

# Data & SDG

## - Social and Economic Value

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# Outlines

- ❑ Data Economy in Taiwan
- ❑ Taiwan 2030 SDGs
- ❑ Data Economy and SDGs
- ❑ Conclusion

# Data Economy in Taiwan

- Current status and trends of Taiwan's data service industry
  - ◆ Market size (2019) is about USD **3.86 billion**, and is expected to reach USD **4.78 billion by 2021**
  - ◆ Data service industry output value (2019) is about USD **3.02 billion**, and expected to reach USD **3.72 billion by 2021**

## Data service industry (supply side)

### Mixed Players (protein area)

Traditional information service providers (such as large SI operators)

Vertical application service providers (such as telecom operators)

Large business consultant  
Consulting service provider

Niche-type business consultant  
& market researcher

### Pure Data Companies (yolk area)

Data processing  
Service provider

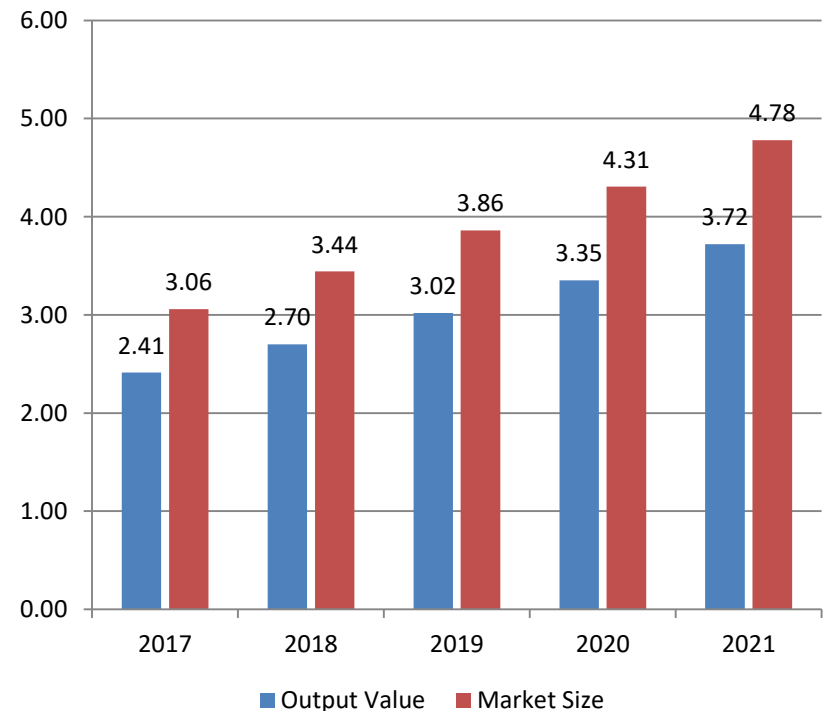
Date analyzing  
and application  
service providers

Data provider  
(Data Marketplace, Data Broker...)

Data application developer  
(Data processing, analysis, visualization  
software...)

Information network infrastructure provider  
(Cloud computing, data center, fixed network / mobile  
communication services)

## Taiwan's data service industry output value and market size



# Social Value and Economic Value

## Social

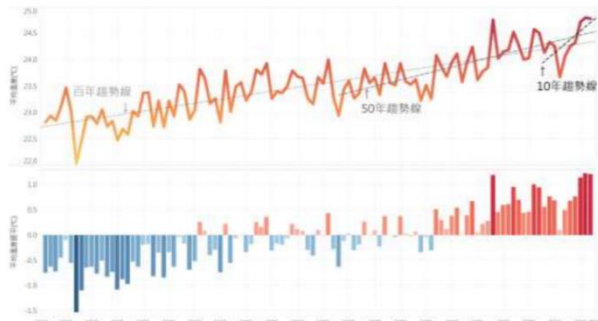
- Enhance Partnership with Community
  - ◆ Taiwan Data Science Foundation & Annual Meeting
  - ◆ g0v, OpenStreetMap, ... etc.
- Improve Citizen Participation
  - ◆ Case 1: National Energy policy debate
  - ◆ Case 2: Government Spending visualized

