

PANJIT International Inc





Feb. 2020

- About PANJIT
- Application and Market Trend
- New Technologies Focus

About PANJIT

PANJIT Overview

PANJIT International Inc. is a leading global manufacturer dedicating in supplying high quality semiconductors, serving the consumer, green power, industrial, automotive, communication and computing segments.

- Capital: \$111 Million USD
- TWSE: 2481 (2001 IPO)
- Approximately 2,500 employees worldwide
- 2 front-end fabrication sites
- 2 back-end manufacturing sites





PANJIT
SEMI
CONDUCTOR

PANJIT International Inc.
Est. 1986.05
Product: Discrete Packaging & Testing

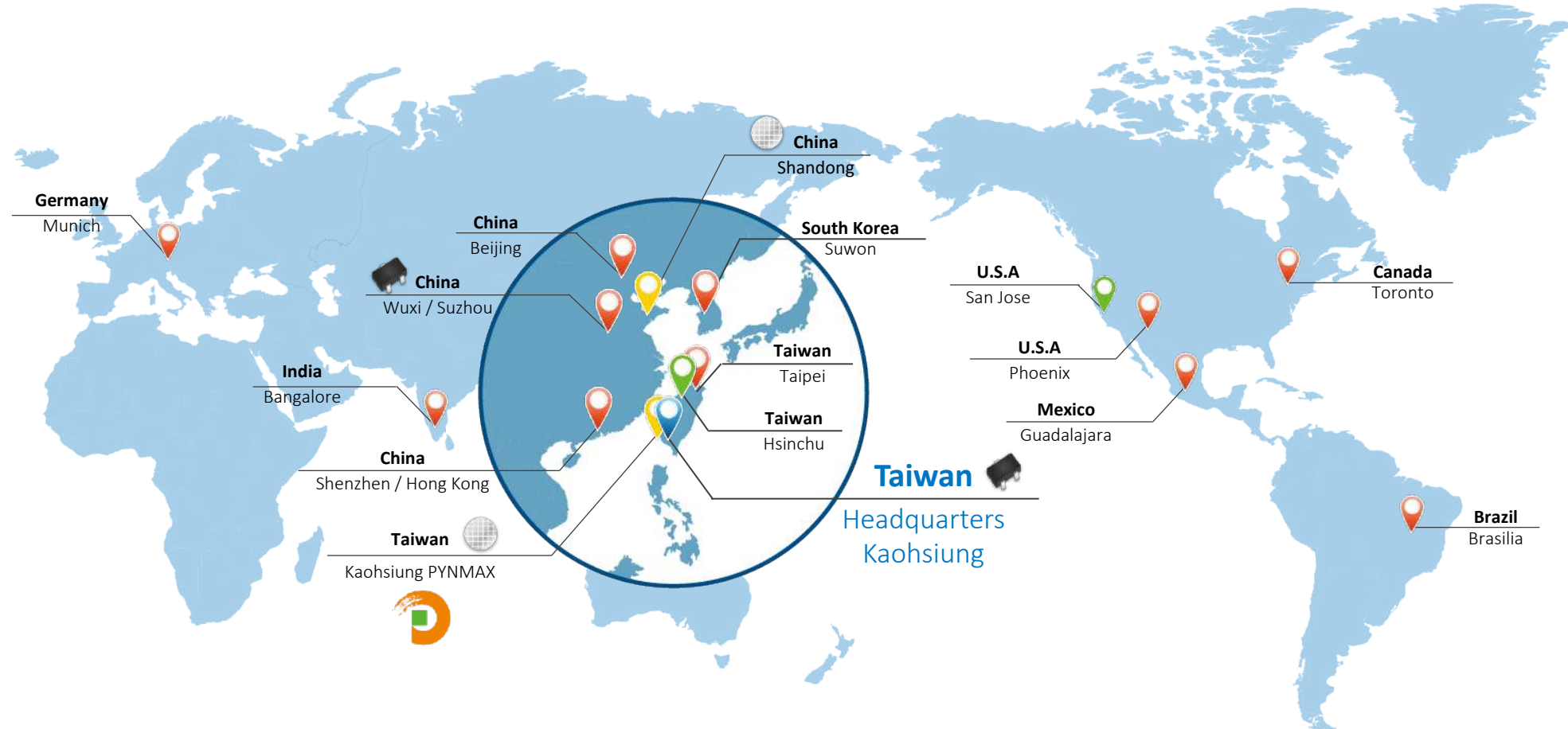


PYNMAX Technology Inc.
Est. 2000.03
Product: Wafer Foundry



Sumnergy Co., Ltd.
Est. 2017.06
Product: BMS, Battery Pack
Application: EV, 3C

PANJIT Global Foot Print



- Headquarters
- Sales Office
- R&D Sites
- Frond-End
- Frond-End
- Back-End



環茂科技

- 4"/5"/6" EPI Wafer: 70,000 pcs/month
- 5"/6" Schottky Wafer: 50,000 pcs/month
- 6" ESD/TVS Wafer: 3,000 pcs/month
- 6" ZENER Wafer: 3,000 pcs/month
- 8" wafer: In construction



