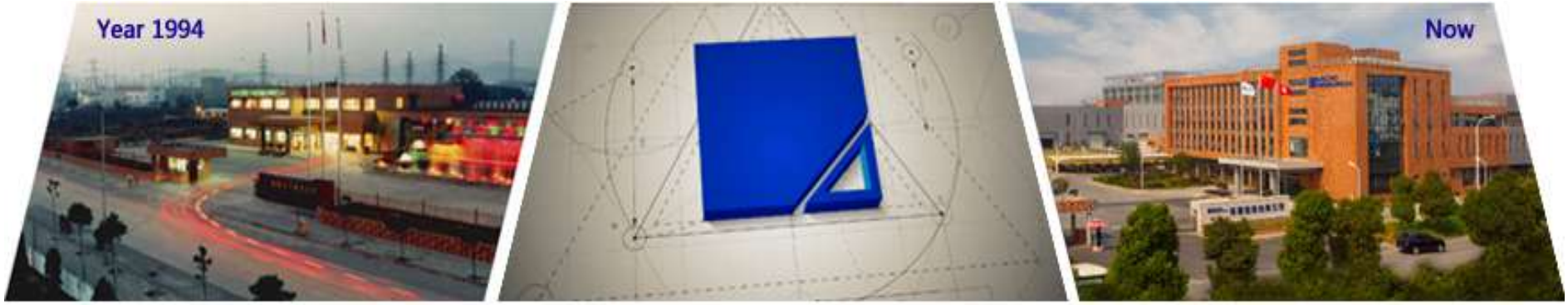
MICRO RESEARCH 微研股份

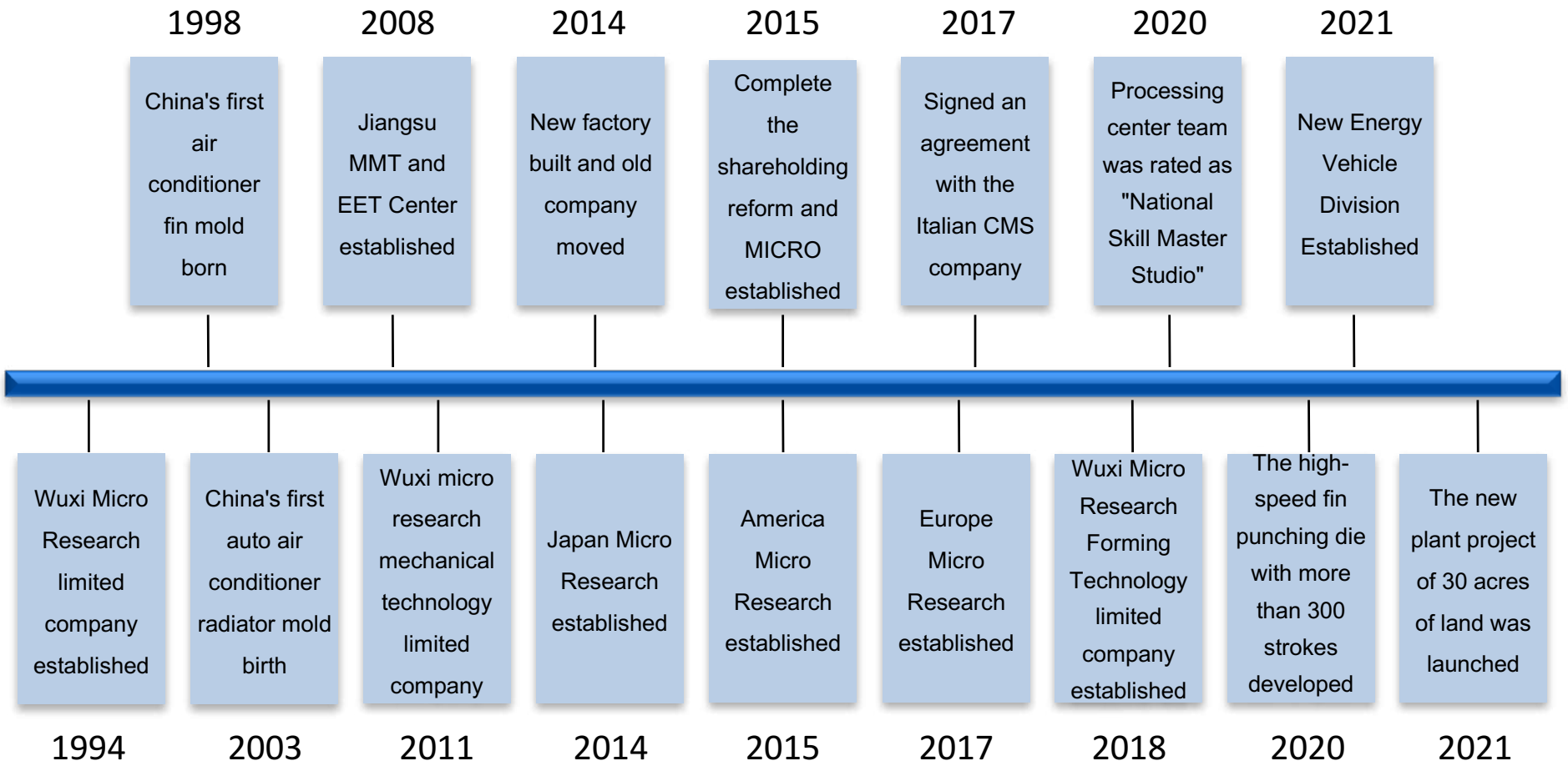
About Us

- Founded in 1994, Micro Research Co., Ltd. is a leading precision tool and die company with over 40 years of Japanese heritage of precision engineering and manufacturing
- For the past years, Micro Research dedicates itself to the precision and automated production needs of high-end heat exchanger, automotive and other industries
- One of the few manufacturers in the market that has the complete design, product development, manufacturing and global service capabilities
- Micro Research integrates R&D, design, production and technical services of precision molds and precision parts
- The brand “Micro Research” is synonymous with precision manufacturing
- The company's key products occupy a high market share and are leading in the international market
- With the ability to provide fast and local support to overseas clients with our global footprint

