

An aerial view of the Shenzhen skyline at dusk, featuring the Zhenhua Tower and other skyscrapers. The image is dark and moody, with a blue and purple color palette. A yellow rectangular frame is overlaid on the left side of the image, containing the company name and tagline.

# Shenzhen Maspower Semiconductor Co., Ltd.

**Industrial Power Supply Semiconductor**

STRONGLY HIGH-PERFORMANCE CHIPS SELECTING MASPOWER

# 01

## Company Introduction

### ISO9001 Certification, National High-tech Enterprise

Maspower is a leading semiconductor power device chip R&D and solution provider, recognized as a National High-tech Enterprise specializing in innovation, refinement, and uniqueness. The company is headquartered in Shenzhen, with R&D centers in Shanghai and Shenzhen. Ultra-high voltage MOSFETs, IGBTs and FRDs are the main products.

The main focus of Maspower is the development of ultra-high voltage MOSFET segments with voltages ranging from 800V to 4700V, addressing customers' core shortage problems. Maspower mainly serves industries such as industrial power supply, photovoltaic energy storage, instrumentation, medical power supply, and State Grid power supply.

Industry  
Experience

Mature  
Technology

Extensive  
Product  
Coverage

## Company Vision

To be a first-class supplier of industrial power semiconductor devices.

