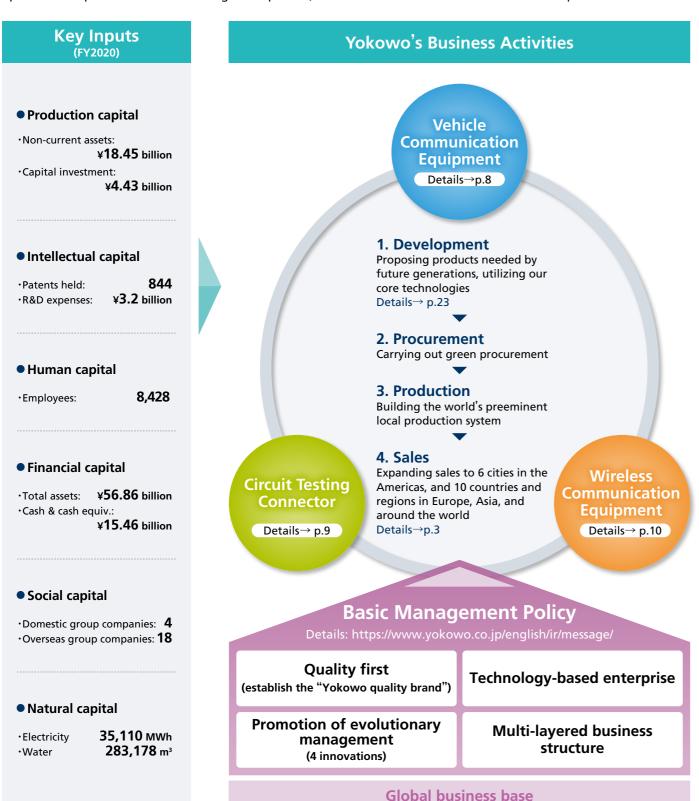
# Yokowo's Value Creation Process

While utilizing our "6 types of capital," the Yokowo Group provides value to society through a multi-layered combination of our core competencies (micro-precision processing, microwaves (high frequency), and advanced devices). Looking forward, our aim is to achieve a sustainable society through our business activities that are based upon the four pillars of our basic management policies, and to strive to continue to create value unique to Yokowo.



# **Key Outputs** (FY2020) Sales ¥59.97 billion Representative products **Vehicle Communication Equipment** ·Shark Fin Antennas ·GNSS Antennas **Circuit Testing** Connectors ·Probe Cards ·Hi-Giga Sockets Wireless Communication **Equipment** ·Spring Connectors ·Guide Wires / Catheters **Assembly Products** Reduction in

CO<sub>2</sub> emissions

Year-on-year

-215 t-co.

## **Value Provided to Society Reduction in environmental** — Addressing social issues impact Related SDGs\* Innovations in information & communication technology **Providing minimally invasive** ₫ medical equipment Improvements in daily safety and comfort Improved traffic and transport Improved, more resilient social infrastructure **Human resource training GOALS** making the most of diversity SDGs: Abbreviation of Sustainable Development Goals. These were adopted by the United Nations Building of a fair working in 2015 as common goals for 2030, to confront environment issues such as poverty and climate change

# **Achieving Our Mission**

## **▶** Corporate Mission

At Yokowo, we consider our corporate mission to be "to create a sustainable society, Yokowo responds to the needs of advanced companies that are undertaking structural reforms, and helps to create the future by offering high-quality products backed by its core technologies."

15 | Yokowo 2021 Integrated Report | 16

# Yokowo's Manufacturing

The Yokowo Group actively incorporates cutting-edge technologies while reaching greater heights with its core technologies, such as micro precision processing technology, antenna technology, and microwave technology, providing a wide variety of original products for the world's leading companies.

Furthermore, Yokowo is promoting innovation each and every day in the production process to achieve high levels in terms of quality, cost, delivery and safety (QCDS).

## **Cutting-Edge Research and Development**

## **Basic Research**

**Microwave Technology**  Amid the development of automated driving and 5th generation mobile communications systems (5G), microwave technology is becoming increasingly more important in the fields of vehicle communication and semiconductors. Yokowo is progressing with the establishment of the world's highest-level microwave technology in terms of both wireless communication and semiconductor testing.

