工業技術研究院
Industrial Technology
Research Institute

Advanced Metering Infrastructure Development in Chinese Taipei

Morris Liang
Green Energy and Environment Laboratories
Industrial Technology Research Institute
Email: morrisliang@itri.org.tw
2011/08/24

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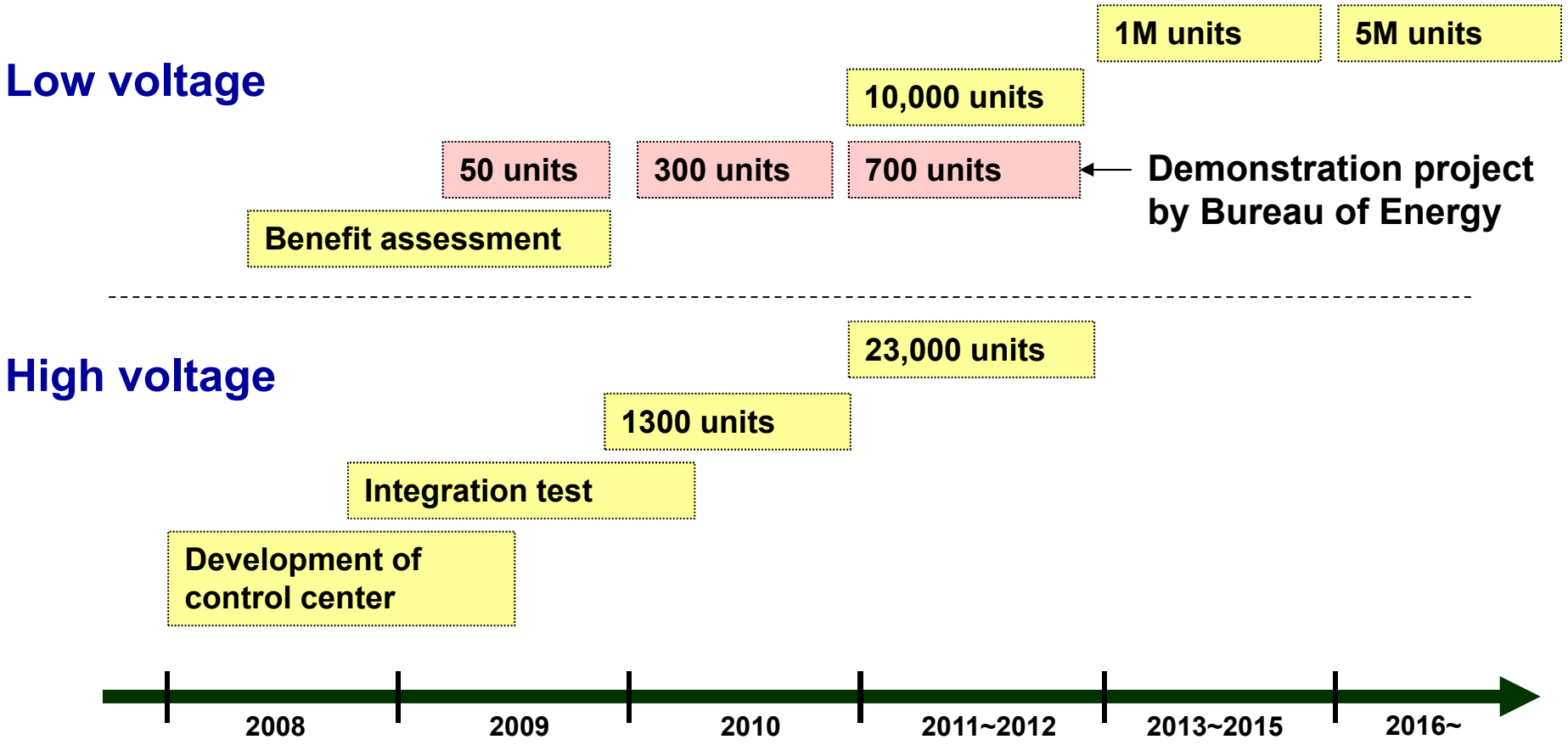
Roadmap of AMI Deployment



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Demonstration Project

- Start in 2009
- 50 and 300 meters are installed in 2009 and 2010
- 400 meters will be installed with few IHDs in 2011
- ITRI is responsible for the project
- Team members
  - III, Archmeter, eMeter, Tatung, Delta Electronics, Works Systems, etc.

