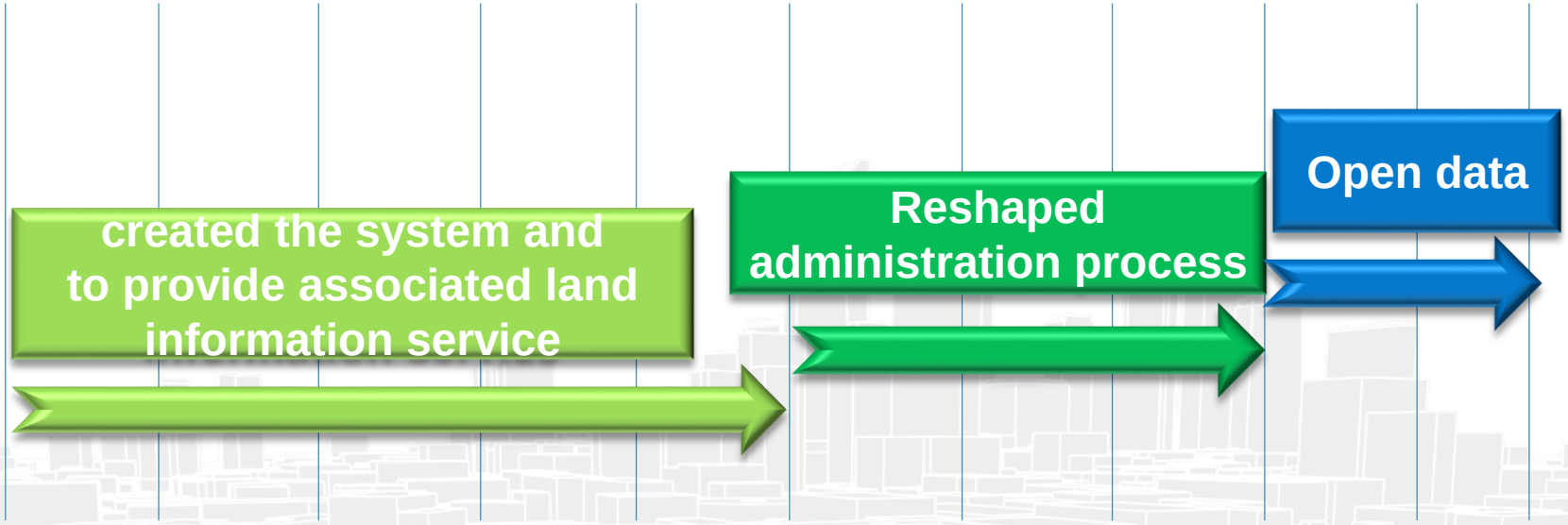
A brief review of development of land administration digital system in Taiwan

時間	發展狀況
1978	First try of land administration and data computerlization.
1999	Developing the Building Suvery Operation System
2001	The land administration operation was fully computerlized nationalwide.
2004	Developing the system for eminent dom'ain, land-readjustment in rural community, land resumption, national land database
2005	Initiaing the service of on-line application (such as land resumption, simple land registry
2008	Initiating the "Land administration data e net go" (integrating the asscoaited database with land administration, create the platform for simplized operational procedures and collect necessary data)
2009	Installing the E-government payment system

The steps towards Open Government



Next stage: from E-government to Open government

Economic

- Cut down on cost of development
- Encourage the innovative thinking and creative development

Government

- Improve administrative efficiency

Land Administration Integration Data-opening System (LAID)

It has build free charge to provide raw land data to government sectors for reprocessing.

Private sectors also present the need of the data for commercial purposes.

Taiwan government decided to release these data to private sectors and expect there will be more creative uses based on land data.

Eventually, the traditional mode of G(government)-C(consumers) will be transferred to G-B(Business)-C.