**Process** Development **Micro Precision Process** 

In addition to the world's highest-level micro precision processing technology, Yokowo is strengthening its competitiveness in precision plating and MEMS processing.

**Production Process** 

All major elemental technologies are developed within Yokowo's production engineering department, which also promotes Al applications in production and quality control.

**Design Process** 

Yokowo is establishing an integrated system from design to maintenance that utilizes multiple uses of 3D computer-assisted design information.

Commercialization Research

Yokowo has established a system in which the R&D department, the process technology department and the department responsible for new product development and commercialization can work together closely. By incorporating cutting-edge technologies in collaboration with other companies and universities, Yokowo is also promoting product evolution and a multi-layered business structure.

## **Applied Research**

- System proposals related to building social platforms that utilize wireless technology and software development capabilities
- Development of high-speed optical communication devices and connectors, and automatic testing technology for wireless antennas incorporated in semiconductor devices essential for the evolution in automated driving and 5G
- Turnkey system proposals for semiconductor testing tools

## **Multi-Layer Building Products**

## Vehicle antennas



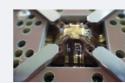
Software applications



Semiconductor testing



High frequency



Connectors for electronic devices



Medical devices



## **Fields for Product Roll-Out**

Vehicle Antennas

Automated driving systems

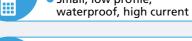


Semiconductor Testing Tools ● 5G ■ Turnkey



**Expanding and Strengthening** 

**Connectors for Electronic Devices** Small, low profile,





**Medical Devices** 

Precision parts Assembly products

# Strategic Development

**Social Platforms** 

Car sharingDrones



**High Frequency Device** 

AmpsFilters



**Optical Communications** Connectors

Photoelectric conversion

**Precision Plating** • Wet • Dry

The world's number one manufacturer for high-frequency, wireless applications, and precision parts

17 | Yokowo 2021 Integrated Report Yokowo 2021 Integrated Report | 18

# Yokowo's Materiality

In 2020, Yokowo identified our materiality as a Group. This clearly states the contribution to society made through our business activities, and incorporates the desire of our management to "make Yokowo a good company." Through the promotion of innovation and reforms to business models, we are both sustainably growing our business, and contributing to the environment, society, and diversity.

## "Make Yokowo a good company" — Three Wills

- Be a company that customers and their customers feel comfortable working with
- Be a company that society (including local communities) and its business partners feel comfortable interacting with
- 3 Be a company where employees feel comfortable being employed, and which ensures that employees' families are happy for them to work there.

## **Process to Identify Materiality**

## Specific processes are as follows:

- 1 List themes considered by the Company or its stakeholders to be important based on management policies, medium-term management plans, specific materiality by SASB industry, etc.
- ② Refine themes and set targets through workshops with General Managers of business divisions and Chief Officers of business strategy divisions.
- ③ After reviews by the Board of Directors including outside directors and outside Audit & Supervisory Board Members, approval of items and KPIs.
- 4 Organize the relationship with CSR issues, and clearly detail the specified results in the integrated report and on the website.

## **Three Priority Issues (Materiality)**

From the candidate issues that were extracted and analyzed using the process outlined above, we identified the following three priority issues:

- The environment
- Local communities
- Diversity and inclusion

## 1 Be a company that customers and their customers feel comfortable working with

- Establishing the "Yokowo Quality Brand" focusing on the highest quality, and on zero hazardous chemical substances
- High quality, high productivity, and reduced environmental impact resulting from reforms in production processes through the New 55 (Simple, Slim, Small, Short, Smooth) Concept, and through AI
- Enhancing a research and development system that promotes more in-depth and advanced world-class micro precision processing and microwave (high frequency) technologies, as well as reducing our environmental impact through the development of ultra-compact, energy-saving products
- Utilizing our antenna and software technologies to break into the field of MaaS
- Promoting the F0 Conference and other quality improvement activities
- Integrated management of technologies using PLM, and improvements to quality pre-verification functions using digital twins
- Reducing environmental impact through our business activities Promotion of recycled materials in plastic molding, and reductions in waste Moving to plastic-free packaging and transport pallets, and conversion to biodegradable
- Recycling of cutting oils, etc. (joint research with universities and technical colleges)

## Contributions to treatment of illnesses and rare diseases

- Development of innovative medical devices through the use of our world-class micro precision processing and microwave (high frequency) technologies
- Industry-academia open innovation (Gunma University, University of Tsukuba, Tokai University, Kobe City Medical Center General Hospital, UCLA, etc.)
- Construction of an ecosystem with universities, hospitals, and startup businesses

## Promoting measures in response to climate change

Formulating and promoting concrete measures in response to climate change in order to realize carbon neutrality by 2050.

