



Welcome to Jianghai





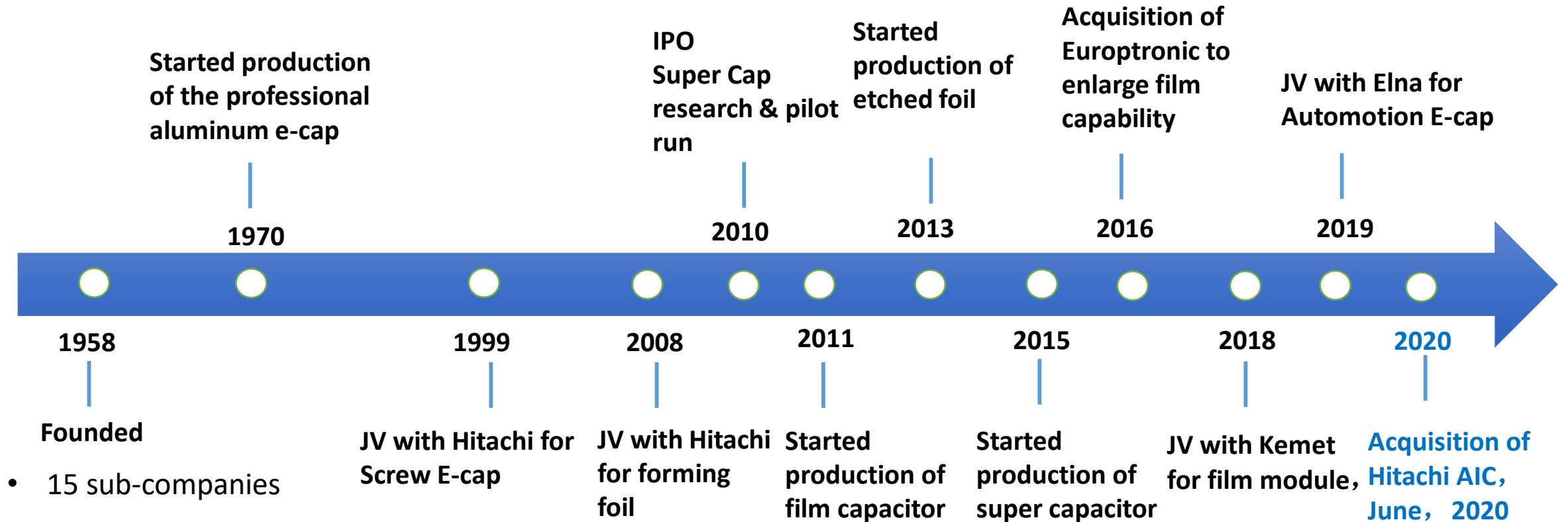
Company Profile

- Founded: 1958
- Headquarter: Nantong, China
- Shenzhen Stock Exchange: Sept. 2010 (Stock Code 002484)
- President: Mr. Chen Weidong
- Employees: 3280
- Over 330 R&D engineers
- Total Area: 533.600 m²
- Sales (FY2019): \$608 Million
- 15 sub-companies
- 12 Domestic sales offices
- 7 Global sales offices





50 years of Experience in Capacitors



- 15 sub-companies
- 10 Capacitor factories (E-cap, Polymer cap, Film cap, Super cap)
- 3 Foil factories (2 Forming, 1 Etched Foil)
- 1 Cover factory (for Screw Type and Film Cap)
- 1 Bus Bar

- Pre-material



- Al-anode foil
- Etched foil
- Cover for screw
- Carbon coat foil
- Metalized film
- Lithium Coated copper foils
- Busbar

- Aluminum Electrolytic



- Screw Terminal
- Snap-in
- Radial
- Polymer
(Radial SMD MLPC)
- Hybrid Polymer
(Radial & SMD)
- Axial/Crown

- Power film Capacitor



- DC-Link
- AC ,X1, X2,Y2
- Snubber
- Module

- Super Capacitor



- EDLC
Coin
Radial
Snap-in
- LIC
Pouch Bag
Radial
- Modules



Sub-companies information

E-cap



➤ Nantong Jianghai Capacitor Co.,Ltd
cap)

(All series E-

➤ Hicon Electronics Co. Ltd
(Screw E-cap)

➤ Mianyang Jianghai Electronics Co., Ltd
➤ Hubei Haicheng Electronics Co.,Ltd

(Snap-in E-cap)

(MLPC, Poly

Film Capacitor



➤ Jianghai Film Capacitor Co., Ltd
➤ Nantong JH-ELNA Electronics Co.,Ltd
ustomized , Metalized film)
Radial E-cap)

(DC-link , C
(Automotive

➤ Suzhou Europtronic Electronics Co.,Ltd
➤ **AIC Tech Inc**
X1/X2/Y2)

