



ENVIRONMENTAL SOCIAL GOVERNANCE **REPORT** 2021

INTRODUCING ESG

Despite the continuing uncertain conditions due to the pandemic, which still affected our plants and people, 2021 saw a good recovery in the markets and important changes especially from a Sustainability perspective. With this **ESG Report** albeit based on the **GRI international standard**, Tsubaki Nakashima wants to both illustrate the decisions taken in 2021 that will have a fundamental and decisive impact on the company in the years to come, the organizational structures and resources deployed, the main results achieved in the year **2021** and the targets both in the long term (**Medium Term Plan 2021-2023** and referring to the year **2022**). This Report embodies our aim to continue growing as an environmentally responsible and ethically sourced business, therefore reaffirming our commitment to transparency, sustainability 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).



METHODOLOGICAL NOTE

[GRI 102-45] The Consolidated Disclosure of Non-Financial Statement (hereinafter *Statement* or *ESG Report*) complies with GRI Standard and with the local laws and regulations the disclosure of non-financial information. For Tsubaki Nakashima, that Statement, which coincides with the ESG Report and is a separate report from the Financial Report, represents **the result of the commitment to notify its stakeholders of the performances and results achieved in the sustainability area**, already undertaken in previous years.

[GRI 102-46] The Statement contains data and information referring to Tsubaki Nakashima Co. Ltd. and its subsidiaries as of December 31, 2021 (hereinafter *Tsubaki Nakashima* or *TN*), as presented in the Annual Financial Report.

[GRI 102-47] The Report is **based on a multi-stakeholder approach** involving the joint analysis of actions taken in respect of the main stakeholders with whom the Company interacts. For the details on the material topics, see the specific paragraphs.

[GRI 102-50] **[GRI 102-51]** **[GRI 102-52]** The 2021 ESG Report, prepared annually over the calendar year, respects the same deadlines as the Annual Financial Report.

[GRI 102-54] The Sustainability Report has been **prepared in accordance with the Sustainability Reporting Standards of the Global Reporting Initiative (GRI)** (in accordance-comprehensive option). The process suggested by the AA1000APS principles (inclusivity, materiality, and responsiveness) were also considered in the document.

The Sustainability Report is **drawn up according to a system of indicators (KPI - Key Performance Indicators)** which measure the company's performance and the degree of achievement of objectives previously established for areas in which the Company has major impact.

The KPIs are defined on the basis of:

- the analysis of the GRI, an international organization which develops universally applicable guidelines for drawing up sustainability reports
- the demands received from stakeholders
- the experience the Company has gained in the field of sustainability after the acquisition of PBC Group.

The scope of reporting of the Non-Financial Statement coincides with the Annual Financial Report.

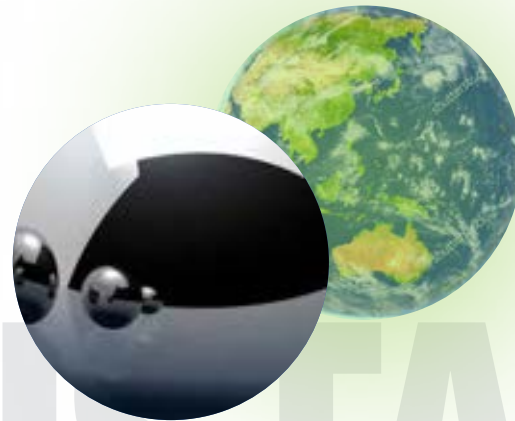
Tsubaki Nakashima is a global company with presence spread across **3 continents** (Asia, Europe and America) that is strongly and dedicatedly committed to serving its **Customers**, creating a work environment where its **Employees** can feel motivated to do their best, respecting **the Environment** with the highest standards of Sustainability, doing its part every day **to make the world better than it is**; this respect and commitment is central to the success of **our 20 factories**, in all the Communities in which we operate. We are a **manufacturer of precision balls, rollers, ball screws and blowers** with local manufacturing and local sourcing, short lead times and detailed service, through a **well-organized manufacturing and sales network**, meeting the needs of our Customers, and achieving profitable growth, increasing Corporate value. As social, industrial, technological and lifestyle changes are progressing globally, we have decided to **make the foundation of corporate value realization more solid and current**:

SUSTAINABILITY

as the simultaneous achievement of economic prosperity, the creation of a healthy, safe, and low environmental impact environment, where everyone is equal, with equal rights and duties, equal opportunities. Our goal is ZERO accidents (and FULL compliance with laws and regulations), ZERO harm to people, ZERO damage to the environment, but also, ZERO inequality and ZERO Lack of knowledge, which means equal opportunities to grow, for everybody.

THE HIGHEST QCDS

(Quality, Cost, Delivery time, and Service), to be the Best-in-Class **Ball Manufacturer**, Customer and Market oriented, continuously improving products, processes and service.



PRECISION FOR

ONE TEAM SPIRIT

which underpins our corporate culture, our identity as a company. And the **TN ACADEMY** which has been taking shape since 2020, aims to develop our people, prepare our talents for the challenges of tomorrow, creating Value Managers that can be summarized as the sum of an individual's professional skills and abilities, their humility and ability to achieve results, all multiplied by their positive attitude.

TRANSFORMATION

that is our goal to be more and more a **truly global company** with an international mentality, deeply transforming our organization to be always one step ahead of competitors, able to seize every opportunity for change to be better, stronger, more aware. The armed arm of this transformation is the **Monozukuri** understood as a set of processes, which in itself includes activities of thought, re-modeling, organization, action, continuous improvement aimed at the realization of high-quality products.

A CHANGING
AND SUSTAINABLE
WORLD

GROWTH

Tsubaki Nakashima's overall **through development in Profit generation, Sales, Marketing, Business Development, Geographical areas**, strengthening Earning Power of the Regions and Global Ceramic Business, designing and driving the Company to anticipate the market needs, satisfy the Customers' expectations, find new Customers, Markets and Business Opportunities.



Like TSUBAKI NAKASHIMA, we have clear in mind what our responsibility is

in addressing the ongoing climate and social changes and what part we must responsibly play.

For this reason, starting from 2021 we have started a path of **sustainable development** that will allow us to improve the performance of our factories, in all respects. The recently created **Sustainability Committee** is responsible for assisting the Management Committee by fulfilling a preparatory, consultative and advisory role in assessments and decision-making processes with regard to Environmental, Social and Governance issues, related to Tsubaki Nakashima business and its engagement with all stakeholders, the Corporate Governance of the Company, and the review of scenarios envisaged in the preparation of the Medium Term and Business Plans, based also on the analysis of significant issues for the creation of long-term value.

Our Sustainable Development model is based on three fundamental pillars:

INTEGRATED GOVERNANCE SYSTEM

based on our Corporate Governance, TN Quality Management System, ISO 14001, ISO 45001, ISO 50001, and other internal and external standards (i.e., GRI).

1

SUSTAINABLE MONOZUKURI

a responsible use of resources and energies, as well as tracking and reducing Green House Gas (GHG) emissions, allows us to lessen our climate change impact and provide important opportunities to help drive momentum for global climate action.

2



COMMUNICATION AND BRAND IDENTITY

we believe that continuous and one-to-one communication between the Company and our Stakeholders will be essential to make new systems, processes, behavior models fully effective and to increase awareness, bringing the Company to an even more international and modern dimension, immediately visible, recognizable, and attractive.

3

Paris Agreement and the AGENDA 2030 of the United Nations aim to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2°C above pre-industrial levels.

Tsubaki Nakashima reiterates its support for the **United Nations Sustainable Development Goals (SDGs)** and our environmental sustainability goals are in line with global sustainability targets (**Paris Agreement**). The vision, the awareness of the mission we want to accomplish, combined with our daily commitment, the work of our women and men will not only allow us to overcome the adversities of these years, but will create the conditions for responsible, sustainable and profitable development.

