





Department of Investment Services,
Ministry of Economic Affairs, R.O.C (Taiwan)



### Why Taiwan



#1 Entrepreneurship
World Economic Forum

**#1 New Product Dev.**World Economic Forum

#3 Low Investment Risk 2016 BERI Report



49% bachelor's degrees or higher of total population

12.95 ‰ Researchers of total workforce



IP Regulations International Standardization

IP Police dedicated to enforcement

**Trade Secrets Protection** 

**IP Protection Respect** 

### Industrial clusters



Taipei—Kaohsiung
1.5 hrs. by High Speed Rail

#### Nankang Software Park

ICT Design / Digital Content /
Biotechnology

#### Changhua Coastal Park

Metal Products / Metal Coating Recycling / Green Energy/ Glass

#### Kaohsiung Linhai Industrial Park/ Dafa Industrial Park / Software Park

Petrochemicals / Steel / cruise ship making/ Metal Processing / Precision Machinery / IC / Optoelectronics / Communications / Environmental Protection Technology

#### Hsinchu Science Park

IC manufacturing / Optoelectronics
/ Biotechnology

#### Central Taiwan Science Park

Semiconductor / Optoelectronics /
Biotechnology / Precision
Machinery

## Southern Taiwan Science Park/ Tainan / Liuying / Yongkang Technology Industrial Park

Optoelectronics / Environmental Protection Technology / Automotive Parts / Precision Machinery

### **Hub of Global Supply Chains**

Semiconductor

Wafer Foundry, IC Packaging, IC Testing, Mask ROMs, IC Design, DRAMs

Display

TFT-LCD Panels, OLED Panels, Portable Navigation Devices, PNDs

**Electronic Parts** 

Electrolytic Copper Foil, CD-ROMs, Motherboards, TFT-LCD Panels, ABS, WLANs, IC Substrates, LEDs, PCBs

**Textile** 

Glass Fabrics, Polyester Filament, PTA, PU Leather, Nylon Fiber, Functional Textiles, Carbon Fiber

**Auto Parts** 

Lamps, Bumpers, Sheet Metal, Rearview Mirrors, Rubber/Plastic Parts, Molds and Dies

Metal Machinery Medical Devices Screws, Nuts, Tin Bars, Electric Scooters, Electric Wheelchairs, Machine Tools, Plastic Machinery, Blood-glucose Meters, Contact Lenses, Bicycles

### 16 Cutting-edge R&D Institutes

Biotechnology Center



Textile Research Institute

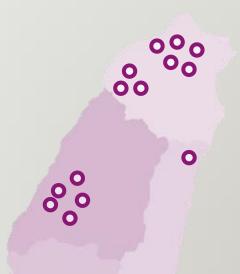


Institute for Information Industry



Metal Industries R&D Center









Industrial Technology Research Institute



Automotive Research & Testing Center



Plastics Industry
Development
Center



China Productivity Center

### Investment Incentives

#### **R&D Guidance and Subsidies**

- Encouragement of Enterprises to set up R&D
   Centers
- Small Business Innovation Research (SBIR)
- Proactive Technology R&D Program
- Integrated R&D Program
- Global Innovation and R&D Partnership Program

#### Tax Incentives

- Biotech Industry Investment Deduction
- R&D Investment Deduction
- Private Participation in Public Infrastructure Projects
- Business Income Tax 20%

#### Financing / Loans

- Loans for Promoting Industrial Innovation or R&D
- Preferential Loans for Distribution Services and Catering Industries
- Preferential Loans for equipment upgrading
- National Development Fund

#### **Special Zones Incentives**

- Free Trade Zones (FTZs)
- Science Industrial Parks
- Agriculture Technology Parks
- Export Processing Zone (EPZs)

