

ENVIRONMENTAL SOCIAL GOVERNANCE REPORT



TSUBAKI NAKASHIMA

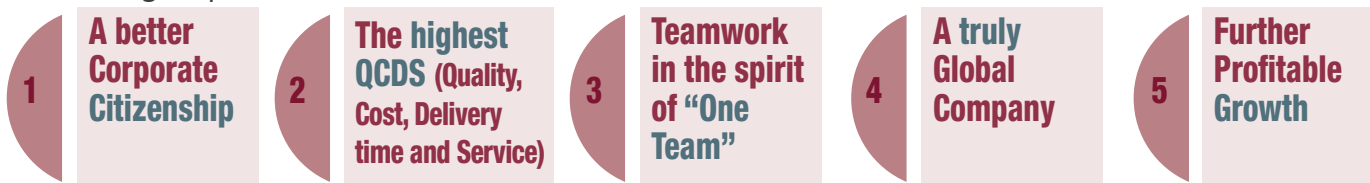


Tsubaki Nakashima is an Organization with a challenging spirit, committed to the **respect of environment** and **upholding sustainability standards**; this respect and commitment are central to the success of our **20 Plants in 12 Countries**, in all the Communities in which we operate.



We are a **manufacturer of precision** balls, rollers, ball screws, and blowers with local production and local procurement, short delivery times and detailed support, through a **well-organized production and sales network**, responding to the needs of our Customers, and realizing further profitable growth, continuously increase Corporate value.

As the social, industrial, technological and lifestyle changes are progressing globally, **the foundations** of realizing Corporate Value are:



Tsubaki Nakashima appreciates and encourages the contribution of every Team Member in every location.

It is the variety of talent, ideas, opinions, and experiences – Tsubaki-Nakashima know-how – that gives a broader understanding of the marketplace and the world around; it is how our Company builds **high-performance Teams** and deliver **innovative solutions for Customers**.

As Tsubaki Nakashima, we recognize **our responsibility** to address the environmental and social impacts of our business. Our **Global Sustainability System** – a multisite integrated system based on ISO 14001, ISO 45001, and ISO 50001 - has been implemented in many of our factories in the world and it will be fully applied in 2021. A responsible use of **resources and energies**, as well as tracking and reducing Green House Gas (GHG) emissions, will allow us to lessen our climate change impact and provide important opportunities to help drive momentum for global climate action.

The urgency of climate change is recognized in the UN Sustainable Development Goals (SDGs) – SDG 13 calls for *urgent action to combat climate change and its impacts*.

Tsubaki Nakashima **supports the SDGs** and recognizes the need for engaging others to collectively play our part in addressing climate change, as no single company can make meaningful progress alone. At Tsubaki Nakashima, we are taking initiatives to eliminate accidents and occupational diseases, minimizing risks, reducing the production of waste and to tackle climate change, driving momentum for global climate action. For our direct operations, this approach involves increasing energy efficiency and expanding clean energy by investing in renewables. Tsubaki Nakashima will **continue to pursue innovative and sustainable solutions** for our Products, reducing energy use in our direct operations, improving the work environment, and using the available resources in a responsible way.



- *Director and Representative Executive Officer, CEO*
Koji Hirota

**PRECISION
FOR A
changing
WORLD**

Introducing Tsubaki Nakashima's second Sustainability Report, a document that uncovers the 2020 operations of our 20 plants around the world, this report embodies our aim to continue growing as an **environmentally responsible and ethically sourced business**, therefore reaffirming our commitment to transparency and good governance, particularly in matters of sustainable and profitable growth, attention to our Stakeholders, and the Vision Zero's Approach (Zero accidents, Zero occupational illnesses, Zero wastes, Zero inequalities, Zero lack of knowledge). It aims to represent a real evolution of the Company with a view to the continuity of values, considering elements of the past and above all the strong projection to the future. Since 2017, the Company has grown on solid pillars such as respect for people, safety at work, the quality of services offered, attention to customers, the environment and transparency in relationships; all factors still today not only present but strengthened and in which we continue to invest. Precisely for this reason we have decided to invest and draw up the Sustainability Report; because we have always believed that serious Corporate Social Responsibility can make a difference in everyday work. This is the second non-financial reporting report that Tsubaki-Nakashima publishes to reach and **involve all its Stakeholders** and in particular

RESPECT for people SAFETY at work QUALITY of services ATTENTION to customers ATTENTION to environment TRANSPARENCY in relationships

its Employees, Customers and Suppliers, as well as our Shareholders, with the aim of improving our way to do business. And this arises as a spontaneous consequence of the subjective values and the personal ethical sense of each of us. An **individual responsibility** even before a Corporate one, which has led us here, today, to innovate and evolve, because there is an important link between innovation and sustainability, which identifies the ethical depth of a company and its ability to generate shared value in the long run.

The report addresses items of significant importance to Tsubaki-Nakashima's business strategy and the narrative describes our efforts to contribute to the United Nation's Sustainable Development Goals (SDGs). Making innovation, even before operating on processes and structures, means working on trust, on culture, on the motivation of employees and collaborators. It means **improving and never stopping**, to become an excellence in our specific businesses to satisfy our Customers and becoming a source of inspiration for our Competitors. Publishing the Sustainability Report on a regular basis has allowed us and allows us to become aware of **who we are and what we want to represent** for our Stakeholders.

The reporting framework prescribed in the Global Reporting Initiative (GRI) Standards. The person responsible for the content and form of this document is the CSO, Hisashi Tate, and the CHRO, Franco Dutto. For any information, it is possible to contact them.

IMPROVING AND never STOPPING



Founded in 1934

by Kosaburo Chikamori, Toyo Steel Ball Seisakusho started manufacturing steel balls for bicycles. In 1954 the Company changed name to Tsubakimoto Steel Ball Manufacturing Co., Ltd. and in 1958 began mass production of nylon, stainless, brass, and other special balls such as tungsten carbide balls.

In 1959 Tsubakimoto started manufacturing and sale of ball screws and in 1961 the Company was listed on the second section of both the **Tokyo and Osaka Stock Exchanges**. In 1973 it started manufacturing and sale of ceramic balls.

More recently, in 1996 the Company has been merged with Nakashima Seisakusho Co., Ltd., and finally Tsubaki Nakashima Co., Ltd. was established, starting a long process of acquisitions (USA, India, China, Poland, Taiwan, UK, Thailand until the most recent in 2017 with the acquisition of Precision Bearing Components, Group of NN Inc.).



TOWARDS NEW goals and BEYOND

10 **THE
NET**

EUROPE

6

ASIA

6

JAPAN

4

AMERICA

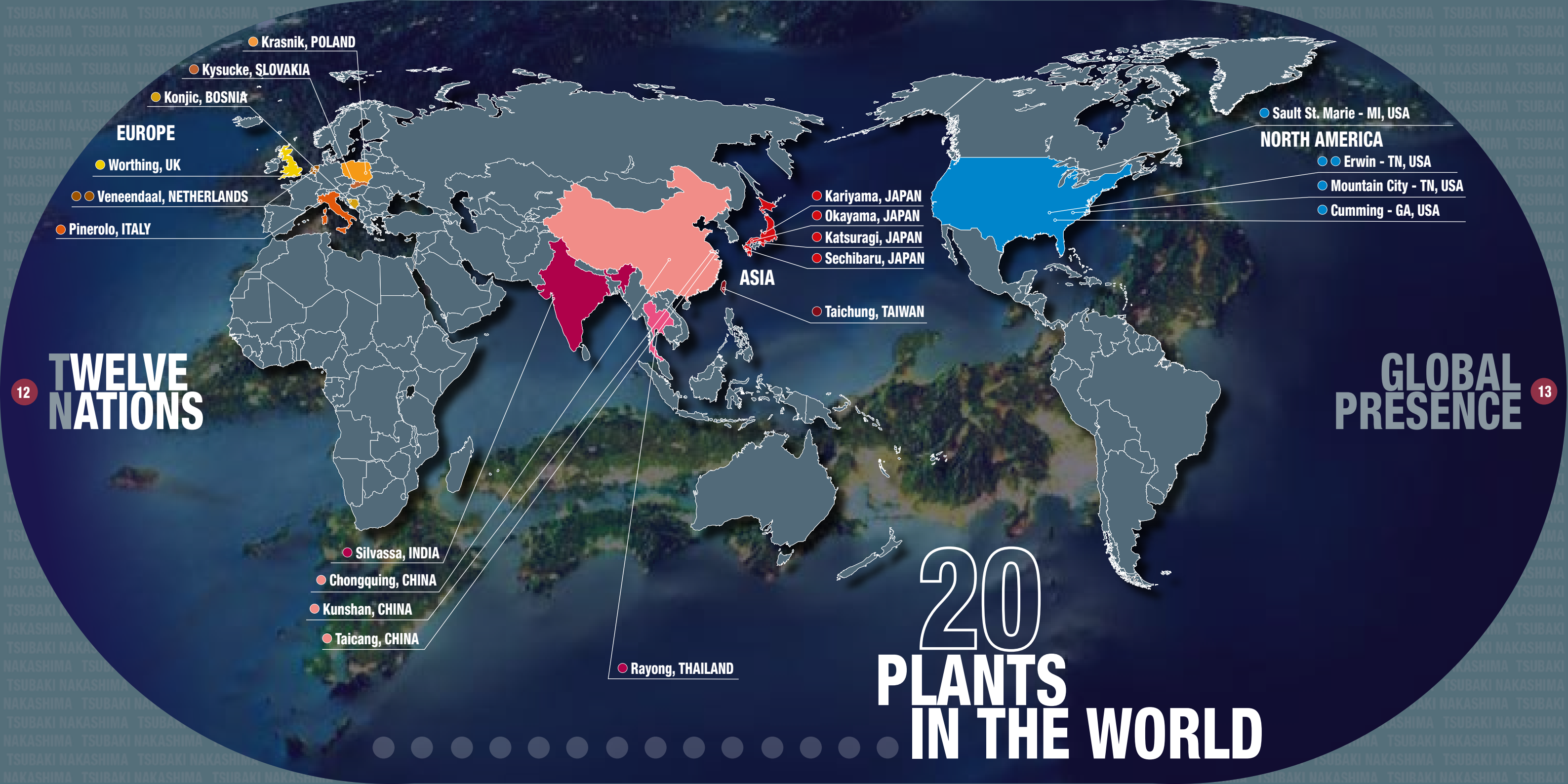
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**GLOBAL
PRESENCE** 11

20 PLANTS

Tsubaki Nakashima Co. Ltd. is headquartered in Nara, Japan, with offices in Osaka, Singapore, Seoul and 20 plants in 12 Countries: Japan, United States, Italy, Poland, Slovakia, The Netherlands, UK, Bosnia, China, Thailand, India and Taiwan. This enables Tsubaki Nakashima to respond to various customer needs, local procurement, quick delivery, and superior customer support.





12

TWELVE NATIONS

- Krasnik, POLAND
- Kysucke, SLOVAKIA
- Konjic, BOSNIA
- Worthing, UK
- Veneendaal, NETHERLANDS
- Pinerolo, ITALY

EUROPE

ASIA

- Silvassa, INDIA
- Chongqing, CHINA
- Kunshan, CHINA
- Taicang, CHINA
- Rayong, THAILAND

- Kariyama, JAPAN
- Okayama, JAPAN
- Katsuragi, JAPAN
- Sechibaru, JAPAN
- Taichung, TAIWAN

- Sault St. Marie - MI, USA

NORTH AMERICA

- Erwin - TN, USA
- Mountain City - TN, USA
- Cumming - GA, USA

GLOBAL PRESENCE

13

20 PLANTS IN THE WORLD

14 **TRUE
NUMBERS**



12

countries

GLOBAL
ORGANIZATION



3.147

employees

BELONGING TO

30

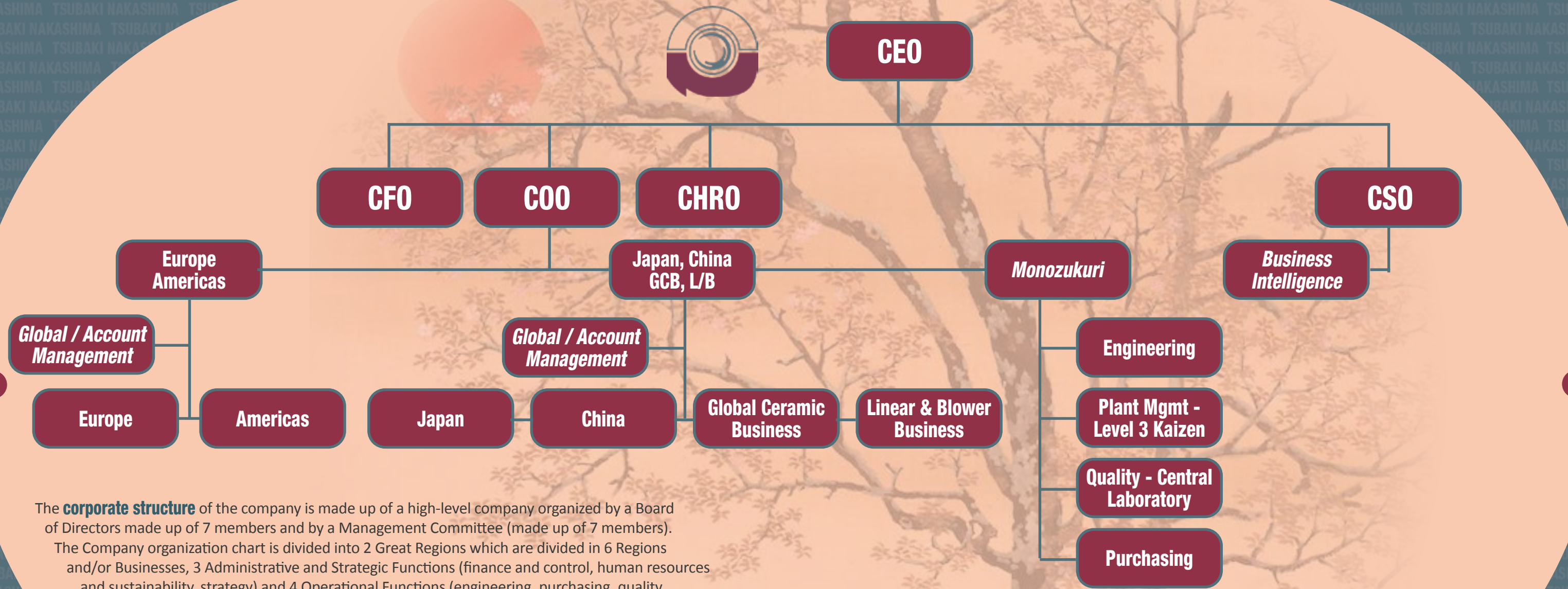
**different
nationalities**



52.875

MJPY

REVENUE
FY2020



The **corporate structure** of the company is made up of a high-level company organized by a Board of Directors made up of 7 members and by a Management Committee (made up of 7 members). The Company organization chart is divided into 2 Great Regions which are divided in 6 Regions and/or Businesses, 3 Administrative and Strategic Functions (finance and control, human resources and sustainability, strategy) and 4 Operational Functions (engineering, purchasing, quality, plant management and continuous improvement) under the *Monozukuri* direction.

NO MAN
IS AN ISLAND

18

VISION

REALIZE **FURTHER**
PROFITABLE
GROWTH
AIMING TO BE A **SHINING**
EXAMPLE OF A COMPANY
WHICH CONTINUOUSLY
SEEKS **IMPROVEMENT**

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VISION
and MANAGEMENT
PRINCIPLES

MISSION

**BUILD
STAKEHOLDER TRUST
AS WE GROW
AND PROSPER
WITH COMMUNITIES
AND TO HELP
CREATE A BETTER WORLD**

VISION and MANAGEMENT PRINCIPLES

Our mission is to build stakeholder trust as we grow and prosper with communities and to help create a better world. We consider any action designed to realize Tsubaki Nakashima's Vision and Management Principles to be a Corporate Social Responsibility (CSR) activity. In addition to ensuring compliance, observing corporate ethics, and fulfilling our responsibilities at a level that exceeds what society requires, we will fully demonstrate our unique creativity in CSR by creating value through the products we develop and manufacture.

We will improve our manufacturing technologies on a continuous basis to make the best products in the world and contribute to preserving the global environment.

With our creativity and an unwavering spirit to take on challenges, we will provide our customers with the highest QCDS (quality, cost, delivery, and service), drawing ideas from our customers and the market.

We will create a teamwork-oriented corporate culture, maximizing the strengths of our employees while valuing their satisfaction at work and in their lives.

We aim to become a truly global company with an international mindset.

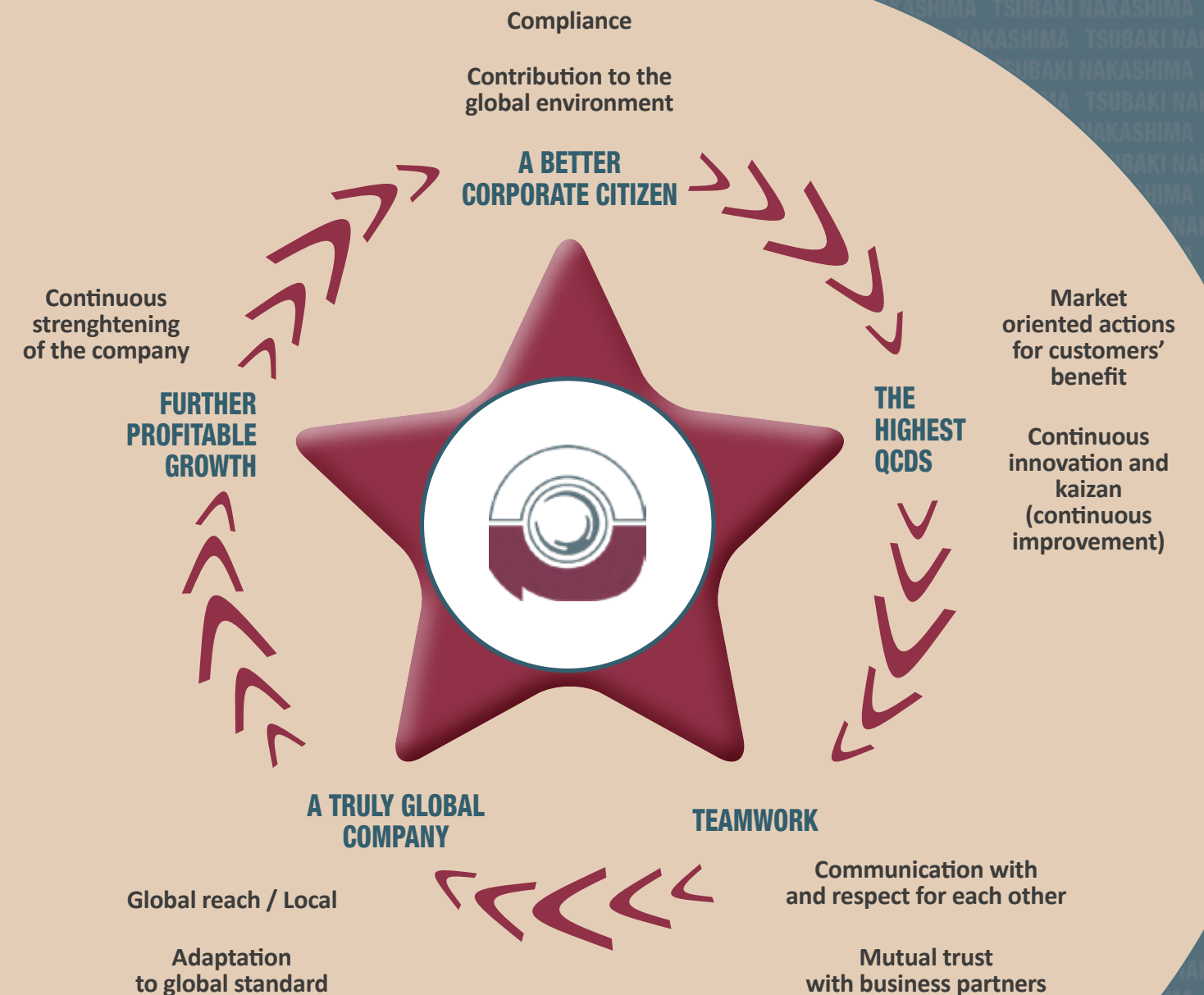
We aim to be a company that continues to achieve profitable growth.