(AC, Snubber, Box ,

Super Capacitor



➤ Jianghai New Energy Co.,Ltd with Kemet
LIC, Carbon coated foil)

(EV Film modules , Axial E-cap) (EDLC

➤ Inner Mongolia Hicon Electronics Co.,Ltd

(Anode foil)

➤ Fengxiang Haiyuan Electronics Co.,Ltd

(Anode foil)

➤ Jiangsu Risingsun Electronics Co.,Ltd

(Etching foil)

➤ Top Electronics Material Co.,Ltd

(Cover plates screw)

Pre-Material

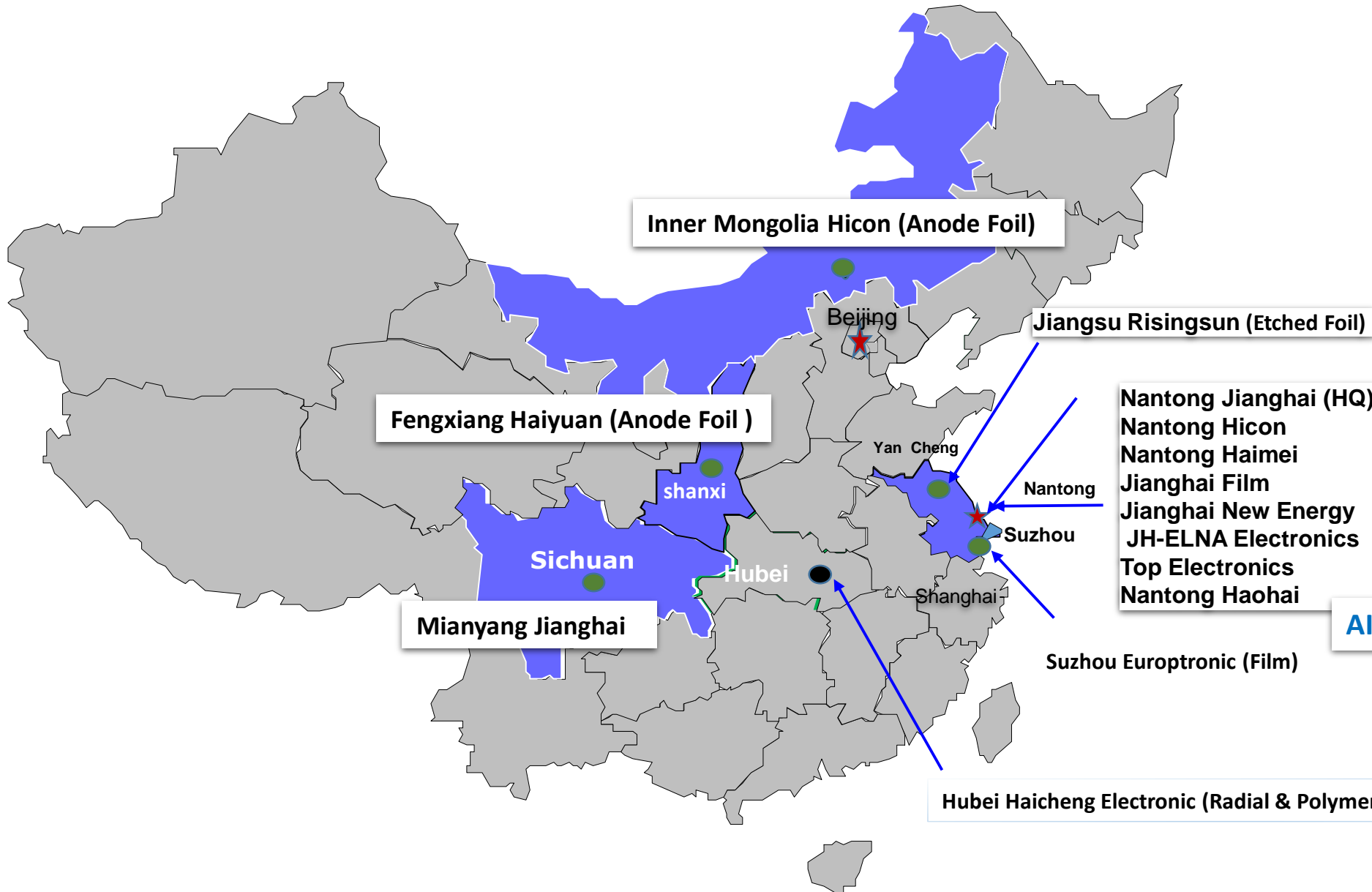


➤ **Nantong Haohai Electric Appliance Co.,Ltd.**

(Bus Bar)



