

# YKK AP Integrated Report 2019



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## Part I

# YKK AP Value Creation

"No one prospers without rendering benefit to others."

YKK's Founder, Tadao Yoshida, named this philosophy the "Cycle of Goodness" and made it central to all business activities as he built the YKK Group into what it is today. Our mission at YKK AP is to carry on this philosophy and provide our customers with windows and other architectural products to lead healthy and comfortable lifestyles. Going forward, we will continue refining the technical skills we have accumulated over the years to offer products that will bring happiness to people around the world.



**Tadao Yoshida**

YKK's Founder  
(1908-1993)

The photograph features the YKK AP R&D Center (located in Kurobe, Toyama) where region for the integration of the YKK AP's technology. This is home to approximately 370 engineers, who delve into research and deepen their knowledge as they deliver high quality monozukuri (the art of manufacturing and craftsmanship).



# History of YKK AP

## YKK PHILOSOPHY

### CYCLE OF GOODNESS

"No one prospers without rendering benefit to others."

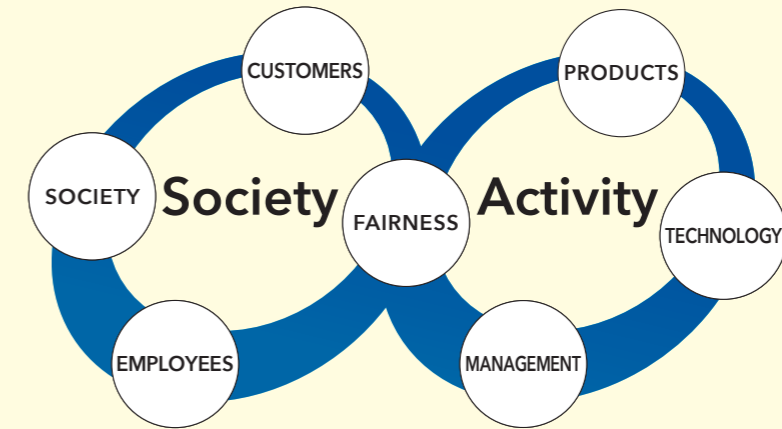


As an important member of society, a company survives through coexistence. When the benefits are shared, the value of the company's existence will be recognized by society. When pursuing his business, YKK's Founder, Tadao Yoshida was most concerned with that aspect, and would find a path leading to mutual prosperity. He believed that using ingenuity and inventiveness in business activities and constantly creating new value would lead to the prosperity of clients and business partners and make it possible to contribute to society. This type of thinking is referred to as the "Cycle of Goodness" and has always served as the foundation of our business activities. We have inherited this way of thinking, and have established it as the YKK Philosophy.

## YKK MANAGEMENT PRINCIPLE

"YKK seeks corporate value of higher significance."

The YKK Group Management Principle is based on the philosophy of the "Cycle of Goodness" and states: "YKK seeks corporate value of higher significance." YKK Group companies seek to delight our customers, earn the high regard of society and make our employees happy and proud. We are improving the quality of our products, technology, and management as the means to achieve this. We make fairness the fundamental standard for all YKK Group business operations, and this is the basis for our management decisions.



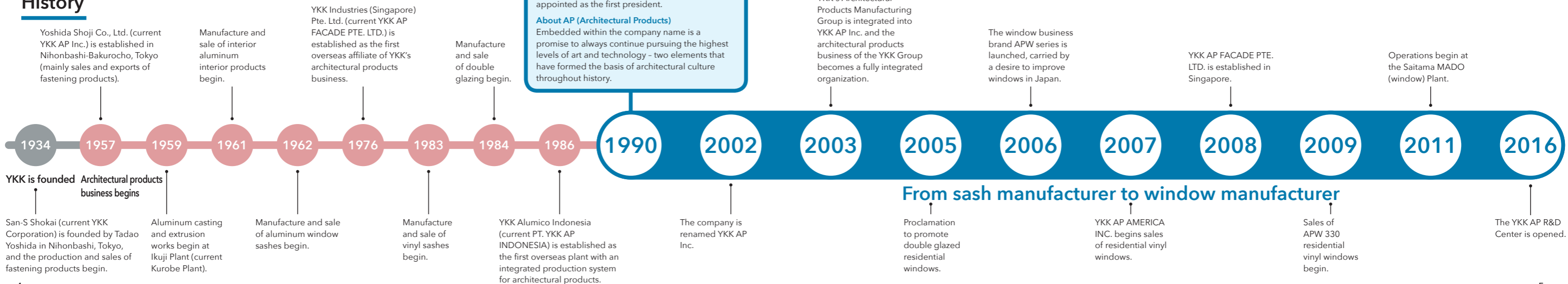
Seeking corporate value of higher significance, YKK will pursue innovative quality in the seven key areas shown above.

The Management Principle inherits Tadao Yoshida's philosophy and was formulated in 1994 by Tadahiro Yoshida, who was the president of YKK and YKK AP at the time. It epitomizes our resolve to relentlessly strive toward creating value based on fairness, which forms the fundamental standard of all our decisions.



**Tadahiro Yoshida**  
Current Director  
First President of YKK AP

## History






# The Value Creation Process at YKK AP to Support Sustainable Growth


The "Cycle of Goodness" is the DNA inherited by all of us at YKK AP and forms the foundation of all our business activities.

**YKK PHILOSOPHY**



**CYCLE OF GOODNESS**  
"No one prospers without rendering benefit to others."

**YKK MANAGEMENT PRINCIPLE**  
"YKK seeks corporate value of higher significance."



**MISSION**  
To devote everything we have to the culture of architecture and train our sights on the future

**VISION**  
From living spaces to urban spaces, YKK AP has kept pace with the times and leads the way into the future



**Fifth Mid-Term Management Plan**  
(FY 2017 - FY 2020)  
<Business Policy>  
**Sustainable growth of the AP business through added-value and demand creation**

**Key Measures**

- <Residential Business>  
Promote windows with high thermal insulation performance
- <Exterior Business>  
Reinforce sales through expanding products range and increasing product appeal
- <Renovation Business>  
Create demands and boost growth
- <Commercial Products Business>  
Increase engineering capability and promote high thermal insulation products
- <Overseas AP Business>  
Reinforce business foundation and expand business in the target market
- <Facade Business>  
Expand presence of Facade business
- <Business Process Re-Engineering>  
Standardize and optimize business process

**Technology Oriented Value Creation**

Fifth Mid-Term Management Plan  
<Primary Management Focus>

- Product appeal & proposal capability
- Technology & manufacturing capability
- Human resource development

**FY 2020 Mid-Term Plan**

Net sales  
**458.9 billion yen**

Operating income  
**31.3 billion yen**

**Social Issues and Needs**

Shifting demographic and household trends	Lifestyle	Shortage of craftsmen
Residential housing policies	Regional revitalization	Abandoned houses
Resources and energy	Crime and disaster prevention	Etc.
Environmental issues	Health and comfort	

The photograph features an aerial view over Kurobe, Toyama, where YKK AP's R&D and manufacturing centers are focused.

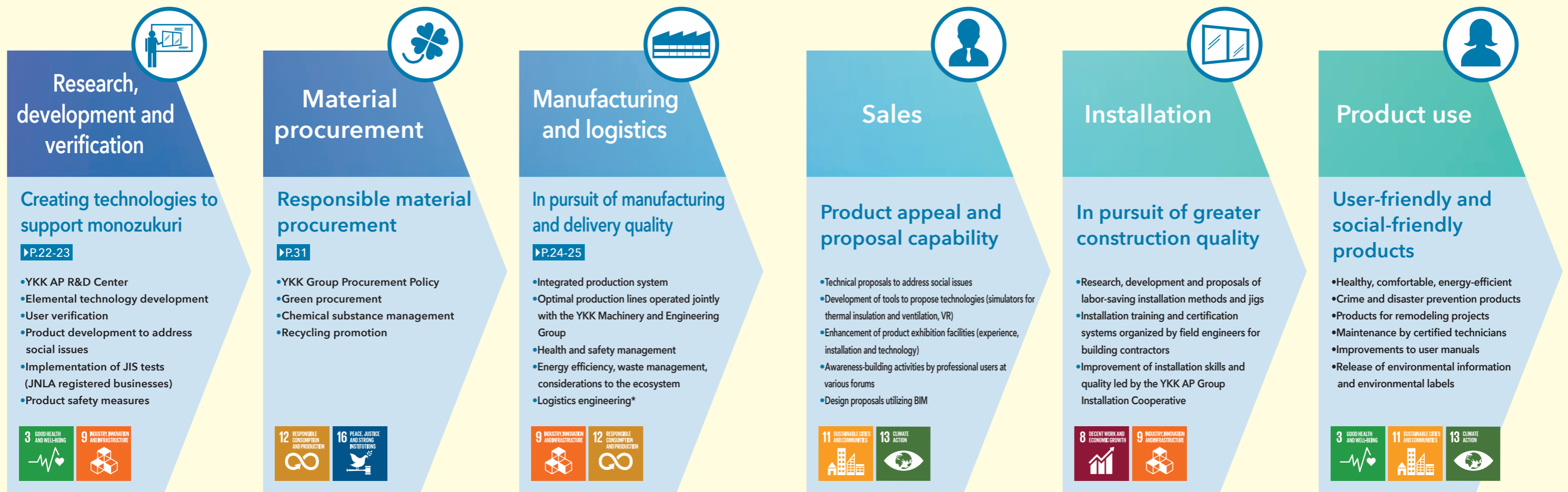


# The YKK AP Value Chain for a More Sustainable Society

The "Cycle of Goodness," which forms the foundation of our business activities, is in itself contributing to the development of a sustainable society. While continuing to provide architectural products that bring joy to our customers, YKK AP is also engaged in resolving social issues.

## About the SDGs

The Sustainable Development Goals (SDGs) were adopted by the United Nations in 2015 and are comprised of 17 goals and 169 targets to be achieved by 2030. The SDGs require actions to be taken by everyone involved, from corporate entities to government agencies and the country as a whole.



## Foundations supporting our value chain

**Corporate governance**

▶P.30

**Compliance**

▶P.31

**Risk management\***

▶P.31

**Human resource development**

**Health management**

**Environmental management**

▶P.26-28

\* Development of labor-saving technologies by utilizing automation and the IoT; optimization of loading efficiency and transportation networks

# YKK AP Sustainability Management System

Under the YKK Philosophy and Management Principle, YKK AP is engaged in creating a sustainable society as viewed from a global perspective. Based on the ISO26000 CSR system, we have referenced the SDGs to organize key issues (materiality) and initiatives from environmental, social and governance perspectives.

