



Opportunities and Challenges in Transforming ICT Products into Solutions

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I. Background

II. How SIPA Operates

III. The 10 Selected System Integration Solutions

IV. Conclusion



I. Background



- Ministry of Economic Affairs planned to set up an accelerator platform for SIPA in 2015 under the instruction of Executive Yuan, in the hope of helping Taiwan's industry to break free from low-profit margins of intermediate goods; SIPA aims to provide overseas market information and financial support through interdisciplinary cooperation for local hidden champions to export turnkey solutions with best practices to target markets.
- In line with Executive Yuan's policy to identify the blue ocean for Taiwan system integration solutions, *Industrial Development Bureau set up a SIPA-dedicated office on October 5, 2015* that target up to 10 selected sectors, including electronic toll collection, green transportation, smart logistics, smart campus, smart health, e-government, LED lighting, cloud systems, solar power and petrochemical plants; in the mid-to-long term, we will foster more emerging solutions with high potential.



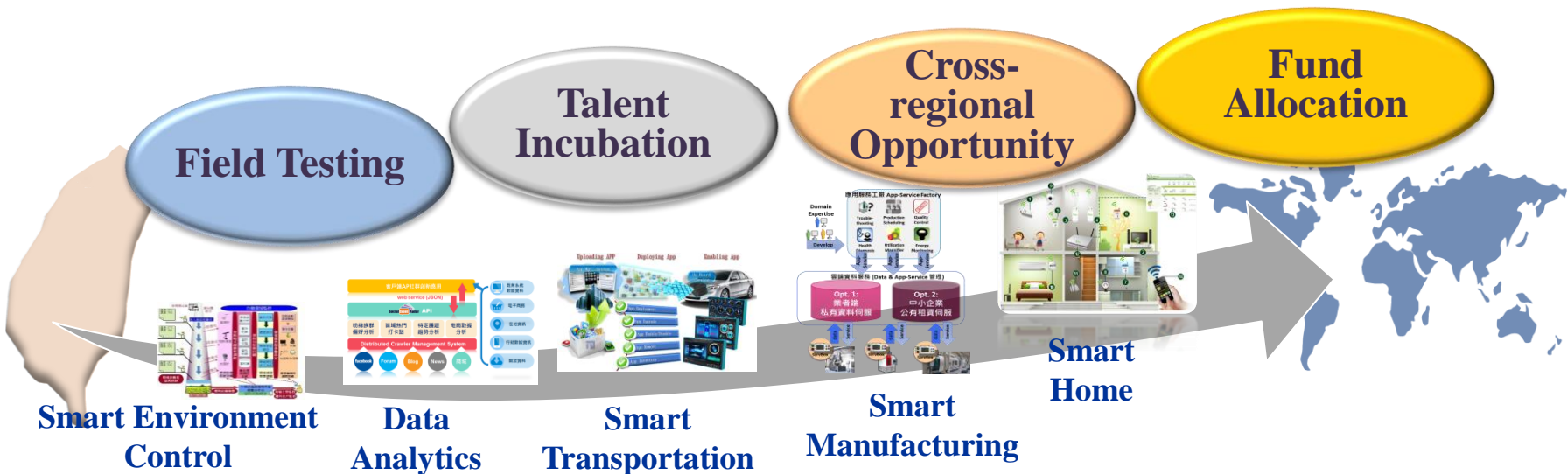
II. How SIPA Operates



From Selling Single Products to Exporting Turnkey Solutions

- Taiwan has over 30 years of experience in developing high quality IT products; what SIPA platform will do is, instead of *selling single products*, we will export *turnkey solutions with best practices*; other than giving a vital boost to the sales of individual turnkey solutions, the project strives for SIPA to represent a new export paradigm for the IT industry that will provides a variety of integrated product and service solutions