Director
and Representative
Executive Officer, CEO
Koji Hirota



CHANGING SUSTAINABLE
PRECISION FOR

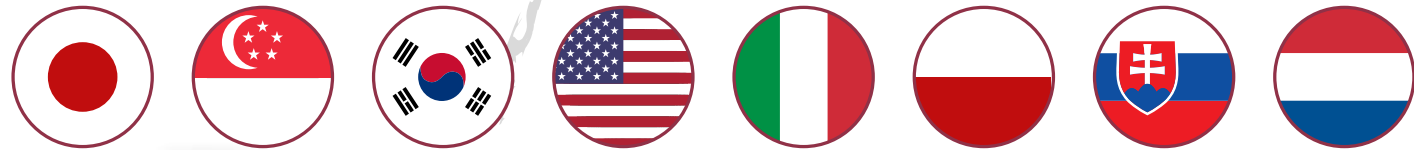
A CHANGING AND SUSTAINABLE WORLD

OUR HISTORY

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 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 which ended in 2017 with the acquisition of Precision Bearing Components, Group of NN Inc.).

TSUBAKI NAKASHIMA AT A GLANCE

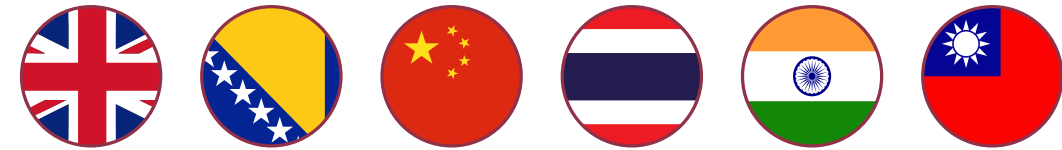


OUR COMPANY OUR PRODUCTS

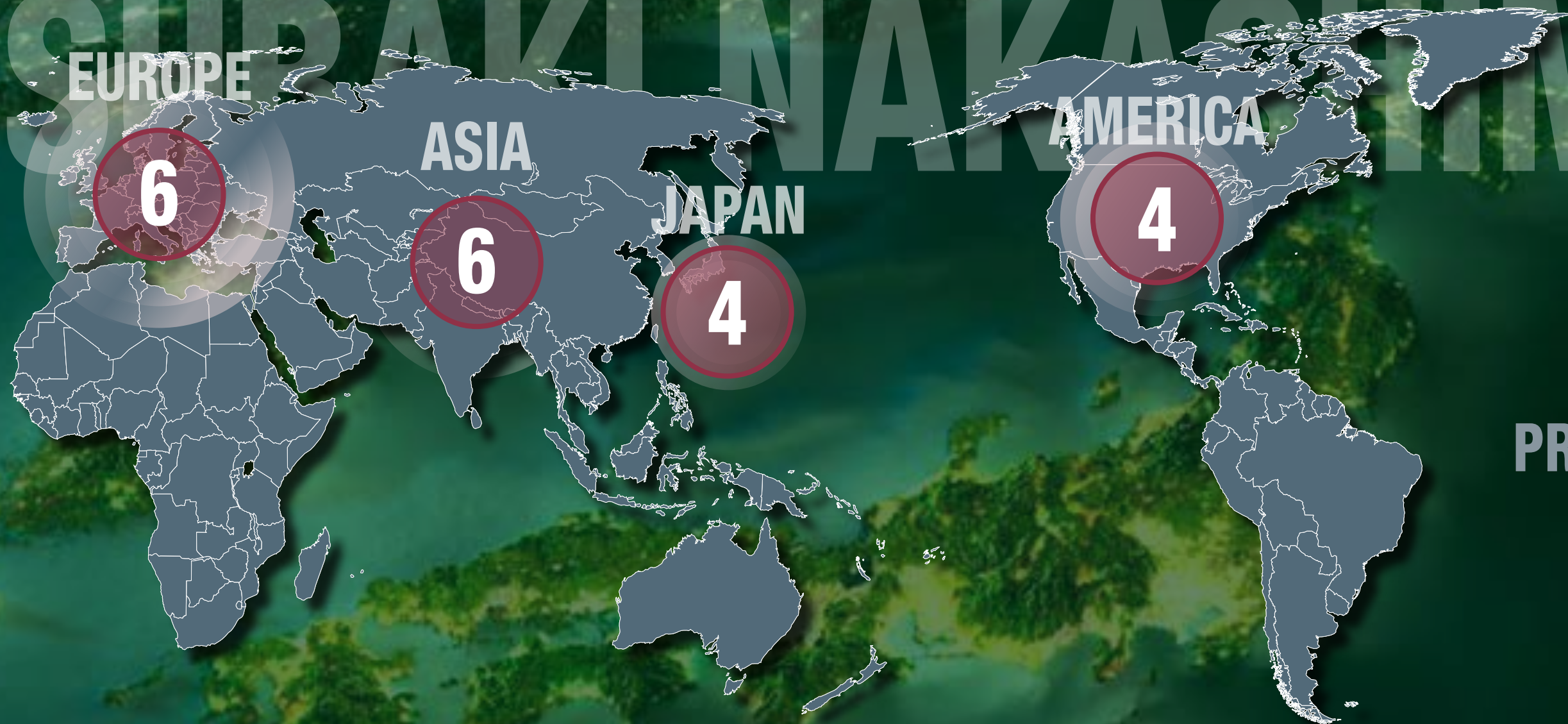


We are a specialized manufacturer of **PRECISION BALLS AND ROLLERS** as well **BALL SCREWS AND OTHER MECHANICAL PARTS**, headquartered in Nara, Japan. In addition to Japan, we manufacture in the United States, Italy, Poland, Slovakia, The Netherlands, Bosnia, United Kingdom, China, Thailand, India and Taiwan. The industry's most well-established production network enables us to respond to various customer needs, local procurement, quick delivery, and superior customer support.

We produce a broad range of **HIGH-QUALITY PRECISION BALLS**, rollers and ball screws with more than 20,000 product types. Utilizing various materials including **CERAMICS AND STEELS**, in a range of sizes to meet our customers' specific requirements. We have been a pioneer in the mass production of ceramic balls utilizing our manufacturing know-how and process technology in various areas. Our development capabilities and industry-leading product line-up allow us to fulfill a variety of needs from global customers, which enables us to support new demands from a variety of end-market products and uses.



TSUBAKI NAKASHIMA

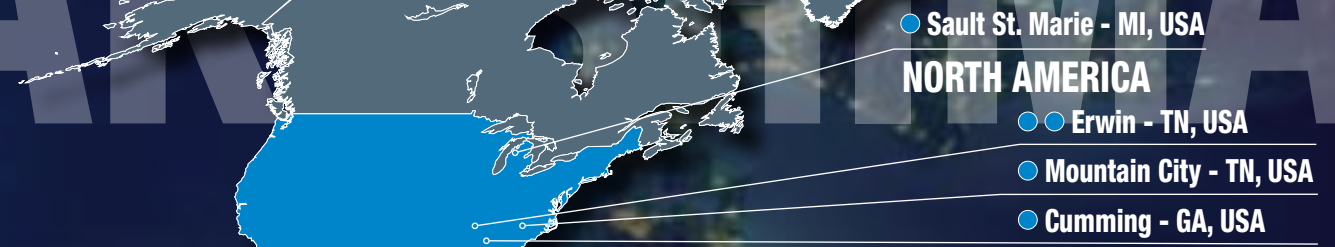


**GLOBAL
PRESENCE**

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.

TSUBAKI NAKASHIMA

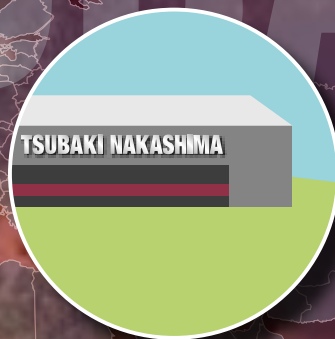


GLOBAL PRESENCE

20 PLANTS

TSUBAKI NAKASHIMA

NUMBERS



20

plants



12

countries

GLOBAL
ORGANIZATION



2.999

employees

BELONGING TO

31

different
nationalities



67.926

MJPY

REVENUES



NO MAN IS AN ISLAND

In the last months of 2021 Tsubaki Nakashima started to redesign its Organization, which would then become operational as of January 1, 2022. 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 6 members). Tsubaki Nakashima's mid-term plan bears two important words, **TRANSFORM NEXT**, signifying the company's commitment to a continuous process of sustainable transformation and rationalization.

