Circular Economy
New African Rail
Based Vehicles
Global Supply Chain
Asian Silicon Valley
Smart Machinery
Bio-medical Technologies
Green Energy
National Defense
BRAVO!
TAIWAN
Department of Investment Services,
Ministry of Economic Affairs, R.O.C (Taiwan)
Taiwan, your best innovative investment partner in Asia
Why Taiwan

**Global Rankings**

#1 Entrepreneurship  
World Economic Forum

#1 New Product Dev.  
World Economic Forum

#3 Low Investment Risk  
2016 BERI Report

**Talent**

49% bachelor’s degrees or higher  
of total population

12.95‰ Researchers  
of total workforce

**IP Protection**

IP Regulations International  
Standardization

IP Police  
dedicated to enforcement

Trade Secrets Protection

IP Protection Respect
Industrial clusters

- 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

Taipei—Kaohsiung
1.5 hrs. by High Speed Rail
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**
- 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

**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

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

**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 | IoT Vision 2025

Output: 152 – 314 bn
Added-value: 63 – 80 bn
Annual GDP: 0.9-1.7 %

- Global GDP: 5%
- Startups or R&D centers: 100
- International System Integrators: 3
- World-Class MNCs Investing in Taiwan: 2
- Virtual Education Academy: 1

Promoting IoT innovation and R&D
Optimizing Startup & Entrepreneurship Ecosystem

Entrepreneur

Global connection
talent
Regulations
capital
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 Home
- Smart Modification of Old Buildings & Public Housing Innovation

Smart Manufacturing
- Develop Industry 4.0 National Team to achieve Technological Independence

Smart Medical
- Smart Healthcare Platform & Smart Medical Solutions

Smart Agriculture
- UAV Monitoring & IoT Agricultural Technology

Smart Business
- Smart Retail & Smart Business Community

Smart Logistics
- Intelligent Cold Chain Management

Smart Grid & Environmental Monitoring
## Asia•Silicon Valley | IoT Supply chain ecosystem

### Applications

<table>
<thead>
<tr>
<th>CPS / Robots</th>
<th>Data Integration / visualization</th>
<th>System Management</th>
<th>Data Analysis / Human-machine Interaction</th>
<th>Data Integration / Behavior Analysis</th>
</tr>
</thead>
</table>

### Smart Manufacturing
- Delta Electronics, Advantech, CTCI, Mirle, TATUNG, HIWIN, Wistron, Inventec, Foxconn

### Smart Healthcare
- MITAC, Advantech, Unitech Electronics, ARBOR, EBM, MiTAC, Broadweb

### Smart Energy Saving
- TATUNG, Arch Meter, InSnergy, Acbel Polytech, TECO, Edison Opto

### Business & Logistics
- Advantech, SAILS, STARWING, Unitech, XAC, MTI, CipherLab, Posiflex Technology, HCT

### Smart Transportation
- Garmin, PAPAGO!, CHT, Advantech, MITAC, FETC, HAITEC

### Smart Home
- D-Link, ASUS, Secom, Everspring, kbro, Farglory

### Network

<table>
<thead>
<tr>
<th>Public</th>
<th>Open / Exclusive Broadband</th>
<th>Exclusive</th>
<th>Information Security &amp; Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAN</td>
<td>Sensor</td>
<td>Field</td>
<td>Mobile Platform Control</td>
</tr>
</tbody>
</table>

### Sensor

<table>
<thead>
<tr>
<th>Motion &amp; Orientation</th>
<th>Environment &amp; Biological</th>
<th>Sound &amp; Optical</th>
<th>Sensor &amp; Driver</th>
<th>Force &amp; Vibration</th>
<th>Servo Drive &amp; Control</th>
</tr>
</thead>
</table>

## Applications

- **Smart Manufacturing**
  - Delta Electronics, Advantech, CTCI, Mirle, TATUNG, HIWIN, Wistron, Inventec, Foxconn

- **Smart Healthcare**
  - MITAC, Advantech, Unitech Electronics, ARBOR, EBM, MiTAC, Broadweb

