



Magnetic Sensors from Sinomags Technology

A Magnetic Sensor Supplier 专业的磁性传感器供应商

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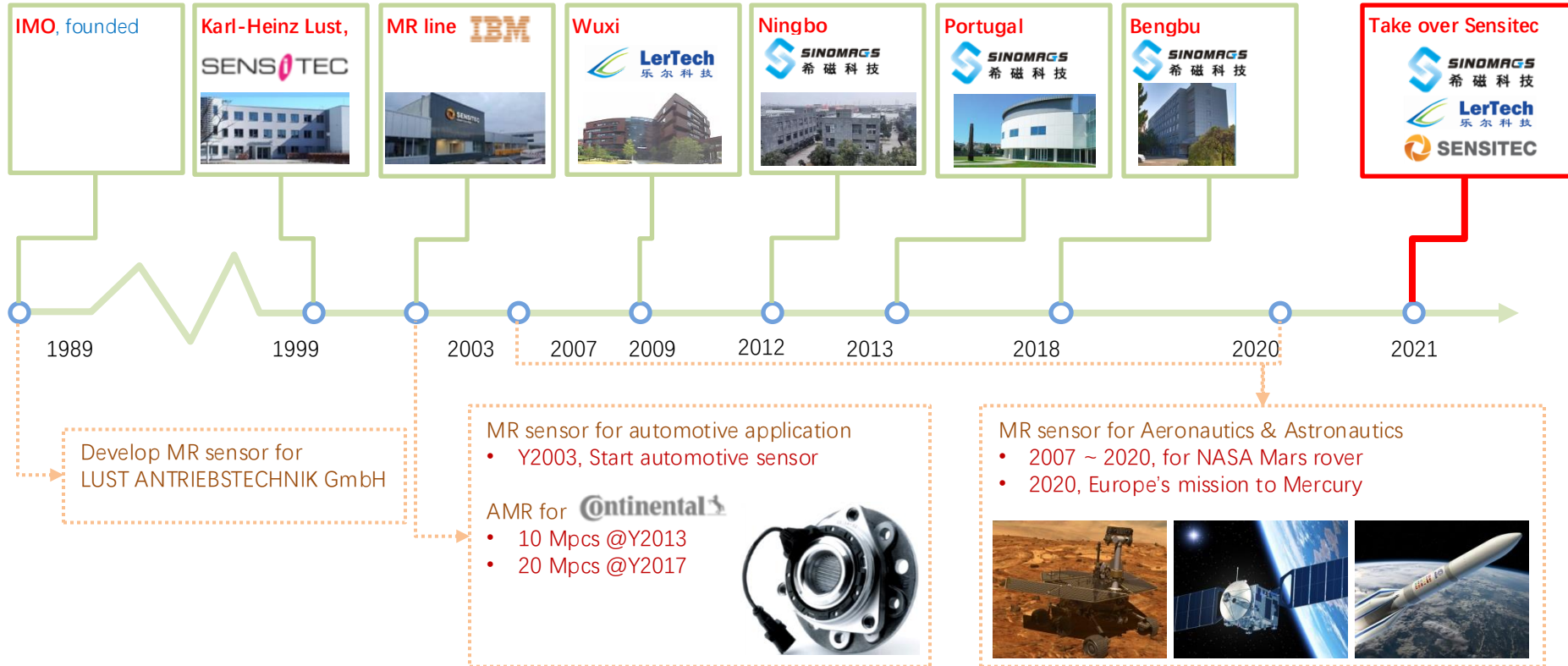
电流传感器介绍

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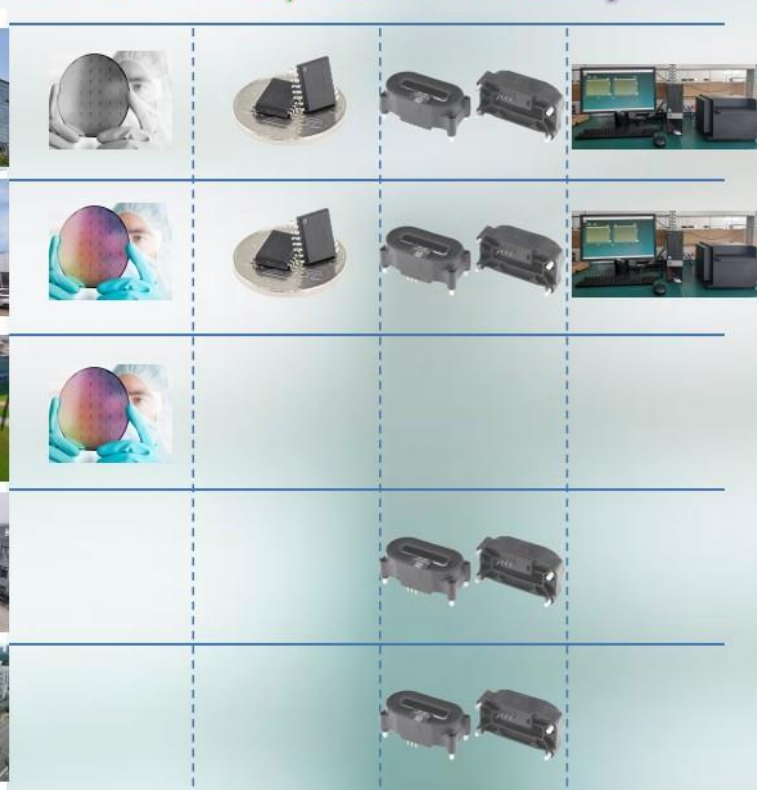
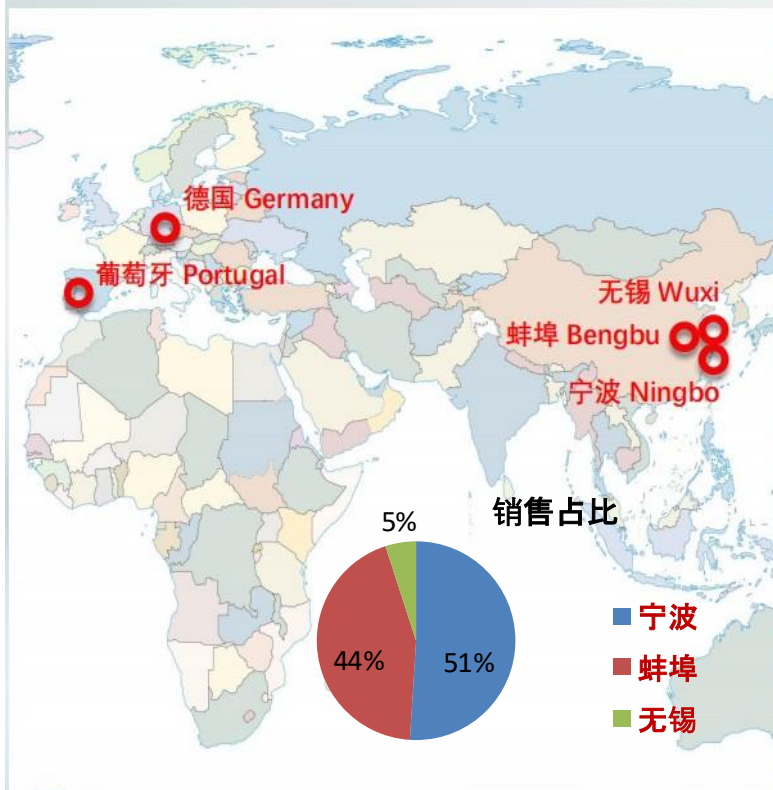
Company Milestone