## Environmental, Social and Governance (ESG)



## Corporate Social Responsibility (ISO26000)



ESG	Seven core subjects of ISO26000	Key issues	Key efforts	Related SDGs
G	Organizational governance	Corporate governance	•Decision-making mechanisms as an organization	 ▶P.30-31
		Compliance	•Observance and education of compliance regulations	
		Risk management	•Implementation of BCP •Risk committees (Quality Committee, Foreign Trade Control Committee, Crisis Management Committee, Information Security Committee, Technical Asset Management Committee)	
S	Human rights	Respect for human rights	•Respect for human rights •Harassment prevention •Equal employment opportunities for men and women	 ▶P.31
		Human resources and welfare	•Continual employment of a fixed number of employees •Management of the Work Style Reform Committee	
		Health and safety	•Compliance with the amended law (Work Style Reform Act) •Enhancement of welfare, childcare and family care services	
		Human resource development	•Shortening of working hours, encouragement to take paid leave, work style reform •Creation of a comfortable working environment •Training on health and safety; facility safety inspections •Promotion of physical and mental health	
	Fair operating practices	Human resource development	•Improvement of human resource development and training systems •Improvement of operational skills training •Human resources development enhancement of candidates for overseas assignment	 ▶P.31
		Diversity	•Enhancement of programs to appoint women to higher positions and support career development •Promotion of employment of people with disabilities •Use of diverse human resources •Acceptance of sexual minorities	
		Corruption prevention and fair competition	•Management and handling of supplier governance information •Regulations on political funding and other gift exchanges •Management of contact with competitors •Consideration toward subcontractors (Subcontract Act)	
		Responsible political involvement	•Exclusion of antisocial forces	
	Consumer issues	Promotion of social responsibility in our value chain	•Promotion of Green Procurement	 ▶P.22-25
		Respect for property rights	•Research and development at domestic and overseas R&D centers •Respect for intellectual property rights	
		Fair marketing, information and contract fulfillment	•Customer information service (product safety)	
		Protection of consumer health and safety	•Creation and distribution of owner's manual •Assessments based on user verifications •Elimination of harmful substances	
Community involvement and development	Sustainable consumption	•Development, provision and promotion of eco-friendly products and services	 ▶P.29	
	Consumer services and support; resolution of complaints and disputes	•Improvement of traceability •Continuous improvement of manufacturing and delivery quality •Customer information service (enhancement of customer support pages)		
	Community involvement	•Stakeholder dialogue •Community contribution activities		
	Education and culture	•Training for installation technicians •Educational support for future generations		
E	Environment	Health	•Proposal of healthy and comfortable energy-saving lifestyles	 ▶P.26-28
		Social investment	•Emergency support during disasters (infrastructure support, cooperation with municipalities)	
		Pollution prevention	•Prevention of pollution caused by the release of air pollutants, wastewater, waste, harmful substances or other reasons (risk reduction and reinforcement of measures)	
		Sustainable use of resources	•Reduction of energy use, such as electricity, fuel, etc. •Waste reduction and recycling promotion •Reduction of water use	
		Climate change mitigation and adaptation	•Reduction of greenhouse gases •Prevention of losses related to climate change; climate change mitigation measures	
Environmental protection; recovery of biodiversity and natural habitats	•Consideration for the ecosystem (protection and monitoring of endangered species) •Measures against water intake and wastewater risks			





## Residential Business

〈Main products〉  
 Windows  
 Entrance doors and sliding doors  
 Interior doors and partitions  
 Window shutters



## Exterior Business

〈Main products〉  
 Balconies  
 Carports  
 Gates and fences  
 Terraces  
 Exterior materials



## Renovation Business

〈Main products〉  
 Window remodeling  
 Door remodeling  
 Building renovation  
 Quake-resistance retrofitting



## Commercial Products Business

〈Main products〉  
 Office building windows  
 Curtainwalls  
 Building entrances  
 Windows and doors for low- and medium-rise residential buildings  
 Remodeling products



## Facade Business

〈Line of business〉  
 High-rise and complex curtainwalls  
 Design, construction and sales of related products



## Industrial Products Business

〈Main products〉  
 Components of machinery and equipment  
 Auto parts  
 Architectural components  
 Eco-friendly products

### YKK AP Businesses

# YKK AP Monozukuri Extends Across Japan and the World

With our diverse line of architectural products, YKK AP is creating corporate value that is right for the times in which we live. These include windows and doors that make living spaces more comfortable and facades that help create a more beautiful urban landscape. To this end, we are engaged in monozukuri across Japan and the world.

YKK AP R&D Center

JAPAN

# OVERSEAS

YKK AP R&D Center (Germany)

YKK AP R&D Center (Indonesia)

Ever since establishing our first overseas company in Singapore in 1976, we have been operating our international businesses to take root in each country or region to provide products that meet their needs, climates and cultures. We support each company by providing appropriate governance from Japan while continuing to enhance core technologies. Keeping in mind the words of YKK founder Tadao Yoshida encouraging us to “become a local,” we are working to spread the monozukuri skills that we have cultivated in Japan to the world, guided by our philosophy of the “Cycle of Goodness.”

- YKK AP FACADE PTE. LTD.
- YKK AP SINGAPORE PTE LTD.
- YKK AP FACADE VIETNAM CO., LTD.
- YKK AP AMERICA INC.
- YKK (CHINA) INVESTMENT CO., LTD.
- DALIAN YKK AP CO., LTD.
- YKK AP (SHENZHEN) CO., LTD.
- YKK AP (SUZHOU) CO., LTD.
- YKK AP (SHANGHAI) CO., LTD.
- YKK AP HONG KONG LTD.
- YKK TAIWAN CO., LTD.
- PT. YKK AP INDONESIA
- YKK AP MYS SDN. BHD.
- YKK AP (THAILAND)CO., LTD.
- Bhoruka Extrusions Private Limited

(As of March 31, 2019)

No. of offices and centers in Japan

198

No. of manufacturing bases in Japan

24

No. of employees in Japan

12,311

Overseas presence in  
 .....  
 10 countries/regions

No. of major overseas manufacturing bases

8

No. of overseas employees

4,010



# Putting the YKK PHILOSOPHY "Cycle of Goodness" into Practice Contributing to Healthy and Comfortable Lifestyles

Hidemitsu Hori President

## Looking back on FY 2017 and FY 2018

At YKK AP, we aim to deliver advanced comfort to our customers' lives and urban spaces by providing windows, doors, and other architectural products. At the same time, we strive to be a company that contributes to the creation of a sustainable society to enrich people's lifestyles.

Our business policy under the Fifth Mid-Term Management Plan (FY 2017 - FY 2020) is "sustainable growth of the AP business through added-value and demand creation." We have specified and are engaged in key measures for each of our businesses and fields, such as promoting windows with high thermal insulation performance in our Residential Business and improving sales in the Exterior Business based on product appeal.

Looking back on these first two years, I feel that each of the endeavors is progressing steadily. Particularly in the field of residential windows, we are seeing increased sales of our vinyl windows with high thermal insulation performance. In a joint effort with the YKK Machinery and Engineering Group - which functions at the core of YKK Group technologies - we developed an original sequence of manufacturing lines for each product and they are being set up in each of our manufacturing bases. The manufacturing line for vinyl windows is also being installed in succession across Japan. We believe that enhancing production systems in areas where the products have demand will reduce environmental burdens caused by long-haul distributions, while also further increasing sales.

We are also processing our own double and triple glazing as well as Low-E glasses coated with metal membranes, all of which likewise increase the thermal insulation performance of windows. Being in possession of these manufacturing processes and functions is one of our strengths. While the amount of new domestic housing construction work is decreasing, our strategy of providing such windows with high added-value is starting to show success.

However, we have also noticed several issues. Over these past two years, raw material costs rose higher than our expectations, and distribution costs also

increased. We were unable to absorb these, which affected our earnings. Furthermore, as our businesses have spread into many different fields over the past ten years, issues of efficiency are also starting to surface. We are currently engaged in reviewing our operations, including our employees' work styles and our systems.

## Our business strategy for the next two years

In terms of our overseas businesses, we are currently seeing steady sales in the U.S., but sales from each of the companies in Asia are still insufficient. Therefore, we will strengthen support from Japan to make it easier for local employees to work, while also providing governance. In addition, our focus until now has mainly been on ultra high-end products, but we are determined to tackle the mass market and provide products of a price range that many people in the country can afford. To make this happen, we plan to employ all the technologies we have accumulated in Japan over the years.

In terms of products, we are contemplating a move into new fields, and one of them is "smart, connected products."

Today, Internet of Things (IoT) technologies are enabling various items and devices to be connected, and this trend is moving into the realm of residential homes. As the whole house becomes connected, so must doors and windows. In 2018, we announced the "Future Door: UPDATE GATE." Equipped with artificial intelligence (AI) and a facial recognition system, this door will make it easier to look after the elderly and interact with family care and delivery personnel. The product is currently being exhibited in our showrooms, with plans to be launched in 2020. We will continue developing new products by using new technologies.

## Technology Oriented Value Creation

YKK Group's vision for the Fifth Mid-Term Management Plan is "Technology Oriented Value Creation."

Since its foundation in 1934, the YKK Group has been engaged in monozukuri with the corporate



## Hidemitsu Hori

President

Born in 1957. Joined YKK in 1981. Worked in the U.S. between 1989 and 2006. Returned to Japan in 2006 and worked as the Vice President of Corporate Planning and Senior Managing Business Director before being appointed President of YKK AP in 2011.



philosophy of the “Cycle of Goodness.”

Simply put, the “Cycle of Goodness” encourages us to not just think about our own prosperity, but to share our benefits with others. This will lead to coexistence and the value of our company's existence being recognized by society.

If we can harness ingenuity to create good and convenient things that did not exist before, it will bring joy to society and our affiliated companies, which in turn will lead to our own prosperity. This principle reflects YKK founder Tadao Yoshida's aspiration to continue creating for the sake of society.

We conduct our management with a steadfast dedication to realize the “Cycle of Goodness,” and we achieve this through the idea of “three-party sharing,” whereby the benefits of our business are divided equally between our company, customers and business partners. For example, say something used to cost 100 yen, but with our company's ingenuity, we were able to produce it at 50 yen. This yields a 50-yen benefit. We divide this into three so that our customers and business partners can share the joy and be encouraged to choose our company. As for us, we go on to turn our eyes to the next ingenuity.

However, advanced technological capabilities are essential to carrying out this cycle. The Mid-Term Management Vision stating, “Technology Oriented Value Creation” is a reminder that technology is the core of our business.

The YKK Group is not listed on the stock market. Tadao Yoshida said, “stock is a certificate for participating in business.” What he meant was that the people who sweat and work together to build the company are the ones who should own the stocks. The fact that the largest shareholder for YKK (YKK AP's parent company) is still the Employee Stockholding Association illustrates how this way of thinking still exists within the YKK Group.

### Passing the baton to the next generation and the next society

As President of YKK AP, it is my responsibility to pass on the baton that is our company philosophy to the next generation.

Passing on the philosophy through words is easy, but getting the next generation to inherit it is difficult. When I tell employees to insist on quality in everything, it is not enough for them to think, “I see.” They need to think, “That goes without saying.”

Therefore, management executives must always be conscious of our roots and continue passing them on.

When I was young, Tadao Yoshida often spoke to me about the “Cycle of Goodness” and “three-party sharing.” I was unable to understand it fully at the time, but I find myself wanting to ask him questions now. I feel that it is my mission to continue protecting our history and tradition.

