

KONNRA® konnra connector

Connect the world, create the future



2024

KONNRA

PROFILE

Leading connector
solutions provider

WWW.KONNRA.COM.CN
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Company Introduction



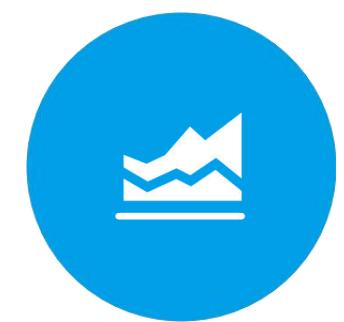


DONGGUAN KONNRA ELECTRONICS CO., LTD.

Dongguan Konnra Connector Co., Ltd. was established in 2004 and is a high-tech enterprise specializing in connector research and development, production, and sales. The company currently has precision mold design&manufacturing, automated design&manufacturing, precision injection molding&stamping, and CCD inspection centers. Konnra is committed to providing customers with the best connection solutions and strives to become the preferred supplier of connectors worldwide.



20 years of
connector R&D
and production



factory
area:40000m²



50+
connector
R&D patents



The company's
employee size
has reached 400
people

Leading connector solutions provider

Three major production bases



Connector, wiring harness production base

Area: 30000m²
Employee: 270+

Dongguan·Wangniudun



Wiring harness production base

Area: 7600m²
Employee: 70+

Dongguan·Chang'An



Wiring harness production base

Area: 2600m²
Employee: 60+

Hunan·Daoxian

Production base

PI-PD

1

We have more than 40 sets of FANUC high-precision plastic injection molding machines, together with hot runner molds.



Stamping workshop

2

The workshop is equipped with advanced stamping equipment, all kinds of metal sheets are made into various parts through stamping process.



Mold Development

3

Senior engineers lead the product mold design and production, strictly control the mold life.



Note: Space is limited, only part of the workshop is shown; if you need to know more, welcome to visit our company for a site visit.

Leading connector solutions provider

Production base



4

Assembly workshop

The Automation Engineer guides the automation shop to collaborate on production and continuously optimize the automation process during regular production.



5

CCD inspection workshop

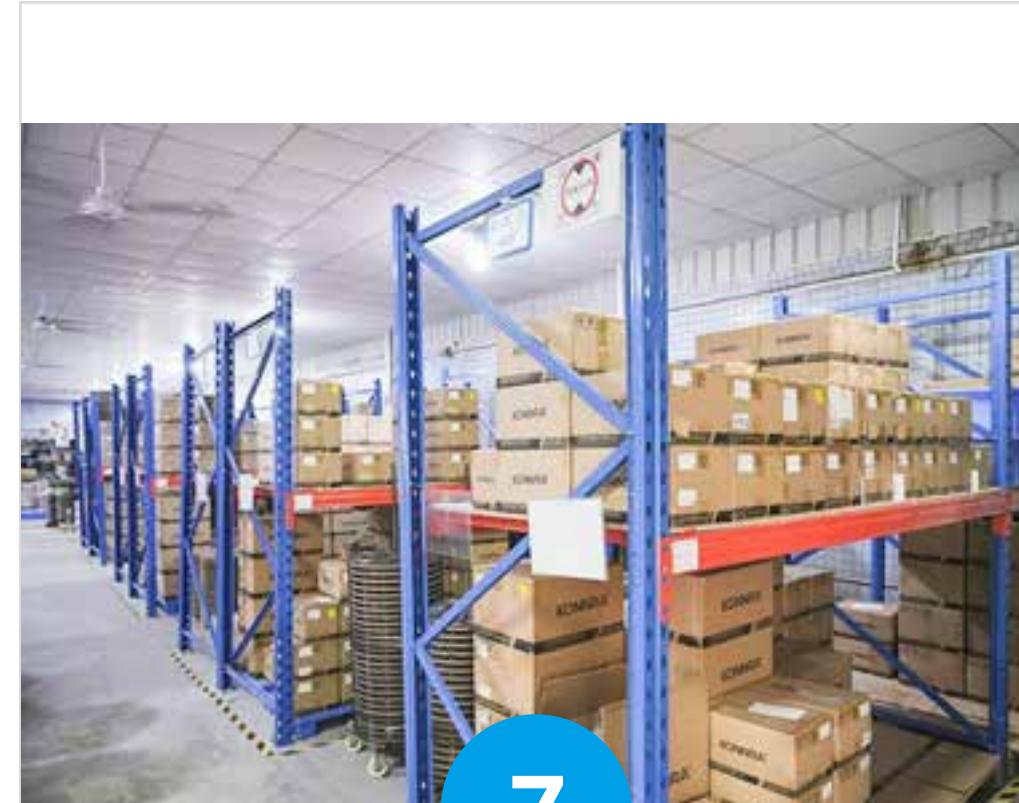
There are more than 60 sets of CCD fully-intelligent detectors, which have the advantages of high sensitivity, high precision, high resolution and fast response.



6

Wire Harness Workshop

Mainly produces automotive wiring harnesses, cables, connector products and components.



7

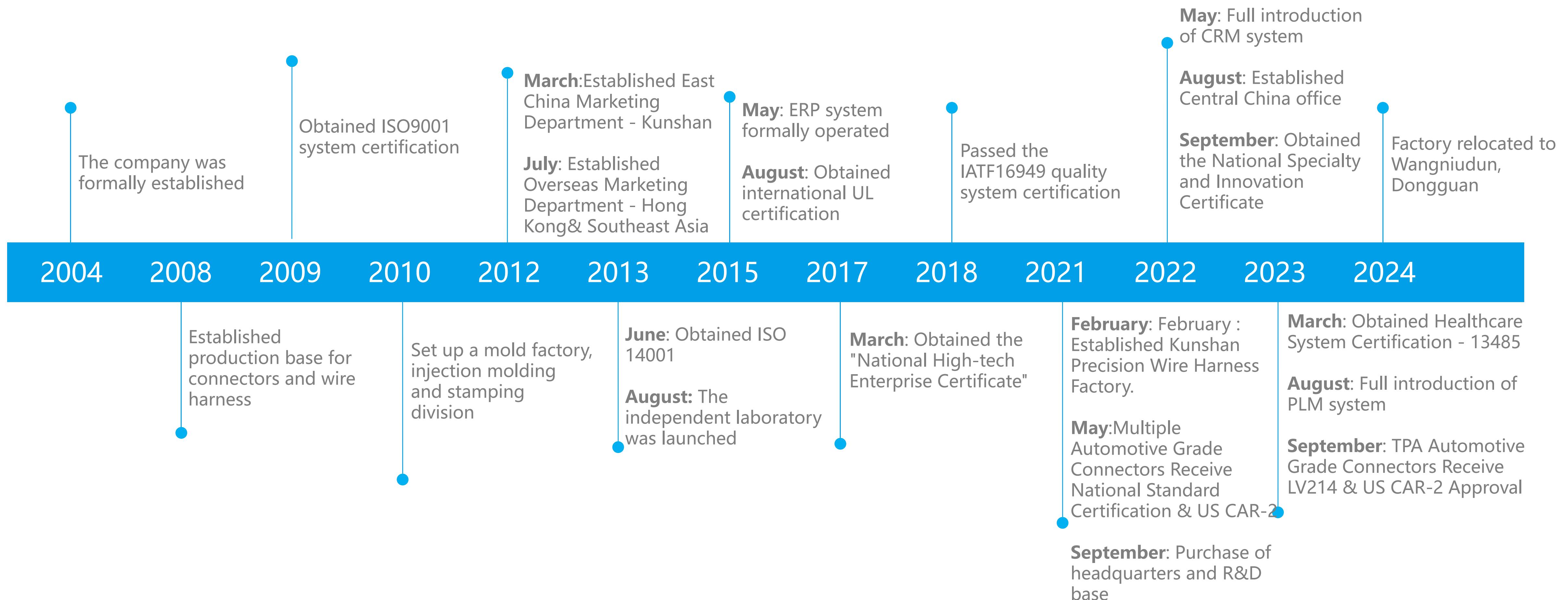
Large comprehensive warehouse

Warehouse storage of raw materials and finished connector products ensures high speed production response and guarantees order delivery.

Note: Space is limited, only part of the workshop is shown; if you need to know more, welcome to visit our company for a site visit.

Leading connector solutions provider

2004-2024



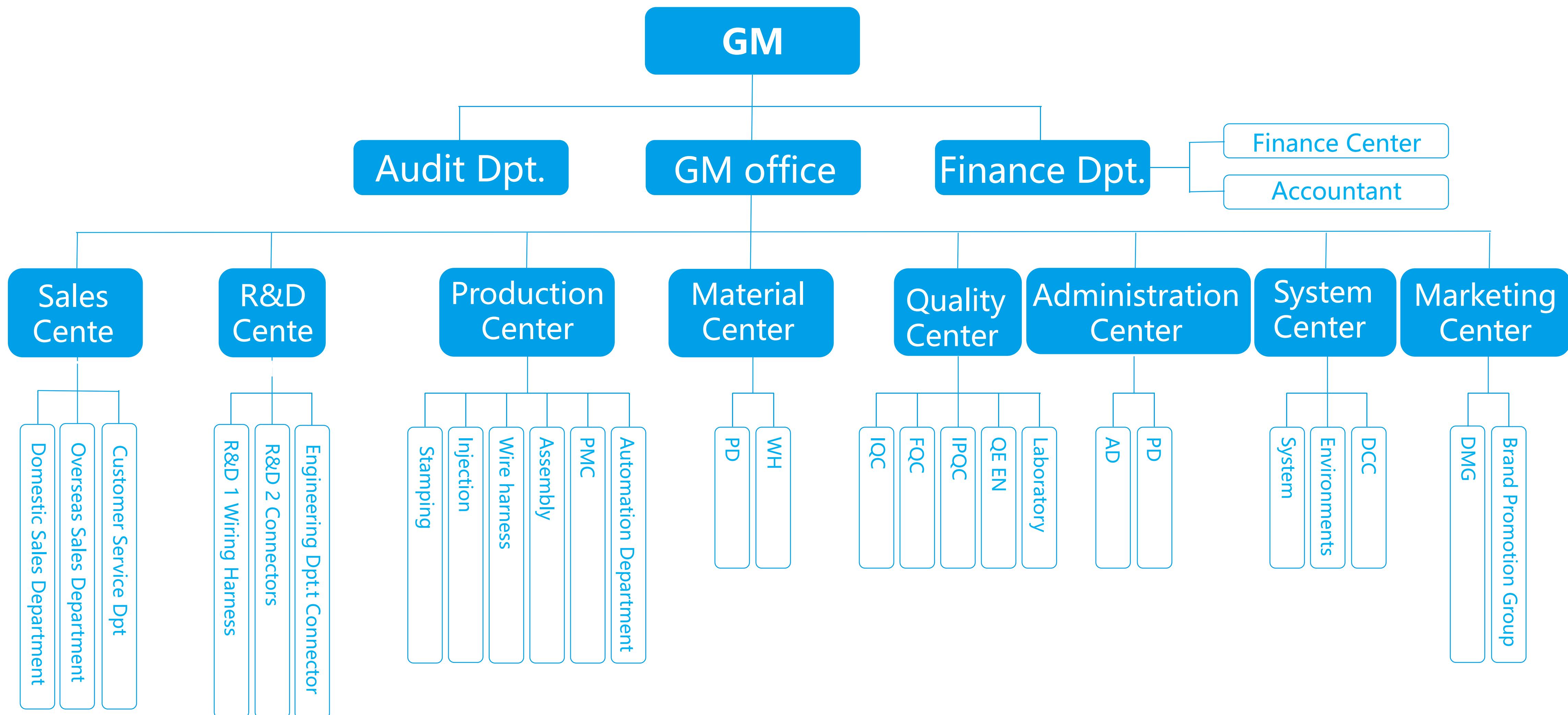


Wangniudun, Dongguan - Konnra headquarters

- 📍 **Wangniudun, Dongguan**
Dongguan Konnra Electronics Co.,LTD.
- 📍 **Chongqing**
Chongqing Konnra Electronics Co.,LTD.
- 📍 **Daoxian, Hunan**
Daoxian Konnra Electronics Co.,LTD.
- 📍 **Shenzhen**
Shenzhen Konnra Precision Components Co.,LTD.
- 📍 **Shanghai**
Shanghai Konnra Electronics Co.,LTD.
- 📍 **Zhengzhou, Henan**
Zhengzhou Konnra Electronics Co.,LTD.
- 📍 **Kunshan, Jiangsu**
Kunshan Kangchuang Connector Co.,LTD.

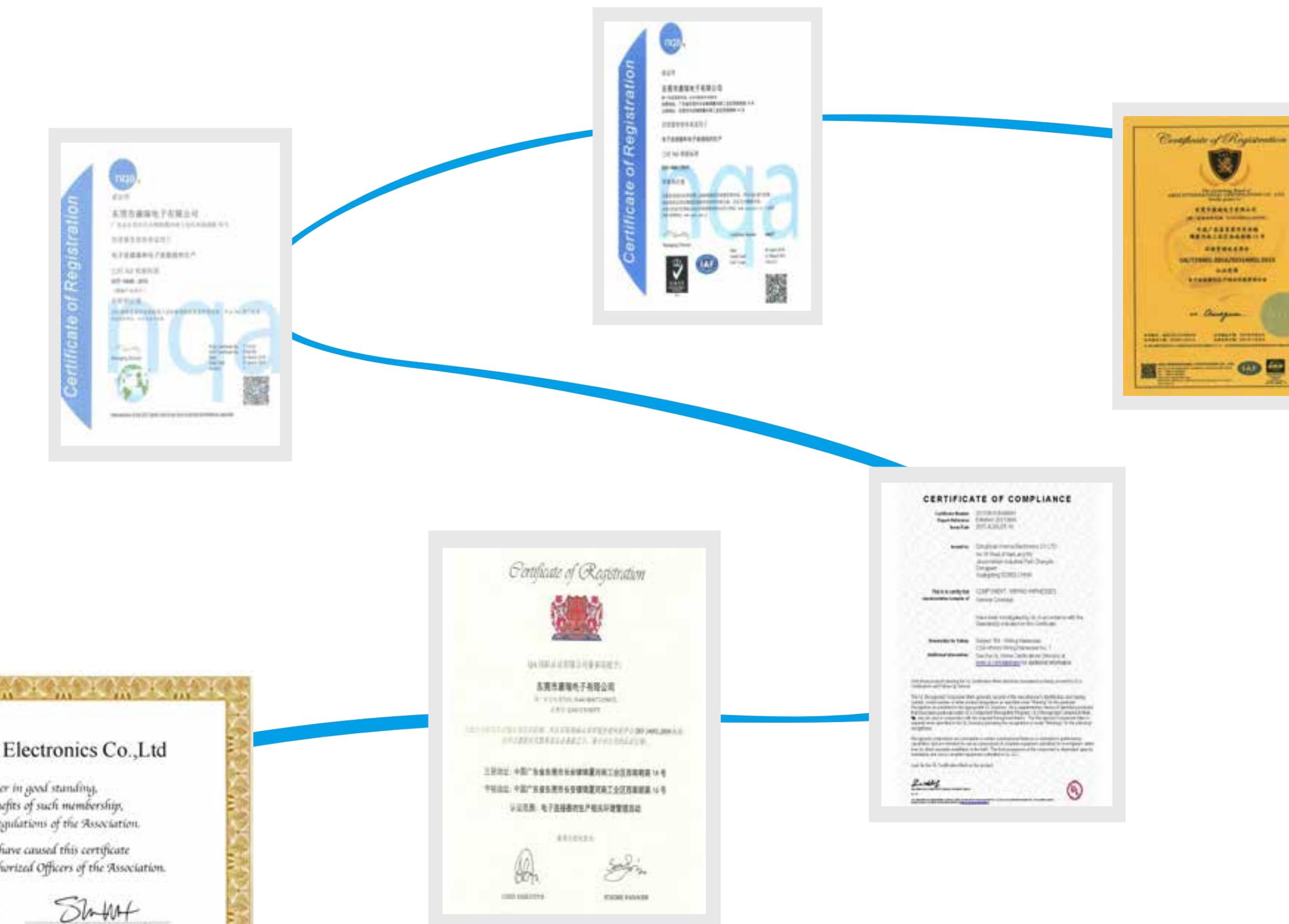
Organizational Structure

KONNRA®



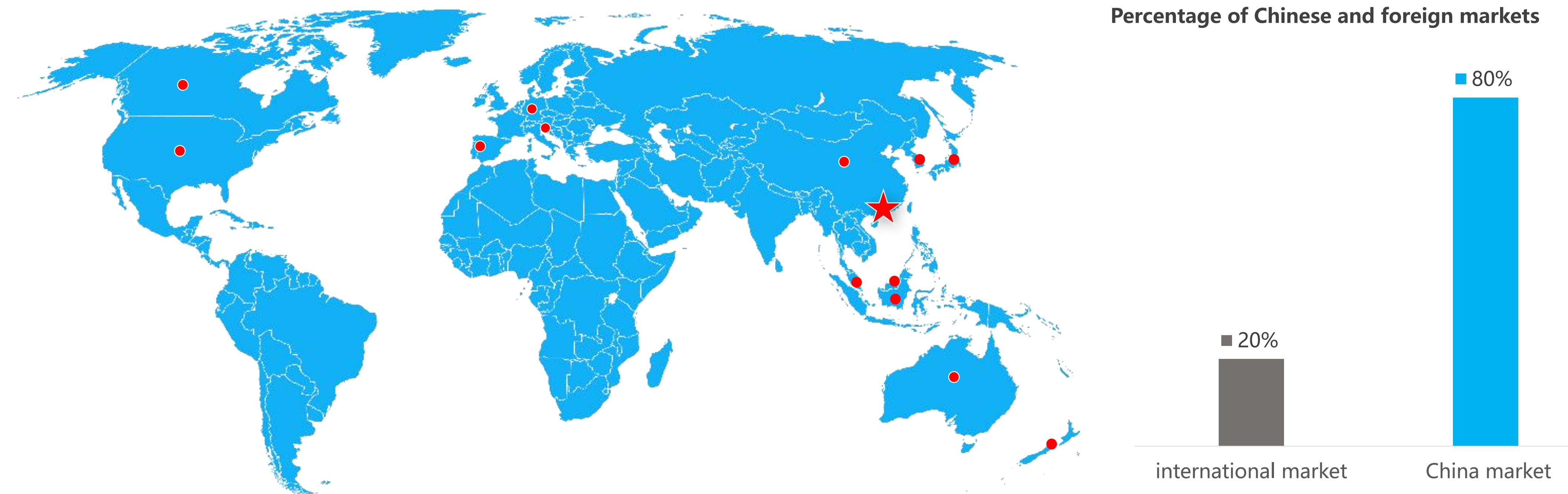
20 years of experience Trustworthy

National High-tech Enterprises Member of Dongguan Internet Chamber of Advanced Units for Public Welfare Business Credit Enterprise Certification
UL product safety certification and business safety certification ISO9001 Product Quality System Certification
ISO14001 Environmental management system certification IATF16949 Automobile Quality System Certification ISO13458 IPC620, etc



Market Distribution

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	China		USA		Canada		Australia		New Zealand		Germany		Italy
			Spain		Japan		Korea		Malaysia		Singapore		India

Leading connector solutions provider

Win-Win Cooperation

Our company adheres to the "customer first, win-win cooperation" business philosophy, in order to better provide customers with quality service.



6 Advantages Cooperation is more assured

Ecological chain

Owned vertical ecosystem of molds, automation, injection molding, stamping, assembly, CCD, and wiring harnesses.

Efficient sampling

Rely on the universal mold frame design fast response - complete set of connectors 45 days out of the sample

automation

Automation coverage of 95% or more, reducing labor fatigue & personnel costs, improving production efficiency and enhancing quality.