- Accelerating the growth, strengthening the earning power of our Regions and Global Ceramic Business under the guidance of a single Leader, the **Chief Growth Officer** who leads **5 Regions** and/or Businesses
- Transforming the Company in a sustainable way, executing our strategic projects, reforming our business with the support of our **Monozukuri Team** with 5 Operational Functions (sustainable development, engineering, purchasing, quality, plant management and continuous improvement), under the guidance of one visionary Leader, the **Chief Transformation Officer**
- Developing and streamlining of Planning & Promotion Structure for Management Control M&A, under the guidance of the **Chief Financial Officer**, who will work with the **Chief Human Resources Officer** to drive sustainable strategies.

**TRANSFORM
NEXT**2023

TSUBAKI NAKASHIMA



NO MAN
IS AN
ISLAND

SALES ACHIEVED

67.9 BILLION
25%* UP YOY

SALES OF CERAMIC BALLS

INCREASED BY
37.5% UP YOY

SALES OF MEDICAL DEVICE BUSINESS

INCREASED BY
58.5% UP YOY

SALES IN ASIA [EXCL. CHINA AND CERAMIC]

INCREASED BY
25.8% UP YOY

COMBINED SALES FOR THE GROWTH STRATEGIES ACHIEVED

12.0 BILLION
INCREASE
FOR THE SIXTH
CONSECUTIVE
QUARTER

OPERATING PROFIT ACHIEVED

5.82 BILLION
56%* UP YOY

SALES & OP

*
Excluding
"FX impact"



**PRECISION
CERAMIC BALLS**



MEDICAL PRODUCTS



**PRECISION
STEEL BALLS**



**SOLID
PLASTIC BALLS**

**SPECIALLY MANUFACTURED
PRODUCTS**

WIND TUNNEL



GLASS BALLS

OTHERS

**CMM REFERENCE
BALLS**



**PRECISION ROLLERS
AND STAMPINGS**

**BESPOKE
TOOLING FEATURES
TO DESIGN**



**LARGE SCALE
BLOWERS**

BALL SCREWS

**PRODUCTS FOR ELECTRIC
POWER INDUSTRY**

BALL WAYS

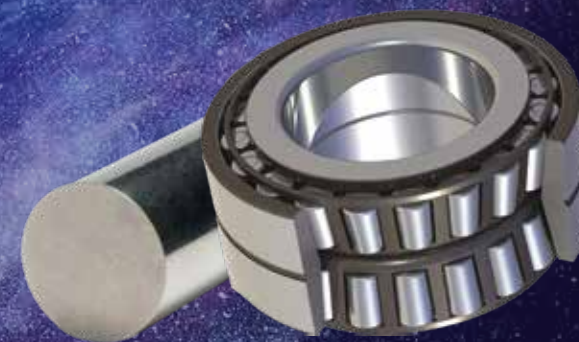
**TSUBAKI
NAKASHIMA**

PRODUCTS UNIVERSE



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

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 UNIVERSE



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.



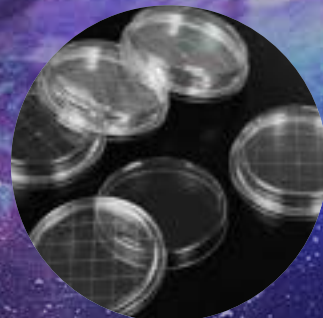
**TSUBAKI
NAKASHIMA**

PRODUCTS UNIVERSE



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.



MEDICAL PRODUCTS

FDA Registered for Contract
Cleanroom Injection Molding

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.

Example of applications

IV therapy check valves

High speed dental drills

Xray markers

Surgical instruments

Medical tester
Analysis and diagnostics

Airways and respiratory

Endoscopic irrigation
and washing

Disinfection machines

Haemodialysis

Blood processing equipment

Saline washing and cooling

Tumour ablation

**TSUBAKI
NAKASHIMA**

PRODUCTS UNIVERSE



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.

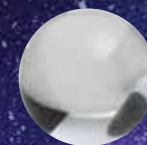
BESPOKE TOOLING FEATURES to design

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

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 $\pm 0.00025\text{mm}$.



CMM REFERENCE BALLS for setting precision measuring equipment

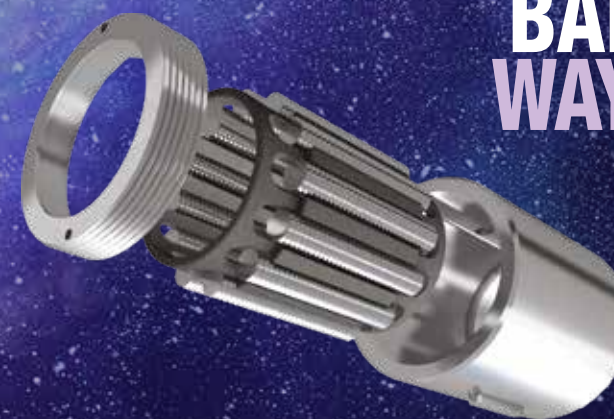


GLASS BALLS

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.

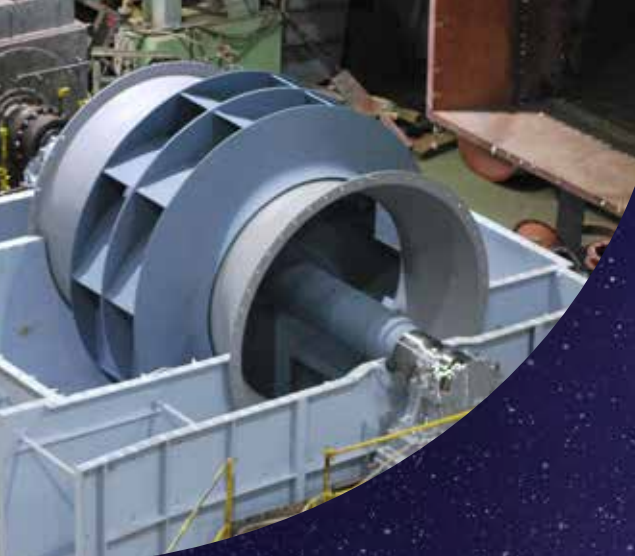


BALL WAYS

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 UNIVERSE



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.

PRODUCTS FOR ELECTRIC POWER INDUSTRY

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.

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.

IDF

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

WIND TUNNEL

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.

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.

HIGH PRESSURE BLOWER (stainless steel)

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

MULTI-STAGE IMPELLER

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.

