

Volkse

苏州工业园区福特斯汽车电子有限公司



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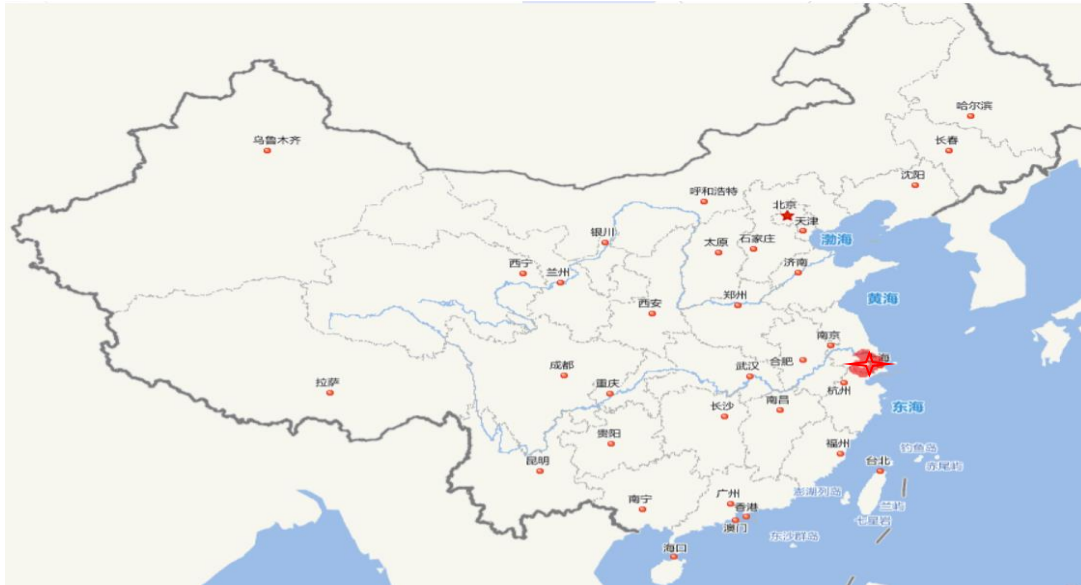
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Core Advantage