Delivery guarantee

Covering the country's production base, according to the customer's market demand reserve stable and safe inventory, shorten the delivery cycle

Wide range

Wide range of products for different industry areas

CCD full inspection

100% CCD inspection for all series of automotive connectors

R&D Capability

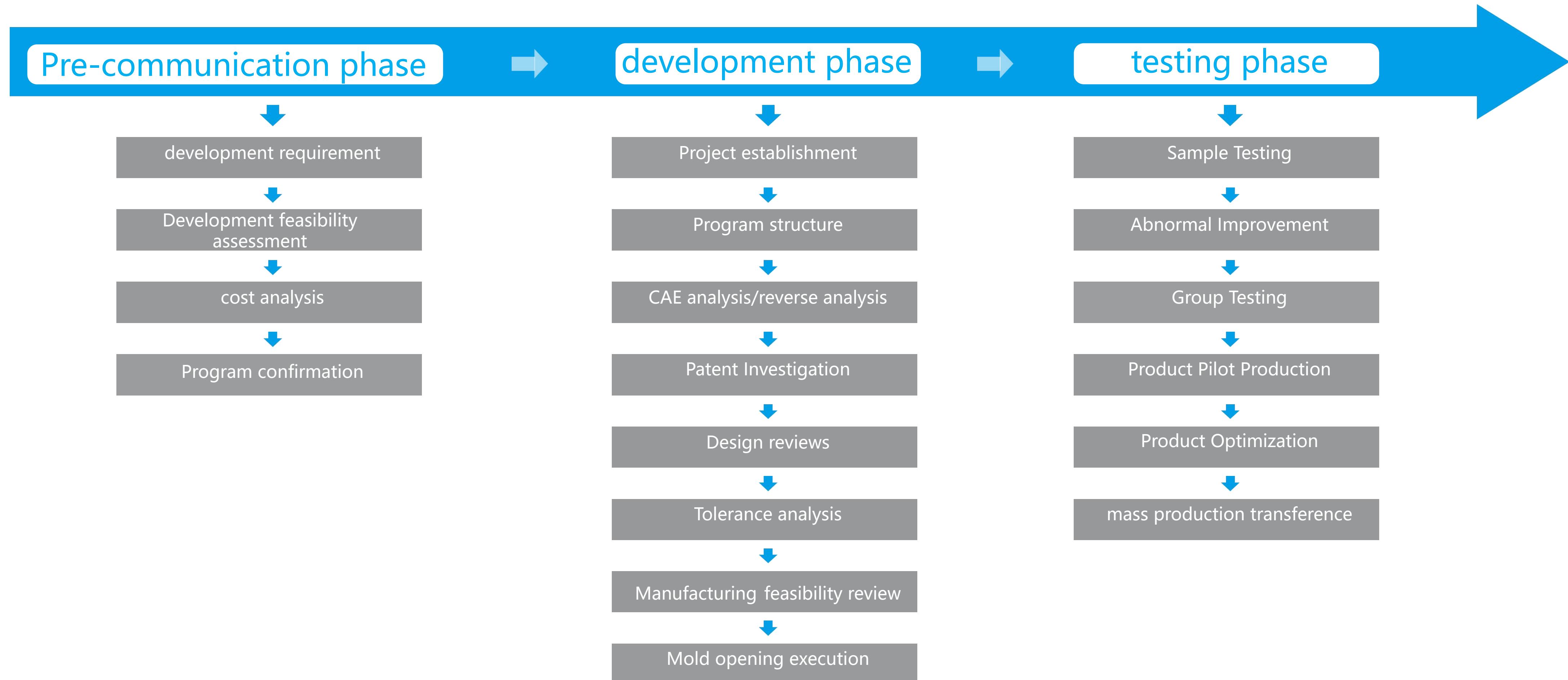




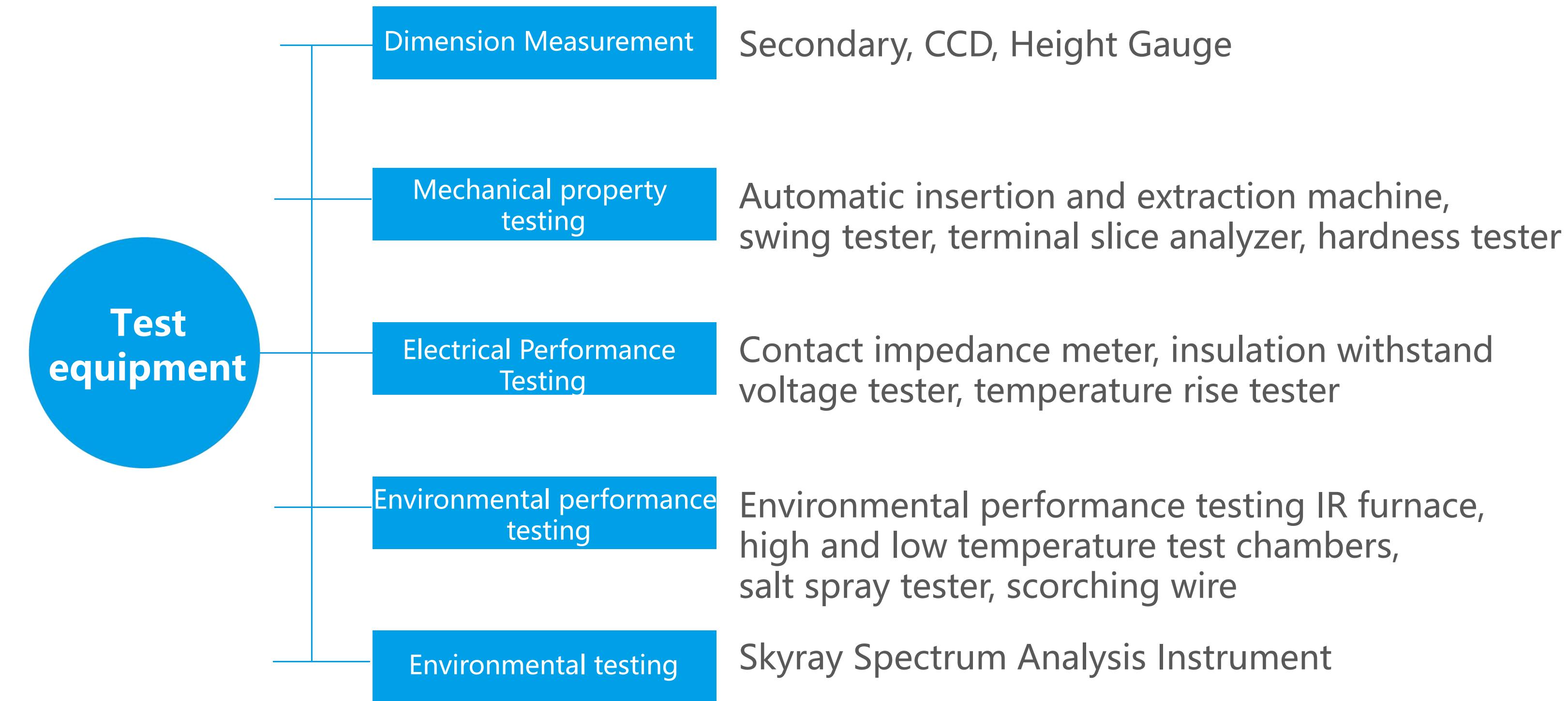
More than 20 years R&D investment
of connector R&D 5.6% of total
experience turnover

More than 50
R&D patents

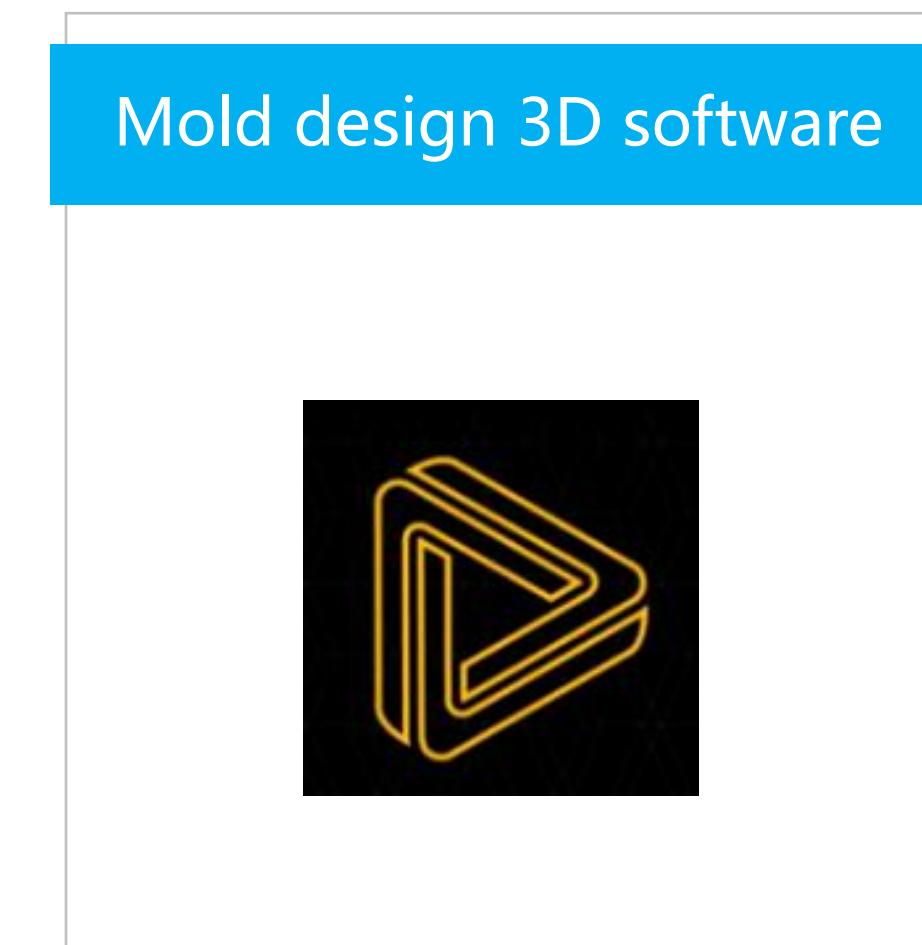
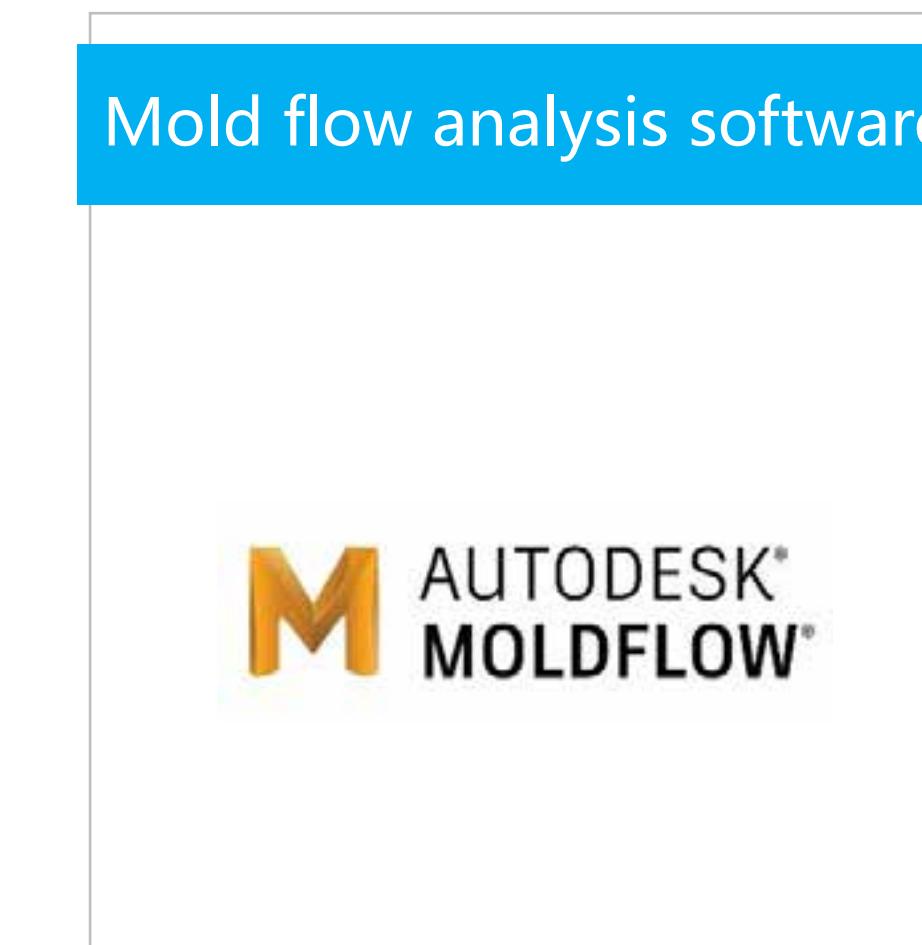
The company has gathered a large number of senior R&D and testing personnel who are deeply engaged in the fields of automotive, new energy storage, consumer electronics, data centers, industrial equipment, medical equipment and so on. Among them, there are 30 R&D personnel, accounting for 10% of the total number of employees. With the vision of "Leading Connector Solution Provider", Conqueror is continuously increasing its investment in R&D and equipment. The hardware and software equipment covers reverse analysis, R&D and design, mold manufacturing, functional testing, with the ability to design according to market demand and customize according to customer requirements.



The company has an independent laboratory, all kinds of precision routine testing, mechanical performance testing, electrical performance testing, environmental performance testing and environmental protection testing equipment totaling 36 units.



Product design and mold design software covers all scenario requirements, giving full play to the software's respective features and advantages.



UG8.5

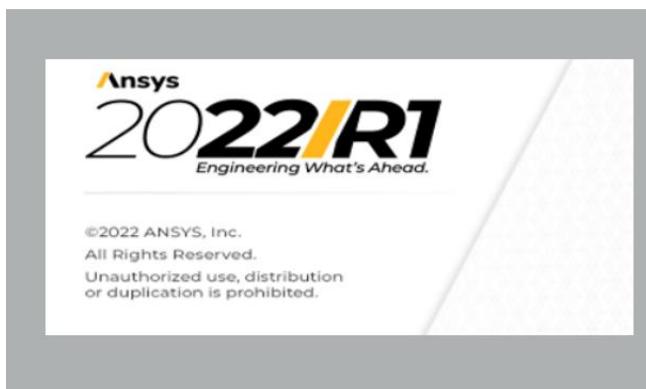
SOLIDWORKS 2015

Autodesk Moldflow

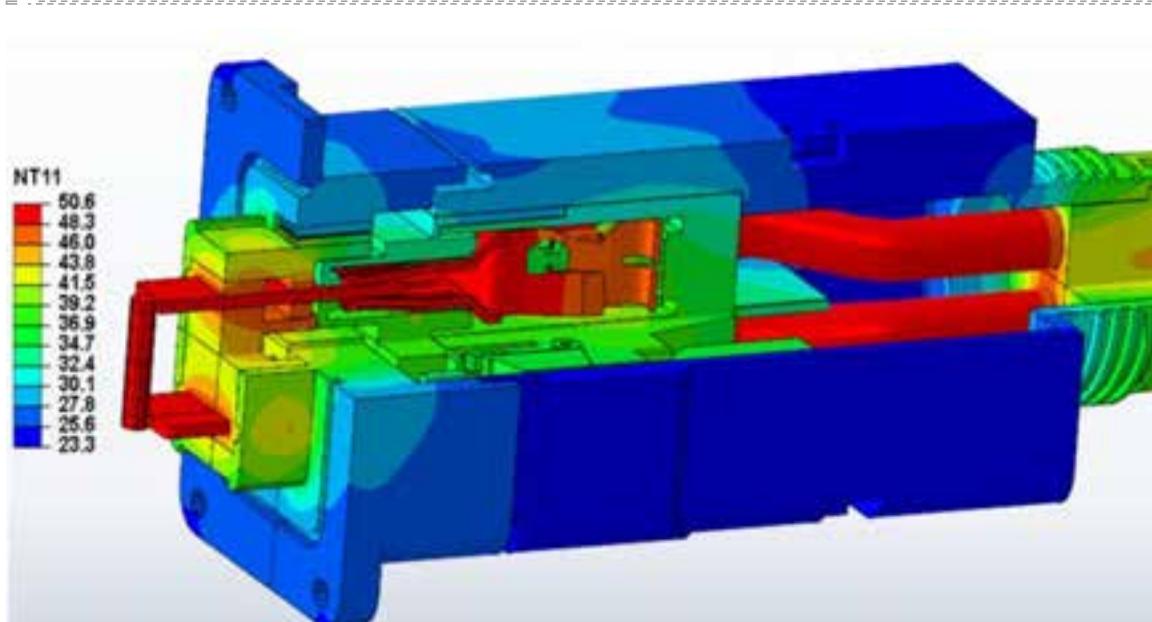
Ansys 2022 R1

New project development
Optimize the design
through CAE analysis
software to find out
the best solution
for product design

Ansys 2022 R1

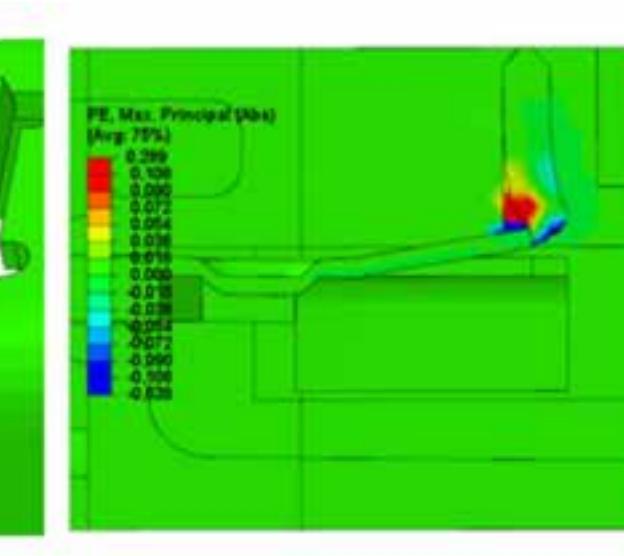
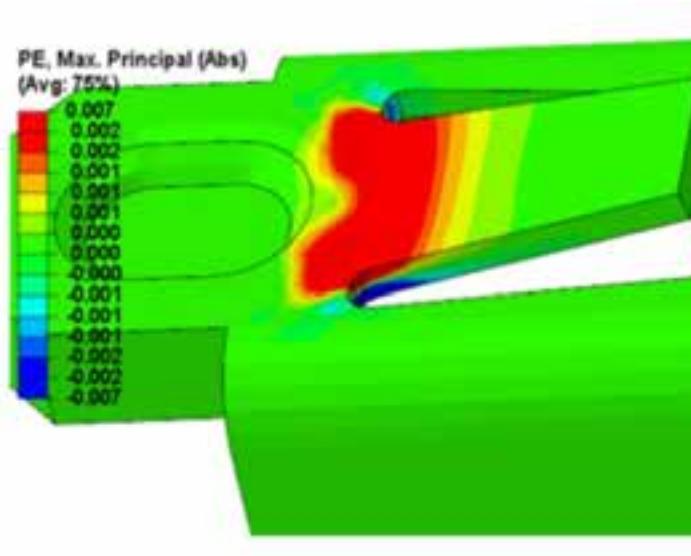
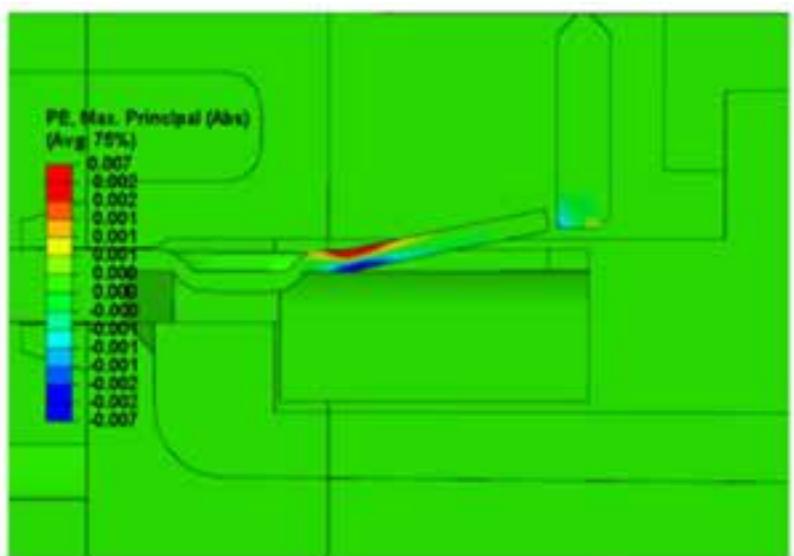


- Pre-identify potential problems
- Reduce test time and cost
- Reduce development and design costs
- Shorten development and design cycle time



63A with 16mm² copper wire:
FEA: max. temperature rise 27.3 K

- Thermal field analysis: Temperature rise analysis of high-current products.



- Nonlinear analysis of materials: in-depth knowledge of material properties.

- Plastic deformation of the metal pin increased compared to the previous model, and the cantilever was deformed in the vertical direction by 0.12mm after insertion compared to the original model.

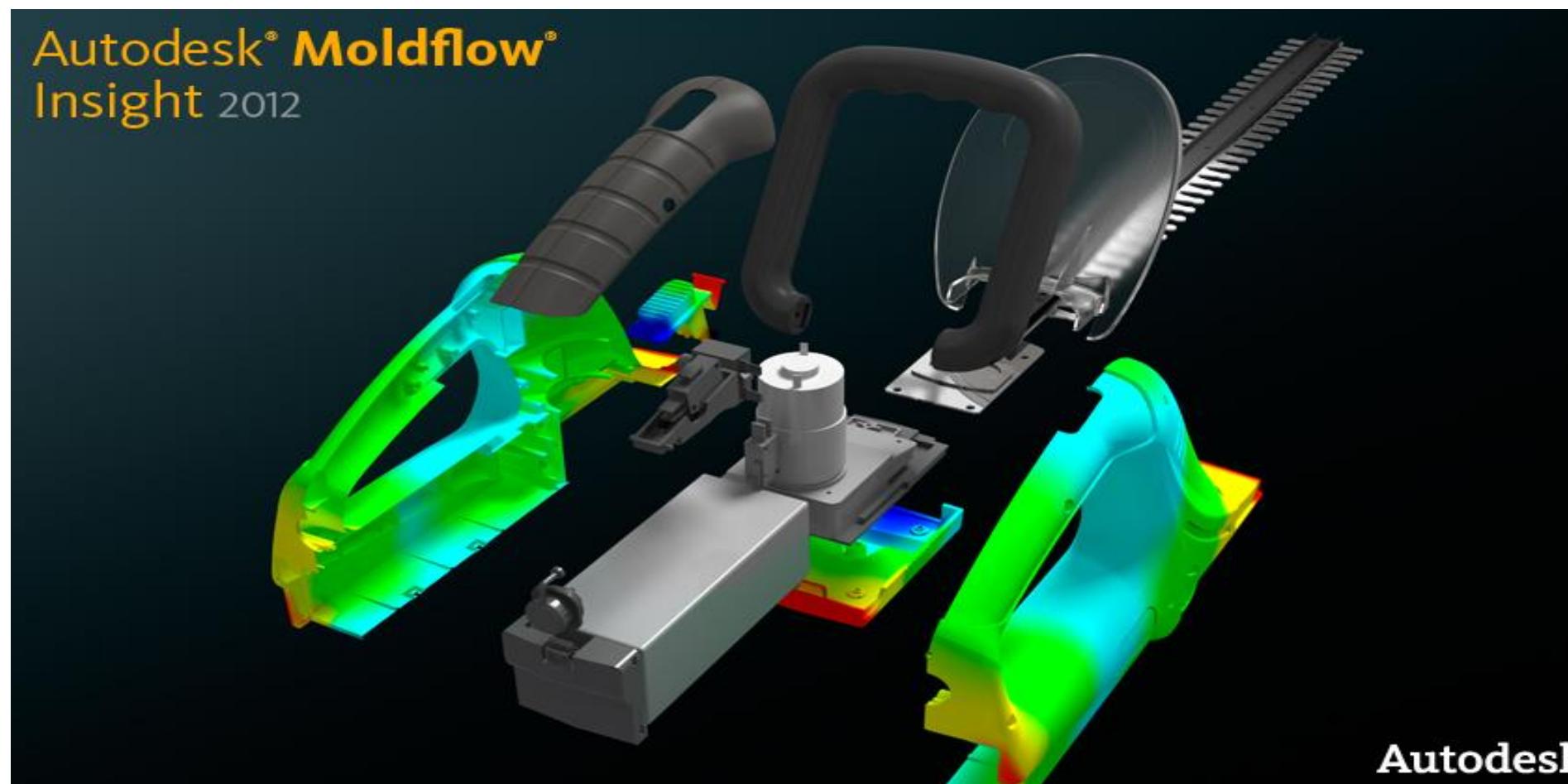
- The holding force of the metal pin is about 36N (friction coefficient 0.1).