# Investment Opportunities

5 + 2 Innovative Industries
Forward-looking Infrastructure



Asia. Silicon Valley



Green Energy



New Agriculture



Smart Machinery



National Defense



Railway Vehicles



Bio-Pharmaceuticals



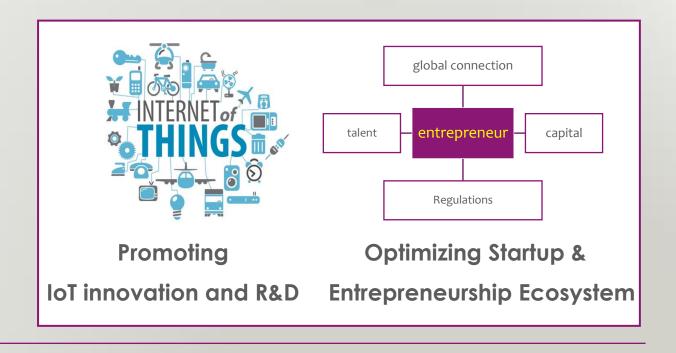
Circular Economy

### Asia Silicon Valley | IoT Vision 2025

152 - 314 bn Output

Added-value 63 - 80 bn

Annual GDP 0.9-1.7 %



5%

Global GDP

Startups or R&D centers International System Integrators

World-Class MNCs Virtual Education Investing in Taiwan

Academy

## Asia•Silicon Valley | Advantages of Investing in Taiwan

#### **Talent**

- Eliminate the regulation obstacles of visa, work permit, residency, and tax
- Drafting the Foreign Talent Act

### Regulations & Tax incentives

- Relax laws and regulations to promote industrial transformation
- Help raise funds and encourage VC and angel investors to invest in high-risk startups by offering tax concessions and other incentives
- Relax laws and regulations to promote scholars to engage in the field of business

#### Capital

- Industrial Innovation and Transformation Fund: NT\$ 100 B (NDF)
- National Investment company: NT\$ 10B
- Angel Investor Program: NT\$ 1 B (NDF)
- Encourage banks to offer financing for 5+N innovative industries
- Loan offered has been increased 6 bn by the end of 2017

## Asia Silicon Valley | Advantages of Investing in Taiwan

Innovative Test Beds

 Construct innovative test beds for AR/VR, smart logistics, smart medical, and smart grid applications

Optimizing
Startups
Ecosystem

- Taiwan ranks top on the global rating of entrepreneurship and environment for nurturing startups development
- Taiwan can catch the opportunities speedily and fill in the gap of IoT industry

### Asia • Silicon Valley | IoT Business Opportunities



#### **Smart Transportation**

Smart Street Lighting & Smart Roadside Parking Solutions



#### **Smart Agriculture**

UAV Monitoring & IoT Agricultural Technology



#### **Smart Home**

Smart Modification of Old Buildings & Public Housing Innovation



#### **Smart Business**

Smart Retail & Smart Business Community



#### **Smart Manufacturing**

Develop Industry 4.0
National Team to achieve
Technological
Independence



#### **Smart Logistics**

Intelligent Cold Chain Management



#### **Smart Medical**

Smart Healthcare Platform & Smart Medical Solutions



Smart Grid & Environmental Monitoring

### Asia • Silicon Valley | IoT Supply chain ecosystem

**Applications** 

#### **Smart** Manufacturing

Delta Electronics. Advantech, CTCI. Mirle . TATUNG. HIWIN, Wistron, Inventec, Foxconn

CPS / Robots

#### Smart Healthcare

MiTAC, Advantech. Unitech Electronics. ARBOR, EBM., MiTAC, Broadweb

Data Integration / visualization

#### **Smart Energy** Saving

TATUNG, Arch Meter, InSnergy, AcBel Polytech. TECO. Edison Opto

System Management

#### **Business &** Logistics

Advantech, SAILS, STARWING. Unitech . XAC . MTI, CipherLab, Posiflex Technology, HCT

Data Analysis / **Behavior Prediction** 

#### Smart **Transportation**

Garmin, PAPAGO!, CHT. Advantech. MITAC, FETC. HAITEC

Data Analysis / **Human-machine** Interaction

#### **Smart Home**

D-Link, ASUS, Secom, Everspring, kbro, Farglory

Data Integration / **Behavior Analysis** 

Network

#### **Public**

**Open / Exclusive Broadband** 

**Exclusive** 

Information **Security & Protection** 

LAN

Sensor

**Field** 

Sensor

#### Motion & Orientation

**Environment** al & **Biological** 

Sound & Optical

Sensor & Driver

Force & Vibration Servo Drive & Control

Mobile **Platform** Control

### Smart Machinery | Capacity and Vision

#### Resources Platform

- R&D clusters
- Nurture crosssector talent
- International collaboration & M&A

### Fill in Visionary Industrial Needs

- Aeronautics & Astronautics
- Smart robots
- Precision medical devices processing
- ICT equipment