- Responding to climate change Formulating concrete measures that conform to the recommendations of the FSB Task Force on Climate-related Financial Disclosures (TCFD) Disclosure using the Carbon Disclosure Project (CDP) framework
- Water resource management (reductions in water usage, improved wastewater
- Resource recycling (reductions in waste quantities, promotion of zero emissions)

## ② Be a company that society (including local communities) and its business partners feel comfortable interacting with

## Dialog with local communities and contributions to their development

- Employment of local residents
- Donations to local governments, and sponsorship of local events
- Donations to Tomioka City in Gunma Prefecture and Kita City in Tokyo to support medical facilities to treat COVID-19
- Entering into a naming rights partnership agreement with Tomioka City
- Trash cleanup activities around the Tomioka plant
- Tomioka City Educational Fund, Tomioka World Heritage Exhibition Maintenance and Managemen
- Agreement on Gunma University Industry-academia Collaboration
- Donations to the Rotary Yoneyama Memorial Foundation and Disaster Relief Funds through the Tomioka Rotary Club
- Through the Tomioka Chamber of Commerce & Industry, work in collaboration with the municipal government to promote solutions to local issues
- Education assistance for elementary, junior high, and high schools
- Contribution to local revitalization through expanded hiring of foreign staff in the Tomioka area (utilizing TISP)
- Promoting activities to provide support for SMEs and for the cultivation of young people who will play important roles in the future, as a sponsoring member of the Certified Management Support NPO Club, a Specified Nonprofit Corporation registered with Tokyo Metropolitan Government

## • Fulfilling social responsibility throughout the supply chain

- Fair and equitable selection, and compliance with the Subcontracting Law
- Building relationships as an equal partner
- Building a checking system to eliminate unethically mined resources, etc. (conflict minerals monitoring system)
- Multi-layered production bases (Vehicle Communication Equipment segment:
- Construction of a fault-tolerant supply network (duplicated lines and networking)
- Strengthened support system with Tier 2 and Tier 3 suppliers
- Establishment of a global BCP system, and constant testing to improve its effectiveness
- Building of a human rights check system in cooperation with local governments and NPOs to eliminate child labor and unethically mined resources, etc.

## 3 Be a company where employees feel comfortable being employed, and which ensures that employees' families are happy for them to work there.

### Promotion and development of workforce diversity and inclusion

- Promotion of the TISP (Tomioka International Specialist Park) concept
- Employing around 100 specialists from overseas and establishing business management processes in which collaboration with overseas staff is considered normal will stimulate business activities that make the most of this diversity, and through improved living environments we will contribute to regional interaction and
- Expansion and development of women's careers

Revising and promoting the action plan in accordance with the Revision of the Act on Promotion of Women's Participation and Advancement in the Workplace, and expanding and reinforcing this throughout the PDCA cycle

Revising and promoting the action plan in accordance with the Act on Advancement of Measures to Support Raising Next-Generation Children, and expanding and reinforcing this throughout the PDCA cycle

Improving work-life balance by establishing on-site company nurseries

- Creating a workplace environment allowing all employees to play an active role regardless of age
- Establishing a special subsidiary to provide employment for persons with disabilities and expand their opportunities for participation