Application Case

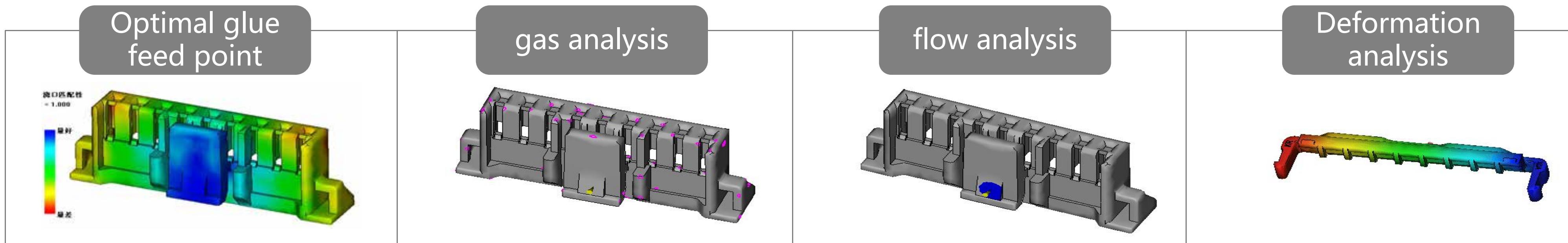


- Contact nonlinear analysis: analysis of various force values.
- Material nonlinear analysis: in-depth knowledge of material properties.
- Motion Simulation: Understand the process of mechanism motion simulation.
- Thermal field analysis: Temperature rise analysis of high-current products.

Mold development for new products with MoldFlow software to optimize mold design and shorten sample cycle time.



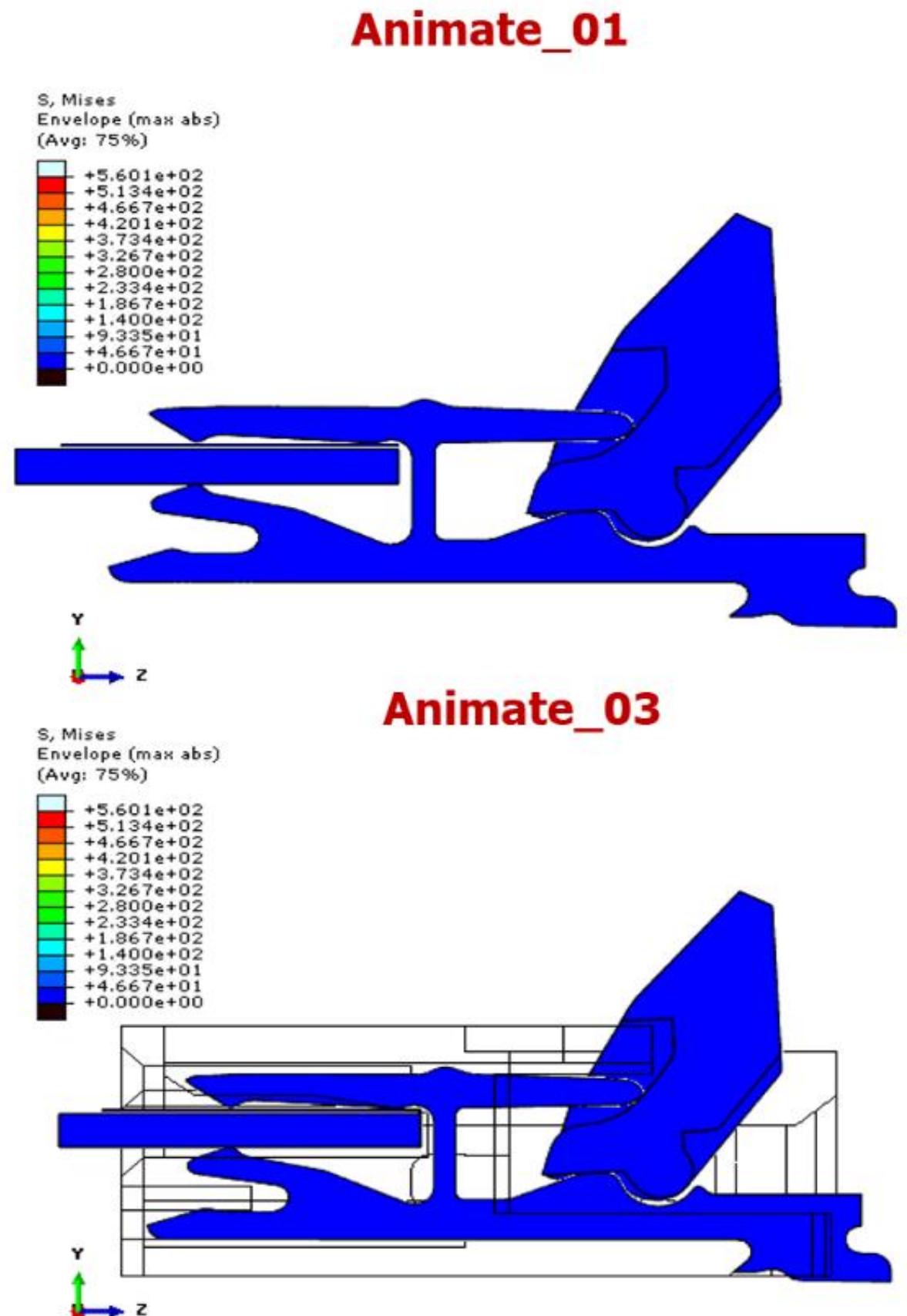
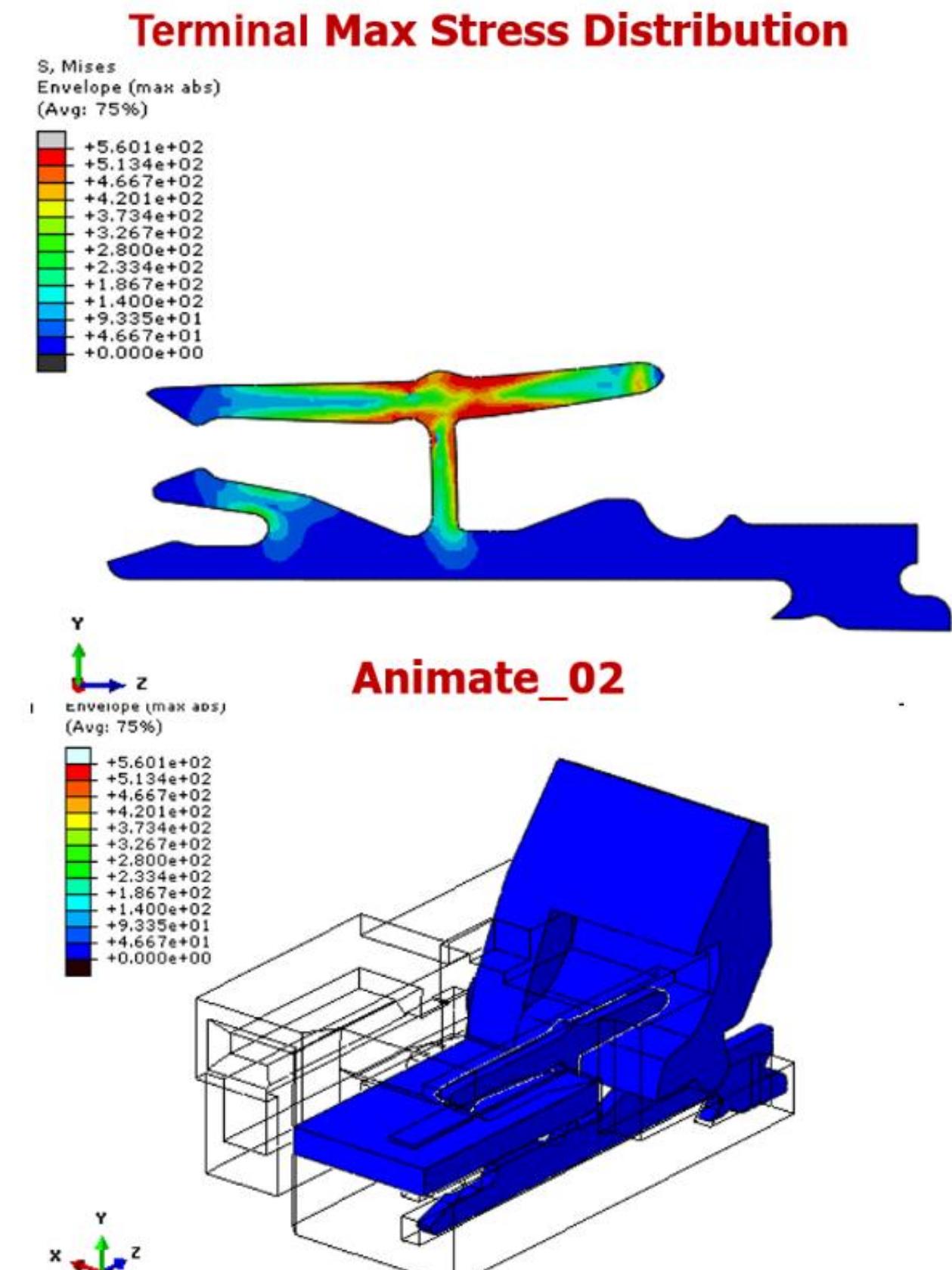
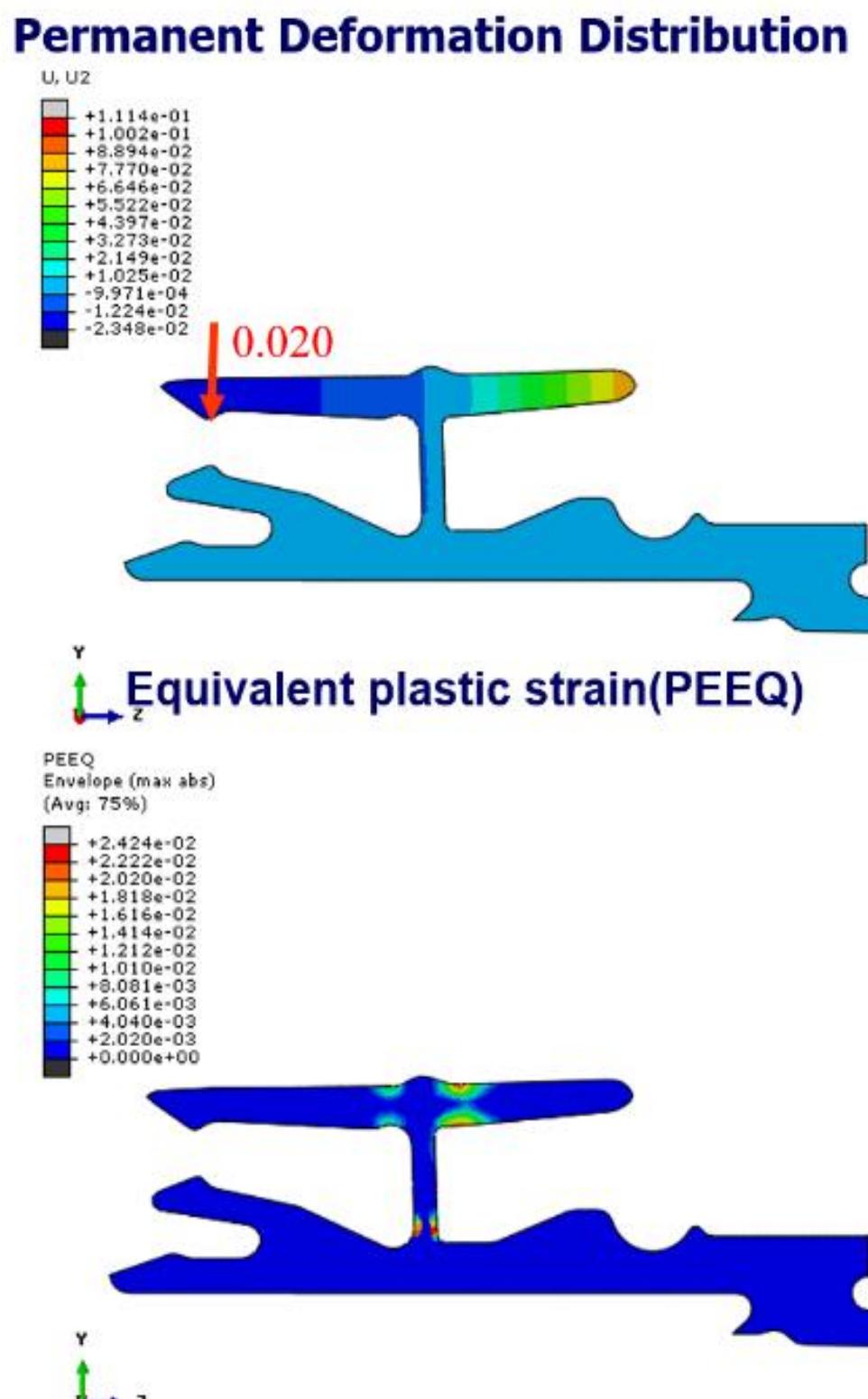
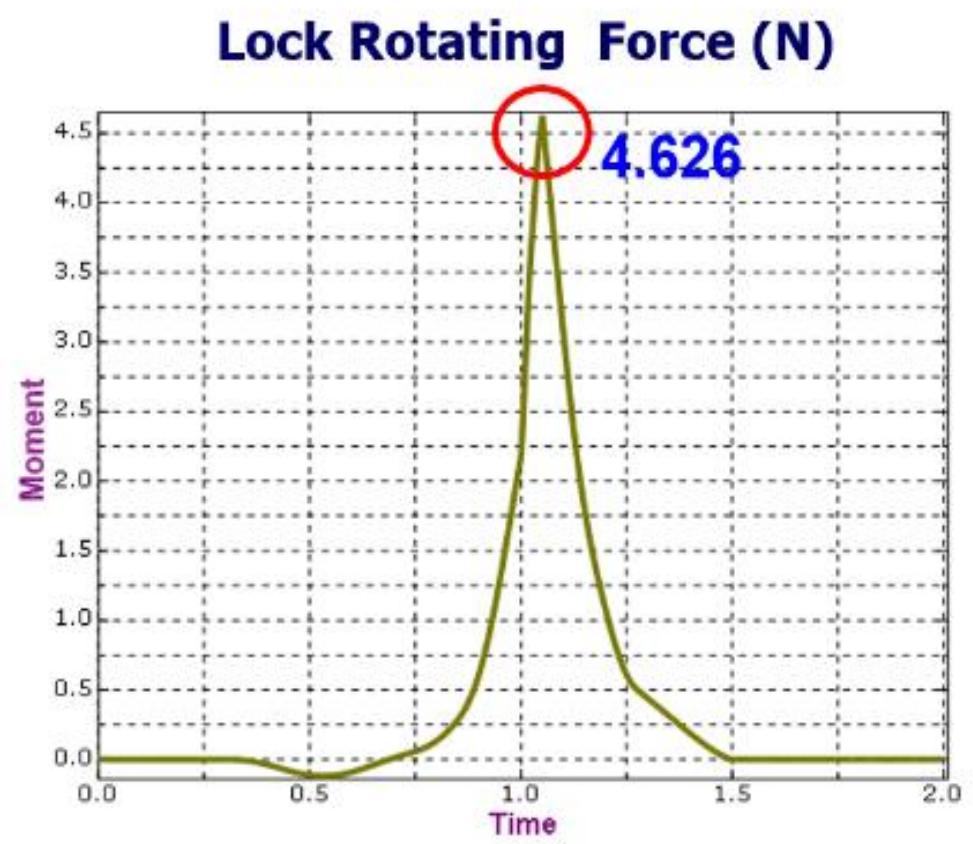
- 1 Understand the trend of product deformation and do deformation compensation in advance.
- 2 Find the location of trapped air and design the opening of the exhaust in advance.
- 3 Find the best position to feed the glue.



Stress Analyses

KONNRA®

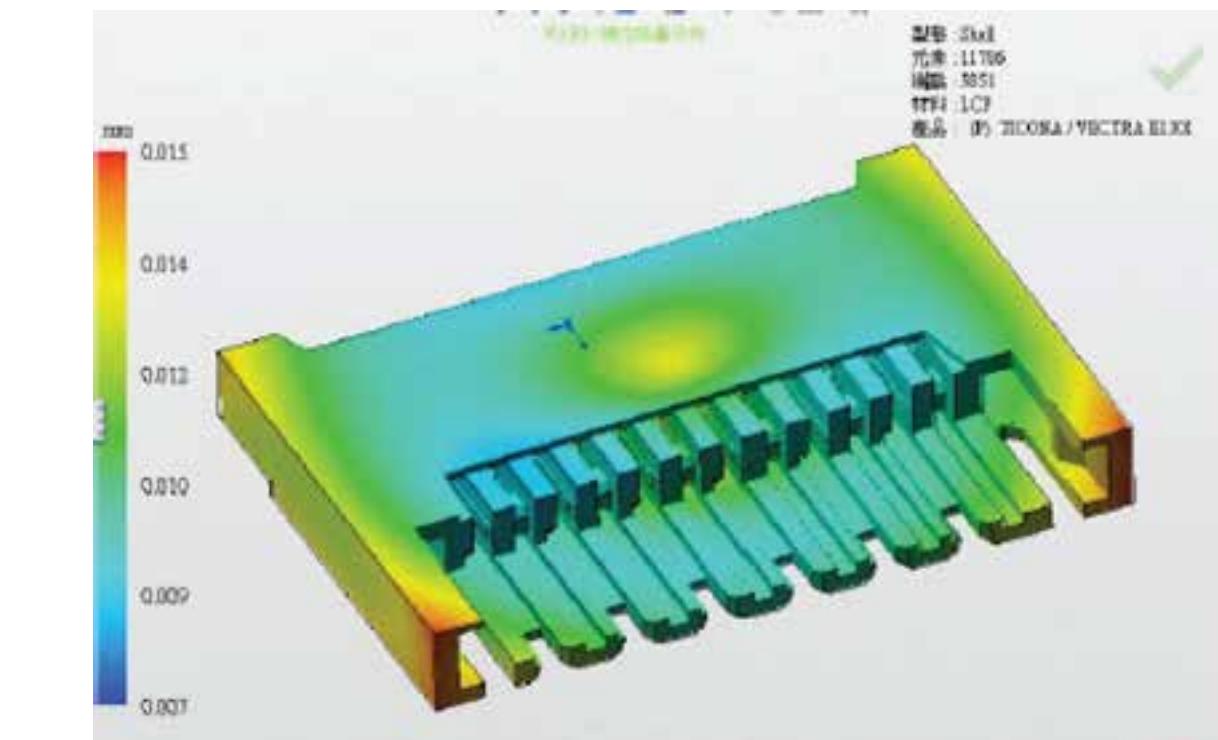
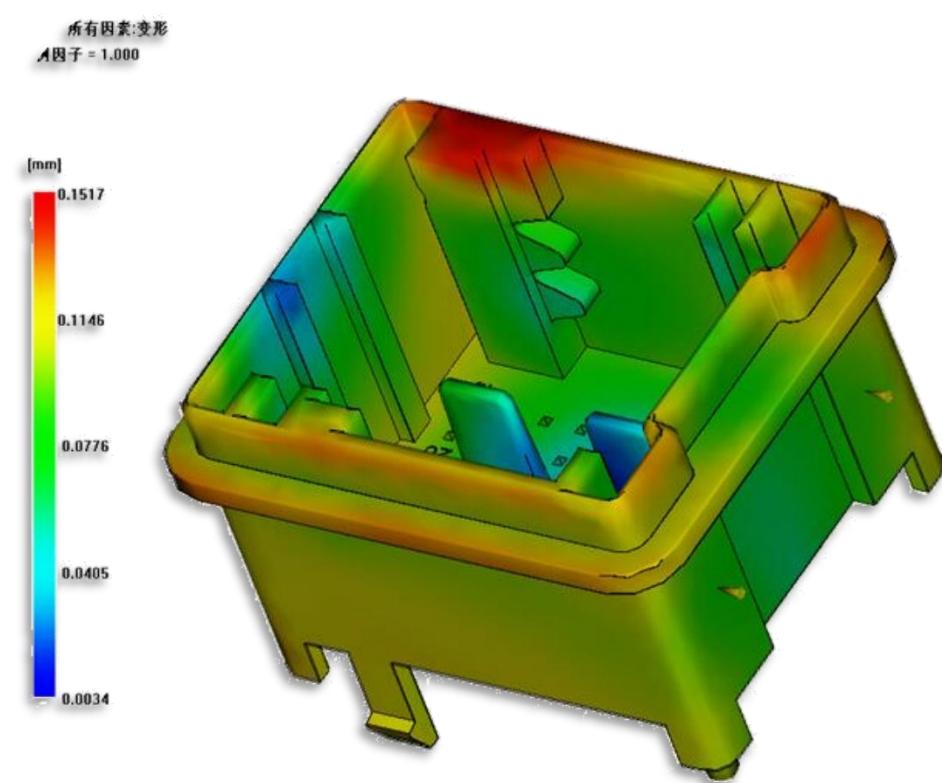
Permanent Deformation (mm)	0.020
Lock Rotating Force (N)	4.626
Equivalent plastic strain(%)	2.42
Max. Stress(MPa)	560.1