PANJIT Shandong

- 4" ESD/TVS Wafer: 25,000 pcs/month


Assembly Capability



Kangshan, Taiwan

Package:
Small Signal Devices/SMD Bridge

Capacity:
1,700 KK /month

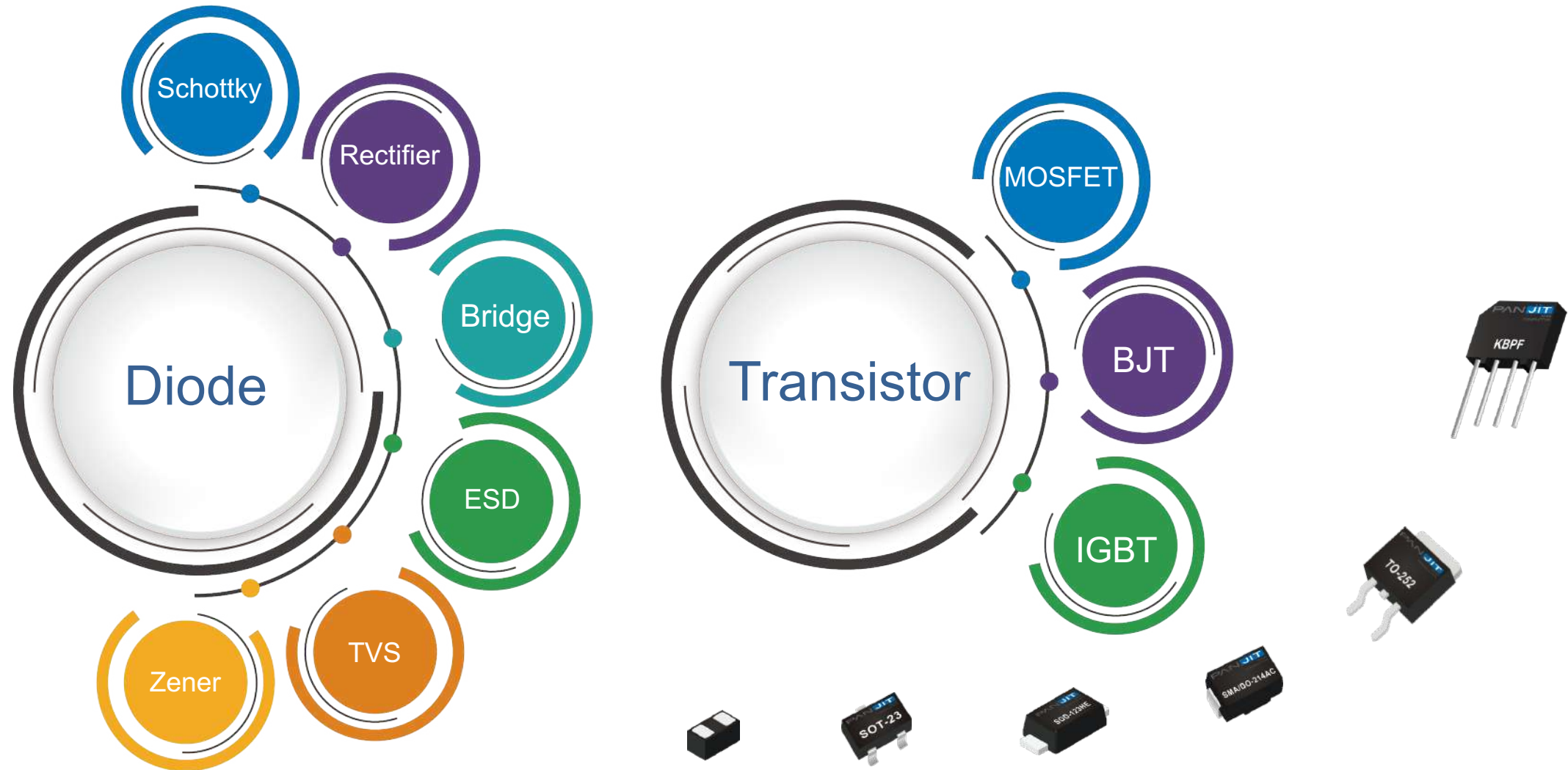


Wuxi, China

Package:
Power Package Devices

Capacity:
400 KK /month





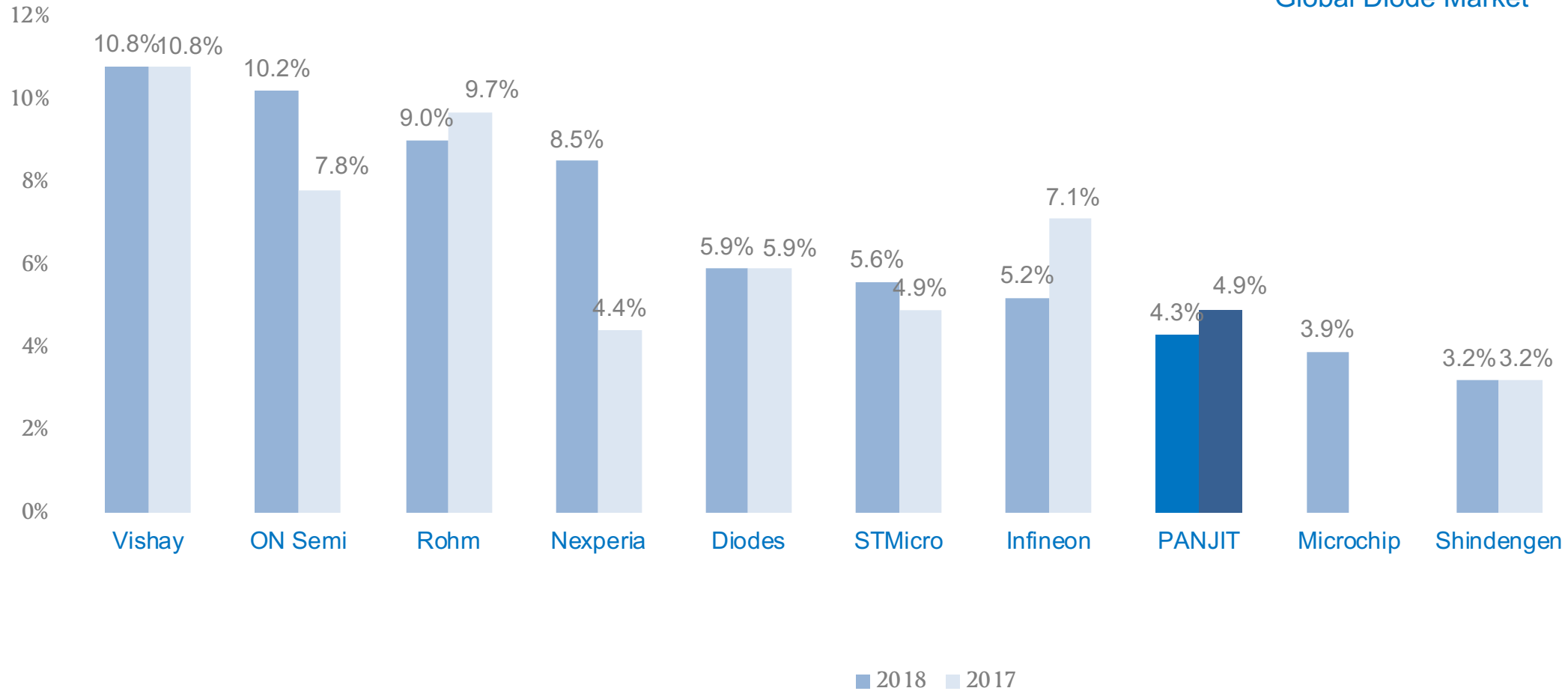