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Filed Test in Taipei

154 meters installed in 2010

場域1B-透天厝
民生東路五段27巷9弄
22戶 (ZigBee/PLC)

場域1A-大樓
光復北路199號
58戶 (PLC)

場域2A-公寓
民生東路五段39號
74戶 (ZigBee)

場域1C-大樓
光復北路181號
28戶 (ZigBee)

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Field Test in HsinChu

154 meters installed in 2010

約800M

台電公司

新桃營運處

約900M

約1970M

光明新村(77戶)

- 雙併透天28戶：
  - 採用PLC
- 公寓住宅49戶
  - 採用Wi-Fi技術

WAN規劃

- 集中器之間採RF Mesh
- 上固接網點玖鼎電力
- 兩區RF中繼點新桃營運處

科學園區(77戶)

- 雙併透天23戶
- 大樓公寓54戶
  - 採用PLC, BPL及Wi-Fi技術

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Project Team Mebers

- Meters by Tatung, ChungHsin, Archmeter, Delta
- PLC by Archmeter
- BPL by Billion, AcBel
- WiFi by Zyxel
- Zigbee by III

- Concentrators by Archmeter, Delta, AcBel

- Communication Servers by Works Systems, Zyxel
- MDMS and System integration by eMeter, ITRI and III

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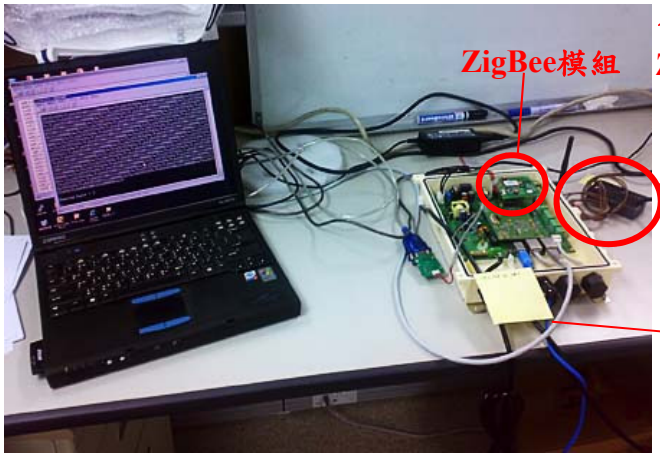
Integration Test in Lab

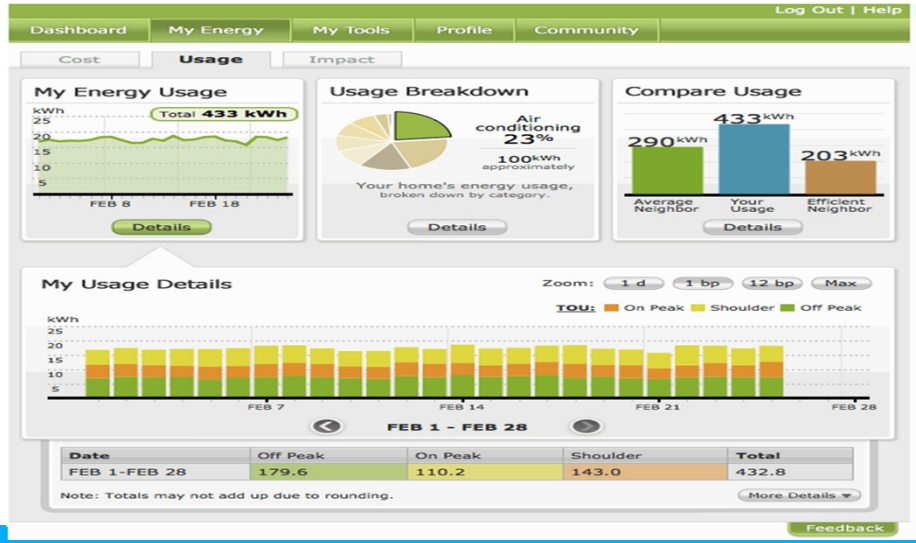


集中器與電表透過
ZigBee及電力線連接

測試主機　　測試集中器

各通訊技術測試
(ZigBee, PLC, WiFi電表進行測試)