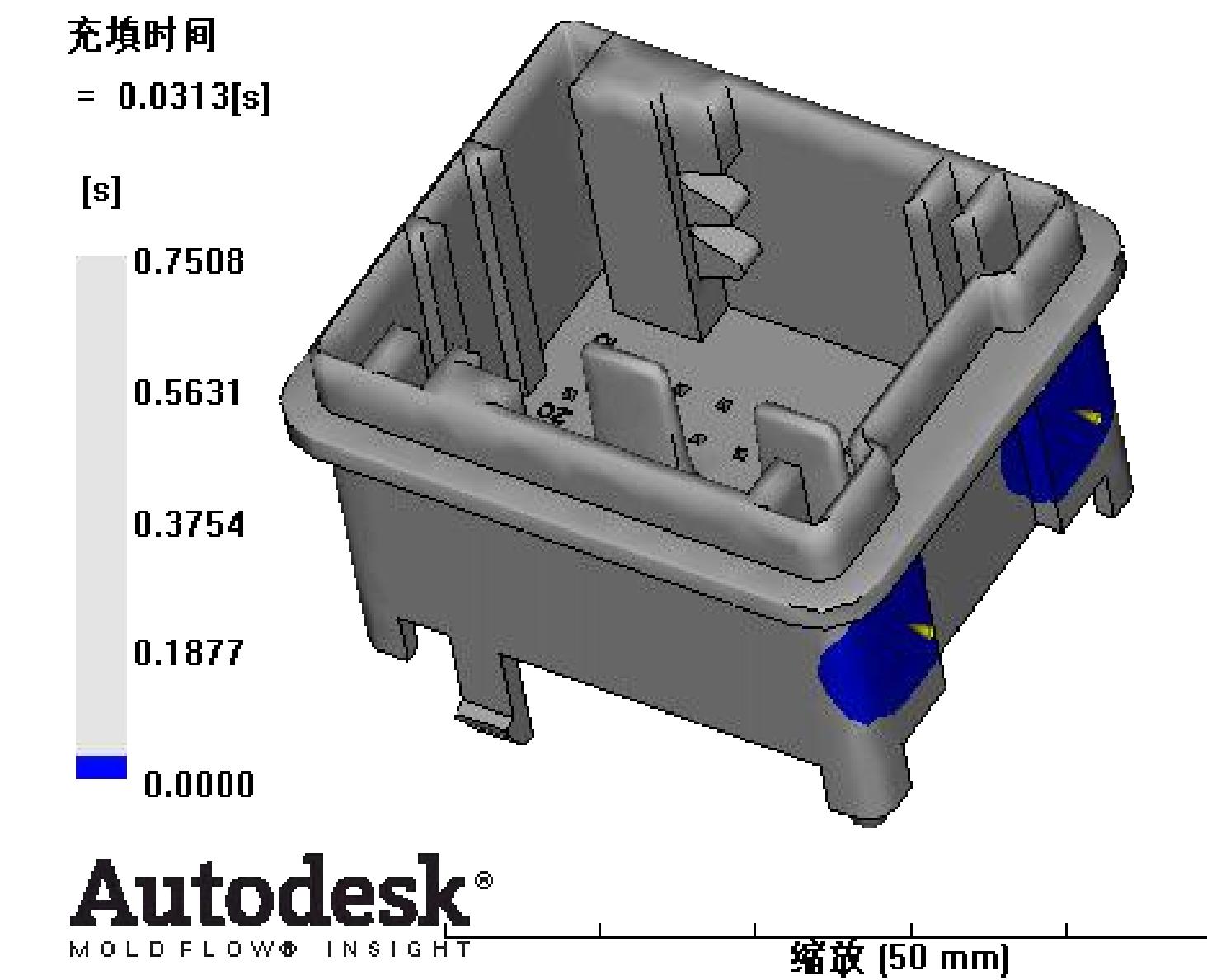
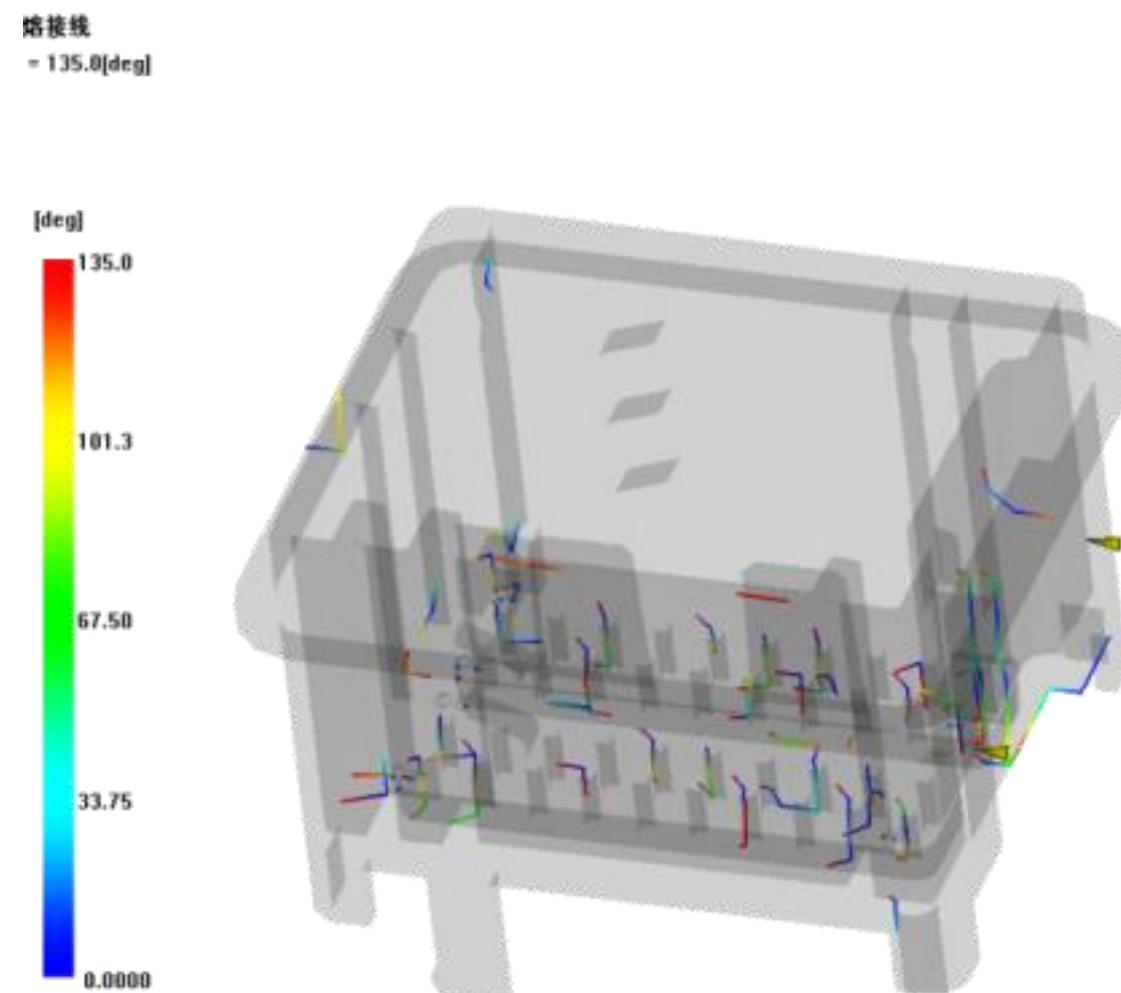
Mold Flow Analysis

KONNRA®

Warping
deformation



Weld
mark



High Frequency Simulation Analysis

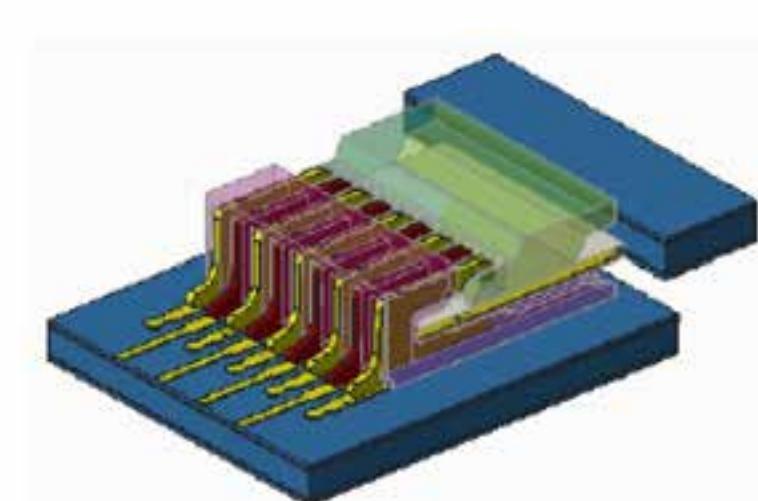
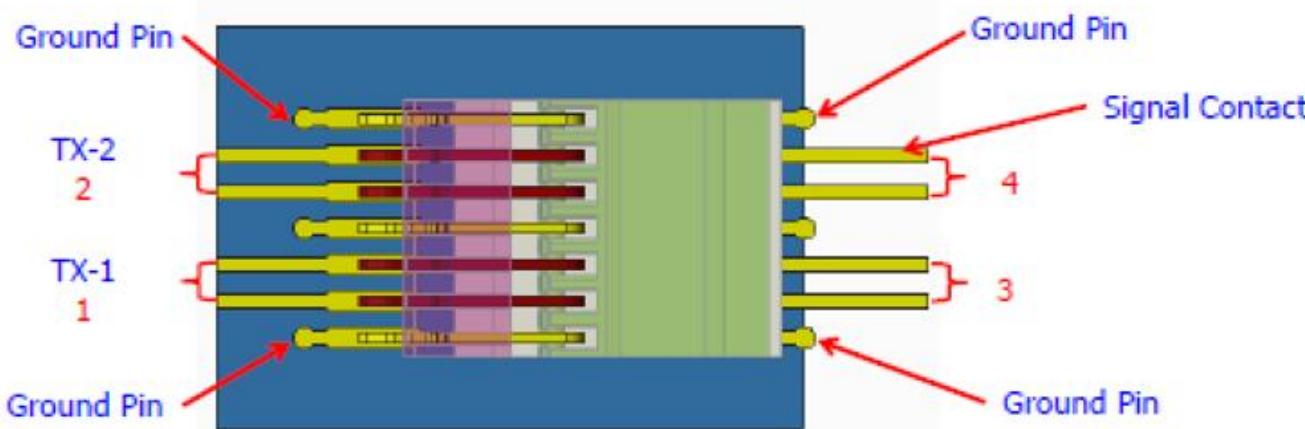
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Material Definition

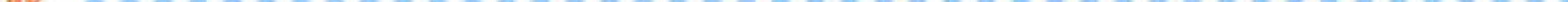
Connector Div.

Material Property Table 0.5mm Pitch FPC Pin Assignment **GSSGSSG 90Ω**

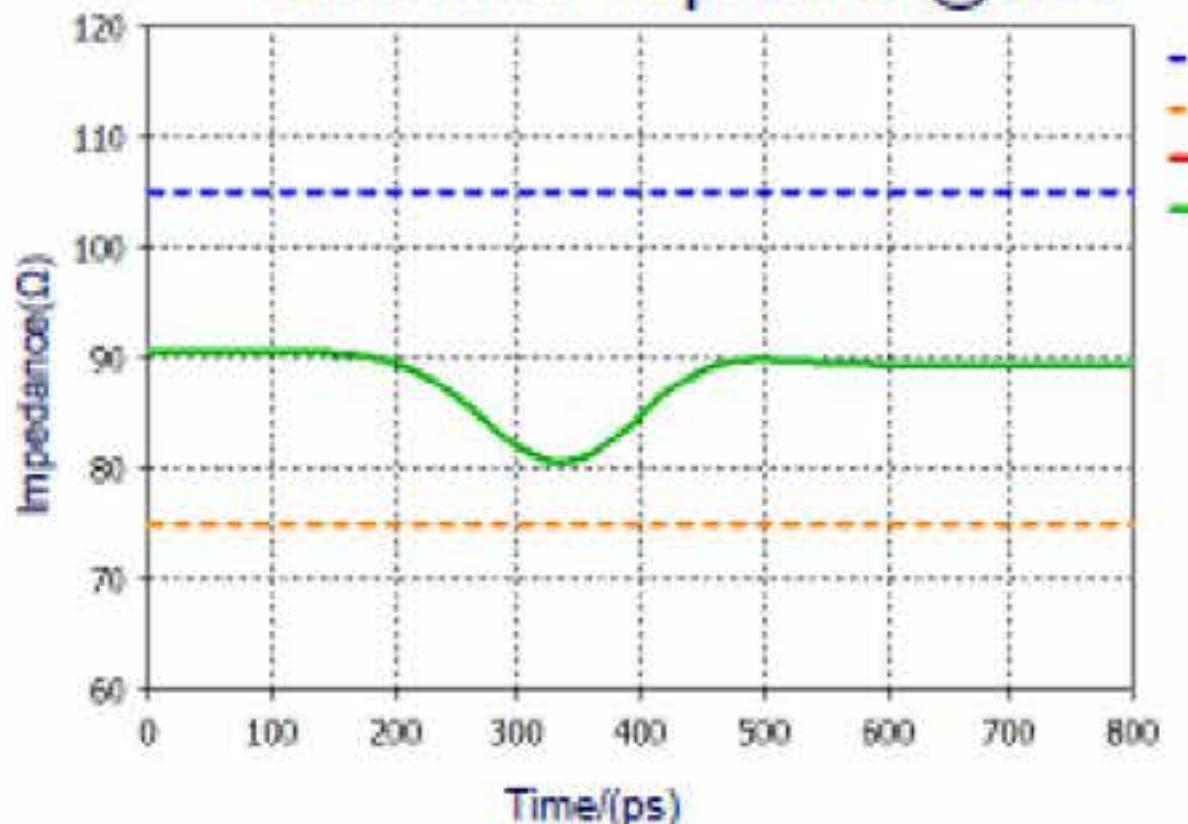
	Material	Relative Permittivity	Relative Permeability	Bulk Conductivity (1E6 Siemens/s)
Terminal	C2680	1	1	8.7
housing	LCP E6808LHF	3.8	1	0
Actuator	LCP E471i	3.9	1	0
FFC	PVC	3.3	1	0



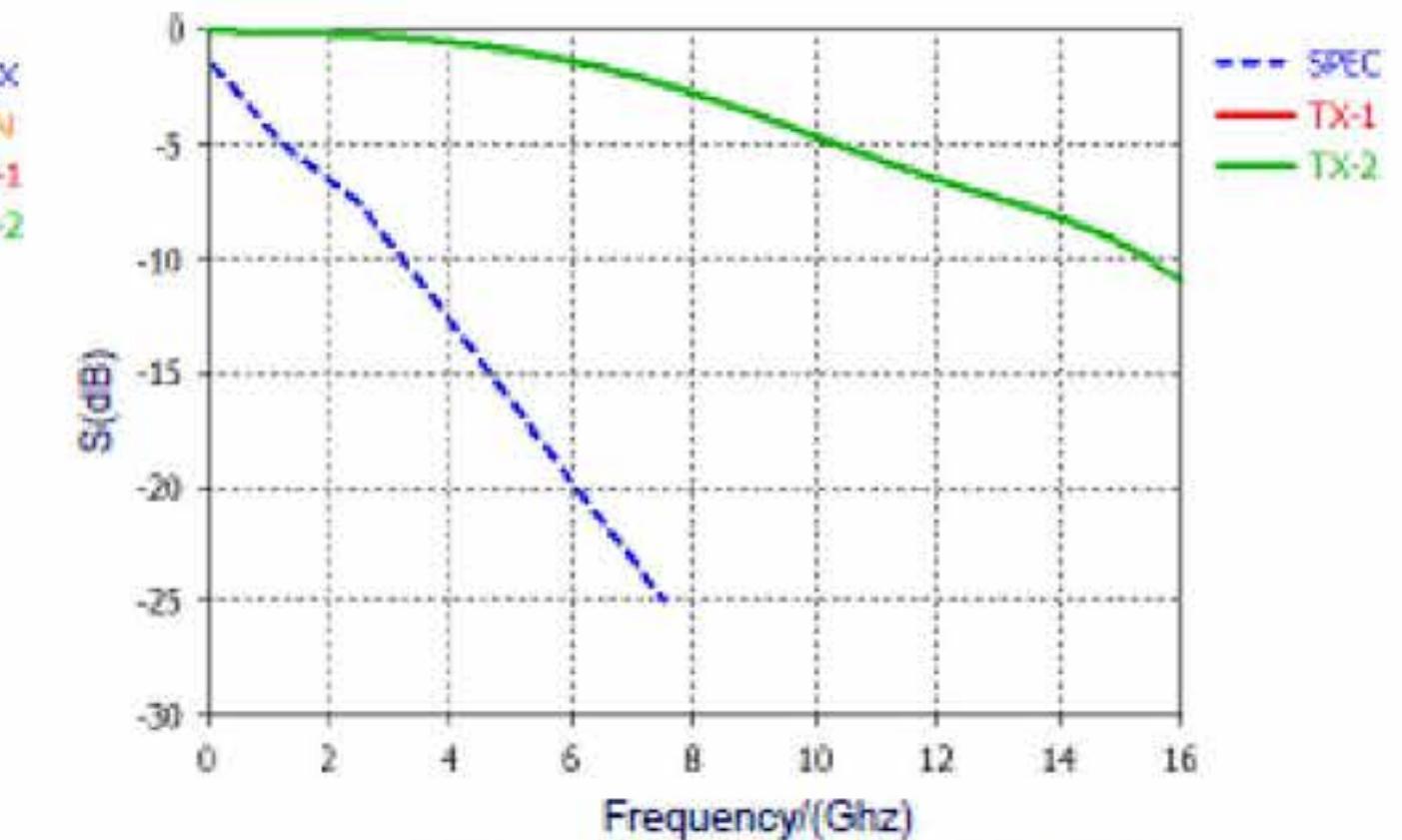
Product Result

Connector Div: 

