International Forum on Quality and Safety in Healthcare

National Policy and Strategy on AI in Healthcare

Mei-ling Chen

Minister

National Development Council

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**Potential for AI
Application in Medical**

**Gartner：Top 5
PwC：Top 3**

Morris Chang tsmc

IoT + AI
Leading the 3rd IT wave

Bill Gates Microsoft

10 Breakthrough Technologies
Gut Probe in a Pill、Customized Cancer Vaccines、Wrist-worn Electrocardiogram (ECG) Monitors、Predicting Preemies、Robot Dexterity、Smooth-talking AI Assistants

Data Source: TSMC's founder Zhang Zhongmou (Kwoh-ting Li Memorial Lecture in June 2019);
Bill Gates founder of Microsoft (2019 MIT Technology Review); Gartner; PwC

Taiwan's AI+biomedicine development advantage

Asia No.1 — Innovation Country

Global No.1 — Open Data

Global No.1 — Strong Information Hardware Manufacturing

Global No.1 — Outstanding Healthy Care System

Asia No.1 — High-level Medical Care

Emerging Country No.2 — Biomedical Industry-Innovation

Active involvement of ICT businesses

National level health insurance data bank

Strong ICT industry base

Substantial clinical trial capability

Outstanding doctors and AI talent

TAIWAN

Data source: 2019 BTC (Bio Taiwan Committee; 2019 Bio-tech Industry White Paper)

🏷️ Policies AI in Biomedicine

Strategy

1. Complete ecosystem
2. Integrating innovation clusters
3. Linking with international market resources
4. Promoting distinctive key industries

2025 Target

- **20** Numbers of new drugs sold in overseas market
- **80** Number of niche drugs sold in overseas market
- **1 trillion** Output Values

Bio-tech Industry Innovation Promotion Program

Taiwan AI Action Program

Inter-disciplinary cooperation

1. Developing AI talent
2. Promoting Taiwan's leading role in AI
3. Deregulation and opening up of test sites
4. Building Taiwan into an AI innovation hub
5. Transforming industry with A

2021

- **1** Global ranking for AI application in specific areas (ex. Medial, Manufacturing)
- **3** AI on Chip global ranking
- **20,000 AI talents**

Data Source：Biomedical Industry Innovation Program; AI Taiwan Action Plan.

