BESTAR

波速集团

BESTAR GROUP

www.be-star.com

About BESTAR

BESTAR

- an innovative solution provider in acoustic and piezo products at a global level.
- offering a broad portfolio of products and modules include speakers, buzzers, alarms, haptic exciters, piezoelectric elements, ultrasonic transducers
- Widely used in the industries like automotive, home appliances, consumer electronics, medical instruments and security alerting systems.



BeStar Organization



Bestar Holding Co.,Ltd （HQ)

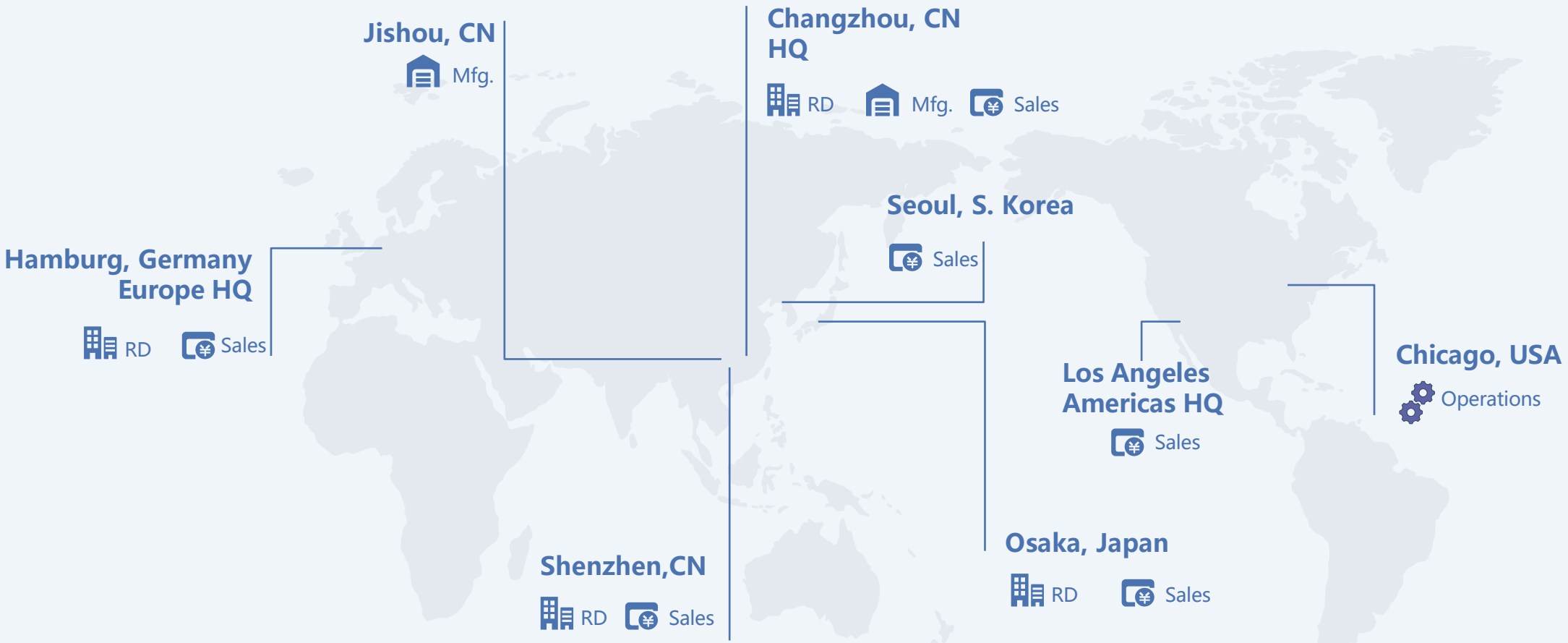
Established:	June 12th 2002
Facility area:	23,500 ㎡
Employees:	428
Portfolio:	Speakers, buzzers, microphones, alarms, ultrasonic transducer solutions…
Address:	Xinbei Dist. of Changzhou City.
Certification:	IATF16949, ISO9001, ISO13485, ISO14001, ISO45001