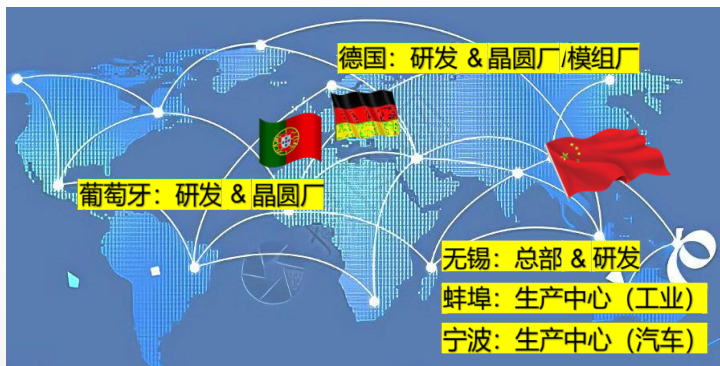
希磁科技概况 Sinomags Technology



Wafer → Chip → Module → System



Industry and Customers



传感器晶圆: 1.7 亿颗/年 → 10 亿颗/年 @ 2025年



电流传感器: 1.1 亿颗/年 → 3 亿颗/年 @ 2025年



员工 ~ 1,200 人, **研发** 150 人 → 250 人 @ 2025年



生物医疗



智能制造



新能源/储能

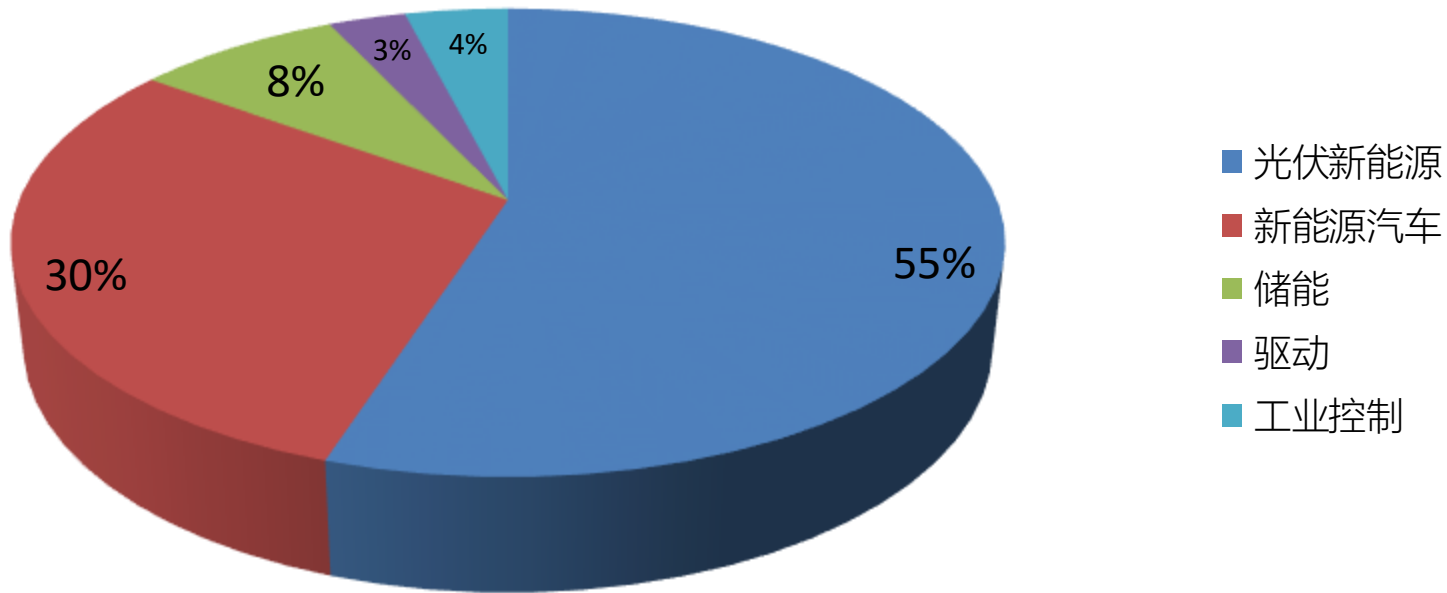


汽车/新能源车

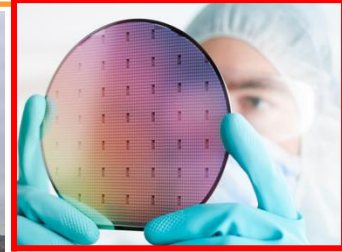
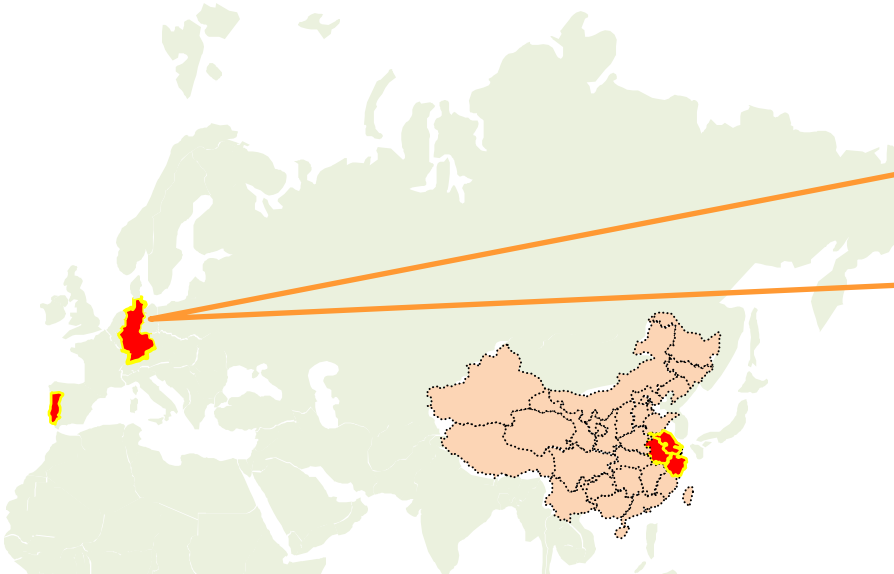


汽车 新能源车	PORSCHE	Audi	Volkswagen	小鹏	mi	CHERY	AION 埃安	HIGER 海格客车
	Mercedes-Benz	VOLVO	BYD	东风汽车 DONGFENG M	长安汽车 CHANGAN AUTO	长城汽车	WULING	
	Continental	ZE GROUP	BOURNS	Nidec -All for dreams	CATL 宁德时代	KEMPOWER		
	BOSCH	Valeo	JABIL HEALTHCARE	First Sensor	ANALOG DEVICES	Melexis		
新能源 储能	solar edge	Growatt	固德威 GOODWE	禾望电气 Hopewind	SOFAR 首航新能源	中国中车 CRRC	KELONG 科隆技术	SAT 英威腾电气
	SUNGROW 阳光电源	TBEA 特变电工	锦浪科技 CHANT	正泰	上能电气 SINENG	Deye 德业	KSTAR	FOX
UPS	EATON Powering Business Worldwide	VERTIV 维谛技术	Voltronc Power	Schneider Electric 施耐德电气	希望森兰			
驱动	ABB	HITACHI Inspire the Next	LS 电气	Dunkermotoren	maxon	Haier		
控制	KUKA	GREE 格力	Midea	SIEMENS	TURCK	ZEISS	Nidec -All for dreams	

各业务版块销售占比



Sinomags xMR production line



Quality system & Product verification



CERTIFICATE OF ISO45001



CERTIFICATE OF OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM

This is to certify that the Occupational Health and Safety Management System of Ningbo Sinomags Technology Co., Ltd. (Organization Code/Credit No. 913001202000000000) has been assessed and is in conformity with GB/T 45001-2020 / ISO 45001:2018