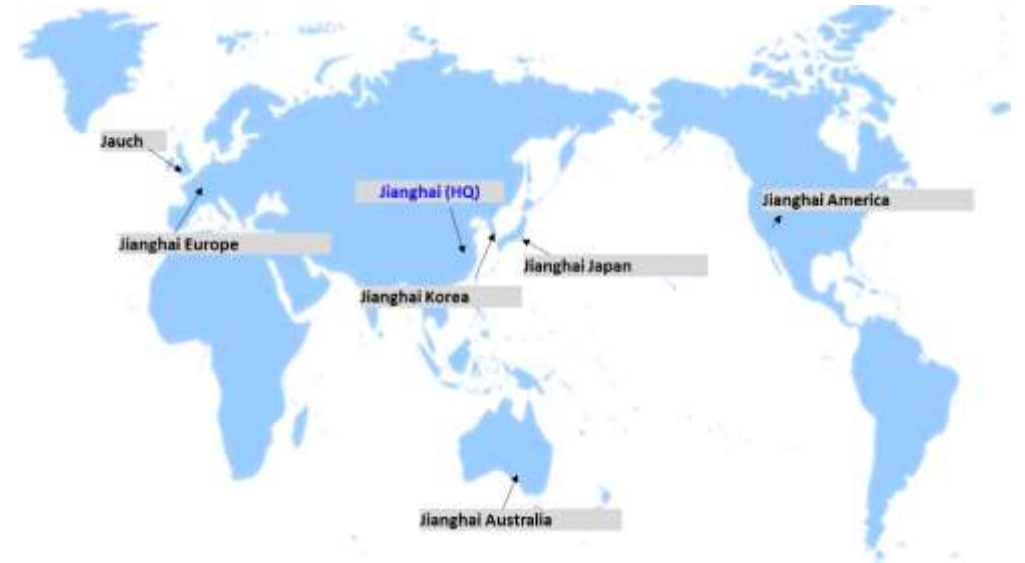
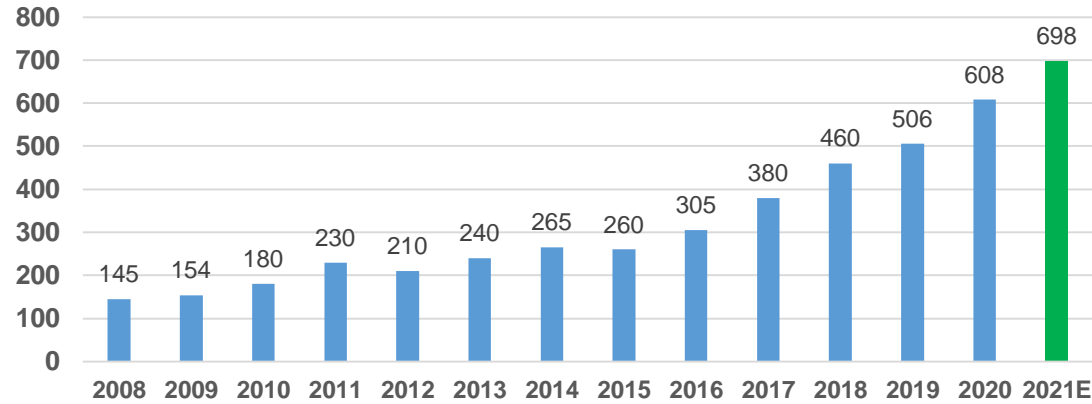
Locations of the sub-companies



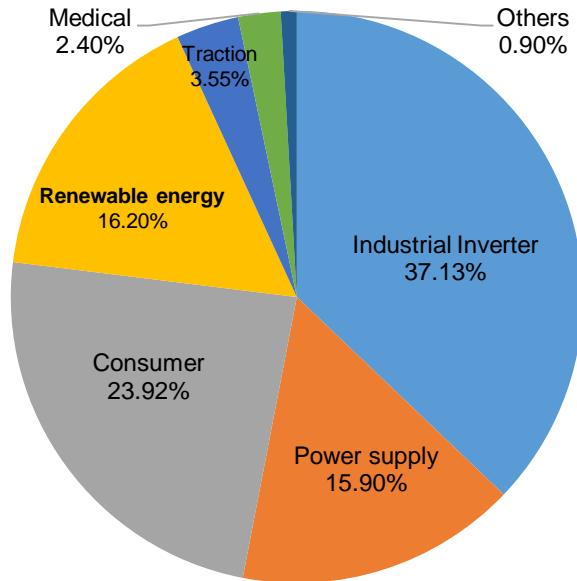
AIC Tech Inc (Jianghai Japan Factory)



