The Asia Silicon Valley Development Plan

From IT to IoT – Engineering a New Industrial Transformation for Taiwan

National Development Council

September 2016
Outline

- IoT Development
- Vision and Framework
- Strategies
- Implementation
- Goals
IoT Development
Forecast of Global IoT Economic Value by 2025

Annual economic value of the IoT market (in Trillion USD)

Source: IOT ANALYTICS: IoT Market – Forecasts at a glance
Global Potential Economic Impact of the IoT in 2025

IoT Business Opportunities from Application Services

80% of IoT business opportunities to come from services

Taiwan’s strengths

Source: Market Intelligence & Consulting Institute, Industrial Economics and Knowledge Center
IoT Development Bottlenecks in Taiwan

- **Lack of comprehensive development plans**
  - Taiwan businesses mainly concentrate on ODM in their specific domains, with little effort put into branding, marketing, R&D etc.

- **Little involvement in international standard formulation**
  - Most Taiwan industrial PC (IPC) companies are small with little connection to international IoT standards organizations, and thus are unable to capture early market opportunities

- **Insufficient integration of local IoT communities**
  - Lack of cooperation among businesses weakens industrial strength
Vision and Framework
Vision

Asia Silicon Valley Development Plan

- Economic Development
- Innovation-driven Growth
- Quality Employment

Transform and upgrade Taiwan’s industrial structure with IoT

Drive economic growth with innovation and entrepreneurship
Framework

- **One** Ecosystem
- **Two** Core Elements
- **Three** Links
- **Four** Strategies
One Ecosystem
Build an IoT & start-up ecosystem with heavy focus on R&D

- Building an ecosystem with a heavy focus on R&D
- Involvement of National Central Univ., National Taiwan Univ., National Tsing Hua Univ., National Chiao Tung Univ., and others
- Collaboration with Industrial Technology Research Institute (ITRI), Institute for Information Industry (III), and other prominent global institutes

- Universities
  - Business angels, VCs, accelerators
  - Capital assistance
  - Startups established by universities, research institutes, and corporations
  - Startups launched with entrepreneurial spirit
  - Innovative R&D centers founded by multinational corporations

- Startups Clusters
  - Recruitment services
  - Talent exchanges
  - Startups established by universities, research institutes, and corporations
  - Startups launched with entrepreneurial spirit
  - Innovative R&D centers founded by multinational corporations

- Corporations
  - Legal & accounting services
  - Regulatory adjustment
  - Link and integration platforms
  - Test beds and supportive policies
  - Taiwan corporations, e.g., Acer, Inventec, Chunghwa Telecom, Advantec, Asus
  - International corporations, e.g., Cisco, HPE, IBM

- Research Institutes
  - Link and integration platforms
  - Test beds and supportive policies
  - Talent exchanges
  - Recruitment services

- Environment
  - Social Network
  - Infrastructure
  - Local Industries and Environment
  - Policy

- Test beds and supportive policies
  - Business angels, VCs, accelerators
  - Capital assistance
  - Recruitment services
  - Talent exchanges
Two Core Elements

**Promoting IoT Innovation and R&D**
- Create a robust IoT ecosystem
- Construct diversified test beds for smart products or services
- Participate in international standard formulation

**Optimizing Startup & Entrepreneurship Ecosystem**
- Increase talent supply
- Provide business expansion capital
- Adjust laws and regulations
- Build an innovation environment
Asia Silicon Valley Development Plan

Three Links

- Integrate Taiwan’s hardware advantages into software applications
- Upgrade Taiwan’s industry with innovation
- Foster collaboration between central and local governments
- Facilitate cross-field innovation and cross-regional integration
- Partner with global innovation clusters for technology, talent, capital and markets
Optimize Taiwan’s startup and entrepreneurship ecosystem

Four Strategies

Construct diversified demo sites for smart products and services

Enhance linkages with renowned tech clusters worldwide

Build a complete IoT supply chain
Strategies
Optimize Taiwan’s Startup and Entrepreneurship Ecosystem (1/5)