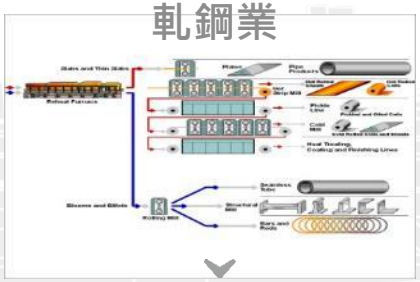
Foster a new industry based on land data

Government
Enterprise
Academic

Iron refinment

煉鋼業

軋鋼業



鋼鐵加工業

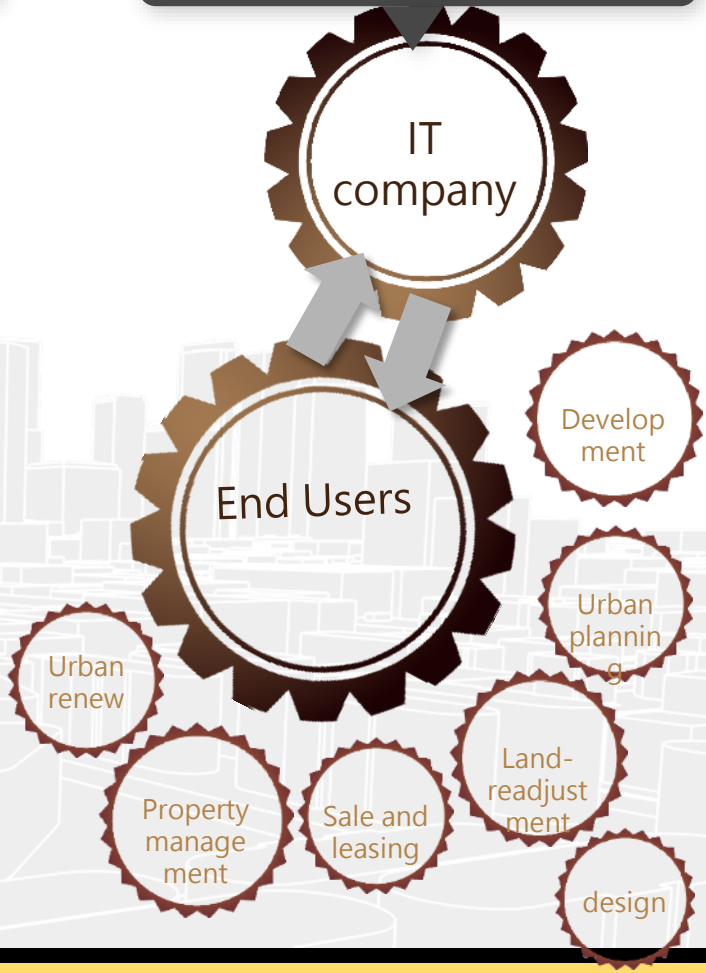
Data refinement

Orininal data
