



# KSTAR Presentation

- Powering Green Future -

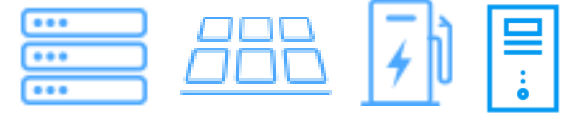
**KSTAR**

Stock Code 002518

Shenzhen Kstar Science & Technology Co.,Ltd

# Company Profile

- Shenzhen KSTAR Science and Technology Co., Ltd. founded in 1993,
- KSTAR is a high-tech enterprise, a leading brand in global market.
- KSTAR is professional manufacture for UPS ,Data center, PV inverter, EV charger. ESS product.



Data Center PV EVC ES



KSTAR Headquarter, Nanshan

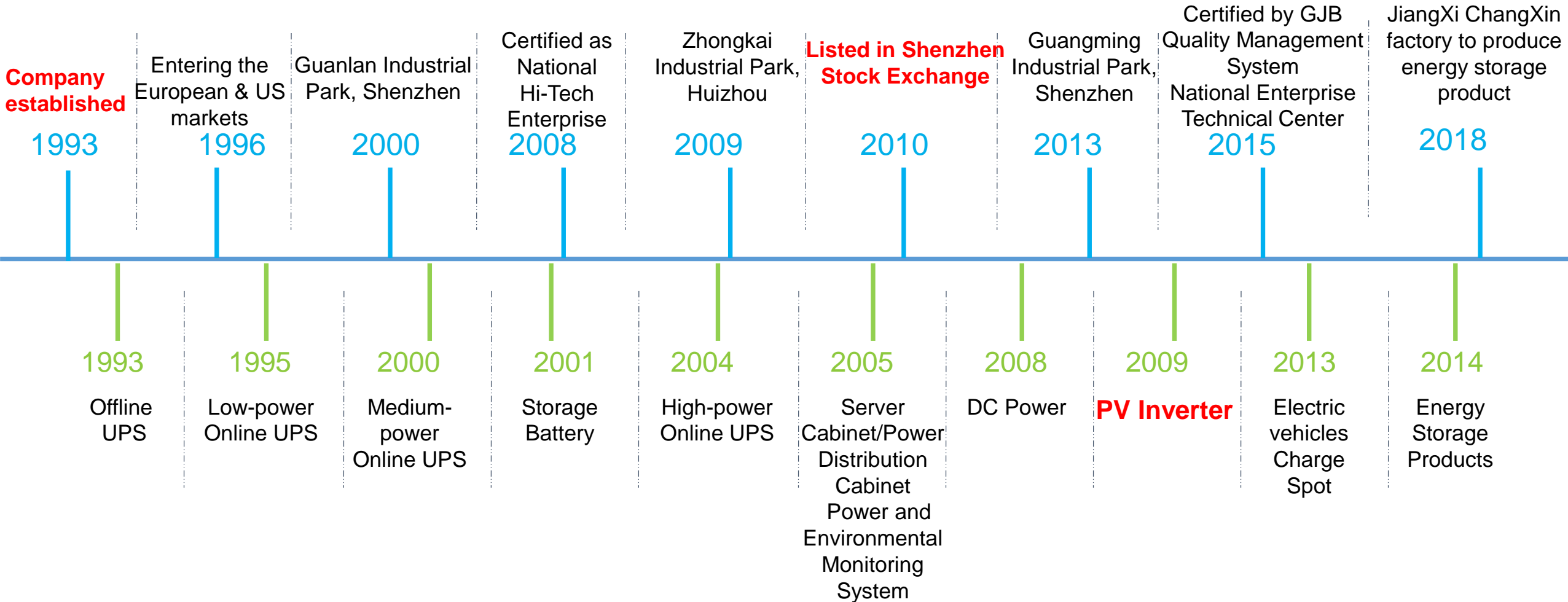


Guangming Hi-Tech Zone



Huizhou Zhongkai Hi-Tech Zone,

# Company Milestones





**National Enterprise Technical Center**

**Key Hi-Tech Enterprise of National Torch Plan**

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**Shenzhen Enterprise Technical Center**