## Economic

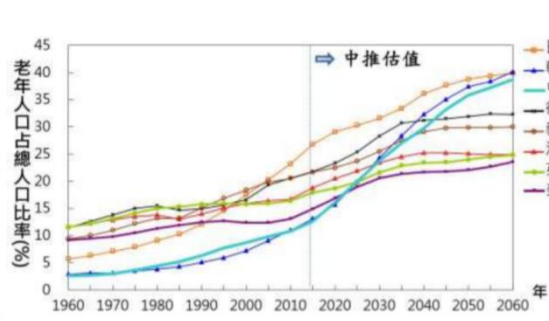
- 2019 Estimation
  - ◆ Output Value = 3.02 Billion USD
  - ◆ Market Size = 3.86 Billion USD
  - ◆ Number of Companies = 10,739
  - ◆ People employed = 86,720
- 2021 Forecast
  - ◆ Output Value = **3.72 Billion** USD
  - ◆ Market Size = **4.78 Billion** USD
  - ◆ Number of Companies = **11,222**
  - ◆ People Employed = **103,032**

# Taiwan 2030 SDGs

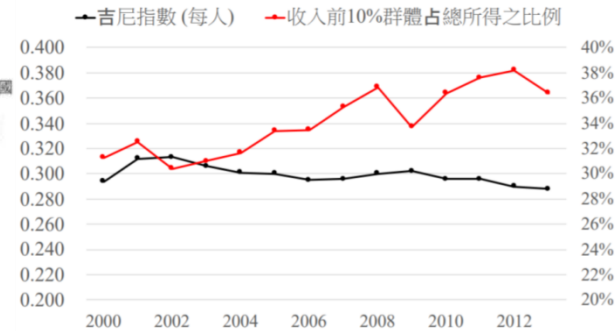
published by Executive Yuan on 2018/12/14



Taiwan Temperature  
(1900~2017)



