# **COMPANY PROFILE**

#### SAMWHA ELECTRIC



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#### Profile

Company Name	SAMWHA ELECTRIC	
Date of		
Establishment	December 1973	
Head Office	Cheongju, Chungbuk, Korea	33
Net Sales	\$ 177 million	
Global Networks	2 Plants & 13 Sales Offices	
Employees	1,200 (Korea : 400, China : 800)	



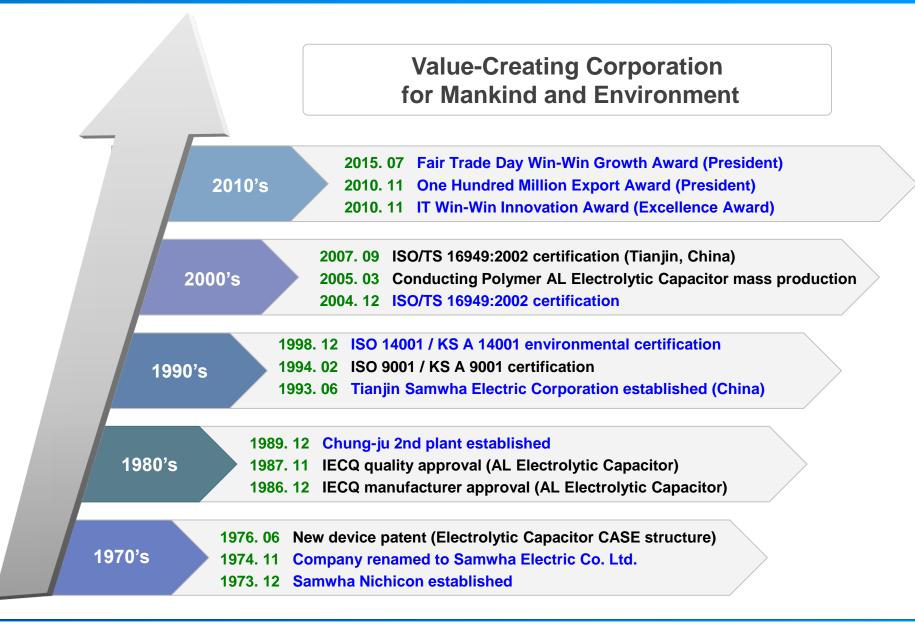




(Year 2017)