### Global Expansion

To drive exports to overseas markets

**Machine Tools & Parts** 

World's 7<sup>th</sup> largest manufacturer Worlds' 4<sup>th</sup> largest exporter

**Aerospace Industry** 

Military-level manufacturers

Automobile & Auto Part 25% of global production 50% of global output

Wood-working Machine

World's 4<sup>th</sup> largest exporter

**Hand Tool** 

Worlds' 2<sup>nd</sup> largest exporter

**Optoelectronic Panel** 

World's 2<sup>nd</sup> largest scale

Intelligentization of Industrial Machinery





Industrialization of Smart Machinery

### Smart Machinery | Taiwan Supply Chain

Principal Axis Royal, POSA, SPINTECH

Bearing TPI, Crocodile, HIWIN

Tool / Tool Magazine Evermore, CHUMPOWER, NINE-9, Acrow

Tool Channing System deta, Chen Sound, GIFU

Rotary Table

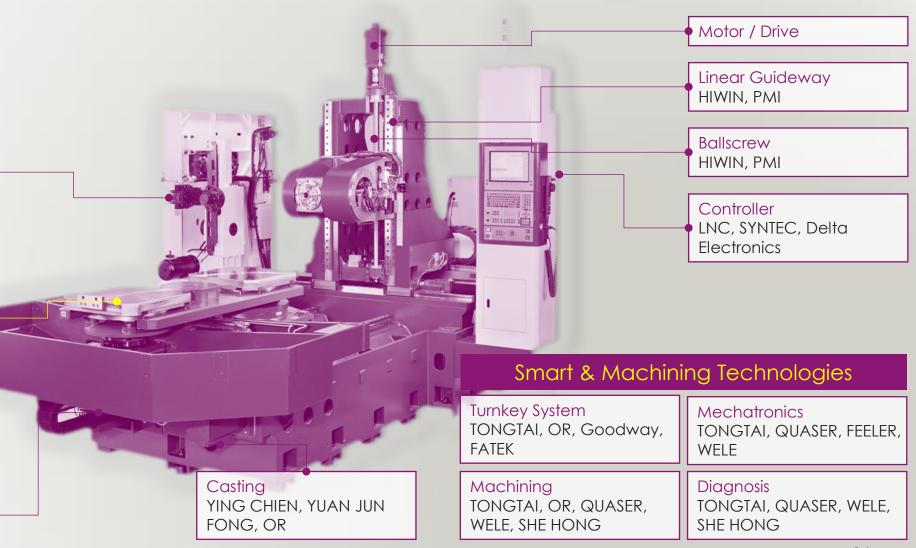
GSA, PARKSON WU, TANSHING

Telescopic Guard

Keyarrow, DEFENDER

Sheet Metal Keyarrow

Oil Pressure Unit Chen Ying, HINAKA



### Smart Machinery | Investment opportunities



Digital Simulation & Analysis
Product Lifecycle Management
Big Data Analysis
Machine Learning
Artificial Intelligence(AI)



Smart Sensor
Industrial & Service Robot
Semiconductor FEOL & Advanced
Packaging
Addictive Manufacturing
Aerospace Machine Tool &
Advanced Controller



Cross-sensing & Controlling Device Production Facilities & Production Lines Integrated Smart Factory Solution for Operational Information

#### **Cooperation Modes:**

**Business Partnership** 

**R&D** and Design

**Production & Manufacturing** 

Market Development & Marketing

investment, joint venture, M&A, equity participation

R&D, technology transfer, turn-key development

ODM, OEM parts supply

brand & channel, turn-key transfer, agent & sales

**Smart Machinery | Taichung** 

#### **Taichung Gateway**

Estimated to function from Jan 2019

Includes an Innovation And Research Zone and a Smart Operation Center

Smart Machinery Development Center will be established by ITRI, PMC, and relevant associations.

**Smart Machinery University Alliance** 

serves as a platform by which industries, the government, and academic or research institutions that work with enterprises in innovation, research, and incubation thereby developing smart machinery and aerospace industry.