WiFi通訊板　PLC通訊板　BPL通訊板　ZigBee



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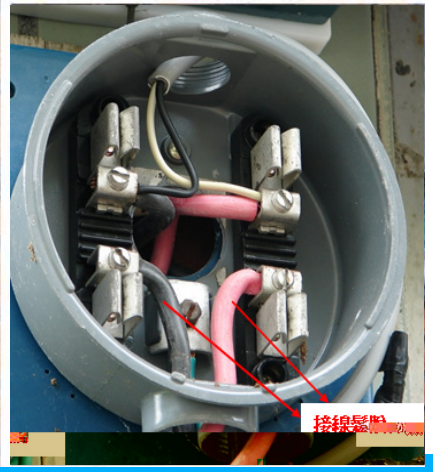
Field Operation



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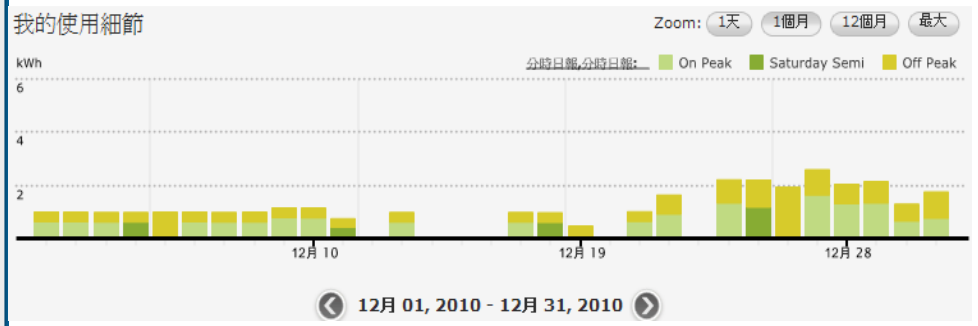
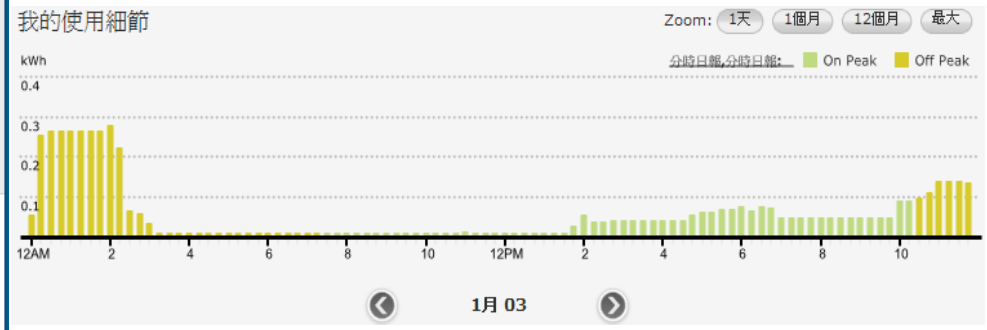
Web Service





