



Highly Focus on **INNOVATION**

Nov. 2019



Inductor



Resistor



Powder



RF



ISO9001 ISO14001 IATF16949

Chilisin Milestone

1972



Established

~2001



Business Expansion

- Listed on Taiwan Stock Exchange
- Established DongGuan Factory

~2016



Globalization

- Established Vietnam Factory
- Overseas Office in America, Malaysia and Singapore

~2019



Passive Solution Provider

- Acquisition :
 - Shin Yuan Elec.(2019)
 - Mag.Layers & Magic(2018)
 - Ralec & Ferroxcube(2017)
- Established Group Production Site in Hunan



Inductor



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RF



ISO9001 ISO14001 IATF16949

Chilisin Group

Turnover 208MUSD

WW Ranking No. 3

Employee: 4,167

Factory Location

- Taiwan
- China
- **Vietnam**



HsinChu, Taiwan
Founded 1972



Taipei, Taiwan
Founded 1941

Turnover 70MUSD

WW Ranking No. 4

Employee: 1,325

Factory Location

- China
- **Poland**

Turnover 100MUSD

Employee: 1,506

Factory Location

- Taiwan
- China



MAG. LAYERS
Scientific Technics Co., Ltd



Taoyuan, Taiwan
Founded 1990

Y2018 Turnover:
680MUSD

Employee: 10,918

RALEC



Kaohsiung, Taiwan
Founded 1994

Turnover 224MUSD

WW Ranking No. 3

Employee: 1,920

Factory Location

- Taiwan
- China
- **Malaysia**



Inductor



Resistor



Powder



RF

Turnover 54MUSD

DIP/Molded Pro

Employee: 1,400