ex：national land data base

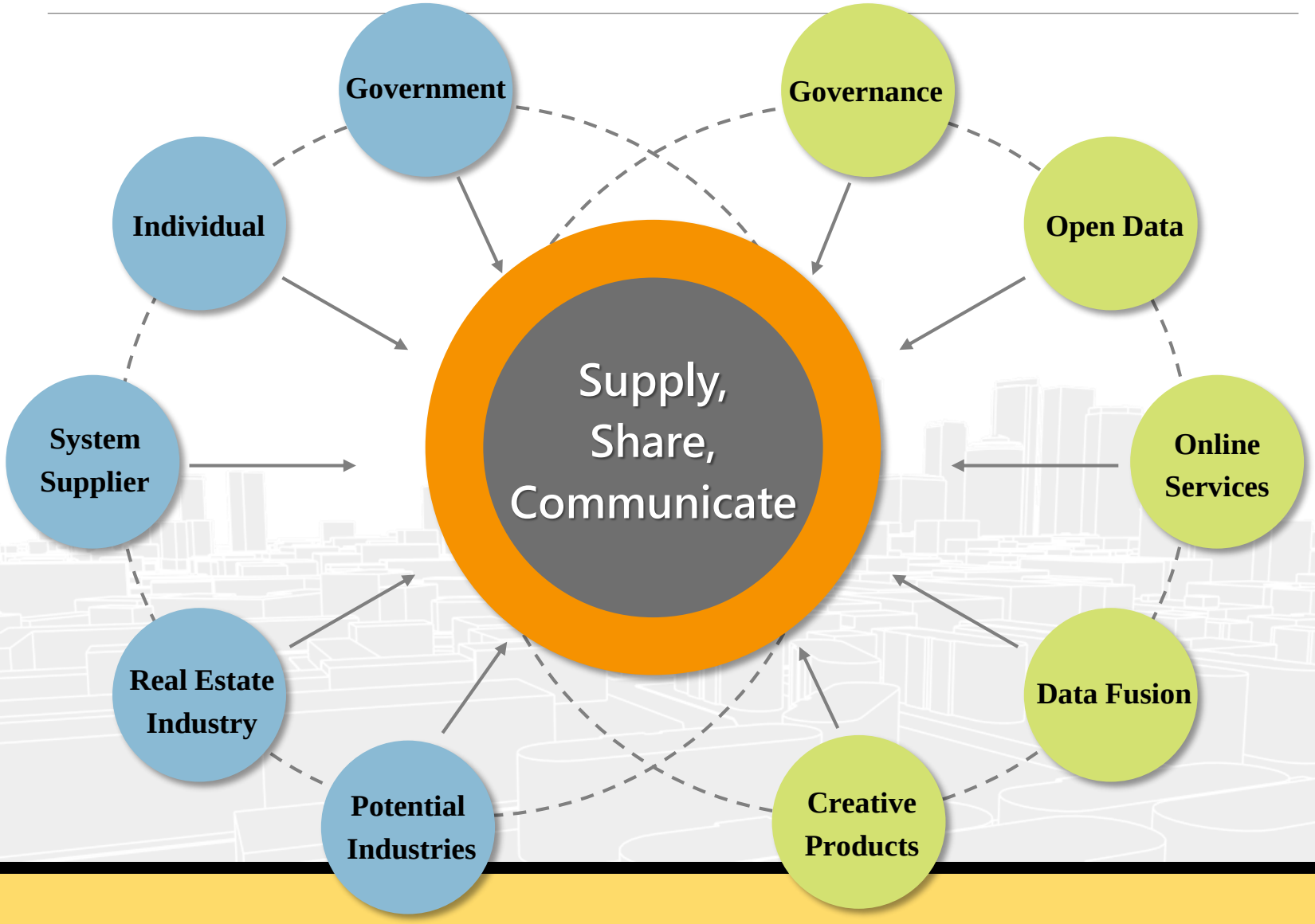
Basic refinement
Ex::API、WFS、LAID

N types of data refinement or application

Applications



The Core Value



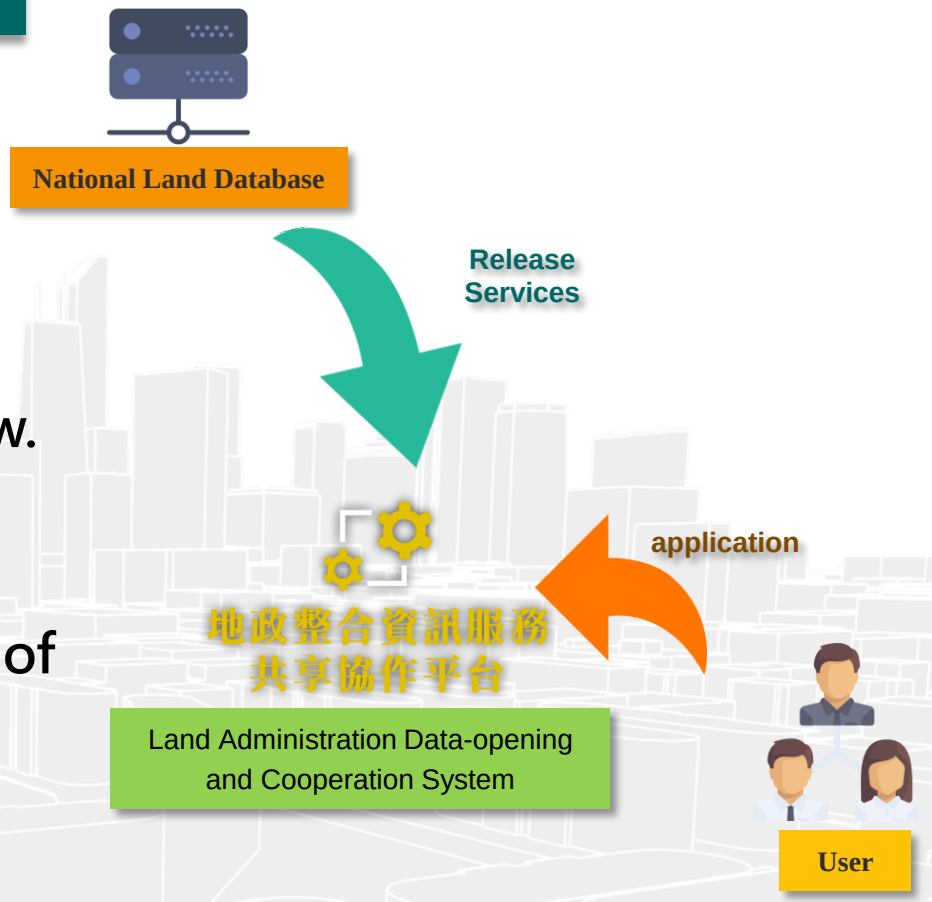
How LAID operates?