**TSUBAKI
NAKASHIMA**

PRODUCTS UNIVERSE

PRECISION COMPONENTS BUSINESS

PRECISION BALLS

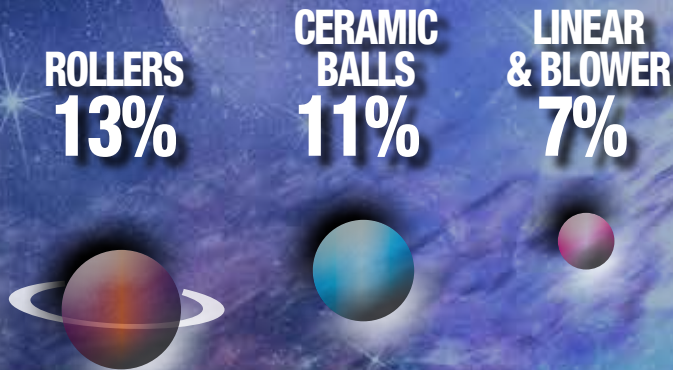
- STEEL BALLS
- CERAMIC BALLS
- PLASTIC BALLS
- OTHER BALLS

ROLLERS

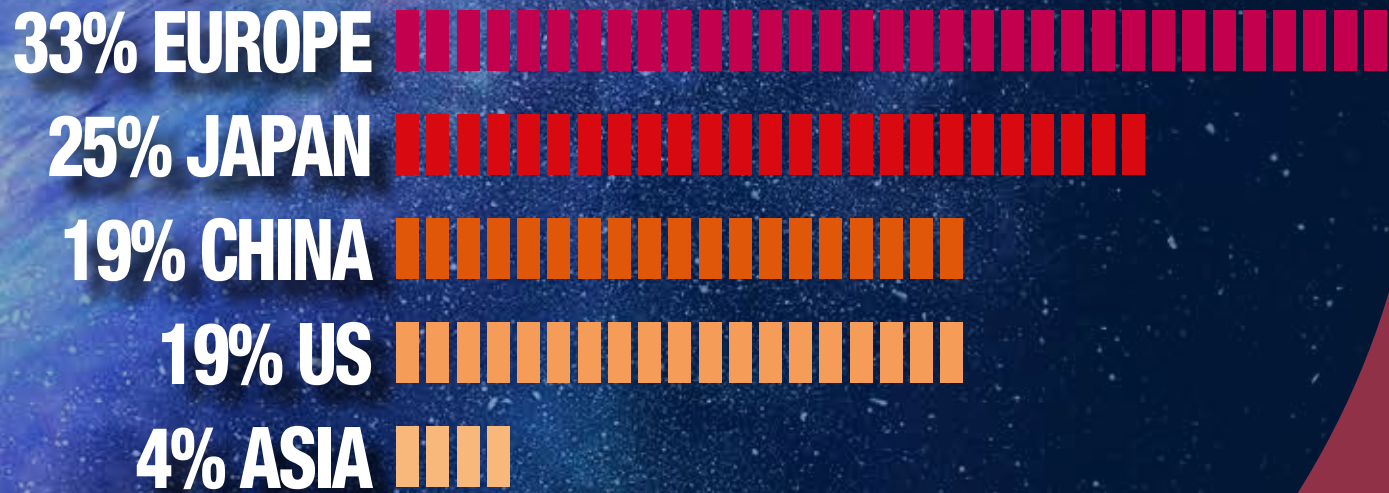
LINEAR BUSINESS

LINEAR

BLOWER



[BY PRODUCT - FY 2021]



[BY REGION - FY 2021]

TSUBAKI
NAKASHIMA

BUSINESS

OVERVIEW

APPLICATIONS

OUR PRODUCTS

**TSUBAKI
NAKASHIMA**

PRODUCTS UNIVERSE

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.

CULTURE ETHICS 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.

CORPORATE SOCIAL RESPONSIBILITY INTERNATIONAL STANDARDS

▶▶▶▶▶▶▶▶▶▶ VISION ZERO ◯◯▶▶▶▶▶▶▶▶▶▶
Safety. Health. Wellbeing.



United Nations
Global Compact



International
Labour
Organization



International
Organization for
Standardization

BUILDING THE
TRUST OF OUR
STAKEHOLDERS
GROWING AND THRIVING
WITHIN OUR **COMMUNITIES**
AND HELPING TO **CREATE**
A MORE SUSTAINABLE
WORLD

CULTURE ETHICS AND
VALUES

OUR MISSION



▶▶▶▶▶▶▶▶▶▶ **VISION ZERO** ○○○▶▶▶▶▶▶▶▶▶▶
Safety. Health. Wellbeing.

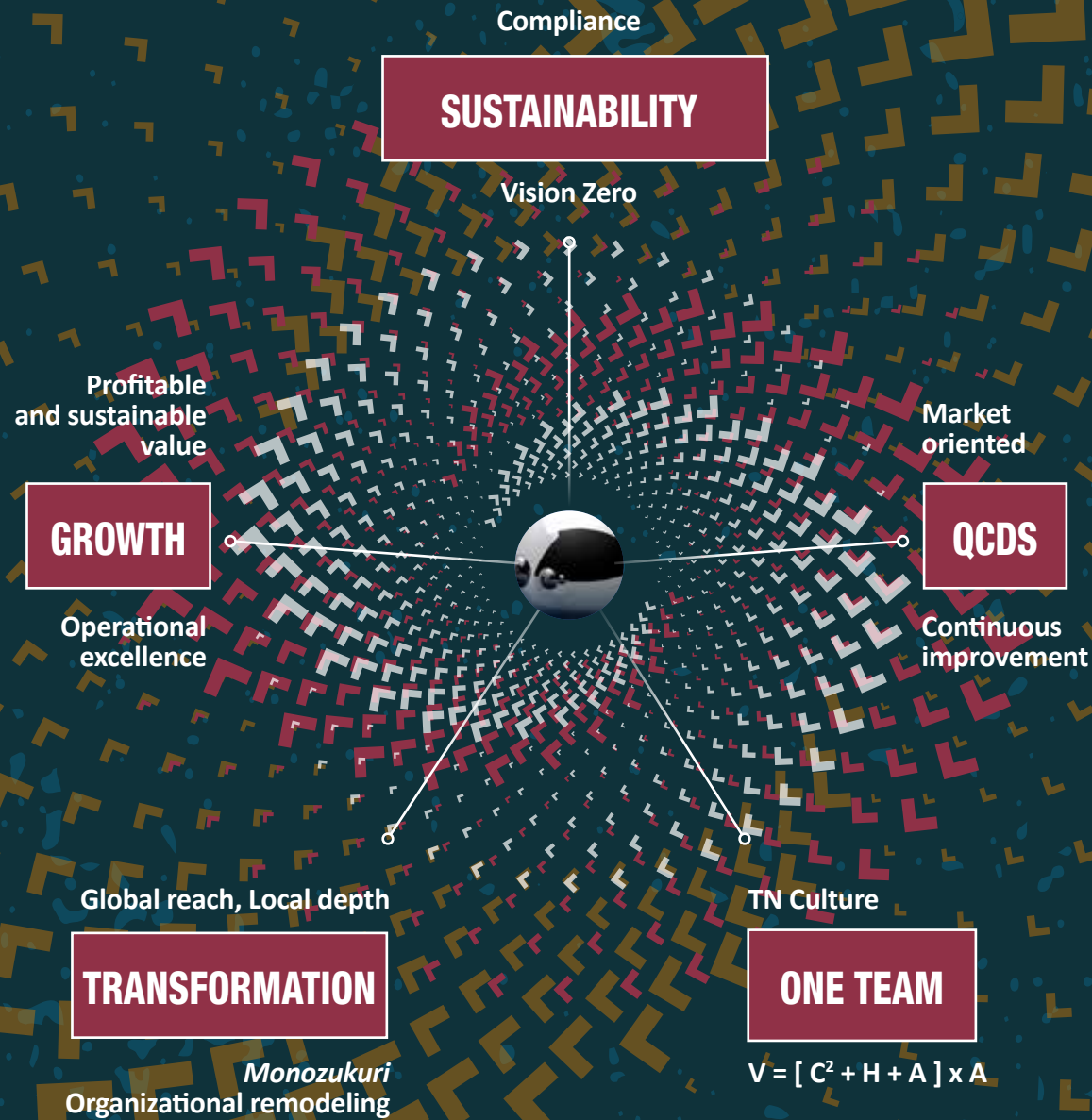
TSUBAKI NAKASHIMA WILL **CONTINUE TO IMPROVE** ITS OWN INTEGRATED CORPORATE GOVERNANCE SYSTEM, ORGANIZATION, PROCESSES, PRODUCTS, AND SERVICES **AIMING TO CONTINUE TO GROW** AS AN **ENVIRONMENTALLY RESPONSIBLE AND ETHICALLY AWARE BUSINESS**. THE COMPANY THEREFORE REAFFIRMS ITS COMMITMENT TO **TRANSPARENCY** AND **GOOD GOVERNANCE**, PARTICULARLY IN MATTERS OF SUSTAINABLE AND PROFITABLE GROWTH, ATTENTION TO OUR STAKEHOLDERS, AND THE COMPANY'S **VISION ZERO'S APPROACH** (ZERO ACCIDENTS, ZERO OCCUPATIONAL ILLNESSES, ZERO WASTES, ZERO INEQUALITIES, ZERO LACK OF KNOWLEDGE). TSUBAKI NAKASHIMA VISION IS TO **MAINTAIN AND IMPROVE ITS POSITION AS A LEADING MANUFACTURER** OF HIGH-QUALITY, HIGH-PRECISION COMPONENTS THROUGH **SUSTAINABLE, CONTROLLED AND PARTICIPATORY PROCESSES**, WITH A HIGH FOCUS TO THE **CUSTOMERS** AND ALL **STAKEHOLDERS NEEDS** AND TO GLOBALLY **PREVENT ALL NEGATIVE IMPLICATIONS**. THE IDENTIFICATION OF THE EXPECTATIONS OF THE STAKEHOLDERS, THE ANALYSIS OF THE REQUIREMENTS AND NEEDS, THE DEFINITION OF ATTAINABLE CHALLENGING AND MEASURABLE OBJECTIVES, THE DEFINITION OF CLEAR TIMEFRAMES AND RESOURCES MUST GUIDE THE COMPANY TOWARDS CONTINUOUS AND SUSTAINABLE IMPROVEMENT (**PEOPLE, PLANET AND PROSPERITY**), INTEGRATING THE SYSTEMS IN USE AND ALIGNING THE INTEGRATED CORPORATE GOVERNANCE SYSTEM WITH **INTERNATIONALLY RECOGNIZED STANDARDS** TO HELP ENSURE THAT TSUBAKI NAKASHIMA **SERVES THE ROLE THAT SOCIETY EXPECTS**. IN PARTICULAR, THE COMPANY IS COMMITTED TO PROVIDING **SAFE AND HEALTHY WORKING CONDITIONS**, RESPECTING THE **ENVIRONMENT**, AND RESPONSIBLY USING THE AVAILABLE **NATURAL RESOURCES**, IN FULL COMPLIANCE WITH THE STATUTORY, REGULATORY, ORGANIZATIONAL AND CUSTOMER REQUIREMENTS, ASSESSING RISKS TO THE PRODUCTS, SERVICES, ENVIRONMENT AND TO ITS **EMPLOYEES**, SETTING **TARGETS** AND MEASURING THE **PERFORMANCE**, AND ENCOURAGING THE **ACTIVE PARTICIPATION** OF **EMPLOYEES AND THEIR REPRESENTATIVES**.