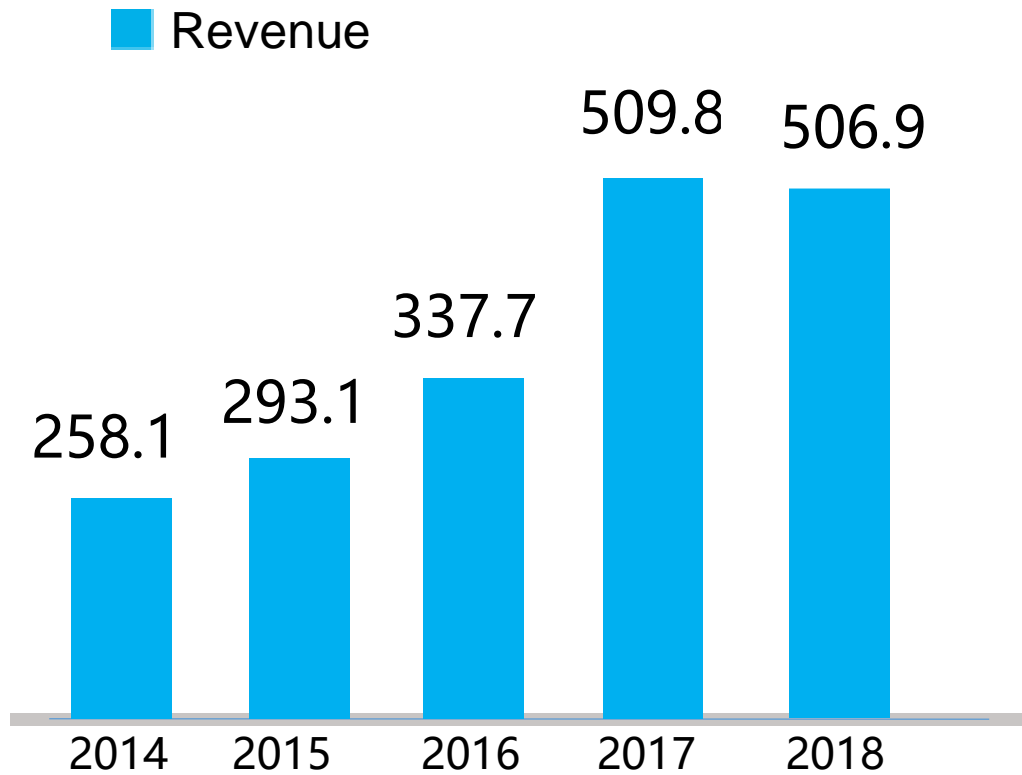
**Shenzhen Enterprise Engineering Lab**

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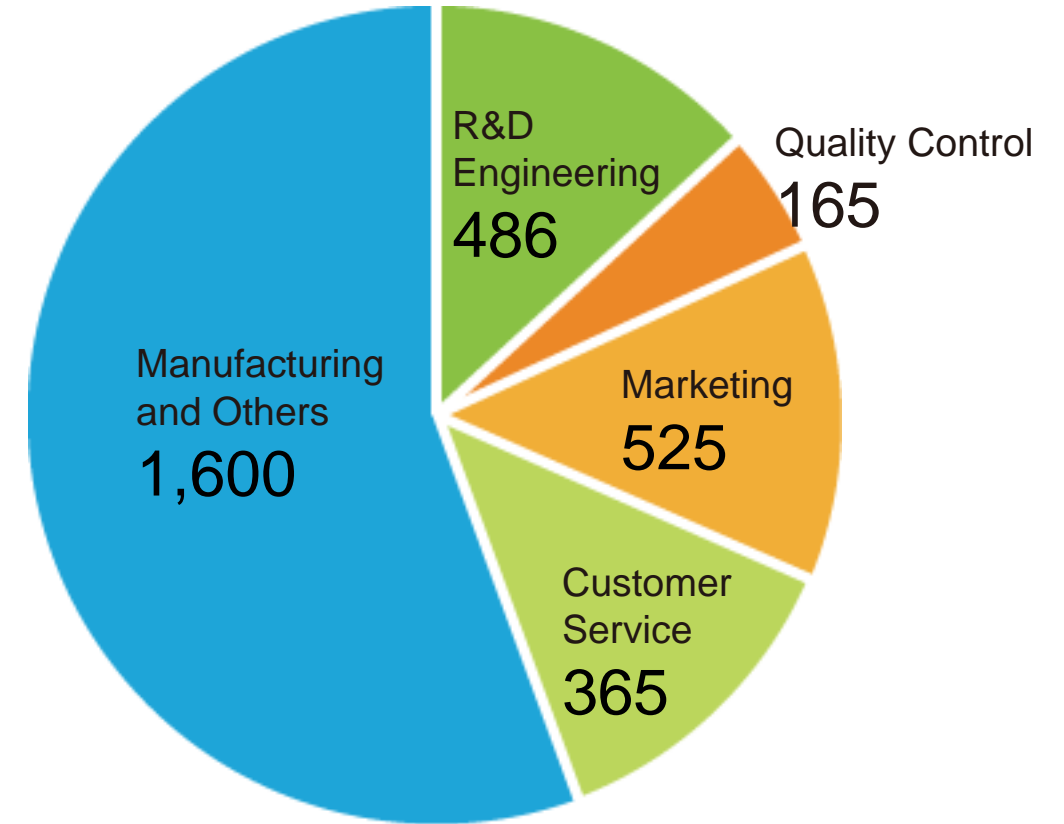
**142 International/Domestic Patents**

**One of the drafters of 36 National Industry  
Technical Standards**

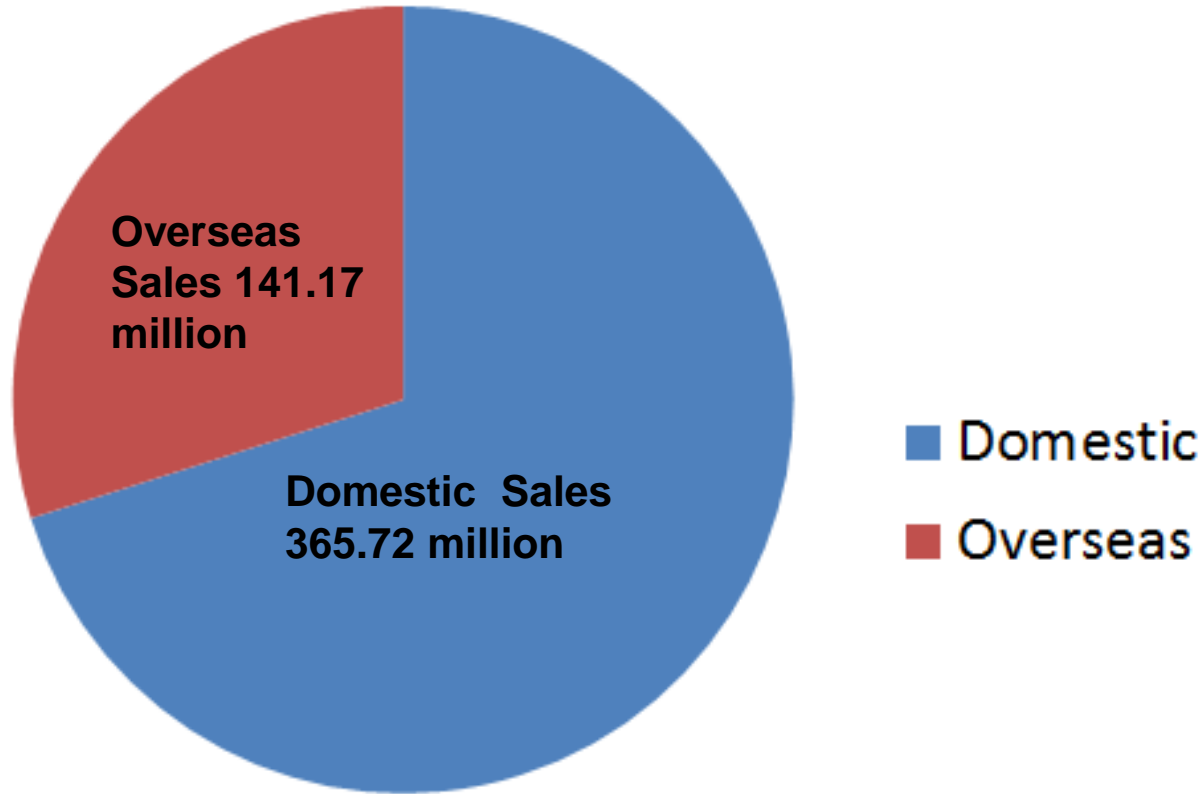
# Revenue and Organizational Structure



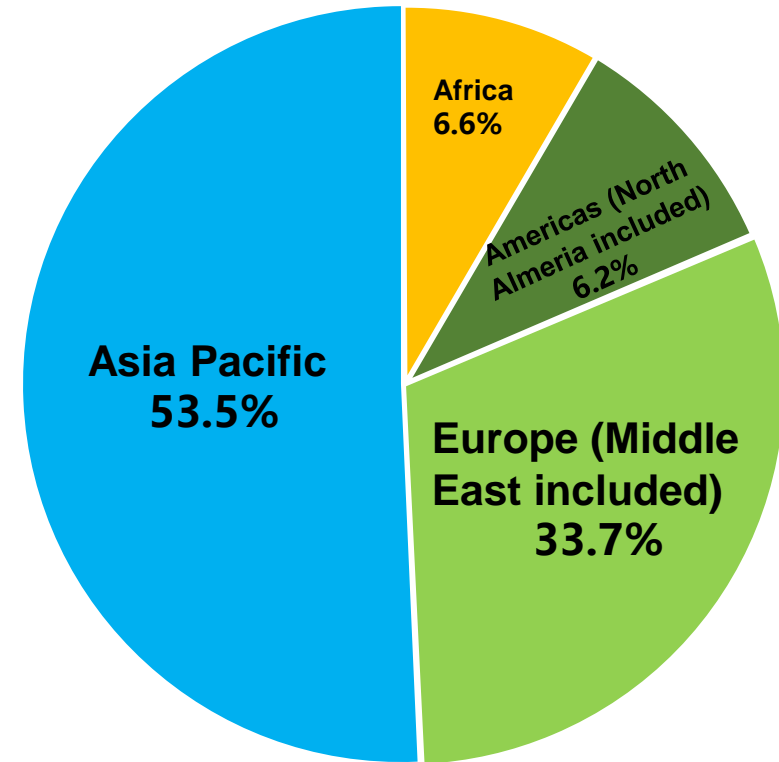
Revenue: 2014 - 2018 Unit :1 million dollars