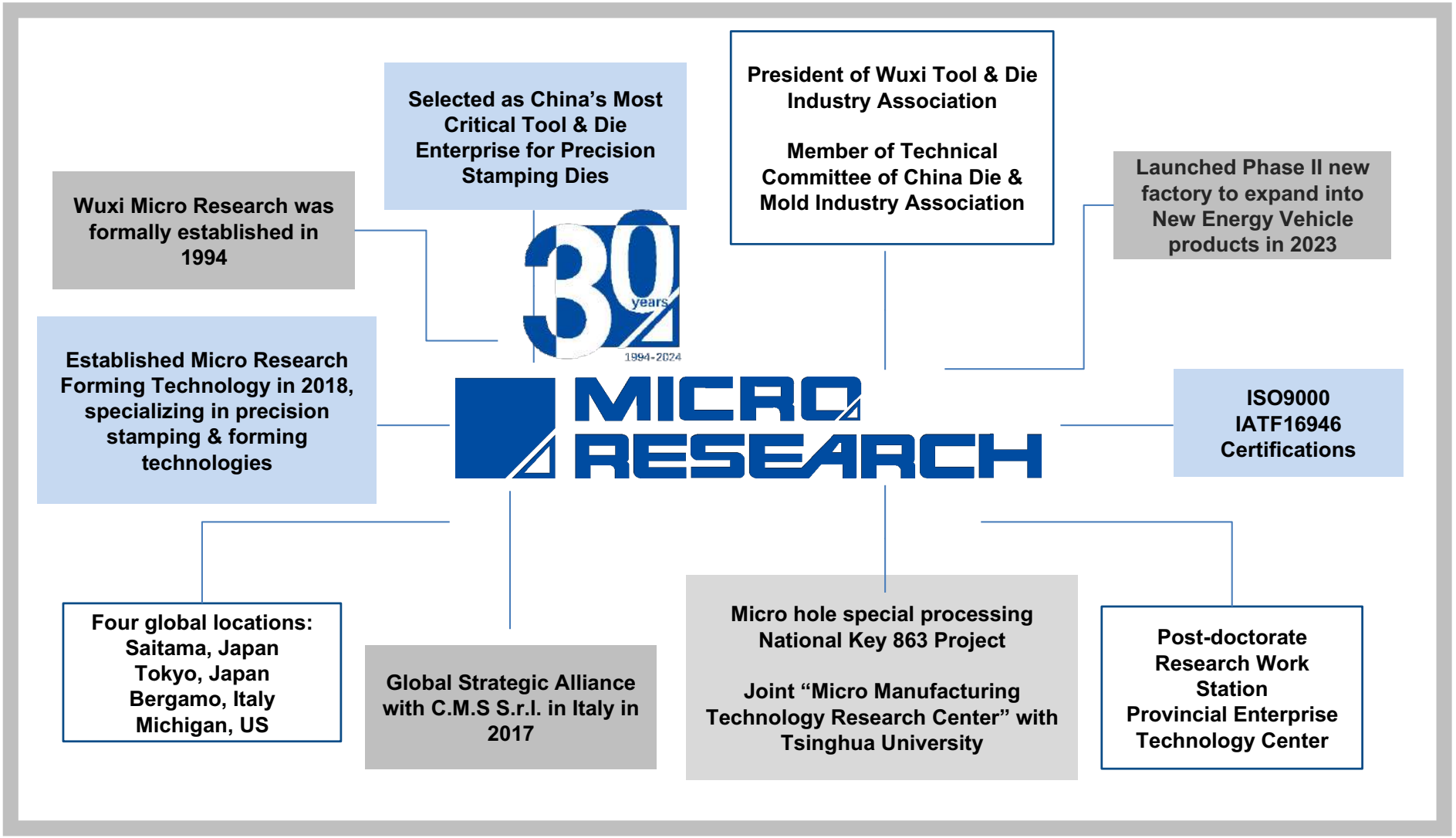


Development Path

1994-2021



Our Key Milestones



Our Vision and Values

Our vision is:

to build world-class precision manufacturing & engineering service company