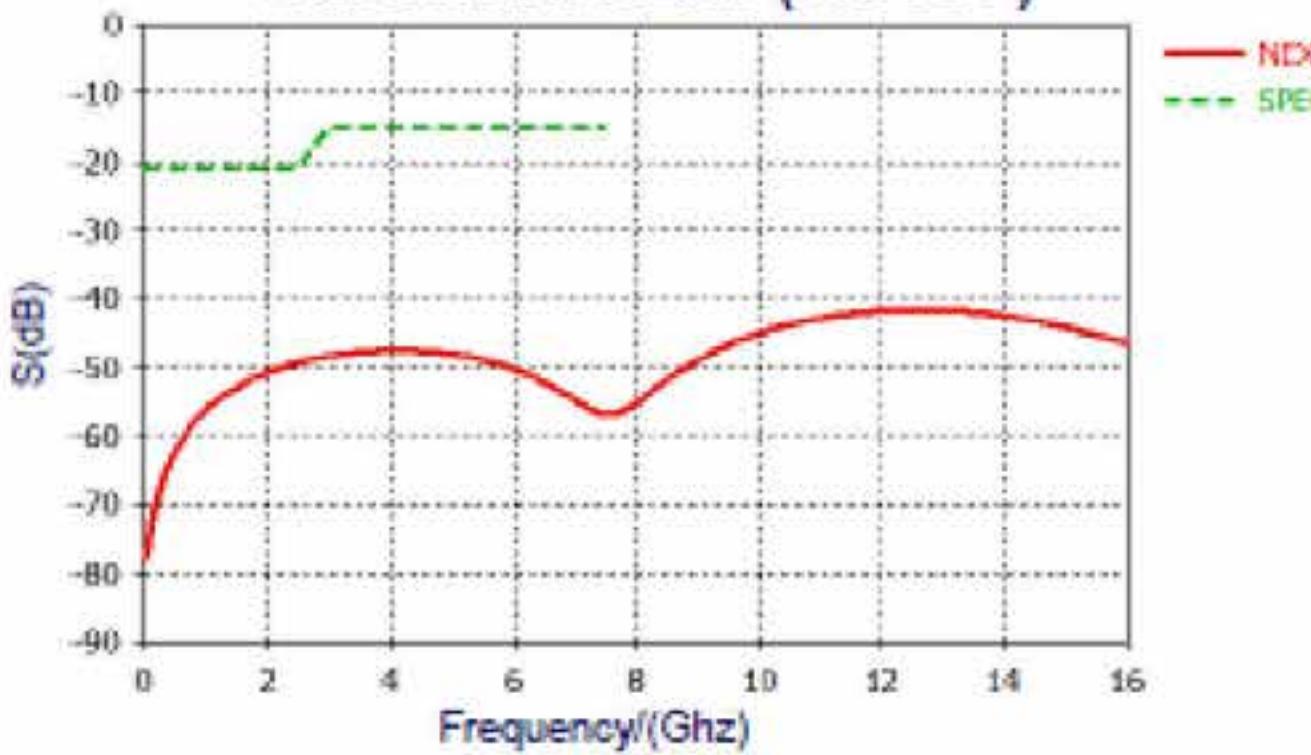
Differential Impedance@50Ps



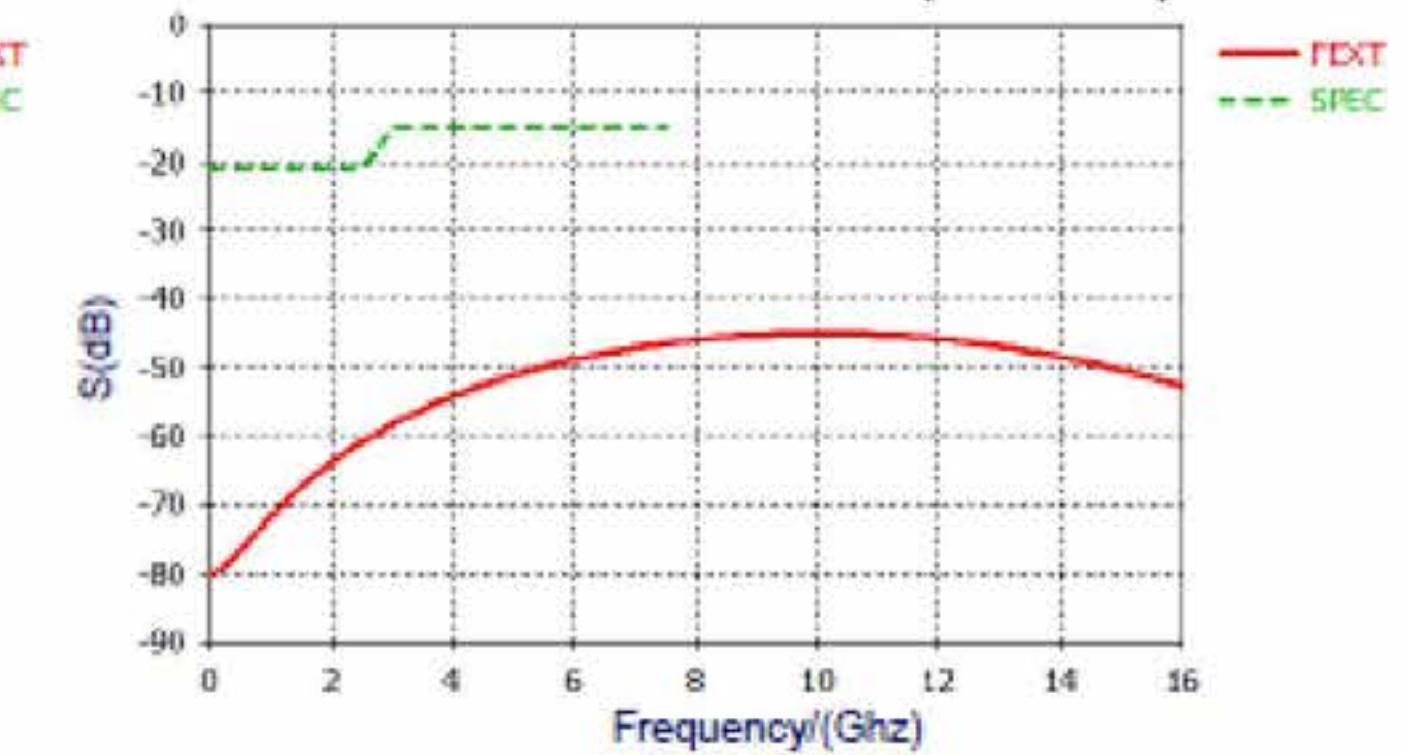
Differential Insertion Loss



Differential NEXT (SS-DD)

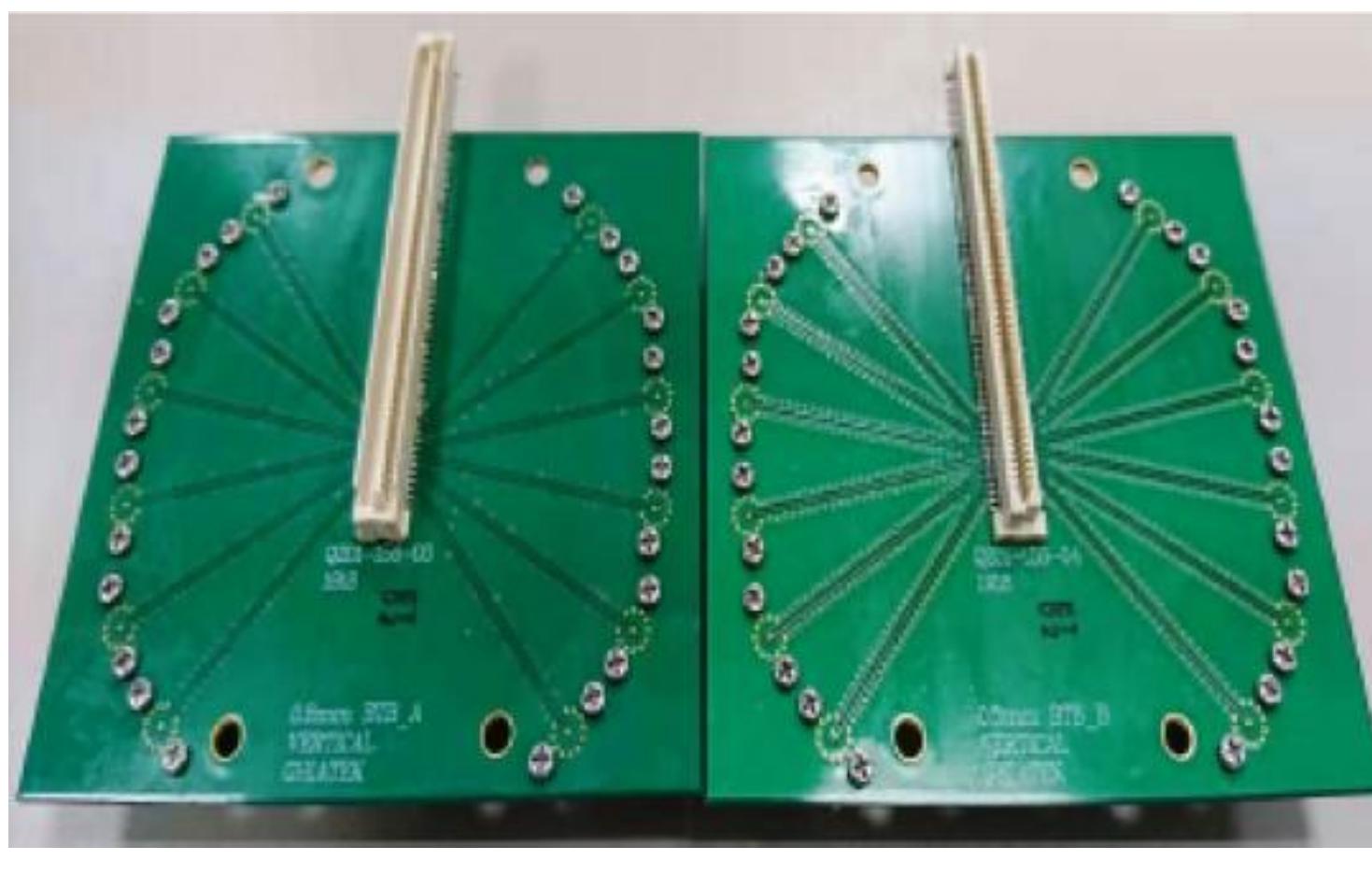


Differential FEXT (DD-SS)

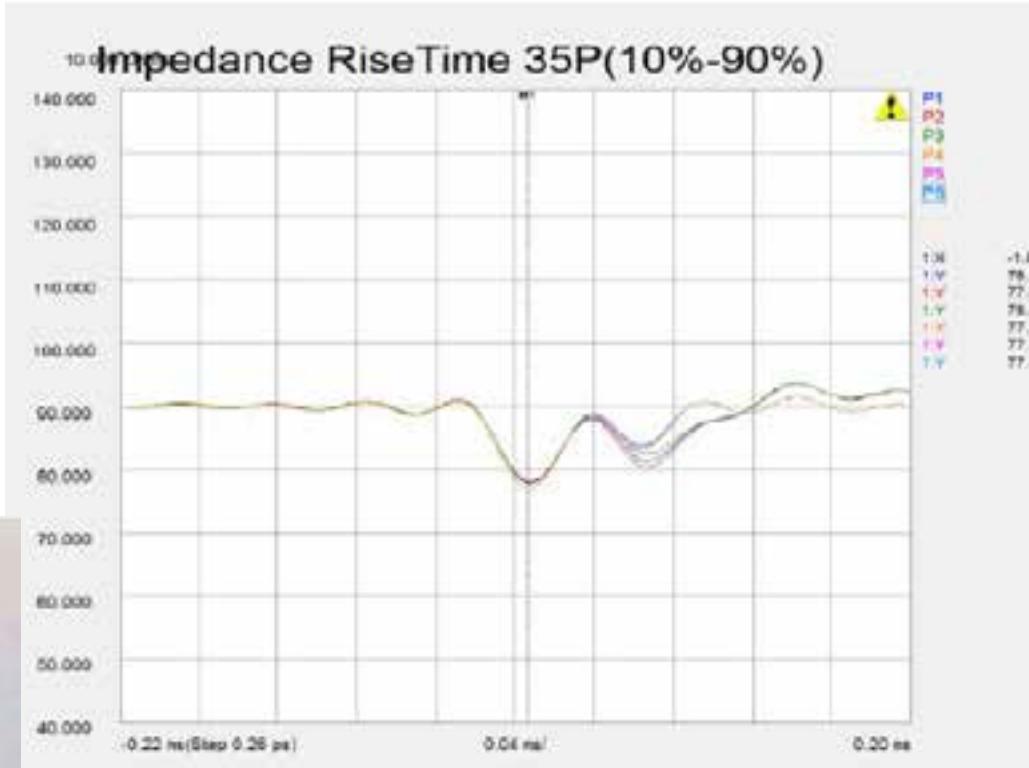


High Frequency Testing

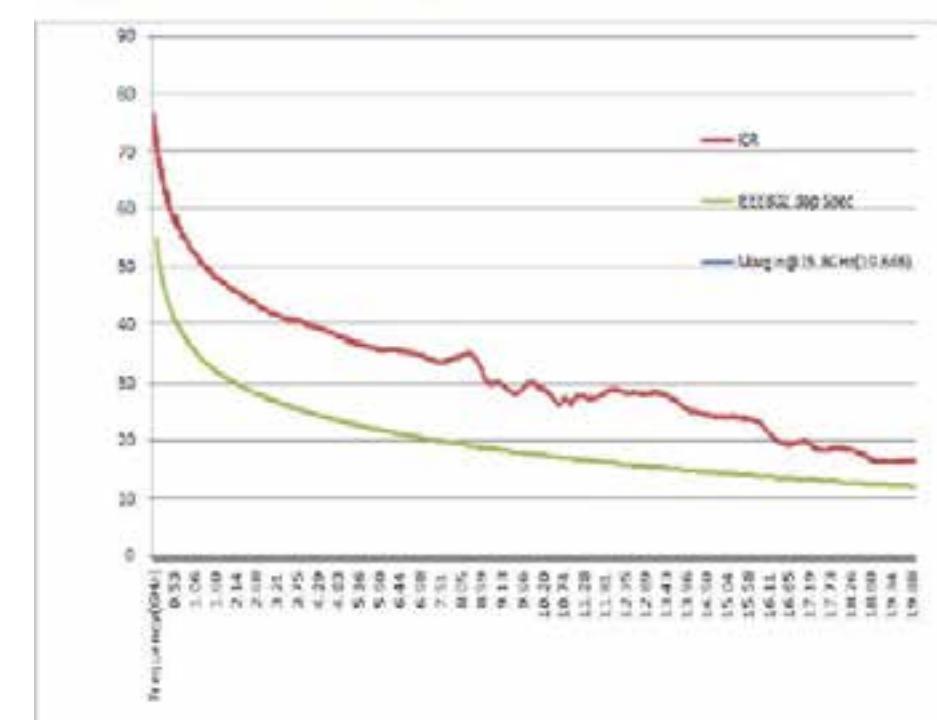
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Impedance



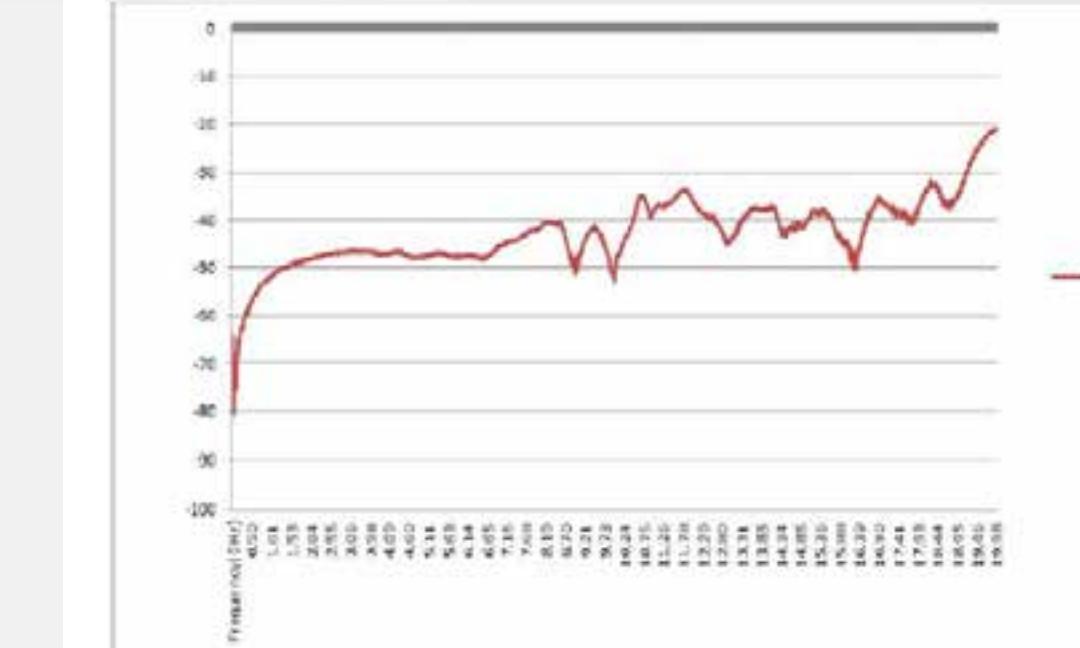
Insertion-loss-to-crosstalk ratio (ICR)



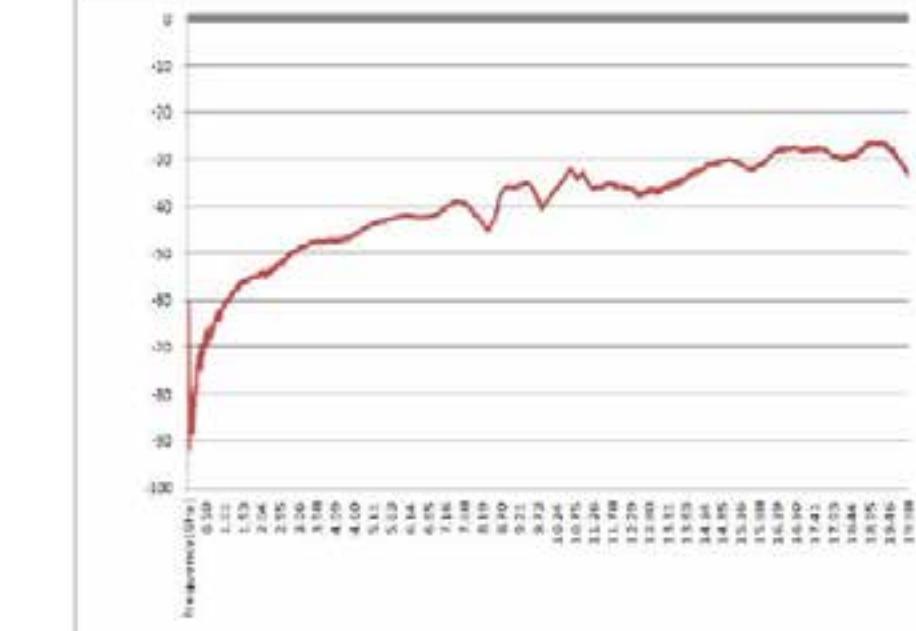
Return loss



Near-end crosstalk (NEXT)



Far-end crosstalk (FEXT)



Production Overview



Monthly Production Supporting Capacity

60KK⁺



Production equipment

KONNRA®



25-50T High Precision High Speed Punching Machine	18units
50-150T grade high precision plastic injection molding machine	40units
Precision Hardware Mold	150+ sets
Precision Plastic Mold	300 + sets
Full-automatic assembly machine	120+units
Full-automatic Packing Machine	130+units
CCD Intelligent Inspection Machine	60+units

Konnra Laboratory

Configured with: safeguard mechanical properties, electrical properties, environmental simulation, environmental protection testing and other types of precision testing equipment more than 60 units, able to provide end-products in various industries, material selection, performance testing and validation needs; measurement equipment for regular system analysis, to ensure the accuracy of the equipment and bias for product design, R & D process, the production process control can quickly provide all aspects of data support.



IR furnace



Constant temperature and humidity tester



Film Thickness Tester



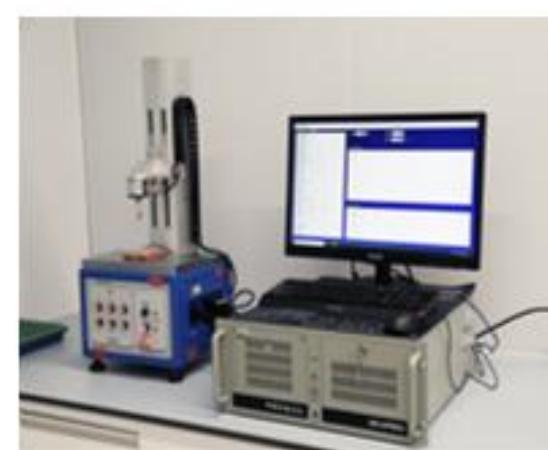
Cauterizing wire tester



Slicing Analyzer



2.5 times measuring instrument



Stretch Impedance Tester



Vickers hardness tester



Automatic insertion and extraction force tester



Salt Spray Tester



RoHS Tester

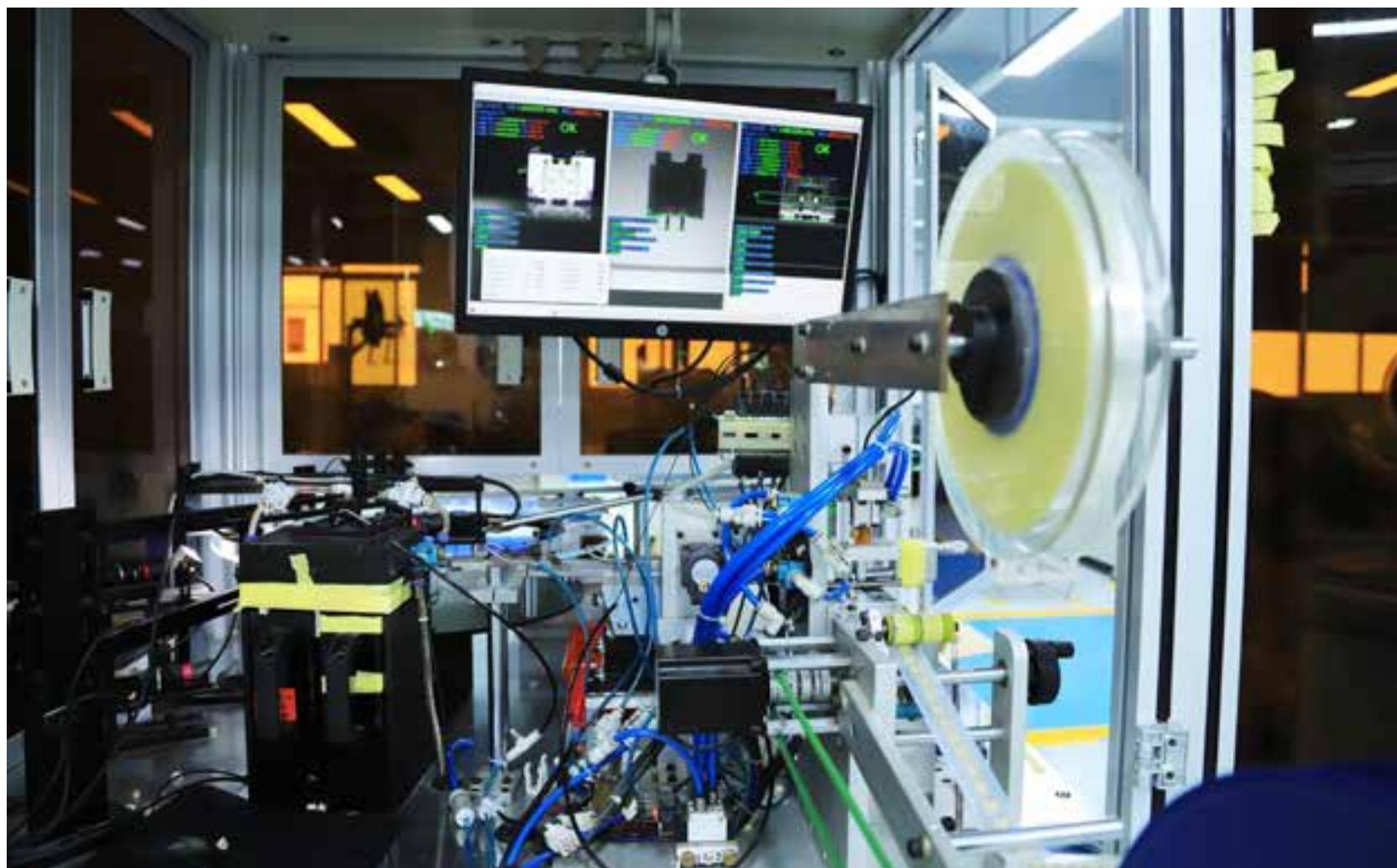


Bending test machine

Leading connector solutions provider

Fully-intelligent visualized CCD inspection

Konnra connectors have achieved 95% of the full-intelligent visualization of CCD inspection coverage, the use of imported "Mitsubishi Panasonic" PLC control system, FA25-35mm optical lens, 5 million images camera, equipped with visual inspection software



Product Introduction





Automotive New Energy

With the popularization of new energy vehicles, the high voltage and high current characteristics of power batteries put forward requirements for waterproof, moisture-proof and high temperature resistance of connectors. And the transmission rate, anti-interference performance and other aspects are also being optimized to meet the needs of intelligence.