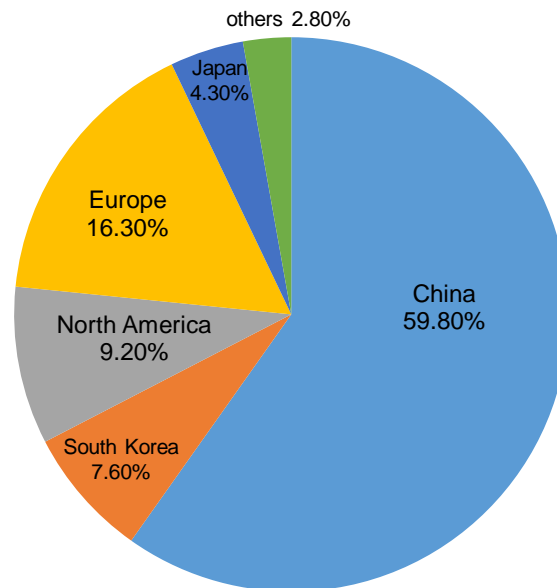
Sales Revenue (Mil USD)



Sales Revenues by Application (2020)



Sales Revenues by Region (2020)





Snap-In

18 Mil. pieces



Screw

700.000 pieces



Radial

450 Mil. pieces



Film

53.1 Mil. pieces



Polymer

60 Mil. pieces



EDLC / LiC

142.5 MWh



- Employee: 1209
- Located at Nantong ,Jiangsu, China
- Manufacturing
- Radial:
 - High working temperature: 125°C–150 °C
 - Slim case size ; Ultra Low ESR;
 - Higher ripple current
- Snap-in:
 - Higher working temperature: 125 °C
 - 10,000 hours ;
 - Special case size:35*120;50*130
 - Vibration resistant design
- Screw:
 - Higher voltage(650VDC)
 - Long lifetime; High ripple current



- Established in 1999
- Joint Venture with Hitachi (52.5% + 47.5%)
- Located at Nantong
- Employee: 131
- Manufacturing:
 - Screw terminal capacitor :
 - Higher voltage (650VDC)
 - Long loaded life 20,000 hours 85°C
 - Higher ripple current
 - Larger case size 100x250 mm



- Acquired by Jianghai in June,2020
- Location:日本栃木県真岡市久下田1065番地
- Employee: 120
- Registered capita :JPY301 million
- Manufacturing:
 - Screw Terminal Capacitor
(higher Capacitance, Ripple current and Longer Useful life)
 - Snap-in Capacitor
 - Steam Film

AICtech

アルミ電解コンデンサ
フィルムコンデンサ
蒸着フィルム事業





Mianyang Jianghai Electronics Co. Ltd



- Established in 1997
 - Located at MianYang, Sichuan Province,
 - Employee: 128
 - Manufacturing:
 - Snap-in and Radial Capacitor
 - Backup for Industrial Product Line
- Monthly Capacity : 3Mil





- Established in 2016
- Located at Huanggang, Hubei Province,
- Employee: 131
- Manufacturing:
 - Aluminum E-cap (radial type) 150 Mil/Month
 - Aluminum polymer capacitor 90 Mil/Month
 - MLPC 30 Mil/Month



Haicheng Electronics Co. Ltd

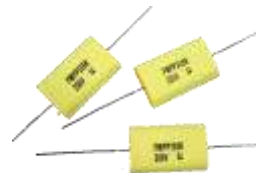




- Established in 2011
- Located at Nantong
- Employee: 200
- Manufacturing:
 - DC-link capacitor- cylinder type
 - Pulse storage capacitor (1KVdc~10KVdc)
 - Module-Metal box (1K~50KVdc)



- Established in 1999 (be merged by Jianghai in 2016)
- Located at Suzhou
- Employee: 326
- Manufacturing:
 - DC-link capacitor- square type
 - Snubber capacitor
 - AC filter capacitor
 - Interference Suppression-X1,X2,Y2





- Established in 2018
- Joint Venture with Kemet (50%: 50%)
- Located at Nantong
- Employee: 50
- Manufacturing:
 - Plastic case film module (160~1200Vdc)
 - E-cap (Axial and Crown type)





- Established in 2015
- Located at Nantong
- Employee: 160
- Manufacturing:
- EDLC:
 - Working voltage: 2.7V、 2.85V
 - Capacitance:0.1~350Farad
 - Product type: Coin, Radial, Snap-in
 - Capability: 2.8 MWh
- LIC:
 - Working voltage: 2.5~4.0V
 - Capacitance:10~16000Farad
 - Product type: Radial, Pouch bag
 - Capability: 30 MWh
- Moudle
 - Capability: 16.4 MWh

Jianghai New Energy Co., Ltd



Super Capacitor & module



Material Sub-companies—Forming foil

Inner Mongolia Hicon Electronics Co.,Ltd.