Create values for our customers

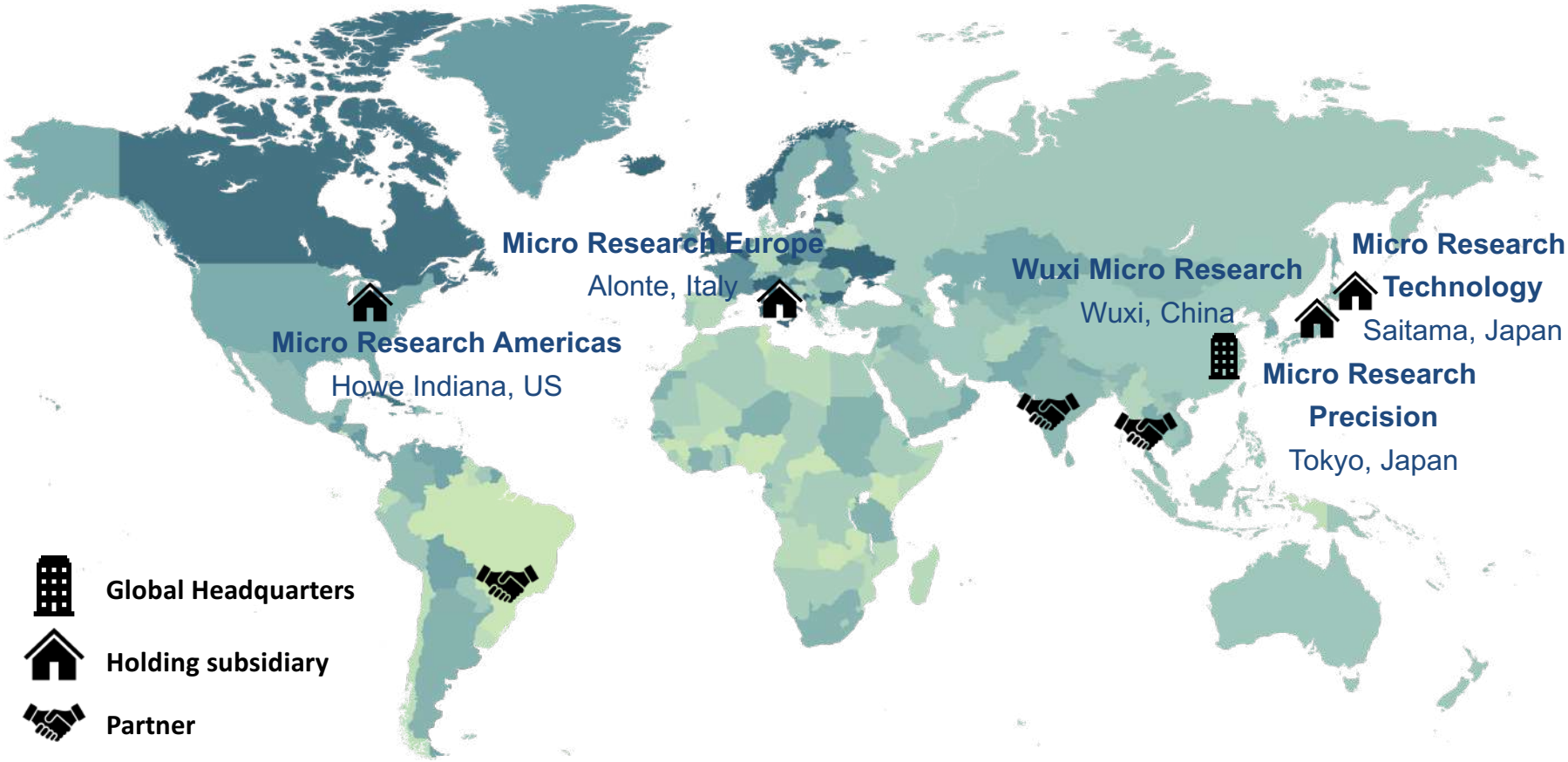
through our advanced technology, unparalleled quality, global support and services