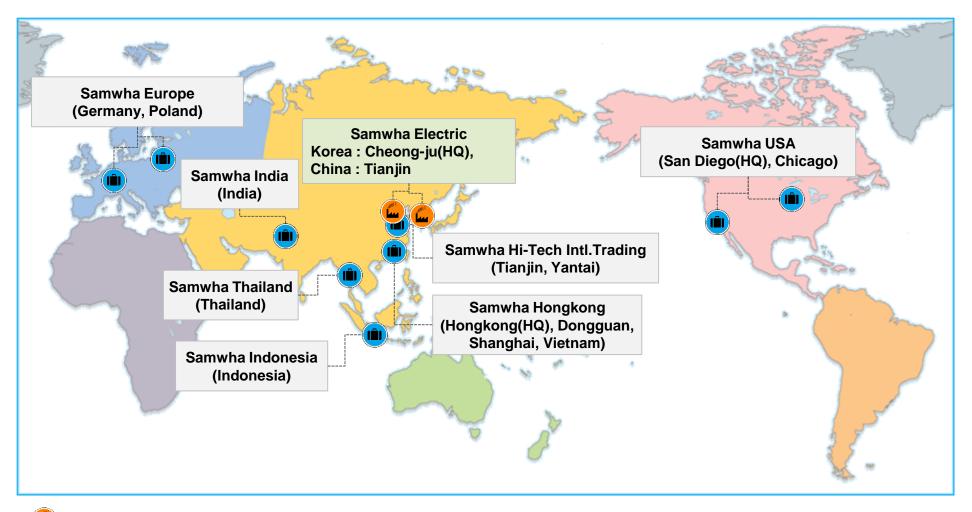


# History





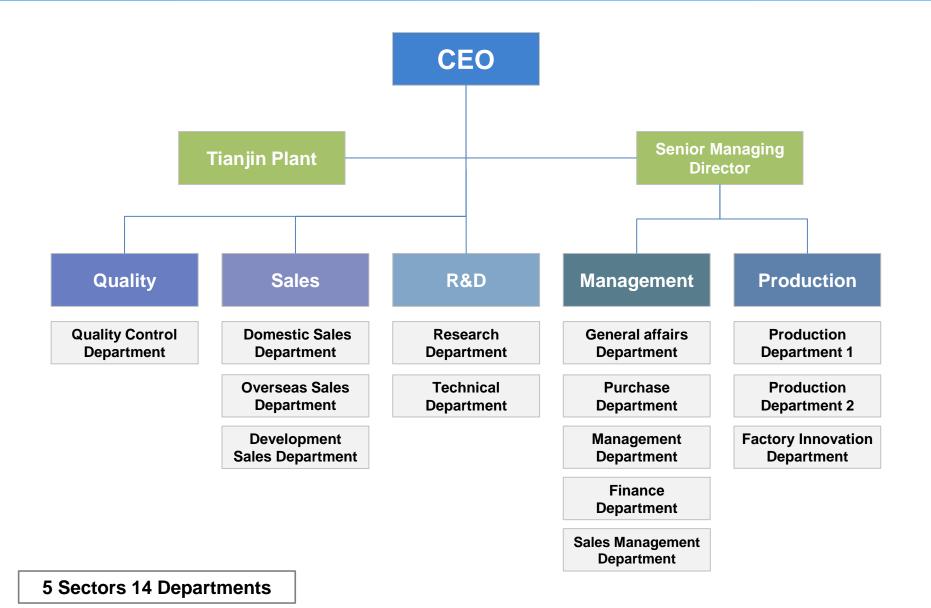
### **Global Network**



Plants : 2 Plants in 2 Countries

Sales Offices : 13 Sales Offices in 10 Countries

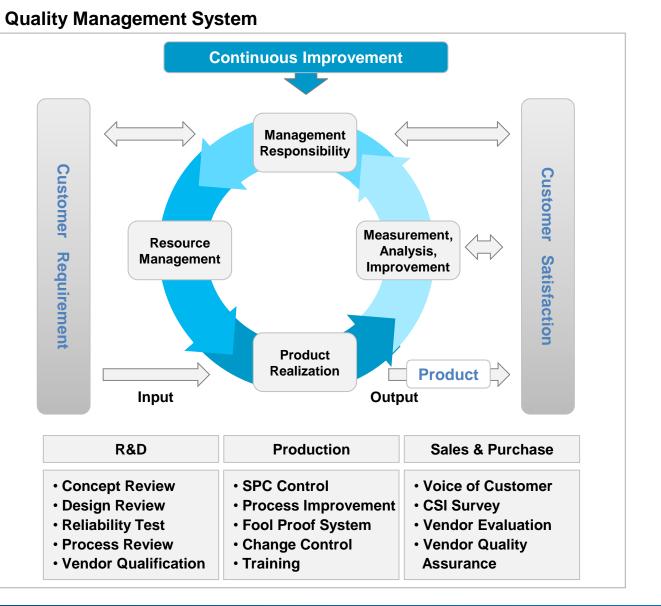






# **Quality Management System (ISO/TS16949)**

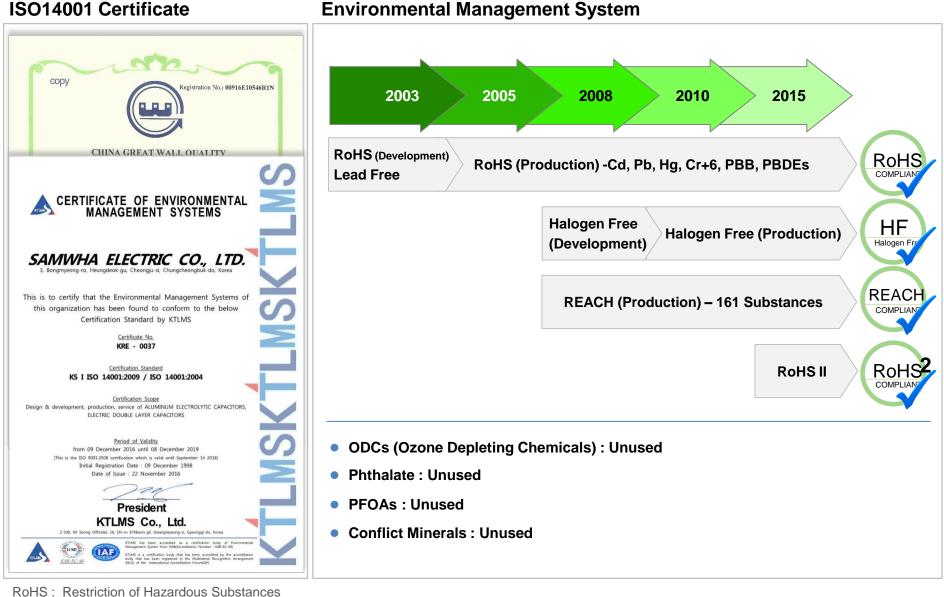
#### ISO/TS16949 Certificate CERTIFIC Ka Korean Foundation TIANJIN SAMWHA ELECTRIC CO., LTD. bsi. Certificate of Registration QUALITY MANAGEMENT SYSTEM - ISO/TS 16949:2009 Samwha Electric Co., Ltd. This is to certify that: 3, Bongmyeong-ro Heungdeok-gu Cheongju-si Chungcheongbuk-do 28589 Republic of Korea Holds Certificate No: TS 660453 and operates a Quality Management System which complies with the requirements of ISO/TS 16949:2009 for the following scope The design and manufacture of aluminum electrolytic capacitors For and on behalf of BSI Managing Director Korea, Jongho Le Issue Date: 21/11/2016 Latest Issue: 21/11/2016 Expiry Date: 14/09/2018 IATE Number: 0252483 Page: 1 of 2 ...making excellence a habit." ains the property of BSI and is bound by the onine Hipe: BSI Group Americas Inc., 12950 Worldgate Drive, Suite 800, Herndon, VA 20170-6007 US BSE Group Karea Limites, 21F, Jangna Tower Bidg.51, Jong-ro, Jangno-gu, Seoul, 110-789, Ka A Member of the BSE Group of Companies.