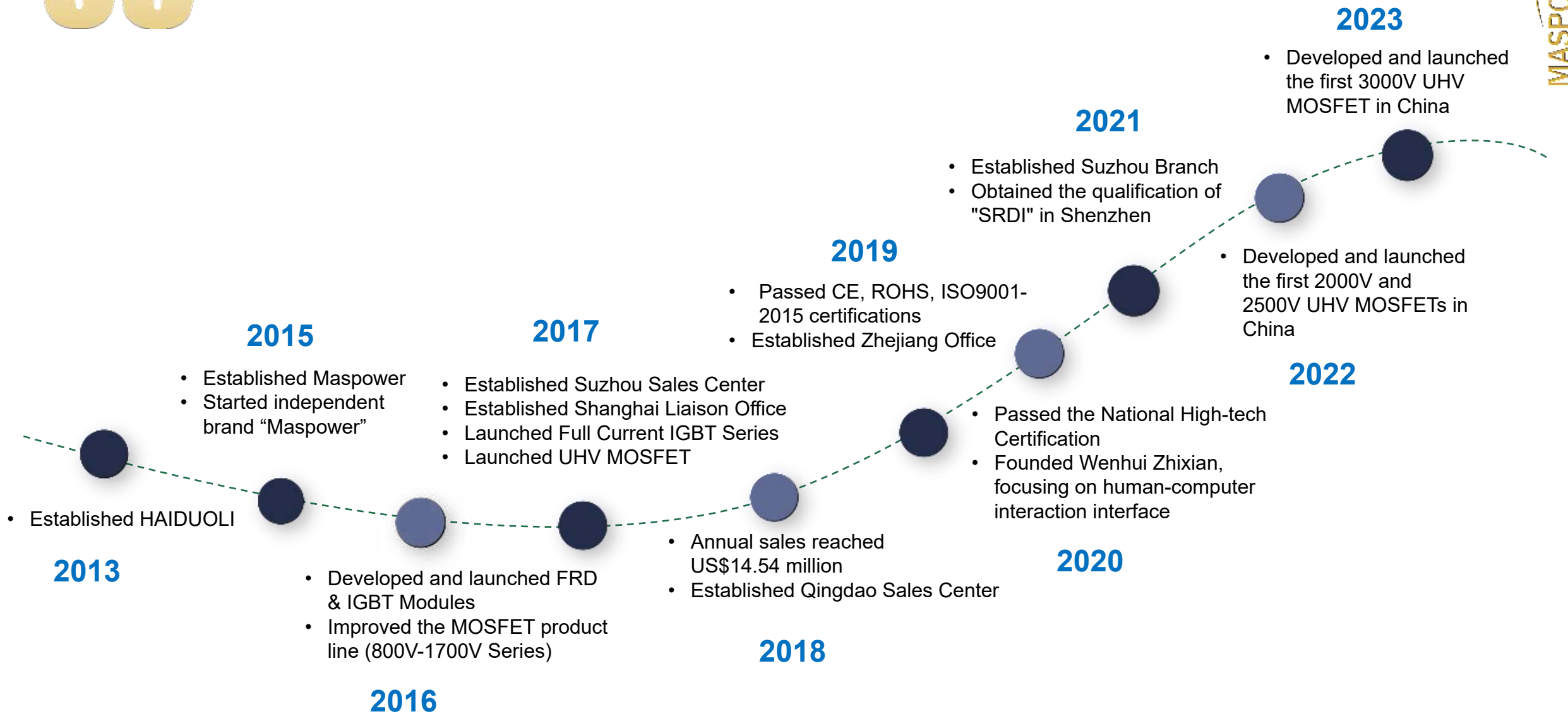
## Company Mission

Work hard for customers to no longer be restricted in the field of component procurement, and build a platform for employees to realize the value of life.

## Company Values

Customer-oriented, quality-oriented, survival by superiority.

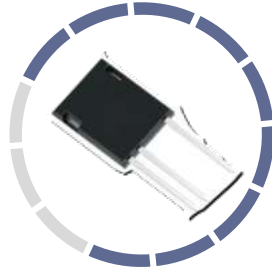
# Development History





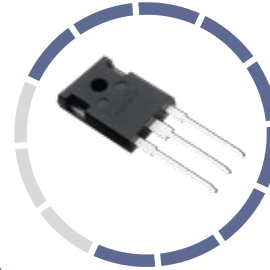
## MOSFET

-60V-4700V  
SJ MOS, HV MOS, LV MOS  
1200V Sic MOS



## Fs-Trench IGBT

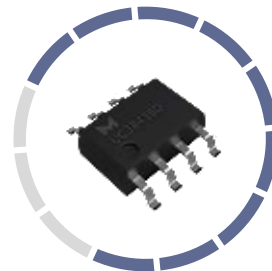
330V-3000V  
NPT-IGBT, FS-IGBT, RC-IGBT



## Core Products

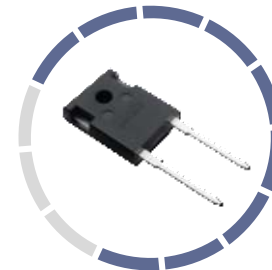
## PWM, AC-DC

10W-100W  
AC-DC Flyback Power Supply



## FRD

200V-2000V  
Fast Recovery Diodes, Ultra Fast  
Recovery Diodes



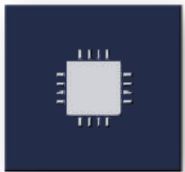
	2015	2018	2019	2020	2021	2022	2023	2024
MOSFET	Planar Si Mosfet 1000-4700V (2500V has been mass-produced)							
		Groove Si Mosfet 30V-500V						
			Shielding gate trench Si Mosfet 30V-500V					
			Superjunction Si Mosfet 30V-500V					
						Silicon carbide Mosfet 30V-500V		
IGBT	Planar IGBT 330V 650V 1200V							
		Enhanced planar IGBT 60A-180A high current single tube package						
		Trench gate field cut-off IGBT 30KHZ-80KHz high frequency						



## Core Technology



Integrated circuits based on Maspower high power, high frequency process, MOSFET, IGBT, FRD products.



Based on SC multi-layer chip technology, high integration, low loss, small size, power conversion chip.