Realize dreams for our employees

with Micro Research as a solid platform to promote happiness in their careers and families

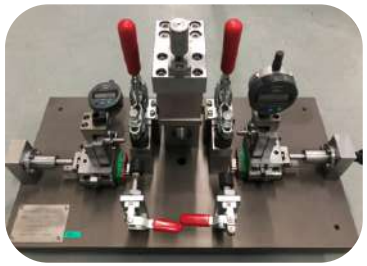
From Micro to Macro, Being Pragmatic and Focused

Our Global Footprints



The only international company with a global layout that can provide localized technical services to overseas customers.

Our Product Portfolio

Heat Exchanger Fin Dies	High Precision Automotive Dies	Spare Parts	Fixtures, Gauges & Specialized Equipment	Precision Stamping Products
				
• Residential • Commercial • Refrigeration • Automotive • Specialty use • Etc.	• Seat tracks • Oil coolers • Timing chains • Motor laminations • Deep drawn progressive dies	• Precision parts for tools • Precision parts for production lines • Precision aerospace parts	• Precision fixtures • Customized gauges • Automation system and tooling • Special Micro Milling EDM	• Precision deep drawing Parts • Precision high speed stamping parts • Side piercing forming parts

Air Conditioning Fin Dies

Application

- Residential, commercial, & automotive
- Off road vehicles and trains
- Refrigeration, marine, power plants, etc.

Technology

- Thick and combination fin stock materials
- High collars, complex notching & enhancements
- Ironing technology for improved performance
- Automated & smart die features

Product Range

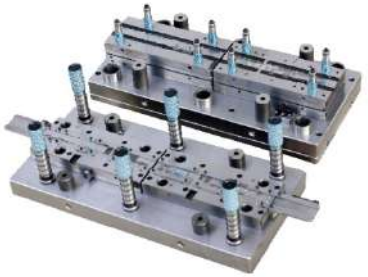
- Min. Φ4.2mm to max. Φ26mm
- Fin stock thickness from 0.09mm to 0.6mm
- Aluminum, copper, steel, Almg material
- Ironed fins, arc fins, oval tube fins, flat tube fins

Micro Research occupies over 50% of the China market and increasing share in the global market.

Precision Transfer & Progressive Dies

Application

- Automotive seat systems, powertrain systems, heat exchange systems
- Electronic connectors, motor core
- Other general purpose stamping



Technology

- High-speed progressive dies up to 1200 spm
- Multi-function compound progressive dies
- Progressive dies for transfer lines
- Ironing and forming technology for high-strength steel, aluminum and other alloys

Product Range

- Seat tracks, recliners
- New energy motors, motor casings, battery plates, retaining rings, latches
- EGR housing, ECU covers, oil cooler housing, base plates and inner fins

Micro Research is one of the very few tool makers that can design, manufacturer and service dies equivalent to those from western countries.