Bestar Sensortech Co.,Ltd

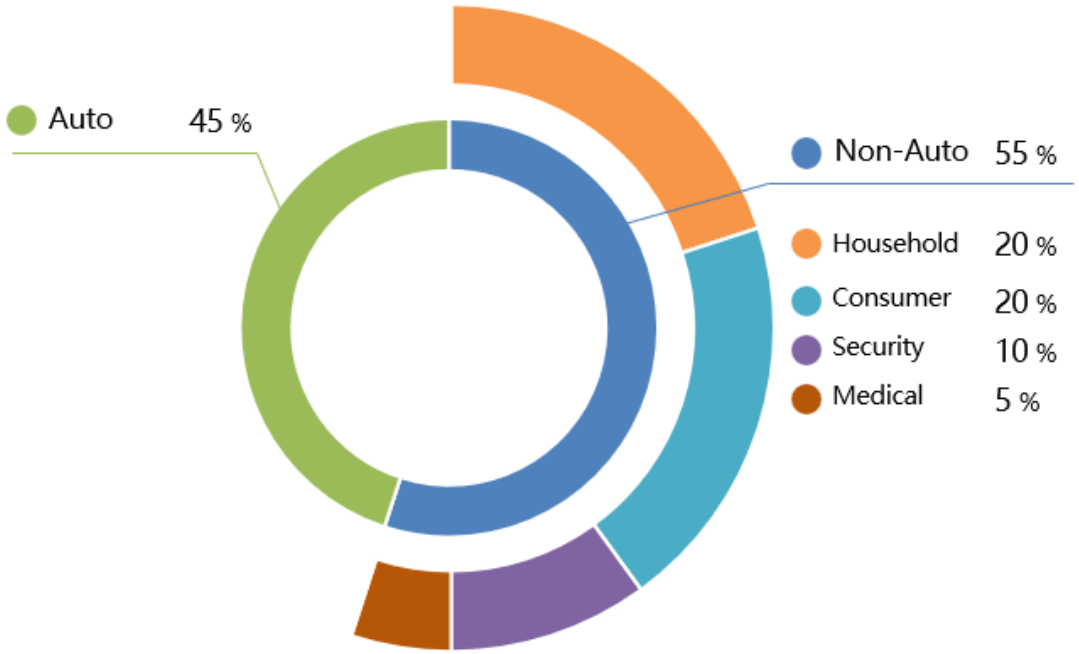
Established:	May 8th 2012
Facility area:	30,000 ㎡
Employees:	160
Portfolio:	Piezoelectric elements
Address:	Zhonglou Dist. of Changzhou City
Certification:	IATF16949, ISO9001,ISO14001