## It is my mission as President to pass on the baton that is the YKK Philosophy to the next generation.



### Striving to resolve social issues through our business

In recent years, the business environment surrounding our company has been changing dramatically. We are seeing a decreased amount of new domestic housing construction work, a shortage of craftsmen, and rising consumer needs for energy-efficient, healthy and comfortable lifestyles. Through our business, with the “Cycle of Goodness” as the foundation of our values, we will continue to contribute to resolving social issues. We are currently engaged in the following efforts.

#### 〈Energy-efficiency with vinyl windows〉

Our primary business domain of windows and doors plays the most important role in actualizing energy-efficient houses. Demand for energy-efficiency is rising and using windows with high thermal insulation results in reducing the energy needed for air conditioning and heating. Vinyl windows demonstrate outstanding thermal insulation compared to aluminum windows. However, less than 20% of windows in Japan are vinyl, which is an extremely low number compared to the roughly 70% diffusion rate in Europe and the U.S.

As a leading company in the field of vinyl windows, we are engaged in activities to promote them to a wider target, such as by offering an experience showroom as well as workshops and study groups.

On the other hand, as plastic is still difficult to recycle, we are also engaged in developing recycling technologies.

#### 〈Updating health and comfort with thermal insulation〉

Residential houses with low thermal insulation raise the risk of triggering home accidents, such

as a heat shock response caused by sudden temperature changes between rooms. The elderly must be particularly mindful of this. In addition, dew condensation leads to breeding mold and dust mites, which can lead to causing allergies.

We believe the spread of vinyl windows with high thermal insulation will reduce such risks and contribute to lowering the number of home accidents in the aging society.

#### 〈Addressing the shortage of craftsmen in the industry〉

With decreasing birthrates and a rising number of the elderly, the working population in Japan is falling. In our construction industry, the shortage and aging of craftsmen pose a particularly critical problem.

However, where there are problems, there are also opportunities for business growth. In 2013, we launched the YKK AP Installation Skills Training Academy to nurture young installation technicians. This program is a joint endeavor with the YKK AP Group Installation Cooperative, a network of cooperating companies, such as sash and curtainwall constructors across Japan. Whereas it usually takes 10 years of practical experience to become a fully-fledged sash and curtainwall installation technician, the program completes training in as little as six years. In addition to training, one of the main objectives of this program is to pass on the skills of the industry as a whole.

#### 〈Value creation at Kurobe〉

As a manufacturing company, our research and development site located in Kurobe, Toyama, is extremely important to us. It is home to the YKK AP R&D Center, where surveys, research and product

development take place, as well as the Value Verification Center, where evaluations and verifications are conducted. In addition, of the eight large-scale manufacturing bases in Japan, three are located in Kurobe.

In March 2019, we opened the Partners Support Studio as a facility to propose technology to professional users. We do this by working jointly with the adjacent YKK AP R&D Center and Value Verification Center. The engineers who work directly on-site with development and evaluation are involved in this process, which enables us to meet the needs of the professional users and resolve their issues together on the spot. It also allows us to gain a better understanding of the needs of professional users and our customers.

The reason we brought these facilities together and moved a portion of our headquarters' function from Tokyo to Kurobe stems from the issue of overconcentration in Tokyo that we face in Japan today. In the U.S., where I lived for 17 years, in addition to metropolitan cities like New York City, there are also regional urban hubs all across the country, such as Atlanta, and they are all thriving. I am hoping that more attractive regional urban centers like that will develop in Japan as well. Today, many professional users from Japan and abroad are visiting our related facilities in Kurobe, and since the opening of the Hokuriku Shinkansen, it has become easier to invite them. In this way, we hope to continue transmitting a variety of information from Kurobe.

### Our commitment to the SDGs

Fortunately, the products and services we offer at YKK AP are directly linked to energy-efficiency and environmental contribution. The Sustainable Development Goals (SDGs) adopted by the United Nations are international targets to be achieved by 2030, and they are spreading in Japan. However, we believe the “Cycle of Goodness,” which has formed the foundation of our business activities, has always been, in itself, a contribution to creating a sustainable society.

This means we can now explain the social contributions we have made through our business in the common international language known as the SDGs. We want our employees to take pride in this fact. When employees find pride, fun and joy in their work, those positive feelings make their efforts real. Going forward, we will continue being honest with our monozukuri endeavors and diligent in our technological efforts so that we can contribute to resolving social issues in ways that are unique to YKK AP.



# The Entire Company Comes Together to Realize YKK AP Monozukuri

Providing products that contribute to resolving social issues wherever they are needed. Each division at YKK AP takes on challenge after challenge every day to realize the "Cycle of Goodness." This page provides a glimpse into such efforts through a dialogue with Kazuo Matsutani (Executive Vice President in charge of Manufacturing), Shinichiro Yamaji (Executive Vice President in charge of Sales & Marketing) and Shintaro Sugama (Executive Vice President in charge of Research & Development and Quality Assurance). Acting as dialogue facilitator is Chieko Kawai, Vice President in charge of Corporate Communications.



## Promoting monozukuri from the customer's perspective to meet society's needs

**Kawai:** As we're faced with a rapidly changing society, such as with globalization and advancements in IT technology, how is the Research & Development and Quality Assurance Division proceeding with product developments?

**Sugama:** In terms of IT, we're keeping ahead of the industry, with 60% of our doors already equipped with the electronic Smart Control Key. In 2018, we also announced a new door equipped with AI and a facial recognition system, and we're working on its development so that it can be launched in 2020.

Meanwhile, as the amount of new domestic housing construction work decreases and the population ages, demand is shifting from residential houses to non-residential buildings such as nursing facilities. The use of wood is also being recommended, so we are hurrying

to develop products that are compatible with wooden non-residential buildings.

What the Development Division is focusing on now over a mid-term period is pursuing four types of quality as seen from the customer's perspective. These are: product quality, on-site quality, usage quality, and information quality. Ensuring quality goes without saying. Products must also be easy to install on-site, easy for consumers to use throughout their lifecycles, and such information must be conveyed properly. When those four qualities come together, it will lead to many customers using our high-performance products over a long period of time. This increases profitability, while at the same time also meets society's demands to reduce environmental burdens.

**Kawai:** Work at the Development Division, contributing to reduced environmental burdens and enhanced quality, is deeply involved with Goal 9 of the SDGs, which is to "build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation." In addition, in terms of transmitting information, "Partners Support Studio" is newly opened in Kurobe where we propose technologies.

**Sugama:** Yes, we are now able to provide information directly to professional users. They receive explanations directly from the engineers working at the YKK AP R&D Center and Value Verification Center, so

they can grasp a full understanding of the technologies. It also allows us to produce new themes.

**Kawai:** This sort of collaborative work with professional users also fits into Goal 17 of the SDGs to "strengthen the means of implementation and revitalize the global partnership for sustainable development."



## -The window business triggered manufacturing technology enhancements -Contributing to labor-saving efforts and reducing transportation CO<sub>2</sub>

**Kawai:** As new products are developed one after another, what sort of stance does the Manufacturing Division take when taking on monozukuri efforts?

**Matsutani:** Our company's doors and windows are becoming more advanced and varied every year. New elemental technologies, as well as their development,



**Kazuo Matsutani**  
Director,  
Executive Vice  
President  
Manufacturing



are essential to give shape to the ideas we receive from the Development Division in order to create the products.

In fact, the window business was the reason we first started to enhance our technologies. Prior to 2006, our company used to only provide window parts and materials to our business partners, such as building material distributors, who then assemble windows. In 2006, however, we started a window business where we fabricate finished windows in our own plants and delivered the products directly to construction sites. This led us to manufacture made-to-order windows of various shapes and sizes for an entire house on a single production line and deliver the products ourselves. This prompted a great technological reform.

**Kawai:** Now we have manufacturing plants for the window business all across the country from north to south.

**Matsutani:** By having plants in each region, the site of manufacturing is close to the consumers, which means lower distribution costs as well as lower CO<sub>2</sub> emissions. We are also working with the YKK Machinery and Engineering Group to automate the plants to save labor on the production lines.

One of the reasons that allows us to actively carry out these measures is the fact that we produce the products entirely by ourselves, starting from the materials. We can be particular about quality and reduce costs precisely because we create the basic component ourselves. There are always opportunities to improve, and we can quickly engage in developing new products. This integrated manufacturing is our company's strength.

**Kawai:** We've been looking at how our business's value chain ties into the SDGs, but this shows how our entire value chain is contributing to sustainability.

## Raising awareness for the environment by promoting vinyl windows

**Kawai:** I heard that the Sales Division struggled in the window business when the change occurred from selling sashes to selling finished window products.

**Yamaji:** We did, especially since back in 2009, when the vinyl window APW 330 was launched. Almost no one knew about vinyl windows in Japan aside from people living in cold regions. Sales were slow for a few years.

However, we were convinced that vinyl windows were the future from both health and environmental perspectives.

**Shinichiro Yamaji**

Executive Vice  
President  
Sales & Marketing



Since 2012, we have held forums across Japan for professional users, where we invite experts to discuss vinyl windows and the thermal insulation performance of windows. Due to these repeated promotions, the rate of vinyl window use\* rose from 9% in 2009 to the current 24%.

For our end-users, we have developed installation methods that allow old windows to easily be replaced with high thermal insulation windows. In 2010, we opened the MADO (window) Shop to offer such window remodeling services. Together with other companies that support our philosophy of wanting to improve Japan's windows, MADO (window) Shop promotes that replacing windows will make life at home even more comfortable. As a result, we have been able to get more people to make the shift to high thermal insulation windows, not only for new buildings but also as part of remodeling projects.

**Kawai:** Offering products with high thermal insulation fits into Goal 13 of the SDGs to "take urgent action to combat climate change and its impacts" and contributes to reducing environmental burdens in general.

**Yamaji:** When the window business first began, some people questioned why we were assembling the windows ourselves. They feared it would take work away from craftsmen. However, the truth is that we are faced with a critical shortage of labor in installation and distribution, so our business partners are glad that our efforts are working to resolve the issue.

## Resolving social issues and developing the entire supply chain

**Kawai:** We also place effort into developing human resources in our company, such as providing support for employees to obtain doctoral degrees or an MBA. We also have training systems in place, such as the "3-Year Professional

Program" for new employees.

**Yamaji:** Indeed, it's our company's tradition to solidly train our engineers in-house.

**Kawai:** We also hold a CS (Customer Satisfaction) Contest on a regular basis. In contrast to other CS contests, we also include cooperating companies and our employees as targets to satisfy. I believe that's unique to YKK AP.

**Matsutani:** By launching our window business, even employees in charge of the manufacturing lines now work together with sales to think about how to resolve our customers' issues. I believe that has tied into making the CS Contest a success.

**Kawai:** That's true. There's a lot of collaborative work going on between divisions.

**Sugama:** Even for new product developments, we make sure to get people from manufacturing and sales involved from the early developing stages. After all, it won't mean anything if the product isn't easy to make and easy to sell.

**Kawai:** Our company's culture and strength lie in the fact that we naturally think about the prosperity of others, such as different divisions and cooperating companies. It creates a fulfilling working environment, which is included in Goal 8 of the SDGs to "promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all."