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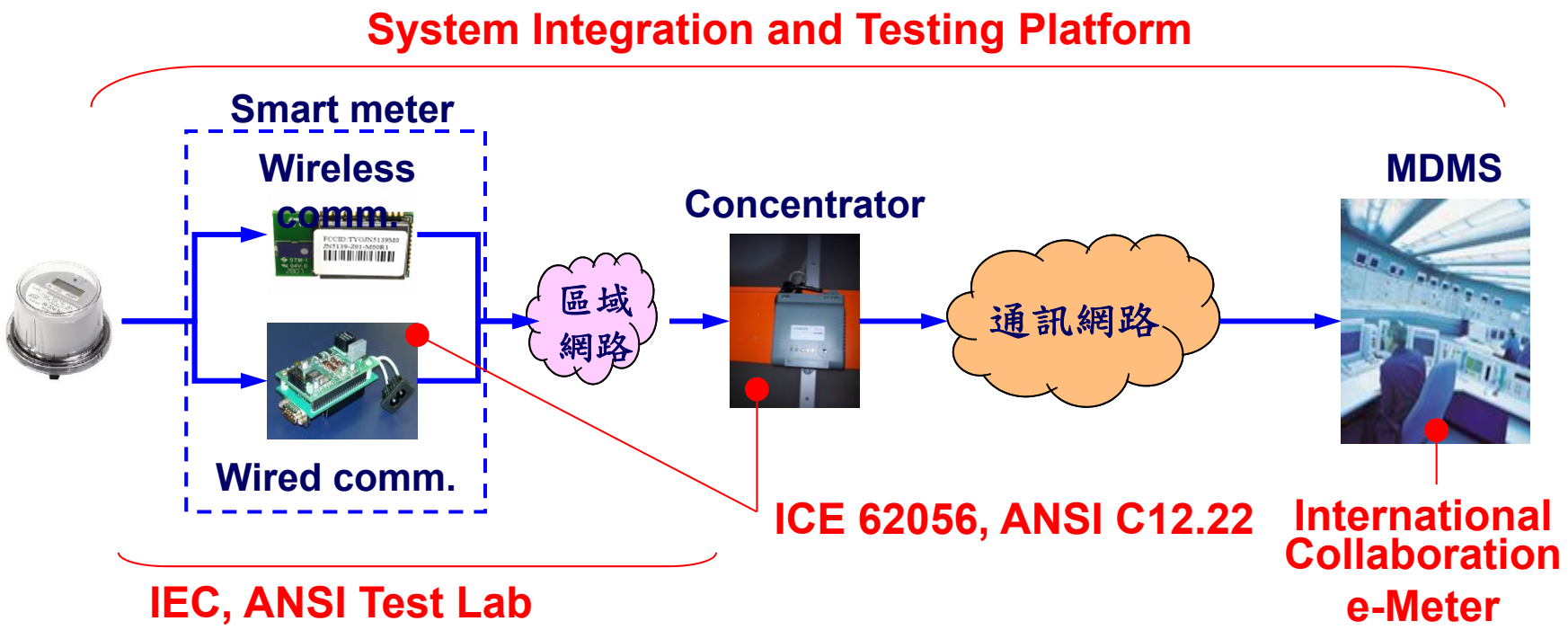
Research Project in ITRI