Certification Scope: Design & Production of Magnetic Sensor and Related Management Activities

Signed by: [Signature] Date: 2020.10.27 Issued Date: 2020.10.27 Validity Date: 2020.10.27

CHINA QUALITY CERTIFICATION CENTRE



CERTIFICATION ISO 14001 CERTIFICATION



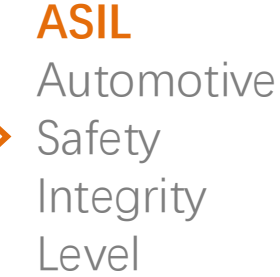
CERTIFICATE OF ENVIRONMENTAL MANAGEMENT SYSTEM

This is to certify that the Environmental Management System of Ningbo Sinomags Technology Co., Ltd. (Organization Code/Credit No. 913001202000000000) has been assessed and is in conformity with GB/T 24001-2016 / ISO 14001:2015

Certification Scope: Design & Production of Magnetic Sensor and Related Management Activities

Signed by: [Signature] Date: 2020.10.27 Issued Date: 2020.10.27 Validity Date: 2020.10.27

CHINA QUALITY CERTIFICATION CENTRE



Patent Protection

MAGNETISM

- AMR ,GMR and TMR
- International Cooperation

WAFER

- Magnetic films & processing
- Designs for different applications

CHIP

- xMR+ASIC, high frequency & accuracy
- Packages for different applications

SENSOR

- Experience on system application
- Experience on sensor design

MODULE/SYSTEM

- Understanding on customers' requirements
- Understanding on standard of qualification/request
- 100% tested products
- Reliability test for developed products

Patents for all products ;