- A sound & robust ecosystem for innovation & entrepreneurship
  - Increase Talent Supply
  - Provide business expansion capital
  - Adjust laws and regulations
  - Build an innovation environment

- Industries emerging and Business experiencing paradigm shift
Optimize Taiwan’s Startup and Entrepreneurship Ecosystem (2/5)

● Increase talent supply

- Relax restrictions on attracting foreign and overseas Chinese students, with priority given to Asian talents
- Strengthen function of "Contact Taiwan", the one-stop online talent recruitment service
- Improve university start-up regulations and incubation mechanisms
- Provide financial support to post-doctoral fellows to study or train overseas and learn about global innovation trends
Optimize Taiwan’s Startup and Entrepreneurship Ecosystem (3/5)

- Provide business expansion capital
  - Increase early-stage investments
  - Relax IPO listing requirements and lower transaction costs
  - Establish national investment company, industrial innovation & transformation fund etc.

![Diagram of business stages and funding sources]

- Startup grants:
  - Go Incubation Board for Startup and Acceleration Firms (GISA)
  - Equity Crowdfunding Platform
  - Taiwan Silicon Valley Technology Fund
  - HeadStart Taiwan Investment program

- Early-stage investments:
  - Business Angel Program
  - Program for Financial Support of Creative Enterprises
  - Young Entrepreneur Startup Financing Loans
  - Micro Biz Loans

- Later-stage investments:
  - Business revenue
  - FSC Angel Fund, Startup Fund
  - National Investment Co. Management Fund up to NT$10 B
  - Industrial Innovation & Transformation Fund up to NT$100 B

- Capital market fundraising (stock exchange listing):
  - IPO
Optimize Taiwan’s Startup and Entrepreneurship Ecosystem (4/5)

- Adjust laws and regulations

**Laws and regulations related to the Digital Economy**

**Fundamental Issues**
- ICT security and personal protection
- Establishment and operation of corporations
- Digital assets and corporate fundraising
- Digital talent cultivation and recruitment
- Digital governance
- Regulatory sandbox

**Application Issues**
- Remote medical services and healthcare
- E-commerce
- Fintech services
- Sharing economy
- Internet of Things (IoT)

**Current major economic legislation**

- Income Tax Act
- Deregulation of overseas recruitment and retention
- Corporate anti-corruption and bribery laws
- Deregulation of professors and students starting companies on campus
- Accounting and auditing regulations favorable to industrial innovation
- Regulations encouraging government to procure products or services from startup companies
Optimize Taiwan’s Startup and Entrepreneurship Ecosystem (5/5)

● Build an innovation environment

**Existing Tech Clusters**
- International Entrepreneur Initiative Taiwan 2.0
- Start-Up Hub
- Social Enterprise Hub
- TAF Innovation Base

**Measures for the Future**
- Enhance functions of existing local startup clusters, and strengthen connections with clusters throughout Asia
- Upgrade and transform university incubators to partner with local renowned accelerators
- Promote collaboration between state-owned enterprises or large corporations and startups and accelerators
Enhance Linkages with Renowned Tech Clusters Worldwide (1/2)

- Partner with global innovation clusters for technology, talent, capital and markets

- Forge connections with R&D capabilities of Silicon Valley and other global innovation clusters
Enhance Linkages with Renowned Tech Clusters Worldwide (2/2)

- Actively participate in formulation of IoT international standards to access future business opportunities

- Connect with tech clusters in Silicon Valley, Israel and other countries

- National Investment Company

- IoT Innovation R&D Center

- One-stop services
- Co-working space
- Diversified smart test beds

Optimize Taiwan’s IoT R&D capabilities through international collaboration
Build a complete IoT supply chain

Promote innovation of IoT related technology, and help businesses carry out cross-field integration

Develop university courses, both in-class & online, on software & hardware software integration

Industrial innovation & transformation fund
Help existing hardware MFRs to transform themselves into system integrators

