History of its Technical Evolution and Business/Product Development

100 years

Founding - 1960s

1970s

1980s

Vehicle Communication Equipment Business 1957～

Car Antenna (Pillar Type)
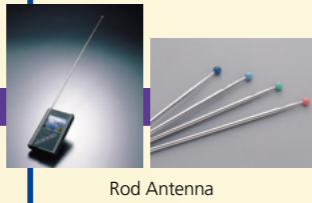
The rod antenna for transistor radios, hit products at that time, was what propelled Yokowo Manufacturing Co., Ltd. to the forefront. Yokowo's high-quality antennas with their smooth extendibility based upon precision pipe processing technologies garnered recognition from electronics manufacturers. In this way, antenna technologies became a core business for the Company.

AM/FM Motor Antenna

Extension Cable A'ssy

Motor Operated Conner Pole

Microwave Components 1983～

Outdoor Unit for BS

Low Noise Block Down Converter

Rod Antenna 1956～2003

Rod Antenna

Personal Communication Antenna

Sporting Goods 1959～1995

Golf Goods
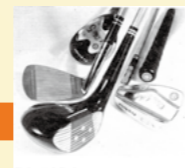
In the midst of the leisure boom during the period of high economic growth, Yokowo took advantage of our pipe technologies to begin manufacturing and selling golf clubs and shafts. The Company has also expanded into metal bats and shafts for rackets.

Metal Bats for Softball

Metal Bats

Full-scale introduction of microwave technologies at the launch of satellite broadcast services. Since then, Yokowo has deployed microwave equipment for satellite broadcasting and VSAT, and it is now an important core technology in the Company's VCCS and CTC business, with significant contributions to supporting 5G throughout its product line-up.

Golf Shafts

Microwave Technology

Antenna Technology

Micro Precision Processing Technology

Pipe Drawing Technology

Precision Pipe Processing Technology
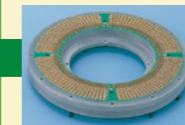
Spring Bar, Founder's Invention

Spring bar craftsmanship transformed into advanced, world-class technologies. These advanced, micro precision processing technologies bring unique, original products that only Yokowo can provide, and these are bearing fruit in diverse fields such as semiconductor inspection, connectors for electronic devices, and advanced medical equipment.

As the founder of Yokowo Manufacturing Co., Ltd., the predecessor of YOKOWO CO., LTD., Chutaro Yokoo (1894 to 1977) refined his skills as a craftsman producing precision pipes used in pocket watch hinges. When wristwatches entered the mainstream, he invented the spring bar. This is a belt-attachment component comprising a spring inserted into an ultra-thin pipe, so it can expand at both ends. This landmark invention became widely adopted overseas, capturing the world's largest market share. This was the starting point of "technical Yokowo" that exists to this day.

Circuit Testing Connector Business 1979～

Contact Probe

Interface Connector

IC Test Socket

Specifications required for probes and sockets for semiconductor testing are becoming more and more exacting, due to the miniaturization and increased performance of semiconductors. Yokowo started its circuit testing connector business in 1979, providing the world with semiconductor testing jigs developed using microwave technology, in addition to its world-class micro precision processing technologies.

Fine Connectors Business 1986～

SPRING CONNECTOR™

Board to Board Coaxial Connector

Everything Started with Pipes

After having finished his apprenticeship in 1922, Chutaro Yokoo decided to go out on his own and start a business, opening the *Seirinsha* bicycle shop the next year. This was destroyed on the day of opening by the Great Kanto Earthquake, but reopened just one month later.

In 1926, using the skills he had acquired over 15 years as a craftsman, he opened a precision pipe processing factory in Mukojima, Tokyo.

Thus was born Yokowo Manufacturing Co., Ltd., the predecessor of YOKOWO CO., LTD.

Until now, and from now on.
Using technology, Yokowo will continue to pioneer the next generation.
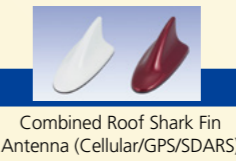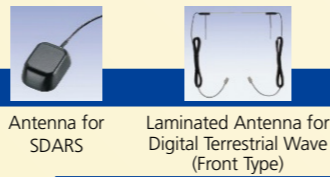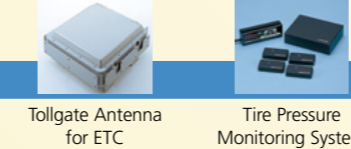
Yokowo — towards a new 100 years

1990s **2000s** **2010s** **2020s**

Vehicle Communication Equipment Business

- Amplifier for Glass Mounted Automobile Antenna
- GPS Antenna
- Diversity Antenna for Automobile TV
- AM/FM Micro Antenna
- Antenna for SDARS
- Laminated Antenna for Digital Terrestrial Wave (Front Type)
- Combined Roof Antenna (Hex Band)
- AM/FM Shark Fin Antenna
- GNSS Antenna
- Combined Roof Shark Fin Antenna (Cellular/GPS/SDARS)