- Published ~ 210, Authorized ~ 130

1. xMR design

2. xMR chips

3. xMR module

4. magnetic sensing system



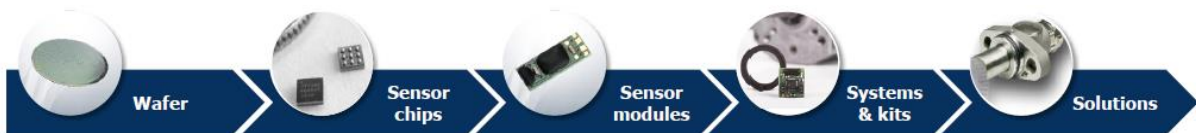
DE 10 2004 007 421 B4 2006.02.23



US007495624B2



(11) EP 1 417 690 B1



Production process for current sensors



Soldering

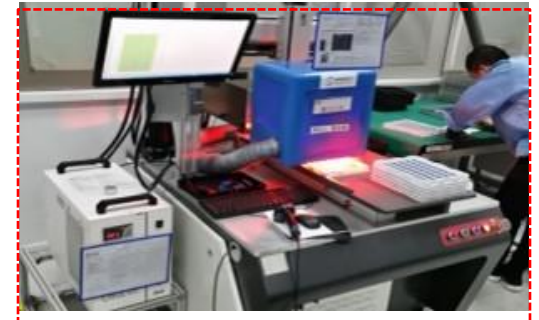
Surface coating