The philosophy of the "Cycle of Goodness" is present in all of our business activities, but going forward, we will need to use the international language known as the SDGs to demonstrate that our work is based on a sustainable business model. We will continue working hard to get as many people as possible to understand not only the quality of our products, but also how dedicated our employees are to creating a sustainable society through our monozukuri efforts.

\*Distribution ratio of vinyl windows among outgoing shipments of YKK AP residential windows



**Chieko Kawai**  
Vice President  
Corporate  
Communications





# The Future YKK AP Creates-1

The MIRAI MADO Project is an initiative to make windows more fun. We will broaden our scope to offer new value with windows and entrance doors necessary to homes in the future.



## Conceptualizing MIRAI MADO that connect to the world

Windows are an important element of a house that can influence its level of comfort. However, when building a new home, they tend to take a backseat compared to designing other areas such as the bathrooms and kitchen. In light of this, we brainstormed what we could do to get people to feel a greater connection to windows and began the MIRAI MADO Project. In 2016, we presented the conceptual model M.W. (MODULE WINDOW). The M.W. utilizes digital technology to create conceptual images of future windows based on the themes of display, light and air. It became a hot topic of discussion in the media following its release. The following year, in 2017, we developed a prototype for the Window with Intelligence, based on the presumption that windows may soon become equipped with information. This conceptual window allows users to operate household electronics through a connected AI speaker, is equipped with automatic

ventilation functions that respond to the state of the air inside and outside, and can also be used for video chats or taking digital notes. With transparent organic electroluminescence built into the vinyl window frame, this model is the result of a joint effort with external creative groups to give shape to the unique technologies, knowledge and particularities that we hold toward windows in our company.



## MIRAI DOOR to resolve social issues

Furthermore, like windows, entrance doors also have many hidden potentials. As we regard the entrance as an important place of contact with others, we announced the AI-equipped entrance door, UPDATE GATE, in 2018. It has the ability to distinguish users by using a facial recognition system and conveys traffic or weather information catered to each family member on their way out. The door also opens and closes automatically and can notify parents when their children come home or when visitors arrive. The concept of this door is that it "refreshes your day every time you pass" and it aims to address social issues regarding the safety of elderly people and children. In this way, we will continue proposing products necessary to the future society.

**Special websites for the MIRAI MADO Project**  
 [M.W.] <http://module-window.jp/>  
 [Window with Intelligence] <http://window-intelligence.jp/>  
 [UPDATE GATE] <https://update-gate.jp/>  
 (Information in Japanese)

## Part II

# Sustainability Management

We will execute management from a sustainability perspective based on the YKK AP philosophy of the "Cycle of Goodness."



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# Monozukuri Perspective

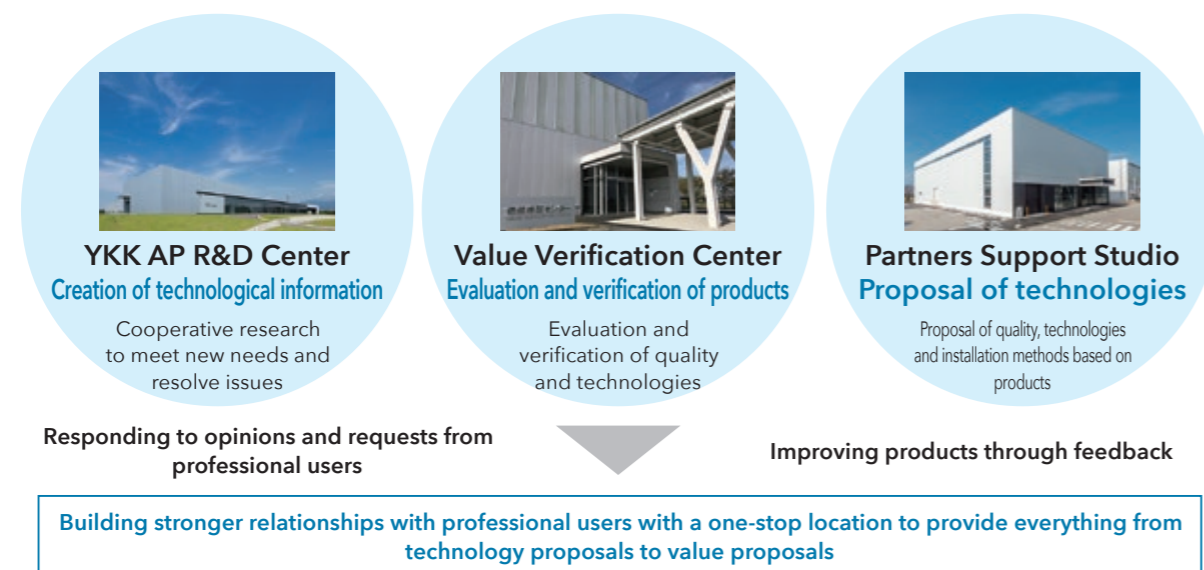
In Japan, more houses are starting to use high thermal insulation products, and consumer needs for health and comfort are rising. Meanwhile, a look at the world reveals that standards of living are rising, particularly in developing countries, and markets seeking the values we create are expanding. While the values that each market seeks from our company differ, we will pay careful attention to each and every one of them to offer new values and joy to the people who live and work there. To make this happen, we will continue being extremely particular with and committed to our monozukuri efforts.

## Research, development and verification

### Carrying out a monozukuri process that pursues high quality and technology

In our Survey, Research and Development Division, engineers and researchers delve into their specialized fields to make new discoveries and develop more advanced technologies. One such organization is Central Research Laboratory, where surveys, research and verification tests are conducted in fields necessary to business, including window engineering and architectural physics. Members of Central Research Laboratory work on joint projects with external research institutes to further research that can lead to business expansions and create new value in the future. Additionally, the Evaluation and Verification Division conducts user verifications to check products under real everyday life conditions. It also conducts field verifications under conditions that recreate real-life natural environments to thoroughly check a product's ease of use, safety and durability. The information and challenges that arise from the verifications are then sent to the Survey, Research and Development Division so that they can use the feedback to develop products that meet user needs and deliver monozukuri with all-round high added-value. Furthermore, our Central Testing Laboratory is certified by the JNLA system and fulfills the standards set by the International Organization for Standardization and the International Electrotechnical Commission for testing laboratories. A quality assurance system is established at the center through strict testing from a third-party stance as well as a trusted testing system.

### Product development structure at YKK AP



## Three technology centers

### Increasing user satisfaction by enhancing overall quality

Kurobe in Toyama is home to three technology centers: the YKK AP R&D Center, the Value Verification Center, and the Partners Support Studio.

Approximately 370 employees work at the YKK AP R&D Center and are involved in research, development, verification, and testing. They delve into research and deepen their knowledge in their specialized fields to deliver high quality monozukuri and propose advanced technologies.

The Value Verification Center is where we verify product value from a user's perspective during the development process. The value of the product under development is verified through various tests, including: user verification with consumer monitors to check how the product is used; field verification in which various natural environments are recreated; analysis and simulation; and installation verification.

Additionally, in March 2019, we opened the Partners Support Studio, a facility where we propose our company's products, technologies and installation methods to professional users. These three centers unite to present a one-stop location where we can propose technological information and product value, which is then used to create new value.

## User verification

### Integrating user needs and opinions into product development



User verification



Old age simulation

During the user verification process, we work together with consumer monitors during various stages of development to check a product's ease of use and its safety by utilizing actual living spaces or company facilities. We strive to make improvements every day by integrating into the product what the consumers notice during the verification process, together with their opinions and requests. The monitors include people of both genders and various age groups, such as children, adults, and the elderly, as they all have different physical attributes. We ask them to operate the products so that we can check their safety and usability.

Old age simulation is a process in which employees involved in a product's development or verification wear a kit designed to recreate an elderly person's physical and cognitive attributes when checking a product. Furthermore, people in development sit in wheelchairs themselves and the ideas they gain are put through repeated verifications with consumer monitors who use wheelchairs. In this way, we develop specialized bar handles that wheelchair users can reach from a stable posture when opening or closing the entrance sliding door. Based on facts from real-life situations, we turn information on safety and ease of use into explicit knowledge and use it to develop products that incorporate greater consumer perspectives.

## Product safety

### Formulation of the Product Safety Basic Policy and publishing information on product accidents



Product safety measures Gold Contributor to Product Safety

### Product Safety Pledge

YKK AP makes it a top priority to ensure product safety. We have formulated the following Product Safety Basic Policy to provide our customers with safety and security and to put into practice one of the core values we uphold at the YKK Group, which is to continue being committed to quality. We will actively promote product safety efforts to this end.

▶ Visit our website for more information:  
<https://www.ykkap.co.jp/company/jp/sustainability/safety/>  
 (Information in Japanese)

Our company formulated the YKK AP Product Safety Basic Policy in 2008, which is comprised of the Product Safety Pledge and the Product Safety Action Guidelines. We did so to contribute to establishing a culture of product safety as promoted by the Ministry of Economy, Trade and Industry (METI), as well as to bring the entire company together and work as one to actively implement product safety measures so that we can provide our customers with safety and security. Under this policy, everyone - from management executives to each and every employee - has been engaged in efforts to construct a company-wide product safety system and to swiftly and appropriately handle any product accidents that may occur.

In 2009, based on the action guidelines, we began publishing information on our website regarding product accidents that were reported to government agencies, such as METI and the Consumer Affairs Agency. With these efforts, we are striving to prevent similar accidents from reoccurring.

Additionally, YKK AP was selected as the recipient of the METI Minister's Award at the 11th Best Contributor to Product Safety Awards in the Large Manufacturer and Importer Category (sponsored by METI) in 2017. This is awarded to manufacturing businesses in recognition of actively promoting product safety, and it is the third time we have been its recipient following the 4th and 8th awards in 2010 and 2014 respectively. YKK AP was certified as a Gold Contributor to Product Safety, which is an honor given to companies that have won the METI Minister's Award three or more times.



Training area for employees to learn about past product accidents and measures to prevent reoccurrences



# Monozukuri Practice

YKK AP implements an integrated production system for in-house development and production, encompassing everything from materials to manufacturing equipment and products. We have established processes to consistently offer high-quality products, including elemental technologies for the development of various materials such as aluminum and vinyl; recycling technologies suited to the environment; and even the construction of logistics, sales, and manufacturing systems. We are aiming for greater levels of quality by being committed to such monozukuri efforts in our business.

## Creation of an integrated production system

**Inheriting the DNA of our founder to deliver high-quality monozukuri**

Our company has an in-house system to develop and produce materials, components and manufacturing equipment that are ideal to monozukuri. For our main products such as vinyl windows, we order the glass sheets from a glass manufacturer, but we do the processing ourselves to create Low-E and triple glazing. Furthermore, we also manufacture our own screws, vinyl components and the netting for insect screens. As we manufacture all this in-house, instead of outsourcing everything, we can develop new technologies, ensure quality and adjust costs by

looking at the supply chain as a whole.