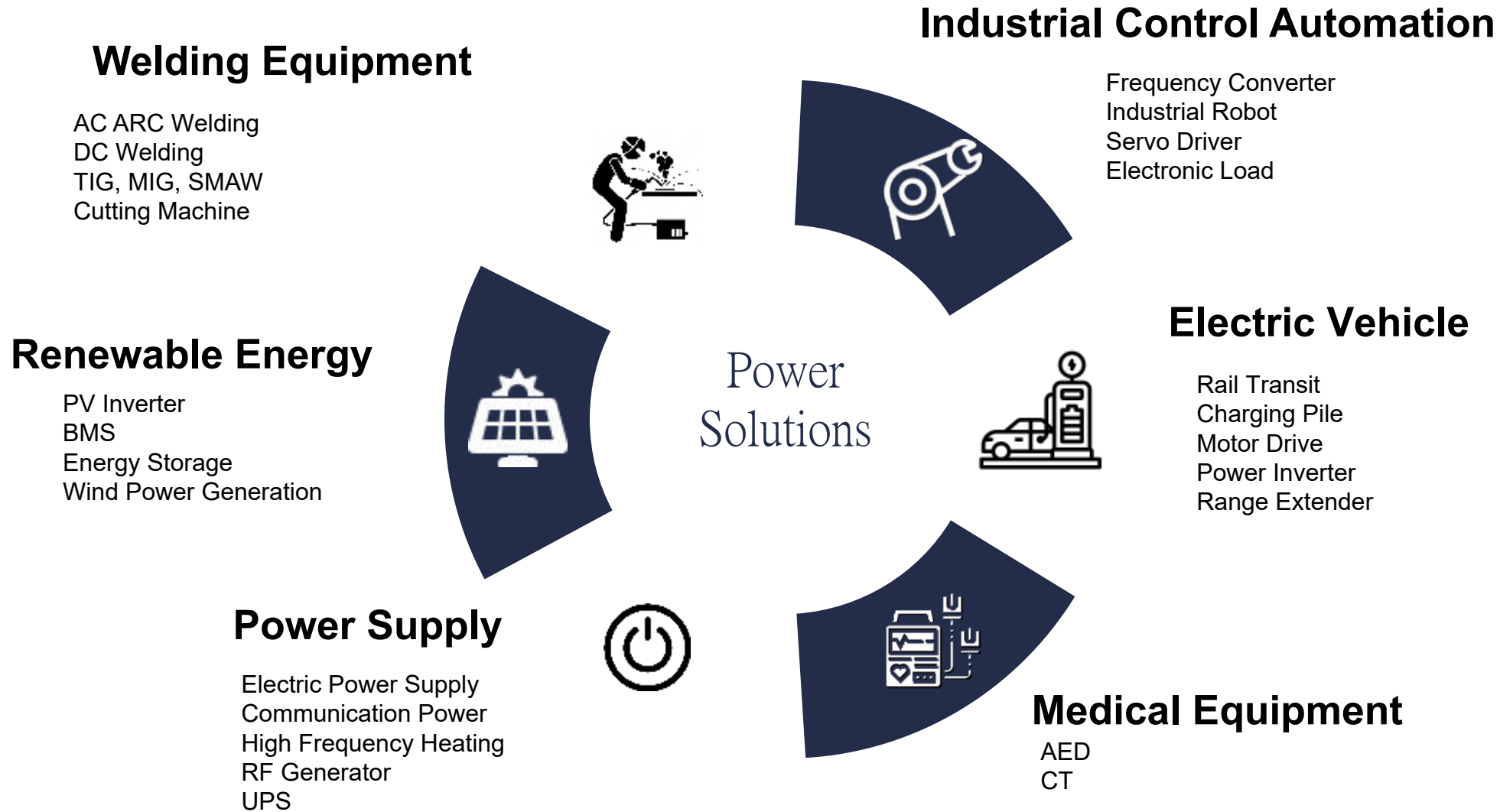


Based on SiC high efficiency and high voltage integrated circuit, MOSFET Diode.

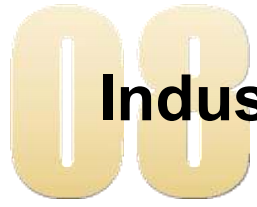
## Technology Advantages

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# Industrial Applications

## MOSFET

MS50N100HGF4, MS170N65HGF4  
MS170N25HGF4 etc.

## FRD

EST60BN120SN, EST100BN120SN etc.



RF Generators



# Industrial Application

## LV MOS

MS50N20FC, MS20N50FC,  
MS100N20FC etc.



## HV MOS

MS9N150H, MS12N100FC etc.



**DC Electronic Loads**

## IGBT

MSG40T120FH, MSG60T65HHC0  
etc.