- Established in 2007
- Located at WulanChaBu City, Inner Mongolia,
- Employee: 244
- Manufacturing:
Industrial High voltage anode forming foil:
Forming voltage: 500 – 950 Vdc
Capability: 40 lines with 640K M²/Month



Fengxiang Haiyuan Electronics Co.,Ltd.

- Established in 2010
- Located at Baoji City, ShanXi Province,
- Employee: 123
- Manufacturing:
Middle and high voltage anode forming foil
Forming voltage: 200 – 750 Vdc
Capability: 40 lines with 550K M²/Month





Material Sub-company—Etched foil

Jiangsu Risingsun Electronics Co.,Ltd

- Established in 2013
 - Located at Yancheng city, Jiangsu Province,
 - Employee: 120
 - Manufacturing:
 - Etched foil for 200~1200V forming foil
- Capability: **1 Mil** M²/Month



Top Electronics Material Co.,Ltd.

- Established in 2005
- Joint Venture with Capchem (40%+60%)
- Located at Nantong
- Employee: 70
- Manufacturing:
- Covers for Screw Terminal Capacitor
 - Φ 35 – 100 mm
 - mistake proof terminal
 - High & low terminal
 - Capability: 800K /month



Screw type

- Higher voltage (650VDC)
- Long loaded life 20,000 hours 85°C
- Higher ripple current
- Larger case size 100*250mm



Snap-in type

- Higher working temperature: 125 °C
- Special case size: 35*120, 50*130
- longer lifetime 10,000hours 105C
- Anti-Vibration design (30g 10~100Hz)



Radial type and polymer cap

- High working temperature: 125°C–150 °C
- Slim case size ; Ultra Low ESR;
- Higher ripple current



DC-link Capacitor

- Voltage: 500~5000 Vdc Capacitance: 10~210000uF
- Cylinder , Box,
- Lower Ls , higher ripple current capabilities

Snubber capacitor:

- Voltage: 700~5000 Vdc
- Capacitance: 0.015~10 uF
- Use in high frequency circuit, design for IGBT

Pulse storage capacitor

- voltage: 1KVdc~10KVdc
- Capacitance: 80000uF (max)
- High Energy storage density



AC Capacitor

- Voltage : 250~760Vac Capacitance: 10~600 uF
- AC motor Start, Three Phase, AC filtering
- Lower ESR, Overpressure disconnection device



Module

- Voltage : 160~1200Vdc Capacitance: 100~5000 uF -plastic box
- Voltage : 1K~50KVdc Capacitance: 1~120000 uF –metal box
- For Transportation , HEV , EV , High-voltage inverter application





All types of Jianghai Film capacitors



EDLC

- Type: Coin, Radial, Snap-in
- General purpose 、 3V 、 Lower Z 、 higher temperature



LIC

- Radial Type : Higher temperature ($-15^{\circ}\text{C}\sim 70^{\circ}\text{C}$) ,
- lower temperature ($-25^{\circ}\text{C}\sim 60^{\circ}\text{C}$) ;
- pouched package



Module and system

- Efficient electrical equalization and thermal management
- Customized specialized modules and systems





University Co-operation



Nanjing University

Research

- electrolyte-base materials
- material analysis and development



**Nanjing University
of Aeronautics and Astronautics**

Research

- aluminum electrolyte capacitors applications



Xi'an Jiaotong University

Research

- Capacitor and material



Central South University

Research

- cathode foils for polymer capacitor

- **Joint Research Center for Capacitors with Xian Jiaotong University**
- State Certified R&D Center (CNAS)
- 6% of sales revenue dedicated to R&D