Turnkey Solutions = Software+ Hardware+Apps+Services

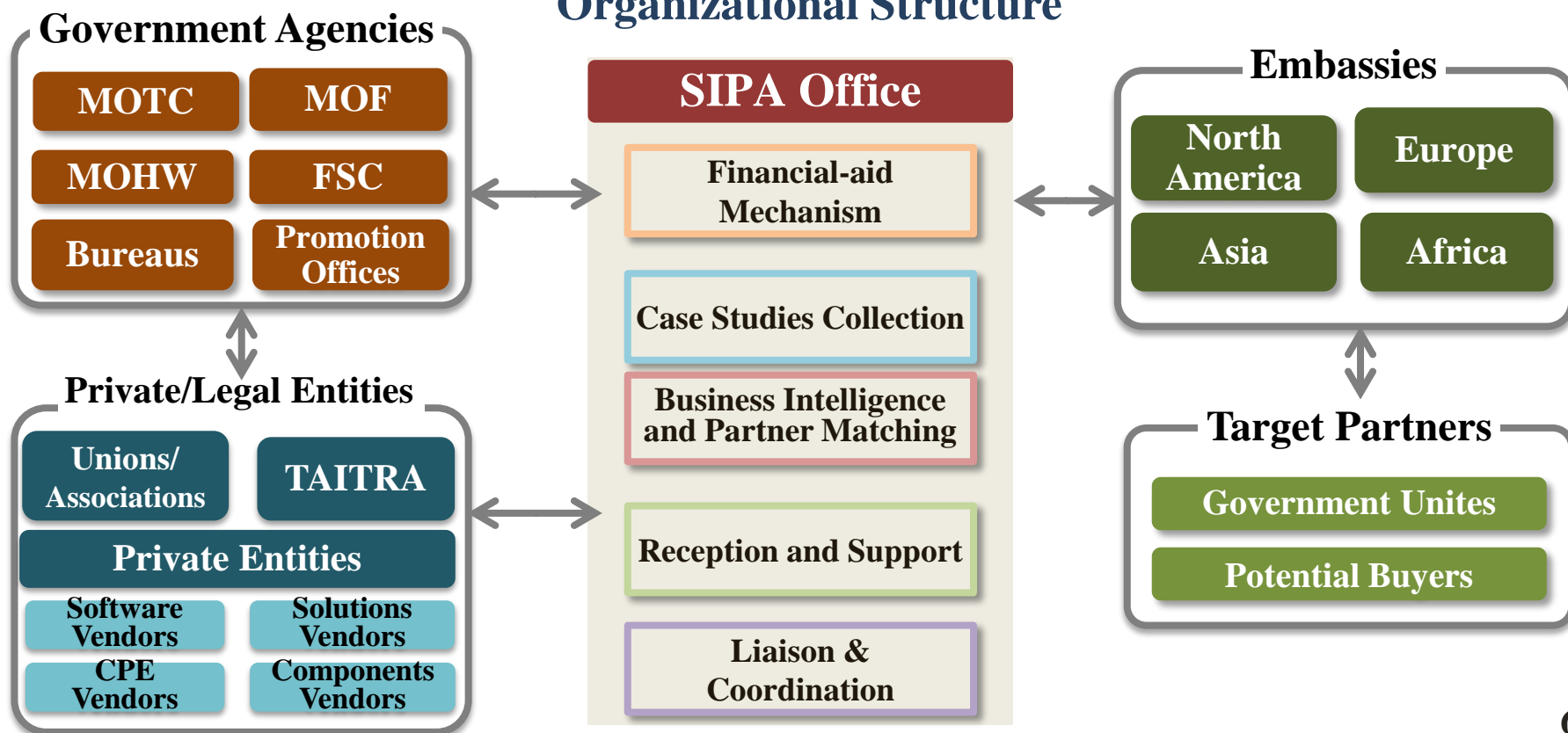




Objectives of SIPA

- SIPA Office is set up to build a communication link connecting government agencies, embassies, private, and legal entities; to collect case studies in target markets to provide business intelligence; to create effective interpersonal networks and partner matching services to help local companies obtain financial aids and seek overseas partners; ultimately, to succeed in exporting and promoting Taiwan's turnkey solutions to the world

Organizational Structure





Despite all challenges, we are on the **RIGHT PATH**

Financial Aspect

- ✓ Large-scale/long-term construction requires a massive amount of funds and pertains to higher level of uncertainty
- ✓ Taiwan financial institutions who are not familiar with foreign financial operations seem to be reluctant to release funds
- ✓ Confined by Article 33-3 of Taiwan's Banking Law, most Taiwan companies are unable to obtain sufficient funds required

Market Aspect

- ✓ Most Taiwan companies have relatively low brand awareness abroad
- ✓ Most Taiwan companies are not familiar with laws and regulations and the investment environment of foreign markets, some of which have politics set to protect their own industries against foreign investment