Global Presence Local Support

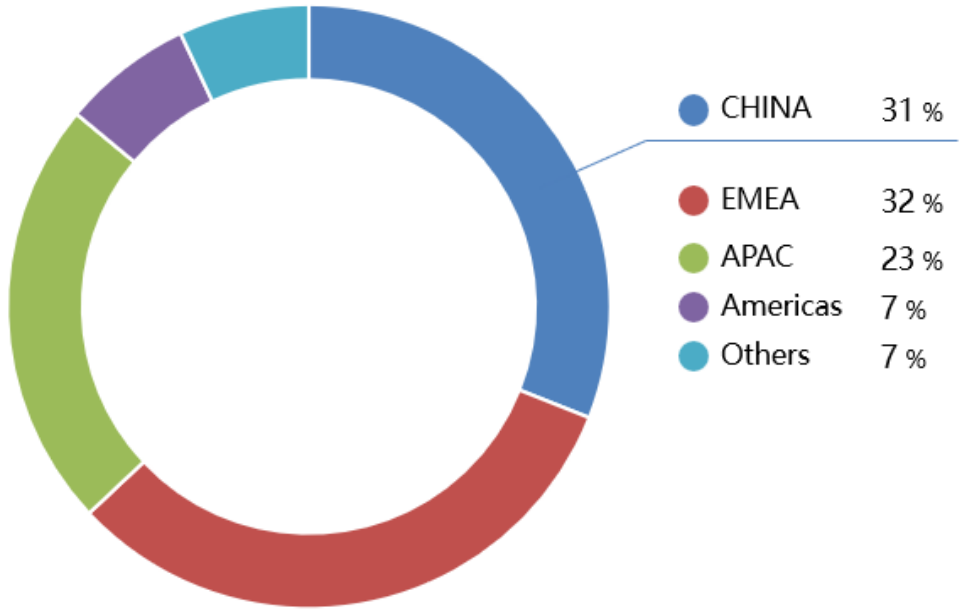


Market Shares

By Applications



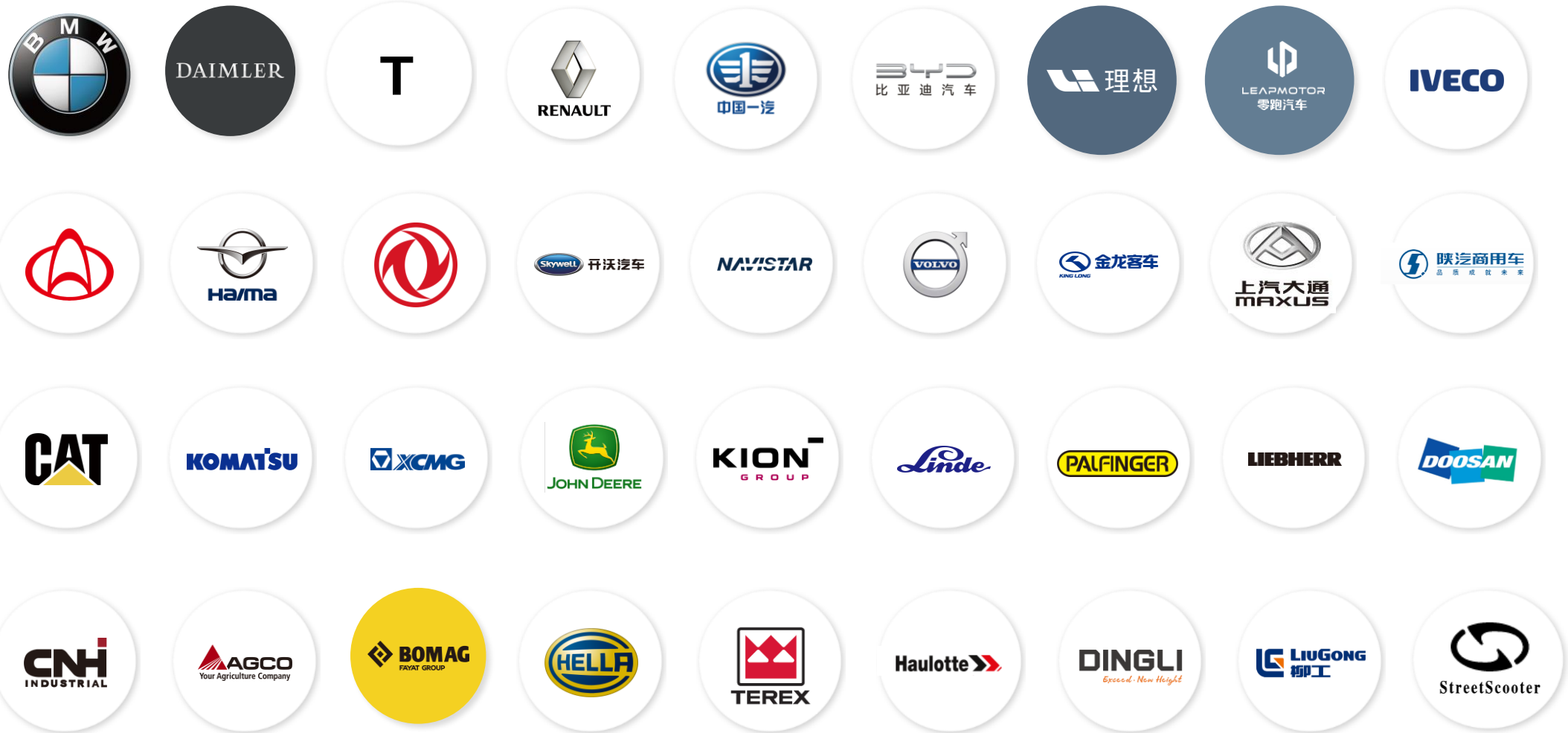
By Turnover



Strategic Partners

Shanghai Institute of Microsystem and Information Technology Chinese Academy of Sciences 中国科学院上海微系统与信息技术研究所	China Automotive Technology and Research Center 中国汽车技术研究中心	China Electronic Component Association 中国电子元件行业协会	University of Electronic Science and Technology of China 中国电子科技大学
RYUKOKU UNIVERSITY 龙谷大学	Tianjin University 天津大学	NANJING INSTITUTE OF TECHNOLOGY 南京工程学院	NANJING UNIVERSITY OF AERONAUTICS AND ASTRONAUTICS 南京航空航天大学
CHANGZHOU INSTITUTE OF TECHNOLOGY 常州工学院	CHANGZHOU UNIVERSITY 常州大学	SICHUAN UNIVERSITY 四川大学	SOUTHEAST UNIVERSITY 东南大学