## MOSFET

MS5N100, MS4N1350, MSN4688 etc.

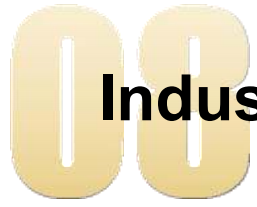


## FRD

ESTF80D22U, ESTF100SS60S,  
ESQ100QN60SN etc.



**Welding Machines**



# Industrial Applications

## IGBT

650V, 1200V etc.



## FRD

600V, 1200V, 1500V etc.



## MOSFET

1000V etc.

Digital Generators

## IGBT

MSG15T120FQC, MSG25T120FPC,  
MSG40T120FQC, MSG15T65FL,  
MSG20T65FQS, etc.

## MOS

MS5N100S, MS4N1350, MS10N100FB etc.

## FRD

ESTF45D60UHB etc.

## BJT

MSJ8N08FD, MSJ8P08FD etc.



## Frequency Converters



# Industrial Applications

## IGBT

650V, 1200V etc.

## MOSFET

MS5N100S, MS6N120FT,  
MS8N120FT, MS4N1350,  
MS9N120H1, MS5N170FC etc.



## FRD

600V, 1200V etc.

## PV Inverters

**MOSFET**

2000V, 2500V etc.



**AED**

**UPS**

IGBT, MOS, etc.

**Servo Motor**

IGBT, MOS, MCU etc.

**Charging Pile**

MOS, FRD etc.



# 10 Power System

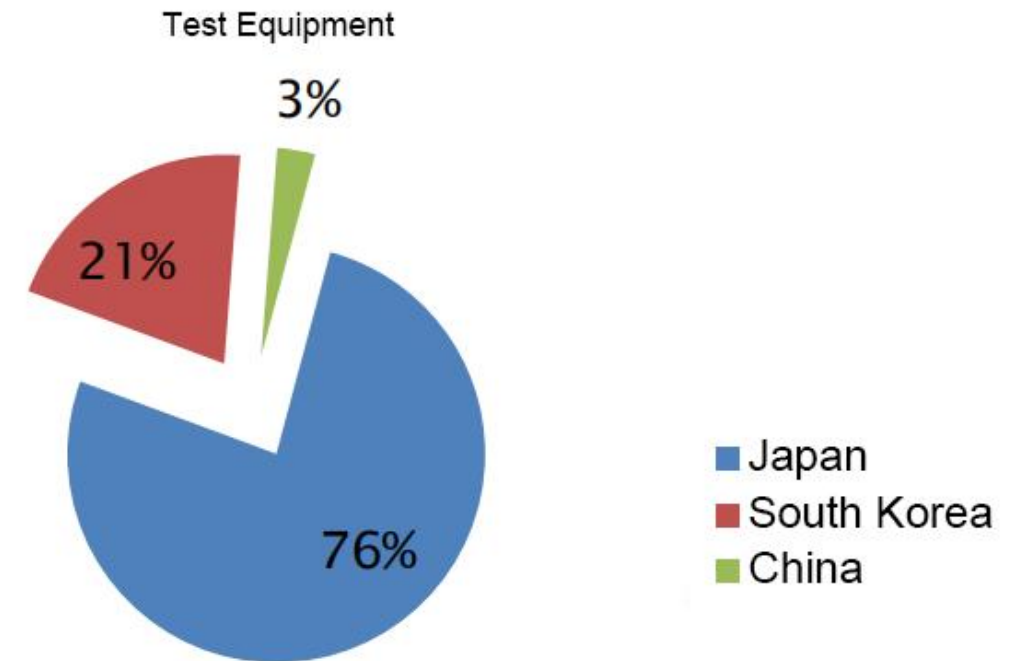
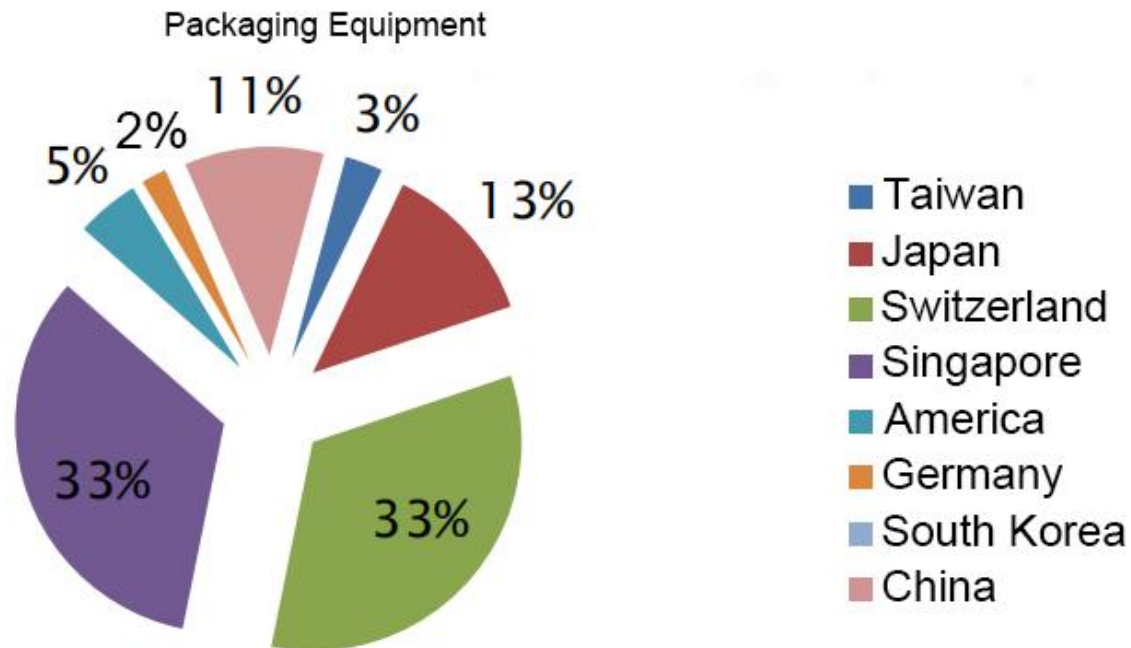