Tsubaki Nakashima Group supplies a diverse range of products to customers worldwide to **create new values through manufacturing and contributing to society at large, in a sustainable way.**

MANAGEMENT PRINCIPLES

WE

VISION
and MANAGEMENT
PRINCIPLES



TRUE NOURISHMENT

PROFIT
SOCIAL
ENVIRONMENT



Tsubaki Nakashima has set

5 MATERIAL ITEMS

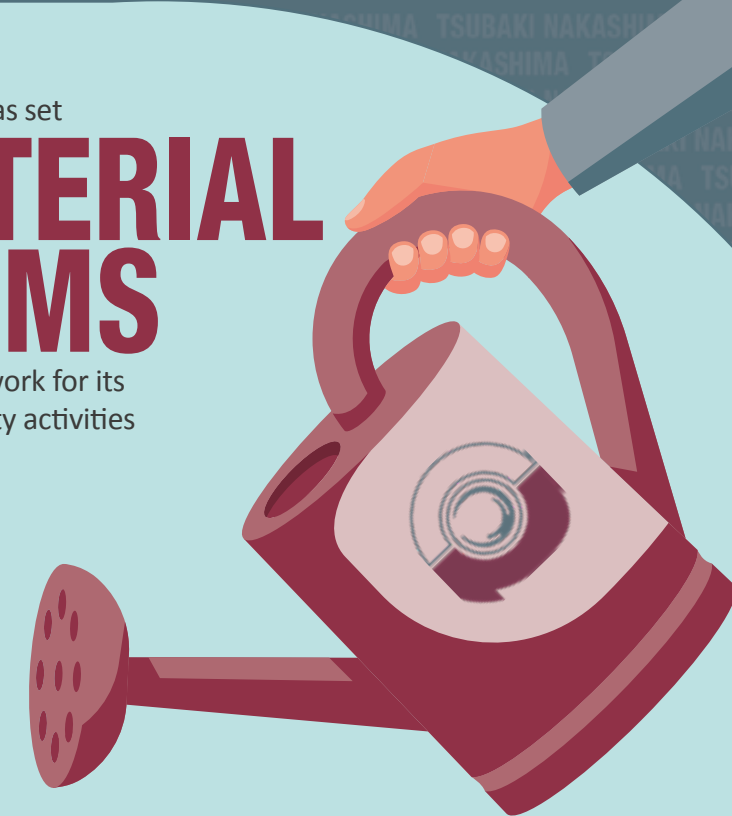
as a framework for its
sustainability activities

Improvement of productivity
Creation of knowledge (Social • Development)

Improvement of quality of life (Environment • Social • Profit)

Realization of a decarbonized society and (Environment)

Realization of a recycling-oriented society (Environment • Social)



and in addition to that, it has set the **sales of ceramic balls** of our group as Sustainability Performance Targets, with the aim to continue to contribute to the global environment by continuously evolving world-class products and manufacturing technologies. The Company is committed to increasing its contribution to the environment by developing ceramic balls that improve energy and environmental performance. Tsubaki Nakashima's ceramic balls are lightweight, strong, long-lasting, highly insulating, wear-resistant, heat-resistant, and corrosion-resistant, contributing to energy conservation in various products, and are expected to grow in the wind power generation, EV, and medical applications.

VISION
and MANAGEMENT
PRINCIPLES

Professional ethics and corporate social responsibility are the cornerstones on which the company's business is based. Honesty, seriousness, fairness, respect, ethics, and safety in work and in interpersonal relationships are and always will be fundamental pillars of Tsubaki Nakashima's work. The win-win partnership between customer and supplier as well as the enhancement and continuous training of its human resources are two main directions of the Company's work and choices. Tsubaki Nakashima makes its wealth of international skills and know-how available to customers and the local area, pursuing excellence in the provision of products and services, with the aim of creating shared value and developing long-lasting collaboration networks. In addition to ensuring compliance, observing corporate ethics, and fulfilling our responsibilities at a level that exceeds what society requires, we will fully demonstrate our unique creativity in Corporate Social Responsibility by creating value through the products we develop and manufacture.

ETHICS CULTURE, and VALUES

At Tsubaki Nakashima, we have closely aligned our Management Statements, Codes, Policies and Systems with internationally recognized standards to help ensure that we serve the role that society expects of us. Tsubaki Nakashima also understands and respects the laws and regulations in the countries and regions in which it operates.



United Nations
Global Compact



International
Labour
Organization



International
Organization for
Standardization

CORPORATE SOCIAL RESPONSIBILITY INTERNATIONAL STANDARDS



VISION ZERO
Safety. Health. Wellbeing.

**VISION
and MANAGEMENT
PRINCIPLES**

Corporate Social
Responsibility Themes

ESG



Products and Services	ENVIRONMENT			✓	✓		✓		✓	✓		✓	✓	✓		✓	✓
Business Operations aligned with global social trends			✓	✓		✓		✓							✓		✓
Productivity Improvement - Motus 4.0					✓			✓	✓								✓
Productivity Innovation and Competitiveness																	✓
Strategic Marketing									✓								✓
Effective use of energy and resources									✓			✓	✓	✓	✓		✓
Climate change	SOCIAL											✓	✓				✓
Contributing to the environment (procurement, products)				✓			✓	✓		✓		✓	✓	✓	✓		✓
Respect of human rights					✓	✓			✓		✓						
Diversity					✓	✓			✓		✓						
Training and development, employees engagement				✓	✓			✓		✓		✓					
Supply Chain	GOVERNANCE			✓												✓	✓
Product Quality and Development									✓			✓				✓	
Compliance										✓						✓	
Management Systems																✓	✓



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TICK
NOTICES



VISION
and MANAGEMENT
PRINCIPLES



Tsubaki Nakashima has adopted a **Manual of Compliance, Code of Business Ethics and related Policies** addressed to all those who have employment, collaboration, consultancy, or other relationships with the Company. The Manual of Compliance, Code of Business Ethics and related policies dictates the rules of correctness and transparency that distinguish the company's work and is based on a series of principles with values, which are then declined within the code.



In order to conduct business and grow on a global scale, the Group is working to strengthen its highly transparent and objective **Corporate Governance System**. In addition, we have established a **Group Management System** with a sense of unity by realizing a group company management function with efficiency and expertise.

Our **Corporate Governance System**

consists of the Board of Directors, Nomination Committee, Compensation Committee, and Audit Committee as supervisory bodies, and MC (Management Committee) and RMC (Risk Management Committee) as business execution bodies. We have adopted the organizational design of a company with a nominating committee, etc., because we believe that the separation of supervision and execution is a means of enhancing corporate value by strengthening the supervisory function and ensuring prompt management.

The **Board of Directors**, consisting of 7 Directors (including four outside Directors), makes decisions on basic management policies and supervises the execution of business by the Executive Officers. Each of the outside Directors has his or her own area of expertise and based on their extensive experience and wide range of knowledge, they provide advice and exchange opinions on management, thereby fulfilling the supervisory function.

The **Nomination Committee** consists of two outside Directors (including the Chairman) and one inside Director, and most of the committee members are outside Directors to ensure the appropriateness of nominations. The Nomination Committee decides the details of proposals for the election and dismissal of Directors.

The **Compensation Committee** consists of two outside Directors (including the Chairman) and one inside Director and has a system to ensure the appropriateness of remuneration; it determines the basic policy on remuneration, etc. for Directors and Executive Officers and the amount of remuneration for everyone.

The **Audit Committee** consists of three outside Directors. The Audit Committee is composed of three outside Directors, each of whom has a different area of expertise, and is appointed based on the belief that audits from various perspectives are possible. The Audit Committee audits and supervises the execution of business by the Directors and Executive Officers and decides on the content of proposals for the appointment and dismissal of the accounting Auditor to be submitted to the General Meeting of Shareholders. In addition, we have established a system in which a full-time assistant to the Audit Committee assists the Audit Committee.

Corporate Governance

Compliance Promotion System

Under the supervision of the President and Representative Executive Officer, who is in charge of overall management, compliance is promoted mainly by the Executive Officer in charge of HR, Compliance & Sustainability (CHRO)

In addition, an **Internal Audit Office** has been established directly under the President and Representative Director to conduct internal audits and confirm the status of compliance.

In addition, an assistant to the Audit Committee has been established under the direct supervision of the Audit Committee to audit the compliance status of directors and other officers.

The Internal Audit Office, the Audit Committee assistant, and the accounting auditor share information as necessary to strengthen cooperation.

The Group experienced a problem with non-conforming products in 2018. To prevent the recurrence of this problem, we held a **Recurrence Prevention Committee** under the direct control of the President and Representative Executive Officer and implemented monitoring of related departments. Currently, the Recurrence Prevention Committee is continuing to meet.



32 TRAINING NEVER STOPS

We conduct **compliance training for all employees** to prevent the occurrence of non-conforming product issues and other compliance problems that could damage the trust of stakeholders.

In fiscal 2019, we explained the background of the problem and preventive measures to prevent recurrence of the nonconforming product problem, and in fiscal 2020, we trained all our employees on the **new Code of Business Ethics and related Policies**.

CORPORATE
GOVERNANCE

SPECIFIC POLICIES



Tsubaki Nakashima is proactive in making sure that personal relationships and activities do not interfere with the ability to make **objective business decisions** on behalf of Tsubaki Nakashima. The Company knows and avoids the kinds of situations that can present

CONFLICTS of interest

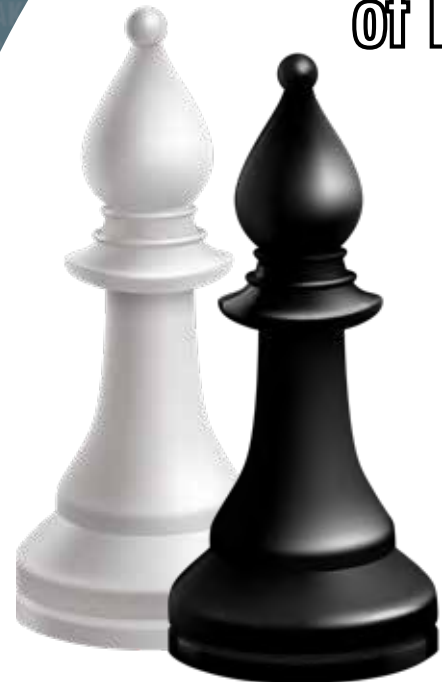
Engaging
Third
Parties

Working
with
Suppliers

Personal
Relationships
and Family
Members

We at Tsubaki Nakashima are acting to protect the personal data of our Customers, Business Partners, and Employees to reward their trust and **fulfill our social responsibility**. The Data Protection Policy states the rules applicable in all the Countries where we operate, and Individual Group companies are not entitled to adopt regulations that deviate from it. Every Unit must identify **all applicable International** (Regional, National Regulations, Codes and Laws, e.g. GDPR in Europe, Act on Protection of Personal Information (APPI) in Japan, Data Protection Laws in USA, etc.), with which it must comply. The Data Protection Policy extends to all processing of personal data. In countries where the data of legal entities is protected to the same extent as personal data, the Data Protection Policy applies equally to data of legal entities.

PERSONAL DATA protection



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Our **Tracking Regulations' Policy** supports Tsubaki Nakashima practice to participate in relevant international and community activities and in the development of responsible legislation, regulations, standards and technology. And, at the same time, it demands to every organization to apply the Corporate process to ensure that the information regarding Laws and Regulations is accurate and received in a timely manner, and for understanding the applicability of International, Regional, National, Company and other applicable requirements in the specific organizational environment, as well as authorizations, permits, licenses needed to operate the Organization in compliance with Laws and Regulations, keeping track of them.

LAW and regulation

PROTECT well being

This policy sets **additional expected standard of behavior** for team members and all stakeholders while at work, helping all the employees to comply with applicable laws and regulations, guiding the decision-making process, reinforcing the commitment to impeccable character. It includes requirements driven by law, and requirements driven by Tsubaki Nakashima Code of Business Ethics, philosophy, and culture and by Tsubaki Nakashima management statements. As part of the Tsubaki Nakashima team, **each employee takes care of himself/herself and each other**. Tsubaki Nakashima promotes safety, health, and social responsibilities because people matter – not just to the Company, but to fellow team members, friends, families, and communities.



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SPECIFIC POLICIES



Tsubaki Nakashima values the power of **Collective know-how**. The Company grows the business and improves the work environment by building positive and enduring relationships. In specific, the policy determines the general rules in terms of **Diversity, Inclusion and Opportunity, and Harassment-free Workplace**.

create POSITIVE relationships

Tsubaki Nakashima (TN) is an organization committed to the **respect of human rights** and upholding labour standards. This respect and commitment are central to the success of TN entities in all the communities in which it operates. Labour Standards Policy is aligned with the principles established within the **Universal Declaration of Human Rights** and in combination with **TN Managerial Statement and Code of Business Ethics**, reinforces the commitment to ensuring all internal and external stakeholders are treated with dignity and respect. As part of due diligence when entering acquisitions, new operations and other contractual arrangements, Tsubaki Nakashima seeks to abide by the requirements set out in this document to ensure any labour standards and human rights issues are identified and assessed. The purpose of this Policy is to set out the responsibilities of Tsubaki Nakashima, its Employees and Associates in observing and upholding our principles with respect to labour standards and human rights.

LABOUR standards

SPECIFIC POLICIES

Tsubaki Nakashima does not accept child labour.

Child labour is defined as work undertaken by a child which the child is legally prohibited from undertaking or is likely to be harmful to the Child's health or physical, mental, spiritual, moral, or social development, or interferes with a Child's education.

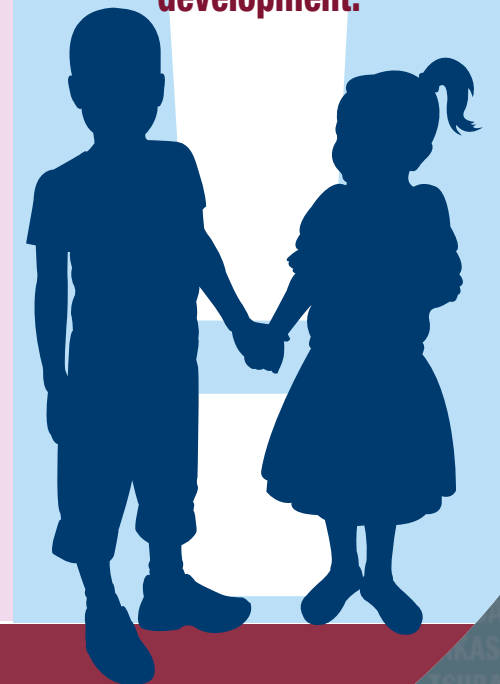
Tsubaki Nakashima supports the United Nations and ILO conventions specifying

CHILD labour

**Tsubaki
Nakashima
does not
accept
child
labour**

**All actions concerning
the child shall take
full account
of his or her
best interests**




**The right of the child to be
protected from economic
exploitation, from performing
any work that is likely to be
hazardous or interferes
with the child's education,
or is harmful to a child's
health or physical, mental,
spiritual, moral or social
development.**



Tsubaki Nakashima recruits, develops, and promotes personnel on the basis of merit. We want to maintain a work environment free from discrimination and harassment. Equal opportunity means treating individuals fairly and **without discrimination in all aspects** of their employment. Discrimination means treating an individual less favorably than others on grounds prohibited by law. Grounds of unlawful discrimination include:

EQUAL opportunities



	Gender	Parental Status	Marital Status	Sexual Orientation	Criminal record	
				Family Responsibilities	Disability Impairment	Ethnicity
		Political beliefs or activity	Religious beliefs or activity	Age	Freedom of association	
	Physical features		Victimization	<p>Tsubaki Nakashima is committed to supporting the values of diversity and inclusion through the adoption of corporate, organizational and management processes based on respect for people's rights and freedom. To this end, the path taken aims to develop the ways in which diversity issues are addressed, moving from an approach designed to safeguard and integrate diversity, to a proactive strategy to overcome cultural stereotypes and to identify and address those factors that prevent inclusion in the workplace. The company operates impartially and does not tolerate any form of direct or indirect discrimination. It also promotes conditions that enable the elimination of cultural, organizational and material barriers that limit people's full participation and full potential within the organization. TN safeguards the value of its staff and promotes the protection of their psychophysical, moral and cultural integrity through working conditions that respect individual dignity and rules of conduct.</p>		
		Conflict of interest				



INCLUSION and diversity



SPECIFIC POLICIES

Tsubaki Nakashima supports a person's right to come together with others to **promote, pursue, and defend common interests**. Our company strives to provide employees with a pay and benefits package in line with market practices and adapted to their skillset and performance.

Wages and benefits are equal or superior to the applicable minimum legal and regulatory requirements and shall comply with negotiated agreements with legally established trade unions.