Factory Location

- China



Taipei, Taiwan
Founded 1996



Kunshan, China
Founded 2004

Turnover 24MUSD

Spring Expert

Employee: 600

Factory Location

- China



ISO9001 ISO14001 IATF16949

Global Service Network



Inductor



Resistor



Powder



RF

Global Manufacturing locations



Inductor



Resistor



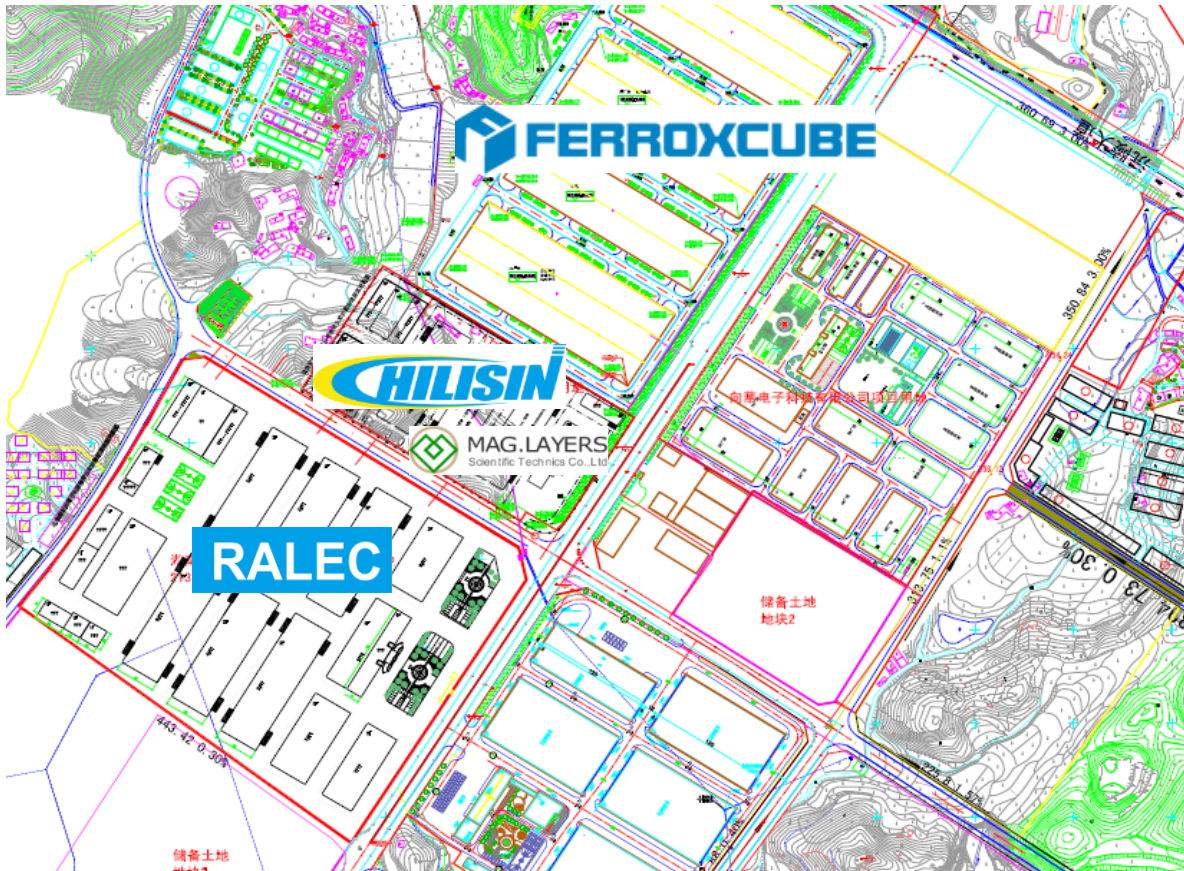
Powder



RF

Chilisin HuNan Industrial Park

Future group production base in China



Inductor: 70 Acres
Production begins
from end of Y2018

Ferrites: 200 Acres
Production begins
from Y2020

Resistor: 213 Acres
Production begins
from Y2021



Inductor



Resistor



Powder

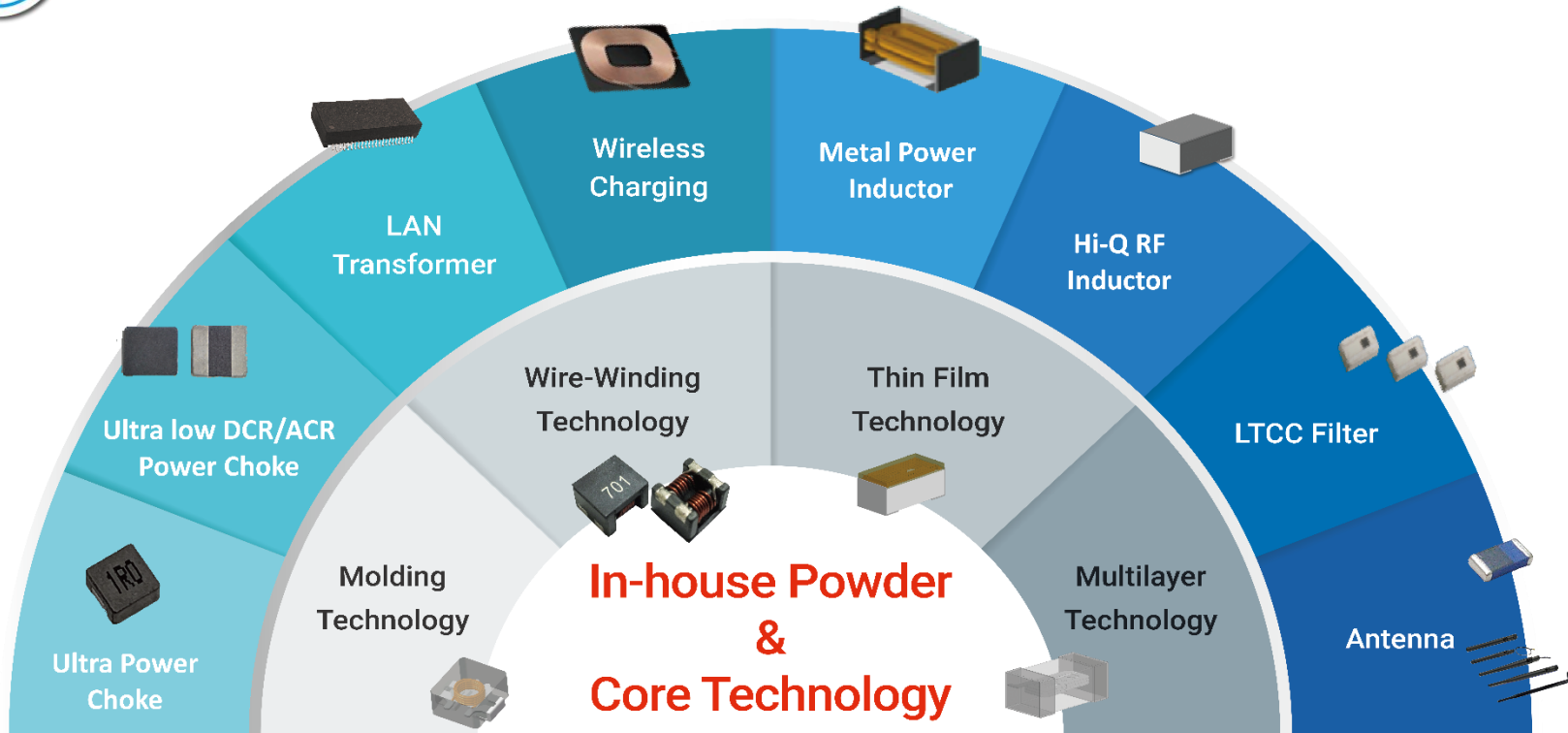