04

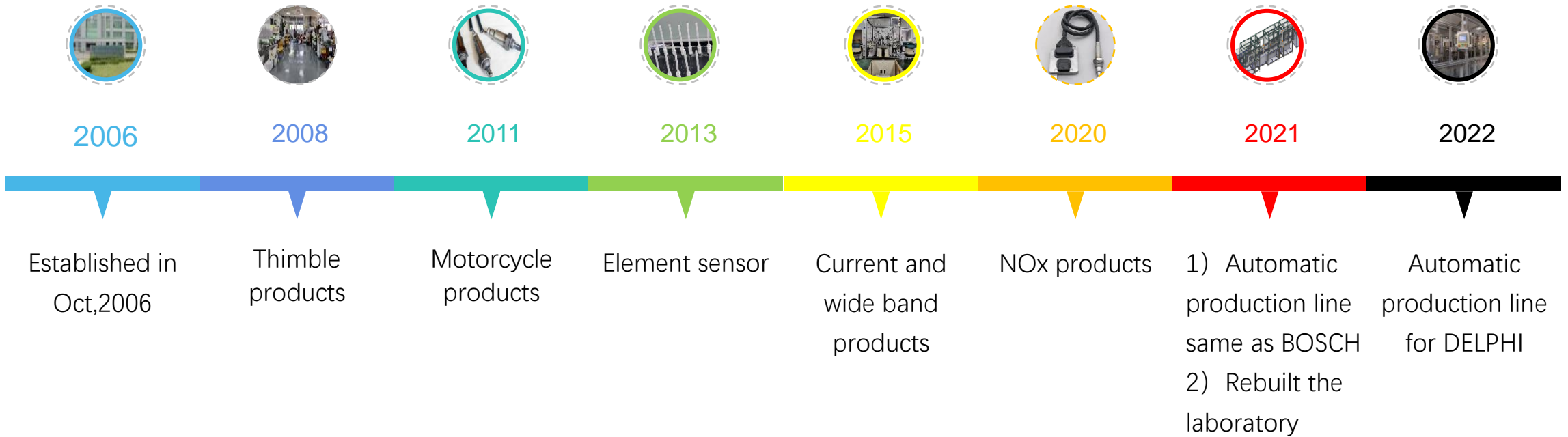
Future Planning

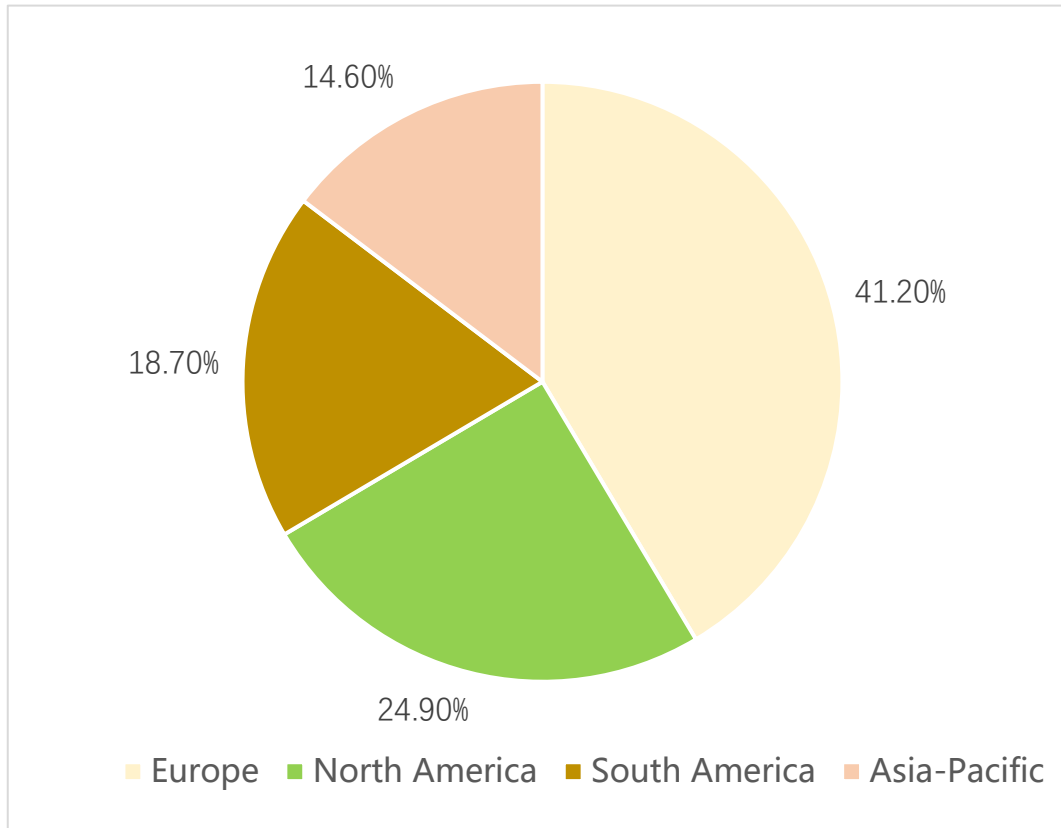




Introduction

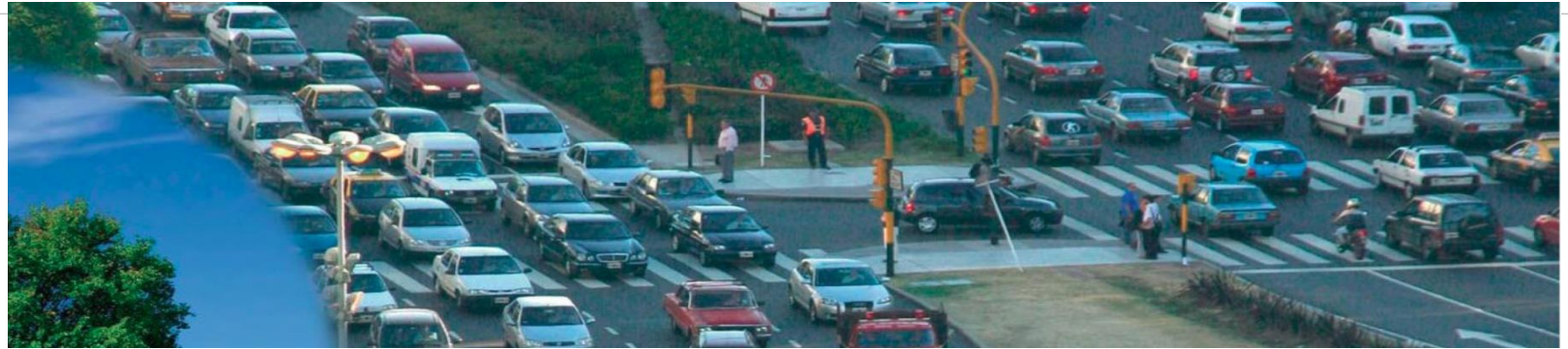
- ✓ **Company profile:**
 - 17 years focus on Oxygen Sensor
 - 20,000 square meters of self owned land, 4,000 square meters of workshop, with an annual production capacity of 3 million units
 - Covering 98% of vehicle models
- ✓ **Company positioning:**
 - Oxygen sensor system supplier
- ✓ **Products positioning:**
 - High quality, good price
- ✓ **Market positioning:**
 - Vehicle manufacturer and powertrain supplier
 - Famous aftermarket brand