Industry Aspect

- ✓ Most Taiwan system integrators are SMEs and are lack of experience in large-scale field tests
- ✓ Government procurement does not promote localization and not much help is given to Taiwan companies who often lack of large-scale service experiences

HR Aspect

- ✓ Lacking experienced human resources in international and cross-regional market development
- ✓ Lacking experienced human resources in international bidding



Design Concept

- SIPA aims to create an amiable and well-rounded environment for innovative solutions, leveraging creative- and theme-based incubation mechanisms and driving the export of entire supply chains overseas after the completion of large-scale field-testing in Taiwan

(3) Overseas Exports of Turnkey Solutions

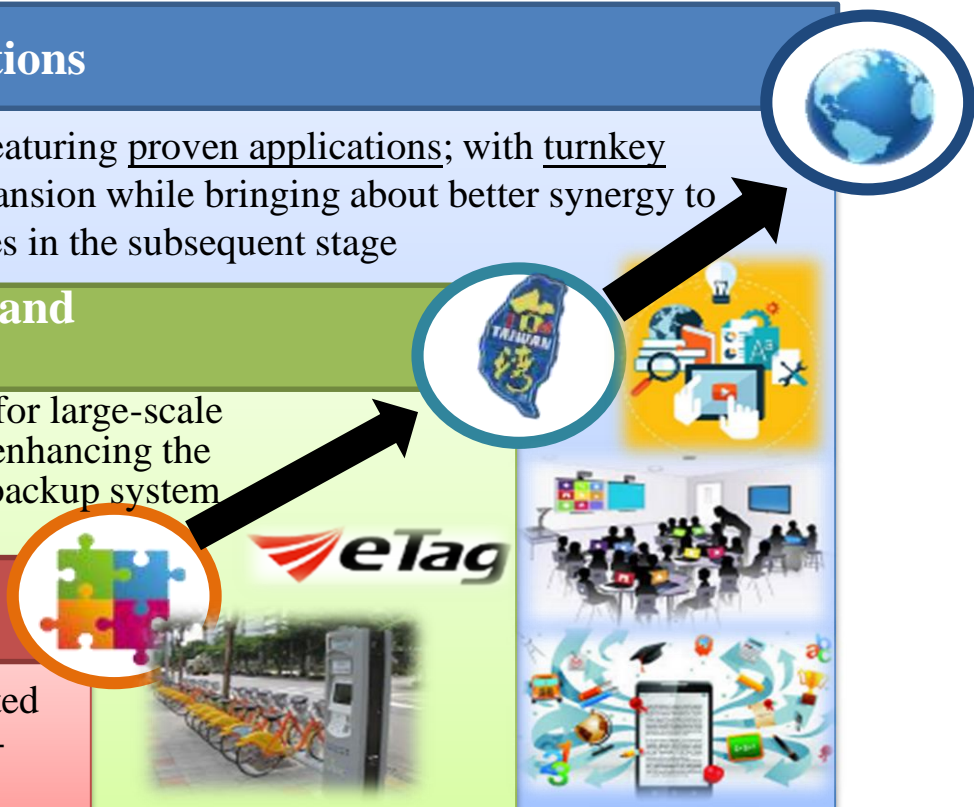
- SIPA will set up an interdisciplinary platform featuring proven applications; with turnkey solutions, the project aims for faster global expansion while bringing about better synergy to the industry through increased export of services in the subsequent stage

(2) Incubation of Integrated Solutions and Large-scale Field Tests

- Government and public sectors are prioritized for large-scale field tests, building operating experience, and enhancing the level of integration between software, UI and backup system for *incubation and promotion of solutions*

(1) Construction of Incubation Platform

- Building an incubation platform for foresighted and *innovative solutions*, leveraging creative- and theme-based incubation mechanisms



Incubation Environment

Energy Convergence

Co-Prosperity



Step-by-Step Construction Plan for System Integration Solutions



Small- and Medium-scale Field Tests for Incubation (e.g. Low carbon living)

Large-scale Field Tests for System Integration Development



III. The 10 Selected System Integration Solutions

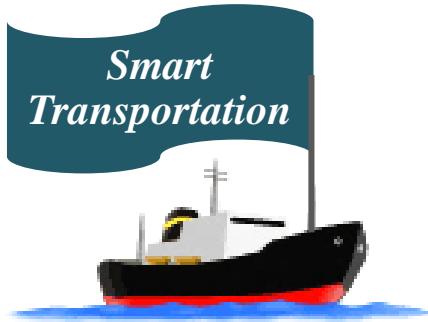


System Integration Solutions Now Ready to Export





 Target Markets  Secondary Markets



Electronic Toll Collection

➤ By 2020, estimated global market value to reach US\$17.5 billion

Smart Health

➤ By 2020, estimated global market value to reach US\$48.1 billion

LED Lighting

➤ By 2020, estimated global market value to reach US\$53.3 billion

Petro-chemical Plants

➤ By 2020, estimated global market value to reach US\$11.7 billion

Green Transport.