CULTURE ETHICS AND VALUES

OUR POLICY



▶▶▶▶▶▶▶▶▶▶ VISION ZERO ◯◯▶▶▶▶▶▶▶▶▶▶
Safety.Health.Wellbeing.



We will **TRANSFORM** our Company on a **CONTINUOUS** basis to make the **BEST PRODUCTS** in the world, in a **SUSTAINABLE WAY**.

With our creativity we will **PROVIDE OUR CUSTOMERS WITH THE HIGHEST QCDS** (quality, cost, delivery, and service), drawing ideas from our Stakeholders.

We will create a teamwork-oriented culture - **ONE TEAM SPIRIT** - convinced that the **VALUE** of our people is the sum of their **COMPETENCES, HUMILITY AND ABILITY** to achieve results, with positive **ATTITUDE**.

We aim to become a **TRULY GLOBAL COMPANY** with an international mindset, deeply **TRANSFORMING** our organization to stay one step ahead of the curve.

We aim to be a Company that continues to achieve **SUSTAINABLE AND PROFITABLE GROWTH**.

MANAGEMENT PRINCIPLES

PROFIT SOCIAL ENVIRONMENT

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)



Tsubaki Nakashima has set

5 MATERIAL ITEMS

as a framework for its
sustainability activities

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.

MANAGEMENT PRINCIPLES

CORPORATE SOCIAL RESPONSABILITY THEMES	ESG	1 NO POVERTY	2 ZERO HUNGER	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION	5 GENDER EQUALITY	6 CLEAN WATER AND SANITATION	7 AFFORDABLE AND CLEAN ENERGY
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								✓
Contributing to the environment (procurement, products)				✓			✓	✓
Respect of human rights	SOCIAL				✓	✓		
Diversity					✓	✓		
Training and development, employees engagement				✓	✓			
Supply Chain				✓				
Product Quality and Development	GOVERNANCE							
Compliance								
Management Systems								

8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	10 REDUCED INEQUALITIES	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION	14 LIFE BELOW WATER	15 LIFE ON LAND	16 PEACE, JUSTICE AND STRONG INSTITUTIONS	17 PARTNERSHIPS FOR THE GOALS
✓	✓		✓	✓	✓		✓		✓
✓							✓		✓
✓	✓								✓
									✓
	✓								✓
			✓	✓	✓	✓	✓		✓
			✓	✓					✓
	✓		✓	✓	✓	✓	✓		✓
✓		✓							
✓		✓							
✓		✓		✓					
								✓	✓
	✓			✓				✓	
		✓						✓	
								✓	✓

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CORPORATE VALUES • SDG TICK NOTICES

SDG TICK NOTICES

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



QUALITY

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

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.

QUALITY POLICY



SMART

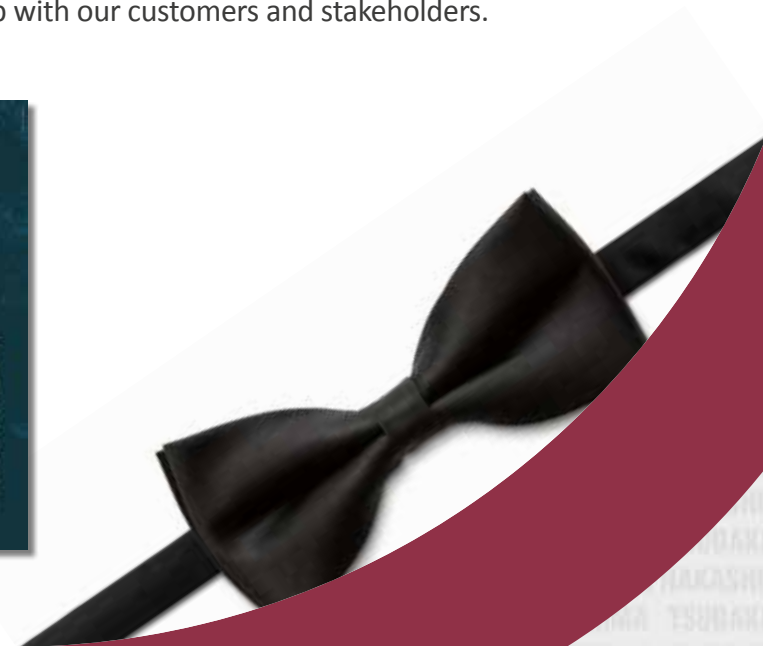
SPECIFIC Be specific in whatever we control, aiming to maintain and improve our leading position in the manufacturing of high quality and high precision components.

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

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

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

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.



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



ISO International Organization for Standardization



COMMON QMS



ZERO DEFECT APPROACH

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.

QUALITY CONTROL INITIATIVES

CUSTOMER COMPLAINTS

-34% ↓

COST OF NON QUALITY

-8% ↓

QUALITY WASTES

-4% ↓

DEFECTIVE PARTS PER BILLION

-19% ↓

**PLANTS CERTIFIED
ACCORDING
TO THE IATF
STANDARDS**

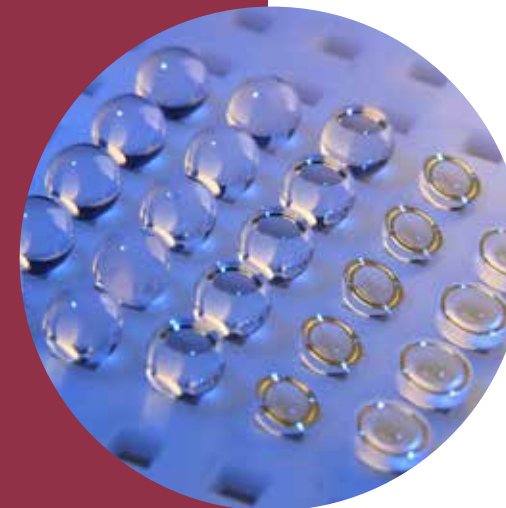
+25% ↑

MAIN QUALITY INDICATORS 2021 VARIATION

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.