- **Log In**
  - Membership log in
- **Cooperation**
  - Personal information and system service setting
- **Services**
  - Service list
- **Introduction**
  - Introduction of service
  - How to use and get service
- **About**
  - About the system
- **Sitemap**

Land Administration Online Service

Service Oriented Architecture

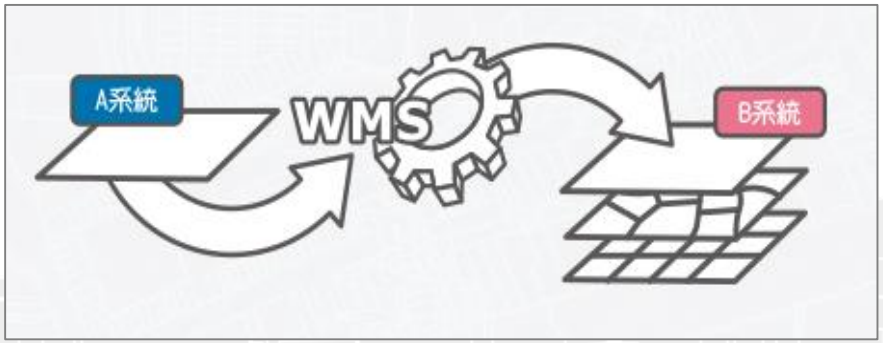
- Use web service as message exchanged mechanism.
- Defined the standard of message exchanged, offer all roles to follow.
- Set up a mature service manage mechanism.
- Offer an interfacing environment of Fault Tolerance



Land Administration Online Service

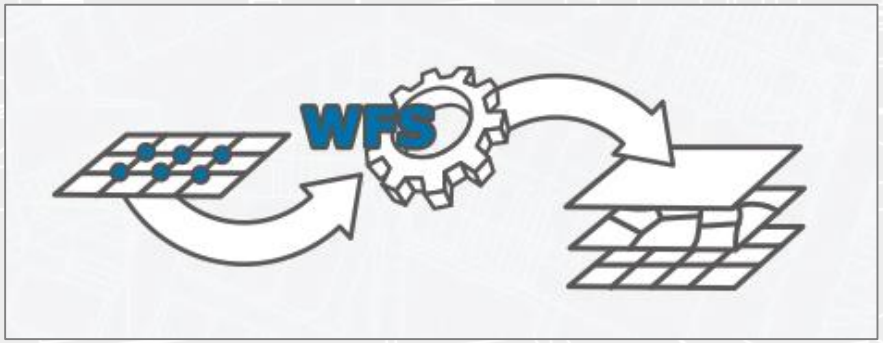
Application Programming Interface

- Design interface with RESTful style
- Verify by HTTP protocol
- Every API has only one URL
- Transfer data structure by JSON