FREEDOM of association WORKING conditions BARGAINING

The Tsubaki Group's regional Presidents and Global functional Managers in charge of manufacturing, quality, sales, technology, finance, and human resources are responsible for analyzing and assessing the individual risks inherent in our business activities. When a significant risk is identified, the **Risk Management Committee** (RMC) is convened to review the risk analysis and assessment conducted in each region and report the results to the Management Committee (MC), the executive body. In addition to discussing and deciding how to respond to such risks, the MC will promptly report to the Board of Directors and take countermeasures in the event that a serious loss is expected to occur.

RISK management

SPECIFIC POLICIES



One of the objectives of Tsubaki Nakashima's activity is to **make the environments cleaner, more efficient and above all safe** and we can configure this in the prevention and adoption of environmentally friendly techniques and sustainable approaches.

Under the direction of the CEO and Management Committee, the Tsubaki Nakashima's CSO - Director in charge of Corporate Planning, Business Strategy, and M&A - is responsible for promoting ESG, with the support of the Investor Relation Department.

CHRO – Director of Human Resources, Compliance and Sustainability – created the **One Team** management System and the Global Sustainability System in order to guide the direction of global activities, in the right way. Our Global Operations' Director manages specific Sustainability projects (e.g. Waste reduction, Energy). The established direction is incorporated into specific activities at the Plant level through each Regional President.

ENVIRONMENT and regulation SOCIAL & GOVERNANCE promotion structure



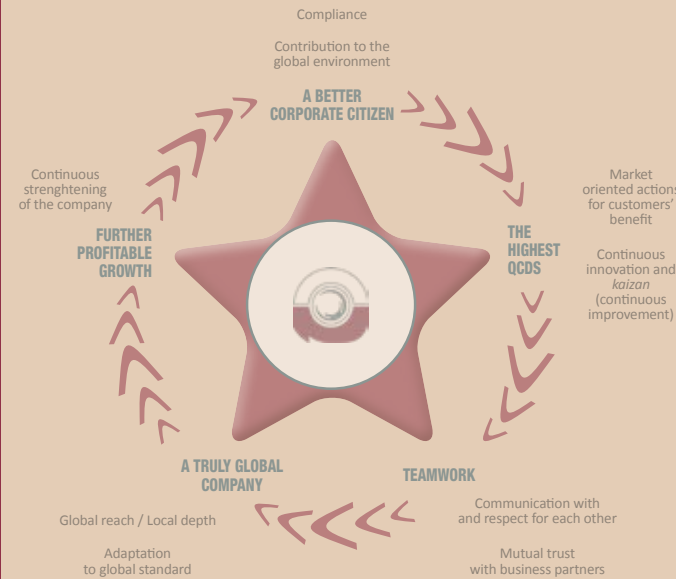
The Company Management has decided to draft the document integrating the GRI Standard with the principles of Integrated reporting in order to provide the widest information to its Stakeholders and with the aim of highlighting the creation of value over time. The integrated report is a new approach to corporate reporting that aims to emphasize the link between strategy, financial performance and the social context in which the company operates. The objective of the Framework is to define the guiding principles and contents that are part of an integrated report and the main purpose is to

TSUBAKI NAKASHIMA CONTEXT ANALYSIS

demonstrate to financial capital providers, through an improvement in the quality of information, how an organization is able to create value over time. The company has made an objective analysis of the

SUSTAINABILITY (ESG)

context, concretizing it in a SWOT analysis, a strategic planning tool used to evaluate the strengths (Strengths) the weaknesses (Weaknesses), the opportunities (Opportunities) and the threats (Threats) that characterize a company to facilitate decision-making processes and achieve business objectives, concerning Sustainability (Environment, Social, Governance).



SWOT Analysis started from the alignment between Managerial Statements, Strategy and Sustainability (ESG) Targets, with the **ZERO Approach**.

Safe and healthy plants (*Zero accidents and Zero occupational illnesses – Zero inequalities*) and low environmental impact (*Zero wastes*) - Improving Energy efficiency and consumption; Common system, platform and standards to manage and sustain Sustainability (*Zero lack of knowledge*), in compliance with the laws and obligations.



SWOT



INTERNAL
ORIGIN

S

Sustainability considered as a strategic asset and included in the Managerial Statements (Better Environment management will decrease the production of wastes and costs Better Energy management will decrease the consumption and costs)

Multicultural Company and global/multiethnic/functional Organization - Mutual support between Regions/Plants

Process to standardize systems, materials, equipments, machines, manufacturing flow, etc.

Low rate of injuries and zero occupational illnesses

Global Sustainability System and Minimum Technical Standards

Many of the plants already have at least one ISO Certification

Energy assessment done in many plants and Energy Project is a crucial item of Monozukuri

W

Some aged plants and machines, increasing the safety risks and use of energy, as well as the potential environmental impacts

Energy not always perceived as an opportunity

Cultural and Linguistic barriers

Common electronic platform where to share documents, best practices, etc. not properly working

Lack of common standards for the Auditors

INTERNAL
ORIGIN

< **HELPFUL**

HARMFUL >

O

Potential "green" incentives in almost all the Countries

Sustainability is perceived as an asset

Automation and Artificial Intelligence could decrease the risk of injuries

Common International Standards and local Regulations founded on them

T

Pandemic issue and Economic recession is slowing down the implementation of Sustainability projects

Higher cost of energy

Higher cost of waste disposal, like grinding sludge

EXTERNAL
ORIGIN

SWOT



**ANALYSIS
CORPORATE LEVEL**

OUR STAKEHOLDERS

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The Group places great importance on maintaining and building **relationships of trust** with its stakeholders based on **long-term collaboration**. Tsubaki Nakashima interacts with numerous subjects, worldwide; the Company bases its relationships on solid pillars such as respect for people, safety at work, the quality of services offered, attention to the environment, transparency in relationships and Social Responsibility.

The stakeholder engagement activity made it possible to define the reporting perimeter and to build a stakeholder mapping that identifies the subjects linked to the company by relationships of different nature and in turn inserted in wider networks of interrelations.

Tsubaki Nakashima identifies its stakeholders by dividing them into two main categories: internal and external stakeholders, following the ISO requirements.



INTERNAL Stakeholders

are represented not only by shareholders and company management, but above all by employees and collaborators, **the heart of the company**, who are in direct contact with customers every day, representing Tsubaki Nakashima. The company strongly believes in the integration and concrete motivation of its employees by stimulating training at 360° and in particular on fundamental issues such as safety at work and the principles established by the **highest ethic's standards**. Shareholders and company management guide the strategy and operations of the Company in compliance with and sharing ethical and moral principles.

EXTERNAL Stakeholders

include suppliers and contractors, who are selected through a precise evaluation system, as well as based on compliance with the principles governed by our QMS and GSS: being a supplier of Tsubaki Nakashima means committing to extend the same ethical principles that guide the company also to its supply chain and along the entire value chain. A relevant external stakeholder is the Customers.

Both categories of stakeholders (internal and external) have legitimate expectations regarding the work of Tsubaki Nakashima and, in relation to the most relevant stakeholders, the possibility of expressing opinions and suggestions, both in clear and anonymous (i.e. Surveys), through various sharing tools made available by the company and with periodic meetings. Thanks to these listening processes, the company has the opportunity to understand their needs and evaluate them to improve its activities and its impact on them. In general, stakeholder involvement takes place in compliance with the principle of inclusiveness, through which Tsubaki Nakashima undertakes to encourage the active participation of all internal stakeholders in corporate life and strategic decisions.

CONTEXT ANALYSIS

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**PRECISION
CERAMIC BALLS**



**PRECISION
STEEL BALLS**



**SPECIALLY MANUFACTURED
PRODUCTS**

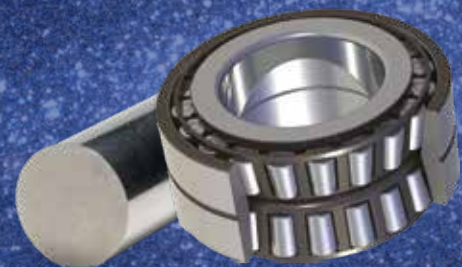
**SOLID
PLASTIC BALLS**



GLASS BALLS



**LARGE SCALE
BLOWERS**



**PRECISION ROLLERS
AND STAMPINGS**

**BESPOKE
TOOLING FEATURES
TO DESIGN**



BALL WAYS

**CMM REFERENCE
BALLS**

BALL SCREWS

WIND TUNNEL

**PRODUCTS
FOR ELECTRIC
POWER INDUSTRY**

OTHERS

**TSUBAKI
NAKASHIMA PRODUCTS UNIVERSE**

TSUBAKI NAKASHIMA PRODUCTS

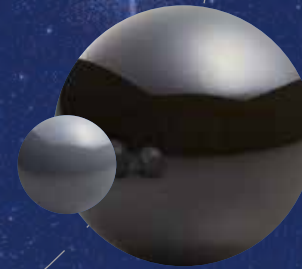


PRECISION STEEL BALLS

Bearing Steel Balls, Stainless Steel Balls, Carbon Steel Balls, Chrome Steel, Nickel Chrome Molybdenum Steel, Tungsten Carbide Alloy Balls, Non-ferrous Metal Balls are used in a variety of products for everyday use – these include home electronics such as air conditioners, refrigerators, and vacuum cleaners to ensure a quiet operation. The high precision of our precision components ensures the highest durability and quality to meet our diverse client's needs.



PRECISION ROLLERS AND STAMPINGS



PRECISION CERAMIC BALLS

Fine ceramics are light and tough. In addition to having excellent insulating properties, they have excellent wear resistance, heat resistance and corrosion resistance. Taking advantage of these characteristics, our ceramic balls are used in bearings for spindle motors of machine tools, turbochargers, and dental drills that rotate at high speeds. Ceramic balls are also used as check balls in metering pumps for fluid control in water treatment and food applications. Our ceramic balls are indispensable for creating the future for environmentally friendly applications such as wind power generators, electric vehicles, and semiconductor manufacturing equipment that supports 5G technology.

Our industry position as the largest independent manufacturer of precision rollers allows TN the flexibility to offer products matching a wide range of customer specifications. Our roller technologies have been proven to create lower friction, bear heavier loads, and withstand the most severe conditions, ensuring that bearings containing TN rollers have the longest possible service life. Our fully automated, deep-drawn transfer and die pressing technology allows us to manufacture a wide variety of precision sheet metal parts, including tapered and spherical roller cages as well as other products for automotive and industrial markets. This process delivers high precision and improves overall product performance.



TSUBAKI NAKASHIMA PRODUCTS

We specialize in high quality, price competitive, injection molding of plastic tubes, petri dishes and other plastic disposables. We employ state of the art injection molding and clean room technology with advanced skills where tight tolerance, special color, clarity or light transmittance and lot-to-lot integrity are crucial. Some specialty injection molded plastic parts can be manufactured in our Class 8 Compliant, ISO 13485:2016 Certified, FDA registered clean room.

MEDICAL PRODUCTS

FDA Registered for Contract Cleanroom Injection Molding

Example of applications

IV therapy check valves

High speed dental drills

Xray markers

Surgical instruments

Medical tester
Analysis and diagnostics

Airways and respiratory

Blood processing equipment

Saline washing and cooling

Tumour ablation

Endoscopic irrigation
and washing

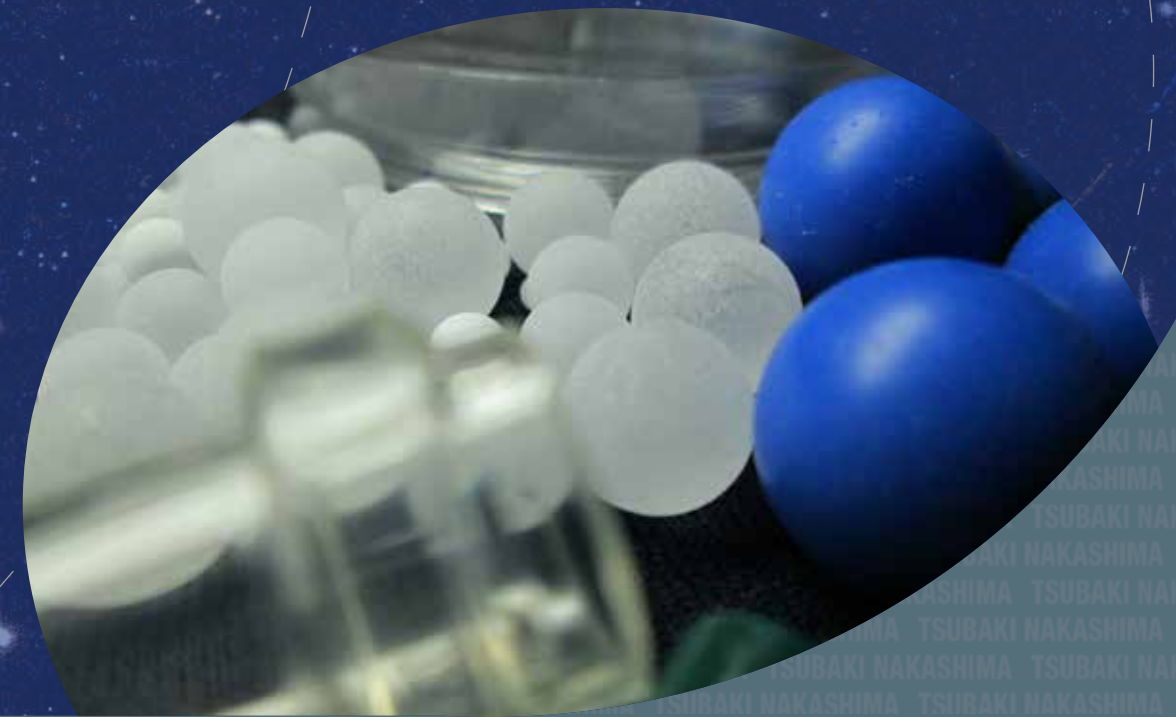
Disinfection machines

Haemodialysis



SOLID PLASTIC BALLS

Solid plastic balls are a light-weight alternative to metal balls. Less than 1/6th the weight of metal and the weight of aluminum, advances in plastic material formulations and thermoplastic products can even outperform metal in certain applications. The balls can be used in applications requiring light weight, noise reduction, corrosion resistance or color. Common applications are lightweight bearings, check valves, and plug balls.



SPECIALLY MANUFACTURED PRODUCTS

Alongside our standard selection of precision balls, our Spheric Trafalgar brand can supply a wide range of specially manufactured metrology products that meet the requirements of demanding engineers across all sectors of industry.



UKAS Calibration - our laboratory can supply UKAS certified measurement certificates for balls from 1mm up to 60mm and offer a measurement uncertainty as accurate as $\pm 0.00025\text{mm}$.

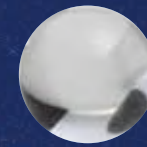
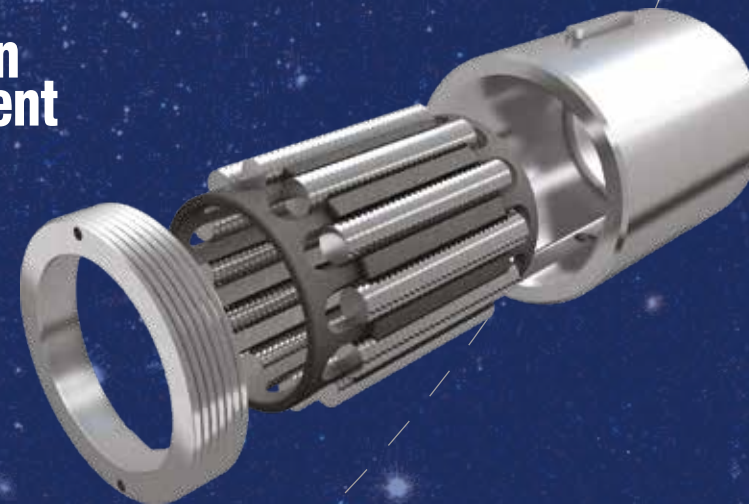
Tooling Balls for general purpose use in Jigs and fixtures, Spherical Plug Gauges for gauging internal bores, Specialty Tungsten Carbide ball production.

CMM REFERENCE BALLS

for setting precision measuring equipment

BESPOKE TOOLING FEATURES

to design



GLASS BALLS

We have established an integrated manufacturing system starting with the original material. By applying our production technologies of the steel bearing balls into this system, we can offer you high-quality products at a low price.

BALL SCREWS

We have an unparalleled lineup of small to large products, heavy load products, and high precision rolled products. These are often used in machine tools, electric injection molding machines, semiconductor manufacturing equipment, industrial robots, and advanced medical equipment.

BALL WAYS

The features of this product are 4 equal load capacities in 4 directions, high moment load capacity, tube type, while also providing long life, high rigidity, and high-speed running. This product has an established reputation for ease of centering in machinery. Like Ball Screws, Ball Ways are used in a wide range of industries.

TSUBAKI NAKASHIMA PRODUCTS

TSUBAKI NAKASHIMA PRODUCTS

WIND TUNNEL

Electricity demands increase year after year. Stable power supplies will become even more important as global power requirements expand. Our proven track record of products and services within nuclear and thermal power plants demonstrate our commitment to our customers meeting those rigorous demands.

LARGE SCALE BLOWERS

The iron and steel industry requires stable operation under harsh conditions of high temperature and high pressure. We provide safe and reliable products that are resistant to wear and corrosion, high temperature and special gases (e.g. COG, LDG, BFG). We also provide post-delivery support to meet individual customer needs. Typical applications are: IDF of OG, COG booster fan, steam exhaust fan, dust corrector fan, direct dust collection fan, hydrochloric acid recovery fan, N2 purge fan, preheating fan, BUF, coal exhaust machine.

Wind tunnels provide valuable flow data that continue to improve upon designs of automobiles, motorcycles, sportswear, and buildings. Tsubaki Nakashima blowers provide consistent and accurate wind flow that support the evolution of this technology.

FDF

The vanes of the turbo type fan mimic the shape of an airplane wing. This fan has been proven to have the highest efficiency with minimal noise among all centrifugal blowers. It has an Inlet Guide Vane which controls the flow rate of FDF and provides power savings.

OTHERS

Reliable ventilation is critical in manufacturing applications that include steel and chemical processing as well as subways and road tunnels. Tsubaki Nakashima's high-quality blowers deliver the durability and safety demanded in these environments. Our meticulous design and consistent support allow customers to maximize their equipment for enduring performance.



PRODUCTS FOR ELECTRIC POWER INDUSTRY

IDF

Ceramic or hardened plates can be attached to the impeller surfaces to prepare the product for use in an abrasive environment.