Southwest Jiaotong University 西南交通大学	JIANGSU UNIVERSITY 江苏大学	Tsinghua University 清华大学	HOHAI UNIVERSITY 河海大学

Our Partners: Auto-makers & Heavy Vehicles



Our Partners: Automotive Tier 1



Our Partners : Non-auto Business



Patents & Regulations



- **300**+ patents

- Acoustic Vehicle Alerting System(AVAS) standard,
  - the 1st drafting organization
- Alert for Vehicle Turnning Right(AVTR) standard,
  - the 4th drafting organization

- The United Nation Quiet Road Transport Vehicles Irregular Working Group(UN QRTV)
- The United Nations Economic Commission for Europe Additional Sound Emission Provisions Working Group(UNECE ASEP)

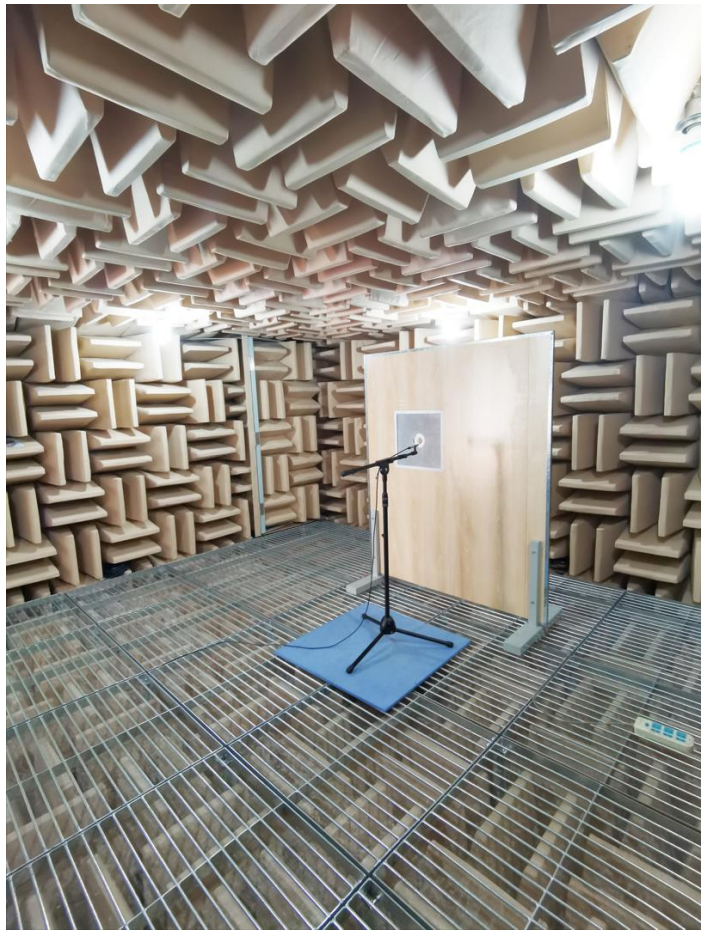
- National Technical Committee of Auto Standardization Commercial Vehicles Standard Research Working Group China Electronic Acoustic Department（CEAD）