Precision Parts for Tools

Application

- High speed progressive dies up to 300~1200spm
- Fine blanking dies & other precision dies
- High-strength carbide alloy stamping dies

Technology

- Roughness up to Ra0.05
- Dimensional precision up to 1μ
- Contour accuracy up to 5μ
- Process control techniques for coated precision parts

Product Range

- Round, square, special shape piecing parts and drawing parts
- High-speed steel, powder metallurgy steel, carbide-alloy parts
- PVD Coating, Heat Treatment

Customized Precision Parts for Various Tools

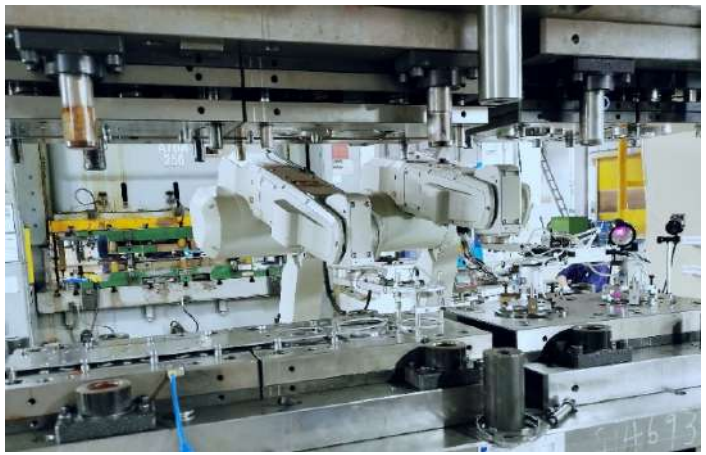
Micro Research New Energy Technology Co.

- **Micro Research started production of precision stamping parts since 2008, serving global leading automotive suppliers**
- **In 2015, we formally set up Micro Research stamping operation as a wholly owned subsidiary, solely focusing on the production of high precision automotive stamping parts**
- **Now, Micro Research as been IATF16949 certified, as well as ISO9000 and ISO14000 certified to provide quality and conformity to customers**

Leveraging on 30 years of precision tool & die capabilities, combined with competency in automation and robotics, Micro Research can provide customers with total solutions from product design through mass production.

MR NE Technology Equipment & Process

- Aida, Chingfang, Yadon， 60 ton、 110 ton、 200 ton、 250 ton、 300 ton、 500 ton presses
- Hydraulic and mechanical press; single body and multi body high performance presses
- Thick material, multi-functional leveling and feeding equipment
- High-speed lamination stamping line
- Robotic production line
- Full range, high precision testing and measuring equipment
- Hydrocarbon cleaning line



Micro Research will continuously invest in the precision stamping business, increasing our production capacity and improving process technology.

Precision Stamping Product Technology & Features

- High precision progressive stamping technology
- Single station multi-stage; multi station multi-stage transfer stamping technology
- Precision progressive deep draw forming technology
- Multi-chamfer and multi-angle one-step forming technology

Applications in automotive seating, heat exchange, synchronizer, electric motors, shock absorption, emission, electronics, etc. systems.

Case Study: Electronic Vacuum Pump Motor Assembly

Application

- Liquid, gas, coolant and other liquid circulation for traditional and electronic vehicles
- Automotive braking, power steering, seat adjustment, cooling, preheating, refrigeration, air circulation systems etc.
- Motor housings and core laminations can be widely applied in any types of micro-pumps and motors

Technology

- The concentricity of the assembly is required to be within 0.03mm, and the verticality and flatness are required to be less than 0.05mm
- The thickness of the shell material is more than 2.2mm, and the aspect ratio is more than 2:1
- The tolerance for the center hole of lamination is within 5μm

Solution

- Multi-station transfer die, with multiple Mitsubishi robots for automatic production
- The key tooling of the die are speced with high quality carbide materials
- Automatic appearance inspection ensures quality and efficiency

Case Study: Gearbox Synchronizing Ring

Application	• Synchronizer rings and synchronizer assemblies are key components of the gearbox • Used in manual transmissions, automatic transmissions, dual clutch transmissions and hybrid transmissions
Technology	• Unique stamping technology replaces traditional machining process • Product performance requires tapering angle to be within 5^{o}, tapering depth below 0.05mm • Surface roughness must be below Ra0.4
Solution	• Progressive die with robotics • Realtime high-definition camera to monitor the surface stamping marks

EV Heat Exchanger Product Series - Key Components

Oil cooler series

Plate heat exchanger series

EGR series

End panel series

Battery pack cooling series

Investment for the Future

The second phase of the factory is completed

- 10,000 square meters of modern workshop
- Complete office, quality, warehousing, logistics, environmental protection and other facilities
- Expected to invest more than 40 press lines from 100 ton to 1000 ton presses
- More than 20 precision machining equipment
- Budgetary investment over 200-300 million yuan