PAF

We have developed an original high efficiency type turbo fan that matches the efficiency of an airfoil fan. It is perfect for cutting down the initial and the running costs.

HIGH PRESSURE BLOWER (stainless steel)

Multi-stage impeller is a centrifugal fan covering a wide range of applications such as a blower.

FAN FOR METRO

The vanes of the turbo type fans follow the design of an airplane wings. This fan has been proven to have the highest efficiency with minimal noise among all centrifugal blowers.

MULTI-STAGE IMPELLER

Multi-stage impeller is a centrifugal fan covering a wide range of blower applications.

APPLICATIONS



QUALITY



Tsubaki Nakashima

Quality Management System and Quality

Organizations are designed to achieve customer satisfaction,
one of the core commitments included in our Corporate managerial
Statements

Our Quality Mission is

**TO SUPPORT
THE ORGANIZATION TO
ESTABLISH
AND IMPROVE
EFFECTIVE QUALITY
FRAMEWORKS
AND TECHNICAL KNOWLEDGE
WITH THE GOAL OF
FACILITATING
THE OVERALL SUCCESS
OF OUR INTERNAL
AND EXTERNAL
CLIENTS**

Our Quality Management System uses the **Risk-Based Thinking** approach:

The **Global Quality scorecard** has been developed to make the data available and easily monitorable

Supplier Quality Manual to help to consolidate a stronger Supplier base

The Internal Global Audit Team competencies have been strengthened by **specific training**, working on the development of tools able to increase the effectiveness and technological content of the process

In terms of products, support continued to the local Quality department for Claims management and custom type-approval audits, continuing the development of the APQP methodology (**Advance Product Quality Planning**). Investments were also made in **Digital Quality development**.



QUALITY

QUALITY PERFORMANCE

CONTINUOUS IMPROVEMENT



ZERO DEFECT APPROACH

COMMON QMS

In accordance with our Quality Policy, we have established a system that enables us to consistently **manufacture high-quality products that meet Customers' expectations** at all our sites. In 2019, we renewed our Quality Management System and established a **global QMS**, worldwide. This allows us to unify the quality of products manufactured at all our sites. As of the end of March 2020, **19 of our 22 global sites had obtained ISO 9001 certification** and 17 the IATF 16949 certification. As KPIs for maintaining and improving quality globally, we have set targets for the number of complaints, internal defect rate, and CNQ (cost related to quality, including complaint handling), which are linked to improvement activities. Internal audits and audits based on internal audit guidelines are also conducted at each site as quality-related audits. In both audits, we improve the accuracy of the audit by checking quality from the three aspects of quality, products, and systems. As of the end of March 2020, we had 108 employees with auditor qualifications globally and 8 in Japan.



S SPECIFIC

Be specific in whatever we control, aiming to maintain and improve our leading position in the manufacturing of high quality and high precision components.

M MEASURABLE

Our process and performance must be measured, as the customers' specification and performance evaluations are measurable.

A ACHIEVABLE

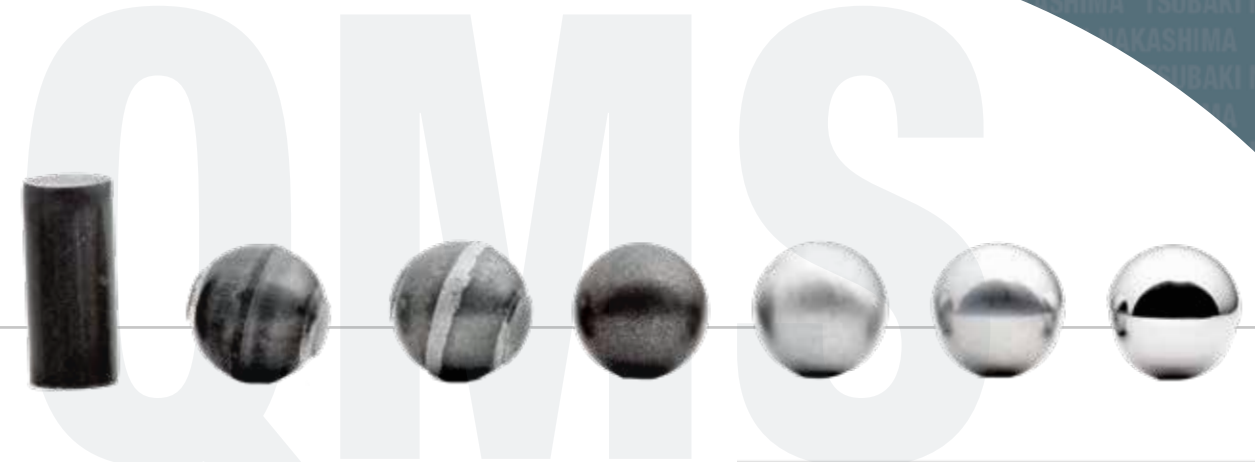
Achievable and clearly defined goals are the key for driving continuous improvement in the company's overall quality and service performance.

R RELEVANT

Focus and drive actions on relevant root causes to exceed to our customers' and stakeholders' expectations.

T TIME

Establish and deliver on clear improvement and business development project timing expectations to create trust and enhance our partnership with our customers and stakeholders.



QUALITY
POLICY

Development of in-house manufacturing equipment

Due to the simple spherical shape of precision balls, the main product of our group, process design is more important than product design in quality control.

Our group manufactures many of the machines used in manufacturing in-house, and some of the inspection equipment is also manufactured in-house to match the manufacturing machines and product shapes. We use commercially available acoustic measuring instruments and devices for measuring loads and dimensions in order to **meet external standards**, but we also manufacture parts that cannot be handled by commercially available products, such as the inspection of the appearance of spheres, and customize them for more efficient measurement. We also perform **appropriate maintenance and checks on inspection equipment** to achieve higher quality control.

Tracking system

Our group has introduced a tracking system to check all manufacturing processes.

This prevents mistakes such as mixing the wrong raw materials or skipping processes.

In addition, the system automatically outputs data on which process the product has gone through and which inspection it has undergone, making it possible to go back and check the details of the process when there is an inquiry from the customer after shipment. In order to **reduce human error to zero**, we are aiming to automatically capture all inspection data, and plan to achieve automatic determination of all inspection data by 2022.

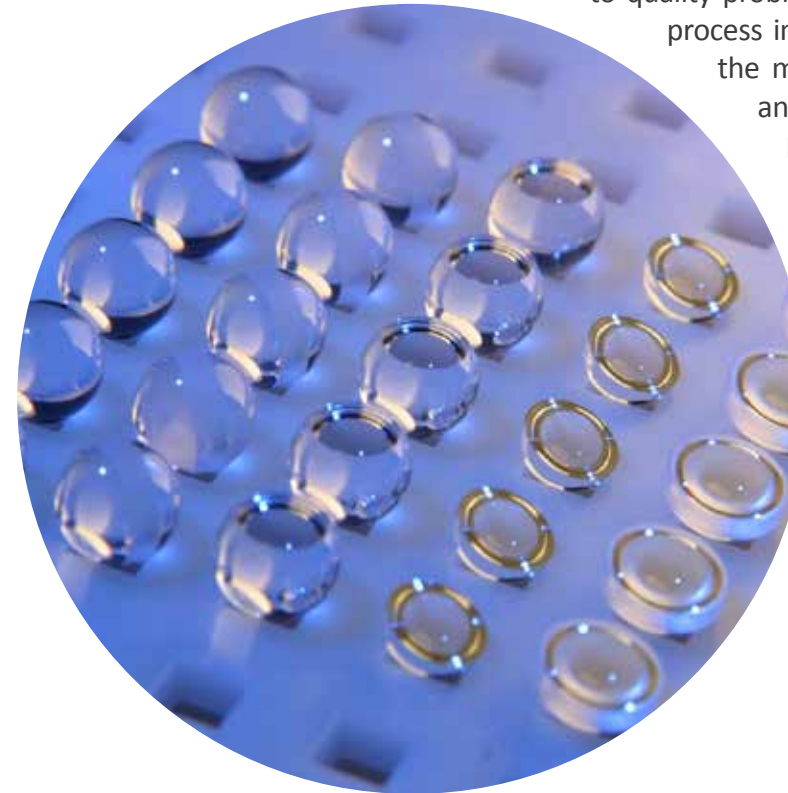
Identification of Critical Processes

In the precision ball manufacturing process, we have identified processes that are particularly prone to quality problems as critical processes, and are working to strengthen quality monitoring and process improvement. In the final cleaning and packaging processes, we are strengthening the management of each treatment solution and preventing insufficient application of anti-corrosion oil with an **automatic alarm system**, installing **automatic abnormality monitoring equipment** in the pressing process, and inspecting the management status of the heat treatment process based on CQI9. With regard to raw materials, in addition to encouraging raw material manufacturers to conduct their own audits and strengthen their audits, we audit raw material manufacturers and check the quality of materials when we receive them.

Process for responding to quality complaints

In the event of a quality problem, including a quality claim, we have our own risk management system, and each site first conducts a risk assessment. As a result of the risk assessment, if a certain standard is exceeded, the matter is reported to the **Risk Management Committee** for early resolution of the quality problem. This process is shared globally. In fiscal 2020, we responded to 47 quality complaints at our major sites, and none were severe enough to be reported to the Risk Management Committee.

66 QUALITY CONTROL initiatives



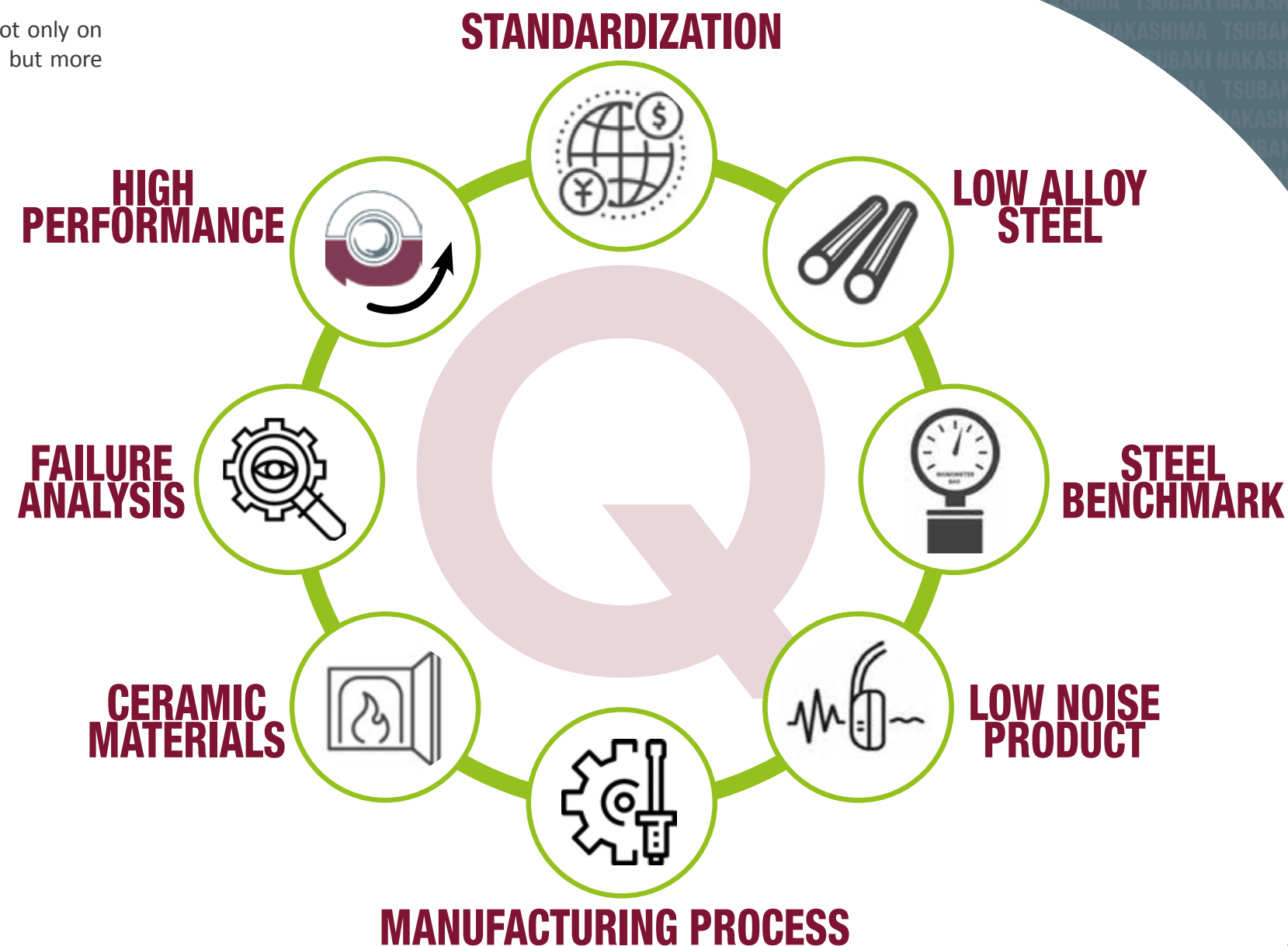
QUALITY

The **Global Quality organization** is focused not only on supporting the manufacture of precision, zero defect product, but more importantly on ensuring our Customers' needs are exceeded.

As a truly global manufacturer of a wide range of precision components of our resources and expertise are extensive.

TN Global Quality and **Central Lab** are focused on the following main development activities, with the close collaboration of Customers:

GLOBAL QUALITY and CENTRAL LAB ORGANIZATION



QUALITY

The impact of the spread of the new coronavirus infection caused a sharp and significant slowdown in the global economy, and in 2020, global automobile production, machine tool orders, and other factors declined significantly. Under these circumstances, Tsubaki Nakashima's top priority is to ensure the health and safety of our employees, customers, and other stakeholders and to try to slow the spread of infection in accordance with local and national government policies. Although there were times and regions where we had to temporarily suspend or reduce our operations, we aimed to ensure a stable supply by utilizing our global production system, which is one of the strengths of the Group, and by complementing each other across regions.

RESPONSE to the CORONAVIRUS PANDEMIC



Immediately after infections from a new coronavirus became news, Tsubaki Nakashima invoked the Risk Management Committee and formulated the basic response Covid-19 Protocol. Since then, we have been gathering all available information and implementing measures to combat the spread of COVID-19. Starting from March 2020, daily meetings with all the plants have been organized to prevent, intercept, and manage the infections spreading, to share best practices and solidarity. Tsubaki Nakashima advises employees to take steps to protect themselves and others, such as washing their hands, covering their cough, and performing health checks before coming to work. Employees are instructed to stay home if they have a fever or cold symptoms. Measures are in place in office buildings, meeting rooms, and employee cafeterias to enable people to maintain social distance. Seating has been rearranged, restrictions have been placed on meeting room capacity, and employees are encouraged to telecommute. In addition, business travel is restricted or prohibited, depending on the region and infections, so employees are using alternative means such as virtual meetings via video conferencing and teleconferencing.

COVID-19

GUIDELINES



[MARCH 2020]



[UPDATED IN SEPTEMBER 2020]

These guidelines aim to help our Tsubaki-Nakashima entities and plants ("Employer") and our workers to stay safe and healthy in a working environment, that has changed significantly because of the COVID-19 pandemic. They give advice on:

- risk assessment and appropriate measures
- minimizing exposure to COVID-19
- resuming work after a period of closure
- managing workers working from home
- involving workers
- taking care of workers who have been ill

And finally, we implemented the new ISO/PAS 45005:2020 - Occupational health and safety management General guidelines for safe working during the COVID-19 pandemic



The Risk Management Committee(s) resolved to continue to monitor the state of infections around the globe while implementing improvements and to put preparations in place to respond immediately in the event of a worsening of the crisis. Tsubaki Nakashima's production and sales sites were hamstrung by COVID-19, for some months but always ensuring the best possible solutions for its Customers. In China, production gradually recovered from late February as restrictions on movement were relaxed. Production in the other regions normalized at the end of June, but we need to continue to pay close attention to the situation.

Tsubaki Nakashima's organizations and single employees around the world took actions to help contain the effects of COVID-19 in their communities, providing masks and supporting employees and families affected by the virus with subsidies, logistical support, psychological assistance, as well as local communities - especially schools - with donations of computer equipment for both face-to-face and remote lessons; **22 PCs have been provided for a high school in Bosnia and 20 tablets and 2 PCs for a middle school in Italy.**



CORPORATE **CITIZENS**

RESPONSE
to the CORONAVIRUS
PANDEMIC

COVID-19

The Group operates, trains, and secures human resources based on unified rules, with the aim of ensuring that all employees working around the world continue to **move toward the future as a single One Team**. Our Group has developed through the acquisition of companies in Japan and overseas. In particular, the corporate culture of the PBC division of NN Corporation of the United States, which joined the Group in 2017, differed greatly from the culture that had been nurtured mainly at Tsubaki Nakashima's headquarters in Japan, and it became necessary to develop and deploy unified rules, corporate culture, and organizational systems for the entire Group. As a result of subsequent efforts, we formulated unified rules (**One Team Management System**) based on the concept of "One Management + One Operation = One Team" and One Tsubaki Nakashima culture that embraces and harmonizes differences in race, language, and culture. In addition, based on our One Team Management System, we respect diversity and promote the creation of workplaces that realize the **Vision Zero**.

OUR COMMITMENT TO PEOPLE



INCLUSION AND DIVERSITY



Respect for diversity is a cornerstone of Tsubaki Nakashima Management Philosophy, and our personnel policies reflect it. Diversity is the inclusion of individuals of different genders, national origins, religions, regions, educations, social statuses, and LGBT, regardless of whether these traits are innate or acquired, visible, or invisible.

The Group has manufacturing bases not only in Japan, but also in the United States, Italy, Poland, Slovakia, the Netherlands, Bosnia, China, Thailand, India, and Taiwan, and in each of these countries, local employees take the lead in conducting activities. As a Corporate Group with global operations, we aim to utilize diverse values in our business, and promote diversity by appointing suitable personnel to Executive Officers regardless of nationality, promoting the activities of women, and employing people with disabilities. In our Group we have 30 different nationalities; Diversity is key, always.

For example, in the Management Committee (7 members), 4 different nationalities are represented. With regard to the promotion of women's activities, we have formulated numerical targets and action plans, and are moving forward with our efforts. In order to balance work with childbirth and childcare, we are expanding our childcare leave system, raising the age of children who can take advantage of shortened working hours related to childcare, staggered work hours, telework, and a half-day paid leave system to create a comfortable working environment, according to the local Laws and Regulations.

