Technology Classification and Evaluation

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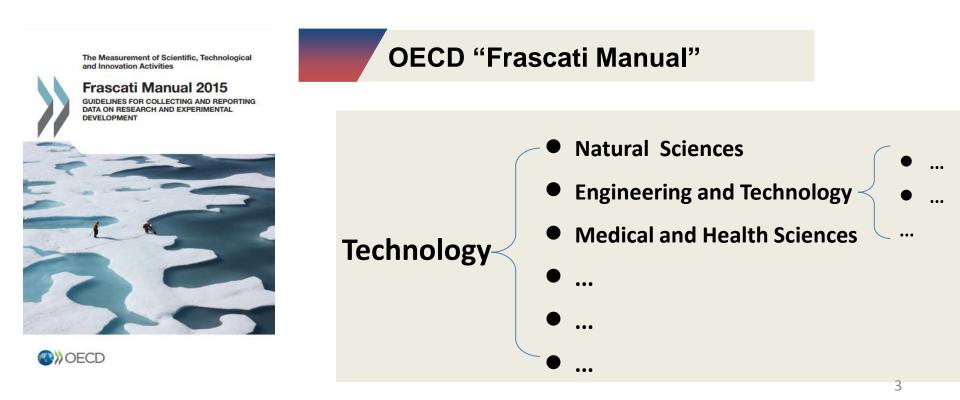
NCSTE

Technology classification is the **first step of technology evaluation.**
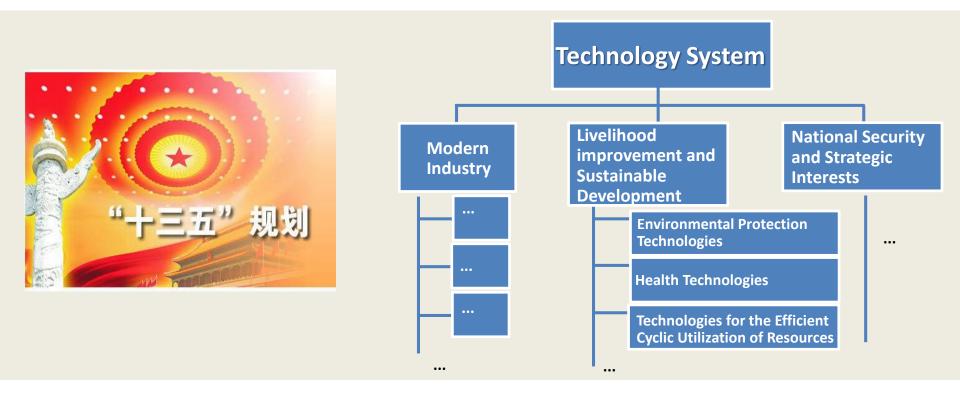- **Match** the key areas of **sustainable development goals**
- **Select** the appropriate evaluation **methods and experts.**

The Measurement of Scientific, Technological and Innovation Activities

Frascati Manual 2015
GUIDELINES FOR COLLECTING AND REPORTING DATA ON RESEARCH AND EXPERIMENTAL DEVELOPMENT

OECD

OECD "Frascati Manual"

Technology
- **Natural Sciences**
  - …
- **Engineering and Technology**
  - …
- **Medical and Health Sciences**
  - …
- …
- …
- …

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China "the Thirteenth Five-Year Plan for Science and Technology Innovation"

Technology System

Modern Industry
- ...
- ...
- ...

...

Livelihood improvement and Sustainable Development
- **Environmental Protection Technologies**
- **Health Technologies**
- **Technologies for the Efficient Cyclic Utilization of Resources**

...

National Security and Strategic Interests

...

"十三五" 规划

1. Technology Classification

OECD and China provide standards and guidance for classification.

Suggestion:
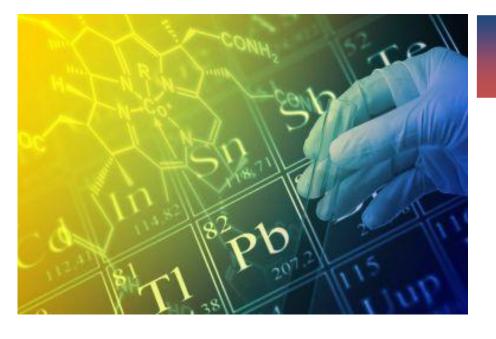
☐ Build the key areas of SDGs based on technology classification

☐ Select the appropriate evaluation methods, tools and experts.