## Achieving an appealing, rewarding work environment

- Improving work-life balance by establishing a teleworking system
- Improving work-life balance by encouraging employees to take annual paid
- Improve employee satisfaction by expanded support for illness prevention
- Establishment of awards system, including for social contributions
- Get-together Interactive meetings (product technologies, production
- Establishment of global employee promotion and HR treatment system
- Establishment of an Advanced Technical Research and Development Center to provide an appealing working environment for technical personnel
- Offering advanced technical training opportunities (AI and other graduate education, business school, external research organizations)
- Expanding long-term training and apprenticeship programs in Japan for employees in locations overseas thus improving their abilities, and establishing a human resources system with global applicability
- Strengthened risk management (establishment of Business Risk Management Committee, disclosure of major risks)
- Achieving fair market competition (setting of Group rules, and monitoring of compliance) Avoidance of corruption, bribery, and anti-competitive behavior

## Related SDGs







Strengthened compliance and governance







## **Related SDGs**























More advanced

business activities and social contribution GO BEYOND~Challenge the Next Stage~

19 | Yokowo 2021 Integrated Report Yokowo 2021 Integrated Report | 20

## **▼**Materiality targets and progress status

	Materiality	Performance Indicator	Target Value	Achievement Level by FY2020
<ul> <li>Be a company that customers and their customers feel comfortable working with</li> </ul>	Establish Yokowo as a quality brand by using the highest quality, and by a move to zero hazardous chemical substances	Number of innovative medical devices created backed up by IP (annual)	5	2 Under development (specifications finalized)
		Establishment of micro precision and microwave laboratories	Established	Planning for the establishment of the new Micro Process R&D Center (construction of which is scheduled to begin in February 2022, and be completed in late 2022)
	Contributions to treatment of illnesses and rare diseases	Number of treatments provided to the field of rare diseases with low patient numbers and without established treatment methods (annual)	3	1 Under development (prototype stage)
	Response to climate change Formulating concrete strategies that conform to TCFD recommendations Disclosure using the CDP framework Planning and progress management by the Board of Directors	GHG emissions Compared to FY2014 Target for 2030	Scope 1 and 2 35% reduction	Commencement of preparations for the adoption of photovoltaic power generating facilities at the Tomioka Plant and Vietnam Plant, which are the Company's core plants Commencement of discussion of concrete measures for reducing Scope 3 emissions
		Water use (basic units) Target for 2030	10% reduction compared to FY2020	17.0% reduction compared to the previous fiscal year
		Amount of waste generated Target for 2030	10% reduction compared to FY2020	15.5% reduction compared to the previous fiscal year
		Number of major compliance violations (annual)	0	0
ä	Strengthened compliance and governance	Training participation rate (annual)	100%	Information security e-learning: 98% Harassment prevention e-learning: 98%
<ul> <li>② Be a company that society (including local communities)</li> <li>and its business partners feel</li> </ul>	Dialog with local communities and contributions to their development	Number of community service projects undertaken (annual)	10	Yokowo is implementing activities as a namir rights partner at the Tomioka Plant. For more details, please see the Local Communities section (p.40).
	Fulfilling social responsibility throughout the supply chain	Violations of the Subcontracting Law	0	0
	Establishment of a global BCP system, and constant testing to improve its effectiveness	BCP strategy-based best mix of overseas and domestic production	BCP certification	In the Fine Connector business in the Wireles Communication Equipment segment, we are proceeding with the establishment of a new business continuity planning (BCP) system
	Concern for human rights  Building of a check system in cooperation with local governments and NPOs to eliminate child labor and unethically mined resources, etc.	In-house checks, and actively contributing to the promotion of fair labor practices through collaboration with NPOs in each country	NPO cooperation activities 5 (annual)	We comply with all of our customers' human rights status check requirements, and we are exploring possibilities for collaboration with NPOs to strengthen our own internal checkin function
③ Be a company where employees feel comfortable being employed, and which ensures that employees families are	Promotion and development of workforce diversity and inclusion	Ratio of female leaders (overall ratio of female employees who are section heads or higher)	Comparable with levels for males	Male 43.7% Female 11.5% We are currently implementing roundtable discussions to address this issue. For more details, please see the Employees section (p.34).
		Create a workplace environment allowing all employees to play an active role regardless of age	Employment age limit 70 and above	We have adopted a framework that enables persons aged 65 or over to continue working as contract employees under outsourcing agreements
		Number of TISP hires	120	Number of TISP hires at the Company 61 For more details, see the Diversity section (p.
		Ratio of employees with disabilities	150% of legally stipulated ratio	1.52% We are currently preparing to establish a spe subsidiary for the employment of people wit disabilities. For more details, please see the Diversity section (p.35).
	Achieving an appealing, rewarding work environment	Percentage of annual paid leave taken	90%	63.6%
		Number of on-site company nurseries established (including contracted service provision)	3	Preparations are underway as part of the Tomioka Plant renewal plan. We are also planning to introduce a childcare and nursing care plan as part of the new personnel syster
		Number of workplace accidents (annual)	0	6
	Expanding long-term training and apprenticeship programs in Japan for employees in locations overseas thus improving their abilities, and strengthening the business mindset of Japanese employees through interaction with these employees	Number of overseas long-term trainees accepted (annual)	20	0 In FY2020, although recruitment at overseas facilities went ahead as normal, the acceptar of overseas long-term trainees in Japan was on hold because of the spread of the COVID-pandemic.