3

Various policies to make the ecosystem complete

Regulatory Reform
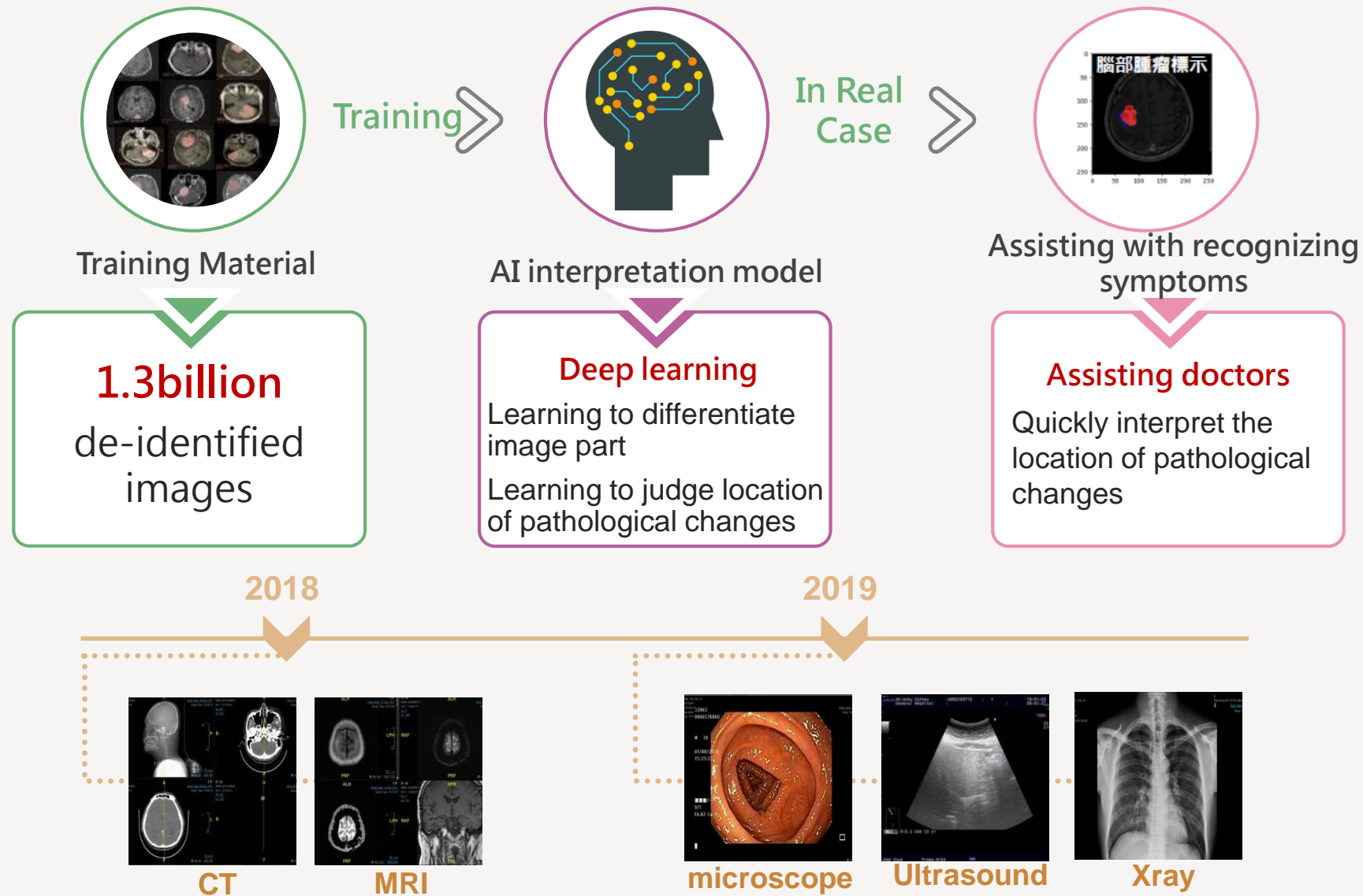
Financial Support

Recruitment of Professionals

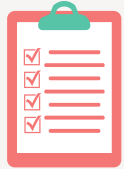400 employment gold cards have been issued to foreigners in specific professions

NT$100-billion Industrial Innovation and Transformation Fund
NT$2-billion Angel Investment Program
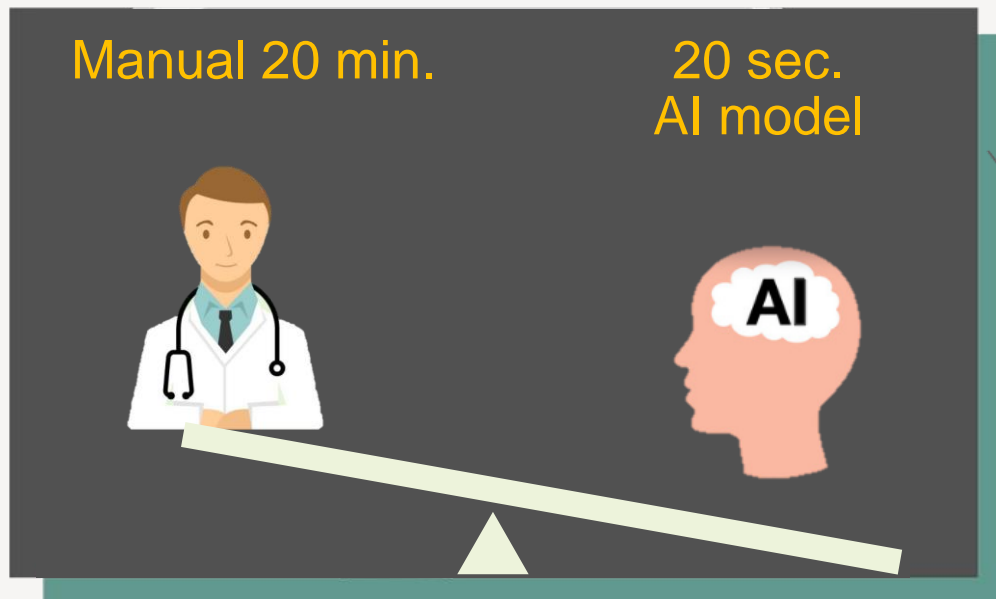
Policy case- Development of Medical Imaging AI

Training Material → Training → **AI interpretation model** → In Real Case → **Assisting with recognizing symptoms**

1.3billion
de-identified images

Deep learning
Learning to differentiate image part

Learning to judge location of pathological changes

Assisting doctors
Quickly interpret the location of pathological changes

2018

2019

CT   **MRI**

microscope   **Ultrasound**   **Xray**

Data source: National Health Insurance Administration, Ministry of Science and Technology (MOST)

Application case-
Taipei Veterans General Hospital +AI Labs

The AI automatic intracranial tumor detection system increases the efficiency of tumor imaging identification

Marking time

Manual 20 min.

20 sec.
AI model

AI

Conclusion

📢 **Bio-medicine combined with AI is a future trend; Taiwan possesses advantages globally**

📢 **Give young people a bright future; give people happy lives**

📢 **Taiwan's excellent ICT and medical treatment capabilities can make contribution to the world**