Aging Population

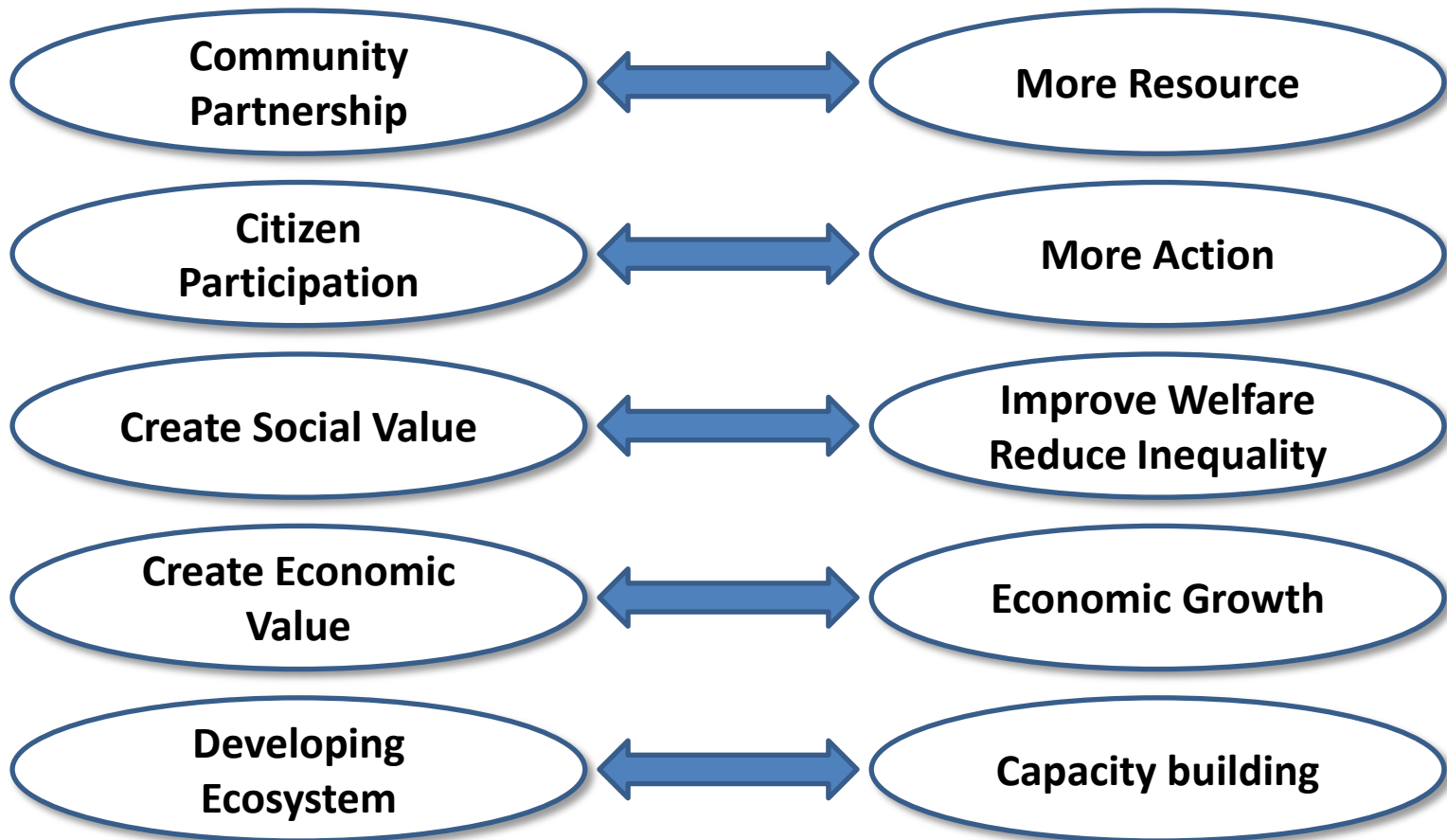


Wealth Inequality

- |   |   |   |
|---|---|---|
| <ol style="list-style-type: none"> <li>1. Strengthening social and economic security services for vulnerable groups</li> <li>2. Ensuring food safety, eradicating hunger and promoting sustainable agriculture</li> <li>3. Ensuring and promoting healthy living and well-being of all ages</li> <li>4. Ensuring comprehensive, fair and quality education and promoting lifelong learning</li> <li>5. Achieve gender equality and empowerment of all women</li> <li>6. Ensuring environmental quality and sustainable management of environmental resources</li> </ol> | <ol style="list-style-type: none"> <li>7. Ensuring affordable, stable, sustainable and modern energy for all</li> <li>8. Promote inclusive and sustainable economic growth, increase labor productivity, and ensure quality employment opportunities for all</li> <li>9. Build a transport that is affordable, safe, environmentally friendly, and resilient and sustainable</li> <li>10. Reduce domestic and inter-country inequality</li> <li>11. Building cities and villages that are inclusive, safe, resilient and sustainable</li> <li>12. Promote a green economy and ensure sustainable consumption and production patterns</li> </ol> | <ol style="list-style-type: none"> <li>13. Complete mitigation and adaptation actions to respond to climate change and its impact</li> <li>14. Conservation and sustainable use of marine ecosystems to ensure biodiversity and prevent degradation of the marine environment</li> <li>15. Conservation and sustainable use of terrestrial ecosystems to ensure biodiversity and prevent land degradation</li> <li>16. Promote a peaceful and pluralistic society, ensure the equality of the judiciary, and establish a system of credibility and public opinion</li> <li>17. Establish a multi-partnership and work together to promote a sustainable vision</li> <li>18. Gradually reach the non-nuclear home target set by the Environmental Basic Law</li> </ol> |
|---|---|---|