Web Map Service

- Produce **map** on the internet
- GetCapabilities, GetMap

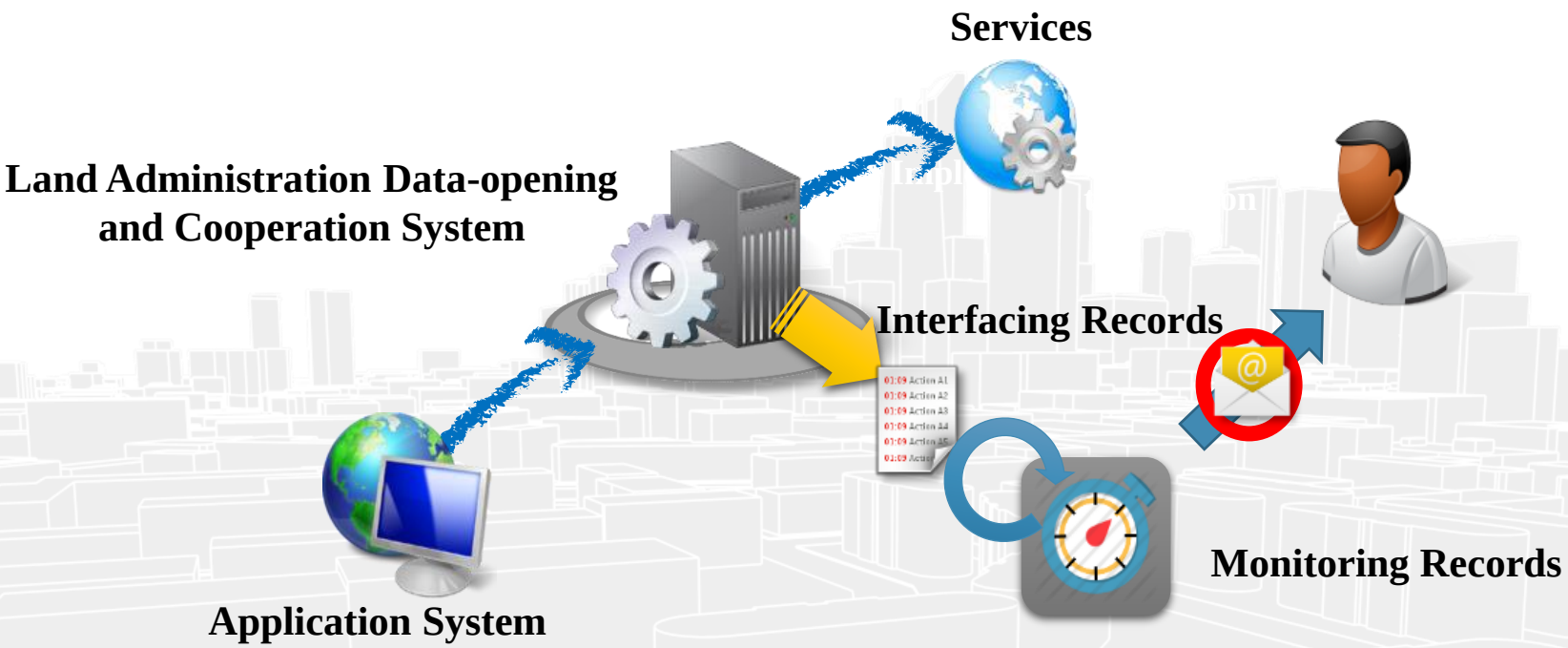


Web Feature Service

- Produce **feature** on the internet
- GetCapabilities, GetFeature
- Analyze with original data

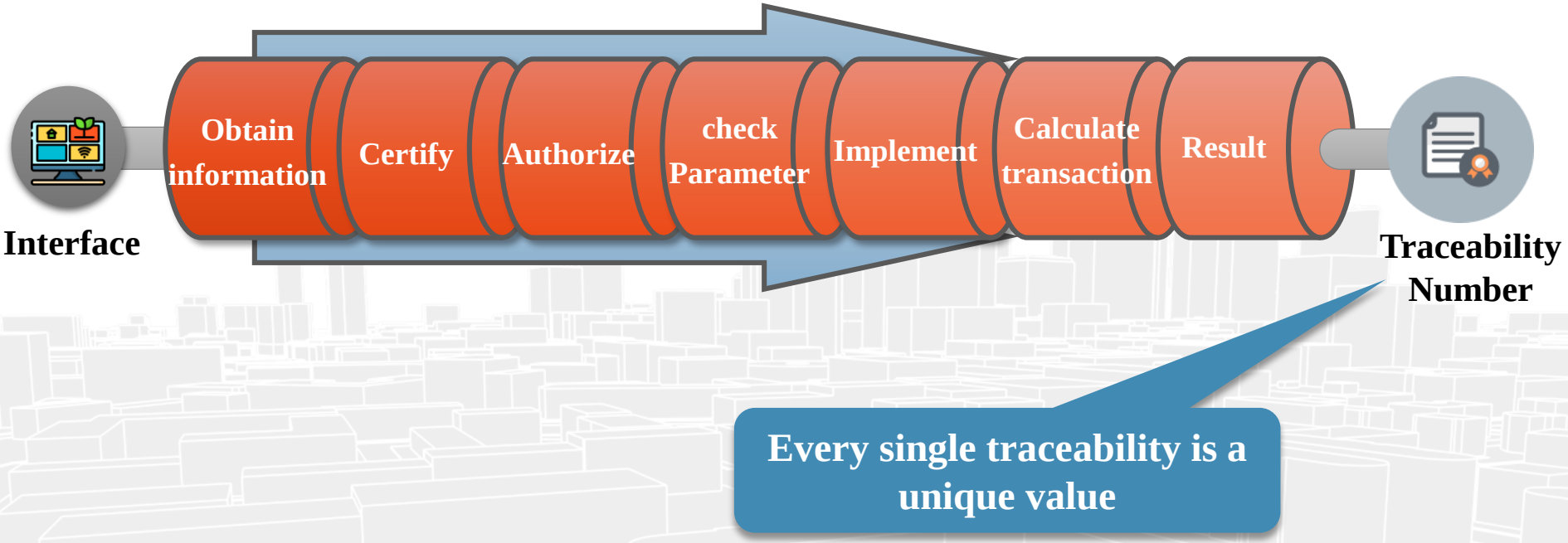
Service Transaction traceability mechanism