GLOBAL QUALITY AND CENTRAL LAB ORGANIZATION



ANALYSIS
AND TESTINGS

EFFICIENCY
AND EFFICACY

MEDIUM TERM PLAN
PROJECTS

324
100%
9.872

Quantity
per year

Plan / Act

Hours



2021
Main
Laboratory
Indicators
[Japan + Italy units]

2021
2023



**TRANSFORM
NEXT** 2023

**MEDIUM
TERM** **PLAN**

QUALITY
COST
DELIVERY
SERVICE

TN'S
VALUE

TRANSFORM
NEXT²⁰²³

CREATION FRAMEWORK

MID-TERM STRATEGY

Accumulation of
**PRODUCTION
KNOW-HOW**
by In-house Equipment,
SYNERGY GENERATION
by Global One
Management Team

Strongest Global
Footprint for
**LOCAL
PROCUREMENT
and LOCAL SALES**

**HIGHEST QUALITY
and Widest
PRODUCT LINEUP**

**STABLE
PERFORMANCE
with Strong
CUSTOMER
RELATIONSHIP**

OUTSTANDING POSITION

IN A NICHE MARKET

**STABLE AND STRONG
CASH FLOW
GENERATION**

**ROBUST
SHAREHOLDER
POLICY**

2021
2023
MEDIUM
TERM **PLAN**

2021
2023
MID-TERM
STRATEGY
POLICY

TRANSFORM
NEXT²⁰²³

GROWTH STRATEGY

Expansion of
**CERAMIC
BUSINESS**
More focus on
**ELECTRICAL
VEHICLES**
and WIND ENERGY

EXPANSION
and global
development of
**MEDICAL DEVICE
BUSINESS**

EXPANSION
of strengthening in
ASIAN MARKETS

**GLOBAL
SUSTAINABILITY
SYSTEM**

**VISION ZERO
APPROACH**

**SUSTAINABILITY
PROJECTS**
in *Monozukuri*, through
**RESPONSIBLE USE
OF ENERGY,
SLUDGE RECYCLING,
IMPROVEMENT
OF MATERIAL YIELD,
and ERGONOMICS**

ENVIRONMENT SOCIAL & GOVERNANCE STRATEGY

VISION ZERO

APPROACH

ZERO ACCIDENTS
ZERO OCCUPATIONAL ILLNESSES
ZERO WASTES
ZERO INEQUALITIES
ZERO LACK OF KNOWLEDGE

GLOBAL
SUSTAINABILITY
SYSTEM
(based on ISO 14001,
ISO 45001,
ISO 50001)

TN
ACADEMY

TRAINING
PLANS

MONOZUKURI
PROJECTS

Energy Management
and Responsible use of resources
Sludge recycling
Improvement of material yield
Ergonomics

ONE TEAM
MANAGEMENT
SYSTEM

EMPLOYEES'
SATISFACTION

CORPORATE
GOVERNANCE

Further strengthening of governance
Promotion of compliance
Strengthen the Risk Management
Committee
Strengthen the operation
of the certified Whistleblowing
Compliance Management System
(WCMS)

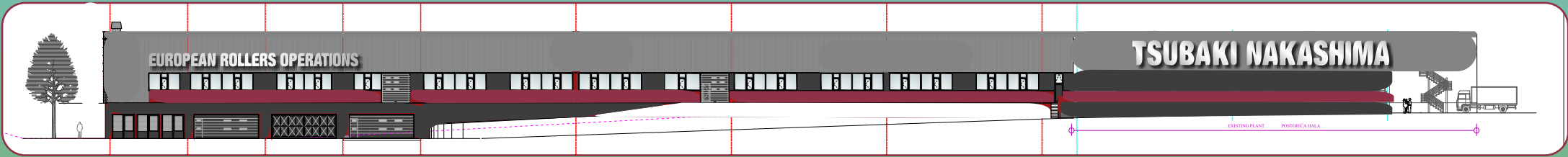
2021
MID
TERM
2023
TRANSFORM
NEXT
2023
STRATEGY

ENVIRONMENTAL SOCIAL

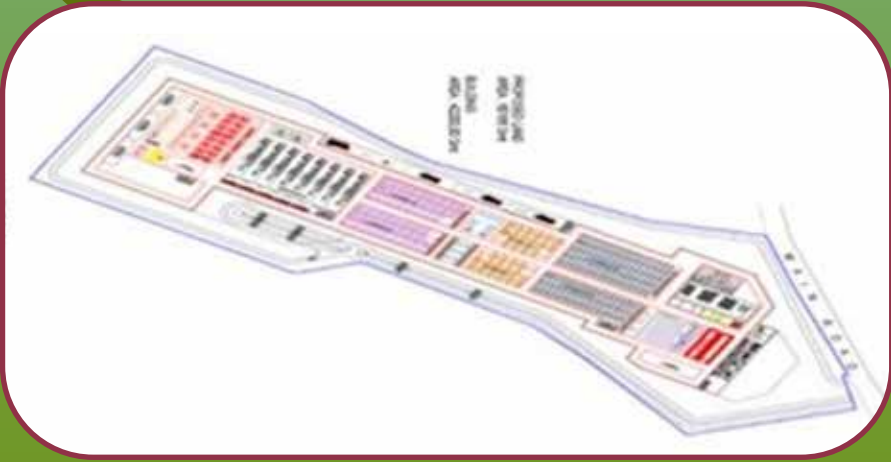
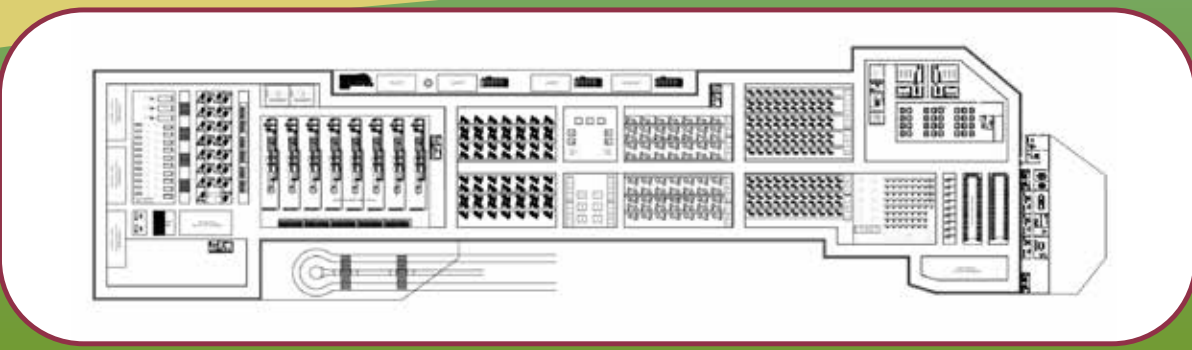
GOVERNANCE

Growing
NEW
plants

Konjic, Bosnia and Herzegovina



TSUBAKI NAKASHIMA



2021
2023
MEDIUM
TERM **PLAN**

Silvassa, India

HR

- Human Resource Training & Development
- Promoting Inclusion & Diversity

R&D

- Talent and knowledge acquisition
- Strengthen R&D Systems

EQUITY

- Net D/E Ratio Improvement



**BEST
IN CLASS**



**TECHNOLOGY
INNOVATION**

STEEL BALLS

High performance balls
Countermeasure of Scratch
Innovation of Spherical
configuration at press stage

CERAMIC BALLS

New Ceramic
materials/sourcing
Shorten grinding time

**BALL
MANUFACTURER**



**MONOZUKURI
INNOVATION**

Image Inspector (Ceramic/Steel)
Automatic Transfer
Auto Grinder
Automatic Packaging

**INCREASE
CASH GENERATION
CAPABILITY**

**PROFIT MARGIN
DEVELOPMENT**

IMPROVE STEEL BALL PROFITABILITY

US and China

REMODELING

Roller business
Linear business

**TRANSFORM
NEXT2023**



#Motus



Making of things: in Japanese, Monozukuri is a compound word comprising *mono* which means *thing* and *zukuri* which means *creation*. The concept embraces more than the literal meaning. It offers the idea of possessing the spirit to produce excellent products and the

ability to constantly improve a production system and process. The meaning is a synthesis of technological abilities, know-how and a sincere attitude towards production with pride, skill and dedication and the pursuit of innovation and perfection.

MONOZUKURI

4.0



TRANSFORM
NEXT 2023

is **the essence of Monozukuri**, as the Art and Science of Manufacturing. It is an approach to manufacturing based on the Lean Principles in the management of the factories, Lean Manufacturing, SMED systems, Total Productive Maintenance and Continuous Improvement, with the aim to standardize our operations around the world, control the use of the resources (Materials, Machines, Men), guaranteeing the best quality, best service, best delivery and cost control. And it is also People management, good work environment, and attitude. *Motus* is a Latin word which means movement, in the meaning of transition from one point to another, transformation, future orientation.