➤ The sales revenue in 2023 is 85 million RMB, with a production volume of 1.2 million units; Aftermarket accounts for 95.3%, vehicle manufacturer takes up to 4.7%.

Oxygen Sensor



BOSCH



DELPHI



DENSO



NTK



- 1/2/3/4 wire(s)
thimble&element
- LSU4.2/4.9/ADV
- LSU5.1/5.2



- 1/2/3/4 wire
thimble&element
- OSP+/OSP-B
- Wide band



- 1/2/3/4 wire
thimble&element
- A/F

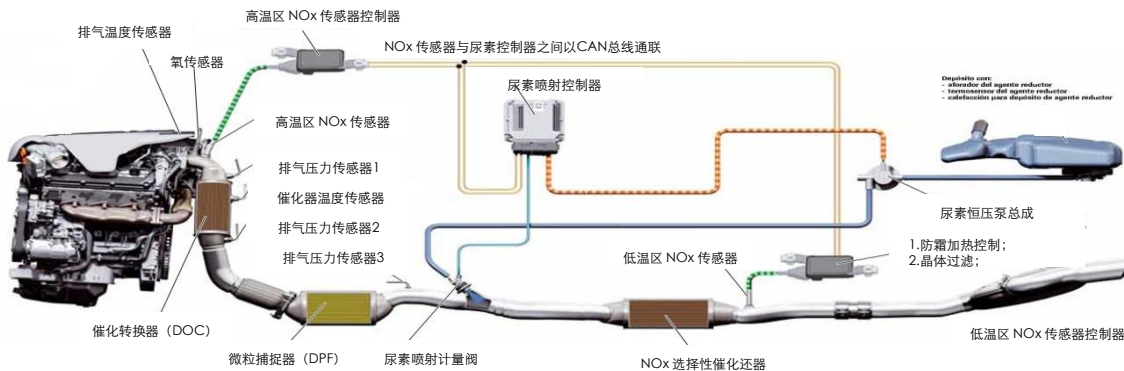


- 1/2/3/4 wire
thimble&element
- 5 wires U1/U2/U3

NOx



Motorcycle Oxygen Sensor



- M12 1/2/3/4 Wires
- 4 Wires pump current type

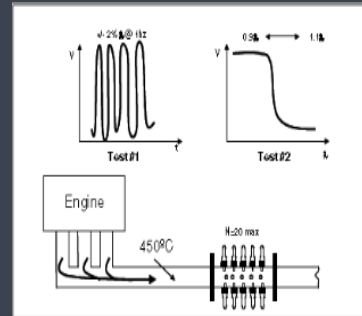
R&D Ability

- ✓ Ceramic material laboratory
- ✓ More than 10 years of experience in zirconia tube and chip development
- ✓ More than 10% of annual revenues are invested in R&D