With regard to employment of people with disabilities, we are working with local government agencies to recruit and support people with disabilities; the Japanese domestic employment rate for people with disabilities in FY2020 is 1.82%, and in Japan we are currently working with specialized organizations to expand the range of jobs and increase employment and will continue to do so in the future. In the rest of the world, the rate of people with disabilities varies from 1% to 2% in China, Italy, 4% in Slovakia and 8% in Bosnia and Poland.

INCLUSION AND DIVERSITY



GLOBAL MEETINGS

Tsubaki Nakashima holds a variety of (virtual) meetings and seminars for representatives from our global sites. Some are function specific, for areas such as manufacturing, quality, engineering, sales, finance and accounting, HR, sustainability.

Others are for global projects involving matters such as Sustainability systems, Quality Management System, Sustainability Monozukuri Projects and so on. Every week, at least once, there were virtual meetings with all establishments to discuss the evolution of the pandemic, countermeasures, and to assist colleagues.

RECRUITMENT

The Group is committed to hiring and training appropriate human resources in order to continue manufacturing essential products for the world and to achieve further corporate growth. As a rule, recruitment activities are conducted at each site, with the Tsubaki Nakashima Head Office involved in important management positions. Based on our policy of “zero inequality,” we believe that diversity is a great value and, consequently, we do not discriminate on the basis of gender or other factors when hiring.

PEOPLE DEVELOPMENT

78 For the development of our People, we have established an education and training system and provide opportunities for all employees to acquire the knowledge, skills, and techniques necessary to perform their duties accurately and promptly, both inside and outside the workplace. Tsubaki Nakashima Academy (TN Academy) aims to enhance the customer value we create.

To this end, we teach our Managers and Talents basic technology and skills and have them experience Monozukuri

(the art and science of manufacturing) by performing specific manufacturing and managerial tasks step by step. This helps them tackle jobs from different angles. Employees also learn by mastering essential skills for making manufacturing more efficient with the

#MOTUS 4.0 APPROACH

ACADEMY



TN ACADEMY

We believe that the Value of our Managers should be the ratio between **Competencies, Humility and Ability** to operate. However only our **Attitude** can be the right multiplier to achieve or not the success.

$$V = (Ch + A) \times A$$

This is the reason why Tsubaki Nakashima decided to launch an ambitious a Knowledge Platform to ensure a common technical and managerial knowledge; in the first round we involved Plant managers, who play an important role in the execution of business at each site, and Talented Employees (selected after a severe process and specific Organizational Competency Assessments), with on line and “in presence” courses concerning Plant Management, People management, Ethics, Safety and Health, Environment, Quality and basic Finance. Each plant designs a people Development plan at all the levels, in alignments with our Quality Management System and Global Sustainability System.

100% OF OUR EMPLOYEES

took part in training courses, during 2020, for an average of more than 40 hours per person, 60% of which were dedicated to Compliance, Health, Safety and Environment.

OUR COMMITMENT TO PEOPLE

IN 2020 AN IMPORTANT PROJECT OF RESEARCH AND INNOVATION OF PRODUCTS AND PROCESSES AND OF PREPARATION FOR THE INSERTION OF NEW ENGINEERS BEGAN, INVOLVING THE UNIVERSITY OF TURIN (ITALY) AND DUBLIN (IRELAND) AND 8 STUDENTS.

THE SEARCH FOR NEW YOUNG TALENTS, PARTICULARLY IN THE TECHNICAL AREA, IS EXTENSIVE WORLDWIDE IN TSUBAKI NAKASHIMA. IN THE PICTURE BELOW (RIGHT), WE SEE TWO NEW YOUNG ENGINEERS JOINING OUR GLOBAL CERAMIC BUSINESS ORGANIZATION.

NEW TALENTS



OUR COMMITMENT
TO PEOPLE

TRAINING
NEW TALENTS

EVALUATION SYSTEM

The criteria for evaluating employees who work a full day and employees who work shorter hours are identical. This was done to ensure a level playing field when it comes to advancement and promotions. Employees are evaluated (Performance Evaluation and Competency Assessment process) based on their achievements with respect to goals (Goals and Objectives Process) and based on their behaviours and competences, with respect to the 15 Tsubaki Nakashima Competencies, divided in 5 categories linked to the Managerial Statements.



OUR COMMITMENT TO PEOPLE

GLOBAL TALENT

Tsubaki Nakashima has sites around the world to accurately identify and swiftly and flexibly meet the changing needs of customers at different times and in different regions. **The TN Group currently employs about 3,500 people.** A high-performing, diverse workforce is essential for achieving vertical integration, making it vital for our operations divisions in Japan and companies overseas to be on the same page in terms of business vision and policies. **Organizational Capability Assessment** and **Succession Planning** processes are two programs supporting the identification of Talents to be trained and accompanied to the next steps of their career in our Company.

SELECTING MANAGERS, DIRECTORS AND EXECUTIVES

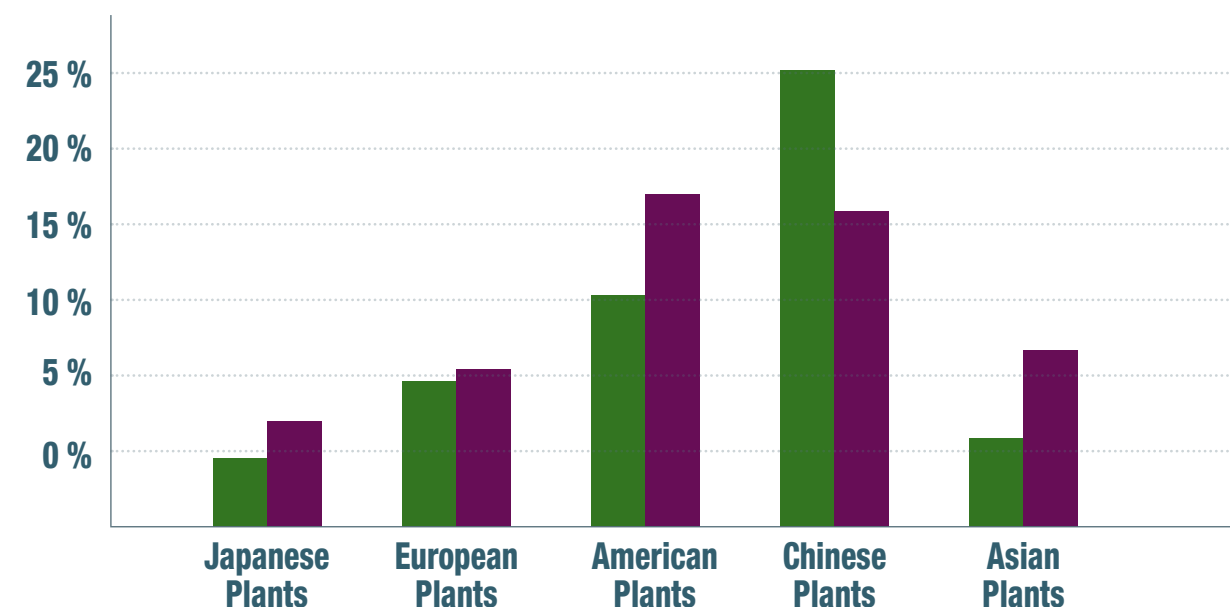
Tsubaki Nakashima seeks to put itself in the best position to achieve the Mid-Term Goals by reviewing organizations, roles, and human resources from a global perspective and making adaptations that best serve our business strategies and the ever-changing business environment. The company specifies the roles and requirements for key positions in the global TN Group. It establishes succession plans and has systems in place to ensure that the best people for these positions are selected without regard to consideration such as age, gender, and nationality. In each entity, personnel reviews (**Organizational Competency Assessment and Performance Evaluation**) that focus primarily on managers in each business and function are conducted to identify candidates for future management positions. **Succession plans** are drawn up, and **training, both internal and external**, is provided to put them in a position to succeed. Information about their skills and capabilities is gathered by various means, including 360-degree evaluations, and future career path and development plans are explored.



WORKFORCE COMPOSITION AND SERVICE PERIOD

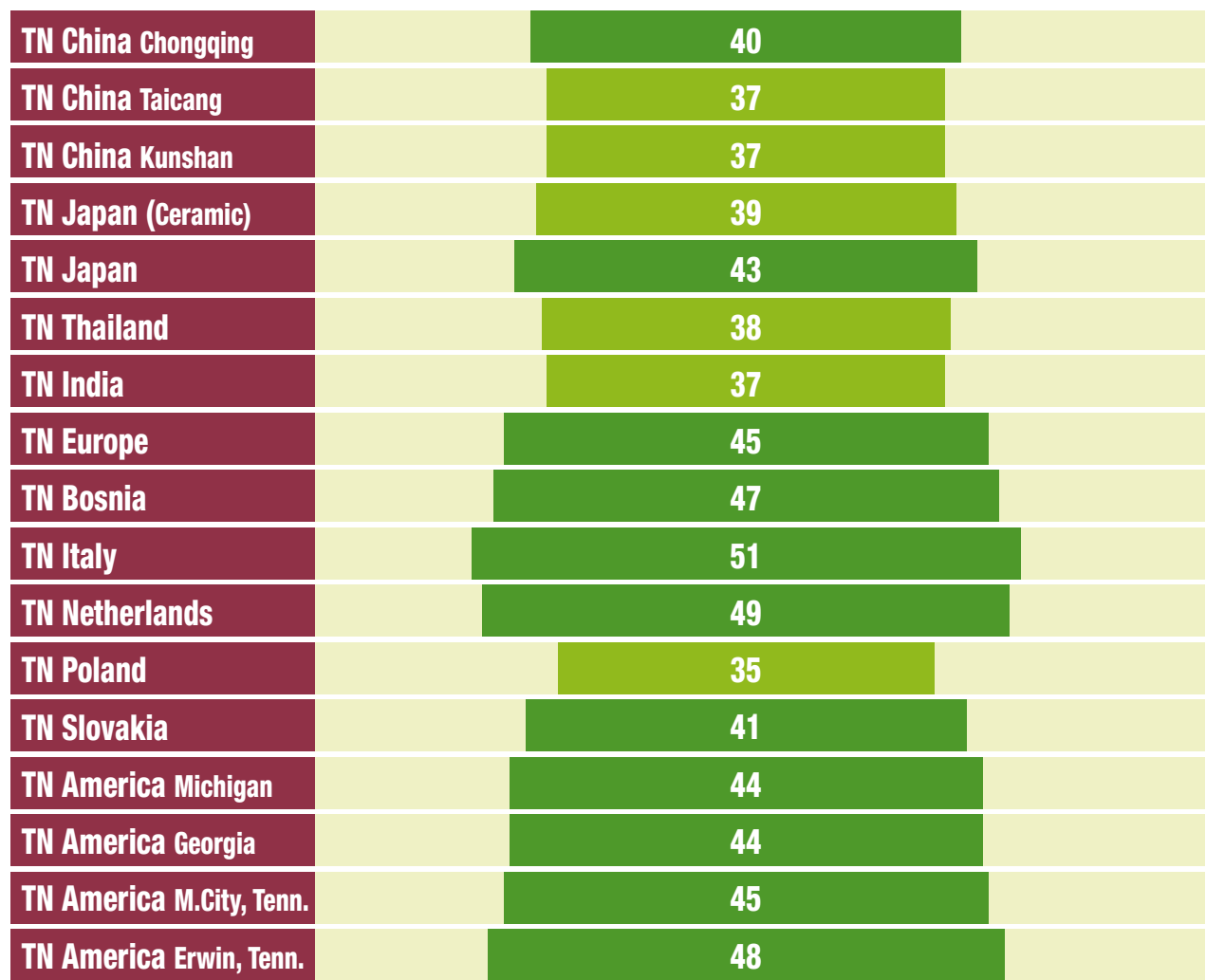
Men represent 75% of the entire population and women 25%; Tsubaki Nakashima is a manufacturing company, and we believe that the efforts made in Ergonomics allowed many women and people with disabilities to join us, also in activities that were historically performed by male personnel. In most Plants, **women play key managerial roles** as managers, department heads, and supervisors. In 2020, the Company increased the percentage of female employees by 7%. Length of seniority depends on the plant's age, but in general we can say that in the majority of our factories, **turnover is not an issue** and, where present, it's not influencing the goals and targets set up. In all the Regions, excluding China, the turnover rate is below the national average.

Average turnover rate 2020 in our plants compared to the average of the Region/Area



OUR COMMITMENT TO PEOPLE

MEDIAN AGE 2020: THE MEDIAN AGE IN OUR PLANTS GUARANTEES EXPERIENCE, KNOWLEDGE AND COMMITMENT, EVERYWHERE



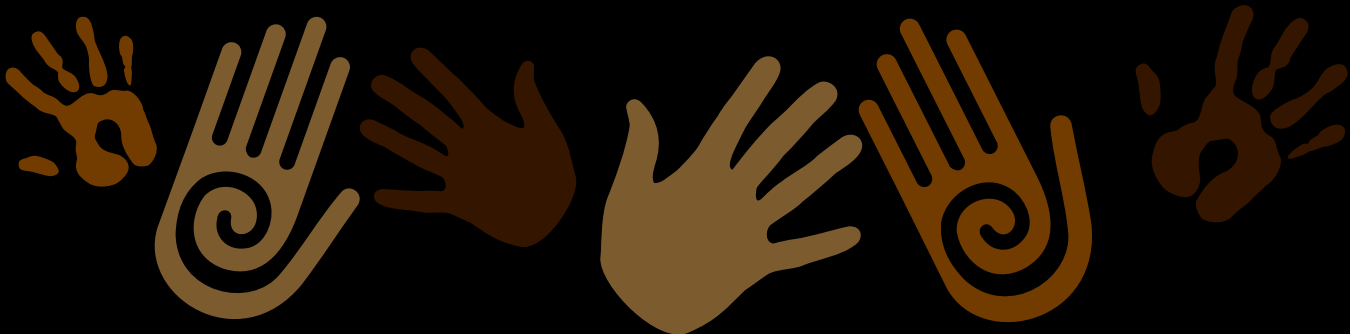
OUR COMMITMENT TO PEOPLE

Tsubaki Nakashima is serious about keeping all forms of discrimination and unfair practices out of its operations around the world. This stance is reflected in our participation in the United Nations Global Compact and in the Tsubaki Nakashima Group Policies regarding Human Rights and Labor Standards, which articulates Tsubaki Nakashima's strong convictions in areas such as respect for human rights, prevention of all forms of harassment and discrimination, respect for local culture and customs, prohibition of child and forced labor, and maintenance of positive labor-management relations. Tsubaki Nakashima Human Resources Function, working in concert with the HR departments of our global affiliates, guides initiatives to prevent human rights abuses, discrimination, and unjust labor practices.

Tsubaki Nakashima has identified human rights risks such as child labor, forced labor, other exploitative labor, workers' rights, labor conditions, discrimination, and harassment as business risks.

All personnel are regularly notified of disciplinary actions and other actions taken by the company in response to incidents of discrimination, unfair labor, harassment and other human rights abuses to prevent similar incidents in the future.

RESPECTING HUMAN RIGHTS



TSUBAKI NAKASHIMA AWARDS

Since Tsubaki Nakashima's acquisition of PBC, the company has instituted two awards, one for organizations, i.e., plants **Best Run Plant and Most Improved Plant** and one for Individuals and Teams **BX Award - Be eXceptional Award**



BE EXCEPTIONAL AWARD

**To create Profitable Growth,
the content needs to Be eXceptional**

BX Award is recognizing the results of peers and colleagues in our group who have achieved excellence and serve as inspiration and example for others. We want to **inspire and celebrate positive behaviour, results and successes**. Thriving as a Company and acting as a worldwide leader in our business segment can only be realized by showing exceptional results and world-class excellence in all the things we do, independent from the role we fulfill in the Corporate – Region/Division – Plant or level of responsibility we hold. Our goal is that every employee step on board and feels the spirit of being part of a winning team.

During 2020, 82 employees were honored



EUROPE

16

CHINA

12

JAPAN

7

AMERICA

4

GCB

1

NUMBER
OF AWARDED
NOMINATIONS
BY REGION

82

BE EXCEPTIONAL
AWARD

2020 BX PROGRAM SUMMARY

■ number of advanced nominations
■ number of awarded employees



TSUBAKI
NAKASHIMA AWARDS

Tsubaki Nakashima aims to recognize and reward **excellence across the Organization**, inspiring us to be better, to think bigger and to continue to grow, profitably through 2 Awards:

The **Best Run Plant Award**, which recognizes the continuous pursuit of excellence in every aspect of the business including customers, employees and environment.

And the **Most Improved Plant Award**, which recognizes a plant's ability to overcome challenges and bounce back stronger, wiser and more powerful.

2020 has been a very difficult year for the whole world, for Tsubaki Nakashima, for our People. Never as in these moments has it been and is important to remain united, to be even more a One Team, to demonstrate unity, commitment, courage, solidarity and vision. **Great work deserves to be acknowledged and celebrated.** In 2020, Tsubaki Nakashima awarded 4 factories. For the second consecutive year TJS, from Sechibaru, Japan. For the second time, TAM from Americas Region, already awarded in 2018. And for the first time 2 Chinese Plants, the first to face the pandemic at the end of January: TCT, Taicang and TCK, Kunshan

BEST RUN PLANT AWARD



MOST IMPROVED PLANT AWARD

TSUBAKI
NAKASHIMA **AWARDS**

94 OCCUPATIONAL SAFETY & HEALTH

OUR COMMITMENT
TO PEOPLE

APPROACH TO OCCUPATIONAL SAFETY & HEALTH

Tsubaki Nakashima believes that

**providing and maintaining a safe and healthy work environment
and promoting physical and mental well-being**

are the foundation of a healthy company.

Accordingly, understanding that safety and health are the lifeblood of the company, we have instituted **safety and health systems and activities** at our sites around the world, so that our employees and partners can enjoy working as part of a team in a healthy environment and in the knowledge that they are safe and secure.

The core component of this effort is the **Tsubaki Nakashima Global Sustainability System**, according to the **3 most important ISO Standards** of which one of them is ISO 45001 (OCCUPATIONAL HEALTH AND SAFETY), established in FY2018 and progressively deployed in all the factories. The process will be completed in 2021.

GSS (in its SH portion) is covering safety, health, fire/disaster prevention, and facilities; this original Tsubaki Nakashima program is based on an occupational safety and health management system that also conforms to International Labour Organization (ILO) guidelines.

Since that program came into effect, we have enforced the GSS Manual and Procedures and manage our workplaces with the idea that **every workplace is responsible for maintaining its own safety**.