KR2017-Pitch:2.0mm

KR2021-Pitch:2.0mm

KR1507-Pitch:1.5mm

KR1509-Pitch:1.5mm

KR2001-Pitch:2.0mm

KR2014-Pitch:2.0mm

KR2022-Pitch:2.0mm

KR3000-Pitch:3.0mm



KR2017



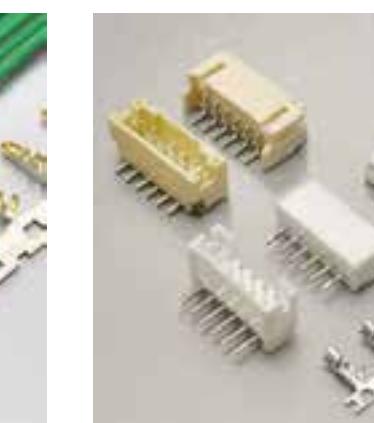
KR2021



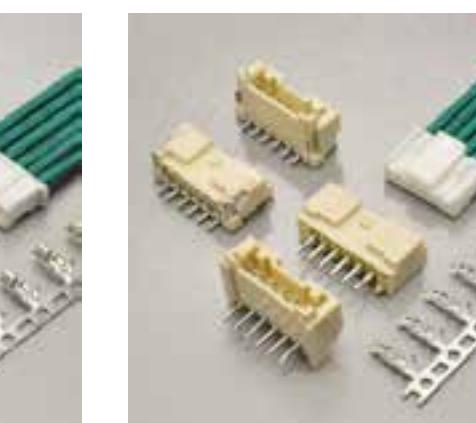
KR1507



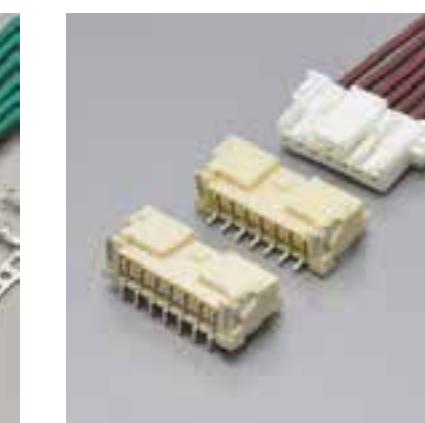
KR1509



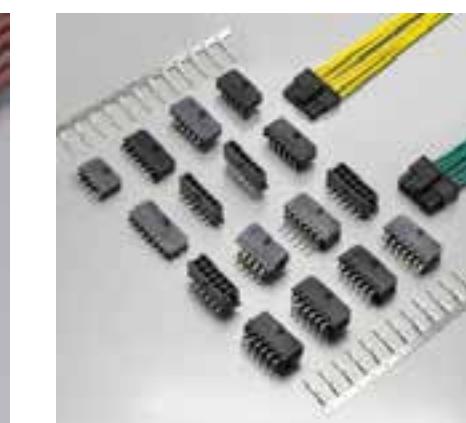
KR2001



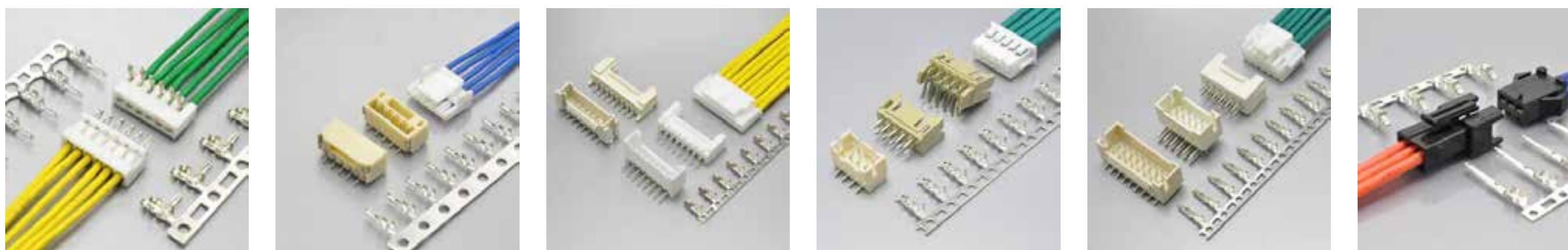
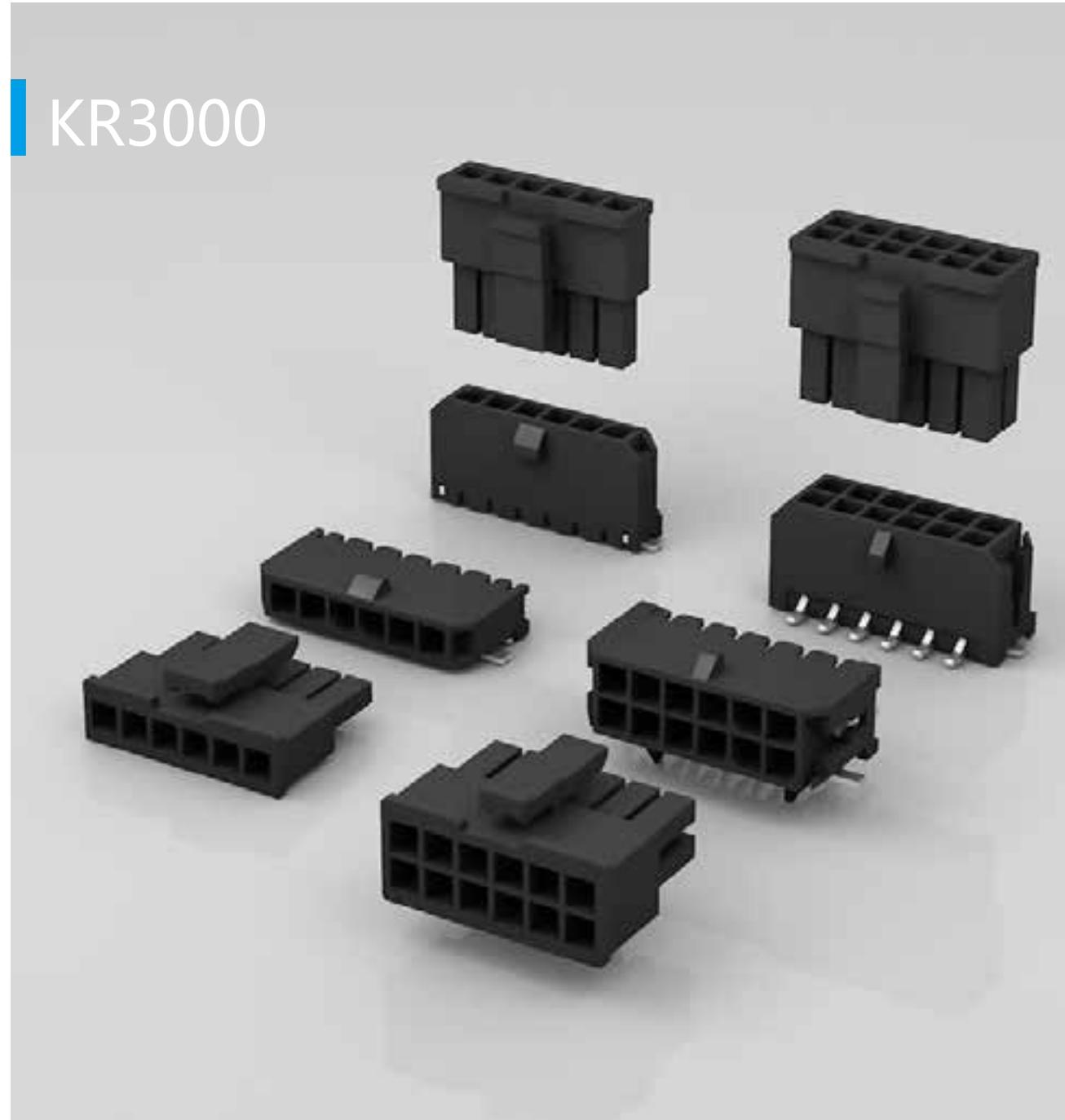
KR2014



KR2022



KR3000



New Energy Storage

Renewable energy systems often operate in harsh environments such as high temperatures, low temperatures, and humidity. In order to ensure the stable operation of the system, the connector must have good weather resistance.

KR2001-Pitch:2.0mm

KR3000-Pitch:3.0mm

KR1502-Pitch:1.5mm

KR1506-Pitch:1.5mm

KR2004-Pitch:2.0mm

KR2005-Pitch:2.0mm

KR2012-Pitch:2.0mm

KR2517-Pitch:2.5mm



consumer electronics

With the increasing diversification of consumer demand for electronic products, the connector in consumer electronics products in the increasingly prominent position. Connectors not only to meet the performance requirements of high-speed transmission, high current, anti-interference, but also the pursuit of smaller, lighter, thinner, more beautiful design.

KR1250-Pitch:1.25mm

KR2001-Pitch:2.0mm

KR1005-Pitch:1.0mm

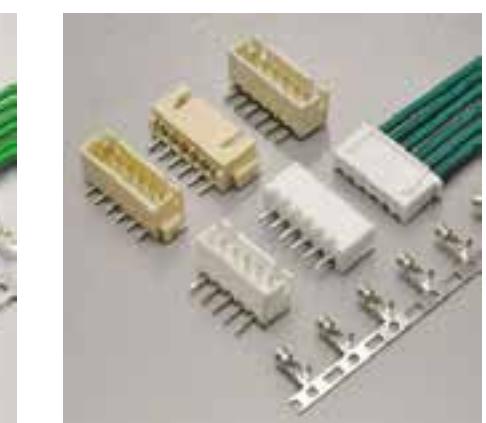
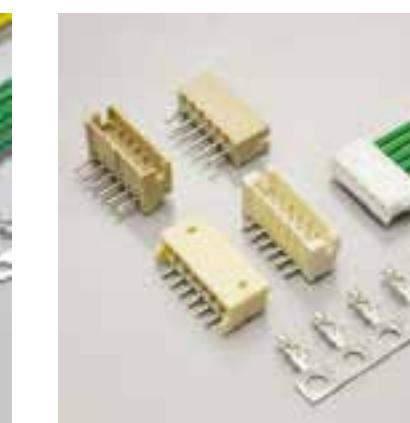
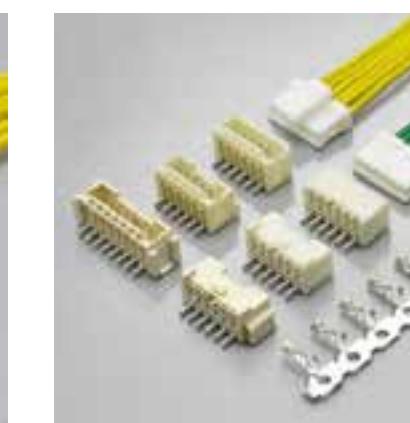
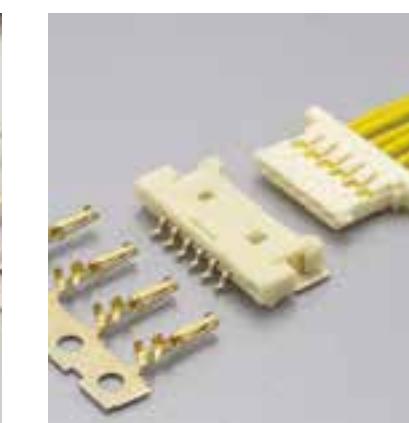
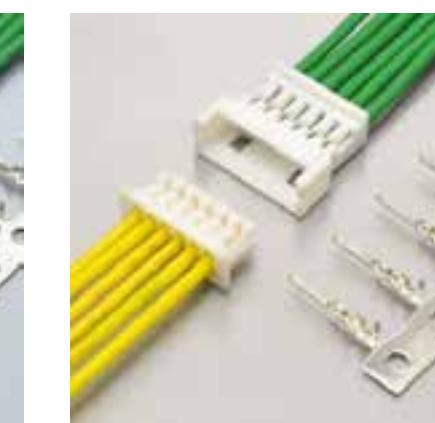
KR1251-Pitch:1.25mm

KR1253-Pitch:1.25mm

KR1500-Pitch:1.5mm

KR1501-Pitch:1.5mm

KR2501-Pitch:2.5mm



KR1005

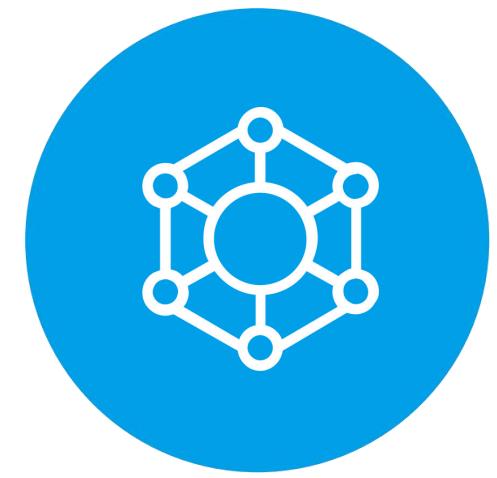
KR1251

KR1253

KR1500

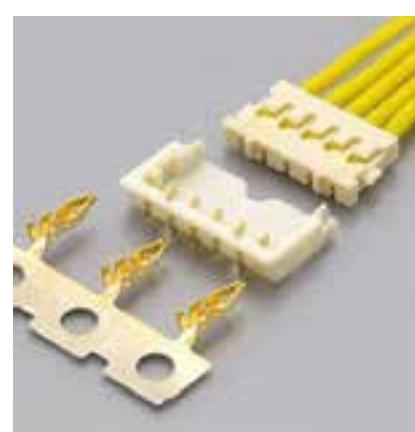
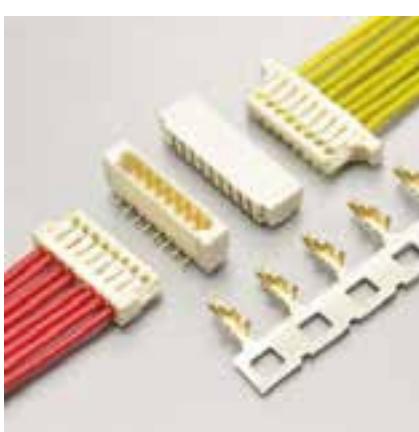
KR1501

KR2501



Data center

Typically used to connect cables and equipment; they can provide highly reliable connections and ensure stable transmission of telecom signals. As telecom technology continues to evolve, the demand for connectors is growing, especially in emerging areas such as 5G and cloud computing.



KR1259-Pitch:1.25mm

KR1253-Pitch:1.25mm

KR0800-Pitch:0.8mm

KR0803-Pitch:0.8mm

KR1000-Pitch:1.0mm

KR1005-Pitch:1.0mm

KR1200-Pitch:1.2mm

KR1201-Pitch:1.2mm



Industrial equipment

With the development of industrial automation equipment to miniaturization and integration, connectors also need to meet the higher contact density and smaller size. How to achieve high-performance connection in a limited space is the connector technology urgently need to solve the problem.

KR3000-Pitch:3.0mm

KR4200-Pitch:4.0mm

KR1256-Pitch:1.25mm

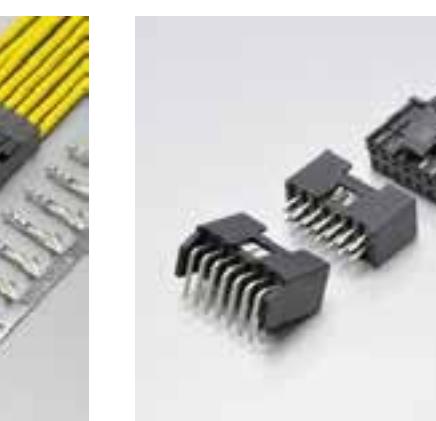
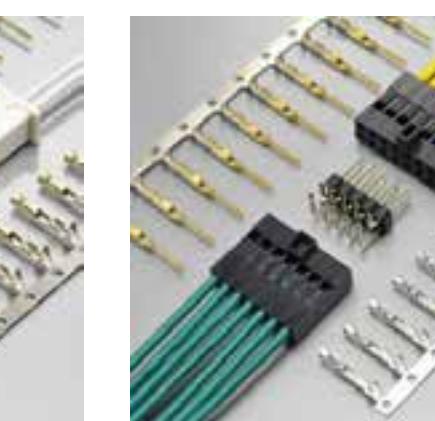
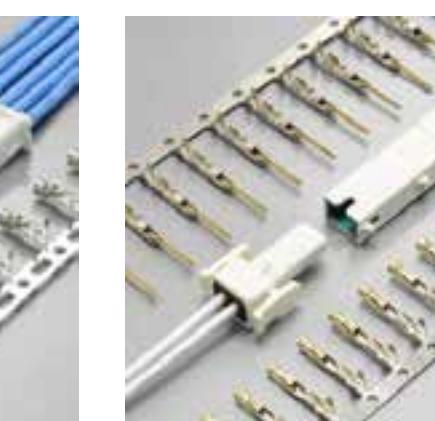
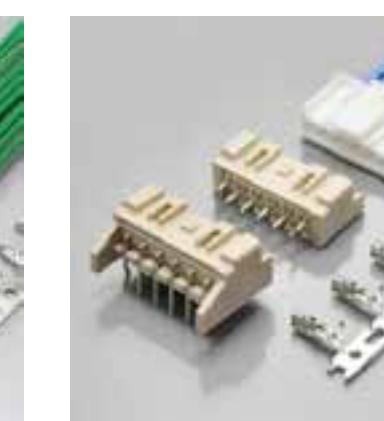
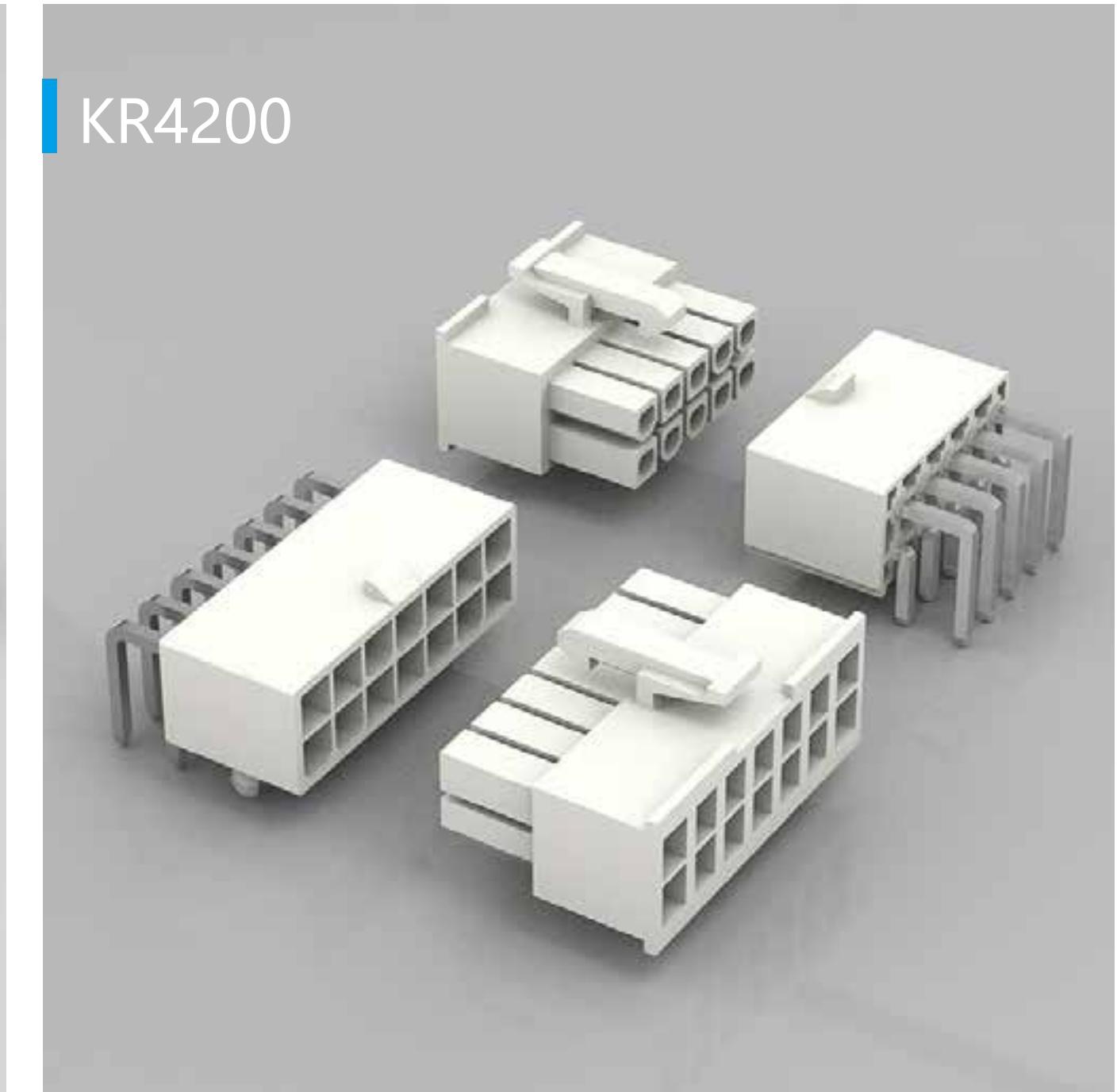
KR2516-Pitch:2.5mm