Number of Employees: 3141 (2018)



2018 Domestic & Overseas Sales

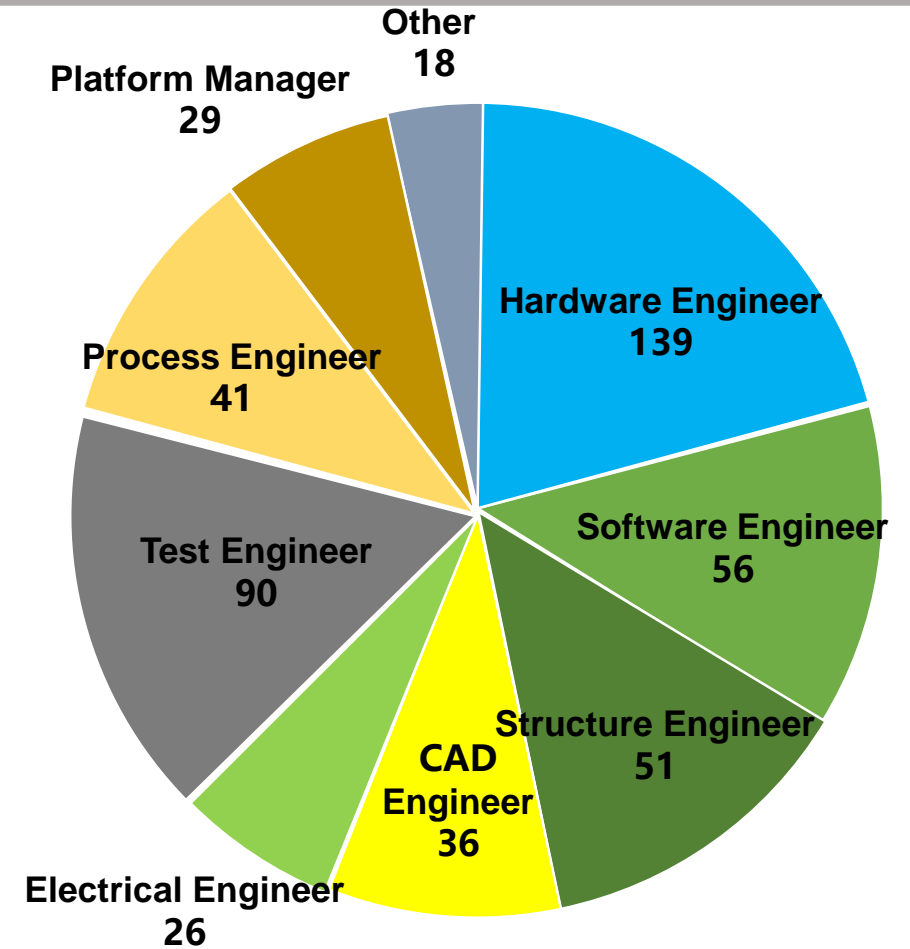


2018 Overseas Sales

# R&D Center and Staff

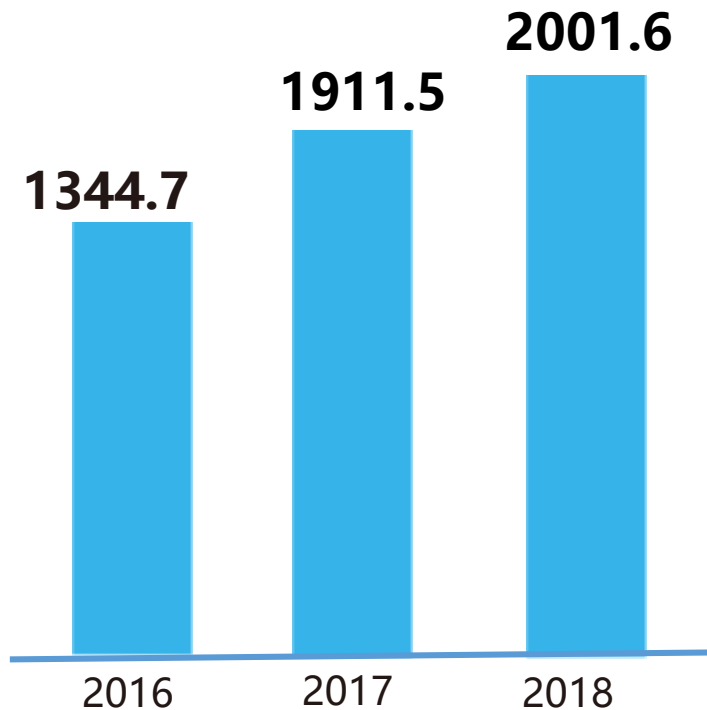


**KSTAR R&D Center**



**R&D Organization Structure (486 employees)**

# R&D Investment and Achievement



**2016-2018 R&D Investment**  
(Unit : thousand dollar)

**National Enterprise Technical Center**

**National Hi-Tech Enterprise**

**Key Hi-Tech Enterprise of National Torch Plan**

**GJB Certified Enterprise**

**National Confidentiality qualification enterprise**

**National military standard quality system certification enterprise**

**Shenzhen Enterprise Technical Center**

**Shenzhen Enterprise Engineering Lab**

**Engineering Research Center of Solar PV Power Generation Enterprise in GuangDong Province**

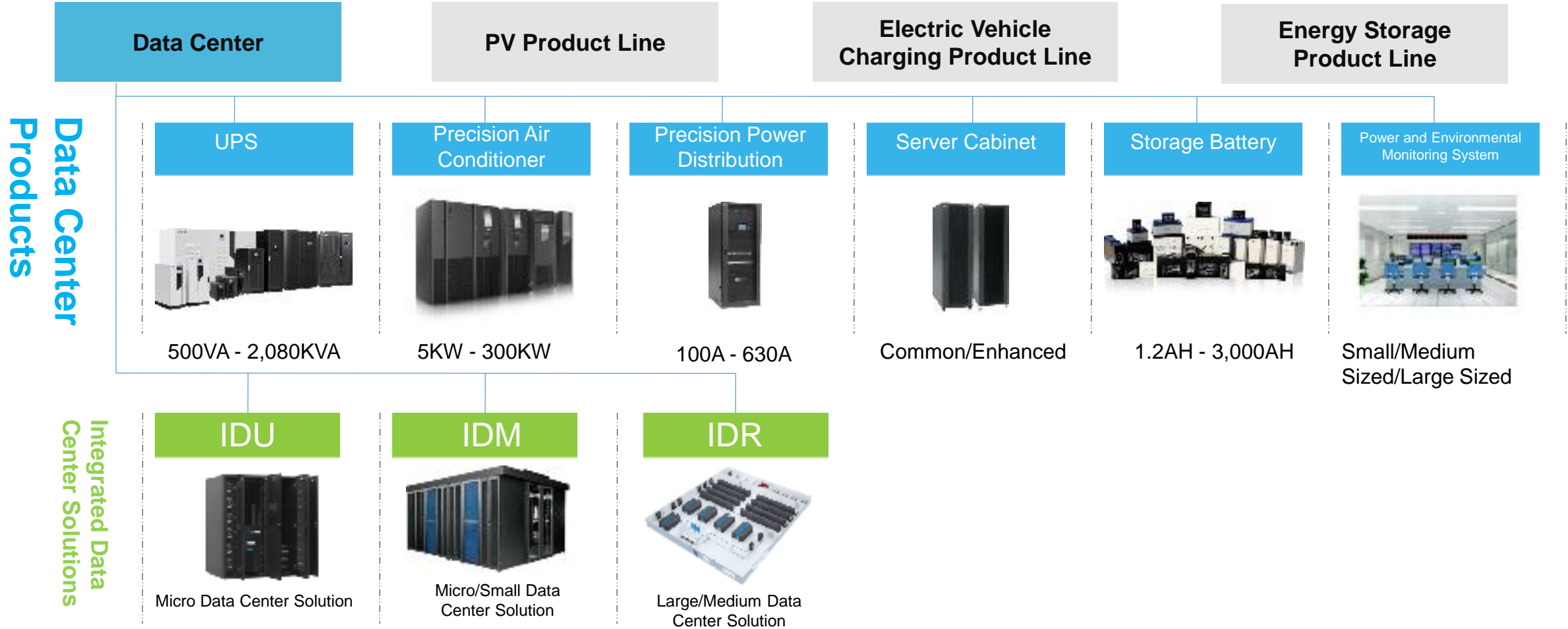
**Enterprise Lab postdoctoral research center**