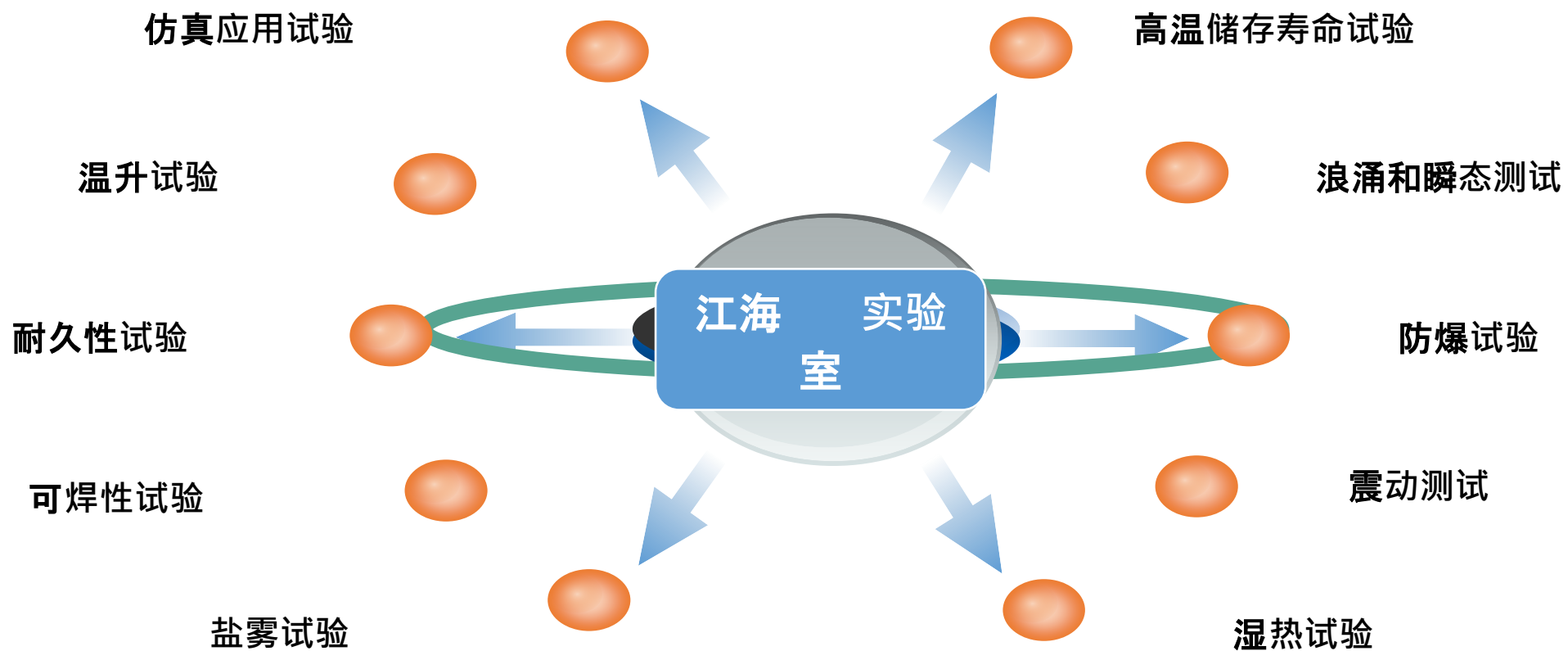
(CNAS)

China National Accreditation Service



西安交通大学
XI'AN JIAOTONG UNIVERSITY







X-Ray



Reliability tests



Temperature shock



EDX spectrometer



(CNAS)
China National Accreditation Service



Thermal tests



„Damp heat“ tests



Vibration-tests



Transient voltage



Quality Information

Sep.1994	ISO9002
Oct.1995	IECQ
Jun.2001	ISO9001-2000/QS9000
Sep.2003	ISO14001
Jan.2006	RoHS Compliant
Jan.2008	GJB9001A-Military
Feb,2012	CNAS
Oct,2012	UL E353835 (UL508C isolation material)
Oct,2013	CE
Dec,2013	UL E355297 (UL810 construction of E-cap)
July,2014	UL E227010 (UL810 construction of Film-cap)
July,2017	OHSAS18001
May,2018	UL MH61501 (EDLC, LIC of Super cap)
May,2018	IATF 16949 (E-cap ,Film-cap, super capacitor)
Sep. 2019	ISO 45001