Global Diode Ranking & Market Share

Unit : M' USD

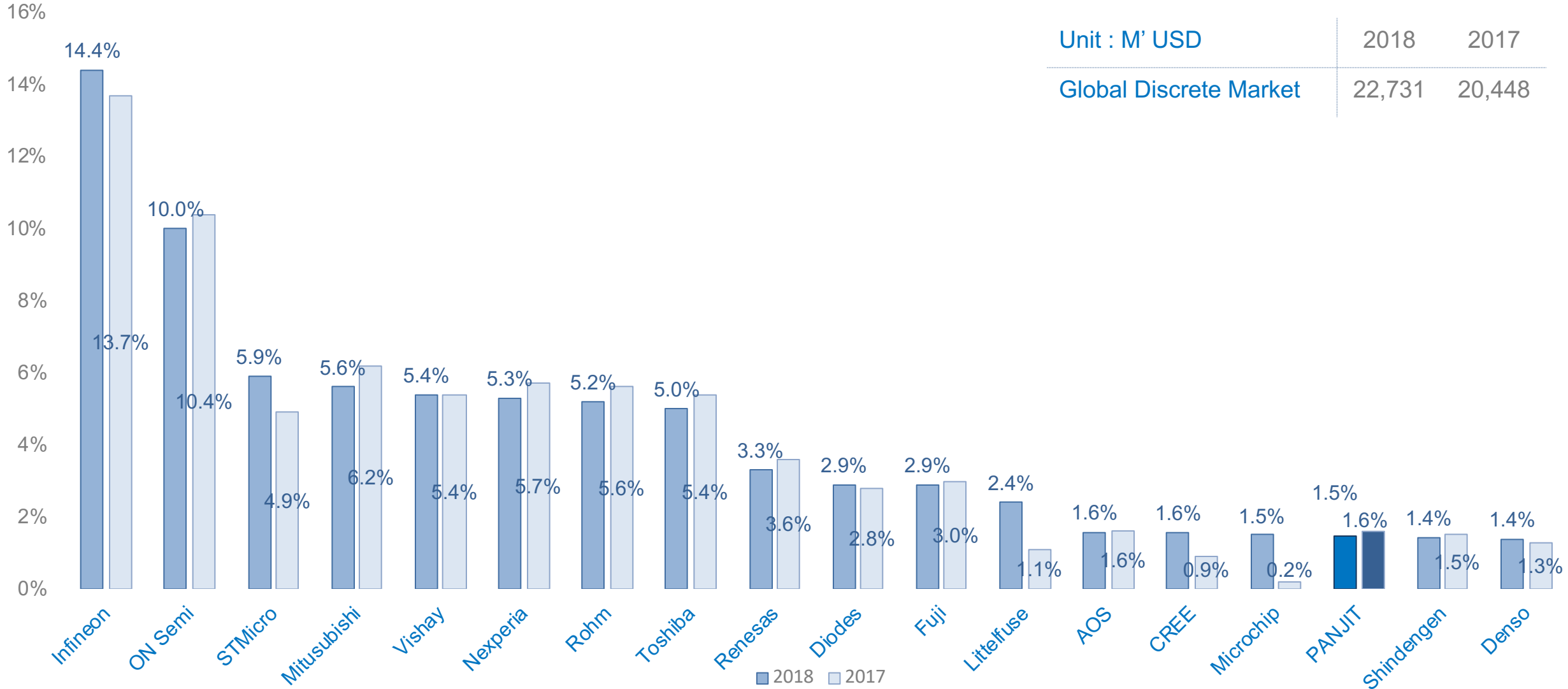
	2018	2017
Global Diode Market	6,393	5,903