### Bio-Pharmaceuticals | Hub of Asia by 2025

uss 33 billion output

20 new drugs

80
niche devices
sold overseas markets

10 successful brand names

#### Promote Specialized key industries

- Precision medicine
- World-class specialty clinic clusters
- Healthy lifestyle industry

#### Establish Comprehensive Ecosystem

Innovation capabilities enhanced by better talent, capital, topic selection, intellectual property, laws and regulations, and resources

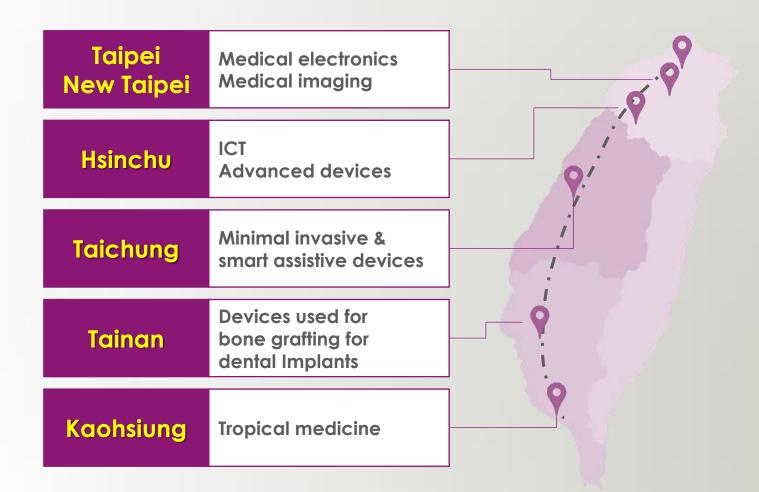
#### **Connect Global Market Resources**

- Global deployment
- The "New-Southbound" national strategy

#### Integrate Innovation Cluster

Drug development accelerated and industry output increased by Integrating local unique medical devices and drug clusters

### Bio-Pharmaceuticals | Nation-wide opportunities



Taipei Metropolitan & Hsinchu

Bio-medical R&D cluster

Central Taiwan & Southern Taiwan

Clusters of high-value, niche medical drugs and products

### **Green Energy**

- Goal of "Nuclear-Free Homeland": Renewable energy reaches 20% of total energy by 2020
  - drive US\$ 60 billion investment

#### Solar power goals

July 2016 - Jun 2018 to increase capacity by

1,520 MW

Rooftop / Ground-mounted: 1,055 MW / 465MW

2020-2025 total capacity from 6.5 GW to

**20 GW** 

Rooftop / Ground-mounted: 3 GW / 17 GW

#### Wind power goals

by 2025 capacity to add up to

6.7 GW

Onshore / Offshore: 1.2 GW / 5.5 GW

### Green Energy | Solar Power

#### strategy

#### Begin with rooftop panels

installed on buildings owned by Central Government, on factories, agricultural infrastructure, and others

goals

**Short-term target** 

Two-year solar energy program Jul 2016 - Jun 2018

1,520 MW

rooftop | ground-mounted 1,055 MW | 465 MW

Green energy rooftop program 2018 - 2020

**2 GW** 

rooftop

#### Large-scale ground-mounted panels

installed on salt farm, areas of severe land subsidence, waters (reservoirs, detention pools, ponds, fishing ponds) and landfills

