Yokowo's Value Creation

# 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.



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# 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 (high frequency) 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).



• Turnkey system proposals for semiconductor testing tools

# **Fields for Product Roll-Out**

• Automated driving systems

Semiconductor Testing Tools • 5G • Turnkey

Connectors for Electronic Devices • Small, low profile, waterproof, high current

Medical Devices

Precision parts
Assembly products

Social Platforms

Car sharing
Drones

High Frequency Device Testing
 Amps • Filters

Optical Communications
Connectors
Photoelectric conversion

**Precision Plating** 

• Wet • Dry

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

# Yokowo's Materiality

In 2020, Yokowo identified our materiality as a Group. This clearly states management's will and 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
- Be a company where employees and their families feel comfortable being employed

## **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.

## 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 plastics Recycling of cutting oils, etc. (joint research with universities) Establishment and operation of Green Procurement Guidelines

#### 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 (startup ecosystem)

#### Contribution to the conservation of biodiversity

- Climate change (reductions in greenhouse gases)
- Water resource management (reductions in water usage, improved wastewater treatment)
- Resource recycling (reductions in waste quantities, promotion of zero emissions)

## • Strengthened compliance and governance

- 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

Environment

[Activity theme]



# 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
- Trash cleanup activities around the Tomioka plant
- Participation in Eco Cap activities
- Tomioka City Educational Fund, Tomioka World Heritage Exhibition Maintenance and Management
- 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)

#### • 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 product sites (Vehicle Communication Equipment segment: establishment of a third production base)
- 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 check system in cooperation with local governments and NPOs to eliminate child labor and unethically mined resources, etc.

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	[Activity theme]	Local Communities	[Activity the

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

## Be a company where employees and their families feel comfortable being employed

#### • 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 nanagement 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 revitalization.

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

#### 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 leave

Improve employee satisfaction by expanded support for injury and illness prevention and treatment

Establishment of awards system, including for social contributions

Get-together Interactive meetings (product technologies, production technologies, QC)

Establishment of a 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 strengthening the business mindset of Japanese employees through interaction with these employees





#### ▼ Targets and performance indicators for materiality

Targets for 2030					
	Materiality	Performance Indicator	Target Value		
Be a company that customers and their customers feel comfortable working with	Establish Yokowo as a quality brand by using	Number of innovative medical devices created backed up by IP (annual)	5		
	the highest quality, and by a move to zero hazardous chemical substances	Establishment of micro precision and microwave laboratories	Established		
	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		
		Greenhouse gas emissions (basic units)	10% reduction over FY2020		
	Contributing to the conservation of biodiversity	Water usage (basic units)	10% reduction over FY2020		
		Generated waste (basic units)	10% reduction over FY2020		
	Strengthened compliance and governance	Number of major compliance violations (annual)	0		
	Strengthened compliance and governance	Training participation rate (annual)	100%		
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	Number of community service projects undertaken (annual)	10		
	Fulfilling social responsibility throughout the supply chain	Violations of the Subcontracting Law	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		
	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)		
Be a company where employees and their families feel comfortable being employed		Ratio of female leaders (overall ratio of female employees who are section heads or higher)	Comparable with levels for males		
	Promotion and development of workforce	Create a workplace environment allowing all employees to play an active role regardless of age	Employment age limit 70 and above		
	diversity and inclusion	Number of TISP hires	120		
		Ratio of employees with disabilities	150% of legally stipulated ratio		
		Percentage of annual paid leave taken	90%		
	Achieving an appealing, rewarding work environment	Number of on-site company nurseries established	3		
		Number of workplace accidents (annual)	2		
	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 nominated (annual)	20		

# VOICE

# Towards building a startup ecosystem that solves the challenges facing the healthcare industry, and contributes to the achievement of SDGs

"Make Yokowo a good company." This phrase is always being repeated by Yokowo's President Takayuki Tokuma, and represents guiding principles for officers and employees when making daily management and business decisions.

At Yokowo, we started our Medical Devices business in 2006. The key leader in starting up this business was President Tokuma, who was at the time working as an officer in charge at the Management Planning H.Q. for new businesses. This includes a strong desire to link our core technologies directly to making a contribution to society. In 2017, I was appointed to the position of General Manager of the MD Business Division. While contributing to society through our business, I wanted every single employee to feel a sense of fulfillment in playing their parts. At the same time, I realized the difficulty of achieving this on our own.

It was at this juncture that we met Kazuya Shobayashi, the CEO of Biomedical Solutions Inc. In exchanging opinions with Mr. Shobayashi about the medical industry in Japan, we shared issues such as Japan lagging behind in developing medical device ventures, and Japan's medical industry being heavily dependent on imports—we agreed to work together in order to resolve these issues.

During our discussions, in which I included stories of my own experience in start-up business investment and M&A, Mr. Shobayashi presented a proposal for a startup ecosystem as a framework for the domestic development of medical devices at the Council for

Hiroshi Igahara Executive Officer cum General Manager, MD Business Division

> Promotion of the Next-Generation Medical Equipment Development sponsored by the Cabinet Secretariat in 2018. In full agreement with this, Yokowo has assumed a role as the manufacturing partner in this venture in order to bring these innovative product ideas to reality.

With Mr. Shobayashi, universities, and venture capital developing the vision and concepts, they have come up with plenty of product ideas, centered around innovative developments, with many related to the treatment of rare diseases. For Yokowo, 2020 has already seen cooperation started with three medical device startups (investment completed in two, and under consideration in one), and we plan to begin cooperation with several more companies within the year. At present, this initiative is situated as an important part of our future strategy for our Medical Device business.

Regarding this initiative, we have heard from an external director that "startup ecosystems are fundamental to SDGs," and from many members of business divisions that they felt they were contributing to society more than as in their daily business, and that these gave them a sense of fulfillment. For myself, I am convinced that these initiatives will help bring about both a better company, and a better society.

Looking forward, while working together with various parties in the medical industry, I am determined to fulfill my responsibilities as the leader of the business in contributing to bringing this startup ecosystem to success.

# **Research and Development**

The Yokowo Group has set the five fields of micro precision processing technology, microwave (high frequency) technology, antenna technology, surface modification materials technology, 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 form the wheels of a car in Yokowo's basic and applied research. 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 high-frequency, 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 process, 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.

In the fiscal year ended March 31, 2020, Yokowo invested 3.59 billion yen in research and development, and plans to wholeheartedly strengthen its R&D activities in the next fiscal year and beyond.





# **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\*<sup>3</sup> essential for ADAS\*<sup>4</sup> and automated driving

\*3 Vehicle-to-everything communication. E.g. Vehicle to vehicle, road, pedestrian

- \*4 Advanced driver-assistance system
- Technology development for communication systems, equipment and devices for the CASE era

# **Circuit Testing Connector**

- Development of test sockets for high current compatible ICs and high-speed, high-frequency ICs
- Research and development on better performance and durability, e.g. probe surface modification technology
- Development of new probe cards to keep pace with narrower semiconductor pitch, more pins, and higher speeds and 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 Yokowo's Value Creation

# 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 (high frequency) 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 over many years.

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.



# 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.



Tip Terminal of Catheter



### Circuit Testing Connector Business Domain







Radiopaque Marker



Coil for Guide Wire