**226 International/Domestic Patents**

**One of the drafters of 46 National Industry Technical Standards**



# Product Line



## • 2017 UPS Global Market Share Ranking No.6 (Total Revenue)

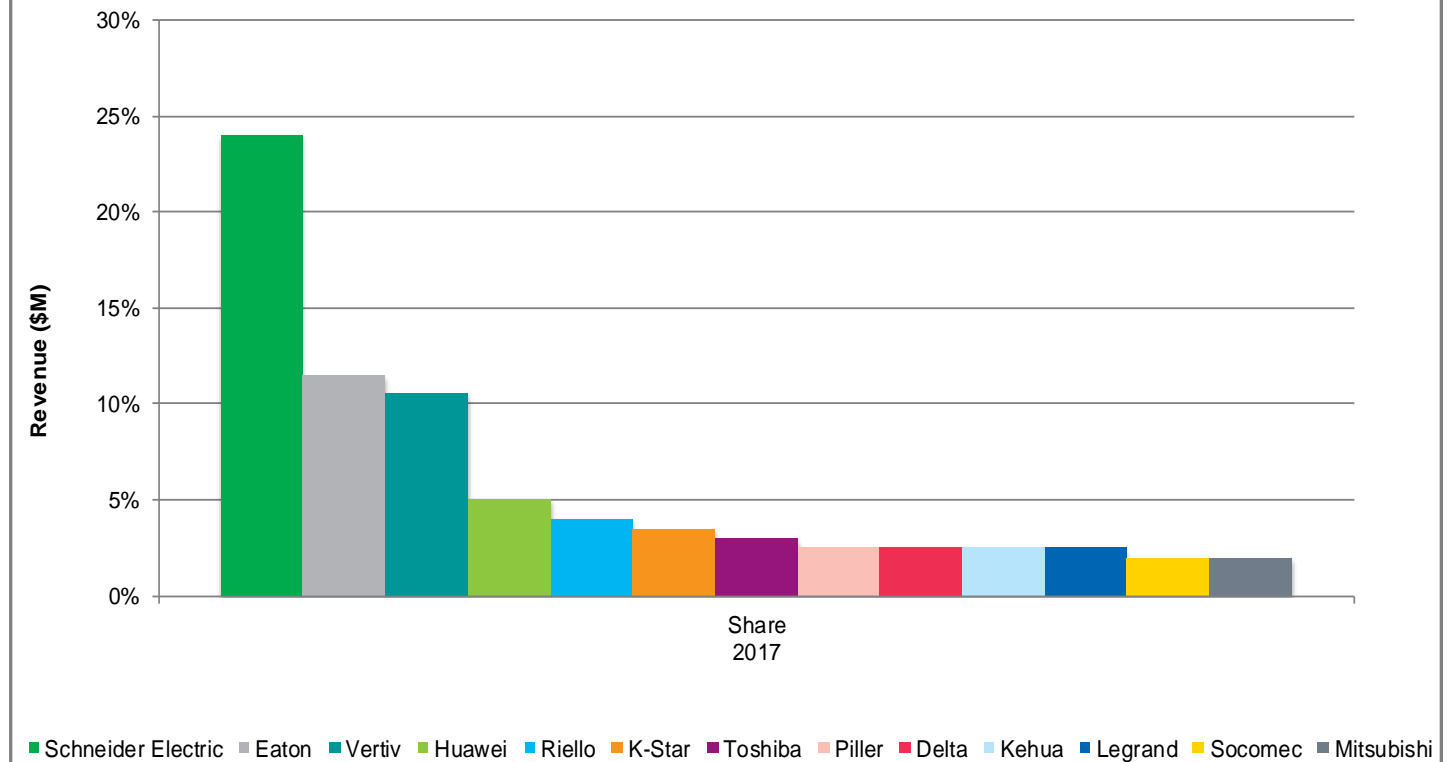
World Table - 1 Market share estimates - total UPS market				
Revenue (\$ million)				
	Company Name	Share 2016	Share 2017	Change
1.	Schneider Electric	24.5%	24.0%	-0.5%
2.	Eaton	12.0%	11.5%	-0.5%
3.	Vertiv	11.5%	10.5%	-1.0%
4.	Huawei	4.5%	5.0%	0.5%
5.	Riello	4.0%	4.0%	0.0%
<b>6.</b>	<b>K-Star</b>	<b>3.0%</b>	<b>3.5%</b>	<b>0.5%</b>
7.	Toshiba	2.5%	3.0%	0.5%
8.	Piller	2.5%	2.5%	0.0%
=8.	Delta	3.0%	2.5%	-0.5%
=8.	Kehua	1.5%	2.5%	1.0%
=8.	Legrand	2.5%	2.5%	0.0%
12.	Socomec	2.0%	2.0%	0.0%
=12.	Mitsubishi	2.0%	2.0%	0.0%
	Others	24.5%	24.5%	0.0%
<b>Market Revenue</b>		<b>7,414.1</b>	<b>7,681.1</b>	<b>3.6%</b>

Note: Market share estimates are rounded to the nearest half-percent.