- **Smart Energy Saving**
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  - Garmin, PAPAGO!, CHT, Advantech, MITAC, FETC, HAITEC

- **Smart Home**
  - D-Link, ASUS, Secom, Everspring, kbro, Farglory
## Smart Machinery | Capacity and Vision

### Resources Platform
- R&D clusters
- Nurture cross-sector 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

<table>
<thead>
<tr>
<th>Industry</th>
<th>Global Expansion Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Machine Tools &amp; Parts</strong></td>
<td>World’s 7th largest manufacturer, Worlds’ 4th largest exporter</td>
</tr>
<tr>
<td><strong>Aerospace Industry</strong></td>
<td>Military-level manufacturers</td>
</tr>
<tr>
<td><strong>Automobile &amp; Auto Part</strong></td>
<td>25% of global production, 50% of global output</td>
</tr>
<tr>
<td><strong>Wood-working Machine</strong></td>
<td>World’s 4th largest exporter</td>
</tr>
<tr>
<td><strong>Hand Tool</strong></td>
<td>Worlds’ 2nd largest exporter</td>
</tr>
<tr>
<td><strong>Optoelectronic Panel</strong></td>
<td>World’s 2nd largest scale</td>
</tr>
</tbody>
</table>
Smart Machinery | Investment opportunities

Cooperation Modes:

<table>
<thead>
<tr>
<th>Business Partnership</th>
<th>investment, joint venture, M&amp;A, equity participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>R&amp;D and Design</td>
<td>R&amp;D, technology transfer, turn-key development</td>
</tr>
<tr>
<td>Production &amp; Manufacturing</td>
<td>ODM, OEM parts supply</td>
</tr>
<tr>
<td>Market Development &amp; Marketing</td>
<td>brand &amp; channel, turn-key transfer, agent &amp; sales</td>
</tr>
</tbody>
</table>
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

| 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

#### Connect Global Market Resources
- Global deployment
- The “New-Southbound” national strategy

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

#### 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 New Taipei**: Medical electronics, Medical imaging
- **Hsinchu**: ICT, Advanced devices
- **Taichung**: Minimal invasive & smart assistive devices
- **Tainan**: Devices used for bone grafting for dental implants
- **Kaohsiung**: Tropical medicine

**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

<table>
<thead>
<tr>
<th>Solar power goals</th>
<th>Wind power goals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>July 2016 - Jun 2018</strong></td>
<td>by 2025 capacity to add up to</td>
</tr>
<tr>
<td>to increase capacity by <strong>1,520 MW</strong></td>
<td><strong>6.7 GW</strong></td>
</tr>
<tr>
<td>Rooftop / Ground-mounted: 1,055 MW / 465MW</td>
<td>Onshore / Offshore: 1.2 GW / 5.5 GW</td>
</tr>
<tr>
<td><strong>2020-2025</strong></td>
<td></td>
</tr>
<tr>
<td>total capacity from 6.5 GW to <strong>20 GW</strong></td>
<td></td>
</tr>
<tr>
<td>Rooftop / Ground-mounted: 3 GW / 17 GW</td>
<td></td>
</tr>
</tbody>
</table>
Green Energy | Solar Power

strategy

**Begin with rooftop panels**
installed on buildings owned by Central Government, on factories, agricultural infrastructure, and others

**Large-scale ground-mounted panels**
installed on salt farm, areas of severe land subsidence, waters (reservoirs, detention pools, ponds, fishing ponds) and landfills

goals

**Short-term target**

Two-year solar energy program
Jul 2016 – Jun 2018

1,520 MW
rooftop | ground-mounted
1,055 MW | 465 MW

**Mid/long-term target**

Mid/long-term promotional plan

2020

2025

6.5 GW
rooftop | ground-mounted
3 GW | 17 GW

20 GW

Green energy rooftop program
2018 – 2020

2 GW
rooftop
Green Energy | Onshore Wind Power

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

- **Research Center**: 5.33 ha
- **Demo sites**: c.a 7.44 ha
- **Green Energy Science City**