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TECHNOLOGY

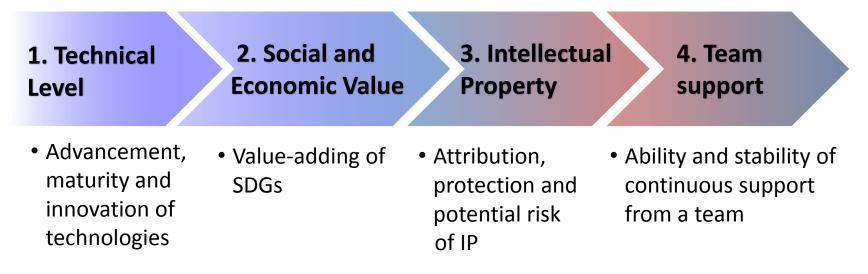**Science and technology Innovation (STI) for SDGs**

- ● Advanced
- ● Applicable
- ● Transferable
- ● Sustainable
- ● …

2. Identify the Key Elements of the Technology **Evaluation**

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National Center for Science and Technology Evaluation have built a scientific and effective technology evaluation index system.

Mainly involves four factors：

1. Technical Level

2. Social and Economic Value

3. Intellectual Property

4. Team support

- Advancement, maturity and innovation of technologies

- Value-adding of SDGs

- Attribution, protection and potential risk of IP

- Ability and stability of continuous support from a team

Suggestion: Build a Scientific and Standardized Index System

- **Evaluate** the advancement, maturity and innovation of technologies comprehensively, systematically and objectively

- **Improve** the pertinence and success rate of **technology transfer**

Evaluation need to be performed basing on the feature of the specific technology and using various methods and tools.

3. Use Advanced Methods for Technology Evaluation

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Example from NCSTE

- **The Advancement of the S&T Program of Inner Mongolia**

Evaluate the **innovation of technologies** based on the database of **the National Science and Technology Report Service,** the **National Science and Technology Achievement Online**, the **National Science and Technology Achievement Database**

NCSTE have **completed the evaluation** of **1041 projects** in 2016 and over **500 projects** in 2017. The evaluation help the local government to avoid to support repetitive R&D project, and **increase the efficiency and productivity significantly.**

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Suggestion: Use various evaluation methods and tools comprehensively, including bibliometrics, peer review, survey and data analysis.

☐ **Peer review**

☐ **Bibliometrics**

☐ **Stakeholder survey**

☐ **Industrial data analysis**

☐ **Big data analysis**

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China:"2 + 11+ N" national **technology market service system**

- **"2": China Technology Exchange(CTX) and the China Technology Transfer Center(CTTC)**

- **"11": National Tech-Transfer Center (NTTC)**

- **"N":453** state-owned technology transfer **demonstration agencies**, **91 innovation station sites**, **146** technology transfer **alliances** of all kinds, **1,000** technology trading **institutions.**

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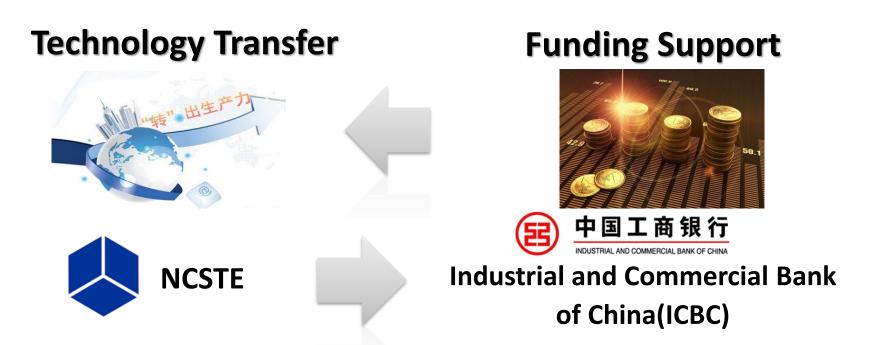# 4. Improve the Technological Service System

Suggestion:

Cooperate with countries to set up a technology service system both online and offline

☐ **To improve** technology trading, research consulting, valuation services

☐ **To integrate** the resources

☐ **To support** the promotion and application of technology **in target countries**

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5. Explore a Mechanism of Connecting Technology Evaluation to Funding

Technology Transfer

Funding Support

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Industrial and Commercial Bank of China(ICBC)

Select the projects or technology with **higher potential social and economic value**, and relatively **low-risk for transfer**.

Through evaluation, average investment and loan over 100 million RMB to target project or company

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5. Explore a Mechanism of Connecting Technology Evaluation to Funding

Suggestion:

TFM online platform and GTB

Establish a working mechanism to link together the technology **evaluation, funding** and the **needs** of developing countries.

☐ **Facilitate the effective connection** between technology and the needs of **developing countries**

☐ **Evaluate** the **volume of funding** for technology transfer needs

☐ **Provide** important **support** for accelerating **technology transfer**

Thank you for your attention!