Mid/long-term target

Mid/long-term promotional plan

2020

2025

6.5 GW **20 GW** 

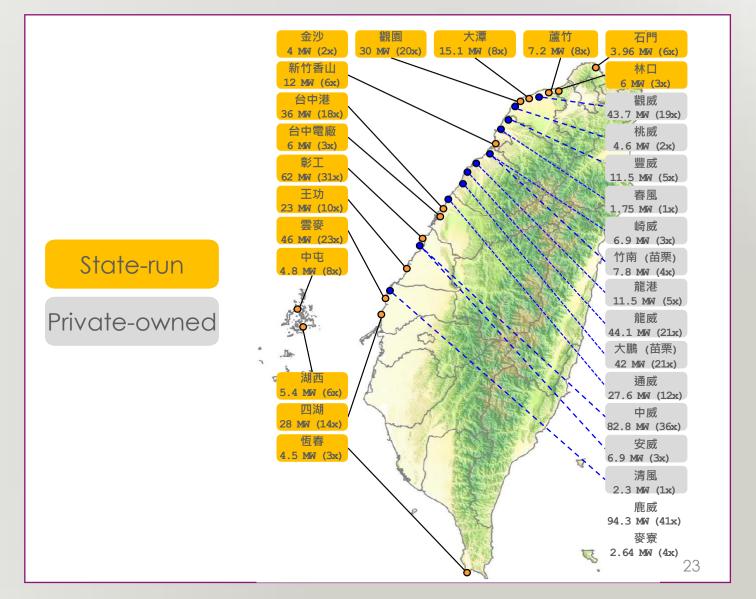
rooftop ground-mounted 3 GW 17 GW

### **Green Energy | Onshore Wind Power**

#### **Current status**

**Existing units:** 

State 169 units / 294 MW Private 178 units / 390 MW Total 347 units / 684 MW

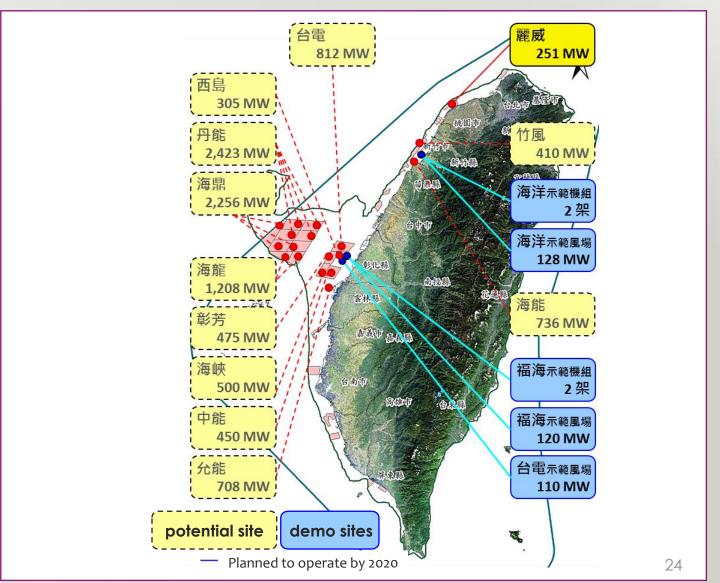


### Green Energy | Offshore wind power

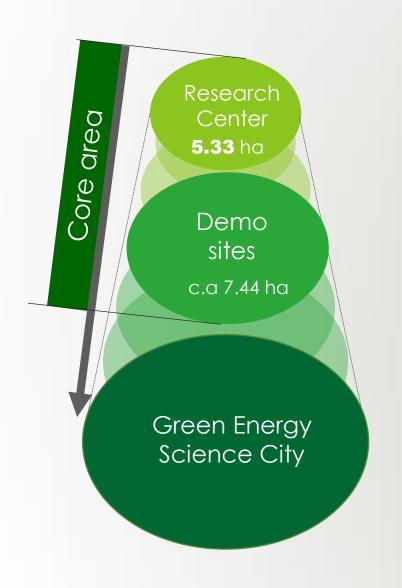
#### **Current status**

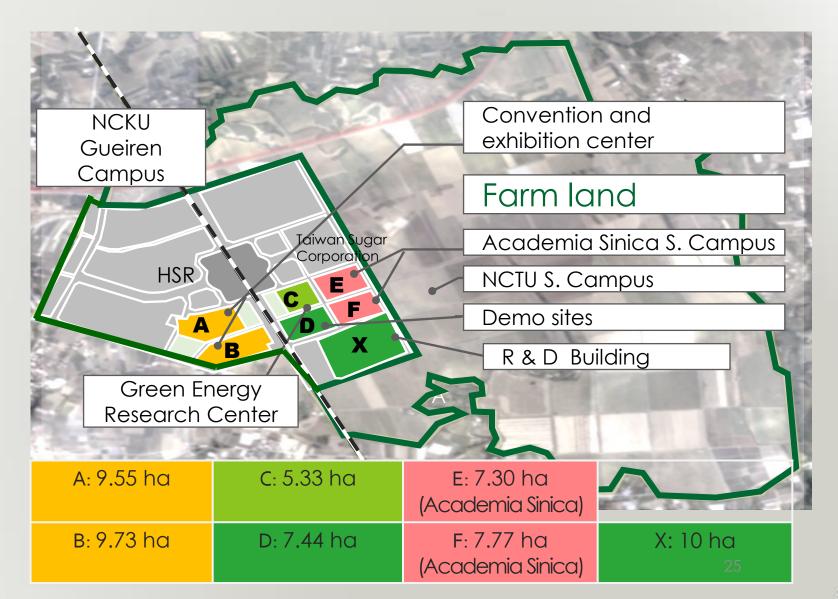
Completed units: Two units (8MW) are under test run.