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# **Environmental Management System (ISO14001)**



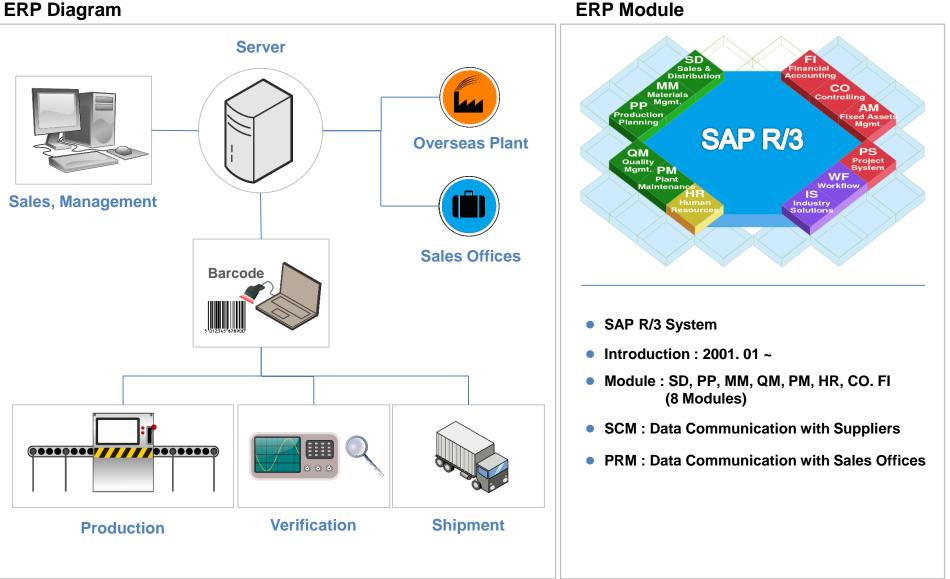
**Environmental Management System** 



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### **ERP System – SAP R/3**

**ERP** Diagram





# **Business Group**

Business Group	Product
Aluminum Electrolytic Capacitor is the core product and we serve our products to worldwide Through Continuous improvements and customers satisfaction.	
Electric Double Layer Capacitor is the energy storage device with semi permanent cycle life and rapid charge and discharge characteristics and is manufactured as single cell and a module shapes. It applies to the environment friendly energy business field Such as wind &solar energy	
Surface Mount AL E-Cap possess the same properties as the traditional electrolytic capacitors but are 30% smaller in size	
<b>Conductive Polymer Aluminum Electrolytic Capacitor</b> Solid capacitors are electrolytic capacitors that use solid electrolyt es with high conductivity (TCNQ, Polythiophene, Polypyrrole, Polyaniline) as electrolytes.	
Hybrid Aluminum Electrolytic Capacitor is consist of conductive polymer and liquid electrolyte It is equivalent characteristic to solid capacitors and can be miniat urized and high voltage.	



#### Radial Type (TR)

SMD Type (V-Chip)



Radial type has Lead Wire for the terminal and small size. It is used for wide range of products. Capacitance is lower than Block type but it has excellent characteristics of impedance. Lead can be formed according to customer's requirement.

Features : High reliability and long life (12,000hrs) High ripple current at high frequency Excellent smoothing ability Customized products for variety market Application : PC, Cellular Phone, CD-ROM, Camcorder, TV, DVD Player, Notebook, Automotive, etc.





SMD type is designed to mount on the surface of board. Thermal resistance electrolyte and pad are used for reflow soldering.

Features : Chip type with higher capacitance in large case sizes Designed for surface mounting on high density PC board Compatible to SMT equipment

Application : PC, Cellular Phone, CD-ROM, Camcorder, TV, DVD Player, Notebook, Automotive, etc.





#### Block Type (Snap-In Type)



Large capacitor with easy-mountable terminal.