GSS



MANAGEMENT
COMMITTEE

STAFF SUPPORT

96
HR
AND
SUSTAINABILITY
(GLOBAL/LOCAL)

SUPPLY
CHAIN
(GLOBAL/LOCAL)

OPERATIONS
(GLOBAL)

QUALITY
(GLOBAL / LOCAL)

FINANCE
(GLOBAL / LOCAL)

ENGINEERING
(GLOBAL / LOCAL)

MAINTENANCE
(LOCAL)

ACCOUNTABILITY
PYRAMID

OUR COMMITMENT
TO PEOPLE

CEO

COO

EA / JC, L&B, GCB
PRESIDENTS

REGIONAL / DIVISIONAL
PRESIDENTS

PLANT MANAGERS

HEAD OF DEPARTMENTS

SUPERVISORS - TEAM LEADERS / SHIFT LEADERS

WORKERS

DIRECT
RESPONSIBILITY

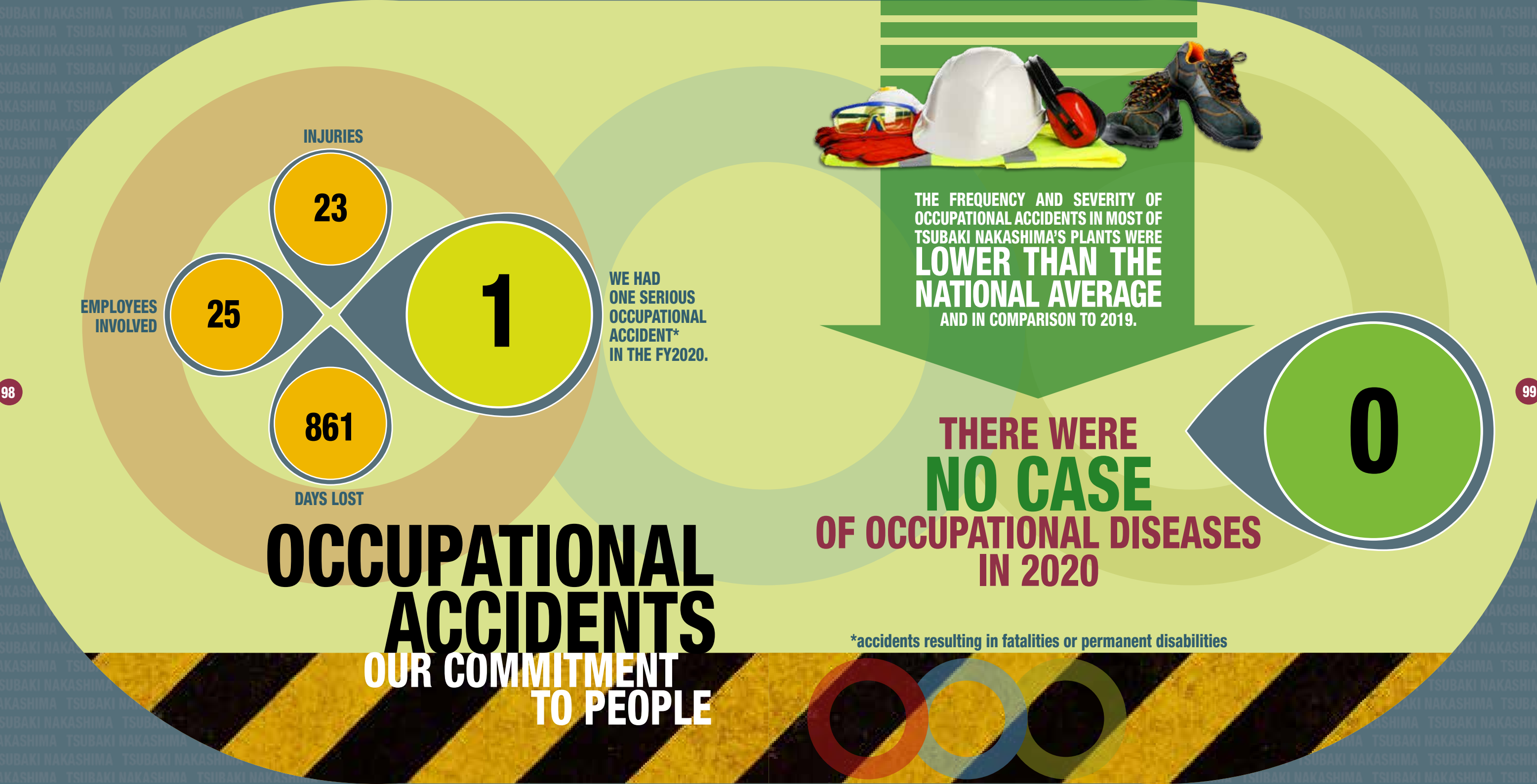
97



THE FREQUENCY AND SEVERITY OF
OCCUPATIONAL ACCIDENTS IN MOST OF
TSUBAKI NAKASHIMA'S PLANTS WERE
**LOWER THAN THE
NATIONAL AVERAGE**
AND IN COMPARISON TO 2019.

**THERE WERE
NO CASE
OF OCCUPATIONAL DISEASES
IN 2020**

*accidents resulting in fatalities or permanent disabilities



Tsubaki Nakashima seeks to improve its safety and health programs around the world by holding regular meetings at all the organizational levels to share information, discuss issues and opportunities to **improve to achieve ZERO Accidents and ZERO Occupational Illnesses**. At the Management Committee level, during the bi-weekly meeting, our Executives update one another about actions being taken and discuss issues to identify opportunities for improvement. At the Regional and operational level, Managers, Supervisors, Workers' Representatives and Sustainability Representatives also meet regularly to share information (**Sustainability Committee**). According to the Global Sustainability System, an annual Management Review has been prepared in every plant and consolidated at Global Level.

Starting in 2019, we have developed a **system of internal standards**, based on international technical regulations (ISO) pertaining to safety, health and the environment, which is called Minimum Technical Standard, in order to:

SAFETY MANAGEMENT INITIATIVES

ensure all Tsubaki Nakashima Plants run the business in a manner that results in **Injury Free, Incident Free and no adverse environmental impacts**, in full compliance with TN Management Principles, International Standards and local Laws

clearly state TN Plants' **obligation to develop a Sustainability Plan** complying with the Minimum Technical Standards

ensure all Tsubaki Nakashima Plants **utilize consistent EHS & Energy standards and establish/share Best Known Methods**

Minimum Technical Standards
is a method of establishing uniformity of minimum expectations,
**OVER 43 MINIMUM
TECHNICAL EHS&E STANDARDS** developed.

a Procedure containing the International Minimum Standards

a Visual example of what we are talking about

a detailed and complete training session, with pictures and drawings

each MTS has adjoining MTS Implementation Checklist

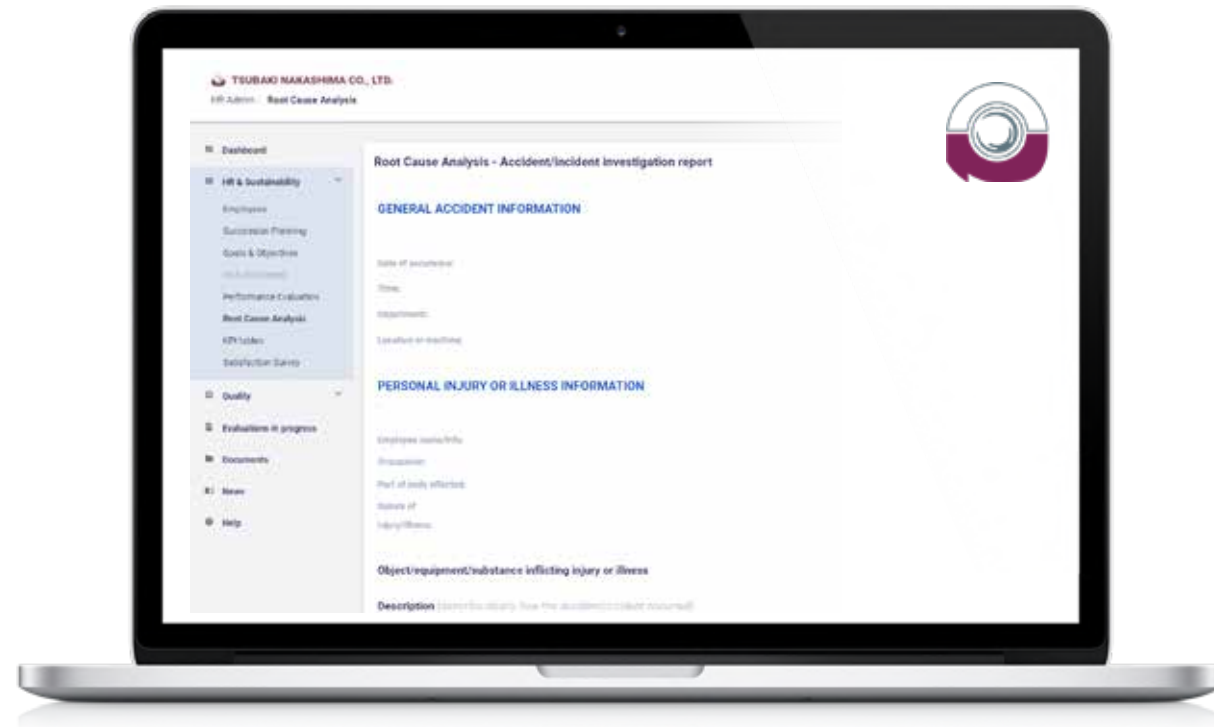
MINIMUM TECHNICAL STANDARD		AIR EMISSIONS MANAGEMENT		GSS-MTS	
APPROVED BY:	VERIFIED BY:	ISSUED BY:	REVISION DATE:		
		NAKIL ALJALAN	APRIL 6, 2019		
<p>Policy: Every Plant must establish a program to ensure that air emissions generated by its operations are minimized and are managed in accordance with applicable local, regional, state and federal environmental laws and regulations, and Tsubaki Nakashima Co. Ltd (TN) Global Sustainability System (GSS) policies.</p> <p>Scope: This policy applies to all TN Plants worldwide that generate air emissions.</p> <p>Purpose and Principles: This policy supports TN GSS principles to eliminate or minimize environmental pollution from TN Plant operations.</p> <p>Essential Elements: Each Plant must identify all potentially hazardous air emissions generated by its operations, including direct and fugitive emissions, process leaks, and any other sources that emit contaminants into the air. A written plan must be developed that includes the following:</p> <ul style="list-style-type: none"> An inventory of all potentially hazardous emissions released to the atmosphere including their composition, hazard class (e.g., flammable, corrosive), generation rate, location (facility layout), point of release and associated processes and operations; Verification that airborne releases are controlled as required by applicable laws and regulations or guidelines; A strategy to reduce air emissions, especially those that are harmful to human health or the environment; An identification of air emissions requiring permits, and procedures for obtaining such permits, keeping them current, and ensuring compliance with all permit conditions; Measures to prevent the inadvertent release of air emissions; Procedures by which personnel can respond appropriately to an accidental release to the atmosphere, including emergency shutdown, containment, evacuation and notification; Procedures to review proposed sources of air emissions prior to their installation to ensure emissions will be minimized and appropriate permits obtained. As part of this analysis, alternatives to allowing the emissions must be evaluated. <p>Accountability: Plant management is responsible for the implementation of this policy.</p>					

MINIMUM TECHNICAL STANDARD		AIR EMISSIONS MANAGEMENT		GSS-MTS	
APPROVED BY:	VERIFIED BY:	ISSUED BY:	REVISION DATE:		
		NAKIL ALJALAN	APRIL 6, 2019		
<p>Implementation Verification</p> <p>Confirm the following and ensure local requirements are being met:</p> <ul style="list-style-type: none"> An inventory of all potentially hazardous emissions released to the atmosphere including their composition, hazard class (e.g., flammable, corrosive), generation rate, location (facility layout), point of release and associated processes and operations; Verification that airborne releases are controlled as required by applicable laws and regulations or guidelines; A strategy to reduce air emissions, especially those that are harmful to human health or the environment; An identification of air emissions requiring permits, and procedures for obtaining such permits, keeping them current, and ensuring compliance with all permit conditions; Measures to prevent the inadvertent release of air emissions; Procedures by which personnel can respond appropriately to an accidental release to the atmosphere, including emergency shutdown, containment, evacuation and notification; Procedures to review proposed sources of air emissions prior to their installation to ensure emissions will be minimized and appropriate permits obtained. As part of this analysis, alternatives to allowing the emissions must be evaluated. <p>Verification Date: _____</p> <p>Annual validation Date: _____</p> <p>Evaluation Completed By: _____</p>					

OUR COMMITMENT TO PEOPLE

RAISING EMPLOYEE AWARENESS WITH ACCIDENT REPORTS

Tsubaki Nakashima analyzes all occupational injuries and accidents, identifies causes, and makes **plans for preventing similar incidents**. Occupational accidents are reported in the form of Preliminary Accident Report and Root Cause Analysis which describes accident causes, countermeasures, and actions that all sites are to take to prevent similar accidents in the future. These reports are placed on the intranet (**One Team Software**) and discussed with employees.



PROFESSIONAL DEVELOPMENT THROUGH SAFETY AND HEALTH TRAINING

Tsubaki Nakashima considers safety and health training vital for protecting employees.

The training curriculum is tailored to the position, roles, and responsibilities of employees.

Training for non-management employees focuses on practical techniques such as risk assessment and hazard prediction. **Training for managers and supervisors** focuses on leadership. All Group companies use the **Training Plan to include specific ESH training**. Our Chief HR Officer provided training concerning the Global Sustainability System and Minimum Technical Requirements to the Management Committee, Regional Presidents and all the HR & Sustainability Team members.

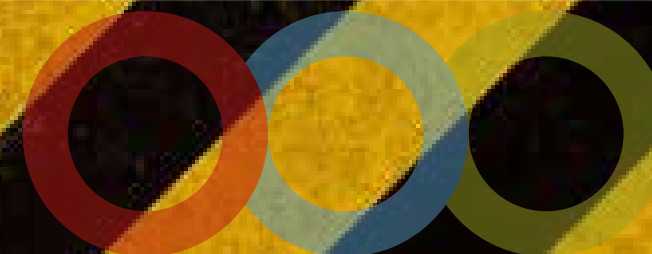


ENGINEERING MANUAL

In 2020 we developed a Safety Engineering Manual, a detailed guidance on how machine guarding and electrical safety is to be set up and maintained to ensure employee protection.

In 2021 the Manual will be deployed within the entire Organization.

OUR COMMITMENT
TO PEOPLE



INTERNATIONAL EVENTS AND PARTICIPATION IN EXTERNAL INITIATIVES

TSUBAKI NAKASHIMA SEEKS TO CONTRIBUTE TO THE ACHIEVEMENT OF A SUSTAINABLE SOCIETY THROUGH ITS BUSINESS ACTIVITIES AND THEREBY BECOME AN INDISPENSABLE COMPANY. FOR THIS REASON, WE ARE MEMBERS OF NUMEROUS ASSOCIATIONS AND FOUNDATIONS, FOR INSTANCE:



AND MANY OTHERS AT LOCAL LEVEL AS WELL AS WE ENDORSE AND TAKE PART IN NUMEROUS INTERNATIONAL CONGRESSES AND MEETING TO SHARE WHAT WE ARE DOING AND TO LEARN FROM OTHERS.

INTERNATIONAL EVENTS
and PARTICIPATION
IN EXTERNAL INITIATIVES

BEARING WORLD by FVA

Ball characteristics impact on bearing noise generation,
Annual Tradeshow where Tsubaki Nakashima
was the bronze sponsor



American Gear
Manufactures
Association's
Annual meeting



Canadian Manufacturing Safety Alliance of BC
International Leader Panel: COVID-19
Lessons and Growth, Make it Safe conference,
British Columbia, Canada

SHO 2020
INTERNATIONAL SYMPOSIUM
OCCUPATIONAL SAFETY AND HYGIENE
16th-17th July **new date** PORTO PORTUGAL

SHO
Portuguese Association
for Safety and Health
How to create a Sustainable Company
Culture in a Multiethnic and
Multicultural Organization
SHO Annual Meeting, Portugal

ORP FUNDACIÓN INTERNACIONAL

International Foundation for the Organizational Risk Prevention

*Come crear una empresa multicultural,
sostenible, multinacional y multiétnica,
ORP meeting, Cartagena de Indias, Colombia 2020*

*Nuevos escenarios de la gestión de personas",
Universitat Polytechnica de Catalunya,
Barcelona, Spain*

*New perspectives on risks and
opportunities of the pandemic:
Managing People during & after
COVID-19
Universitat Polytechnica
de Catalunya, Barcelona, Spain*



**INTERNATIONAL EVENTS
and PARTICIPATION
IN EXTERNAL INITIATIVES**



VISION ZERO
Safety.Health.Wellbeing.

International Social Security Association (ISSA) - Global Vision Zero Business Council
Physical and mental health challenges caused by the pandemic and smart ways to promote safe and healthy behaviors, Denmark

Committed to a world of work without accidents, disease and harm
Vision Zero Business Council

**Safety
Governance
Institute**

**Safety Governance
Institute, Australia**
Annual Meeting

IRF2020

7th International Conference
INTEGRITY-RELIABILITY-FAILURE
Funchal/Portugal, 6-10 Sep 2020

Coordinated by International Scientific Committee
of Mechanics and Materials in Design

Micro-inclusions and loads effect on metal fatigue: a modified life estimation model through experimental and analytical investigation

Experimental analysis of the influence of defects in bearing rolling balls on noise and vibrations

Quantitative comparison of amplitude and phase thermal responses on steels and ceramics through active thermography techniques

International Journal of
Fatigue

International Journal of Fatigue 2020

Influence of micro inclusions in life of rolling elements:

Experimental, microstructural, analytical and numerical investigation

STAND IN EVENTS



**INTERNATIONAL EVENTS
and PARTICIPATION
IN EXTERNAL INITIATIVES**

TN ATMOSPHERE

OUR ENVIRONMENT



Products provided by the Tsubaki Nakashima Group, including precision balls, contribute to improving the energy performance and efficiency of final products. For this reason, we believe that not only supplying high-quality products, but also giving **due consideration** to the environment in the manufacturing process will help reduce the environmental impact of the entire value chain.