➤ By 2020, estimated global market value of public bicycles to reach US\$5.2 billion

Smart Campus

➤ By 2020, estimated global market value to reach US\$4.8 billion

Cloud Systems

➤ By 2020, estimated global market value to reach US\$56.7 billion

Solar Power Plants

➤ By 2020, estimated global market value to reach US\$100 billion

Smart Logistics

➤ By 2020, estimated global market value to reach US\$11.1 billion

e-Govt.

➤ By 2020, estimated global market value to reach US\$9.8 billion



Diverse Application/Service Models

- ✓ Electric toll collection
- ✓ Traffic flow analysis
- ✓ Parking toll management
- ✓ Electric vehicle management
- ✓ Dynamic toll rates
- ✓ Depart/Arrival management

Target Markets & Estimated Market Value in 5 Years

➤ **International Opportunities:**

eTag has been certified in accordance with ISO 18000-6C standard and many countries, including Vietnam, Malaysia, Russia, Italy, Indonesia, the Middle East, and ASEAN, have expressed an interest to cooperate with Taiwan on ETC solutions; there is estimated to have *over 20 bidding projects* related to eTag

➤ **Future Outlook:** market value is estimated to top US\$17.5 billion by 2020

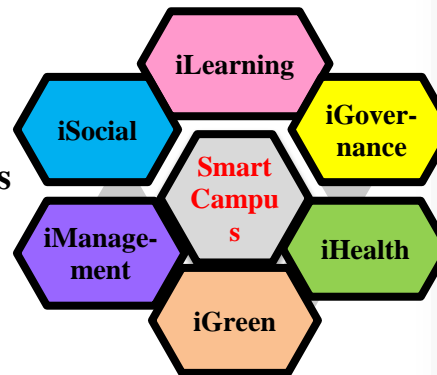


Diverse Sales Models



Emerging Markets: Export of system integrators' turnkey solutions at the province or city level

- Six Smart Campus Cloud turnkey solutions ready to export



Mature Markets: Theme-based applications catering to the needs of individual schools or regions



Target Markets & Estimated Market Value in 5 Years

- **International Opportunities** : Vendors from Vietnam, the Philippines, Malaysia, China, and Singapore have come to Taiwan to discuss international cooperation on smart campus solutions.
- **Future Outlook**: By 2020, estimated global market value to reach US\$4.8 billion



Status Quo & Target Markets



➤ Proven Track Records

- NSP's first production line reached 24/7 100% utilization in 2006. NSP has become Taiwan's largest solar power company.
- NSP has built solar power generation plants in Japan, the US, and the UK; in particular, the company has completed a 25MW solar PV plant in the US, *with a total contract value of NT\$2 billion**.

➤ Overseas Target Markets

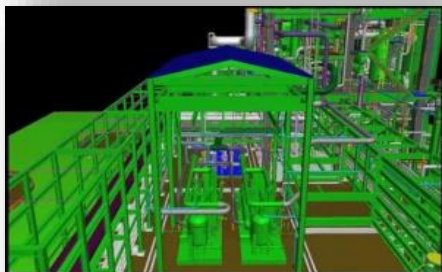
- Continuing to develop the Japanese and US markets, with an aim to stretch into Southeast Asia in the future

*Note: The US solar PV plant is of extremely large scale. Generally, a solar PV plant has a capacity between 1MW to 5 MW.