ISO17025 Certified Lab by CNAS

Type-test Lab







Anechoic Chamber



Klippel Analyzer System



Soundcheck Test System

SMT Process / Workshop

- 1300 m² dust-free workshop, 4 fully-automatic SMT lines, 2 AI Processing lines
- Capacity: SMT：3 Mln point /day, AI：1 Mln pcs / day
- Process size: Passive components/0201，BGA & IC，Pitch≥ 0.3mm
- Size of PCBA：Max. 400×240mm， Min. 45×45mm
- Product Applications include: Automotive, Consumer Electronics, Industrial Control

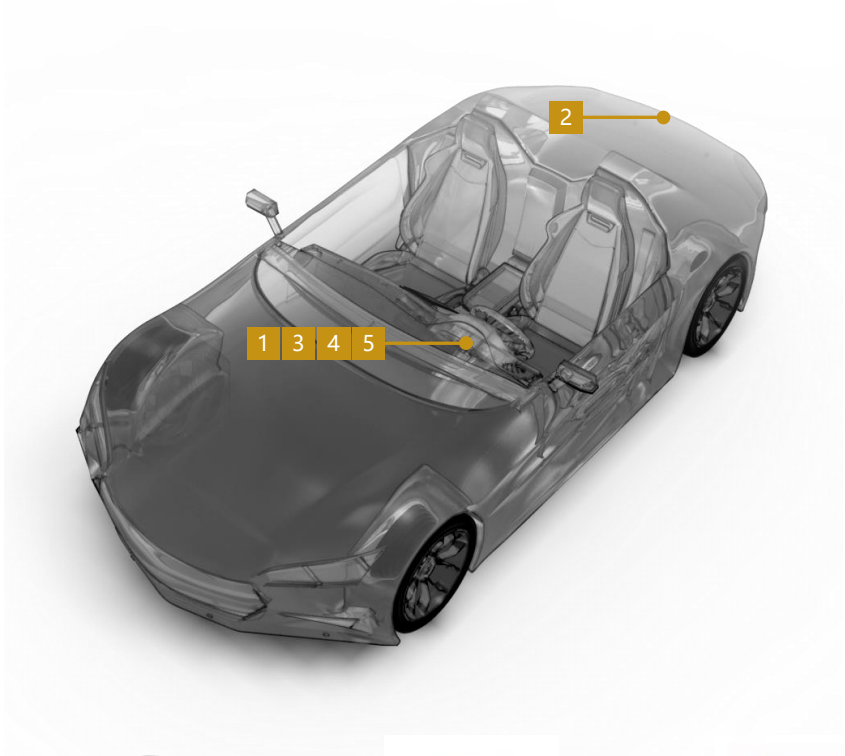


In-house Molding & Plastic Injection



- Mold Capabilities:
  10+ sets CNC machining center, mirror EDM, Precision Engraving Machine…
- **24** injection equipment, mass of plastic parts: 80~500g
- Monthly output:
  15+sets of molds,
  5 Million pieces of precision plastic injection parts.