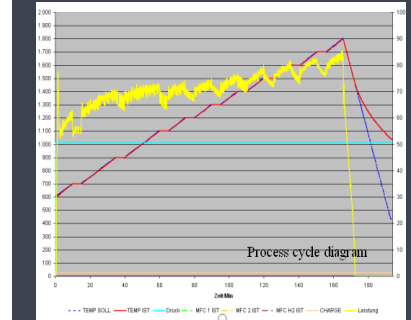
Electron microscopic analysis of materials



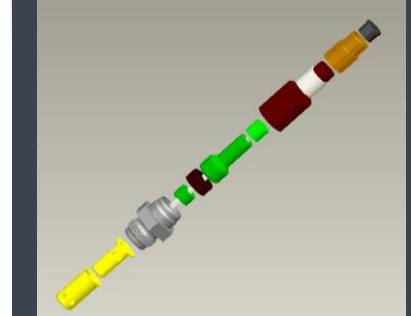
Functional conceptual design



High temperature sintering analysis



3D simulation design



R&D Level

- ✓ 37 patents for inventions
- ✓ High-tech enterprise
- ✓ Independent research and development of zirconia tube and chip

Zirconia tube and chip



FMEA

Cover more than 98% models

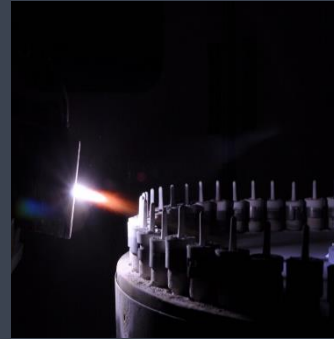
CP



Key Equipment

- ✓ Plasma spraying equipment imported from Germany
- ✓ CCD automatic counterpoint printing equipment imported from Japan
- ✓ High speed diaphragm punching machine

Plasma spraying machine



High speed diaphragm punching machine



Automatic printing machine



Resistance test machine



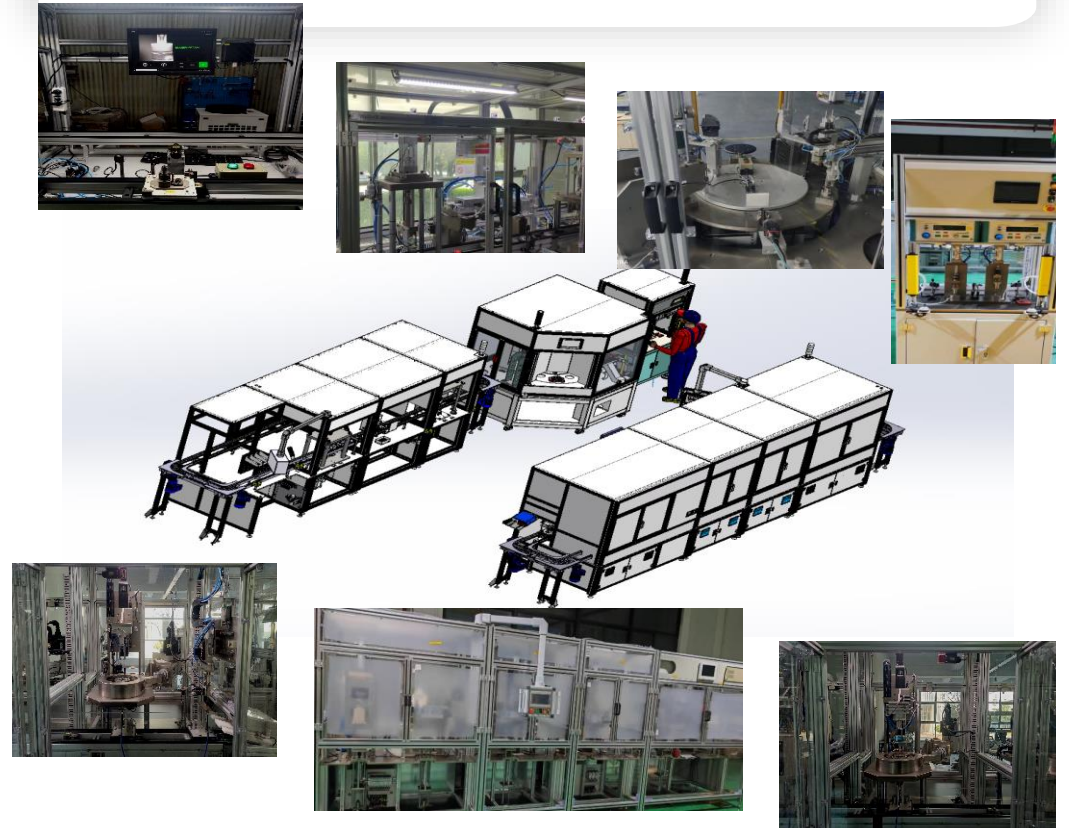
Automated production line L1 (BOSCH)