Assembly

Final testing

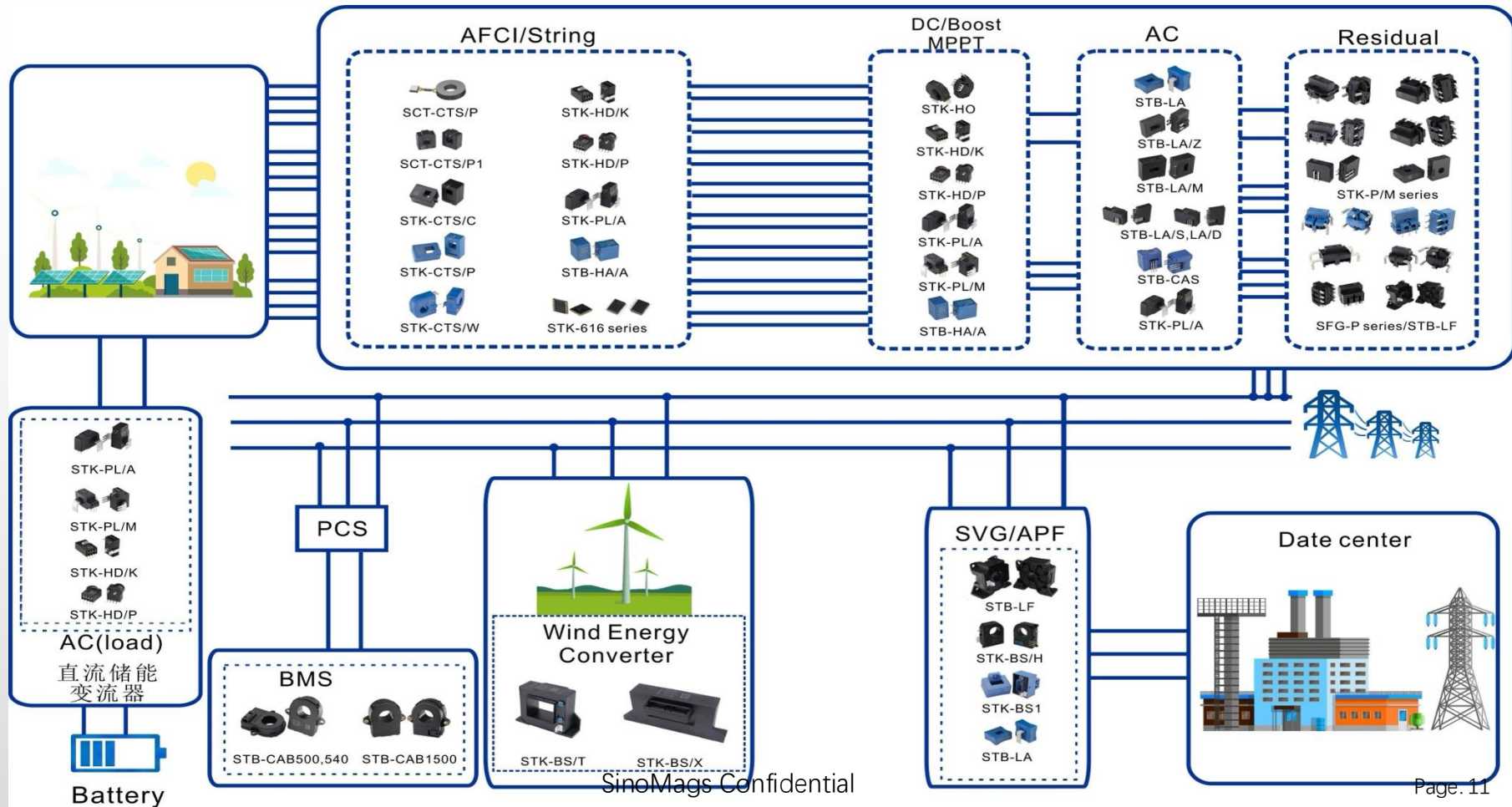
Thermal calibration

Labelling

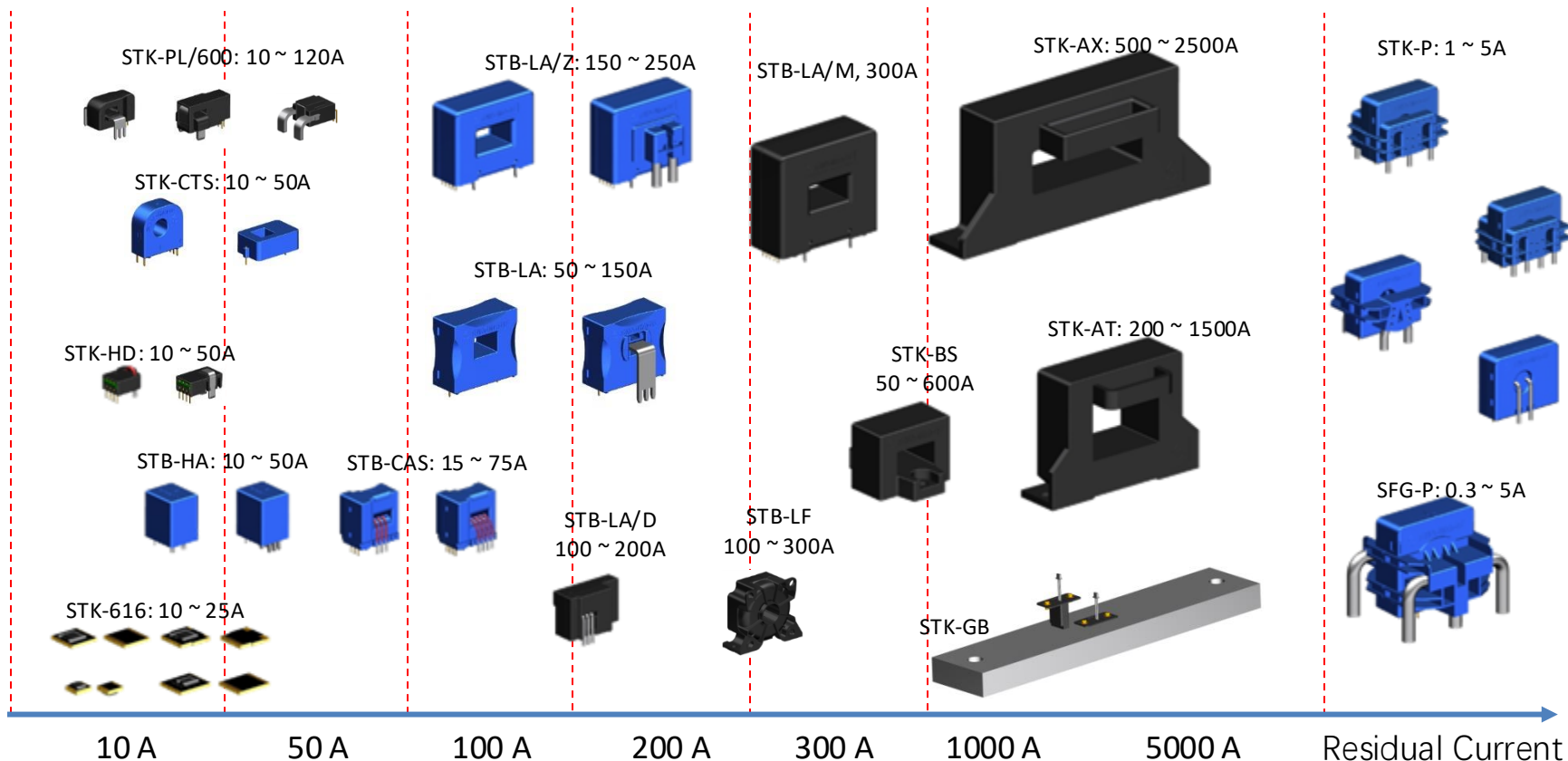


Annual production ability

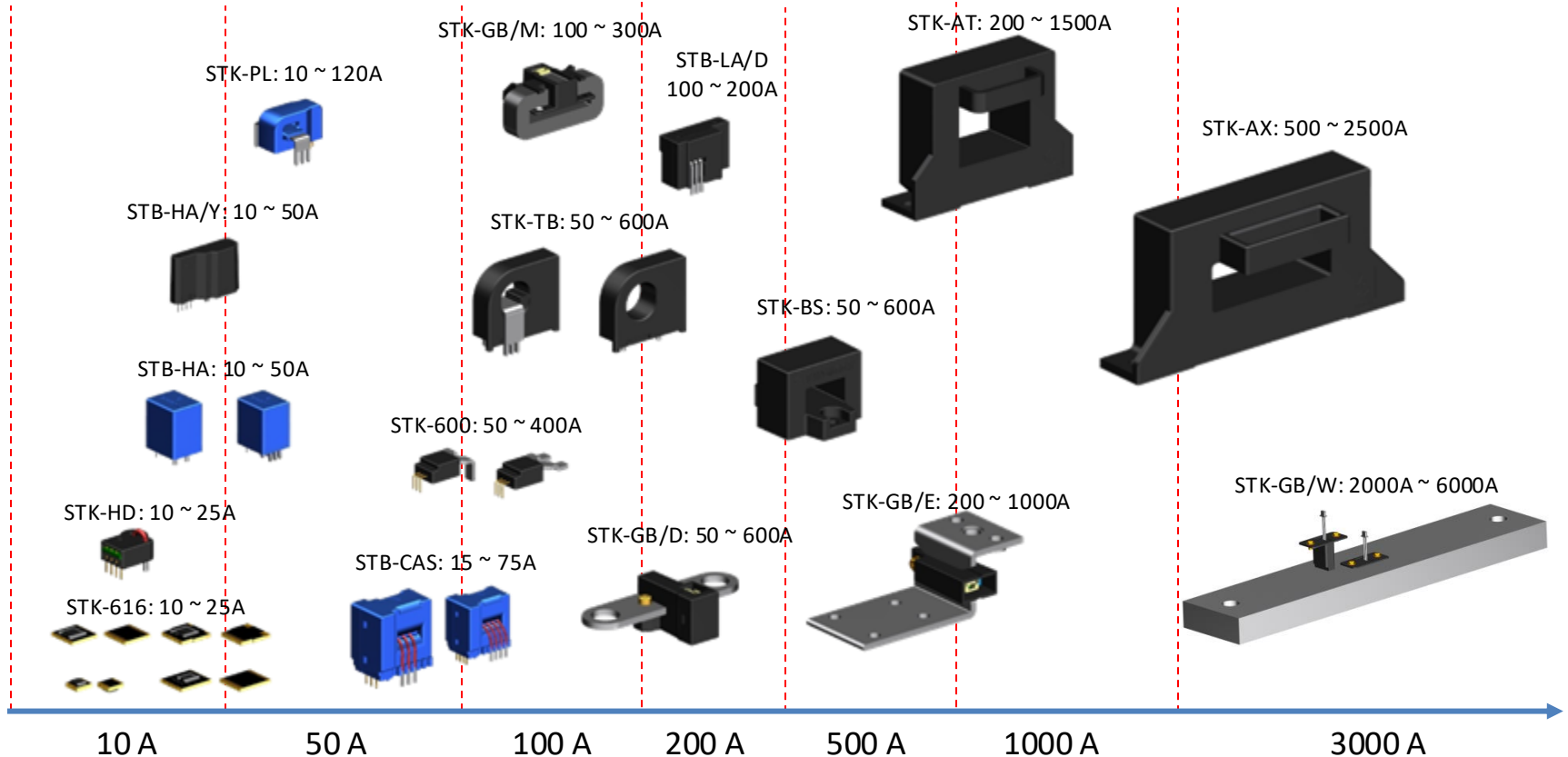
Site	Wafer	Chip	Module Current
Portugal	30 Mpcs		
Germany	500 Mpcs	5 Mpcs	
Wuxi		150 Mpcs	10 Mpcs
Ningbo			30 Mpcs
Bengbu			60 Mpcs