This dedication to quality can be traced back to the company's founder, Tadao Yoshida. In 1940's, the U.S. was seen as an industrially advanced nation and, wanting to compete with their fastening products, Tadao spent 2.5 times the company's capital at the time to import U.S. made equipment. He studied them and then created his own improved versions to build the foundation of the YKK Group. This spirit has been passed down through the generations and has taken root in the teaching to "start at the source" - to pursue not only the end product but also its materials and manufacturing equipment. We will continue to protect this spirit and deliver high-quality monozukuri in the future.

### At the root of YKK AP monozukuri is the integrated production system



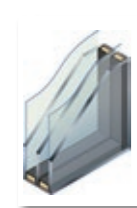
#### Materials

We produce materials in-house: for aluminum, from melting process to extrusion molding and surface treatment; for vinyl, from mixing raw materials to extrusion molding.



#### Components

We produce everything from accessories and functional parts to screws and insect screens.



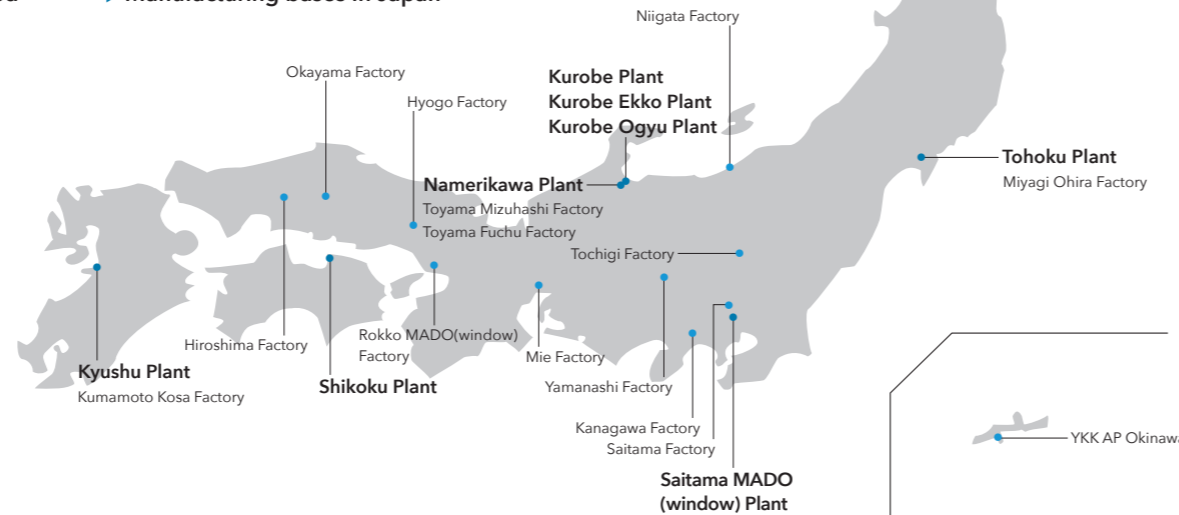
#### High-performance glasses

We process our own high-performance and high-functioning double and triple glazing.

#### Machinery and equipment

We develop our own manufacturing lines, equipment and process management systems and utilize them in our domestic and overseas plants.

### Manufacturing bases in Japan



#### Processing, assembling, packaging

Our APW series products are produced in our carefully controlled plants, from preparing the glasses to manufacturing the components and assembling the windows, thereby ensuring high performance.



#### Logistics



We have an effective and flexible delivery system in place.

#### To the construction site



## Commitment to quality

**Implementing an original certification system at all production lines to prevent human error**

In order to curb defects caused by human error during the manufacturing process, we have implemented an original certification system known as the "Zero Defect Line." Production lines that produce zero defects that stem from errors during the manufacturing process over the past 12 months are presented a Zero Gold certification, and production lines that produce zero defects for 11 of the 12 months are presented a Zero Silver certification. This system began in FY 2014 at nine large-scale manufacturing plant lines and is now implemented at all production sites. In FY 2018, 234 lines were presented Gold certifications and 90 were presented Silver certifications.



Zero Gold



Zero Silver

## Health and safety

**Engaging in health and safety efforts that prioritize the health and safety of our employees**

In order to ensure that all our employees can work safely, we comply with laws and regulations and conduct safety inspections for our machinery and equipment according to the YKK Group Safety and Health Standards. Only those that pass the inspection are allowed to be used. However, safety measure technologies are improving year by year, and additions and changes are frequently being made to laws, regulations and the Safety and Health Standards.

As a means to keep up with such changes, we began to conduct the Periodic Equipment and Machinery Safety Inspection once every three years starting from FY 2017. To do this, we created a database of the 7,159 equipment and machineries used by all manufacturing lines. Inspections are carried out systematically based on this database as we aim to make the essence of the machinery and equipment even safer.

In terms of health initiatives, we are working to reduce noise to create healthy and comfortable working environments. Noise produced by the cutters and processing machines can be highly stressful for the working employees. We are working to address the issue, such as by covering the source of the noise with various sound absorbing materials. Efforts that prove to be effective are then carried out at manufacturing facilities nationwide.

We are engaged in such continuous efforts to prioritize the health and safety of our employees.



# Monozukuri and Environment

The YKK AP vision for 2050 is to become a company that produces zero environmental burdens across all product lifecycles within our business. We will strive to do so by promoting the use of products that lead to a reduction of CO<sub>2</sub> emissions across society, thereby reducing energy use, and minimizing the amount of CO<sub>2</sub> emissions throughout our supply chain, from procurement to disposal.

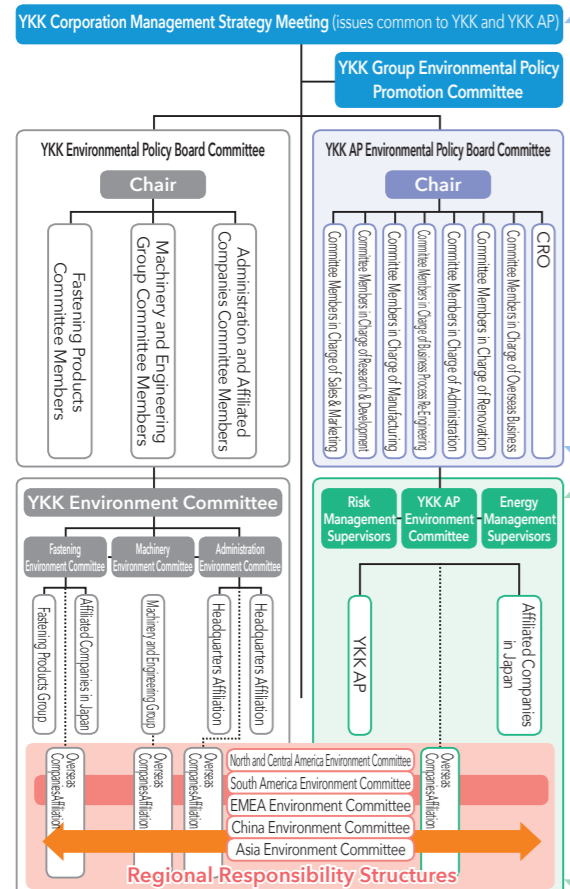
## Measures against environmental risks

### Enhancing our global environmental management system

The YKK Group has established the YKK Group Environmental Policy Promotion Committee to draft environmental policies for the entire YKK group, and propose them to the Management Strategy Meeting. Upon receiving the proposals, the YKK AP Environmental Policy Board Committee drafts and carries out environmental policies from a management perspective and ensures compliance with various environmental regulations and agreements while also ascertaining business risks and opportunities.

Additionally, to raise environmental awareness among our employees, we conduct self-checks that utilize case studies on risk inside and outside the company. We have also set up plant wastewater management standards, established a list of items that are subject to risk monitoring and organized emergency equipment in an effort to discover wastewater risks at an early stage and reduce overall risks.

### Environmental management structure



## Environmental management system

### Implementing an internal environmental audit every year to enhance environmental management

With the aim of enhancing environmental compliance and our environmental management system, we conduct internal environmental audits in both areas every year. For compliance, we created a checklist consisting of legal compliance points based on the laws that apply to YKK AP. We use it for internal environmental audits at each of our facilities and mutual internal environmental audits conducted by the entire company - essentially a double-check system. Finally, we have external auditors conduct inspections to raise our level of environmental management.

Currently, our whole company in Japan and 10 locations abroad have acquired the ISO 14001 certification. In March 2019, an external auditor conducted a periodic inspection of the entire YKK AP Group in Japan according to ISO 14001:2015. The auditor looked at areas of our operational management that fit the standard, as well as the formulation and state of action plans regarding risks and opportunities within our business activities. These included social demands, compliance, and communication with local communities, society and our employees. The assessment concluded that our system is functioning as an effective environmental management tool.

### Overseas locations with ISO 14001 certification



## Scopes 1 + 2

### Efforts to reduce our company's CO<sub>2</sub> emissions (Scopes 1 + 2) and energy emission factors

In an effort to reduce the amount of CO<sub>2</sub> emissions produced by our company, we are promoting investments in energy-efficiency, operational improvements, and energy-saving activities undertaken by all our employees. In FY 2018, we made energy-efficiency related investments of approximately 300 million yen (based on our company's Environmental Accounting Guideline). With this, we improved productivity by updating and automating production equipment and realized greater efficiency by updating major equipment such as lights, pumps, air conditioning and transformers.

## Scope 3

### Efforts to reduce CO<sub>2</sub> emissions throughout our supply chain by promoting vinyl windows

Since FY 2013, we have been publishing our supply chain's CO<sub>2</sub> emissions accounting (purpose, utilization, accounting method, accounting results) on the Green Value Chain Platform page run by the Ministry of the Environment. A look at the categories shows that in "Category 1: Purchased goods and services," the procurement of raw materials accounts to close to 90% of our CO<sub>2</sub> emissions in Scope 3. In particular, the procurement of aluminum (from mining to refining to overseas transportation), which we use to make aluminum window frames, is significantly affecting the numbers. Going forward, we will work to increase the use of secondary aluminum and promote the use of vinyl windows to continuously reduce CO<sub>2</sub> emissions throughout our supply chain.