RF



ISO9001 ISO14001 IATF16949

Total Solution Provider - Inductor



Inductor



Resistor



Powder

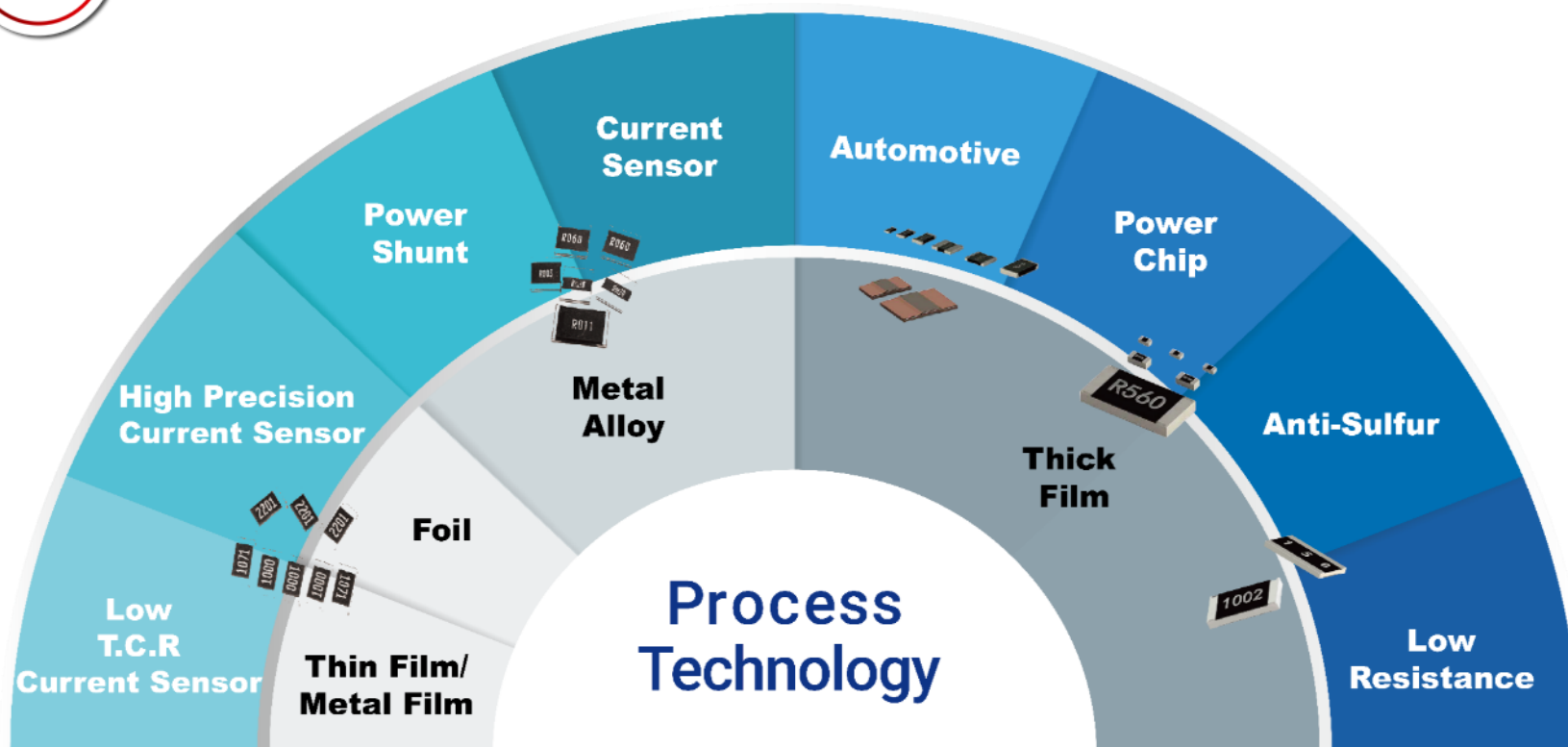


RF

MAGIC

MAG. LAYERS
Scientific Technics Co., Ltd

Total Solution Provider - Resistor



Inductor



Resistor



Powder



RF



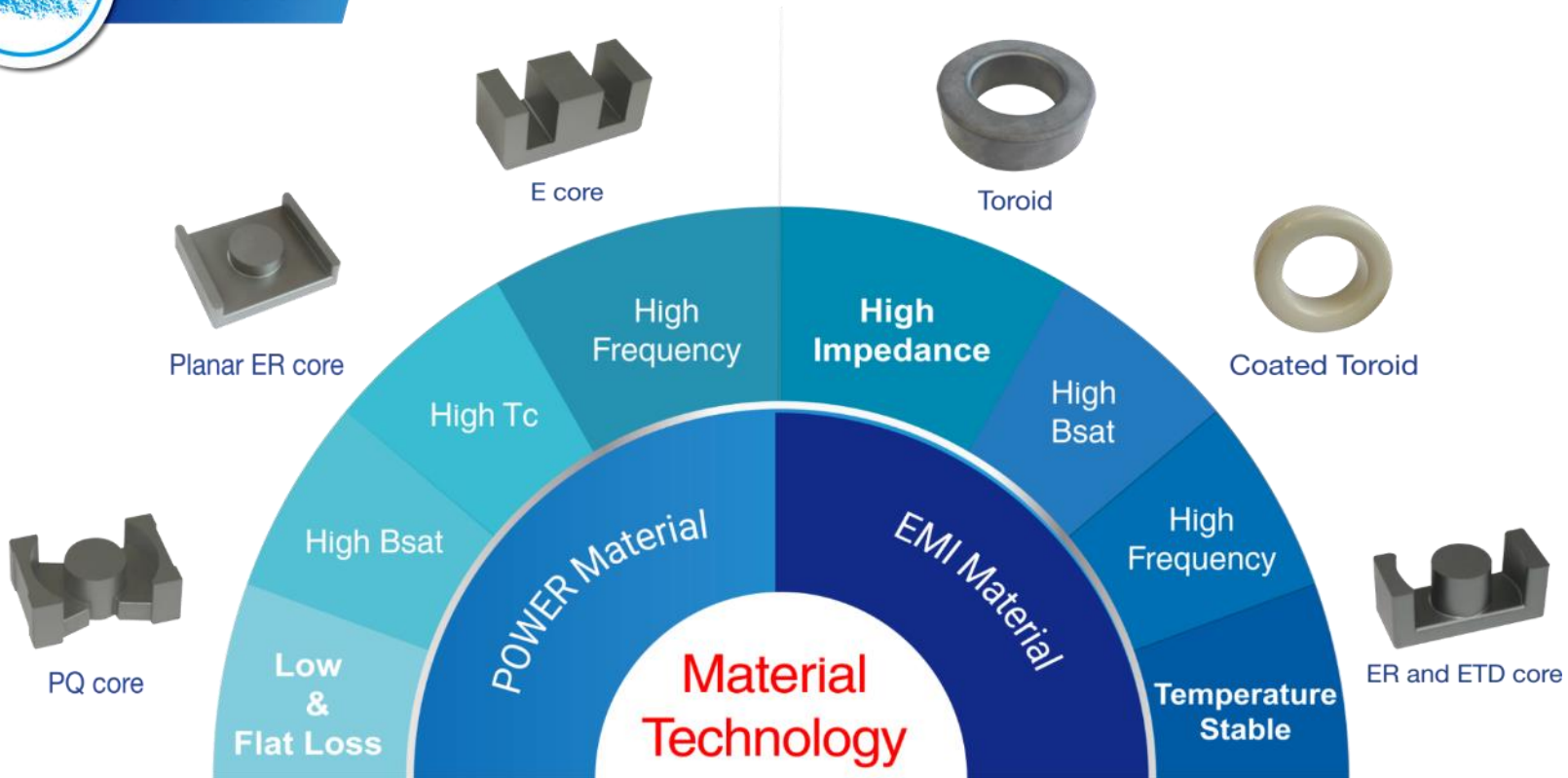




Total Solution Provider - Powder



Powder



Inductor



Resistor



Powder



RF

MAGIC








MAG. LAYERS
Scientific Technics Co., Ltd

CHILISIN

FERROXCUBE

RALEC

Capacity Overview

Category	Product Type	2018 Capacity	2019 Capacity	2020 Capacity
Inductor Unit:Mpcs/M	Multilayer 	2,500	3,000	3,000
	Wire-winding 	360	360	360
	Molding 	780	780	880
	Thin Film 	250	250	250
	Through-Hole 	100	100	100
Filter Unit:Mpcs/M	LTCC Filter 	40	120	200
Resistor Unit:Mpcs/M	Chip Resistor 	25,000	36,000	40,000
	Metal CSR 	100	100	100
Ferrite Unit:Tons/Y	Powder 	18,000	18,000	18,000
	Ferrite 	11,400	11,400	11,400



Inductor



Resistor



Powder



RF

※Antenna manufacturing mix with various technologies for customization

Group Revenue Stream



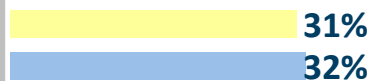
Automotive/ Industrial



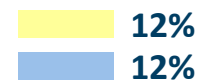
Communication



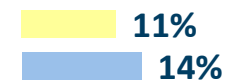
Computer/Laptop



Mobile/Tablet



Consumer



Inductor



Resistor



Powder



RF

EMS



flex.