Global Diode Market

6,393 5,903



Global Discrete Ranking & Market Share



Application and market Trend

Application Segment

Automotive



- Body
- xEV
- ADAS
- Infotainment
- Motor

Industrial



- Solar Junction Box
- LED Lighting
- Robotic
- Medical Equipment
- Motor

Power



- Quick charger
- Battery module
- UPS

Consumer



- UHD TV
- Set Top Boxes
- Camera
- Home Appliance

Communication



- Networking
- PoE
- VOIP
- Infrastructure

Computing

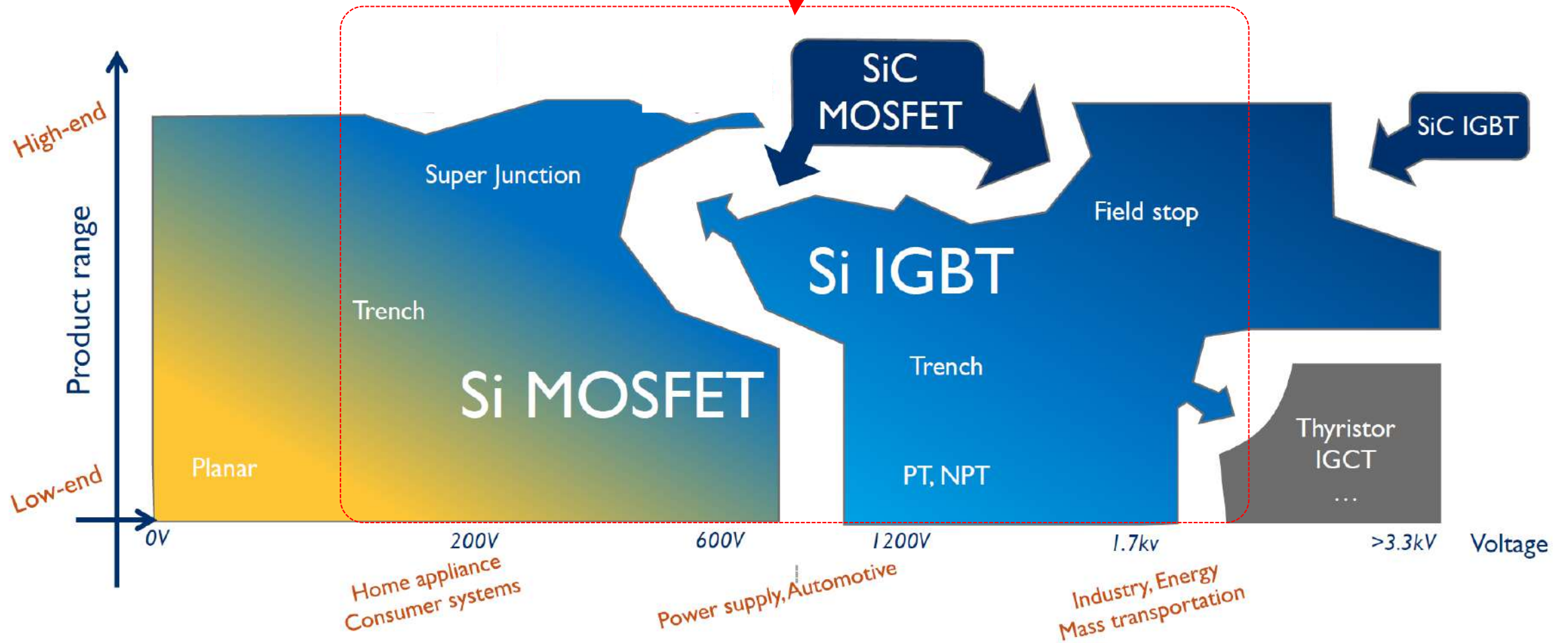


- Desktop PC
- Notebook PC
- Tablet
- Graphic Cards

New Technologies focus

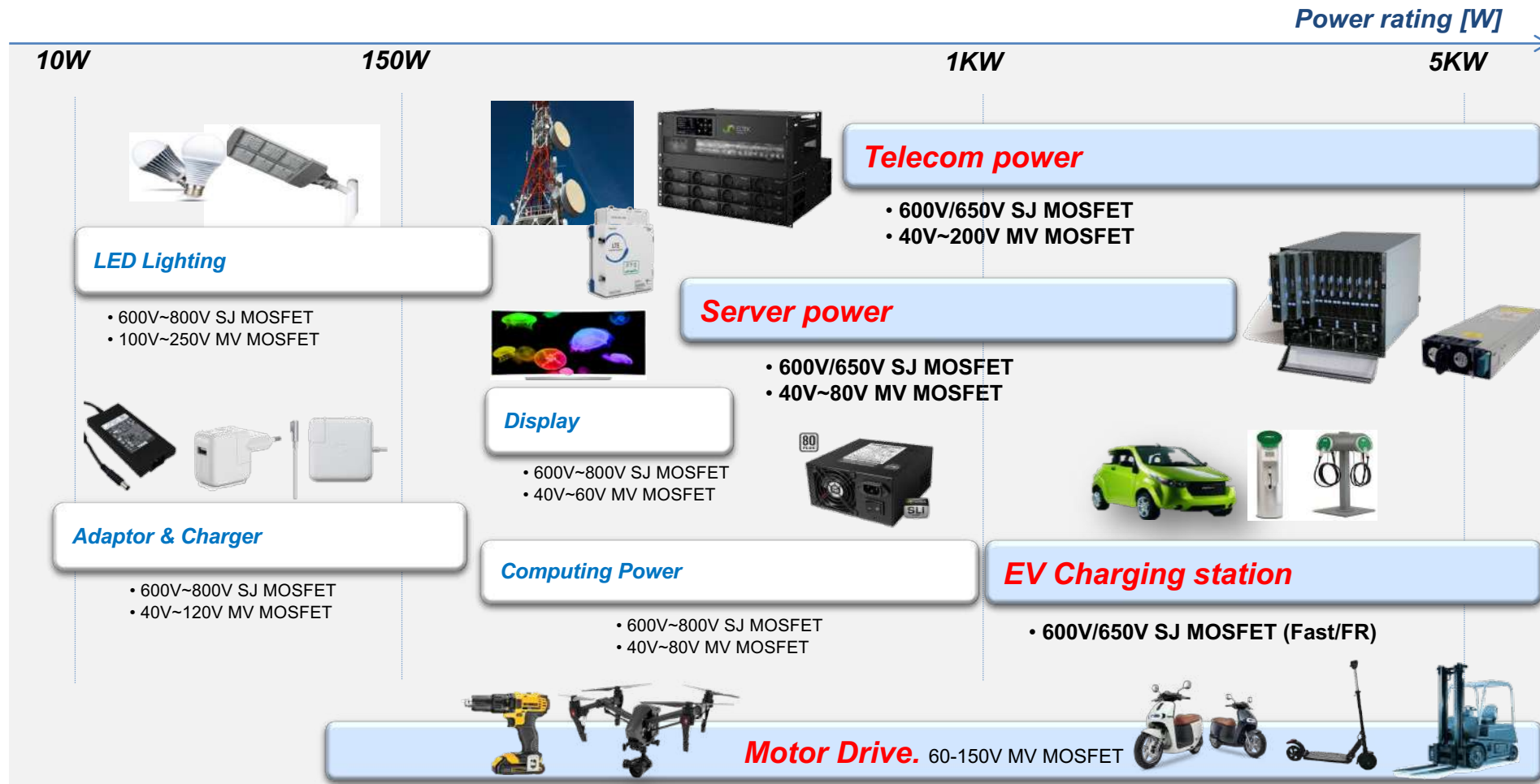
PanJit Focus Power Discrete Technologies

40V – 1.2 kV is PanJit focus



MOSFET

MV/HV MOSFET application



- Telecom power (TO220/F, TO247, D2PAK7L, PQFN56/88, TOLL)
- Server power (TO220/F, TO247, PQFN56/88, TOLL)
- EV Charging station (TO247, TOLL)
- Battery Powered Motor Drive (TO-220, D2-PAK, D2-PAK 7L, PQFN56/88, TOLL)

IGBT/FRD

IGBT Target Technology to Applications

2012 – 2022

400 V

650 V

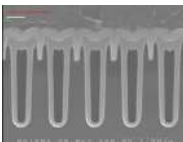
750 V

950 V

1200 V

1700 V

Ultra narrow
mesa based
leading edge
performance



Gen1



Ultrathin devices, < 50um
Rooftop Solar Inverters
New market



Solar, UPS, Motor Control
PIM, IPM, Discretes
High/Med/Low Speed, RC



SCR for Automotive High Power Modules
Dual Side Cooling
EV/HEV, 475V batteries



PIM
Solar Inverters



SCR for EV/HEV, 600V batteries
New market

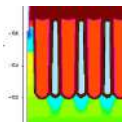


Automotive High Power Modules
EV/HEV, 800V batteries



UltraFS SCR
Bonded

Industrial, Wind power



Novel device architecture,
low capacitance, improved
 $V_{ce,sat}$ – SCWT trade-off,
drift engineering