By the end of 2020 Accumulated 520 MW



### Green Energy | Shalun Green Energy Science City





### National Defense | Procurement Projects

- US\$ 2.2 bn (2017—2028) for advanced trainers
- US\$ 549 mn for surface crafts
- Future related businesses amounts to US\$ 8.3 bn



Radar/
Communication
system /
Flat panel display
/ Remote sensing



Lightweight structure/ Smart onboard network system



Precision processing/ Automated machines



Lightweight, highstrength composite material/ Aluminum alloy/ Titanium alloy



Turbine engine/
Composite yachts
Hulls

### Circular economy | Opportunities

**Exploration** 

Manufacturing

**Distribution** 

Consumption

Disposal

#### **High-Value & Green New Materials**

\$3.3 bn investment

\$10 bn output

\$40 bn related output

- 35 high-value new materials
- 20 green new materials

#### 100 mn YouBike trips



Textile made by coffee grounds



#### Recycle

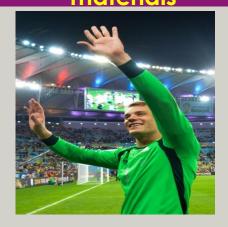
Rare-earth element metals disposed by high-tech industries amounts to 6,000 KG / month but little has been processed & collected

- Taiwan tops the world in recycling industrial and general waste
- Recycled PET bottles, coffee grounds, etc. can become fabric for cloths

#### TSMC recycled 95%



Clothes made of recycled materials



### New Agriculture | Vision

#### **Agri-Tech Clusters**

- Set up Pintung Agricultural Biotechnology Park
- Push for high-value agriculture

### Processing Bases

- Establish six processing bases across Taiwan
- Achieve excellence by working with international partners

"Southbound" Strategy  To work with Southeast Asian partners in terms of better farming, animal (and aquatic) vaccines, feed and additives, bio-organic fertilizer, and pesticide

Taiwan
International
Agricultural
Development Co.

 The Corporation is set up to facilitate stable contractual relationship between farmers and producers and to boost the export of agricultural produce and equipment

### Railway vehicles

Taiwan Railways Administration Procurement Plan (by 2024)

Items	Quantity	US\$ mn	Suppliers in the past
Inter-city electric multiple unit	600	1,146	<ul><li>HITACHI</li><li>SUMITOMO (Nippon Sharyo)</li></ul>
Regional electric multiple unit	520	867	<ul><li>Rotem (motive system: TOSHIBA)</li><li>Taiwan Rolling Stock (Nippon Sharyo)</li></ul>
Hybrid multiple unit for branches	60	170	
Locomotive	127	804	
Total		3274	

### Railway vehicles

#### Forward-looking Infrastructure Procurement Projects









Signal system

us\$ 459 mn

Communication system

US\$ 40 mn

Electric power system

US\$ 325 mn

Centralized traffic control system

US\$ 83 mn



### Single contact and customized services

#### Industrial promotion offices

consultation/R&D/industry collaboration/new product development

Aviation, Communications, Precision Machinery, Biotechnology & Pharmaceutical, Intelligent e-Car, Smart Electronics, Digital Content, Color Display, Intelligent Automation, Textile, High-Value Petrochemical, Taiwan-USA, Taiwan-Japan

### **Professional consultants**

legal/accounting/tax code/environmental protection/engineering

Associations for lawyers, accountants, engineering consultants, real estate brokers, services, interior designer, and Commerce **Development Research Institute** 



#### Land acquisition

Provide information of available lands for investors

Industrial parks, science parks, processing export zones, non-park industrial land, and industrial areas

#### InvestTaiwan. Com

**Invest Taiwan Service Center** Investment Commission, MOEA

20 Ministries Involved

Department of Investment Service, MOEA

24 Overseas Offices

(3 in 1)

Combine Functions of Investment Review and Promotion

#### **Local governments**

Remove investment barriers of land, water, electricity, administrative procedures, etc.

### Cross-department coordination

#### Pre-investment Exploration

## During Investment

## After-investment Operation

- Industrial Development
   Bureau
- Dept. of Industrial Technology
- Bureau of Energy
- Dept. of Commerce
- Export Processing Zone Administration
- DOIS
- Other Ministries
- Local governments

#### Help facilitate

- application
- construction
- business networking

#### Help

- clear obstacles
- expand business
- support start-ups

### Successful projects



Tesla has established its head office, sales branches, and service centers with increasing number of charging stations. All the models are on sale, and total investment is increasing.