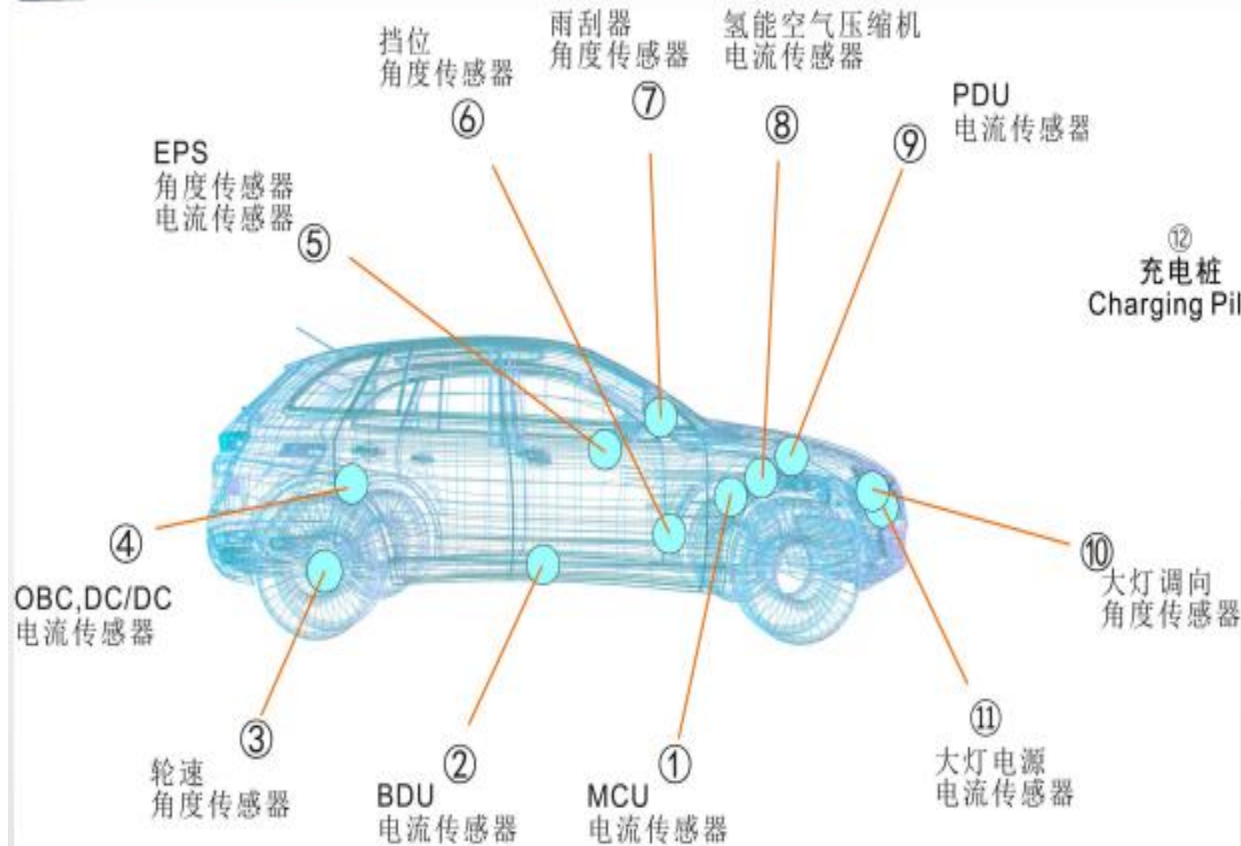


Current sensors for new energy



Current sensor for energy storage





Output: Digital Ana.

新能源车用电流传感器 Current detection for EV

OBC, DC/DC MCU - AC/BOOST



MCU-DC



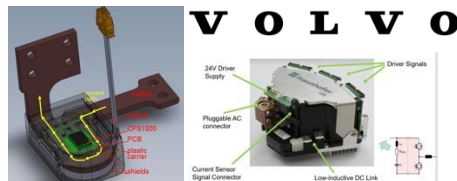
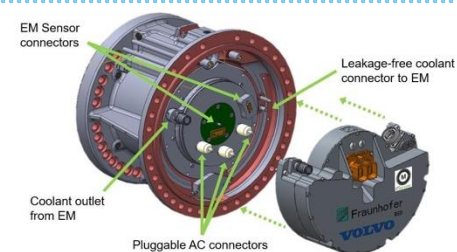
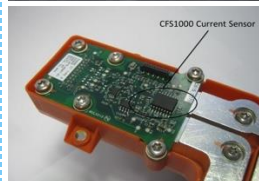
AC-Charger Digital



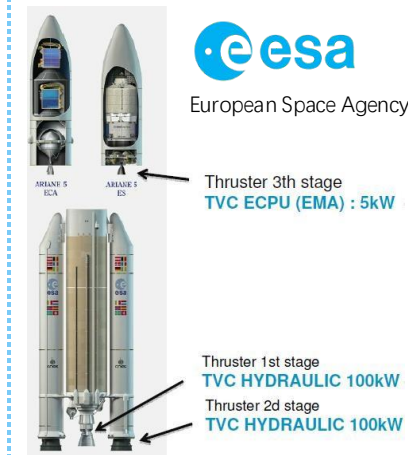
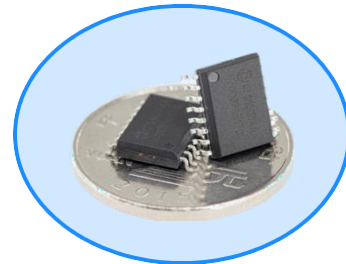
BMS Digital



Chip-level current sensor for automotive



Panasonic



Product family : angle & position detection

Application

Product

Typical Customers

Automotive



Automation



AA FreePitch®
Sensors (Chip)



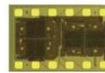
AA FreePitch®
Sensors (Chip)



AA FreePitch®
Sensors (Chip)



AFF Field
Sensors (LGA)



AFF Field
Sensors (Chip)



AL FixPitch®
Sensors (LGA)



GA 3D-Field
Sensors (Chip)



GF Field
Sensors (Chip)



TA FreePitch®
Sensors (LGA)