Features : High reliability and long life (20,000hrs) High voltage (600WV) Suitable in home-appliance power supplies for inverter

Application : PDP, LCD TV, Air Conditioner, Refrigerator, Washing Machine, Audio, Camera Flash, etc.





#### Block Type (Screw Type)



Large capacitor with bolt-shaped terminal.

Features : Suitable in industrial power supplies for inverter High reliability and long life (20,000hrs) High voltage (600WV)

Application : Elevator, Escalator, Air Conditioner, Welding Machine UPS (Uninterruptable Power Supply) Subway, Light Rail Transit







#### EDLC Type (Green-Cap)



EDLC Type is a next-generation energy storage device. It uses the electric double layer to function as the dielectric of activated carbon.

Features : Rapid charging / discharging

Unlimited charging / discharging Environment-friendly product Wide operating temperature range (-40~+65°C, -25~+70°C) Customize design modules

Application : Wind Power, Solar Energy, Elevator, Hybrid Car, etc.



#### **Conductive Polymer Type (Hi-Cap)**

An electrolytic capacitor using a polymer with high electrical conductivity as an electrolyte.

Temperature characteristics and reliability is superior

because of the use of high temperature stable polymer,

Features : Low impedance at high frequency. (10kHz~10MHz) High ripple current due to reduced ESR Excellent noise-absorbent characteristics. Very stable capacitance, impedance and ESR against temperature.

Application : In(Out)-Out Put Smoothing circuit of DC/DC Convertor power supply Noise basis DC-DC Convertor VCR, Digital camera, Computer (notebook), LCD drive







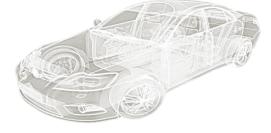
#### Hybrid Type



Electrolyte for conductive polymer hybrid capacitor is consist of conductive polymer and liquid electrolyte It is equivalent characteristic to solid capacitors and can be miniaturized and high voltage.

Features : Excellent high temperature reliability compared to liquid electrolytic capacitors Excellent in frequency characteristics (high frequency ESR) and low temperature characteristics (ESR) Stable leakage current and higher voltage compared to solid capacitors

Application : Automotive (Drive Control, Body Control, Safety, Infotainment etc) Wireless auto vaccum cleaner







PRODUCT			SHAPE	SIZE	Production Capacity	Features	Application
	Radial			Φ3×5L ~ Φ25×51L	314KKpcs /Monthly	<ul> <li>Slimness, Miniaturization</li> <li>Low impedance, Long life cycle, High-ripple products</li> <li>Lead can be formed</li> </ul>	PC, Notebook, Camcorder, DVD Player, LCD TV, etc.
Aluminum Electrolytic Capacitor	Block	Snap-In Type	is use source and source and sour	Φ22×20L ~ Φ40×100L	6KKpcs /Monthly	<ul> <li>Easy-mountable terminal</li> <li>Suitable in home-appliance power supplies for inverter</li> </ul>	Air Conditioner, Refrigerator, Washing Machine, Audio, etc.
		Screw Type	All Market	Ф35×70L ~ Ф89×160L		<ul> <li>Bolt-shaped terminal</li> <li>Suitable in industrial power supplies for inverter</li> </ul>	Elevator, Escalator, Welding Machine, Subway, etc.
Electric Double Layer Capacitor	Snap-In Type			Φ8×20L ~ Φ89×150L	200Kpcs /Monthly	<ul> <li>▷ Long life cycle, Stable charge and discharge cycle, Rapid charging and discharging</li> <li>▷ Environmental friendly</li> <li>▷ Wide range of temperatures (-25 ~ +70°C)</li> </ul>	Wind Power, Solar Energy, Elevator, Hybrid Car, etc.
(EDLC)	Module Type			Voltage : 5V~125V			
Surface Mount Aluminum Capacitor	SMD			Φ3×5.3L ~ Φ12.5×13.5L	154KKpcs /Monthly	<ul> <li>Surface mount type</li> <li>Slimness, Miniaturization</li> </ul>	PC, Notebook, Camcorder, DVD Player, LCD TV, etc.
Conductive Polymer Capacitor	Radial, SMD			Φ4×5.4L Φ10×12.6L	11KKpcs /Monthly	<ul> <li>Solidification of device to improve characteristics</li> <li>Low impedance at high frequency. High ripple current</li> </ul>	DC/AC Converter, Computer, Camara, etc
Hybrid Aluminum Electrolytic Capacitor	SMD			Φ6.3×6.0L ~ Φ10×10L	2KKpcs /Monthly	<ul> <li>Stable leakage current compared to polymer capacitors</li> <li>High voltage available</li> </ul>	Automotive Drive Control, Safety, etc



#### IT / Home Appliance



#### **Automotive**



Industrial



Etc. (Medical, Lighting, Environmental Energy)