*MONOZUKURI approach and the art of the OBSERVATION, together with the #motus4.0 rules, will generate a **manufacturing DNA**, resilient for any challenges in the future markets, guarantee the continuous growth of our Company.*

COMPLIANCE

CORPORATE GOVERNANCE



HEALTH, SAFETY AT WORK,
ENVIRONMENTAL PROTECTION,
RESPONSIBLE USE OF NATURAL
RESOURCES (through the Global
Sustainability System)

ACCOUNTING ACCURACY

CONFIDENTIAL AND RELEVANT
INFORMATION

PROTECTION OF PERSONAL DATA

PERSONNEL POLICIES
AND LABOUR STANDARDS
(i.e. equal opportunities, inclusion
and diversity, freedom of association,
child labor)

SOCIAL POLICIES
(i.e., Goal and Gainsharing programs,
Awards)

RELATIONS WITH SUPPLIERS AND
INTERLOCUTORS OF THE COMPANY

RELATIONS WITH THE AUTHORITIES
AND COMMUNITIES

ORGANIZATIONAL MODEL
AND SUPERVISORY BODIES

REPORTING IN CASE OF VIOLATIONS
OF THE PROVISIONS OF THE CODE

TRANSPARENCY AND
COMPLETENESS OF INFORMATION

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.

To conduct business and grow on a global
scale, the Group is working to
strengthen its highly transparent
and objective **Integrated Corporate
Governance System**.

In addition, we have established
a **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; Management Committee, Sustainability Committee and 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.

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. 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.

CORPORATE GOVERNANCE



TN VISION ZERO

Our goal is **ZERO accidents** (zero incidents with employees, customers, investors, and communities, etc.) **ZERO harm to people** and **ZERO damage** to the environment. But also, **ZERO inequality** and **ZERO Lack Of Knowledge**, which means equal opportunities to grow, for everybody.

To deliver the **TN 5 ZERO's**, we carefully plan our operations and processes, with the aim to identifying potential hazards and eliminate or minimize managing risks at every stage, creating a sustainable future for our stakeholders.



APPROACH



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 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)

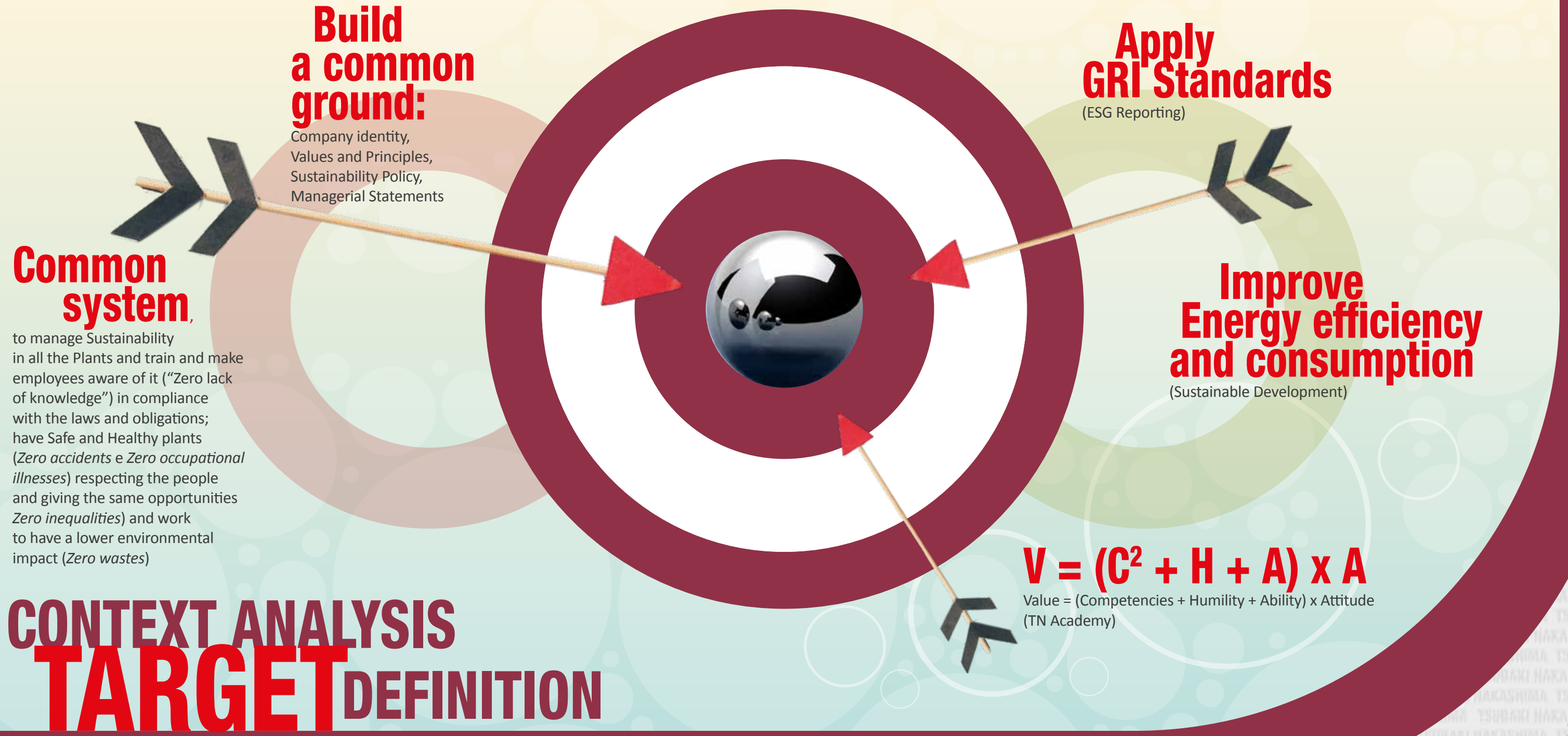
context, concretizing it in a SWOT analysis, a strategic planning tool used to evaluate the strengths (Strengths) the weaknesses (Weaknesses), the opportunities (Opportunities) and the threats (Threats) that characterize a company to facilitate decision-making processes and achieve business objectives,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

TSUBAKI NAKASHIMA CONTEXT ANALYSIS

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.

VISION ZERO
Safety. Health. Wellbeing.



S
O

INTERNAL ORIGIN

- High support from the CEO - Company is very oriented to compliance, respect of people and Sustainability
- **Process to standardize systems, materials, equipment, machines, manufacturing flow, etc.**
- Global Sustainability System and Minimum Technical Standards Road to full integration
- **Many of the plants have an ISO Certification**
In general, request for certification increasing

EXTERNAL ORIGIN

- Pressure from Stakeholders to be more sustainable
- **"Green" incentives (potentially)**
- Common EU Regulations (for EU Region)
- **Digitalization**
- ESG (GRI) as a new Standard to improve

SWOT

INTERNAL ORIGIN

- **Old plants and old machines, almost everywhere, increase the safety risks and use of energy, as well as the potential environmental impacts**
- Energy not always perceived as an opportunity – sensitivity increased
- **Cultural and Linguistic barriers**
- Best practices as opportunity to accelerate the growth in Company culture and actions

EXTERNAL ORIGIN

- **Lack of resources (including Professionals) in some geographical areas**
- Higher cost of energy and natural resources
- **Higher cost of waste disposal, like grinding sludge**
- Reduced mobility due to the Pandemic

W
T

CONTEXT ANALYSIS
SWOT ANALYSIS

OUR STAKEHOLDERS

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.

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

Engaging
Third Parties

Working
with Suppliers

Personal Relationships and Family Members

CONFLICTS of interest

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

SPECIFIC POLICIES



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

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.

PROTECT well being

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



CHILD labour

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:

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.



SPECIFIC POLICIES

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

Political
beliefs
or activity

Parental
Status

Marital
Status

Conflict
of interest

Physical
features

Religious
beliefs
or activity

Victimization

Gender

Impairment

Family
Responsibilities

Sexual
Orientation

Disability

Age

Ethnicity

Criminal
record

INCLUSION and diversity

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.

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 RISK management

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.

WORKING conditions BARGAINING



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 CFO - 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



RISK MANAGEMENT SYSTEM

The main goals considered for the **Risk Management Process and Committee (RMC)** are:

To provide to Management Committee **timely and transparent notice of significant issues**

To ensure **fair and well considered handling of Customer claims and/or other relevant internal issues**, minimizing potential impacts

To **grow the (risk) consciousness** of the entire Organization

The **Risk Management Process** is a tool to manage the high potential future risk in advance. In case the case happened already without alert and then the risk probability is 100% (because it has already) this process shall be used to analyze its connected impacts managing and minimizing the related future consequences. In case this case will have no connected consequences, it's a fact and TN management shall follow the regular business flow process to manage and to negotiate the specific outcome.