Acoustic Solutions









1 Speaker



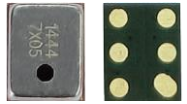
2 Buzzer



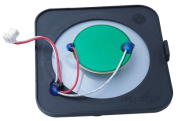
3 Microspeaker



4 ECM Microphone



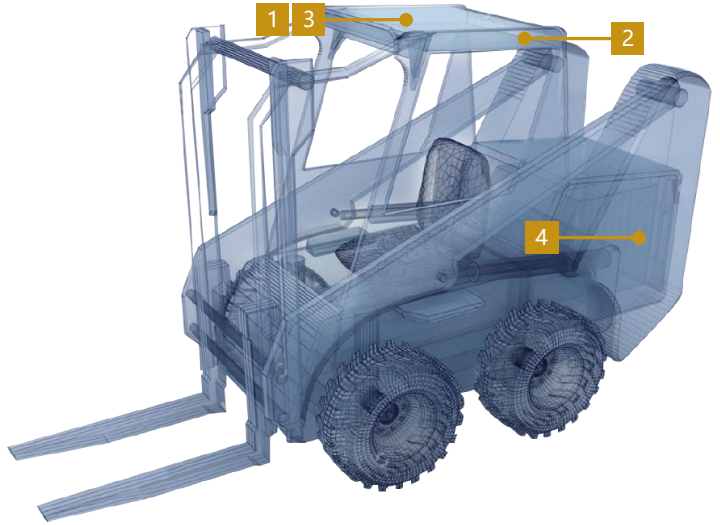
5 MEMS Microphone



6 Burglar Alarm

Signaling Device







1 AVAS



2 RTAS



3 Alarm



4 Beacon

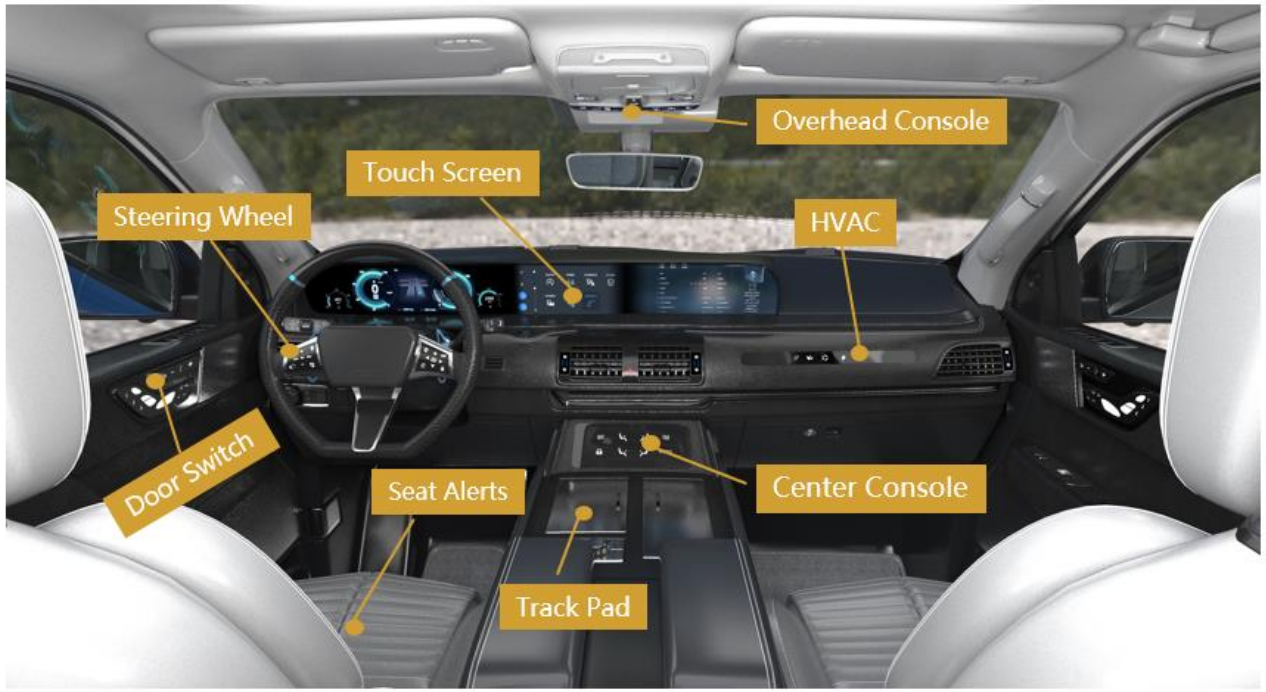


5 Working light



6 Flashlight

Haptic Feedback





1 Single layer piezo ceramic



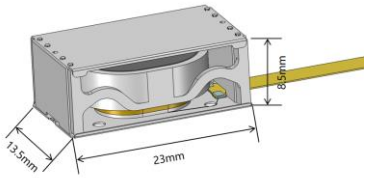
2 Multi-layer piezo ceramic



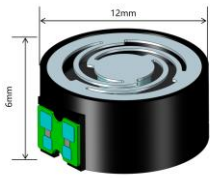
3 Linear Motor



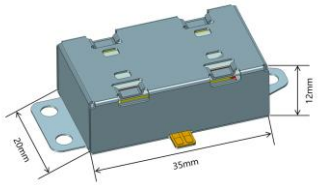
4 Voice Coil Exciter



5 Gen. 2nd Exciter



6 Light Duty Exciter



7 Heavy Duty Exciter

Acoustic Technologies

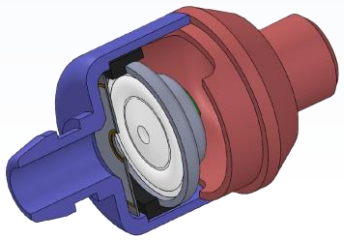


Buzzer/Burglar alarm assembly