Source: IHS Markit, July 2018

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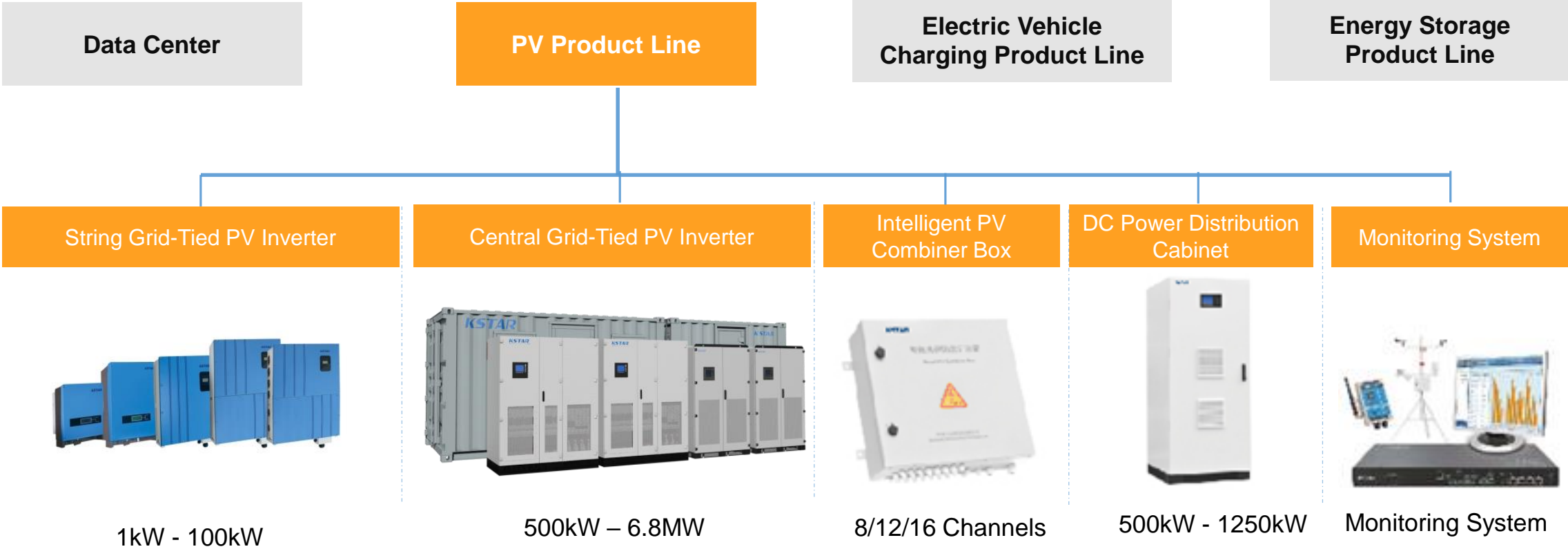
World Table - 1 Market share estimates - total UPS market



Source: IHS Markit, July 2018

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# Product Line



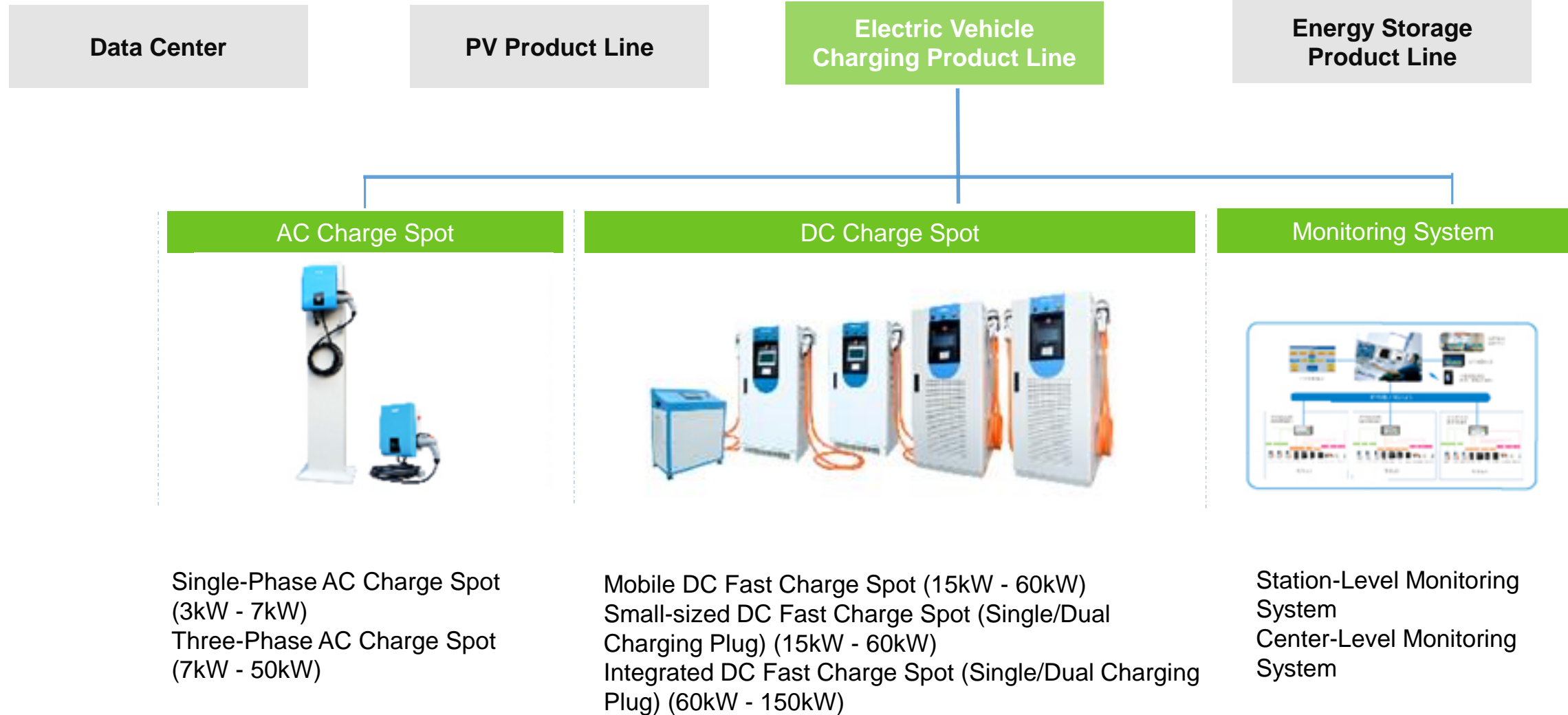
## • 2017 PV Inverter Global Market Share No.7 (Total Shipments MW)

Table 4.5 - World PV inverter supplier market share estimates  
Shipments (MW)

2010	2011	2012	2013	2014	2015	2016	2017	Company Name	2010	2011	2012	2013	2014	2015	2016	2017	Change 16-17
>15	>15	>15	>15	4	1	1	1	Huawei	<2%	<2%	<2%	<2%	6.3%	13.3%	15.7%	20.0%	+4.3%
11	6	4	2	2	2	2	2	Sungrow	2.5%	3.4%	4.3%	9.7%	9.5%	13.2%	14.6%	15.1%	+0.5%
1	1	1	1	1	3	3	3	SMA	33.3%	28.5%	23.9%	13.7%	10.5%	10.6%	10.8%	8.1%	-2.7%
>15	>15	15	8	7	5	7	4	TBEA Sunoasis	<2%	<2%	<2%	2.7%	4.0%	5.7%	3.9%	4.6%	+0.7%
>15	>15	>15	9	9	7	6	5	Wuxi Sineng	<2%	<2%	<2%	2.6%	3.3%	3.2%	3.9%	4.3%	+0.4%
2	2	2	3	3	4	5	6	ABB	11.0%	11.6%	11.9%	9.0%	8.3%	7.4%	5.4%	4.0%	-1.4%
<b>&gt;15</b>	<b>&gt;15</b>	<b>&gt;15</b>	<b>&gt;15</b>	<b>14</b>	<b>&gt;15</b>	<b>12</b>	<b>7</b>	<b>Kstar</b>	<b>&lt;2%</b>	<b>&lt;2%</b>	<b>&lt;2%</b>	<b>&lt;2%</b>	<b>&lt;2%</b>	<b>&lt;2%</b>	<b>2.0%</b>	<b>3.9%</b>	<b>+1.9%</b>
>15	>15	>15	>15	>15	>15	>15	8	Goodwe	<2%	<2%	<2%	<2%	<2%	<2%	<2%	3.2%	+0.0%
>15	>15	>15	>15	>15	>15	>15	9	Growatt	<2%	<2%	<2%	<2%	<2%	<2%	<2%	3.1%	+0.0%
>15	>15	>15	>15	>15	9	8	10	Power Electronics	<2%	<2%	<2%	<2%	<2%	2.3%	3.5%	2.7%	-0.8%
>15	>15	>15	5	5	6	4	11	TMEIC	<2%	<2%	<2%	3.5%	5.0%	4.7%	6.0%	2.6%	-3.4%
7	8	6	10	8	8	9	12	Schneider Electric	3.5%	3.1%	2.7%	2.6%	3.7%	3.0%	2.6%	2.4%	-0.3%
>15	>15	>15	>15	>15	10	11	13	SolarEdge	<2%	<2%	<2%	<2%	<2%	2.1%	2.3%	2.3%	+0.1%
>15	>15	>15	>15	>15	>15	>15	14	Fimer	<2%	<2%	<2%	<2%	<2%	<2%	<2%	2.1%	+0.0%
								Others	44.7%	50.2%	54.9%	54.1%	49.3%	30.3%	26.9%	21.6%	-5.4%
<b>Total MW Shipped</b>									<b>23,349</b>	<b>27,137</b>	<b>32,332</b>	<b>39,814</b>	<b>44,461</b>	<b>62,024</b>	<b>76,071</b>	<b>105,532</b>	<b>38.7%</b>