Micro Research will focus on high-precision, key components for new energy vehicles

The MR Advantage

World leading market share with core technology

01

02

Technological Leadership First-class R&D and Innovation Capabilities

Product and Quality Excellence

03

Progressive Management Team

05

04

Flexible, Real Time and Global Service

World Leading Market Share with Core Technology

Rated as a National “Specialized, Precision, and Innovative Little Giant" enterprise in 2022

MR set the industry standard for fin dies, with a leading market share of 50% domestically and market share of 30% internationally

MR was the first to develop the seat track dies in China. It is a perennial partner of the world leading car and chair manufacturers Adient, Lear and Faurecia

The micro-milling EDM machine employes six-axis mechanism to achieve reverse tapered hole processing technology, successfully replacing imports

Registered trademarks in 4 major categories in China, and registered trademarks in EU, North America, Brazil, Japan, India and other countries and regions

Technological Leadership
First-class R&D and Innovation Capabilities

30 years of knowhow in tool and die R&D, with award winning experience in high speed progressive dies, high-strength material sheet metal dies, and deep drawn dies

Awarded over 100 patents, including 29 invention patents, 78 utility patents, and one authorized PCT international patent.

30 member research and engineering staff with dedicated resources to partner with customers in development

Set the China's high-efficiency heat exchanger fin die technical industry standard at national level

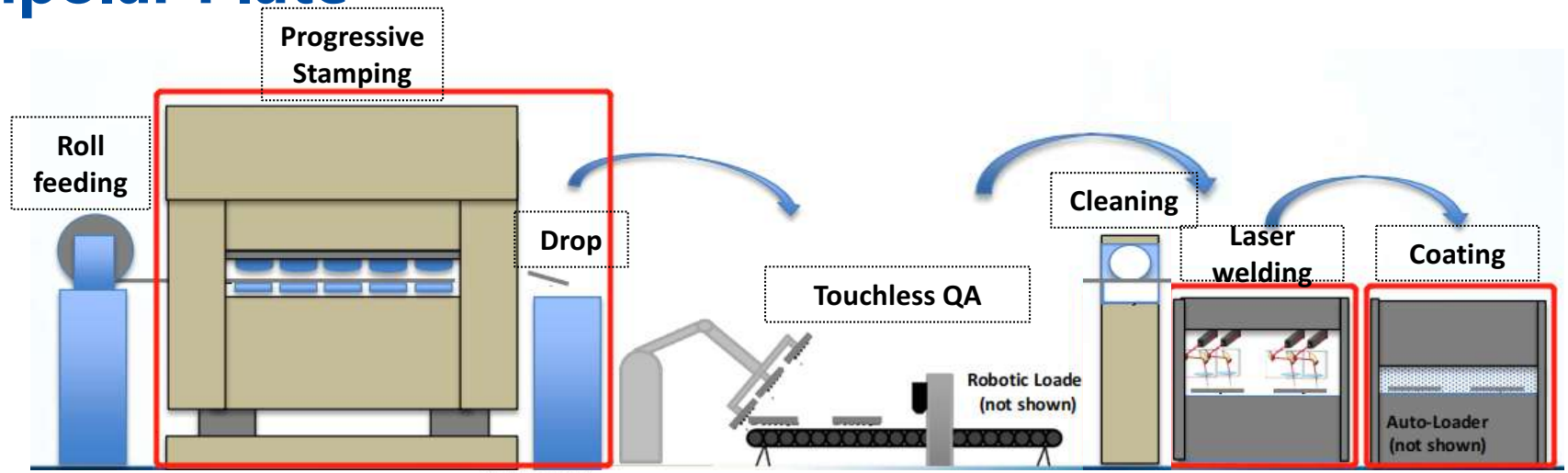
Housing a provincial-level enterprise technology center, a provincial-level equipment engineering technology research center, and a post-doctoral workstation, and has been recognized as a critical tool and die enterprise in China

Product & Quality Excellence Ensured by Our Process

- More than 100 sets of imported precision CNC equipment to ensure micron-level accuracy
- 7000 square meters of temperature and humidity controlled environment, covering the whole process of grinding, milling, lathing, EDM etc to ensure product quality
- Modern OA-ERP-PDM-MES integrated information and production planning system to ensure efficient and accurate management of work flows
- National level Mater of Skills workshop, with 12 middle and senior engineers and 44 middle and senior technicians
- Deep rooted Japanese quality culture with strictly implemented continuous improvement and 6S quality management system