FOXCONN®

JABIL

LITEON®

PEGATRON



wistron

Design
House

BROADCOM®

intersil™



MEDIATEK



Qualcomm

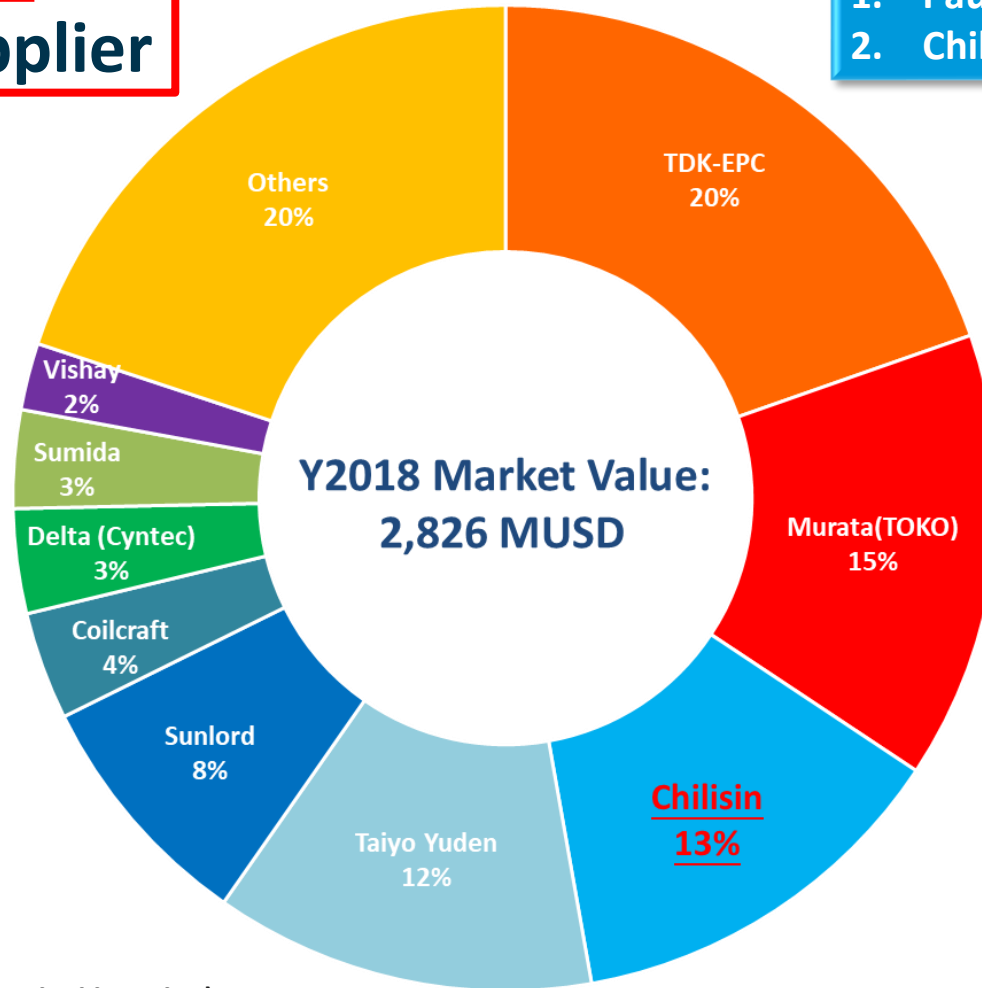


Stronger Inductor Market Position

**WW No.3
Inductor Supplier**

Source:

1. Paumanok (2019)
2. Chilisin Estimate



Inductor



Resistor



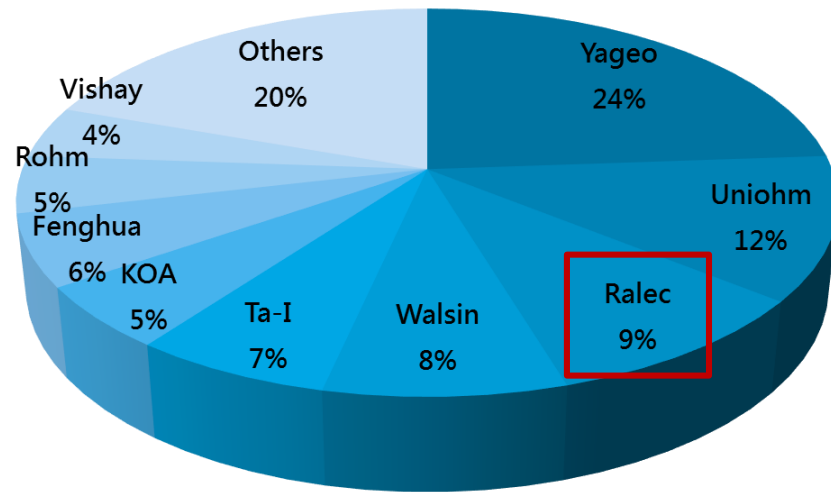
Powder



RF

RALEC – Leading Resistor Supplier

- WW **No.3** Chip Resistor Supplier
- Leading position of Metal Current Sensor
(100Mpcs/Month Capacity)
- Various **Specialty** for all applications
 - Sulfur Resistant Chip Resistor
 - Automotive Grade Resistor
 - Thin Film Resistor
 - Precision Resistor
 - High-Power Resistor
 - Wide-Terminal Resistor
 - 4-Terminal Resistor
 - Array Resistor
 - Metal Strip Current Sensor
 - Metal Film Current Sensor