∞ Services Browsing History and Notification



Service Transaction traceability mechanism

- **Designed on the concept of Service Transaction Life Cycle**



The Role of User

∞ Different Role, Different Payment Methods

Users	• Government 	• Individuals • Companies • Organizations 

Payment Methods	• Free using after applying through administrative process	• The price will be different according to different services:
		  • Free using without membership
		  • Free using after verifying user account
		  • Based on every single land section
		  • Based on the quantity of data
		  • Based on displaying time
		  • Contact the original agencies for access authorization

The Operation of the System

∞ 24hr Operate

- 24hr serving online.
- The System obtains data anytime and keeps running all the time.

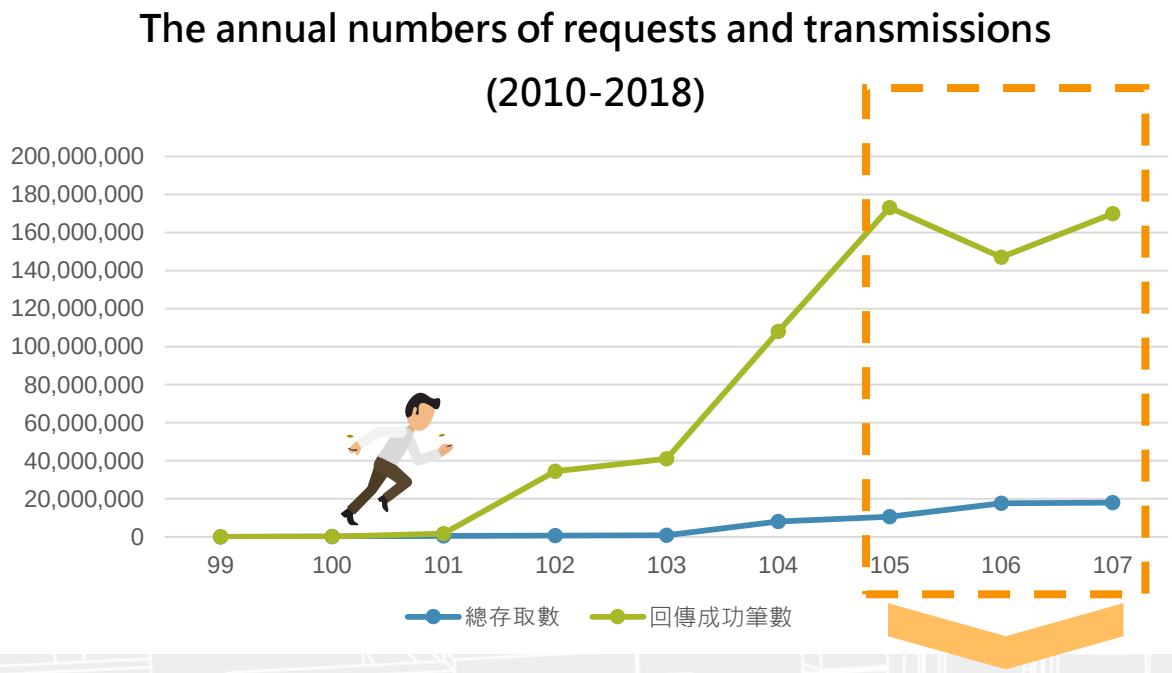
∞ Payment Flow System

- Provides various payment methods.
- The payment flow will be recorded instantly.

∞ Customer Service

- Sets up the contact window for customer service.
- Solves problems through standard operating procedure.