OUR COMMITMENT

Tsubaki Nakashima shall continue to improve its own organization, processes, products, and services, aiming at reaching zero defects, zero accidents and zero environmental impact and the improvement of the energy performance by means of:

- the **involvement, participation and co-responsibility of the employees and workers** representatives where they exist, collaborators and suppliers and other relevant parties with the intention of making them aware of their individual duties, also through specific communication initiatives, while promoting a healthy and safe behavior, and being aware of the rational use of energy
- embracing the philosophy of the 5 Z's of sustainability approach, we strive to have **Zero accidents, Zero occupational illnesses, Zero wastes, Zero inequality and Zero lack of knowledge**
- the implementation of all that is necessary to guarantee the **safeguarding of the environment and health and safety** in the workplaces
- the development of **production processes, oriented to continuous improvement** of the safety, environmental and energy standards, to reduce and eliminate the negative impacts in an economically feasible manner, by making provision for the acquisition of products and services with a view to improve the energy and environmental performances
- the commitment to **preventing defects, accidents, and environmental impacts** rather than identifying them
- a **constant respect** for company, customer and governmental health and safety, environmental and energy requirements
- a **continuous improvement of the management and performances** of health and safety, environmental and energy matters by locating the necessary resources in order reach the set objectives and targets, using adequate monitoring and evaluation tools

All the above to satisfy the requests and expectations of our employees, customers and shareholders in the best possible way, increasing the reputation of the company and strengthening our leadership position.

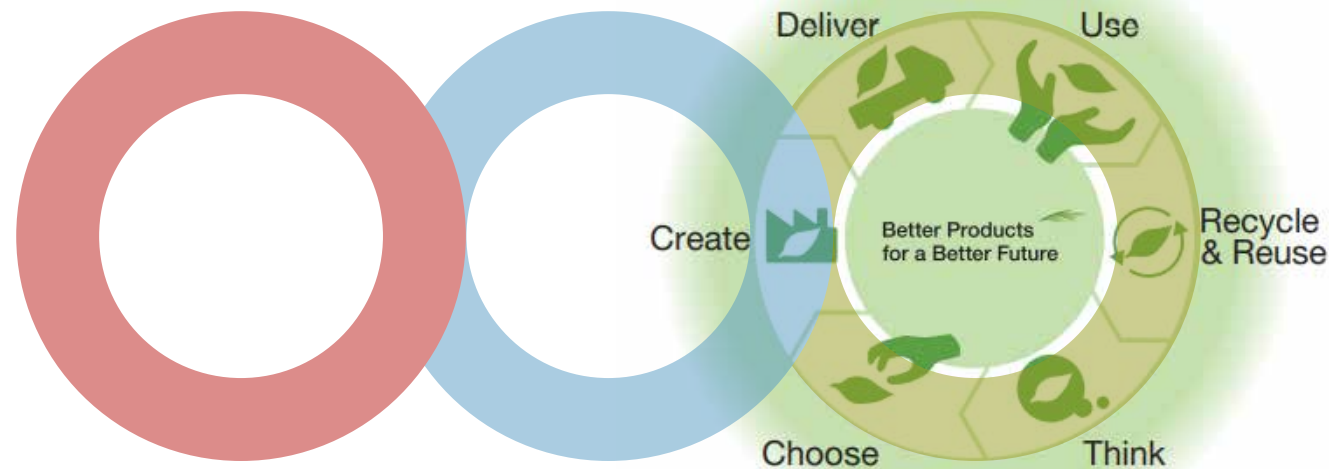


USE OF RESOURCES AND SUSTAINABILITY

Tsubaki Nakashima consumes resources and, in the process of conducting business activities across the life cycles of its products and services, emits GHGs and other emissions to the air, land, and water. Following the specifications indicated by the ISO 14001: 2015 standard and our Global Sustainability System, we have assessed the environmental impacts of our business activities across the value chain to reduce our impacts.

LIFE CYCLE THINKING

Tsubaki-Nakashima defines an eco-considerate product as one for which environmental impacts are considered from product conception to mission completion; that is, at every phase of the life cycle, from design and manufacturing to transport, usage, and recycling.



OUR ENVIRONMENT

THINK

Tsubaki Nakashima takes a life-cycle thinking approach in efforts to minimize customers' environmental impacts by providing products that offer environmental performance. Almost all our products are 100% recyclable—we use steel, plastic, glass, ceramic, aluminum, and other material that could have a second life.

in our Global Sustainability System, specifically in the Minimum Technical Standards set up, we focus our attention on Management of Chemical Substances in manufacturing, replacing hazardous substances with non-hazardous and recycle them into the process, as much as possible

CHOOSE

CREATE

Climate Change Policy,
Life Cycle Assessments,
Pollution Prevention
& Chemical Management

USE

Transport/Value Chain – Our motto is Global Reach and Local Depth, working to serve our Customers close to their factories, also to reduce transportation and material handling

DELIVER

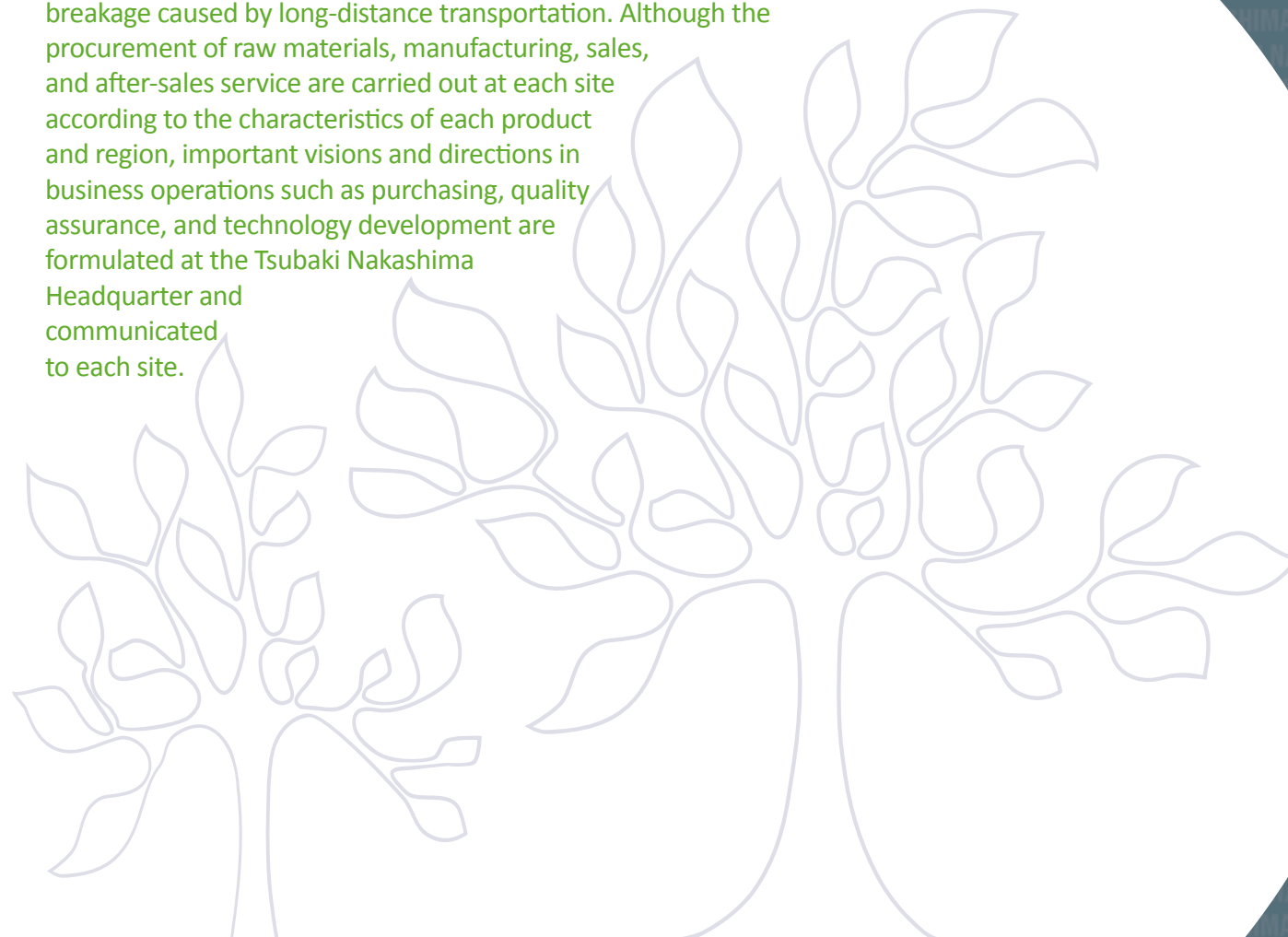
responsible
use of natural
resources,
as well as of other
resources is key,
in our approach.

RECYCLE
& REUSE

Oil, coolants
and other
substances
are recycled as much
as possible.
All our products
are recyclable,
almost 100%

Through the creation of eco-considerate products, we are cooperating with our Customers to expand our environmental impact mitigation efforts beyond Tsubaki Nakashima's doors. The Group's core product, precision balls, are basically manufactured and delivered in regions close to customers for *local production for local consumption* in order to reduce emissions, as well as prevent damage and breakage caused by long-distance transportation. Although the procurement of raw materials, manufacturing, sales, and after-sales service are carried out at each site according to the characteristics of each product and region, important visions and directions in business operations such as purchasing, quality assurance, and technology development are formulated at the Tsubaki Nakashima Headquarter and communicated to each site.

OUR ENVIRONMENT



TSUBAKI NAKASHIMA IS COMMITTED TO PROTECTING THE ENVIRONMENT (INTERNAL, EXTERNAL) BY CONSTANTLY TRYING TO REDUCE ITS IMPACT ON EVERY SINGLE TERRITORY OF ITS PLANTS AROUND THE WORLD AND BY MONITORING AND IMPROVING ITS ACTIVITIES AND THROUGH AWARENESS-RAISING INITIATIVES AIMED AT STAFF. THE CERTIFICATIONS OBTAINED AND RENEWED OVER THE YEARS SUCH AS ISO 9001, IATF 16949, ISO 13485, ISO 45001, ISO 14001 AND ISO 50001 DEMONSTRATE OUR COMMITMENT TO QUALITY, ENVIRONMENT, ENERGY AND SAFETY.

SUSTAINABILITY Commitment

13
PLANTS

WE HAVE 13 PLANTS WITH ENVIRONMENTAL AND/OR SAFETY AND/OR ENERGY CERTIFICATION

13 PLANTS

20
CERTIFICATES

6
PLANTS
WITHOUT NCS

5 PLANTS

2 PLANTS



OUR ENVIRONMENT

INDICATORS AND TARGETS

We are actively working to reduce environmental impacts throughout the value chain by leveraging our efficient, compact, and precision technologies to improve the environmental performance of our products, utilizing renewable energy, and enhancing our business activities in order to achieve our targets.

RESPONSIBLE SOURCING OF MINERALS

Where minerals such as tin, tantalum, tungsten, gold (3TG) and cobalt are mined in conflict-affected or high-risk areas such as the Democratic Republic of Congo (DRC) and adjoining countries, the revenue from the mining and trading of these minerals is a source of funding for armed groups and anti-government forces carrying out atrocities and human rights abuses. Minerals sourced from such conflict-affected or high-risk areas have the potential to promote conflict, human rights violations and environmental degradation. Tsubaki Nakashima considers mining to be an intensive process involving social and environmental risks, and believes the mining of metals and minerals, including conflict minerals (3TG) and cobalt mined in the DRC, as well as other minerals mined in other regions, must be managed. Tsubaki Nakashima's policy is that we want no part in any human rights violations or environmental destruction. While sourcing minerals that originate in conflict-affected or high-risk areas, we will not, by any means, tolerate, knowingly profit from, contribute to, assist with or facilitate the commission by any party of any form of human rights violations or abuses, or support operations that result in the degradation of socioeconomic and environmental stability.



OUR ENVIRONMENT

REDUCING GREENHOUSE GAS (GHG) EMISSIONS

The 2015 Paris Agreement set a goal of keeping the increase in average global temperature to well below 2°C above pre-industrial levels. Tsubaki Nakashima started few years ago to work on the same direction. Actions to reduce emissions are being explored at model sites and then shared with others to increase the likelihood that targets will be achieved.

Main actions for reducing emissions

- ▶ **Production innovations and automation**
- ▶ Investment in **updated facilities and equipment** such as plant infrastructure, and solar power systems
- ▶ Purchasing low-carbon electricity and using other forms of **renewable energy**
- ▶ Other reductions to be achieved by **power utilities** reducing their GHG emissions factors

INITIATIVES IN MANUFACTURING PROCESSES

In many of our steel ball plants, we have reduced the tons of CO₂ produced per ton of product to below a 1-to-1 ratio and averaged 0,8 and, thanks to the Monozukuri project on the rational use of energy, we expect to lower this value to below 0,8 in the next three years. In our Rollers Plant, the ratio is 0,5.

RENEWABLE ENERGY USE

Tsubaki Nakashima expects its energy use to increase as production increases in line with its long-term growth strategy. The use of renewable energy (energy from natural sources) is one of the most effective ways to reduce GHG emissions. Accordingly, Tsubaki Nakashima is implementing plans to expand its use of renewable energy long-term. However, there are obstacles to expanding renewable energy use, including costs and supply limitations in some regions. Recognizing that there is nothing one company alone can do about these obstacles, we decided to declare our support for the important policy recommendations below as one solution. The realization of these recommendations will make it easier to take actions that minimize the impact on future climate change. Coordinated global action is essential to combat climate change. We at Tsubaki Nakashima will therefore continue our efforts toward decarbonization, including by supporting future such recommendations. In specific, according to the Global Sustainability System, all our sites and businesses are implementing energy-saving measures and increasing the use of renewable energy to achieve our targets.



Plants working to introduce sources of renewable energy

In every plant, to reduce fixed power consumption, we installed, and we are promoting the use of LEDs for fluorescent and mercury lamps and the introduction of high-efficiency boilers, hydraulic units, and other equipment with low energy consumption when renewing facilities. We have also been working on reducing fuel consumption by renewing or eliminating boilers and reducing electricity consumption through efficient operation of air-conditioning equipment and compressors; we are also promoting the installation of solar panels and use of electrical vehicles.

For example



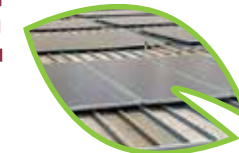
Tsubaki Nakashima Italy - Elimination of asbestos's roof and Energy saving: as a replacement of the asbestos roofs, a total of 945 monocrystalline photovoltaic modules have being installed, with a power output of 311.85 kWp.

Tsubaki Nakashima implemented a new Car Policy that all company cars must be electric or hybrid, using the green energy produced by our photovoltaic systems or purchased from renewable energy producers.



EUROPE

INDIA



Tsubaki Nakashima India is supporting towards green energy and installed roof top Solar Power Plant of 60 KW capacity.



Plants using renewable energy sources

OUR ENVIRONMENT

On top of it and to reduce energy consumption in manufacturing, a new Project has been launched at the end of 2020, led by Monozukuri's Global Function, assisted by the CHRO.

The international standard ISO 50002 defines all the process leading to the identification of opportunities for improvement of energy performance and the Energy Audit process is a simple chronological sequence of specific activities that allows our Plants to improve their energy performance, reduce energy consumption and obtain environmental benefits.

Our Global Sustainability System is based on ISO 14001 (Environment), ISO 45001 (Health and Safety) and ISO 50001 (Energy); the full implementation of it allows our Plants:



To be compliant with mandatory and voluntary standards on energy and environmental issues



To analyze processes from energy perspective aiming at reaching a deep knowledge



To improve energy performance



To implement/improve monitoring system of energy consumptions



To internally communicate and share Energy Management System



To inform suppliers that products purchase is subordinate to energy savings



To evaluate opportunity to buy highly efficient plant and equipment

OUR ENVIRONMENT

RENEWABLE ENERGY USE

RESOURCES/FORMING A CIRCULAR ECONOMY

To contribute to the formation of a circular economy in which waste is minimized, Tsubaki Nakashima is working to reduce emissions and preserve water resources in its production processes.

ZERO EMISSIONS

As per our Vision Zero Approach, Tsubaki Nakashima is working toward zero emissions by reducing generated business waste and recycling. Wastes are generated in our production processes, offices, and operations. Wherever possible, we reduce, reuse, and recycle these wastes on-site. Plastic runners from molding processes are recycled, for example, and ReMida project is a significant example of this Vision. The remaining wastes, including valuable wastes, are recycled by a contractor. We carefully sort and separate wastes and select the best available recycling methods and contractors for each type.

We will continue to reduce wastes and to work for general improvement in waste processing methods, including by allying with recyclers. In every ISO 14001 Certified Plant (13 factories, in total) we employed control metrics and specific KPIs.

REDUCTION OF WASTE



TRANSFORMING A WASTE IN RESOURCE > ReMida PROJECT

The Monozukuri philosophy is based on “smooth manufacturing process”, which include smooth process, less noise, friendly product, sludge reduction and waste elimination.

The ReMida Project must achieve the target to reduce the quantity of sludge produced, then transform the sludge in recyclable product. We strongly believe that improving the internal environment we will improve the proudness of our employees and the confidence of our Customer, together with the awareness of working for a brilliant future of Tsubaki Nakashima.

ZERO WASTE PROJECTS



OUR ENVIRONMENT



Dehydration

Pressing

Hardening



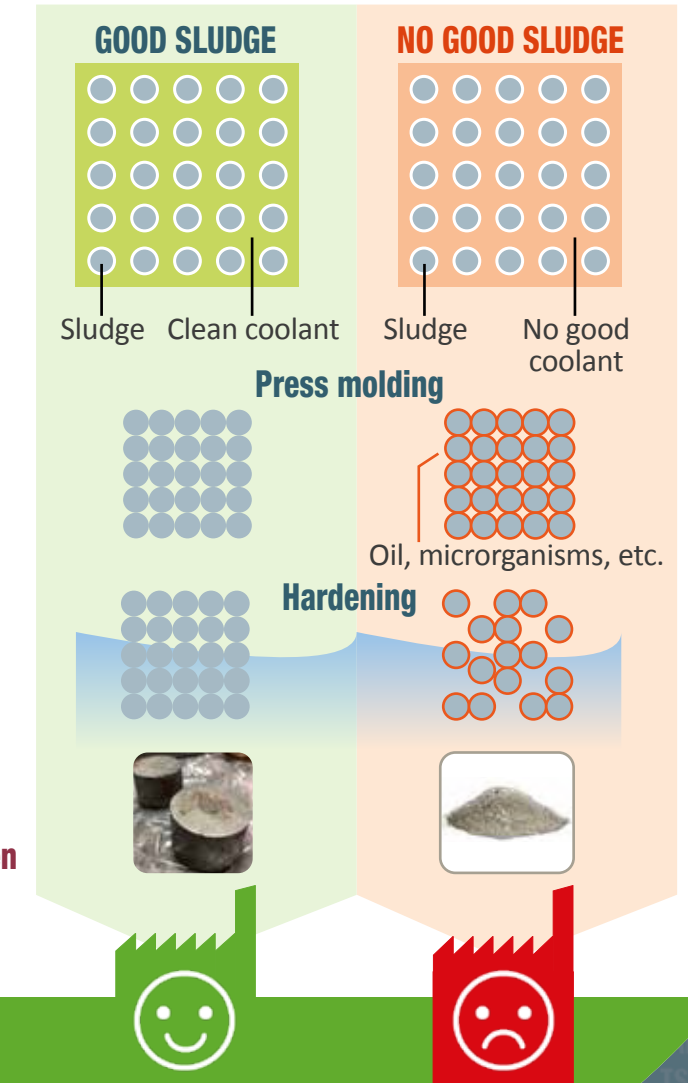
PRODUCTION PROCESS

WHY DO WE NEED GOOD SLUDGE QUALITY?