Typical Application



Industrial Inverter



UPS



White Goods



Elevator



Healthcare



Wind /Solar power



EV / EV Charger



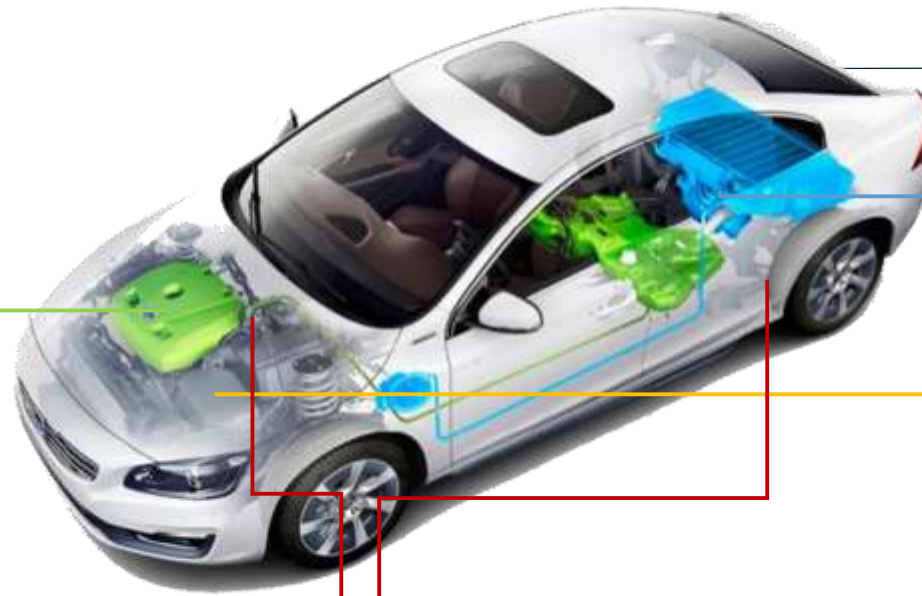
Robot



Traction



Crane



- EV Box PPF & Safety (UL)
- EV Inverter, custom PPF



- EV Drive & controls E-caps
- Car Audio leaded E-caps



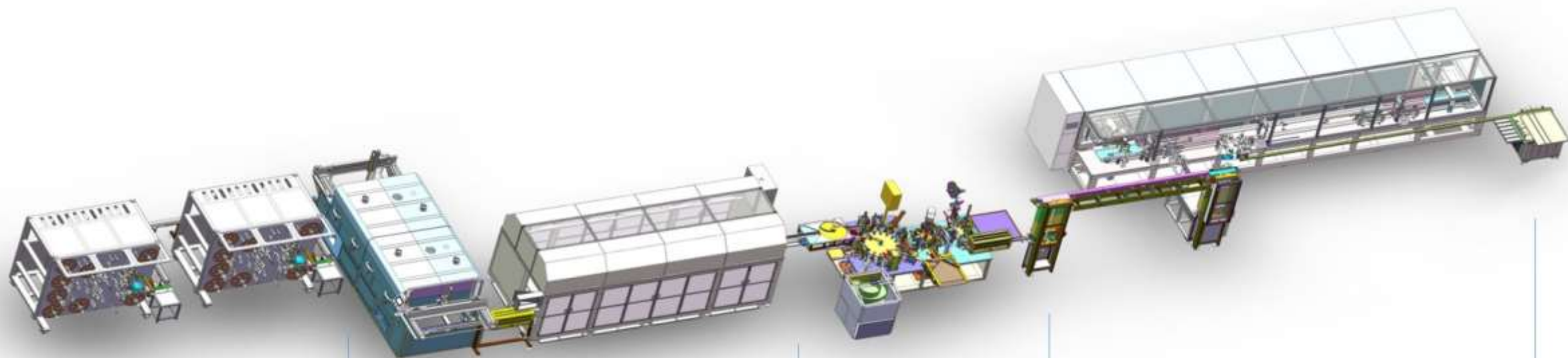
- EV LiC capacitor Modules
- Rail energy regenerative



- Multilayer Polymer -MLPC







卷绕机2台

烘干含浸机

组立机

老化测试机





High-speed production lines for high Capacitance Etched Foil
(Investment:US\$4.2M,4 new lines, Monthly Capacity :600K M²)



Extremely Low Leakage current, long lifetime Anode Foil formation
(Total Investment:US\$5.4M, 18 new lines, Monthly Capacity:200KM²)



Fully automated assembly lines for Snap-in capacitors
(Total Investment:US\$5.0M, 4 new lines, Monthly Capacity:2M pcs)



“Intelligent” Radial Production Lines
(Total Investment:US\$10M, 36 new lines, Monthly Capacity:80M pcs)

- Sales target (in relation to 2020) : E-caps +15%~+20%, Film Caps +30%~+50%, Super Caps +50%~+100%
 - 4 new fully automated snap-in capacitor production lines in Inner Mongolia (Target: a total of 10 Lines)
 - Increase monthly capacity from 28 to 100 Mpcs.per month at Hubei Haicheng factory (MLPC and radials)
 - Add one PP film metallization line (total: 4 lines)
 - Add two automatic assembly lines for EV film modules
 - Add four lines for fully automated assembly of boxed film capacitors (currently 1 line)
 - Start of mass production for screw terminal and coin type EDLC
 - New production line for EV super capacitor modules
 - Automotive JV with Elna: start of mass production for radial types for EV in Q4/2021
-

- **Well-known Brand ;**
Good customer bases and reference
- **Broad capacitor technology portfolio**
Alu-Electrolyte , film, polymer, EDLC & Li-ion capacitors
- Belongs to the **top 3 producers** of snap-in and screw terminal electrolytic capacitors
- ISO 9001, IATF 16949, ISO 14001, UL810 , OHSAS18001, AEC-Q-200
- **Vertical integration of pre-material** production and development
Ensure good quality and short lead time at any time
- **Global sales office** --- design-in support , Fast response