## Stable and Reliable Power System

- Ultrapure Water System
- Completely oil-free air compression equipment
- Nitrogen hydrogen mixture for liquid ammonia decomposition



The company has introduced in Japan, South Korea, Taiwan, Singapore, Switzerland, the United States, Germany and other leading manufacturers, set the international forefront of mechatronics technology polishing of semiconductor device production equipment.





# 12 Production Site



Die Saw



Die Attach



Wire Bond(Au/Cu)



Molding



Plating



Tendon-Cut



Test



Braid

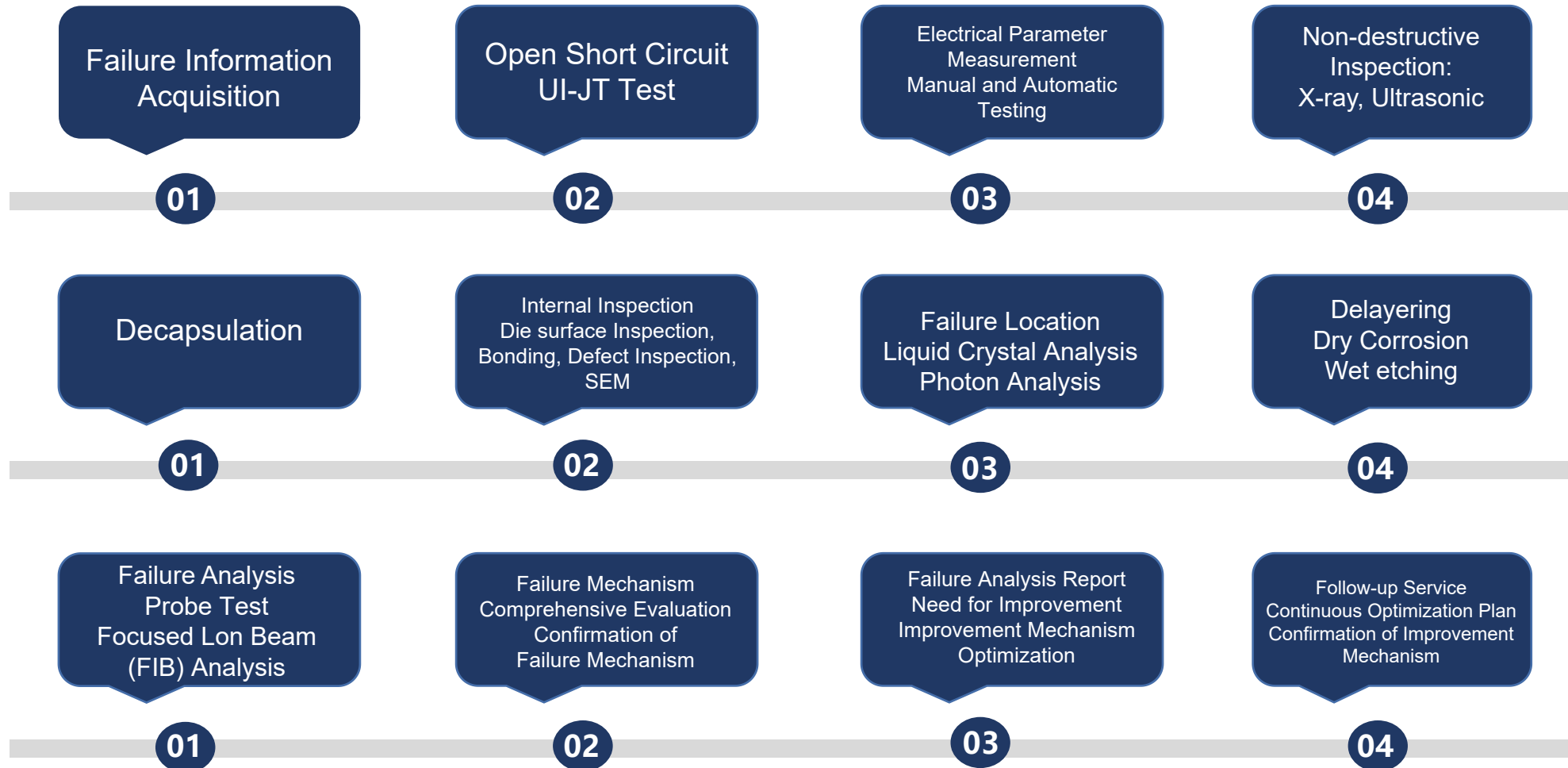


Reliability

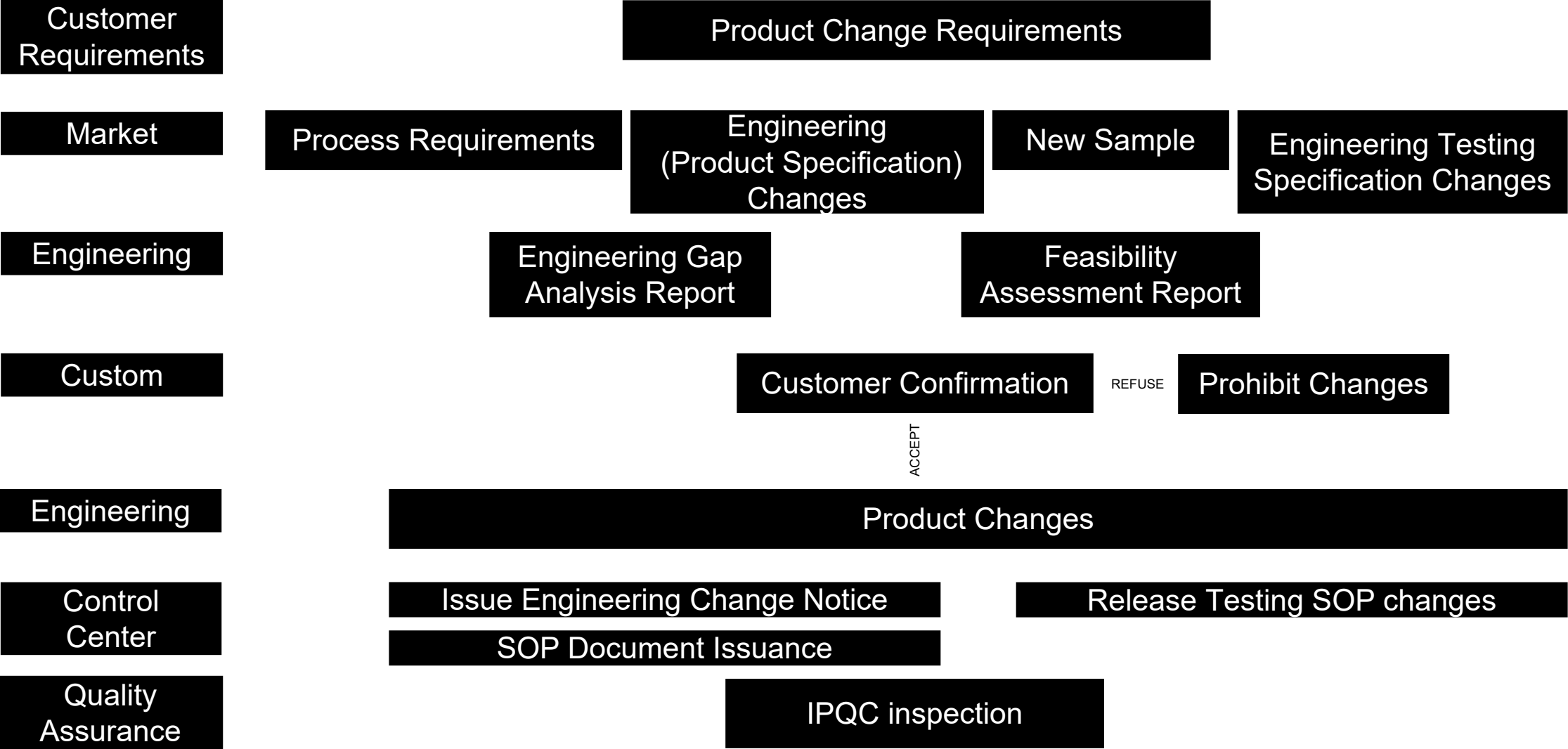
Test Items	Reference Standard Number	Test Conditions	Test Time
Temperature-Humidity Test	JESD22-A101	Ta=85°C&RH=85°C	96 , 168, 500, 1000.....Hrs
Pressure Cooker Test	JESD22-A102	Ta=121±2°C	96 , 168, 500, 1000.....Hrs
High Temperature Storage Test	JESD22-A103	Ta=150°C	96 , 168, 500, 1000.....Hrs
Temperature Cycling Test	JESD22-A104	-55°C→25°C→+150°C	100 , 200, 500, 1000.....Cycs
High Temperature Reverse Bias	JESD22-A108	Ta=150°C V=0.8*BV	96 , 168, 500, 1000.....Hrs
Solder-ability Test	JESD22-B102	Ta=245±5°C(HTH) Ta=215±5°C(TMT)	T=5±0.5s



# Failure Analysis Process









The company has a leading semiconductor product design platform, cooperates with many scientific research institutions and universities at home and abroad, and has a mature and reliable semiconductor product packaging design team.

At the same time, it has advanced epitaxial products, BIC MOS, SGT, SJ Process, NPT, Field-Stop, and other manufacturing processes, as well as its own reliability testing and failure analysis capabilities.