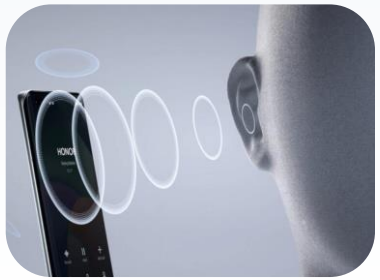


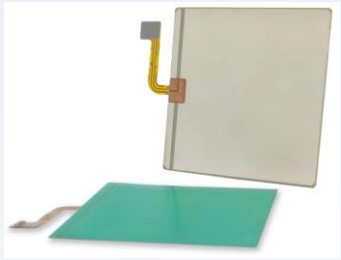
PZT Tweeter high frequency response enhancement for Earbud





AI Privacy call powered by directional sound technology for smart phone





Fullscreen Sound PZT solution for Ultrathin Laser TV

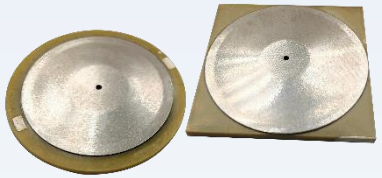


Haptic Piezo Actuators



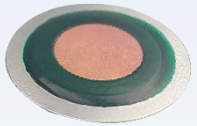
Pressure sensoring and tactile feedback for laptop trackpad





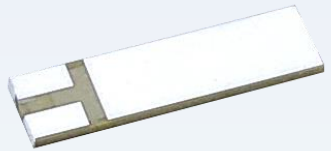
Smart display with haptic feedback for HVAC system





One-piece Magic Mouse with haptic feedback feature





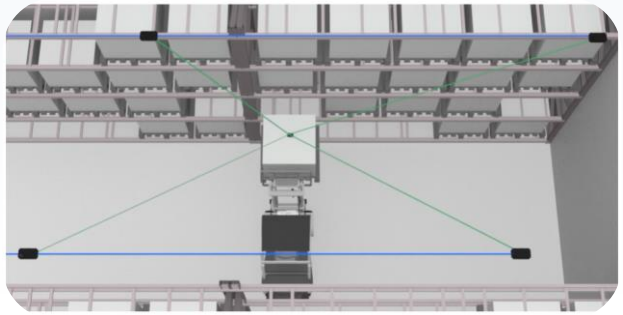
Improving gaming experience on Smartphones



Ultrasonic Transducers



Industrial detection or ranging system





Intelligent household smoke detection and alerting system.