SSA Tooth
Sensor
System

GLM Tooth
Sensor
Modules



SPP Multi-
channel Box

EBx7900
Modules



Customized
Kits

EBx7800
Modules



Customized
Arrays

**ANALOG
DEVICES**



Mercedes-Benz

First Sensor



JABIL
HEALTHCARE



PORSCHE

Continental



BOSCH



Melexis
Microelectronic Integrated Systems

TURCK



KUKA

Nidec
-All for dreams

maxon

ARRI

**LENORD
+BAUER**

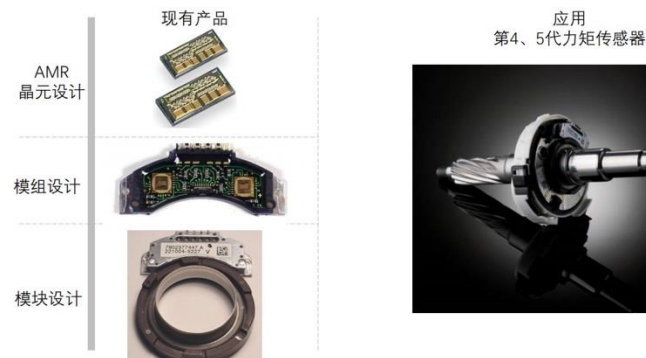
SIEMENS

Product family :运动量传感器

车载磁性传感器：轮速传感器



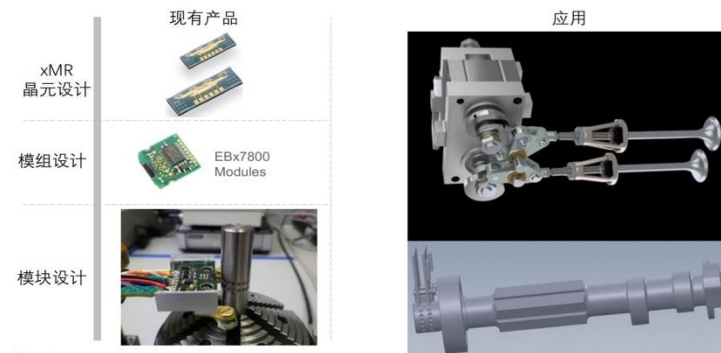
车载磁性传感器：EPS力矩传感器



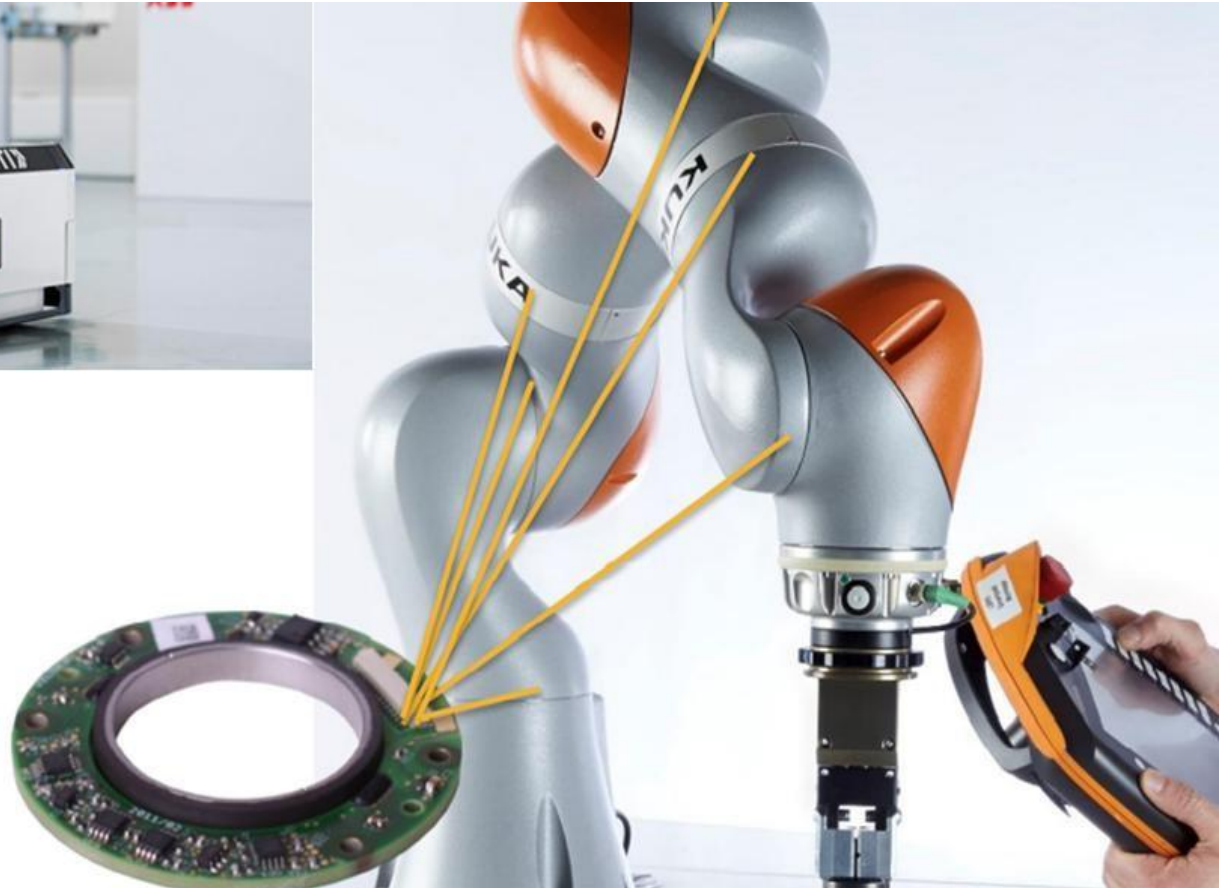
车载磁性传感器：EPS电机位置传感器



车载磁性传感器：活塞点火位置检测



Magnetic Sensor @ Industrial Robots



Magnetic Sensor @ SLR/ Camera Lens

KAMERATECHNIK.