Source: IHS Markit

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# Product Line

Data Center

PV Product Line

Electric Vehicle  
Charging Product Line

Energy Storage  
Product Line

Hybrid Inverter



3kW~5kW

PCS



30kW~2.5MW

DC/DC Converter



50kW~600kW

EMS



Energy management  
system



EMI Lab (RE Testing)



EMI Lab (CE Testing)



EMS Lab (EFT, EFB, Surge, and ESO Testing)





**High & Low Temperature Lab**



**Waterproof Lab**



**Vibration Lab**



**Salt & Spray Lab**



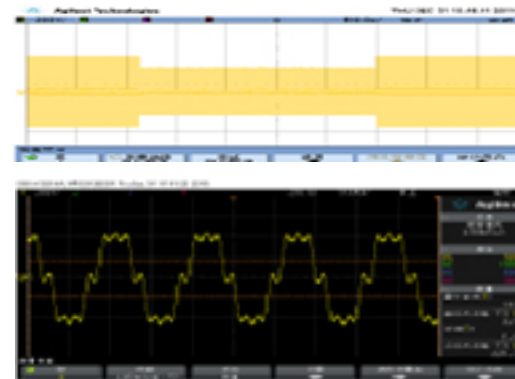
**Sand & Dust Lab**



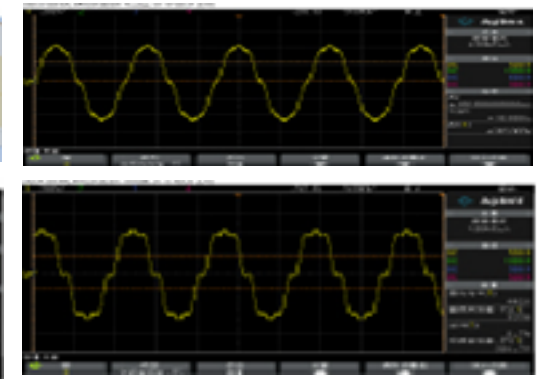
# Input Source Simulation Lab



Generator (2MW)



AC Input Source



DC Input Source



# Development and Load Testing



Development Testing (2MW)




Load Testing (2MW)

# KSTAR Domestic Service



Nationwide  
Service Network



31 Technical Service  
Centers



172 Technical  
Support Stations



24/7 Response  
and Support



National Customer Service Hotline: 400—700—9662

# KSTAR Global Service

**KSTAR**

Stock code: 002518



Worldwide  
Service Network



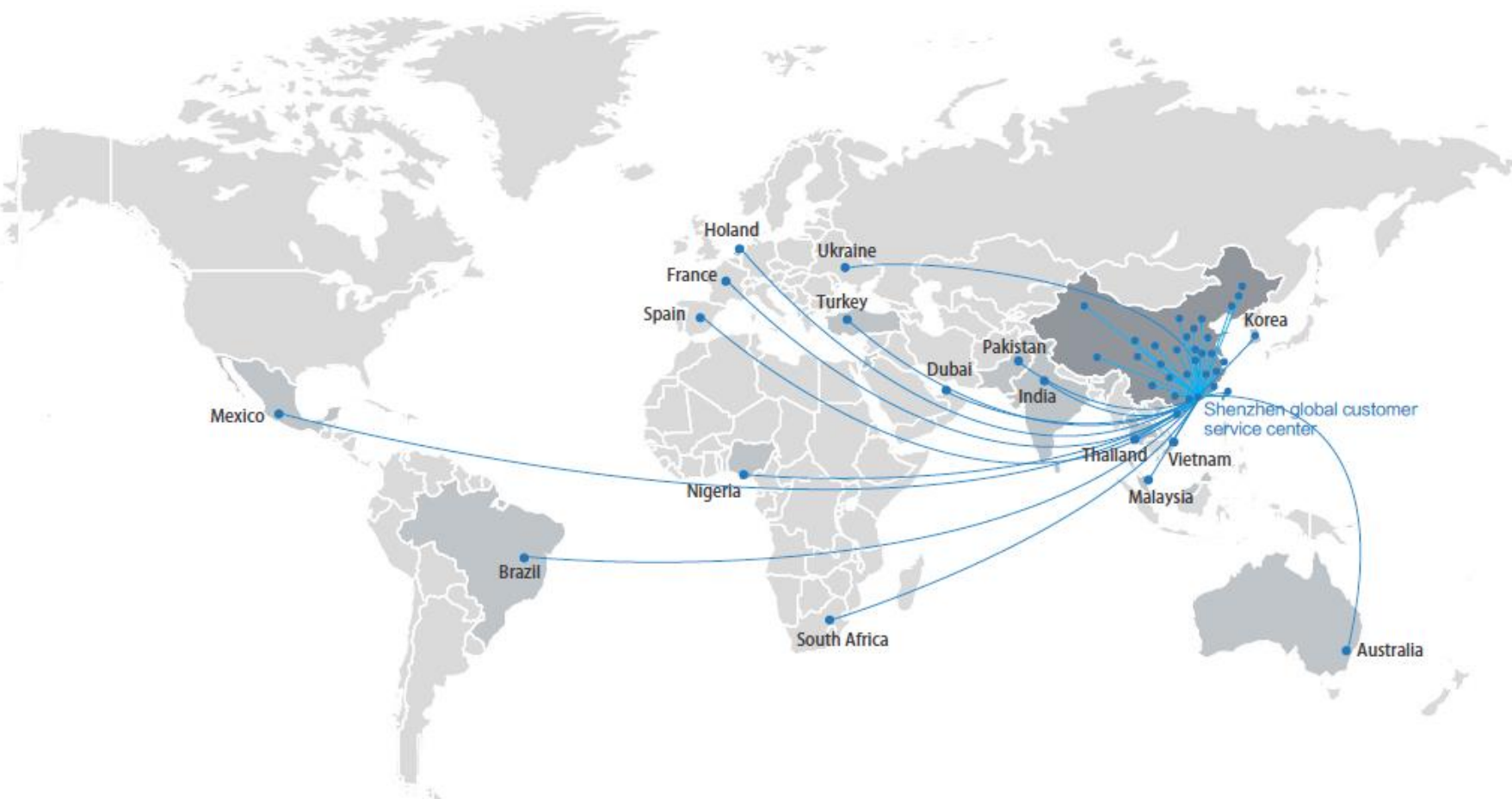
17 Overseas Branch



40 Overseas  
Service Engineers



24/7 Response  
and Support



- Powering Green Future -

***KSTAR***

## **PV Product Line**

PV Inverter | Intelligent PV Combiner Box | DC Power Distribution Cabinet | Monitoring System