Corporations

Build an IoT ecosystem

Develop industries to fill the existing IoT tech gap

Enhance software capabilities

Commercialize IoT research findings

Encourage university spin-offs, research spin-offs, or collaboration with startups

Target sectors such as sensors, networks and services, and get involved in standard formulation and patent registration
Construct Diversified Demonstration Sites for Smart Products and Services (1/2)

● Exploit Taiwan’s strengths and advantages to tackle local and global problems
  ➢ Maximize Taiwan’s strengths to develop new industries such as smart logistics, future cars, healthcare, smart robots and smart cities
  ➢ Make best use of Taiwan’s uniqueness, e.g. a comprehensive medical database derived from the National Health Insurance system
  ➢ Help solve global issues such as healthcare, medical services, food safety etc.
Construct Diversified Demonstration Sites for Smart Products and Services (2/2)

### Demonstration Sites

- **Nationwide:** AR, VR, e-commerce

- **City/county-wide:** Smart logistics, healthcare, commerce, cities and grids; make industrial parks smarter

- **Regional:** e.g. Smart transportation for Keelung, Taipei, Taoyuan, and Hsinchu; smart manufacturing in central Taiwan; smart energy in southern Taiwan; and smart tourism in eastern Taiwan

- **Smart logistics**
- **Smart healthcare**
- **Smart transportation**
- **Smart industrial parks**
Implementation
Asia Silicon Valley Development Agency (ASVDA)

Coordination Committee for collaboration among industry, governments (central and local), universities & research institutes

Chief Executive Officer

Think Tank

Chief Research or Technology Officer (CRO or CTO)
Chief Human Resources Officer (CHRO)
Chief Financial & Investment Officer (CFO & CIO)
Chief Legal and Environmental Commitment Officer (CLO & CECO)
Chief Administrative Officer (CAO)
Implementation Period & Approach

- **Period:** 2016 to 2023
- **Approach:** All government agencies will come up with their own implementation measures for the plan; ministers without portfolio of the Executive Yuan will supervise progress
- **Supervision and evaluation:** A task force has been formed within the National Development Council to carry out quarterly reviews, and revise the plan on a rolling basis as required
Budget

● An NT$11.3 billion (US$359 million) budget has been allocated for 2017 for internet infrastructure, mobile broadband services, e-commerce, smart applications, test beds, industry-university collaboration, digital talent and regulatory adjustment.

● Of the 2017 budget, NT$5.7 billion (US$181 million) will be set aside for new plans and the remaining for existing plans.

● Budgets for later years will be reviewed on a rolling basis, and allocated according to actual needs to ensure effective use.
Goals
Qualitative Goals

**Connect to Silicon Valley and other global tech clusters**
Forge connections with their advanced R&D capacities and make Taiwan the best partner for global corporations with good potential.

**Develop industries for the next generation**
Make Taiwan a leading global tech cluster for the Internet, Big Data, IoT and other new industries.

**Become an innovative startup destination for young Asians**
Optimize Taiwan’s startup ecosystem by incubating local startup teams and bringing outstanding global talent to Taiwan.
Quantitative Goals

Increase Taiwan’s IoT global market share from 3.8% in 2015 to ➤ 4.2% in 2020 ➤ 5% in 2025
(Projection of combined impacts of the Asian Silicon Plan and other digital economy plans)

Grow 100 successful companies, either local startups enjoying successful exits or local R&D centers set up by large corporations

Develop and establish 3 global systems integrators in Taiwan

Successfully attract investments from 2 world-class companies

Create 1 online learning platform for the IoT related sectors
5 Key Quantitative Indicators

- Grow 100 successful companies
- Establish 3 global systems integrators
- Attract investments from 2 world-class companies

Taiwan’s IoT global market share:
3.8% (2015) → 4.2% (2020) → 5% (2025)

Create 1 online learning platform for the IoT related sectors

Source: Market Intelligence & Consulting Institute, Industrial Economics and Knowledge Center
End