Magnetic Sensor @ Servo Motor



Brushless DC Motor Series

要求:

内置磁性编码器 & 驱动器设计
允许大的安装误差 (0,7mm)

输出: A/B/Z 信号

分辨率: 1024 PPR ~ 4096 PPR

转速: 8000 T/min

全温区精度: $\pm 0.35^\circ$

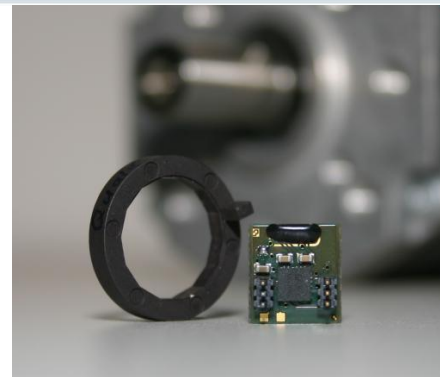
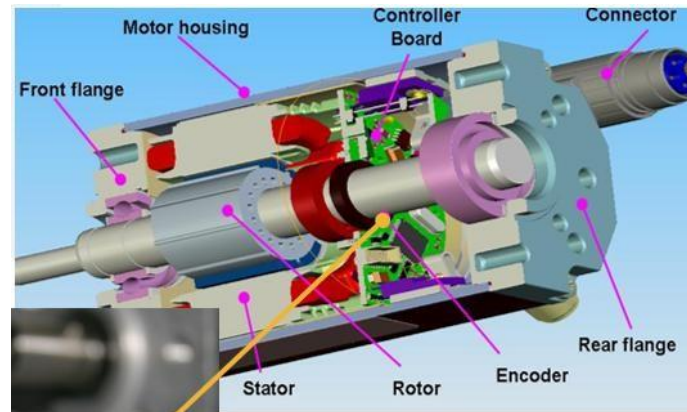
Sensormodule with:

AL796 2mm fixpitch Sensor (incremental)

GF 705 for the z impuls (nose)

Interpolation-asic (programmable)

Polring with 32 Magnetpoles



Magnetic Sensor @ paper notes validation

Application

Product

Typical Customers

Bank Note Validation



Based on a special TMR Sensor design and array technology the sensor systems from Lertech Technology Inc. are the leading Systems in the field of Banknote Scanner world wide. In a range from 6mm up to 180 mm test length and a resolution up to 50 dots per inch the systems recognize the magnetic ink pattern and checking the banknotes for authenticity to 100%. The systems Are available up to 64 channels. With the thickness measurement module the banknote can be tested in Micrometer range.



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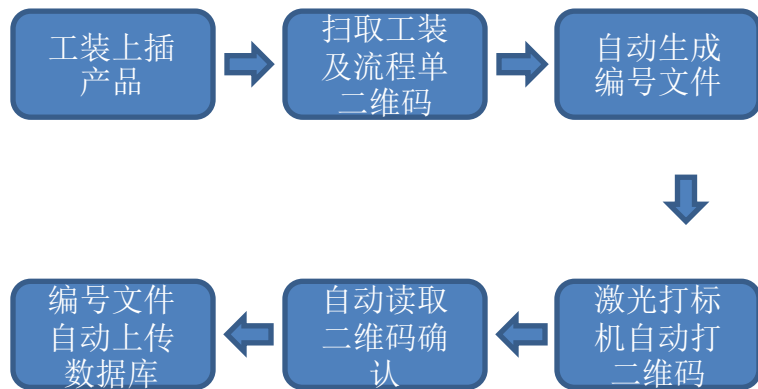
电流传感器介绍

电流传感器品质管控

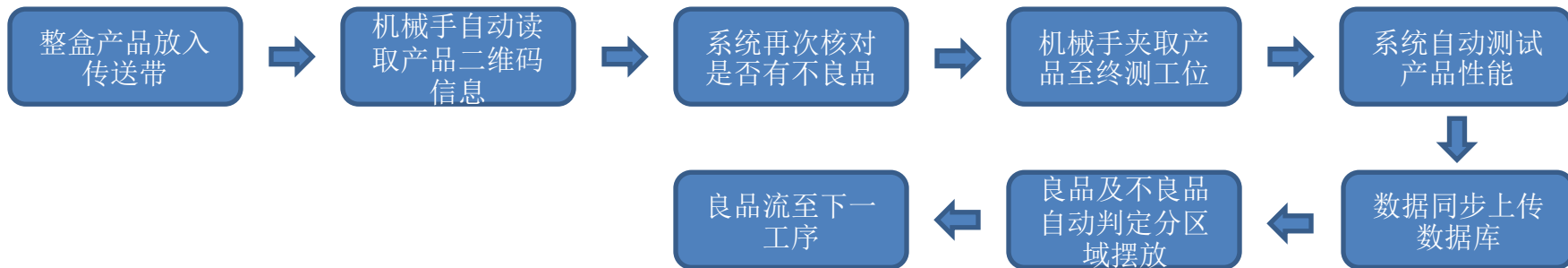
品质管控流程

品质提升计划及实施

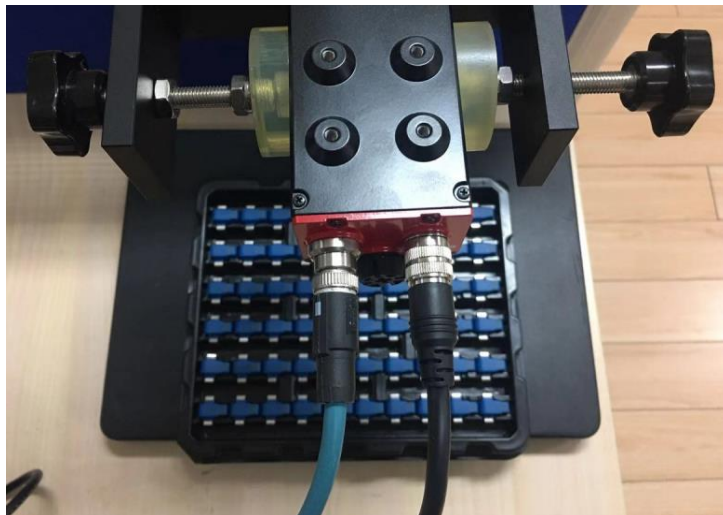
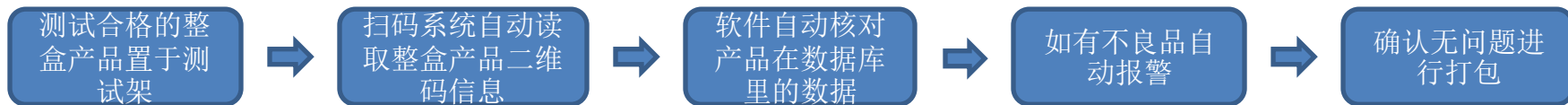
生产自动化 —— 产品序列号标记 & 识别



生产自动化——产品终测自动化



产品品质提升——严出（入库产品核对）



Thanks

Sinomags technology Co., Ltd.

www.sinomags.com