## VOICE

Contributions to treatment of illnesses and rare diseases
—Status of progress made in building a startup ecosystem



Hiroshi Igahara
Executive Officer cum General Manager,
MD Business Division

Established in 2006, Yokowo's Medical Device (MD) business is a relatively young business. Since being appointed General Manager of the MD Business Division in 2017, I have tried to develop the business in line with the vision of "getting every individual employee to experience for themselves the satisfaction of playing a part in contributing to society through business." However, it has also been brought home to me just how difficult it is for a single company to achieve this on its own.

Around this time, it just so happened that I made the acquaintance of Mr. Kazuya Shobayashi, the Chairman of Biomedical Solutions, Inc. We shared our views regarding the issues affecting the healthcare sector in Japan, such as the fact that cultivation of medical device startups has been slow to develop, and we discussed ways of addressing these issues, during which discussion I was able to draw on my own experience in areas such as venture capital investment and M&A implementation.

In 2018, at a meeting of the Council on Promoting Development of Next-Generation Medical Devices organized by Japan's Cabinet Secretariat, Mr.

Shobayashi proposed the development of a startup ecosystem as a framework for the development of medical devices in Japan. Yokowo gave its wholehearted support for this proposal, and decided that we would serve as a manufacturing partner for the realization of revolutionary new product ideas developed by startups. With Mr. Shobayashi and various universities and startup firms proceeding with the development of relevant concepts, a large number of product ideas have been generated, with a focus on revolutionary development projects, many of which relate to the treatment of intractable diseases. In 2021, we began collaboration with four medical device startups (all of which Yokowo has invested in), and we have also launched the Japan Medical Start-up Incubation Program (JMPR) foundation to provide further support in the area of basic research.

This initiative has been positioned as an important future strategy for Yokowo's MD business. One of our outside directors commented that "the concept of the startup ecosystem itself embodies the core meaning of the SDGs," and MD Business Division staff have been unanimous in saying that they have been able to experience for themselves the making of a contribution to society even greater than that normally made through our business activities, and have felt a real sense of achievement. I believe that this is an initiative that will make it possible to realize both a better company and a better society.

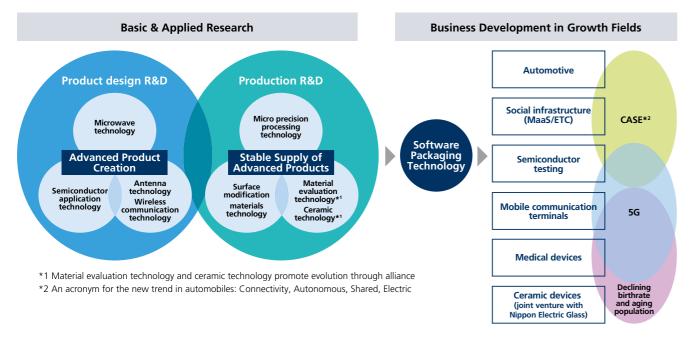
Going forward, as the head of the MD Business Division, I hope that I will be able to make a contribution towards the success of the startup ecosystem, while collaborating with many people who are involved in the healthcare sector.