# 17 Certification



# 10 Main Partners

**INOVANCE**  
汇川技术

**JINGGE**  
ELECTRONIC 精海电子

**VAPEL**  
VAPFI Leading Global Power Solution Provider

**雷赛智能**  
Leadshine

**GROWATT**  
古瑞瓦特

**JASIC**

**V-GUARD**  
Bring home a better tomorrow

**DELIXI**  
ELECTRIC  
德力西电气

**ITECH**  
YOUR POWER TESTING SOLUTION

**Fronius**

**invt** 英威腾

**Sieyuan** 思源电气

**SINEE**

**CHNT**



**KONE**

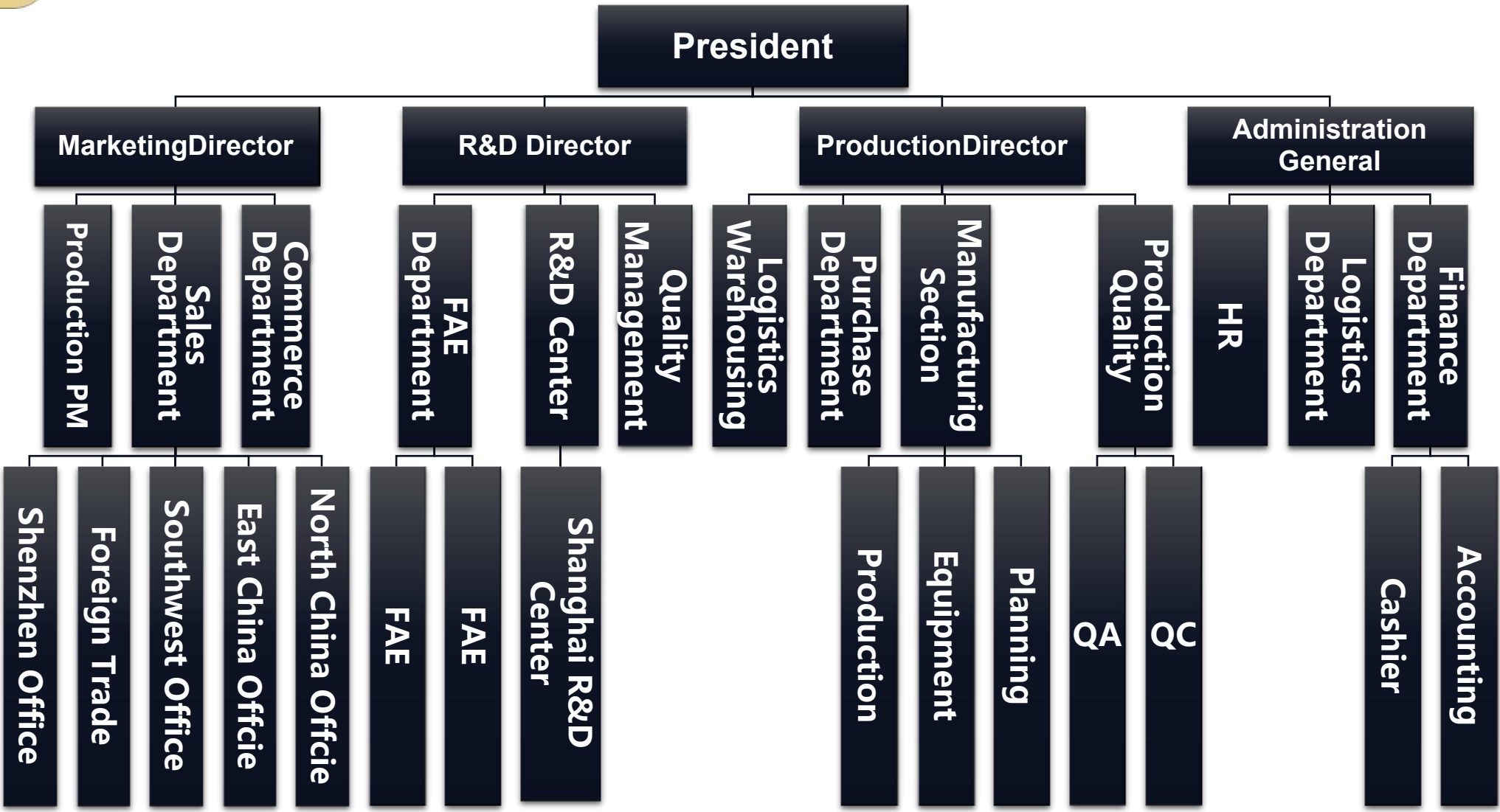
**YUYUE**  
鱼跃医疗

**FGI**  
XIN FENG GUANG


**SENCI**®

**Voltronic Power**  
Advancing Power

# 19 Organization







# THANKS

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