Customer Awards



ABB



Siemens



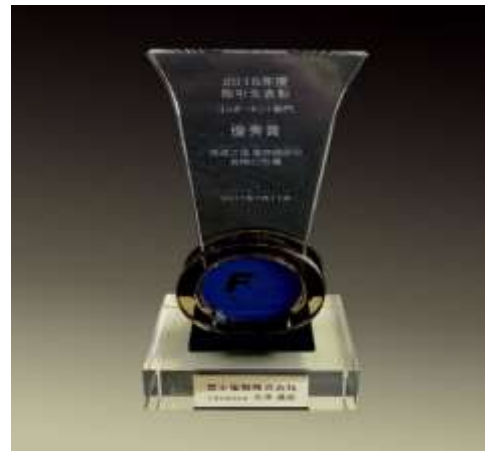
Schneider



Eaton



Vertiv



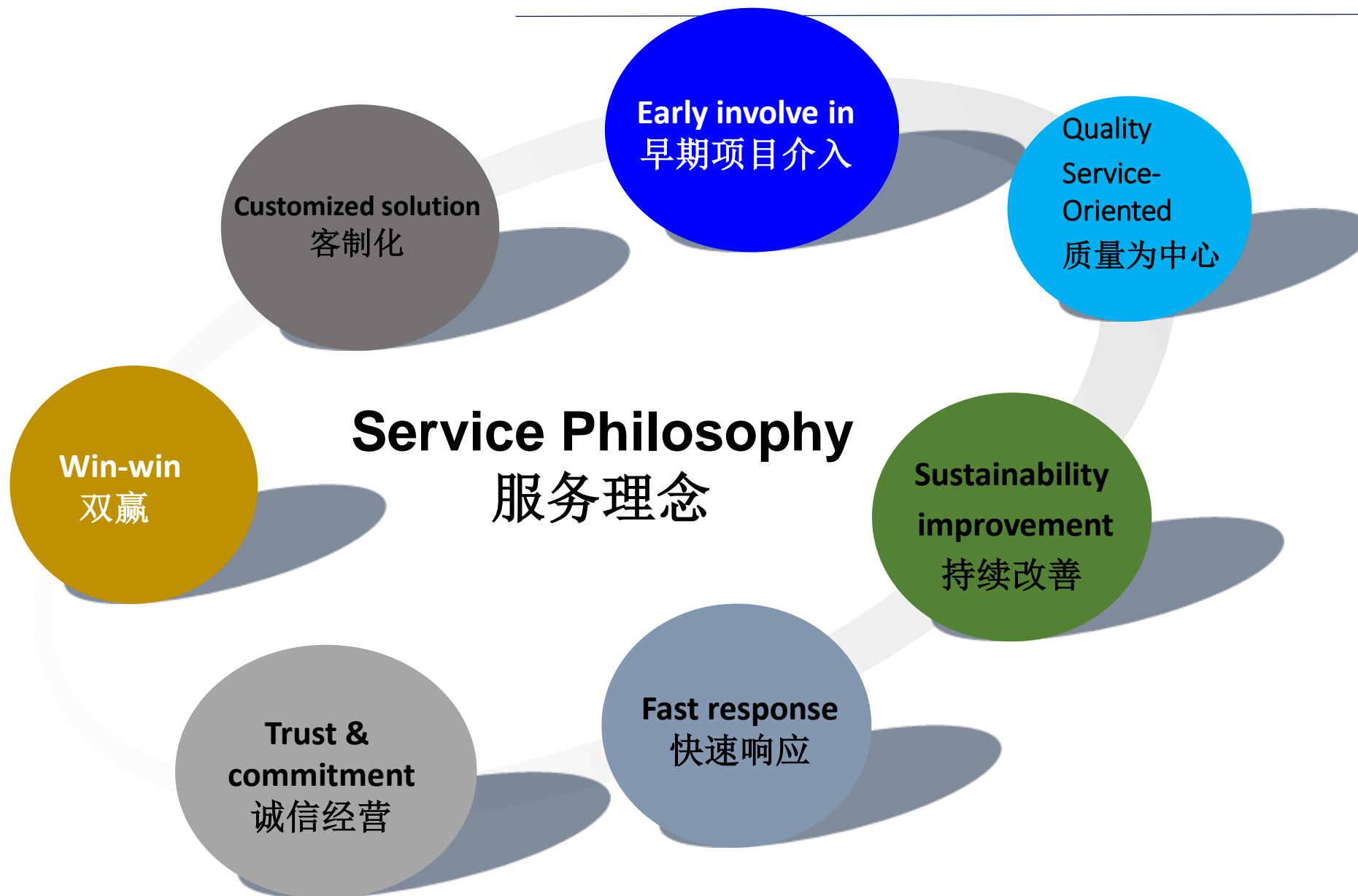
Fuji Electric



Inovance



Johnson Controls



Thank you !