Equal coverage of the control points



Automated production line L2 (DELPHI)

✓ Full coverage of control points



Automated production line L3 (NTK)

Higher automatic covering 5 types profile



Automated production line L4 (Continental)

Automatic in PCB assembling



Internal Firewall

- ✓ Wide-band sensor
Current calibration
- ✓ Key features are
100% checked
- ✓ High/low voltage
- ✓ TTA (Time to activity)
- ✓ Leakage test

TTA



High/low
voltage/
response time



Leakage
test



AF



Internal Training

- ✓ Quality awareness
- ✓ Lean production
- ✓ 5 Quality tools
- ✓ Kaizen
- ✓ 6S

- ✓ **Stable quality, low return rate**
- ✓ **Short delivery time**

SPC



APQP



MSA



LEAN



- 1. Leakage test
- 2. Vibration test
- 3. Pulling test
- 4. Crash test
- 5. On/off test
- 6. High temperature test
- 7. Salt spray test
- 8. High and low temperature test
- 9. High and low temperature humid heat experiment
- 10. On-vehicle Test
- 11. X-RAY internal validation

High and low temperature test



Salt spray test



High pressure impact test



On/off test



Submergence
test



High and low
temperature
impact test



Stone
chip test



Leakage
test



Drop test



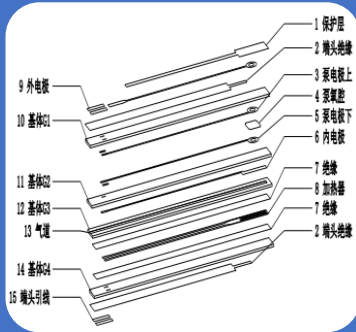
OGP &
Hardness
test





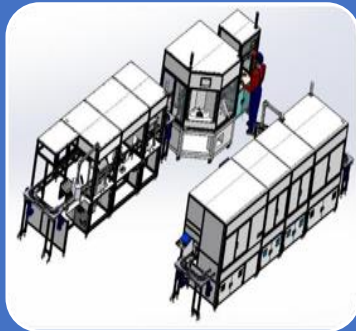
- ✓ Jiangsu province high-tech enterprises、 IATF 16949:2016、 ISO 14001:2015 certificates
- ✓ 37 patents





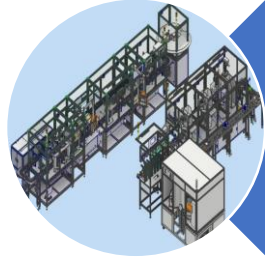
Elements

- Renovate to 10000 level dust-free workshop
- Upgrade the key equipments such as type casting, printing, sintering, etc



Assembling/Wire harness

- Set up independent areas for wiring harnesses
- Separate the assembling area to different functional modules



Automatic production line L5-L6



Improve test equipments



Human-machine interaction data processing



Thank You !