Our Global Customers

Unique Development in Hydrogen Fuel Cell Bipolar Plate



国 家 知 识 产 权 局

100036

北京市海淀区莲花池东路 39 号西金大厦 6 层西侧 605 室
北京晶源专利代理有限公司 马笑雨(010-63377266)

发文日：

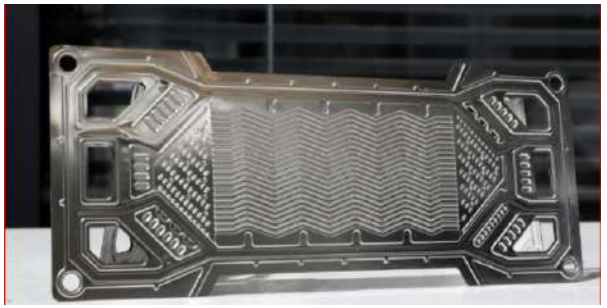
2021 年 10 月 21 日

申请号或专利号：202111226711.7　　发文序号：2021102102101640

专 利 申 请 受 理 通 知 书

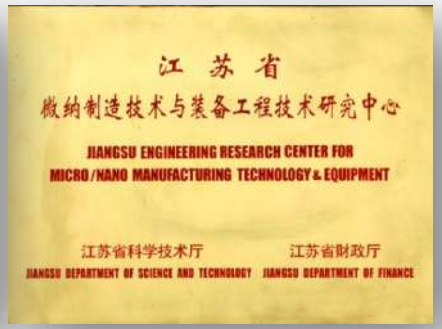
根据专利法第 28 条及其实施细则第 38 条、第 39 条的规定，申请人提出的专利申请已由国家知识产权局受理。现将确定的申请号、申请日、申请人和发明创造名称通知如下：

申请号：202111226711.7
申请日：2021 年 10 月 21 日
申请人：无锡微研股份有限公
发明创造名称：一种氢能源电



Micro Research has been awarded 4 patents in this technology and is ready for small scale production

Honors and Qualifications



Advanced Machining Equipment

High Speed CNC
Manufacturer: MIKRON
Origin: Switzerland
Speed: Main Shaft 42000 RPM
Usage: Hard milling up to HRC 65

CNC Profile Grinder
Manufacturer: WASINO
Origin: Japan
Parameters: magnify 50x with 2μm precision

CNC Surface Grinder
Manufacturer: AMADA
Origin: Japan
Param: 3-axis movement, 0.5μm light curtain

CNC JIG Grinder
Manufacturer: HAUSER
Origin: Switzerland
Param: Main shaft 25000 RPM, location precision 1μm

Wire Cutting
Manufacturer: AGIE CHARMILLES
Origin: Switzerland
Parameters: ϕ0.05mm wire with 2μm precision, best roughness Ra0.05

CNC Circular Grinder
Manufacturer: STUDER
Origin: Switzerland
Param: 0.001-5000 mm/min, Resolution 0.0001m

Gantry Machining Center
Manufacturer: STUDER
Origin: Switzerland
Param: 0.001-5000 mm/min, Resolution 0.0001m

Inspection Equipment
Manufacturer: Zeiss, Mitsutoyo, Schneider, Nikon
Equipment: CMM, projector, tooling microscope, profiler, height tester, image measuring equipment, etc.

From Micro to Macro
Being Pragmatic and Focused

无锡微研股份有限公司
中国江苏省无锡市胡埭产业园
冬青路19号
邮编：214161
电话：+86-0510-85163235
传真：+86-0510-85166665
邮箱：wxmr@wxmr.com
网址：www.wxmr.com

株式会社マイクロリサーチ
プレシジョン
東京都八王子市下恩方町
793-1
〒192-0154
TEL ：+81-042-659-2783
FAX：+81-042-659-2784
Email：wxmr@wxmr.com
Web：ja.wxmr.com

Micro Research Americas
（U.S.A）
11116 W Little York Road，
Building 3
Houston，TX 77047
Tel：+1-269-501-0887
E-mail：wxmr@wxmr.com
Web：en.wxmr.com

Micro Research Europe
Research Institute S.r.l
Corso Cavour N.2, 28100
Novara, Italy
Tel:+39-391-499-8343
E-mail：wxmr@wxmr.com
Web: www.microresearch.com