- **R&D Focus**
  - Interoperability
  - Network Robustness
  - Security

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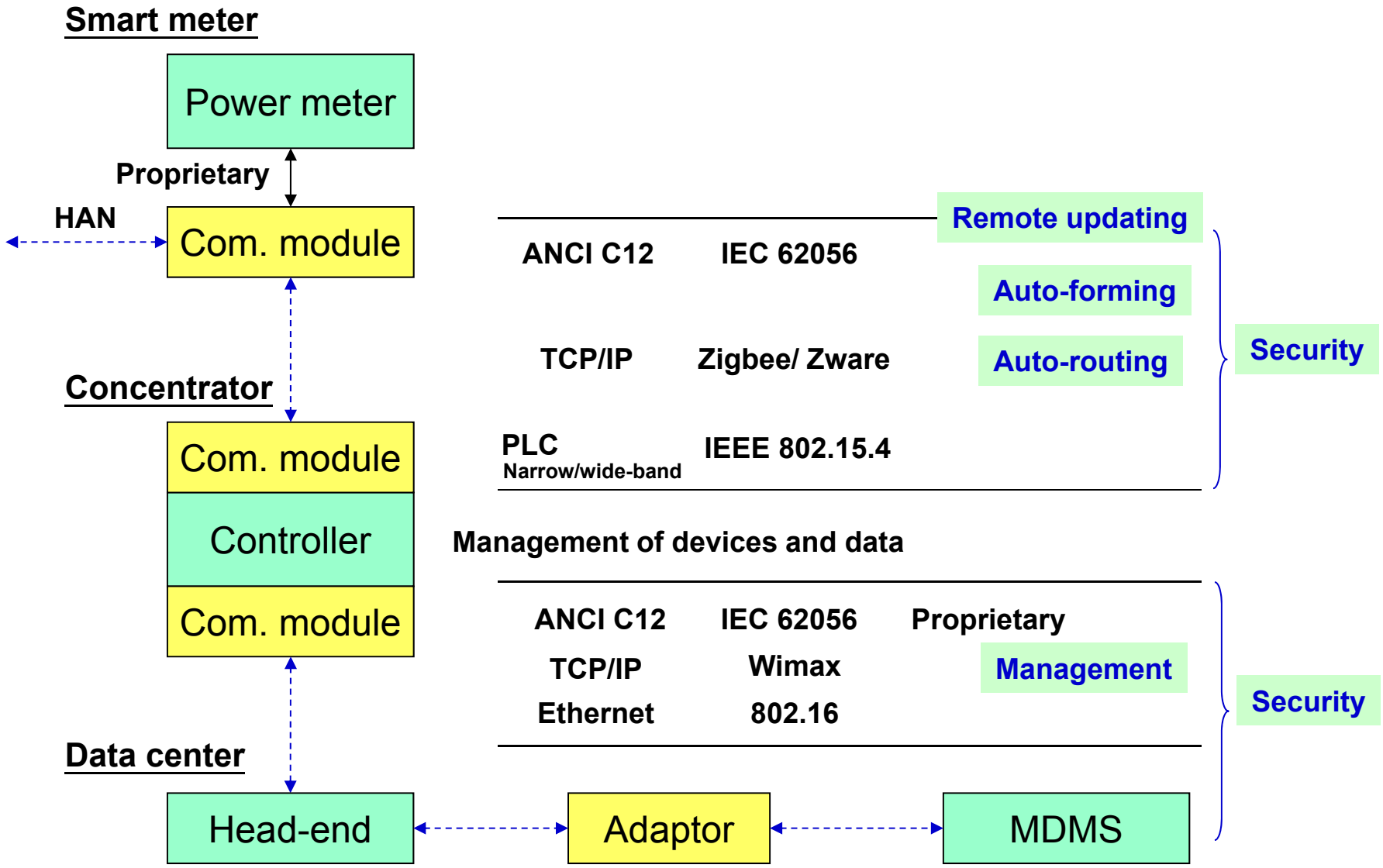
System Architecture



Summary

- Taipower will soon start the deployment of 10,000 meters
- Bureau of Energy support both AMI demonstration and research projects
- Electronic and ICT companies are establishing capabilities of AMI system design and deployment

Name	Pei-Fang (Morris), Liang	**Photo**
Title	Division Director	
Postal Address	**Industrial Technology Research Institute** 195, Sec. 4, Chung Hsing Rd., Chutung, Hsinchu, Taiwan 31040, R.O.C.	
Telephone	Tel: + 886 -3-5915008	
	Cell:	
FAX	+ 886 -3-5820050	
Email	morrisliang@itri.org.tw	
Website	http://www.itri.org.tw/	
Educational Background	**B.S. Engineering of Aeronautics and Astronautics National Cheng Kung University** – Chinese Taipei **Ph.D. Engineering of Aeronautics and Astronautics National Cheng Kung University** – Chinese Taipei	
Work Experience	Current: Director of Power Division, Green Energy and Environment Research Laboratories, Industrial Technology Research Institute. He previously joined research projects related to the applications of Information and Communication Technologies on energy saving and life wellbeing. He is currently leading the design of smart appliance and the program of energy optimization in residential and commercial departments.	

Autobiography

ITRI plays the role of think tank to offer recommendations to government official of Chinese Taipei, and as Pei-Fang's role, he played an important role to the "National AMI Deployment Plan" of Chinese Taipei. To achieve better energy efficiency, he is help local industry to build up the key technologies and standards, and the outcome results are widely appreciated. Currently, he is leading his team to offer advices to build up the master plan of Smart Grids. Many of Pei-Fang's contribution can be found in paper publications.