21 | Yokowo 2021 Integrated Report | 22

# Research and Development

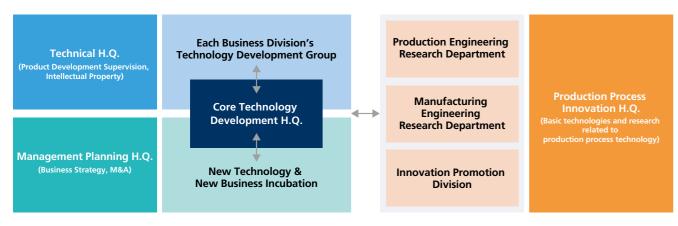
The Yokowo Group has set the five fields of micro precision processing technology, microwave technology, antenna technology, surface modification materials technology (surface processing/modification of material), and semiconductor application technology as the Company's core technologies supporting its competitiveness in the marketplace. Through greater sophistication and wider use of all its technologies, Yokowo is building a multi-layered business structure to create innovative, high-tech products.

## **Research and Development Policy**



Product design R&D and production R&D are essential and inseparable elements of Yokowo's research and development. With the two running in sync Yokowo is able to create advanced products at the cutting edge, providing a stable supply to the Company's customers.

## **Research and Development System**

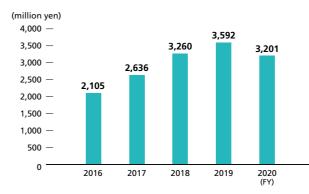


The Core Technology Development H.Q. is in charge of the research and development of technologies, such as microwave technology, micro precision processing, and MEMS technologies, needed to give our products a competitive advantage. Whereas the engineering departments in each business division are in charge of developing applications for new products with the Technical H.Q. overseeing the whole product development process. Likewise, the Production Process Innovation H.Q. is in charge of research related to the production of products, and the Management Planning H.Q. is in charge of new technology and new business incubation.

## **R&D** Investment

Based on the Yokowo Group's company-wide growth strategy, the R&D department, the business division's technology department, and local development centers work together to promote research and development centered on the Company's core technologies. In particular, Yokowo is focusing on the research and development of new technologies and new products with an emphasis on developing products with a higher degree of technological integration and increased added value.

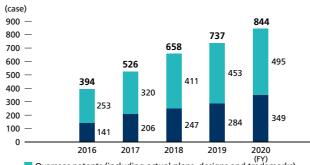
## **▼**R&D Expenses



## **Intellectual Property Rights**

With its sights set squarely on target business fields and business development for intellectual property, Yokowo is strengthening the foundations of its intellectual property, the cornerstone of its business strategy, by steadily increasing the number of patents it holds in Japan and overseas and by making use of licensing agreements, etc.

## **▼**Patents held



Overseas patents (including actual plans, designs and trademarks)

Domestic patents (including actual plans, designs and trademarks)

## **Main R&D Themes**

Over the medium to long term, Yokowo's main markets, namely the automotive, semiconductor testing, mobile communication terminals, and medical device markets, are expected to grow in size due to: advances in new eco-friendly vehicles such as plug-in hybrids and electric vehicles as well as advanced driver-assistance systems (ADAS) and automated driving; the actualization of new semiconductor demand for next-generation high-speed, large-capacity communications typified by 5G; the rise of next-generation products such as wearable devices; and the spread of minimally invasive treatment and advances in genetic testing technology.

The main R&D themes for each segment related to the above markets are as follows:

## **Vehicle Communication Equipment**

- Antenna system for V2X essential for ADAS and automated driving
- Technology development for communication systems, equipment and devices for the CASE era

## **Circuit Testing Connector**

- Development of test sockets for high-current, high-speed and high-frequency devices
- Research and development aimed at improving performance, durability, and functionality, e.g. probe surface modification technology
- Development of probe cards that keep pace with the semiconductor device technology roadmaps (narrower pitch, more pins, and higher frequencies)

## **Vehicle Communication Equipment**

## **Fine Connector Business**

- Development of high rated connectors
- Development of optical connectors for high-speed optical communication

## **Medical Device Business**

Joint development of new minimally invasive medical equipment and testing systems with universities and medical institutions in Japan and the United States that utilize micro precision processing technology and microwave technology

23 | Yokowo 2021 Integrated Report | 24

# **Product Technology**

The Yokowo Group develops a whole range of innovative products based on its unique technological capabilities built up over many years, supplying electronic, electrical and automotive manufacturers around the world.