<table>
<thead>
<tr>
<th>Location</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>9.55</td>
</tr>
<tr>
<td>B</td>
<td>9.73</td>
</tr>
<tr>
<td>C</td>
<td>5.33</td>
</tr>
<tr>
<td>D</td>
<td>7.44</td>
</tr>
<tr>
<td>E</td>
<td>7.30</td>
</tr>
<tr>
<td>F</td>
<td>7.77</td>
</tr>
<tr>
<td>X</td>
<td>10</td>
</tr>
</tbody>
</table>

- **Farm land**
  - Academia Sinica S. Campus
  - NCTU S. Campus
  - Demo sites
  - R & D Building
  - Convention and exhibition center

- **Green Energy Research Center**
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

Electronics
- Radar/Communication system /
- Flat panel display/
- Remote sensing

Vehicles
- Lightweight structure/
- Smart onboard network system

Machines
- Precision processing/
- Automated machines

Materials
- Lightweight, high-strength composite material/
- Aluminum alloy/
- Titanium alloy

Ships
- Turbine engine/
- Composite yachts
- Hulls
Circular economy | Opportunities

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

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

100 mn YouBike trips

Textile made by coffee grounds

TSMC recycled 95%

Clothes made of recycled materials
New Agriculture | Vision

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

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

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

- 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)

<table>
<thead>
<tr>
<th>Items</th>
<th>Quantity</th>
<th>US$ mn</th>
<th>Suppliers in the past</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inter-city electric multiple unit</td>
<td>600</td>
<td>1,146</td>
<td>• HITACHI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• SUMITOMO (Nippon Sharyo)</td>
</tr>
<tr>
<td>Regional electric multiple unit</td>
<td>520</td>
<td>867</td>
<td>• Rotem (motive system: TOSHIBA)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Taiwan Rolling Stock (Nippon Sharyo)</td>
</tr>
<tr>
<td>Hybrid multiple unit for branches</td>
<td>60</td>
<td>170</td>
<td>--</td>
</tr>
<tr>
<td>Locomotive</td>
<td>127</td>
<td>804</td>
<td>--</td>
</tr>
<tr>
<td>Total</td>
<td>3274</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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
One-Stop Investment Services
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

**Local governments**
- Remove investment barriers of land, water, electricity, administrative procedures, etc.

**Investors**

**InvestTaiwan. Com**

- Invest Taiwan Service Center
- Investment Commission, MOEA
- Department of Investment Service, MOEA

(3 in 1)
Combine Functions of Investment Review and Promotion

20 Ministries Involved

24 Overseas Offices
Cross-department coordination

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

**During Investment**
- Help facilitate
  - application
  - construction
  - business networking

**After-investment Operation**
- Help
  - clear obstacles
  - expand business
  - support start-ups
### Successful projects

<table>
<thead>
<tr>
<th>Company</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tesla</strong></td>
<td>Tesla has established its head office, sales branches, and service centers with increasing number of charging stations. All the models are on sale, and <strong>total investment is increasing</strong>.</td>
</tr>
<tr>
<td><strong>Micron</strong></td>
<td>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, <strong>creating 1,000 jobs</strong>.</td>
</tr>
<tr>
<td><strong>3M</strong></td>
<td>3M has built its <strong>Optically Clear Adhesives (OCA) R&amp;D Center</strong> in Southern Taiwan Science Park.</td>
</tr>
<tr>
<td><strong>Costco</strong></td>
<td>The world’s second largest retailer has set up <strong>13 stores in Taiwan</strong> as of 2017, and its investment is still expanding. The government has been facilitating Costco’s investment along the way.</td>
</tr>
</tbody>
</table>
### Successful projects

<table>
<thead>
<tr>
<th>Company</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>ShinEtsu</td>
<td>The Japanese leading semiconductor material manufacturer invests in Yunlin Technology-based Industrial Park for producing photoresist.</td>
</tr>
<tr>
<td>MITSUI FUDOSAN</td>
<td>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.</td>
</tr>
<tr>
<td>WPD</td>
<td>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.</td>
</tr>
<tr>
<td>Ørsted</td>
<td>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.</td>
</tr>
</tbody>
</table>
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