The outcome of LAID



Year	Request	Successful transmissions
99	18,157	9,854
100	152,007	201,103
101	419,396	1,617,753
102	661,981	34,511,215
103	893,390	40,987,196
104	8,048,348	107,973,993
105	10,651,991	173,091,533
106	17,621,826	146,995,516
107	17,994,129	169,891,068
總計	56,461,225	675,279,231

105-107年
The average numbers of request per day 42,254
The average numbers of successful transmissions per day 447,469

The development of on-line land registry system

1.Although, the land administration data is very easy to access via internet, the real exchange of land title still very tradition.

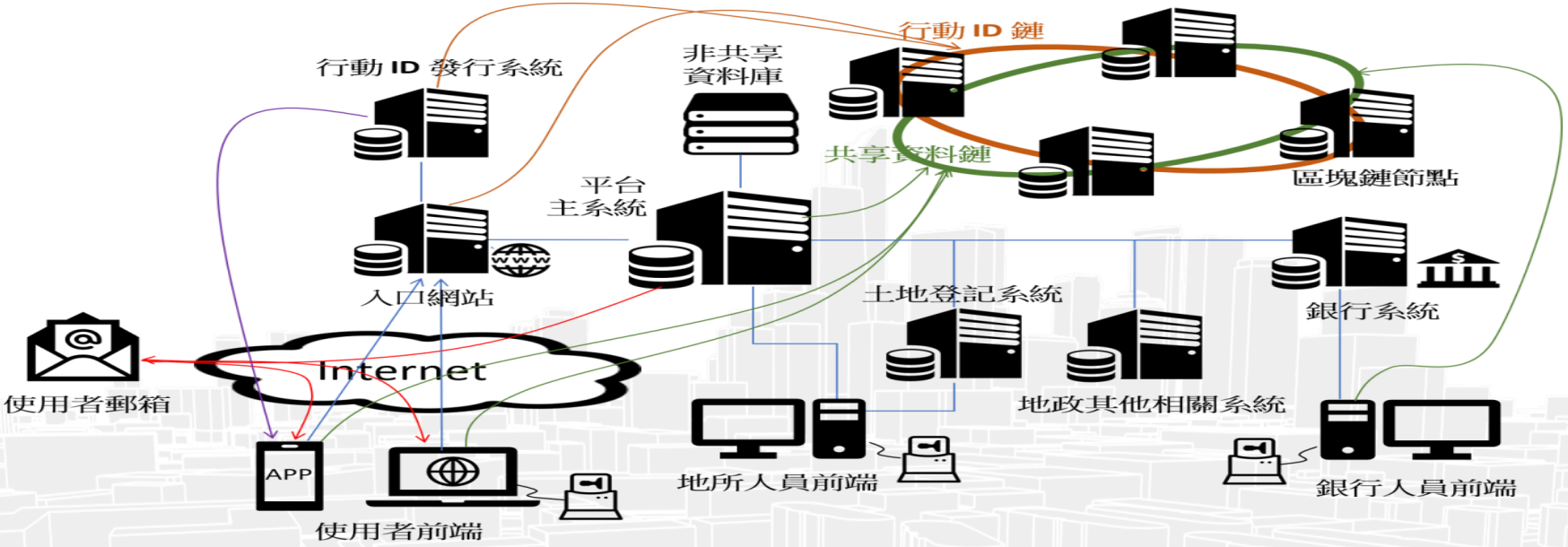
2.The first step is going to use on-line announcement to replace seal certificate to partially computerized land registration procedures.

3.The title exchange need land owners themselves or empowered by **Judicial scrivener with owners' seal certificate and associated certifications to local land office to complete land title exchange.**

4.Taiwan government also plans for three years time to build up the prototype of on-line land registry based on block chain and to modify regulation suitable for operation of blockchain.

4.To improve the efficiency of land title transaction , real estate market transparency and transaction security, Taiwan government plan to install on-line land registry system based on blockchain technology.

The vision of on-line land registry system



On-line land and property transfer system based on blockchain

Future Challenge

1. In Taiwan, the land administration operation and associated data have been almost fully digitalized and well integrated with related government bureaus.
2. Further the progress via current new technology such as blockchain or face recognition, it inevitably encounters the debate between privacy and efficient; as well as can we trust government and IT ?
3. Huge resistance from land administration associated practitioners, which are very conservative and traditional.
4. Also, local government reluctant to reduce the fee for providing land data.

Thanks for listening