Ranked by Capacity



Inductor



Resistor



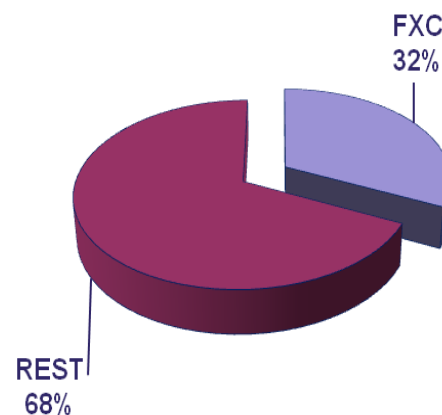
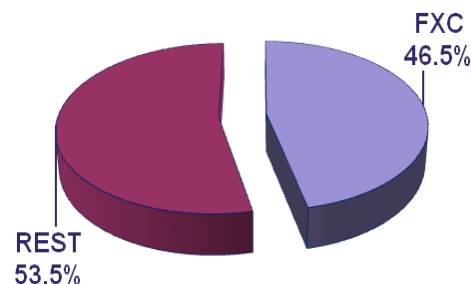
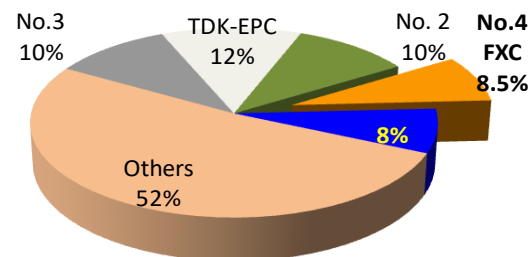
Powder



RF

Ferroxcube – Ferrites Innovator

- **WW No.4 Ferrite maker and dominate No.1 position in Europe and USA**
- **Wide range offering in Power & EMI material and act as leading position of high performance material provider**
 - The best Bsat ferrite Power material in all kind of working frequency
 - The best high frequency Power material
 - (200KHz ~ 3MHz) in AC-DC or DC-DC application
 - The best frequency stability (Impedance) EMI material @ higher TC (Curie Temperature -130 deg)
- **Recognized by leading EV/PHEV car makers**