> Yokowo provides the world's leading automotive manufacturers with high-sensitivity, high-quality, and durable vehicle antennas supporting wide frequency bands. The world-leading micro antennas developed by Yokowo have transformed vehicle radio antennas from being mechanical to electrical components.
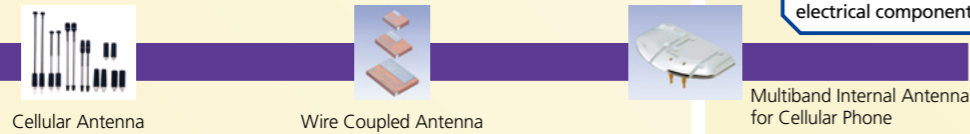
> These days, the communications environment continues its dramatic evolution, with 5G, IoT, etc. Yokowo will continue to leverage its world-leading technology and originality to offer the unique antennas demanded by society.
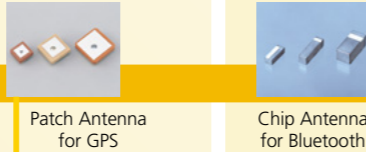
Microwave Components

- Transmitter for VSAT
- Tollgate Antenna for ERP
- Tollgate Antenna for ETC
- Tire Pressure Monitoring System

Rod Antenna

- Cellular Antenna
- Wire Coupled Antenna
- Multiband Internal Antenna for Cellular Phone

Sporting Goods

- Golf Shafts Prelude Pro

Ceramics & Electronic Devices 1996～

- Patch Antenna for GPS
- Chip Antenna for Bluetooth
- LTCC Interposer Substrate
- 12inch Interposer Substrate
- Ultra Thin LTCC-CSP Substrate for LED
- Ultraminiature LED Ring Light of LTCC
- Substrate for Vehicle

> Yokowo's LTCC business, based upon ceramics technologies, has been in commercialization since the early 2000s. In 2019, Yokowo established a joint corporation as LTCC Materials Co., Ltd., achieving an integrated production system from materials development through to product manufacturing.
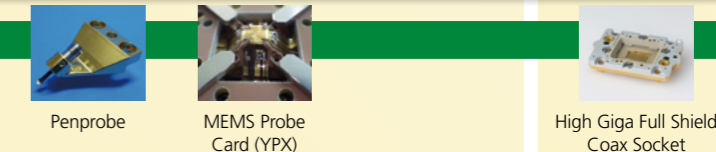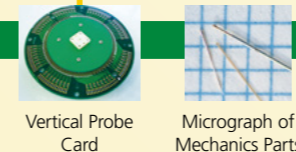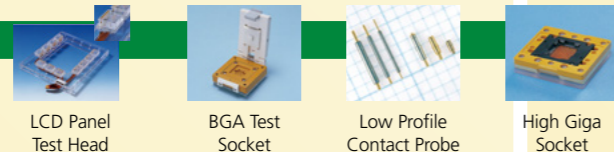
Microwave Technology

Antenna Technology

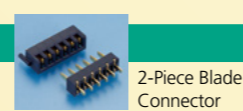## Micro Precision Processing Technology

Ceramic Technology

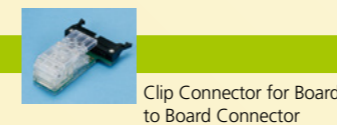## Surface Modication Material Technology

> Special surface processing of materials adds value to products, including in terms of abrasion resistance, heat resistance, adhesive capabilities, and appearance. This is a promising technology that promotes product differentiation and high functionality.
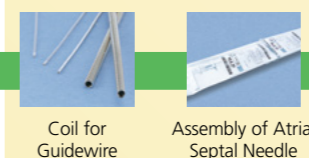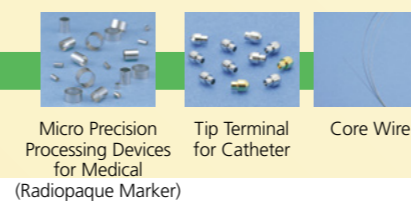
Circuit Testing Connector Business

- LCD Panel Test Head
- BGA Test Socket
- Low Profile Contact Probe
- High Giga Socket
- Vertical Probe Card
- Micrograph of Mechanics Parts
- Penprobe
- MEMS Probe Card (YPX)
- High Giga Full Shield Coax Socket

Fine Connectors Business

- Coaxial Connector for Antenna
- Multi-Contact Coil Connector
- 2-Piece Blade Connector
- Board to FPC/Micro Wire Connector
- Waterproof I/O Connector
- Lead Socket Connector
- Optical Connector
- Waterproof 2-Piece Blade Connector

Test Tools for FPC/FFC, Connectors 1993～

- Clip Connector
- Microwave Module Test Head
- Microwave Function Probe
- Probe Connector / Giga Holder
- Clip Connector for Board to Board Connector
- Board to Board Stamp
- Inspection Tools for Interface Connector

Medical Devices Business 2006～

- Micro Precision Processing Devices for Medical (Radiopaque Marker)
- Tip Terminal for Catheter
- Core Wire
- Coil for Guidewire
- Assembly of Atrial Septal Needle

> Yokowo has been commercializing medical devices as its fourth pillar since 2006, taking advantage of its micro precision processing technology. In 2012, Yokowo acquired ISO 13485 (medical equipment quality management system) certification, and through a startup ecosystem in collaboration with academia, industry, and government, is aiming to provide innovative medical equipment.