The top memory maker has acquired Inotera with our help in land acquisition. It will build a 3D DRAM IC packaging and testing plant in Taichung on Aug, 2017, **creating 1,000 jobs.** 



3M has built its Optically Clear Adhesives (OCA) R&D Center in Southern Taiwan Science Park.



The world's second largest retailer has set up 13 stores in Taiwan as of 2017, and its investment is still expanding. The government has been facilitating Costco's investment along the way.

### Successful projects



The Japanese leading semiconductor material manufacturer invests in Yunlin Technology-based Industrial Park for producing photoresist.



The Japanese shopping mall developer plans to build up several malls in Taiwan. Mitsui Fudosan signed contract with Taiwan International Ports Corporation in September 2016 for establishing the mall in Taichung Port opening in 2018, the largest one in Taiwan.



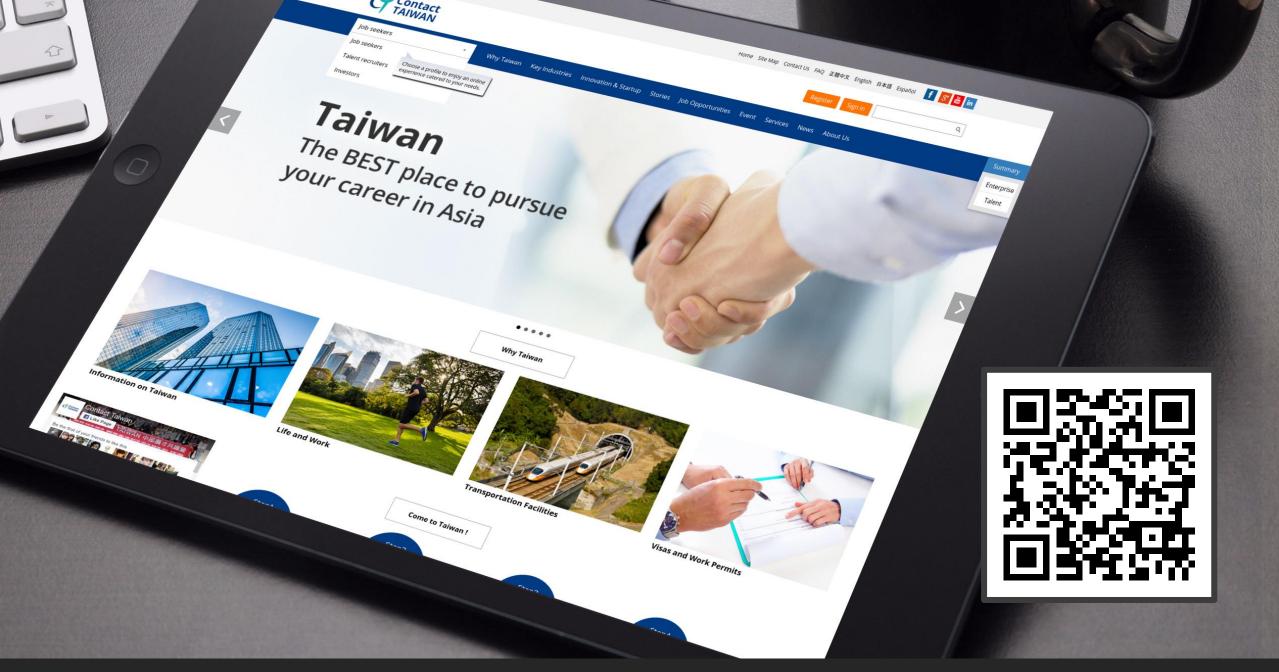
WPD signed MOU with Yunlin county and Taoyuan city government in 2017 for developing offshore wind power. The both sites 'environmental impact evolution completed, which plan to operate in 2020.



Setting up its Taiwan subsidiary in May 2016 for investing in wind energy, Ørsted plans to operate the four sites in Changhua between 2021 and 2024. The environmental impact assessment was approved in February 2018.



https://investtaiwan.nat.gov.tw



http://www.contacttaiwan.tw



Department of Investment Services, MOEA / InvestTaiwan Service Center

Phone: +886-2-2311-2031 / Email: service@invest.org.tw