Inductor



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Powder



RF

Total Solution Provider for Power, EMI and RF

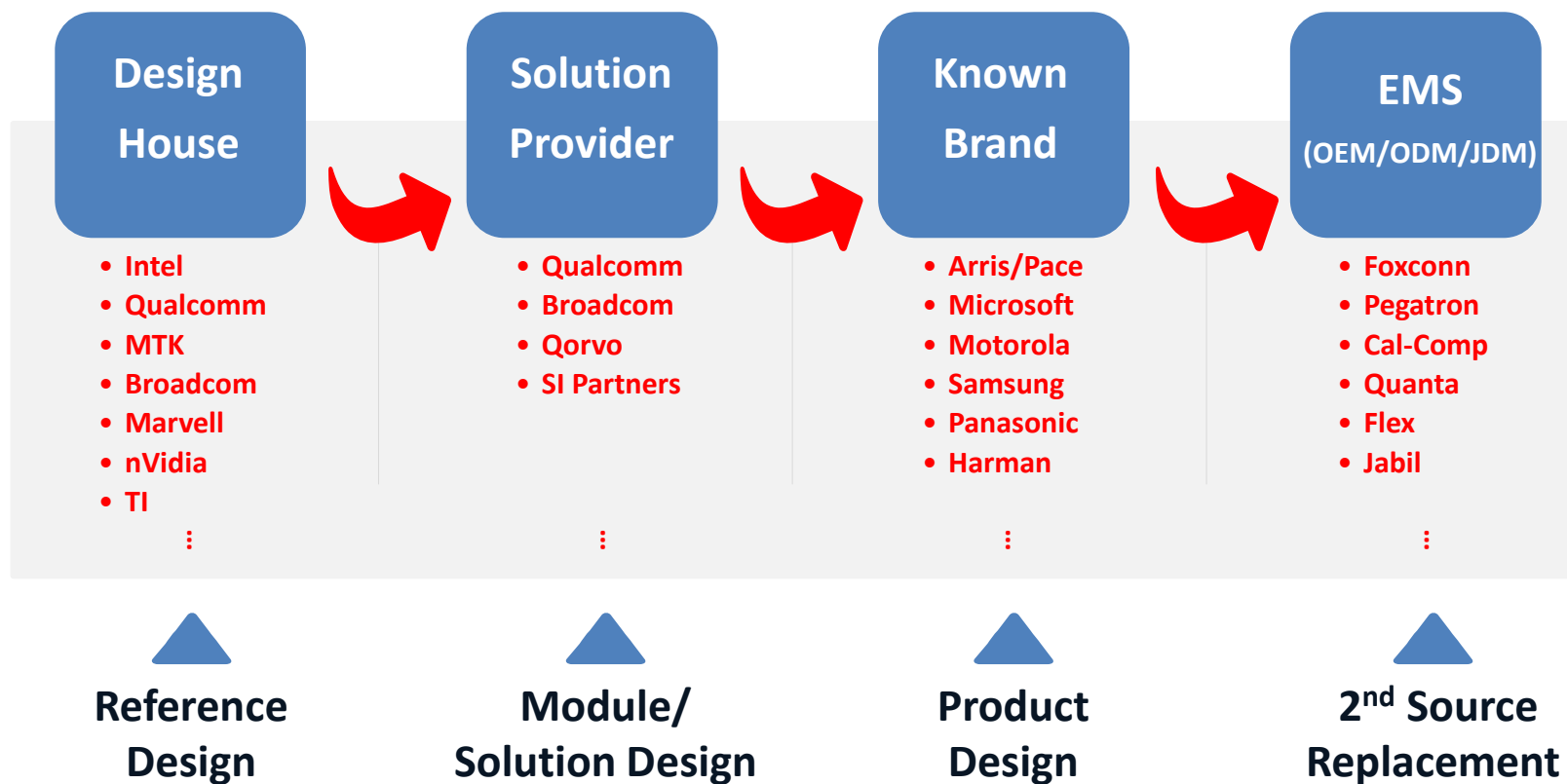


Total Solution Provider for Power, EMI and RF.

Thank you!

Design in & Design Win

R&D/F&E capability (design-in) & global support capability (design-win) to establish sustainable business model in the eco-system



Inductor



Resistor



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RF

Total Solution Provider for Power, EMI and RF

Wire-winding

POWER

- For Automotive, Telecom & Industrial

POWER

- Ferrite/Alloy Core
1.2x1.0x0.7mm size

EMI / CMM

- for USB2.0/3.0/HDMI
- Power common mode filter

RF

- Air Core
- Ferrite/Ceramic core
- Downsize: 0402 to **0201**

LAN XFMR

- 2.5G/5G/10G

Wireless Charging

- RX and TX coil

Molding

POWER

- DIP type
- for NB & motherboard

POWER

- SMD type
- 3030~1210 size, t: 1.0 mm
- for notebook & tablet PC

POWER

- SMD Miniature type
- 1210~3225 size, t: 0.6mm
- for smartphone & tablet

POWER/EMI

- 10x9x10mm
- 2 in 1 structure
- for digital amplifier

Multi-layering

POWER

- 1005~2016** size, t:0.55mm
- for handset & Ultrabook

EMI

- Up to GHz band
- Downsize: 0402 to **0201**

RF

- Downsize to **0201**

ANTENNA

- Size from 2012 to 5030

LTCC

- Filter/Coupler/Balun/Dipl exer

Thin-film

POWER

- 1210** size, t: 0.5mm
- for smartphone & tablet

RF

- RF application
- 01005** size, $\pm 0.1\text{nH}$ tol.

Powder
Formula

Core Formation

In-house Powder
Mixing Technology



Inductor



Resistor



Powder



RF