In addition, we are also actively promoting the diversification of product transportation methods. Under the Eco Rail Mark system organized by the Ministry of Land, Infrastructure, Transport and Tourism and the Railway Freight Association Eco Rail Mark Office, we have been recognized as an Eco Rail certified company. For transportation over land, we have introduced double-trailer

## SBT Certification

### Our greenhouse gas reduction goal was certified by SBT



The Science Based Targets (SBT) is gaining traction as an international initiative that encourages companies to set their long-term CO<sub>2</sub> reduction goals to be in line with the 2°C goal set by the Paris Agreement. YKK AP participated in the Project to Support SBT Formulation organized

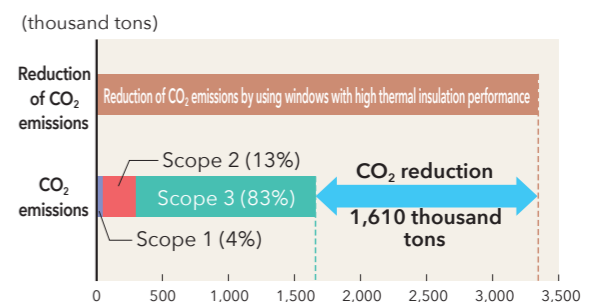
## About our Scopes

- Scope 1...Direct emission of greenhouse gases due to fuel burned by our company
- Scope 2...Indirect emission of greenhouse gases due to electricity use by our company
- Scope 3...Indirect emission of greenhouse gases in our supply chain (outside of Scope 1 and Scope 2)

In terms of operational improvements, we not only shared examples of energy-saving efforts that are being conducted at various manufacturing bases across Japan, we also made visual their states of progress at each location and encouraged everyone involved to see their efforts through to the end. At our offices, as part of our energy-saving activities undertaken by all employees, we conduct the Environmental Action 25 program twice a year, which encourages everyone to act in ways that save and conserve energy. In the winter of 2018, the rate of participation was 74%, which exceeded our 65% goal. We will continue to share distinguished examples of energy-saving efforts at each location and work to apply them at all other locations.

trucks, which enhances loading efficiency by increasing the amount of cargo to 1.8 times the original load. With an efficient and flexible transportation system, which includes modal shifts and the implementation of large-capacity trailers, we will aim to continuously reduce CO<sub>2</sub> emissions linked to distribution.

### Reduction of CO<sub>2</sub> by using vinyl windows



### FY 2018 CO<sub>2</sub> reduction goal and result

	Base fiscal year	Subjects	FY 2018 goal	FY 2018 result
CO <sub>2</sub> emissions	2013	Japan+ overseas	15% reduction	15% reduction

by the Ministry of the Environment in FY 2017. Within two years, we announced our SBT and received certification in January 2019. We will work to achieve our goals, which are to reduce the emission of greenhouse gases by our company (Scopes 1 + 2) by 30% by FY 2030, and to reduce the emission of greenhouse gases in our supply chain (Scope 3) by 30% by FY 2030. We plan to fulfill these by promoting long-term measures centered on conserving over 1.3% of energy use a year, converting fuel sources, and introducing reusable energy.



### 3Rs

#### Aiming to build a recycling-oriented society by promoting the 3Rs

In an effort to help create a recycling-oriented society, we are engaged in the 3Rs\* to reduce, reuse and recycle waste. Today, we are seeing mass productions, mass consumptions and mass waste disposals of a global scale. This raises environmental concerns caused by a depletion of resources, limited waste disposal sites and rising levels of pollution in their vicinities. In 2000, Japan established the Basic Act on Establishing a Sound Material-Cycle Society and has been working to use resources effectively and reduce environmental burdens. As the material properties of plastic waste cannot be determined simply by their appearances, if they are mixed, they end up being thermally recycled. Therefore, we make sure

to separate plastics by material at our manufacturing lines. They are separated at each manufacturing facility by the type, material property and color of their components and packaging materials, and then collected to be recycled or sold as valuables. Additionally, in FY 2017, we installed equipment (pelletizers) to compress sawdust into pellets. This makes them easier to handle and they can be sold as valuables (solid fuel). We will continue our efforts to greatly reduce waste in the future.



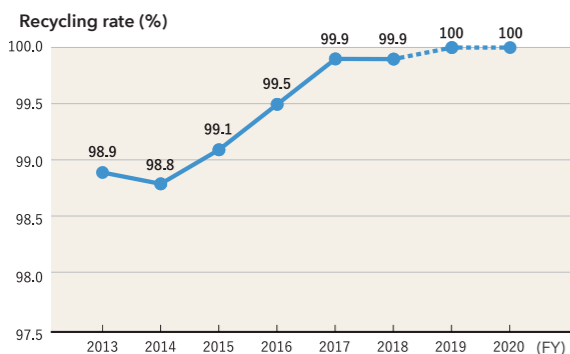
\* 3Rs: Reduce, Reuse, Recycle

### Increasing and maintaining our recycling rate

#### 14 continuous years of zero emissions Promoting waste reduction by increasing recycling rates

Our company's definition of "zero emission" is to maintain a recycling rate of over 97% for the waste produced in our business activities. We studied the state of industrial waste that we produce, and used to dispose until now, in an effort to convert to recycling. In FY 2018, we worked on figuring out how to recycle plastic waste (vinyl remains, shredded offcuts, composites), which used to be disposed, and managed to determine ways to recycle all industrial waste. Our recycling rate in FY 2018 was 99.9%, making it the 14th continuous year since FY 2005 of achieving zero emissions.

#### ▶ Recycling rate of industrial waste



▶ See the "YKK AP Environmental Report 2019" for more information: <https://www.ykkap.co.jp/company/jp/sustainability/environment/report2019/> (Information in Japanese)

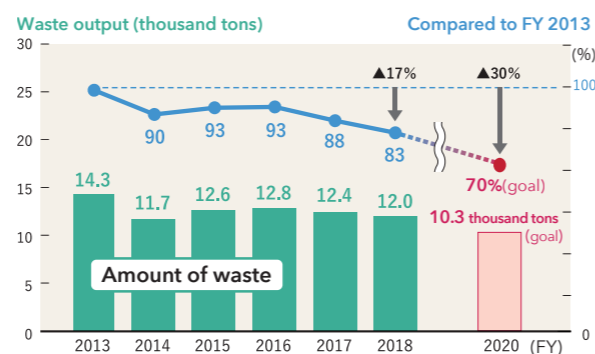
### Waste reduction

#### We reduced industrial waste output by 337 tons year on year Striving to suppress the amount of waste produced and improve recycling technologies

We reduced the amount of industrial waste we produced in FY 2018 by 337 tons compared to FY 2017. Compared to our base year, FY 2013, this is a 17% reduction (the FY 2018 goal was 51.1 thousand tons and a 14% reduction from FY 2013). In FY 2018, we studied the contents of our composite waste, selected what could be reused and converted them into valuables, thereby further reducing our waste output.

Going forward, we will work to manage waste in an environmentally appropriate manner by improving the yield of our production process, reusing packaging materials, and enhancing our products' lifecycles. We will also aim to increasingly suppress the amount of waste we produce to minimize negative influences on the environment.

#### ▶ Waste output



## The Future YKK AP Creates-2

This page features two of our company's initiatives for building better futures. Passivetown is a YKK Group project to develop sustainable homes and a sustainable town in Kurobe. Meanwhile, Thinking About Windows to Create Eco-Friendly Homes is an event we run for children to have fun while learning about the relationship between windows and comfortable living spaces.



#### Balance between comfortable living and energy-efficiency

In the wake of the 2011 Great East Japan Earthquake, the YKK Group moved a portion of our headquarters' function to Kurobe, Toyama. There, we planned a project to address energy issues and it took on the form of Passivetown.

The project is being developed on a 36,100 m<sup>2</sup> land in Kurobe owned by the YKK Group, which used to be the site of company housing. It offers a residential area that makes use of solar light and heat, underground water, seasonal winds and the rich greenery of trees. The residential homes being built are an attempt to cut back on energy consumption by around 50% - 60% compared to regular houses in the Hokuriku region, while balancing it out with comfortable living. Our APW vinyl window series are being used for the windows, which play a crucial role in the performance of the homes.

The plan is to build 250 residential buildings by 2025 and Blocks No. 1 - 3 are already complete with 117

homes. Also available on the premise are commercial facilities, such as cafés. In this way, we are contributing to the development of a convenient and open community.

In addition, external experts are leading assessment work on the town's energy consumption performance and passive design based on actual measurements and exchanging opinions with the residents to verify the lifestyle. These assessment results are not only reflected in our product development, but also published outside the company in the hope of contributing to the construction industry as a whole.

#### Educational activities that can lead to building a sustainable society

Thinking About Windows to Create Eco-Friendly Homes is a workshop for parents and children, which aims to get children interested in windows and eco-friendly concepts. During this workshop, we first present a picture-story show, which is easy to understand even for elementary school children. We explain how natural energy such

as wind and solar heat and light can affect houses and their windows in ways that make it fun to learn. Later, children build model houses with kits that include miniature windows and thermal insulation materials and tackle various experiments. In 2018, this program was held at nine of our company's exhibition facilities and 13 window remodeling stores called MADO Shops. They all turned out to be successful. We hope to continue carrying out similar efforts to raise awareness of eco-friendly concepts and windows from an early stage and help build a better future.



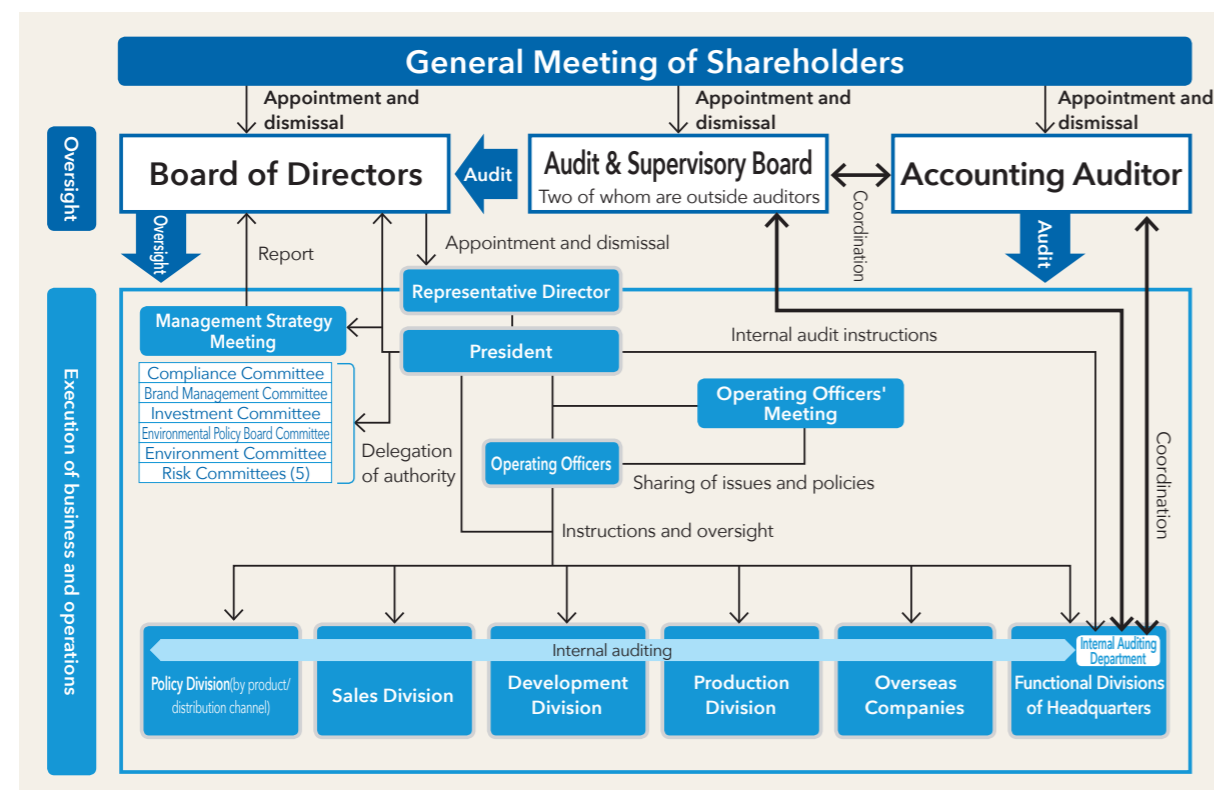
Creating Eco-Friendly Homes is a workshop offered over the summer where elementary school students can conduct various experiments and have fun as part of their summer vacation craftwork.