# KSTAR PV Product Line - PV Inverter

## String Grid-Tied PV Inverter



### Single-Phase

KSG-1K/1.5K/2K/3K SM3 series (1 MPPT)  
KSG-3.2K/4K/4.6K/5K DM3 series (2 MPPT)

### Three-Phase

Three-phase inverter (2 MPPT) (10K~20K)  
Three-phase inverter (3 MPPT) (30K~60K)

### Boost grid

KSG-80K-HVC/KSG-100K-HVC  
KSG-100K-HDV

## Central Grid-Tied PV Inverter



### GSL Series Grid-Tied PV Inverter

GSL0500/GSL0630/0750  
GSL1000/GSL1250

### DC1500V GSM Series Grid-Tied PV Inverter

GSM1250 /GSM3125

### Container Grid-Tied PV Inverter

GSL2500/GSL5000/GSM2500/GSM5000  
GSM5000-MV /GSM6800-MV

# KSTAR PV Inverter Product Test Certifications



TUV



IEC/EN



CE



ZVRT/LVRT/HVRT



SAA



Photon



BV



Top Runner



# KSTAR PV Inverter---String Inverter

## String Inverter (Outdoor IP65)

- KSG-SM3: 1K/1.5K/2K/3K, Single phase, 1 MPPT, Residential system
- KSG-DM3: 3.2K/3.6K/4K/4.6K/5K, Single phase, 2 MPPT, Residential system
- KSG-DM: 10K/12.5K /15K /17K/20K, Three phase, 2 MPPT, Commercial system
- KSG-TM: 30K/36K,50K,60K, Three phase, 3 MPPT, Commercial system or Power station





# DC1500V String Inverter——KSG-100K-HDV



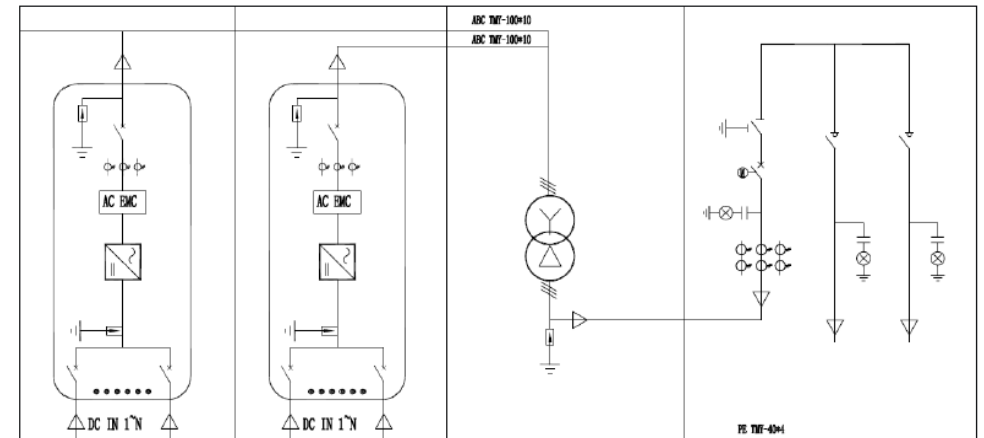
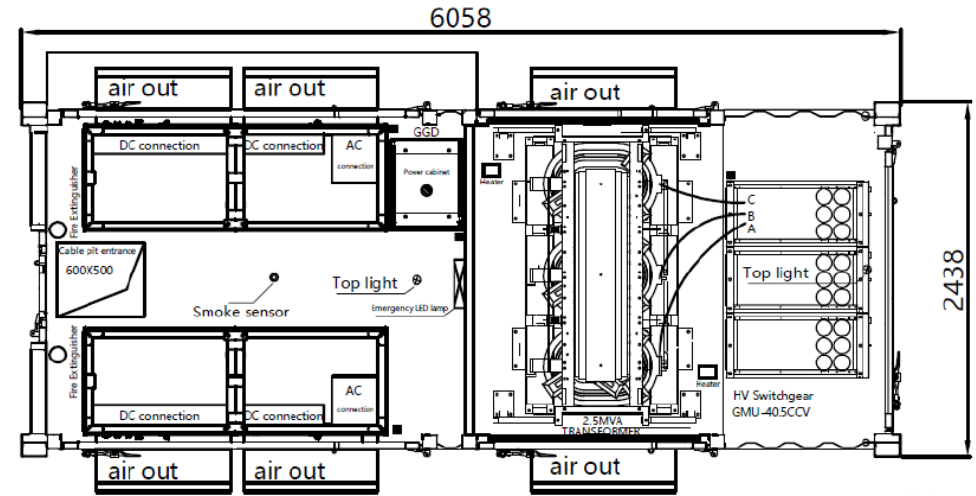
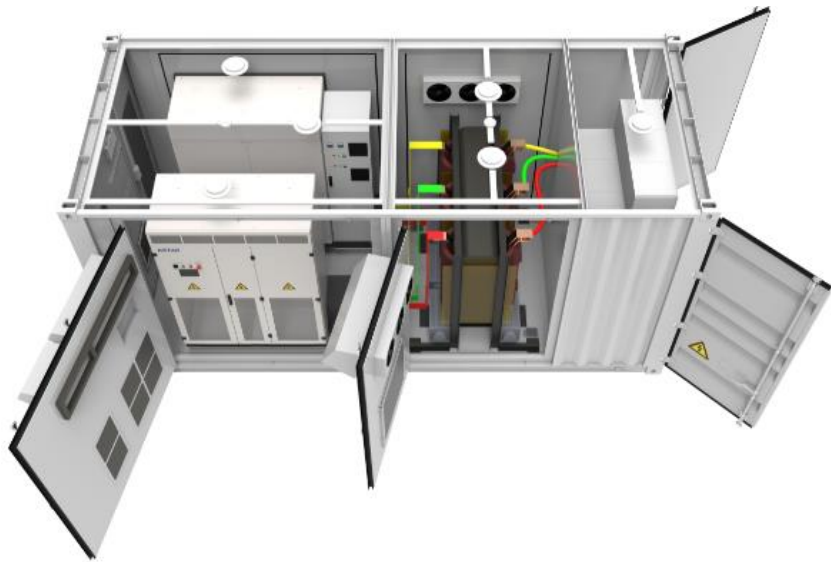
- 1500Vdc, 800Vac
- 6 MPPT 12 DC inputs
- Smart I-V Curve function
- Type II SPD DC and AC
- AFCI Function Optional
- Night SVG Function Optional
- LED + Bluetooth APP