KR2517-Pitch:2.5mm

KR2542-Pitch:2.5mm

KR2548-Pitch:2.5mm

KRQK000015-Pitch:2.7mm



KR1256

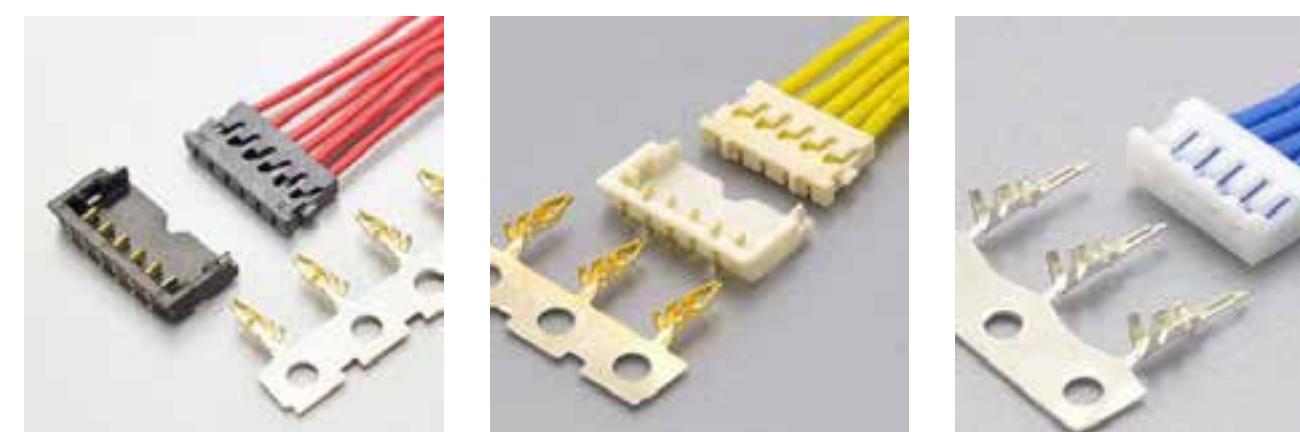
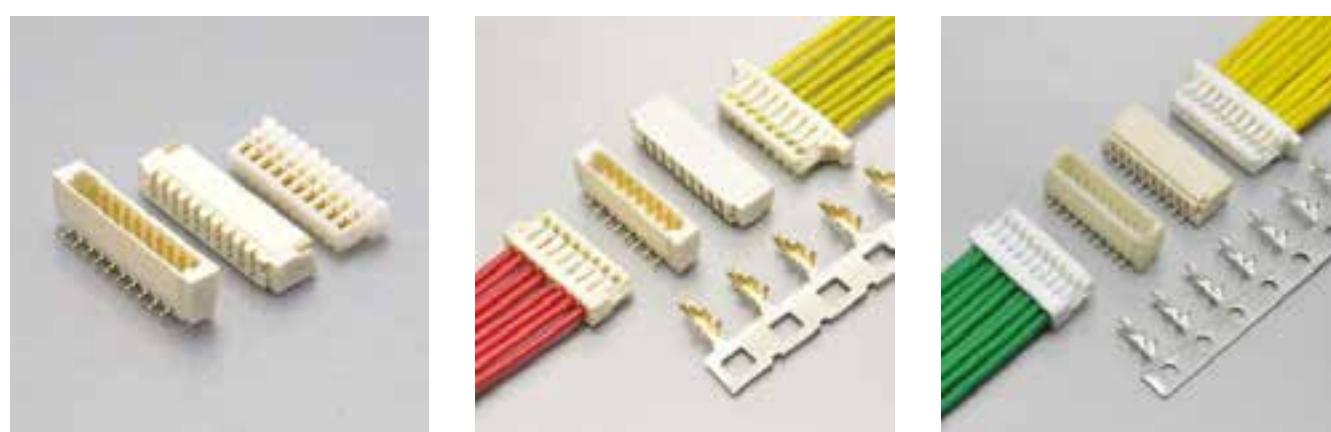
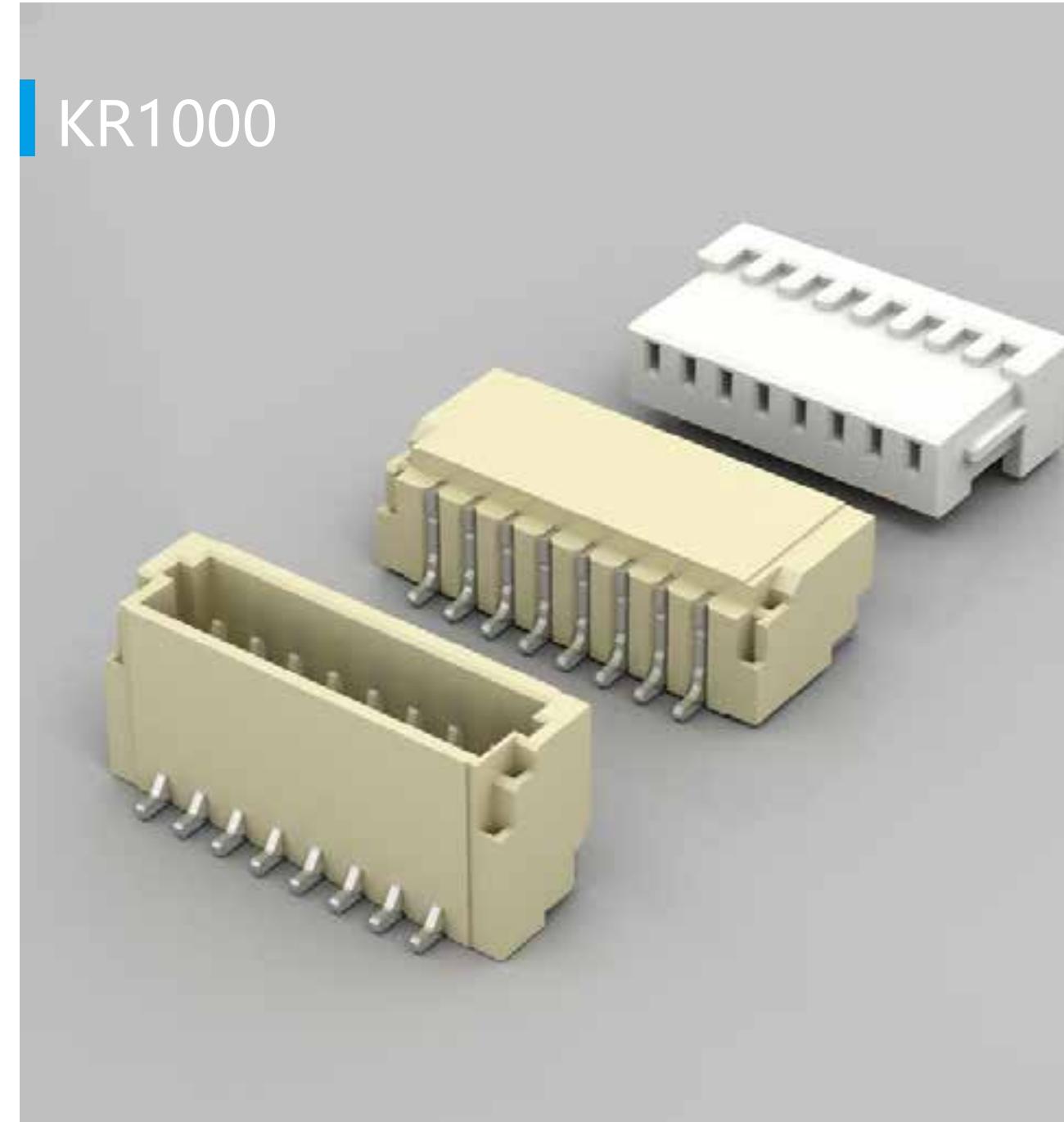
KR2516

KR2517

KR2542

KR2548

KRQK000015



Medical equipment

Medical device connectors need to have high reliability and protection performance to ensure the stable operation of equipment and the safety of medical personnel. Advanced manufacturing processes and materials are used to improve the performance of connectors. In addition, the connector can also be waterproof, dustproof, anti-vibration, anti-electromagnetic interference and other technical means to improve its adaptability in harsh environments.

KR1200-Pitch:1.2mm

KR1000-Pitch:1.0mm

KR0800-Pitch:0.8mm

KR0803-Pitch:0.8mm

KR1000-Pitch:1.0mm

KR1200-Pitch:1.2mm

KR1201-Pitch:1.2mm

KR1252-Pitch:1.25mm

Product Introduction

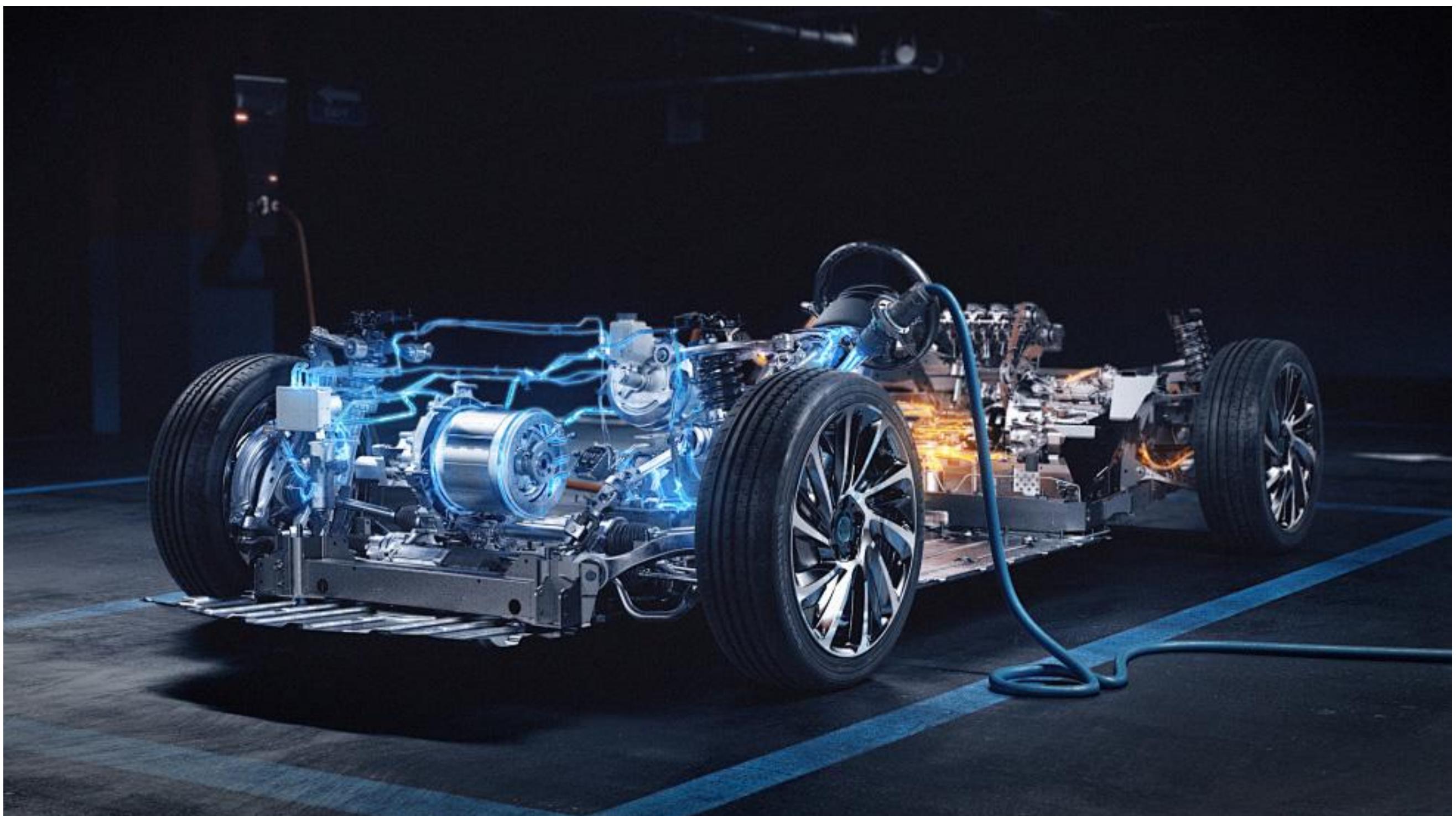
Wiring Harness

- 
- ✓ New Energy Storage Harness
 - ✓ New Energy Vehicle Wiring Harness
 - ✓ Wire Harness for Power Tools
 - ✓ Industrial Automation Harness
 - ✓ Wire Harness for Medical Equipment
 - ✓ Consumer Electronics Wiring Harness

New Energy Storage Harness

Applications (including, but not limited to)

- Vehicle
- Electric motors
- BMS
- Charging Pile
- High Voltage Harness
- Battery
- Electronic Controls
- Connectors
- Charging guns
- Charging stations



New Energy Storage Harness



Charging Station
Power Harness



Charging Station
Power Harness



Charging Station
Power Harness



Automotive Power
Harness



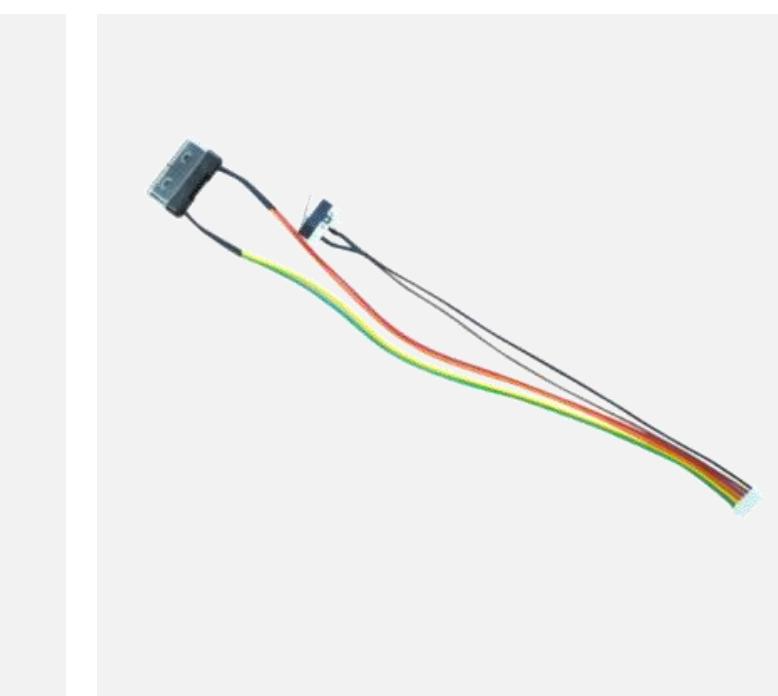
High Power Wiring
Harness



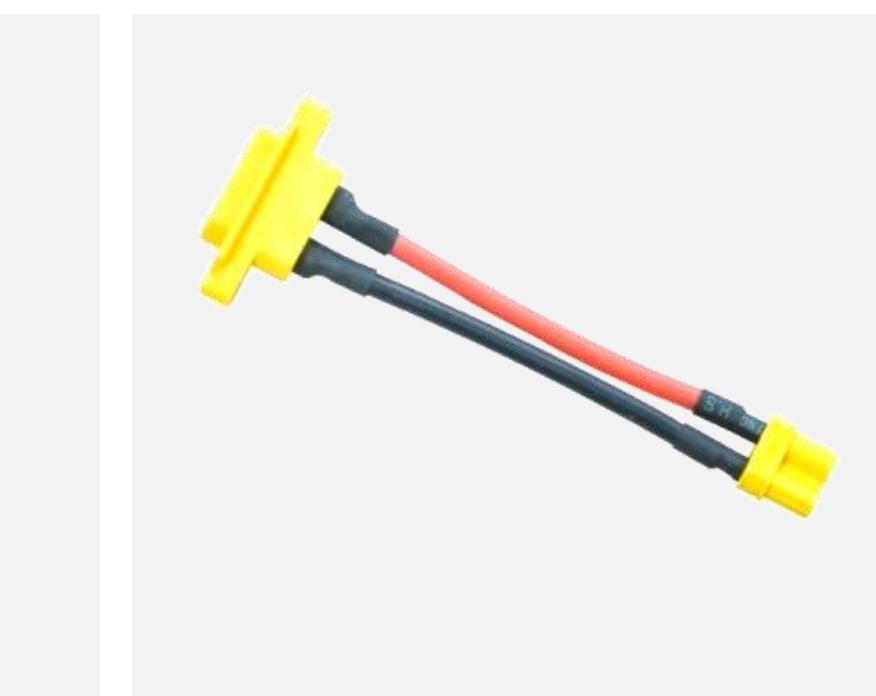
Energy Storage
Battery Harness



Energy Storage
Battery Harness



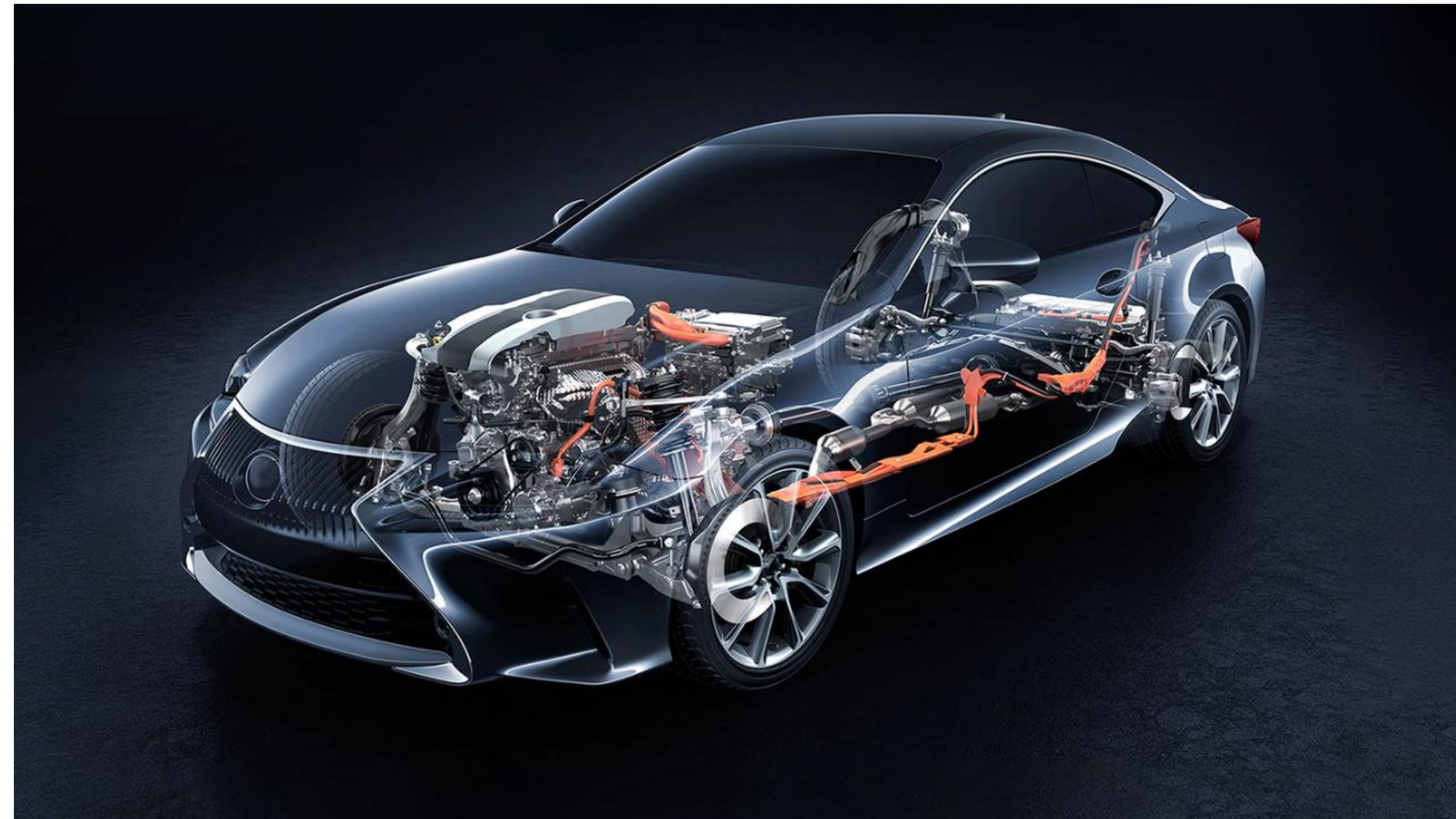
Energy Storage
Battery Harness



Energy Storage
Battery Harness



Energy Storage
Battery Harness



Automotive/Motorcycle Wiring Harness

Applications (including, but not limited to)