Target Markets & Estimated Market Value in 5 Years

- **Potential Markets:** US, Japan, Thailand; some are developing the Middle East and African markets.
- **Future Outlook:** By 2020, estimated global market value to reach US\$100 billion



Status Quo & Target Markets

- **Proven Track Records**
 - Having acquired turnkey projects for CPC's Dalin Refinery Plant ALK and reconstruction of Formosa Petrochemical's refinery RDS
 - Overseas projects in China, Southeast Asia, and Middle East (Saudi Arabia, Qatar), *with an average contract value of US\$200 million**.
- **Overseas Target Markets**
 - Currently focusing on the Middle East (Saudi Arabia, Qatar); to be expanded into Malaysia



Target Markets & Estimated Market Value in 5 Years

- **Potential Markets:** From the Middle East to Malaysia and neighboring countries
- **Future Outlook:** By 2020, estimated global market value to reach US\$11.7 billion.



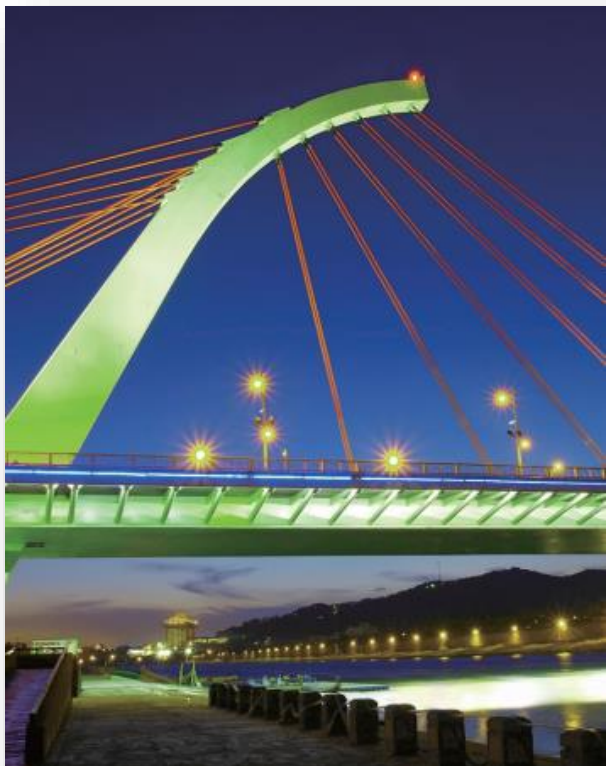
Home Lighting Smart Solutions

Present: Color-changeable Home Lighting

- Consumers can change the lighting color (white/yellow) according to season or environment.

Future: Smart Home Lighting Services

- Using IoT, ergonomics, and cloud computing, the system can provide the most suitable lighting to meet users' needs.



Target Markets & Global Market Value in 5 Years

- **Target Markets:** Vendors have won projects to install LED traffic lights in California. Other projects are under negotiation in North America, Latin America, Central Asia, and Europe.
- **Future Outlook:** By 2020, estimated global market value to reach US\$53.3 billion



Successful Experience Sharing

Present: High-end Security Solutions

- Standard Product Pairing
- High-end Security Control Systems



Future: 3 Major Applications

- Public Security Surveillance and Law Enforcement
- Firefighting and Emergency Rescue
- Criminal Investigation



Target Markets & Export Opportunities in 5 Years

- **Target Markets:** ASEAN countries, the United States, Europe
- **Future Outlook:** By 2020, estimated global market value to reach US\$9.8 billion



Integration of Medical Equipment, Services, and Settings

Present:

Direct Export of Medical Equipment

- Medical PC equipment
- Imaging solutions



Future: Medical Management Services in Integrated Settings

- Smart medical systems
- New medical control management
- Export of proven cases



Target Markets and Estimated Global Value in 5 Years

- **Target Markets:** United States, Japan, China
- **Future Outlook:** By 2020, global market value is estimated at US\$48.1 billion



Now:

Urban Transportation System

- Easy to rent
- Eco-friendly
- Cloud-based



Future:

Interdisciplinary Alliance

- Integration with electronic ticketing system
- Interdisciplinary alliances
- Integration of commuters



Target Markets & Estimated Market Value in 5 Years

- **Target Markets:** Taipei's YouBike experience can be replicated to other countries, such as China, Malaysia, Singapore and Japan
- **Future Outlook:** By 2020, global market value is estimated to reach US\$5.2 billion