# KSTAR DC1500V Central Inverter

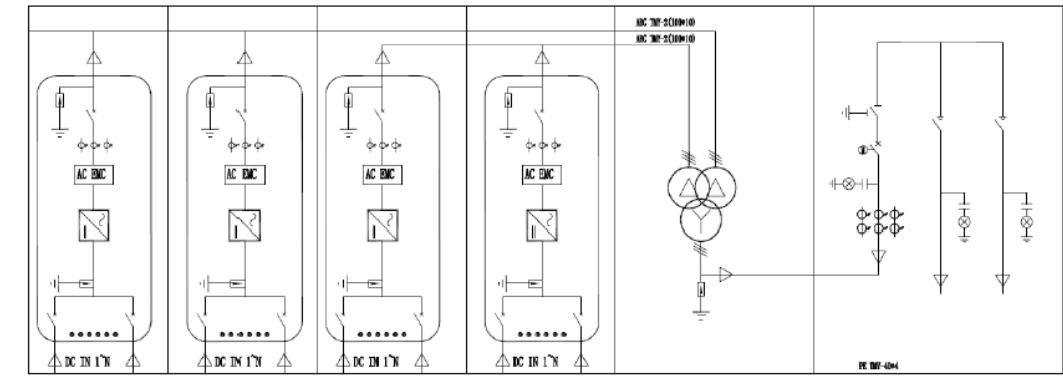
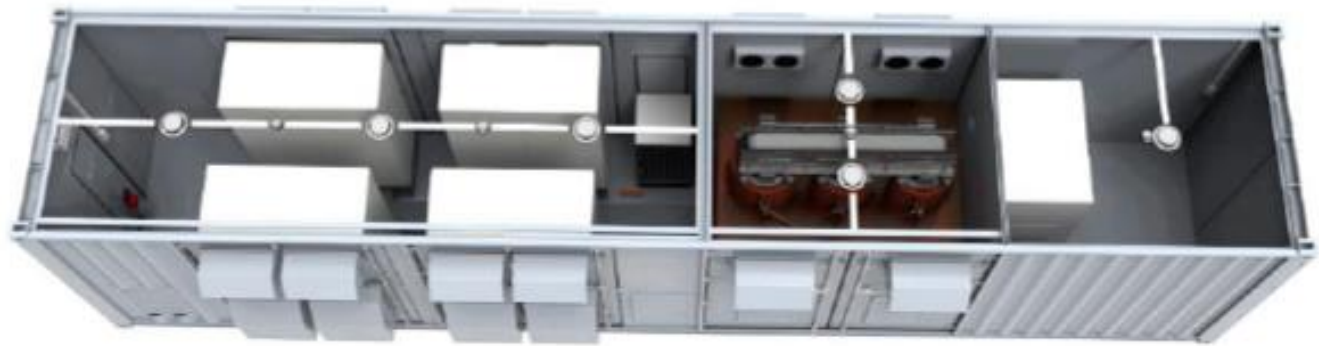
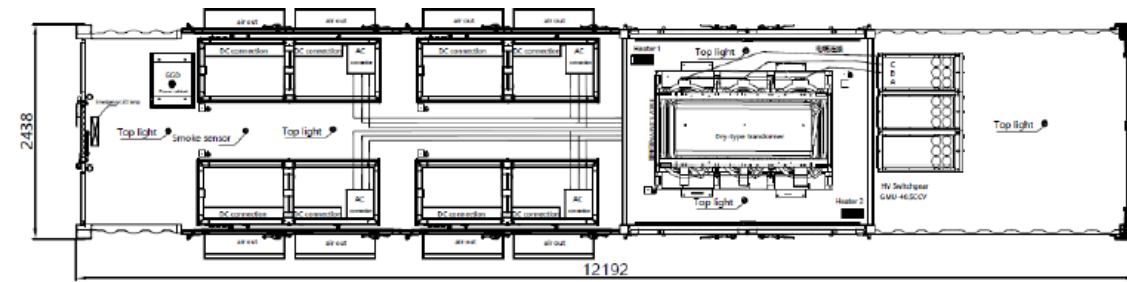


GSM1250	
Max. Input Voltage	1500Vdc
MPPT Voltage Range	800~1300Vdc
Rated Output Power	1250kW
Max. Output Power	1375kW
Rated Output Voltage	550Vac
Max. Efficiency	99%
Euro Efficiency	98.7%
Dimension(mm)	W1600*D750*H2100
Operating Temperature(°C)	-40~60(Above 55 Derating)

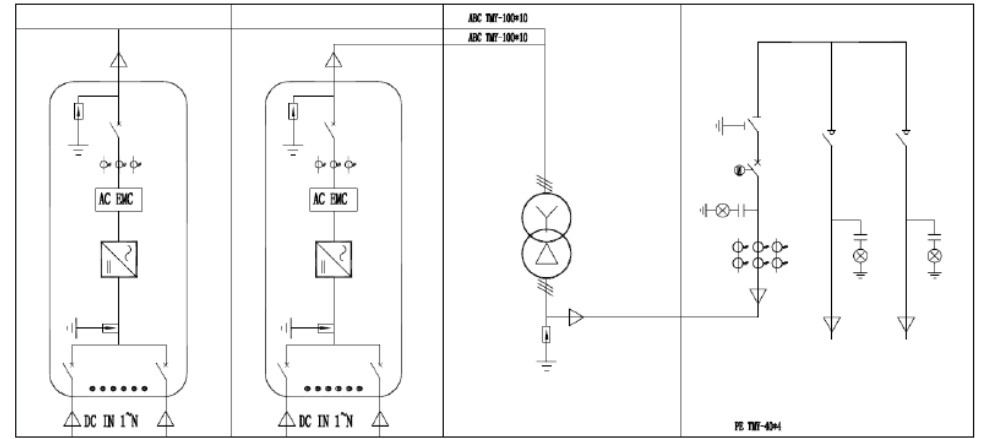
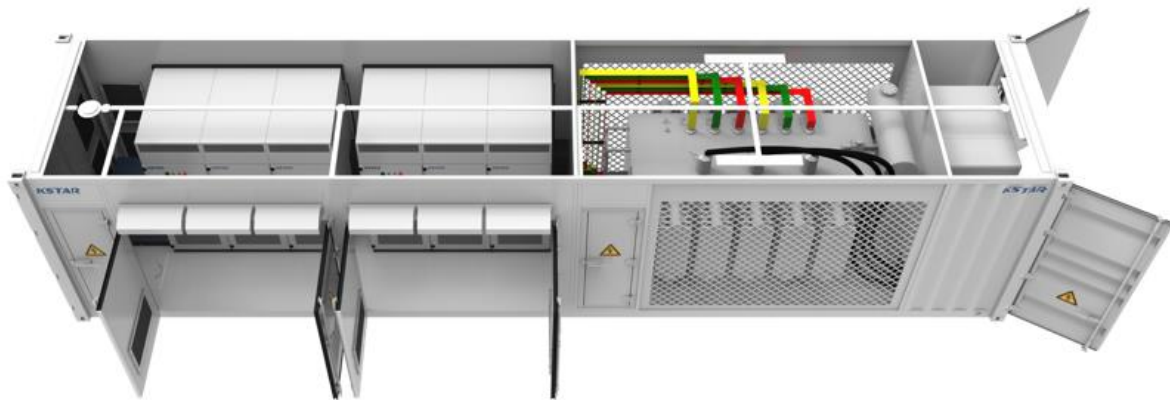
# KSTAR 2.5MW ITS Solution



# KSTAR 5MW / 6MW ITS Solution



# KSTAR 6.25MW / 6.8MW ITS Solution



**Leading Technology Drives the Future**