Next Generation
(Application Specific)

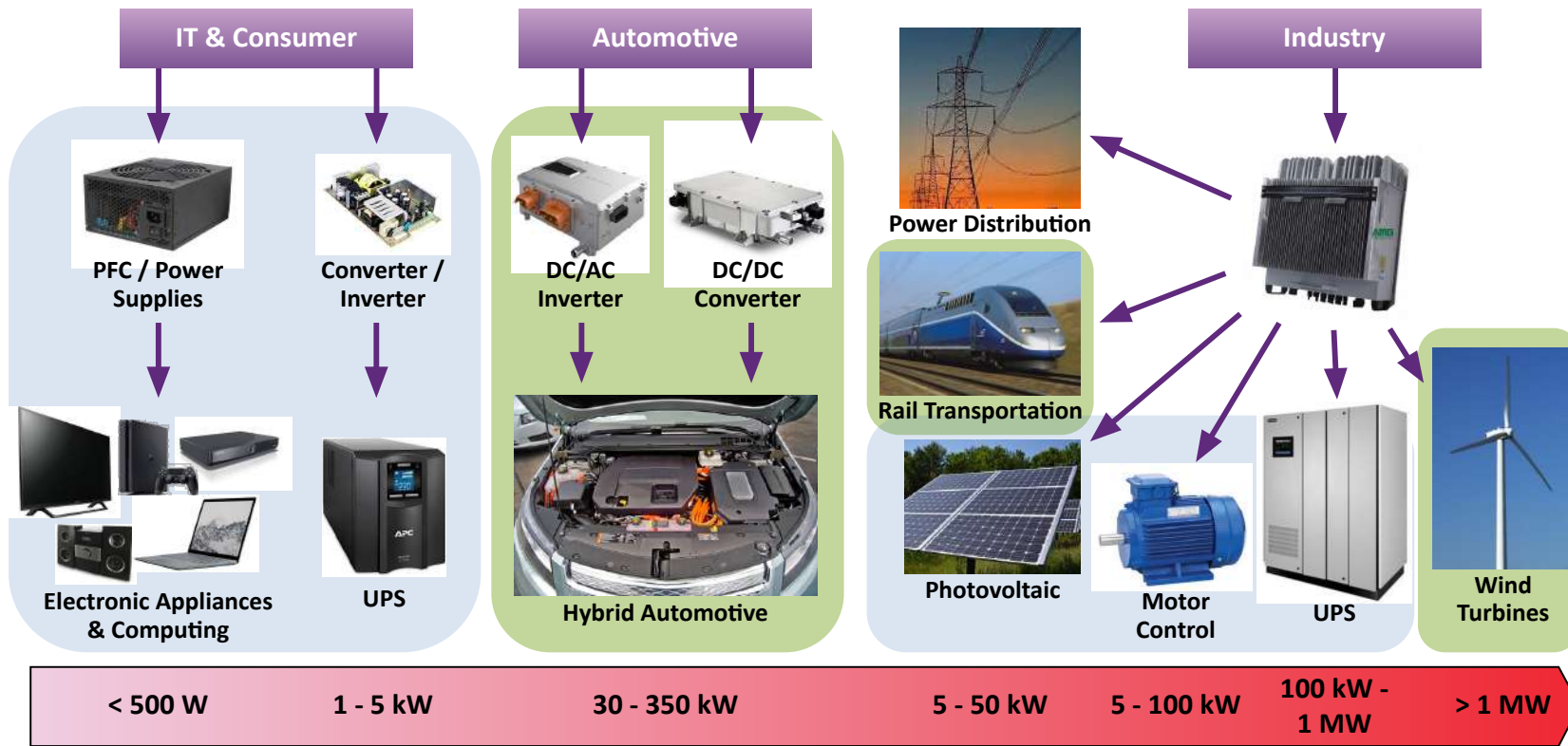
■ Current focus

■ Next Potential Development

SiC

SiC Diode Market - Application Specific

Gen.1 Target
Gen.2 Target



Source: TechSearch International, Inc. adapted from Global Power Technology

Thank You