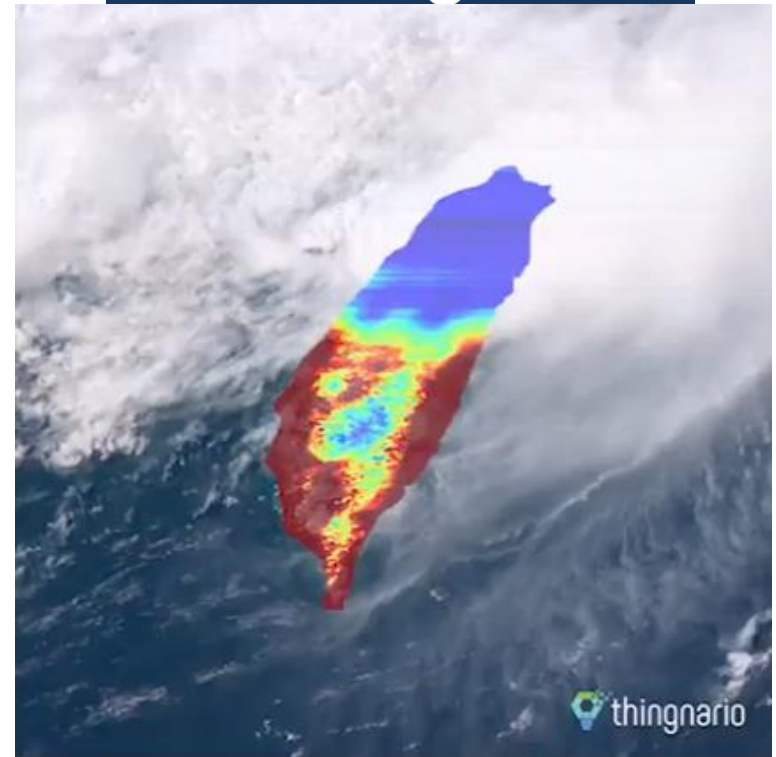
# Data Economy x SDGs

□ Developing Data Economy can help achieving SDGs



# Example 1

- SDG 7: Ensuring affordable, stable, sustainable and modern energy for all
- thingnario provide precise estimation of Solar Photovoltaic Power efficiency for citizen & enterprise to deploy Solar PV
  - ◆Data: 5 years of daily Satellite Image, Weather Data, precise to 1Km<sup>2</sup>
  - ◆Tech: AI analysis the cloud image. Daily variation < 7%, Monthly variation < 3%
  - ◆Benefit: Solar PV revenue +20%



# Example 2

## □ Taiwan SDG 2: Ensuring food safety, eradicating hunger and promoting sustainable agriculture

### □ How Data Economy helps

#### ◆ Disaster Loss Estimation (by Environmental Management Consultants Technologies)

#### ◆ Problems

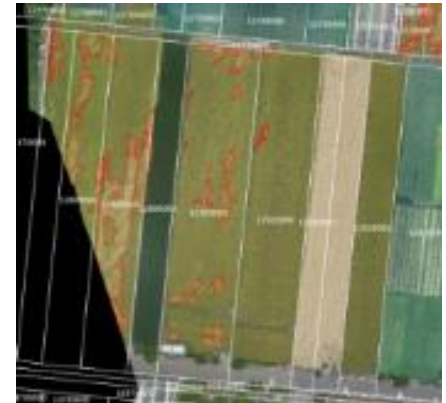
- ✓ Agriculture in Tainan City suffers multiple natural disasters each year
- ✓ Loss estimation and compensation takes time and usually inaccurate, which delays the replanting and cause complaints

#### ◆ PPP (Public Private Partnership) Solution

- ✓ Tainan Government **identified the problems** together with EMCT (Ltd.), and **open related data** (ex. Agricultural area and output data, Vegetable planting area yield data...) to public
- ✓ EMCT developed an **AI analytic system** and a field exploration supporting tool for gov. officials to increase the efficiency

#### ◆ Benefits

- ✓ **Time cost reduced by 90%** while exploring and estimating the loss (from 44 days to 4 days now)
- ✓ Quicker replanting increased the production by **62.7 million (E)**
- ✓ 29 local data has been released through this PPP project



AI compares the satellite image data and identified loss area



# Conclusion

- Taiwan is part of the World
- Taiwan & UN have similar SDGs
  - ◆ Limited Resource
  - ◆ Crowded Living Area
  - ◆ Aging Population
  - ◆ Wealth Inequality
  - ◆ Energy rely on Import (Important to Taiwan)
- Developing Data Economy can helps achieving SDGs



*Thank you for your listening*