Sludge cleaning
process

Press molding

Penetration
treatment and oven



COOLANTS

In the manufacture of precision balls, coolant is used for processing, and sludge is generated during processing. In order to reduce the amount of sludge generated, we are working to improve our manufacturing technology. The water-soluble cutting fluid used in the polishing process is recycled by removing the shavings and returning them to the process, which leads to water conservation. In addition, the sludge generated is compacted to remove the water content and the residue is turned into valuable resources to reduce the total amount of waste. Similar efforts are also being made to reuse water-soluble cutting fluids in the ball screw cutting process through filtration and circulation.

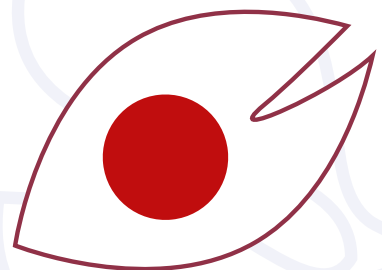
PRESERVATION OF WATER RESOURCES

Water and climate change, as well as other environmental factors, are closely linked. Tsubaki Nakashima's factories rely on water resources, and the sustainability of water resources substantially affects business continuity. Given this, we are working to preserve water resources by avoiding unnecessary contamination and use, and by recycling the water we do use. We actively strive to increase the rate of industrial wastewater that is recycled in our production processes and to meet strict water quality standards. We are also mitigating our overall environmental impacts, including by introducing more energy efficient water processing facilities. Our efforts extend beyond the water used in our production processes. We ensure that all employees have access to safe drinking water, as well as sanitary kitchens and restroom facilities. Moreover, we make our employees aware of the importance of saving water and preventing water pollution, and we install water-saving fixtures and sanitation facilities.

**THE GROUP REPORTED
ZERO
ENVIRONMENTAL
ACCIDENTS**
OUR ENVIRONMENT

EXAMPLES OF SUSTAINABILITY PROJECTS





KATSURAGI (JAPAN)



Fire
brigade's
training



Install roof
in the waste
disposal's
area



Replacement
of the Washing Machine
to improve efficiency,
reducing use of water

Reduction of coolant's
consumption
6 Centrifuges for filtering
of coolant, that enables
to reduce mesh type
filter waste.



EXAMPLES OF SUSTAINABILITY PROJECTS

THE NETHERLANDS



Redesign Infeed System Honing Machine:
Complete mechanical infeed without use of compressed air anymore, and additional Energy saving, Noise reduction, Less mist on the shopfloor.

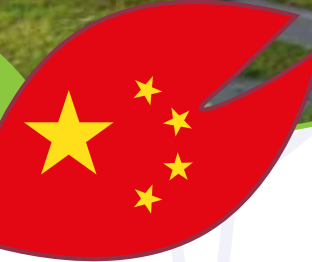


Air filtration
Recycle air by filtering the exhausted air in CRB grinding lines. The goal of this project is energy saving.

BEFORE

AFTER

Plant environment improvements



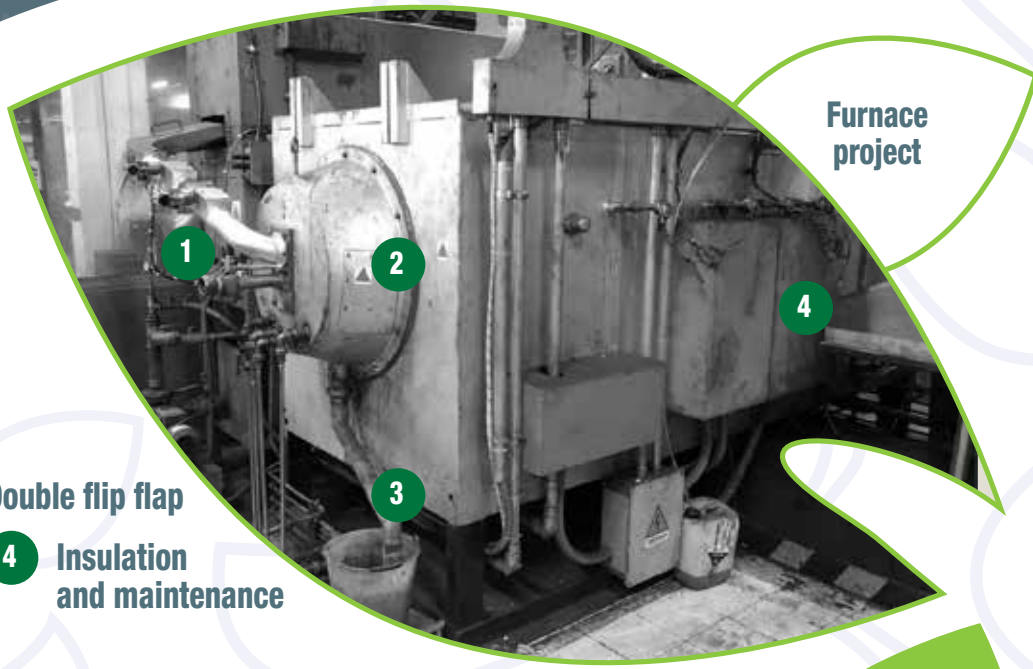
**TAICANG
(GREATER CHINA)**



**KONJIC
(BOSNIA/HERZEGOVINA)**



**EXAMPLES
OF SUSTAINABILITY
PROJECTS**



Furnace project

- 1 Double flip flap
- 2
- 3
- 4 Insulation and maintenance



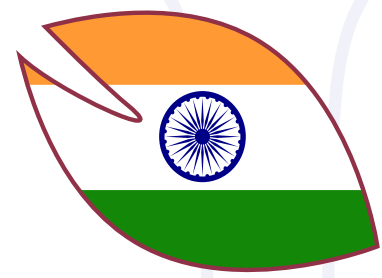
Fire fighting



-26%
Nitrogen reduction



In last 3 years
all goals
were reached
PINEROLO
(ITALY)



SILVASSA
(INDIA)

EXAMPLES
OF SUSTAINABILITY
PROJECTS

134



KUNSHAN (GREATER CHINA)



Recycle system
of Quenching oil

Input:
recycled
Quenching
oil

Output:
waste liquid
(hazardous waste
outsourcing),
Quenching oil recycle

Waste gas
treatment
system



Input: waste gas from
heat treatment and
heating equipment,
activated carbon,
electrolytic tank
(filter screen)

Output: waste oil
(hazardous waste
outsourcing)

Easier access
for employees to work
instructions- the ability
to verify at any time
whether a given job
is performed
correctly



135



CHONGQUING (GREATER CHINA)

EXAMPLES
OF SUSTAINABILITY
PROJECTS



INDUSTRIAL CLEANING CLOTHES

Type of hazardous waste
with specific reduction
(2020 vs 2019)

Oil sludge	-36%
Sorbents, oily foil and waste paper, cleaning cloth	-20%
Waste oil	-22%
Others	-45%



- Reducing the amount of hazardous waste
- Supply safe storage of oily cleaning clothes in production areas for safety workplace
- Instead of using disposable cleaning clothes we use reusable cleaning clothes

-31%
Average percentage
of reduction
of hazardous waste

Bullet implementation of the oil sludge filtration process. An external company conducts filtration in our plant

- Recover of oil from sludge, reused in production
- Reduction of weight of oil sludge

-26%
Reduction
of sludge waste

- Reduction of oil sludge disposal costs
- Wider range of waste suppliers (to dispatch easier)

Recovery of water from the process of abrasive treatment needles





BEFORE

New training room



AFTER

Heading and Scan&Pack area refurbishment and re-layout



BEFORE



AFTER

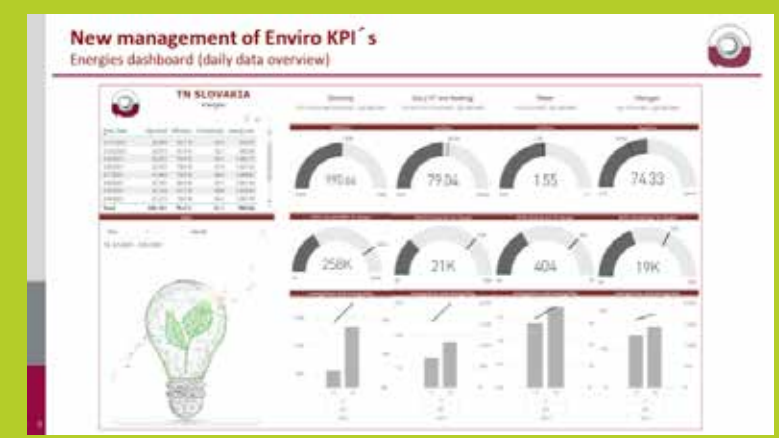


KYSUCKE NOVE MESTO (SLOVAKIA)

- Creation of a dashboard

- Constant check of all elements (electricity, gas, water, nitrogen)

ALL INDICATORS WERE IMPROVED



EXAMPLES OF SUSTAINABILITY PROJECTS

BEFORE



Proper maintenance
and cleaning of equipment
improves the EHS
and quality of the work
environment
for employees

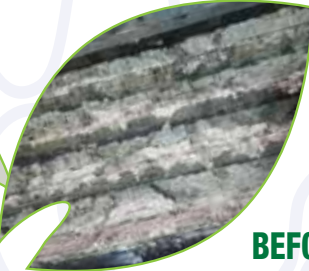


AFTER



CUMMING (GEORGIA - U.S.A.)

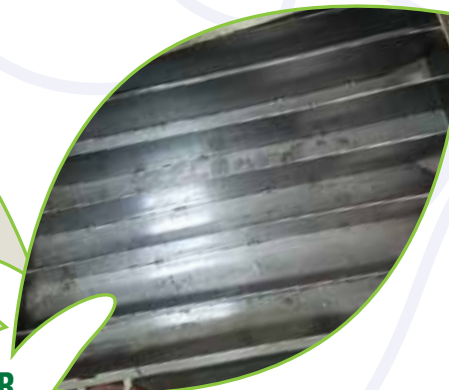
Renewed attention to safety
and housekeeping



BEFORE



AFTER



SAULT ST. MARY (MICHIGAN - U.S.A.)

Recycling
Program



EXAMPLES
OF SUSTAINABILITY
PROJECTS



Sustainability
training

OKAYAMA (JAPAN)

948

days without
accidents
(end of Feb 2021)

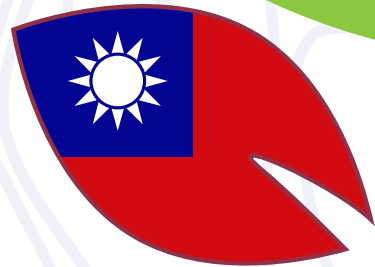


-3800

litres of reduction
separating IPA
from wastewater

-20%

Energy saving
by changing
old lighting
with led
lights



RAYONG (THAILAND)

EXAMPLES OF SUSTAINABILITY PROJECTS

As part of our Global Quality Management System, we have created a Supply Chain Quality Manual. The Manual stipulates ethical rules, Sustainable Management Systems, and compliance with safety, health, and environmental laws that we require of our Suppliers. To maintain a Sustainable Supply Chain, we conduct regular audits of our Suppliers. In addition to audits conducted at each plant, the Global Quality Assurance Department also conducts regular audits. The Global Quality Assurance Department conducts on-site audits of particularly important suppliers, collects samples, and analyzes ingredients in laboratories.

SUSTAINABILITY AND SUPPLIERS

The results of the regular audits are disclosed to the suppliers in the form of reports, and the items pointed out and items to be corrected are confirmed together. If corrective measures are not taken, we will suspend transactions. In fiscal 2020, due to the spread of the new coronavirus infection, we were unable to conduct on-site audits, but we plan to resume them in fiscal 2021. We also conduct Surveys on the chemical content of raw materials in order to comply with the regulations on chemical substances contained in products in each region, such as the European RoHS Directive and the European REACH Regulation.

BUSINESS CONTINUITY PLAN'S INITIATIVES IN THE SUPPLY CHAIN

To ensure that the Group is able to fulfill its supply responsibilities even in the event of a disaster or conflict, the Group has established a system in its purchasing operation rules that allows it to procure raw materials from multiple suppliers. In fiscal 2020, plants in various regions experienced lockdowns to prevent the spread of the new coronavirus infection and suspended operations due to government orders. In addition, we were able to adjust inventory levels and cooperate with suppliers who were able to operate.

COMPLIANCE AND ENVIRONMENTAL LAWS AND REGULATION

THE GROUP REPORTED ZERO VIOLATIONS OF ENVIRONMENTAL LAWS AND REGULATIONS IN FISCAL 2020

Measures against environmental pollutants – Japan - Katsuragi

In December 2018, a survey by Nara Prefecture detected trichloroethylene and other substances exceeding environmental standards in groundwater at the Katsuragi Plant site. The Katsuragi Plant had previously used trichloroethylene in its manufacturing process, and since it was found to exceed the environmental standards for sewage water in a voluntary survey conducted between 2006 and 2008, the plant has been continuously purifying and monitoring the water by installing pumping wells and contaminated water treatment equipment on the premises to prevent external leakage. Although there was no obligation to measure and report on underground water, we have continued to conduct water intake surveys from observation wells and borehole investigations and have made efforts to prevent underground water contamination by utilizing facilities such as cleaning equipment and wells and have also eliminated the use of trichloroethylene in October 2020.

In response to the detection of trichloroethylene, we are also checking the situation at each plant in Japan and taking appropriate measures.



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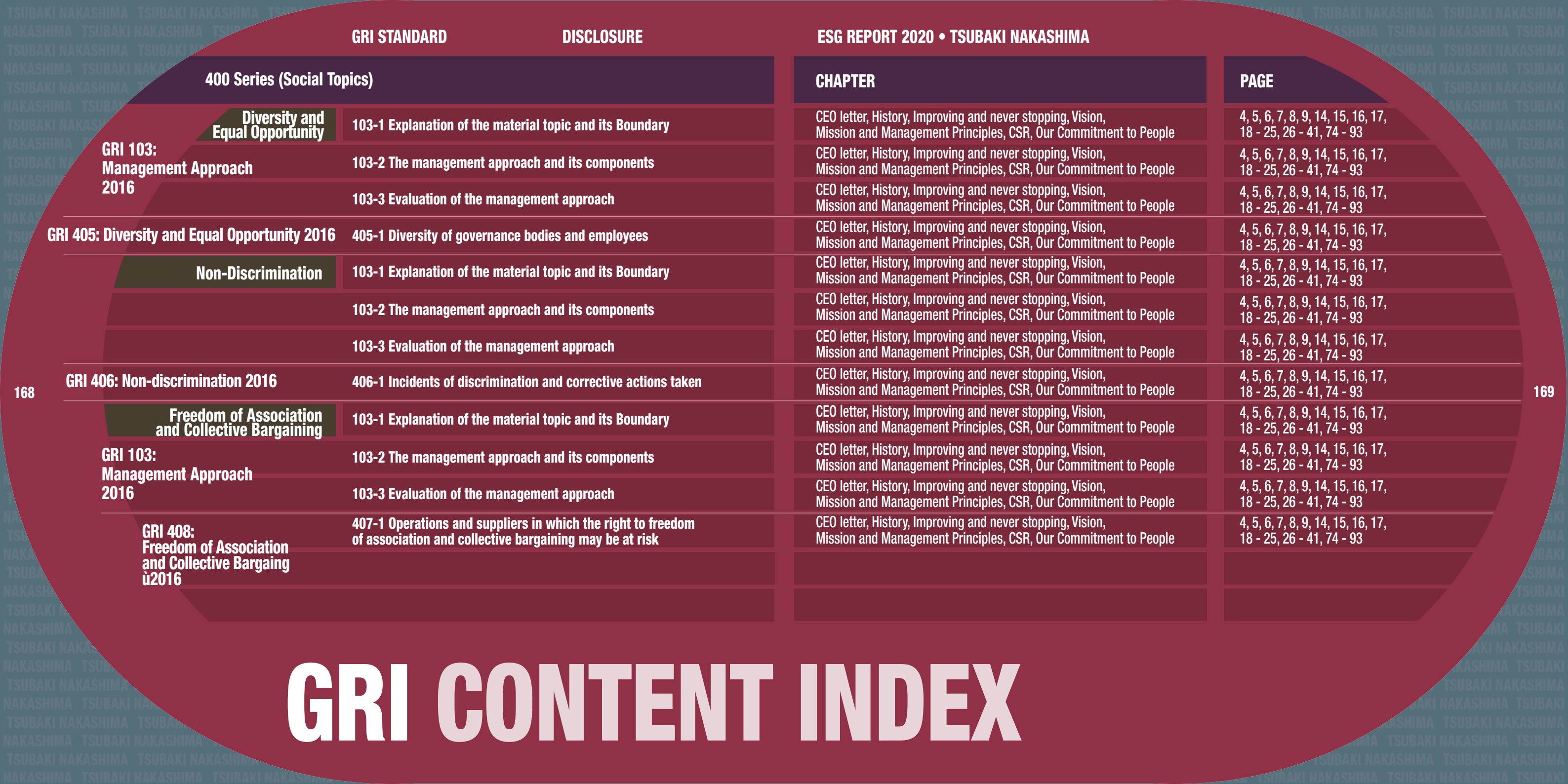
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The graphic design and the graphic development of the contents in this publication were thought and created by Mario Bois, Italian eclectic artist, that expresses his creativity in different fields working as: graphic designer journalist, actor in theatre and film industry, director, author and poet.

He really enjoyed to convey creative energy to give birth to a new perception of common, shared business contents.