## Innovative Product Development through the Fusion of Yokowo's Technologies



By combining Yokowo's production engineering for increased production efficiency with its core technologies of micro precision processing technology, microwave technology, antenna technology, and surface modification materials technology, the Company is able to develop products with innovation and creativity. Amassing technical expertise with greater sophistication, Yokowo remains committed to the fundamental research and development of new core technologies.

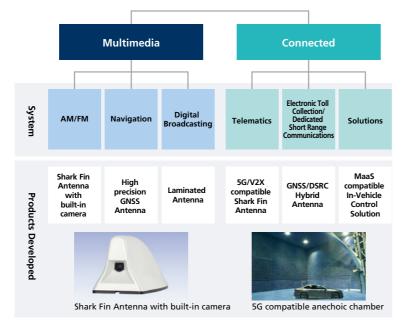
Through these unique technologies, Yokowo manufactures a whole range of innovative products such as: vehicle antennas; testing tools for semiconductors and electronic components; connectors for electronic devices; and medical devices. Yokowo continues to supply these products and more to the automotive, semiconductor testing, mobile communication terminals and medical device markets.

## **Automotive Market**

To meet the needs required for smaller, multi-use, lower profile, smart vehicle antennas, Yokowo is developing antenna systems that support nextgeneration vehicle communication by making full use of modular technologies as well as the antenna and microwave technologies Yokowo has built up

Along with Yokowo's state-of-the-art facilities, including an electromagnetic field simulator and an anechoic chamber for measuring millimeter-wave frequencies (up to 40GHz) in 5G communications, Yokowo makes full use of its world-leading technological prowess to manufacture innovative, industry-leading products.

## **▼**Vehicle Communication Equipment Business Domain



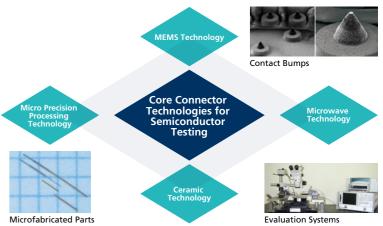
## **Semiconductor Testing Market**

More than ever before semiconductors and electronic components are required to have faster speeds, higher frequencies, and better integration, with similar expectations also for the testing process. By making full use of MEMS technology, in addition to Yokowo's micro precision processing and microwave technologies developed over many years, Yokowo develops and supplies products globally in all areas of high-speed, high-frequency as well as front- and back-end testing processes.

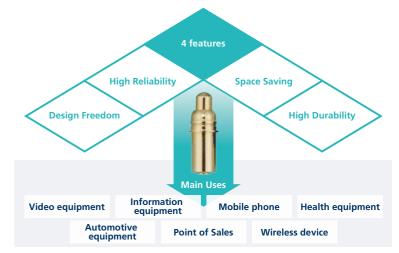
## **Mobile Communication Terminal Market**

In the rapidly expanding mobile communications terminal market, there is an increasing need for detachable, low profile space-saving connectors with detachable durability and environmental worthiness becoming even more important in commercial information devices. Yokowo's proprietary spring connectors accurately capture these market needs, becoming used more widely in a variety of applications.

## **▼Circuit Testing Connector Business Domain**

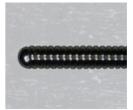


## ▼Features and Main Uses of the Spring Connector



## **Medical Device Market**

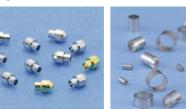
Yokowo is making full use of technologies such as micro precision processing, coating, assembly, as well as product design and evaluation to develop such products as OEM guide wires, catheters and other items in the field of minimally invasive medical equipment. Yokowo possesses its own equipment and manufacturing lines to provide a complete service from product processing and finished product assembly to hydrophilic coating, packaging and sterilization. In the assembly process, various connections methods can be selected depending on the product's use.





Enlarged Figure of Hydrophilic

Assembly of Esophageal Temperature Probe





Tip Terminal of Catheter

25 | Yokowo 2021 Integrated Report Yokowo 2021 Integrated Report | 26