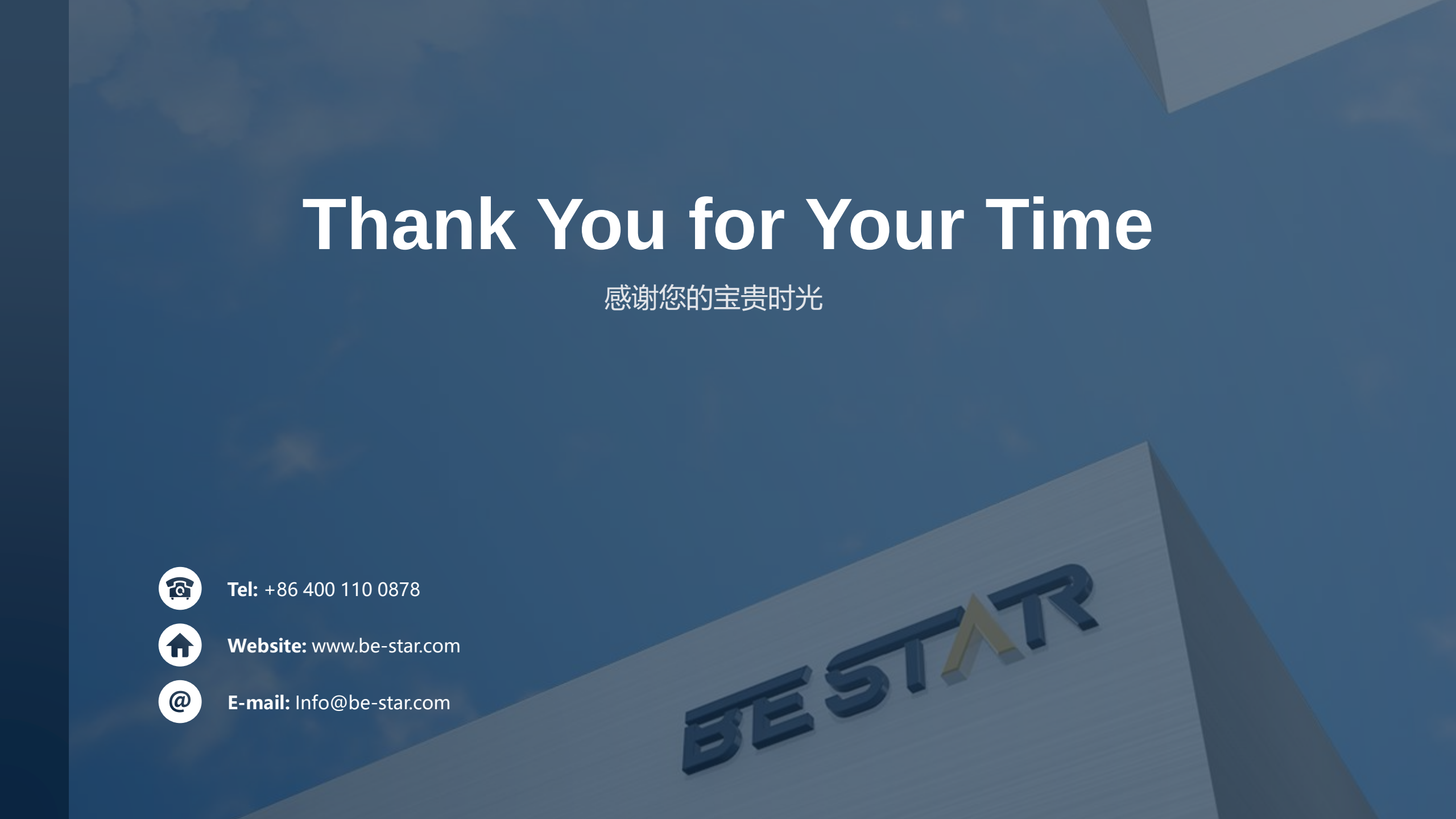


Self-parking / Reverse parking-assist system sensor



Thank You for Your Time

感谢您的宝贵时光



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