# Corporate Governance

As we inherit the philosophy of the "Cycle of Goodness," we strive to enhance our corporate governance system in an effort to further enrich our corporate value. Our Company's basic approach to corporate governance involves several organizations and systems. The Board of Directors serves to make decisions on important matters, such as the Company's management policy, and serves as an oversight function. The Audit & Supervisory Board, meanwhile, is the Company's auditing organization. The final component of the Company's basic approach is the Operating Officer System, a framework that helps the Company promote the execution of business and operations.

Our system ensures that the execution of duties by the Directors of the Company is in line with laws, regulations and the Articles of Incorporation.



## System concerning the execution of duties by Directors of the Company and the Directors of its subsidiary companies

- System for ensuring the execution of duties by the Directors is in line with laws, regulations, and the Articles of Incorporation, and other systems to ensure appropriate business operations at the Company.
 

The Directors adhere to the Board of Directors regulations, comply with regulations pertaining to the performance of Director duties, and execute operations appropriately in accordance with the principle of the separation of duties.

The Company has established a Compliance Committee to maintain a compliance system for the Company and its subsidiary companies. Additionally, a Compliance Director has been appointed, who reports to the Company's other Directors and the Audit & Supervisory Board Members on the development of the compliance structure and compliance with laws, regulations, and the Articles of Incorporation, among other items.

The Company's Directors regularly participate in compliance training programs by lawyers and other professionals. They also submit written oaths pledging to comply with laws and regulations in performing their duties as Directors.
- System for storing and managing information related to the execution of duties by Directors of the Company.
 

The Company, in line with its document control regulations, information security regulations, and other internal regulations, sets specific periods for retaining important documents (including electronic records) and implements appropriate document control.
- Regulations and other systems for addressing the risk of losses by the Company and its subsidiary companies
 

The Company appointed its Chief Risk Management Officer (CRO) and established its Quality Committee, Foreign Trade Control Committee, Crisis Management Committee, Information Security Committee, and Technical Asset Management Committee to promote risk management at YKK AP. The CRO and the Committees continue to develop and apply appropriate regulations.
- System for ensuring that the execution of duties by Directors of the Company and its subsidiary companies is efficient and effective
 

The Company introduced the Operating Officer System to ensure the faster execution of business and operations via the separation of management and execution. While Directors devote their energies toward optimizing operations across the Company, Operating Officers assume responsibility for and authority over executing individual businesses and operations in accordance with the policies that the Board of Directors has resolved.

The Company established the Brand Management Committee to discuss and draft important policies from a professional perspective.

The Company established its Management Strategy Meeting to improve the efficiency of deliberations by the Board of Directors. The Directors hold thorough discussions on important matters and establish an Investment Committee for particularly important investment cases before reaching official resolutions.

The Company established its Environmental Policy Board Committee to determine environmental policies and measures for the Company and oversee the promotion of environmental policies.

In addition, Business Execution Division of the Environment Committee promotes policies and manages their progress.

## Compliance

Maintaining and strengthening the compliance system under the philosophy of the "Cycle of Goodness"

The YKK Group considers compliance to be responding to societal demands, and that in addition to abiding by laws, regulations, and internal rules, compliance represents conforming with social norms required when conducting business activities. YKK AP has established a Compliance Promotion Office to maintain a compliance system based on the YKK Global Criteria of Compliance (YGCC).

In addition, we hand out the YKK Group Compliance Book to all employees as a tool to facilitate greater understanding, awareness and receptiveness of the YKK Group Code of Business Conduct, which is used across the world, and to encourage behavioral changes that stem from attitude transformations.

In FY 2018, we were recognized as a company whose employees actively take the Business Compliance test and awarded as an outstanding test-taking organization by the organizers.



## Risk management

Improving the way we respond to disaster risks by moving a portion of our headquarters' function

Prompted by the 2011 Great East Japan Earthquake, and in light of BCP strategies, we moved a portion of our headquarters' function to Kurobe, Toyama. In April 2016, we completed the transfer of over 200 employees, largely from management divisions such as the Human Resources Department, Accounting Department and Intellectual Property Department. Our aim for moving departments that were concentrated in Tokyo to Kurobe was to mitigate risks in the event of a disaster and also to increase cooperation and communication between different divisions to further enhance technological prowess, development capabilities and product appeal.

## Procurement guidelines

Fulfilling our social responsibilities throughout our supply chain with our procurement policy

### YKK Group Procurement Policy

Ever since YKK's founding, we have based our business activities on the conviction, under the "Cycle of Goodness" YKK Philosophy, that an enterprise is an important member of society, that it must thereby coexist with other elements of society, and the value of its existence will be recognized by the benefits it shares with society. The belief behind this is that "No one prospers without rendering benefit to others." We carry out business activities with the aim of bringing mutual prosperity, and our intent is that innovative ideas and inventions will result in business expansion for the YKK Group, which in turn would bring prosperity to customers and business partners, and thus benefit all society. This is none other than our execution of corporate social responsibility.

## Whistleblowing System

The YKK Group introduced the YKK Group whistleblowing system to establish a structure that enables employees and others to anonymously consult and report on workplace environments, working hours, or cases of internal corruption. We have established internal and external hotlines for personnel to consult on such issues as harassment, concerns, and health.

### Objective of the system's establishment

The YKK Group whistleblowing system was introduced to deter the occurrence of illegal acts and respond to them quickly if they arise at any time within our business activities, which are grounded in the YKK Philosophy and Management Principle. By doing so, we aim to create an even stronger compliance-adhering structure.

### Measures taken following a report and protection for the whistleblower

- The reported case will be investigated appropriately and corrective actions will be taken if compliance regulations are found to have been violated.
- YKK Group companies are prohibited from subjecting the whistleblower to disadvantageous treatment as retribution for the whistleblowing.
- ※ Companies are prohibited from subjecting the whistleblower to disadvantageous treatment, such as firing, demoting or cutting his or her salary as retribution for the whistleblowing.

### Whistleblower

The system can be used by employees of all companies within the YKK Group in Japan (including temporary workers, part-time employees and contractors).

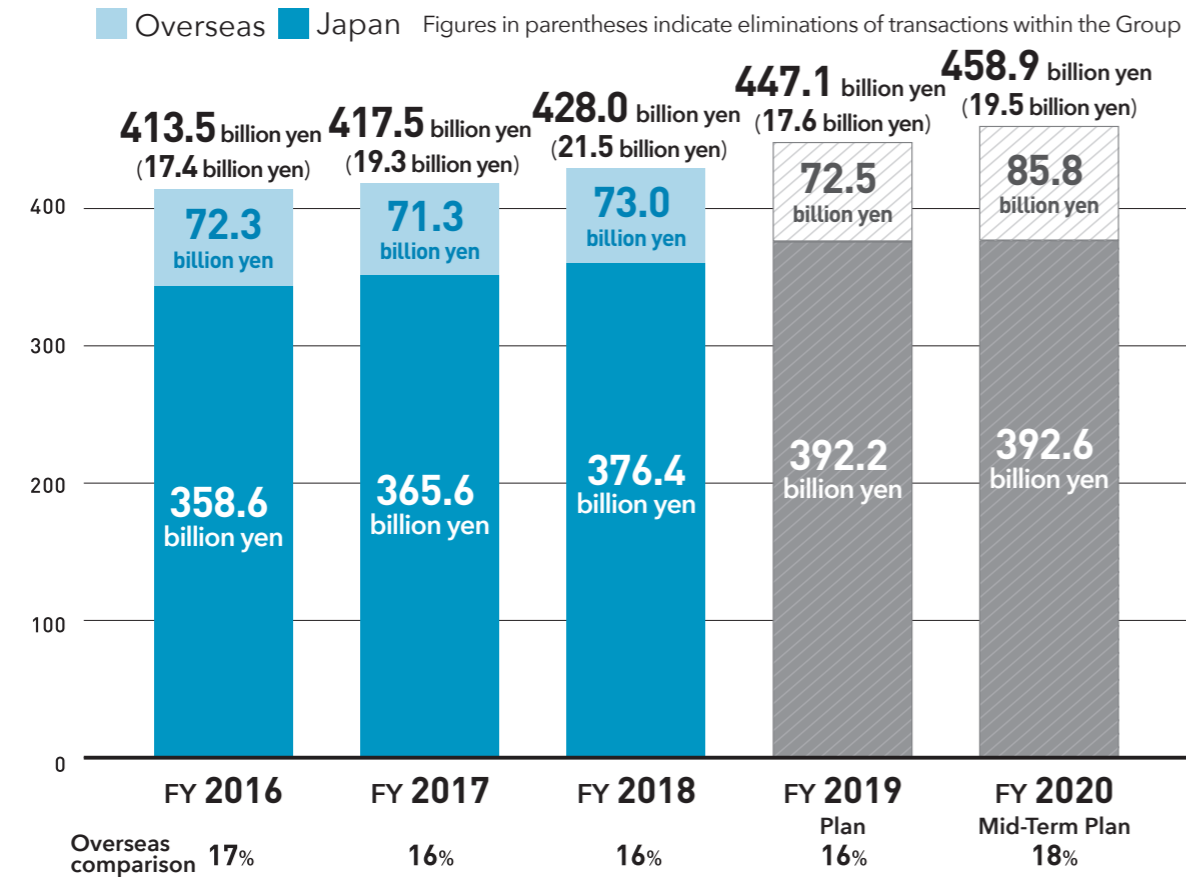
### Actions subject to whistleblowing and how to use the system

- ① Actions taken while conducting business within YKK Group companies that violate laws, regulations or internal rules are subject to whistleblowing. However, this excludes conflicts that occur between individuals, actions that are perceived as insignificant within the scope of normal social conventions, and actions stemming from discontent toward HR decisions.
- ② Whistleblowers can report to the hotline via e-mail, phone, in writing or a face-to-face consultation.
- ③ Whistleblowers can decide to either state their name or remain anonymous.
- ④ Whistleblowers may not report fabricated cases.