Open Sharing; Diverse Co-creation

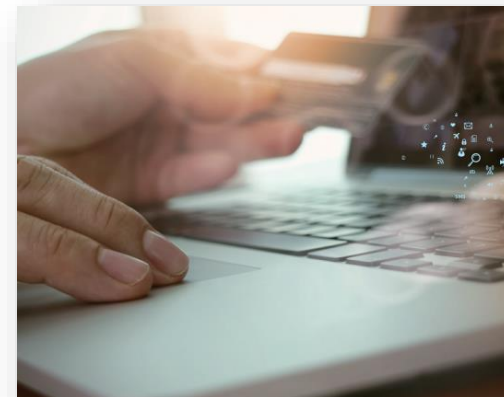


Present: Open Framework for Software/Hardware Integration

- Cross Platform Integration Framework
- BYOC Alliance

Future: Startups + Value-added Apps

- Innovative Cloud Apps
- IoT Apps



Target Markets & Estimated Market Value in 5 Years

- **Target Markets:** Europe, America, Southeast Asia
- **Future Outlook:** By 2020, estimated global market value to reach US\$56.7 billion



Smart storage
management and
dispatch

Smart vehicle
management and
monitoring

Smart container
management and
monitoring

Smart personnel
and document
management

Smart e-Port
Turnkey
Solution



Target Markets & Estimated Market Value in 5 Years

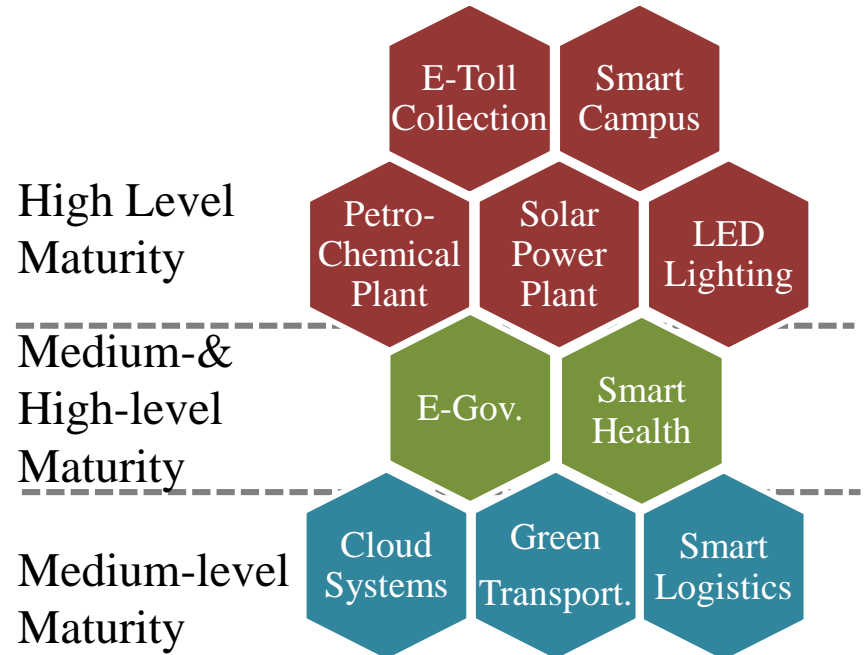
- **Target Markets:** Southeast Asia and China
- **Future Outlook:** By 2020, global market value is estimated to reach US\$11.1 billion



1. Guidance on Solution Selection

- ① Levels of Maturity and Scale of SI Solutions
- ② Levels of Capacities and Readiness of SI Providers
- ③ Foreign Market Opportunity Assessment
- ④ Related Project and Policy Support
- ⑤ Others

2. 2016 Area of Focus





IV. Conclusion



- SIPA office is established to identify new market opportunities - a blue ocean - for system integration solutions; instead of *single products*, *turnkey solutions* are exported to maximize one-time hardware and software integration opportunities, as well as to serve as a spearhead for products and services that will be subsequently exported overseas.
- Over the years, Taiwan has developed own *electronic toll collection, medical management, solar power and petrochemical systems* that stand the best chance of succeeding in the world.
- The government has established *a SIPA platform* to integrate all relevant ministerial resources, promote the export of total product/service solutions, and speed up overseas expansion.
 - *SIPA office, comprising of top teams from Institute for Information Industry and Metal Industries Research and Development Center*, is able to help Taiwan companies - who has a proven track record of exporting and high potential in the 10 selected sectors - reach target markets.
 - In the mid-to-long term, SIPA office strives to create an well-rounded environment for incubating innovative solutions and conduct domestic field testing prior to exporting the entire supply chains of the industry abroad.





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