- **Specialty Wiring Harnesses**
 - USB/LVDS
 - ANTENNAABS
 - Wheel Speed Sensor

- **Complete Vehicle Wiring Harness**
 - Instrument Panel
 - Wiring Harness
 - Engine Compartment
 - Wiring Harness
 - Engine Wiring
 - Harness
 - Chassis Harness
 - Cockpit Harness

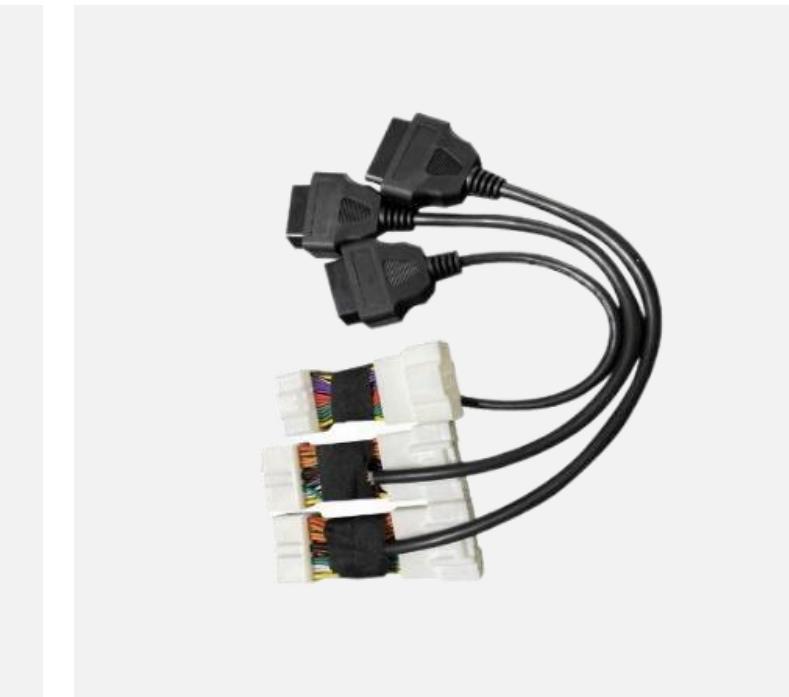
- **Specialty Wiring Harnesses**
 - Door Wiring Harness
 - Roof Harness
 - Seat Harness
 - Lamp Harness
 - Air Conditioning Harness
 - Bumper Harness

- **Body Lamps**
- **Radar System**
- **Car Audio**
- **Power windows and doors**
- **Instrument Panel**
- **Video System**

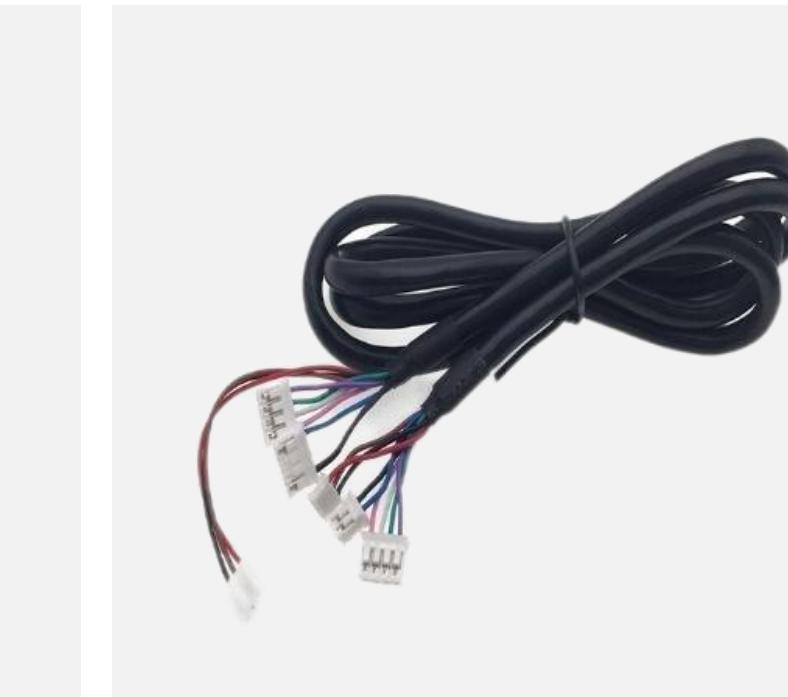
Automotive/Motorcycle Wiring Harness



GPS positioning for
bus transportation



Electric Vehicle Wiring
Harness



Automotive Wiring
Harness



Shared Electric
Vehicle Wiring
Harness



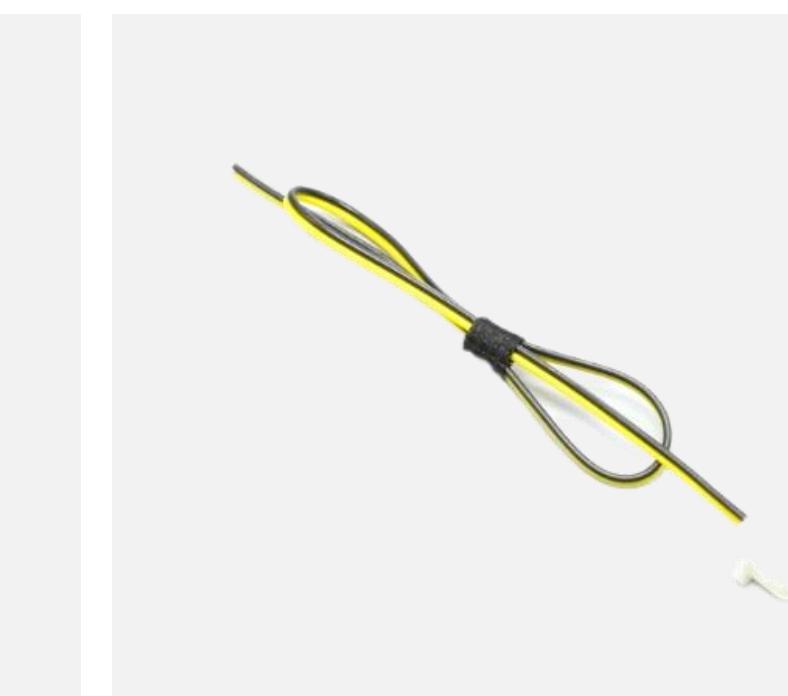
Automotive Wiring
Harness



Automotive High
Voltage Wire Harness



Automotive GPS
Harness



1507 Automotive
Lighting Harness



1507 Automotive
Lighting Harness

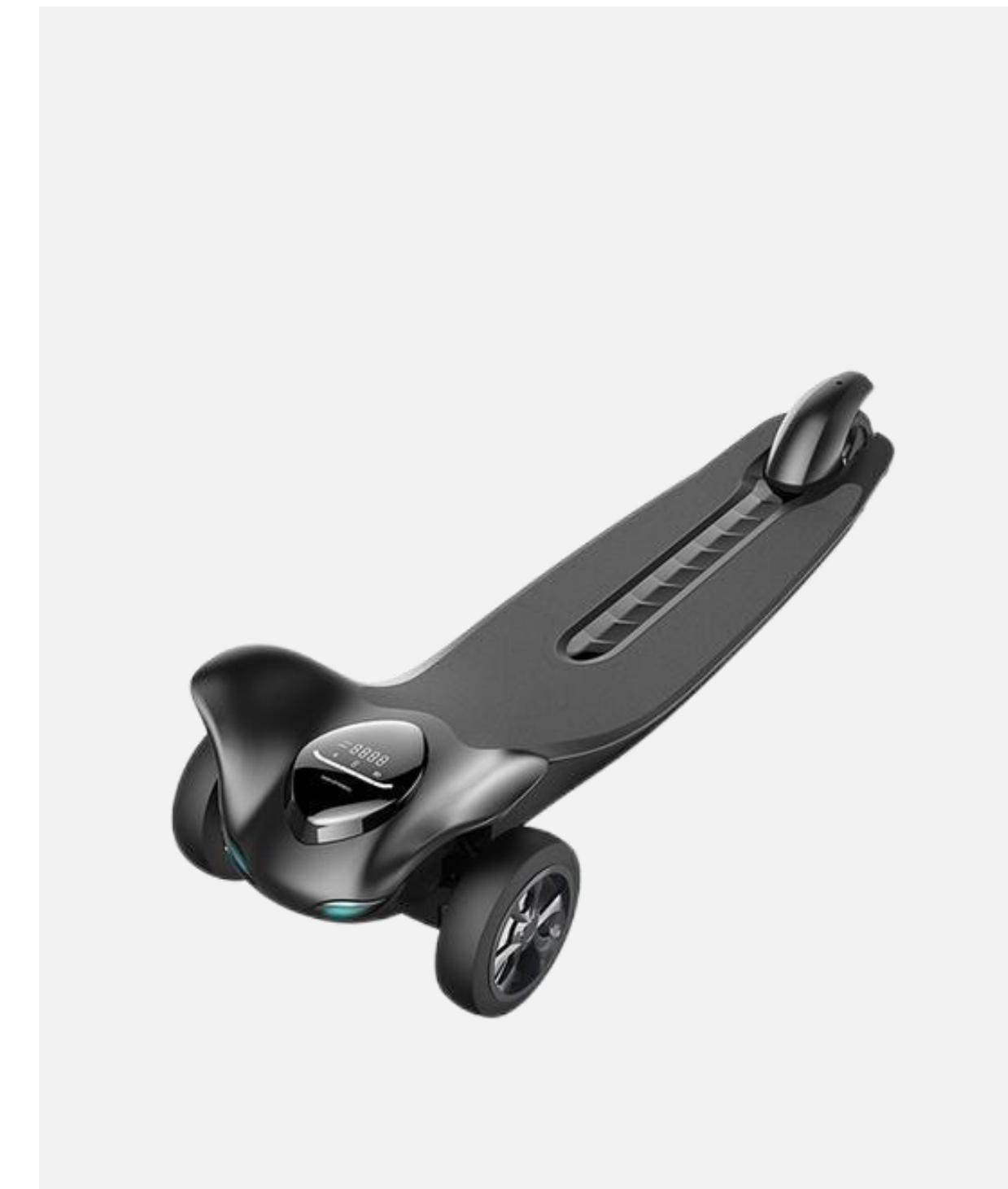


1507 Automotive
Lighting Harness

Electric Scooter Wiring Harness

Applications (including, but not limited to)

- Motor
- Rechargeable
- Battery
- Lamps
- Dial
- Waterproof



Electric Scooter Wiring Harness



Scooter Speed Port Harness



Electric Vehicle Waterproof Wiring Harness



Electric Vehicle Discharge Harness



Electric Vehicle Discharge Harness



Electric Vehicle Wiring Harness



Electric Vehicle Center System Harness



Electric Vehicle Center System Harness



Scooter Charging Port Harness



Scooter Battery Harness



Scooter Motor Harness



Power Tool Wiring Harness

Widely used:

Motor Drive, Charging, Battery, Control
System, Dial, Water Resistant



Medical Device Wiring Harnesses

Widely used:

Monitors, ventilators, analyzers, process control instruments, etc.





Industrial Automation Wiring Harnesses

Widely used:

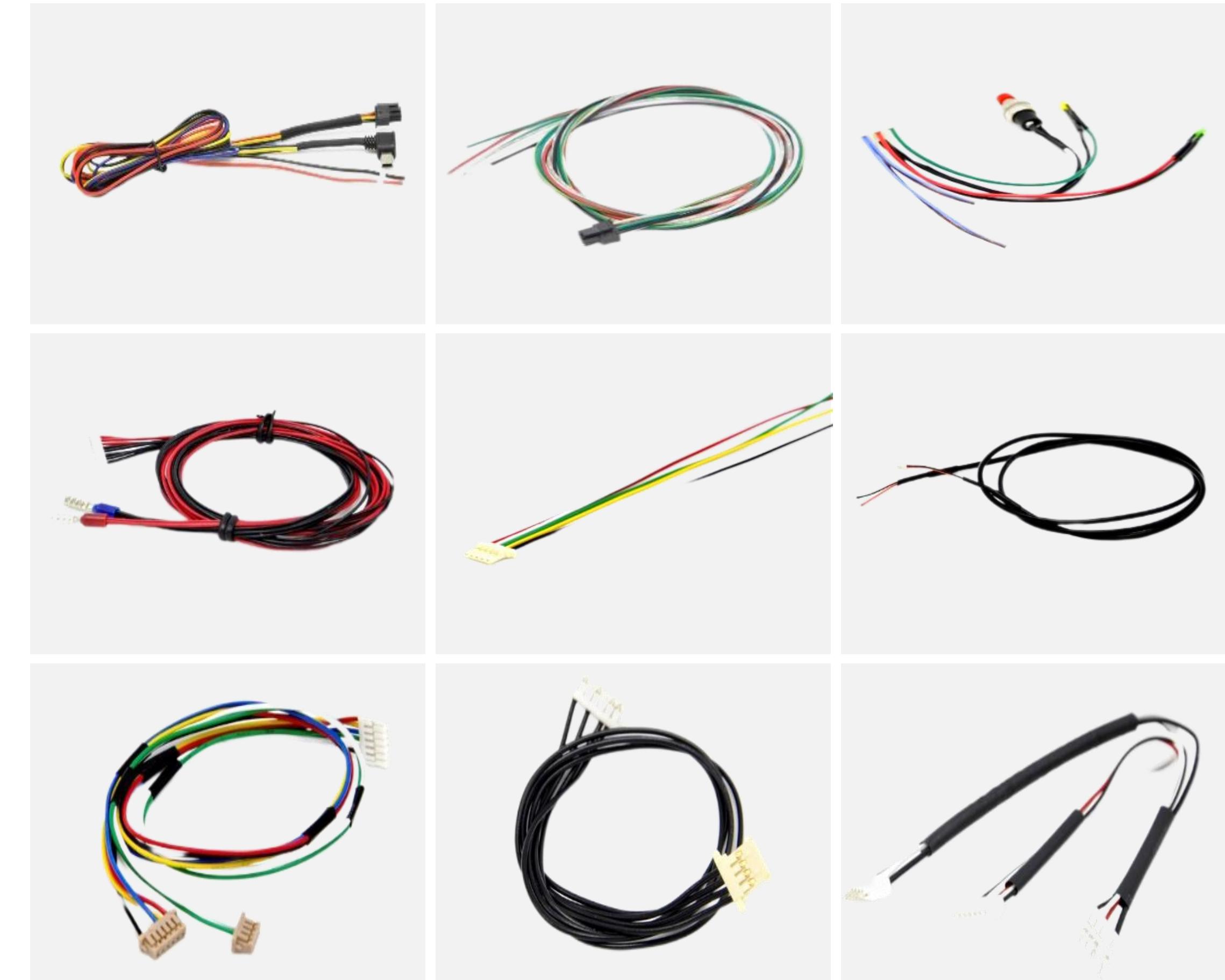
CNC equipment, robots, transmission equipment, etc.



Consumer Electronics Wiring Harnesses

Widely used:

Smart door locks, sweepers, drones,
TVs, money counters, etc.





Photovoltaic connectors and wires

Widely used:

Solar power, transportation fields such as beacon lights, communication/telecommunication fields, oil, marine, meteorological fields, photovoltaic power plants, etc.



Cultural Vision



Culture Philosophy

KONNRA®



Konnra Mission

Create value for customer
Create opportunities for employees
Create contributions to society

Quality policy

Quality First, All employees participate in product quality testing
Keep improving, Customer

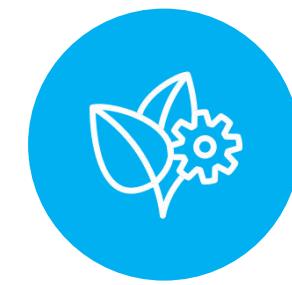
Team Values

Honest and Trustworthy, Due Diligence, Admit mistakes and bear the results, Combination of theory and practices, Teamwork

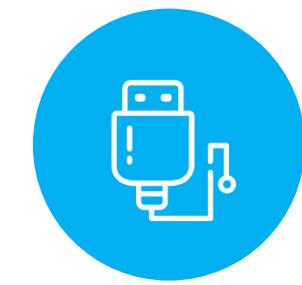
Enterprise Vision

Leading Connector Solution Provider

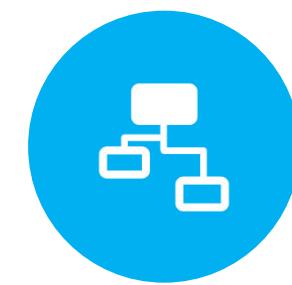
Committed to automotive triboelectric control information transmission solutions



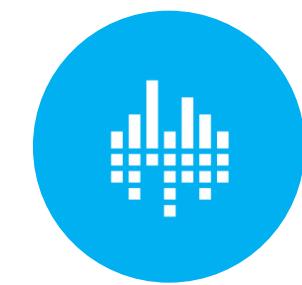
miniaturize



intellectualize

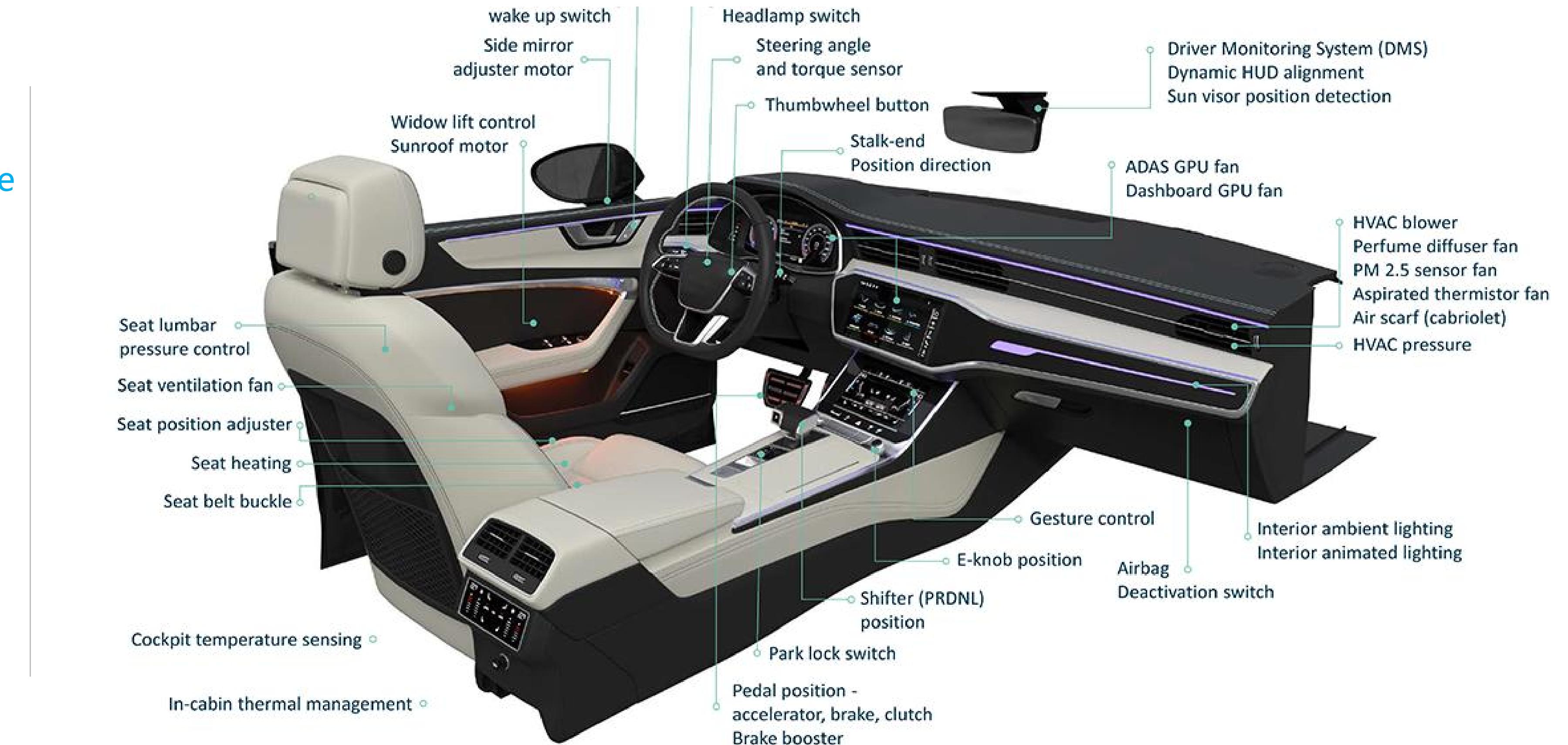


precision



high-frequency

Konnra has a strong, pragmatic and innovative R & D team. We are oriented to meet customer needs with a common goal, tacit cooperation, to provide customers with satisfactory products and quality service, to build the connector industry benchmark and strive!



THANK YOU

Pioneering Innovation Win-Win Cooperation



<https://konnra.com>



<https://konnra.cn>

DONGGUAN KONNRA ELECTRONICS CO., LTD.

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TEL: +86-769-85449875 info@konnra.com

Leading connector solutions provider