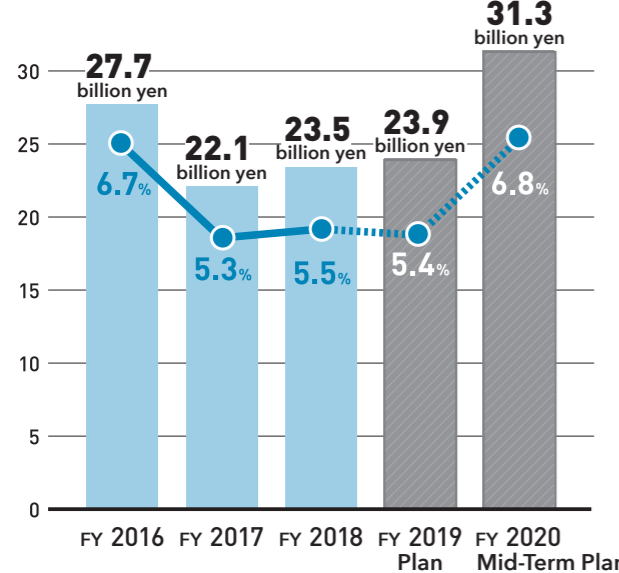
## Main Financial Data

Net sales **428.0 billion yen**



## Operating income / Operating income margin

**23.5 billion yen**



## Capital investments

**16.6 billion yen**

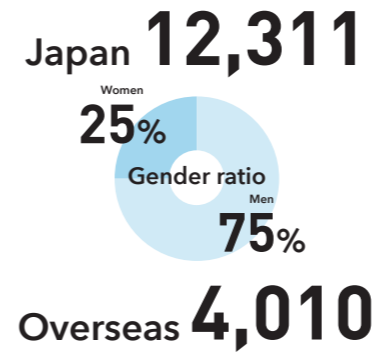
## R&D expenses

**9.47 billion yen**

## Main Non-Financial Data

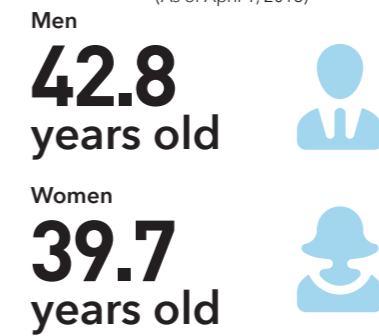
### Number of employees

(As of the end of March 2019)



### Average age

(As of April 1, 2018)



### Women in management positions

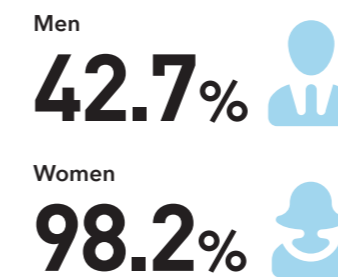
(As of the end of March 2019)

**86**  
(4.55%)

\* Data from YKK AP Group (Japan)  
\* Includes Japanese employees working abroad

\* Data from YKK AP alone (Japan)  
\* Includes Japanese employees working abroad

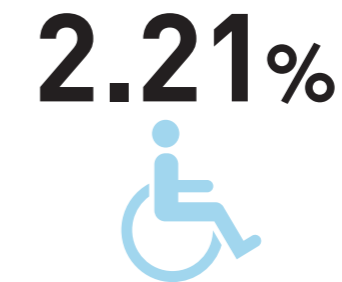
### Rate of employees who take childcare leave



\* Data from YKK AP alone (Japan)

### Employment rate of persons with disabilities

(FY 2018 average)



\* Data from YKK AP alone (Japan)  
\* Includes Japanese employees working abroad

### Rate of employees who take paid leave



\* Data from YKK AP alone (Japan)

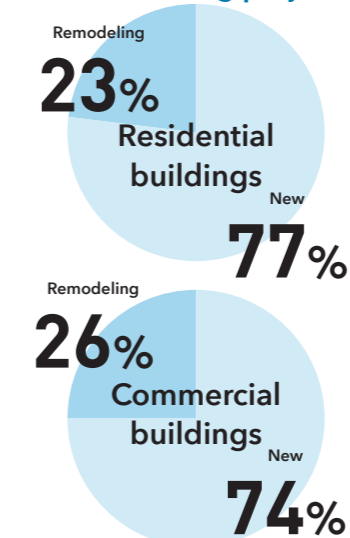
### Proportion of eco-friendly products developed

**100%**



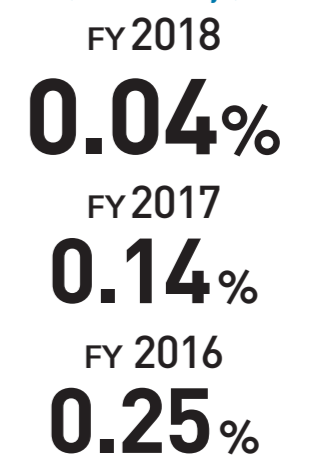
\* Data from YKK AP Group (Japan)

### Ratio of new constructions to remodeling projects



\* Data from YKK AP Group (Japan)  
\* Based on net sales

### Occurrence rates of accidents that required time off from work (Over four days)



(Figures represent the frequency of industrial accidents that occurred over a sum total of one million working hours and those that resulted in death or injury)

\* Data from YKK AP alone (Japan)



## Major Awards

### YKK AP Kurobe Ekko Plant

#### FY 2017 Workplace Occupational Safety Awards Special Award of Excellence

Japan Aluminum Association  
May 2018

#### Maintenance manual for assembly, installation and maintenance contractors "Episode NEO"

#### Japan Manual Contest 2018 Award of Excellence in the Operations Manual Category

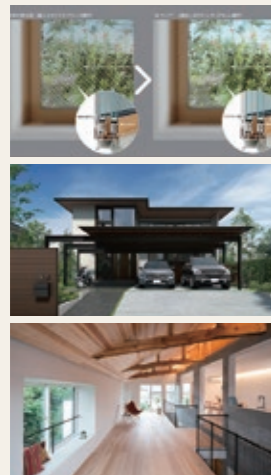


Japan Technical Communicators Association  
August 2018

#### Proposal of "Double Clear" Fire-Resistant Windows XTARA Roof Residential ZEH Remodeling Project

#### Good Design Award 2018

Japan Institute of Design Promotion  
October 2018



### YKK AP Kyushu Plant

#### FY 2018 Kumamoto Bright Company

Kumamoto Prefecture October 2018

### YKK AP

#### "100 Best Companies Where Women Actively Take Part" 2018 3rd Place in Category 4: Diversity

Nikkei Woman, Nikkei Womenomics Project  
May 2018

#### Design Contributing to the Safety and Security of Children LUCIAS Balcony

#### Kids Design Award 2018 Special Jury Award



NPO Kids Design Association  
September 2018

#### Aluminum thermal insulation product "LD65T" (YKK (CHINA) INVESTMENT CO., LTD.)

#### Fenestration Bau China 2018 3rd FBC Awards for the Building Doors & Windows & Curtain Wall Industry The Most Innovative Window Curtain Wall System

China Construction Metal Structure Association, National Real Estate Federation, National Building Door and Window CW Standardization Technology Committee, China Architecture Systems Federation for Doors and Windows October 2018

### MIRAI DOOR: UPDATE GATE

#### DIGITAL SIGNAGE AWARD 2018 in the Location Category



Digital Signage Consortium  
June 2018

Residential Window Sash: 1st Place for the 8th consecutive year  
Residential Entrance Door: 1st Place for the 3rd consecutive year  
Commercial Building Aluminum Sash and Curtain Wall: 1st Place for the 14th consecutive year

#### 2018 Ranking of the Most Desirable Architectural Products and Equipment (Nikkei Architecture)



Nikkei Architecture  
November 2018



### YKK TAIWAN CO., LTD.

#### Survey of Most Desired Architectural Products and Equipment Manufacturers for the Construction of Good Homes 1st Place in the Window Sash Category

Taiwan Architectural Aesthetics Cultural Economics Association November 2018

Residential Window Sash: 1st Place for the 3rd consecutive year  
Residential Entrance Door: 1st Place for the 3rd consecutive year

#### 2018 Ranking of the Most Desirable Architectural Products and Equipment (Nikkei Home Builder)



Nikkei Home Builder  
December 2018

Name of Invention: Large-size Door Equipped with Finger Safety Measures and Sophisticated Designs  
Inventor: Koji Osa, Residential Product Development Division, Research & Development, YKK AP

Local Commendation for Invention in the Chubu Block 2018  
Chairman of the Toyama Prefecture Invention Association Award

Japan Institute of Invention and Innovation November 2018

### YKK AP Social · Environmental Report 2018

#### Environmental Communication Awards 2018 Award of Excellence in the Environmental Report Category

Ministry of the Environment  
Global Environmental Forum  
February 2019



## Company Outline

Corporate Name	YKK AP Inc.
Headquarters Address	1, Kanda Izumi-cho, Chiyoda-ku, Tokyo, 101-0024, Japan TEL +81-3-3864-2200
Capital	10 billion yen
Foundation	July 22, 1957
Accounting Period	March 31 of every year
Description of Business	<p>◎Residential Architectural windows, windows sashes, shutters, window screens, grills, entrance doors, sliding doors, awning, interior doors, wooden floor boards, balcony, fences &amp; gates, carports, cladding products, double glazed glass, etc.</p> <p>◎Building Architectural windows, doors, curtainwall, storefront, replacement windows &amp; doors, landscape products, etc.</p> <p>◎Another Side of YKK AP aluminum profile products, manufacturing machinery, architectural parts, etc.</p>
Construction Work Permits	Licenses issued by the Minister of Land, Infrastructure, Transport and Tourism Public engineering, construction engineering, stone work, roof work, electrical work, piping work, tile/brick/block work, sheet metal work, glass work, waterproofing work, interior finishing, landscape gardening, fittings work, scaffold/construction/concrete work, steel construction work
Main Banks	Mizuho Bank, MUFG Bank, Hokuriku Bank
Affiliated Companies	YKK AP Okinawa Inc., Pros Inc., Iwabuchi Inc., Ruxy Inc.
Overseas Affiliated Companies	YKK AP FACADE PTE. LTD., YKK AP SINGAPORE PTE LTD., YKK AP FACADE VIETNAM CO., LTD., YKK AP AMERICA INC., YKK (CHINA) INVESTMENT CO., LTD., DALIAN YKK AP CO., LTD., YKK AP (SHENZHEN) CO., LTD., YKK AP (SUZHOU) CO., LTD., YKK AP (SHANGHAI) CO., LTD., YKK AP HONG KONG LTD., YKK TAIWAN CO., LTD., PT. YKK AP INDONESIA, YKK AP MYS SDN. BHD., YKK AP (THAILAND) CO., LTD., Bhoruka Extrusions Private Limited

## Editorial Note

Thank you for reading the YKK AP Integrated Report 2019 to the end.

YKK is not listed on the stock market based on the management ideology of our founder, Tadao Yoshida, who said, "stock is a certificate for participating in business." However, even though we are an unlisted company, we believe that as an important member of society, we should actively release information to the public regardless of our state of management.

Based on this policy, we have decided to publish the integrated report in order to fairly and accurately provide information to our stakeholders.

We hope this YKK AP Integrated Report 2019 will help readers gain a better understanding of our company. Going forward, we will work to keep improving the report by taking in your opinions and suggestions.

## YKK AP Integrated Report 2019

### Extent of Coverage

YKK AP Inc.  
YKK AP Affiliated Companies  
YKK AP Overseas Affiliated Companies

### Period Covered

FY 2018 (April 1, 2018 - March 31, 2019)  
\* Parts of the report include reports from outside the coverage period

### Date of Publication

November 2019

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