Main pillars of
Risk Management Process are:

The **Risk Management Process** approach is applicable to all potential issues connected to each aspect of the business (Operations, Quality, Purchasing, Sustainability, Tax, etc)
i.e. customer claims/alerts, warranty field returns, internal waste value, internal defect analysis, supplier quality performance, internal or external audit results, material shortage - cost supply issues, customer insolvency, environment analysis, etc.

To use the **IATF Quality System** to define procedures and rules to be applied (referring to international standards for Risk Management)

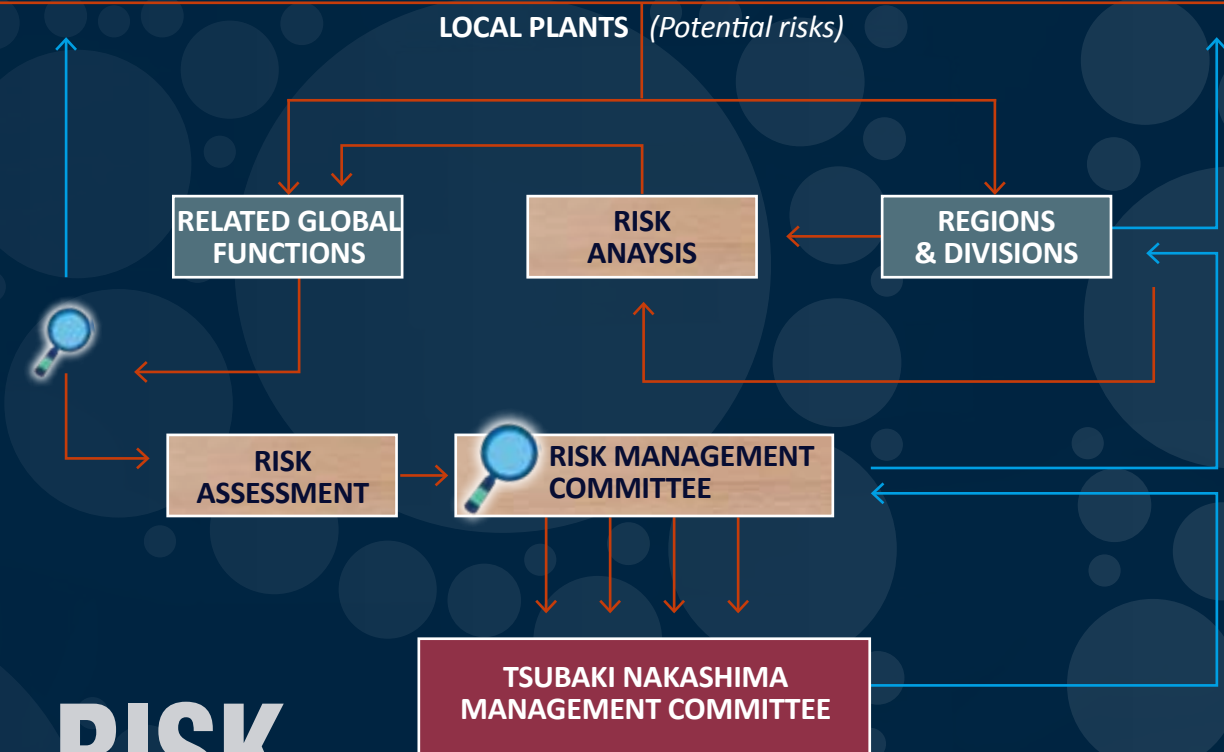
Risk Management process flow should **mirror TN Organization** with local, regional, global, *macro-region*, corporate levels

To apply **PDCA cycle** and **Risk Potential Severity**, defining the time frame to complete Risk Management Process.

To better define Global Functions' role in short - medium and long term, **raising Organization awareness** through specific training sessions (*i.e. during the next Global Meetings*) and daily support.

RISK MANAGEMENT SYSTEM

TSUBAKI NAKASHIMA



RISK MANAGEMENT PROCESS



OUR COMMITMENT TO PEOPLE

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**.

INCLUSION AND DIVERSITY

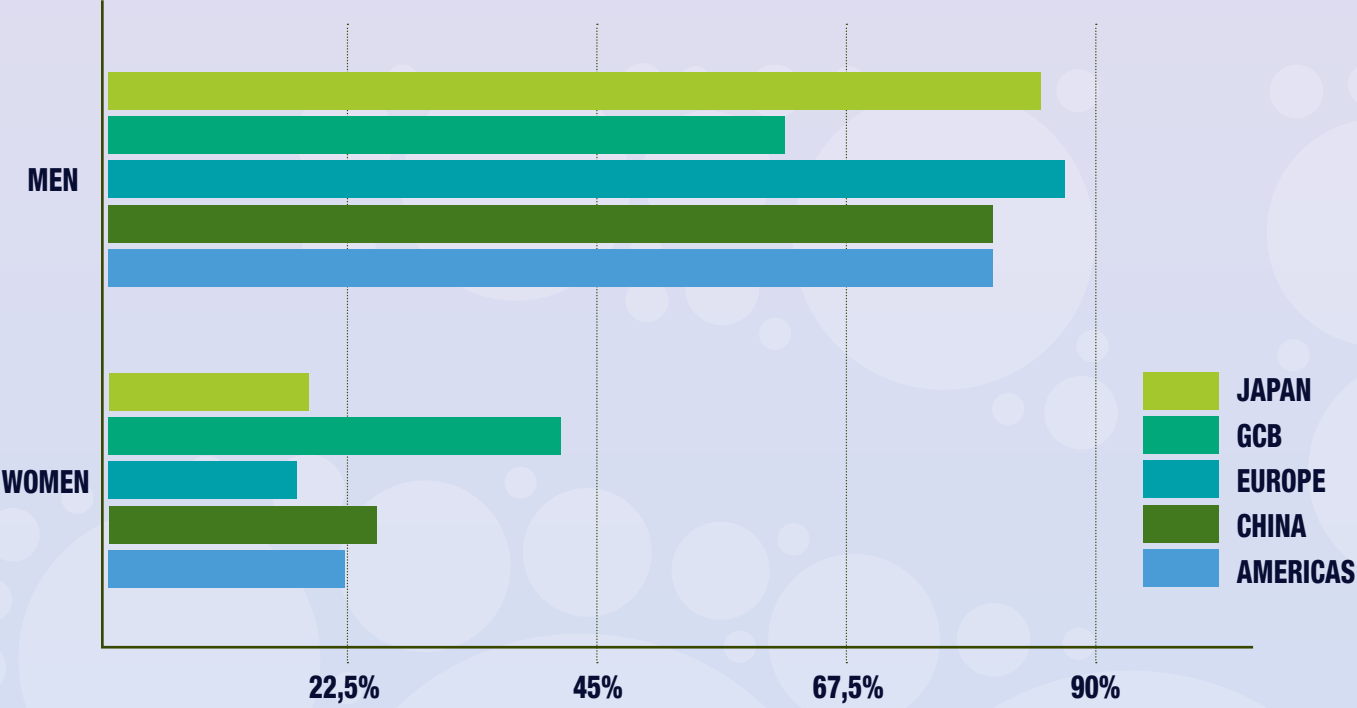
Respect for diversity is a cornerstone of Tsubaki Nakashima Management Philosophy, and our personnel policies reflect it. **Diversity** is the inclusion of individuals of different genders, national origins, religions, regions, educations, social statuses, and LGBT, regardless of whether these traits 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 United Kingdom, Bosnia, the Netherlands, China, Thailand, India, and Taiwan, and in each of these countries, local employees take the lead in conducting activities. We aim to utilize diverse values in our business and promote diversity by appointing suitable personnel to **Leadership Positions** regardless of nationality, promoting the activities of women, and employing people with disabilities. In our Group we have 31 different nationalities.

Diversity is key, always.



WORKFORCE COMPOSITION AND SERVICE PERIOD

Men still represent 74% of the entire population and women 26%; Tsubaki Nakashima is a manufacturing company, and we believe that the efforts made in Ergonomics allowed many women to join us, also in activities that were historically performed by male personnel.

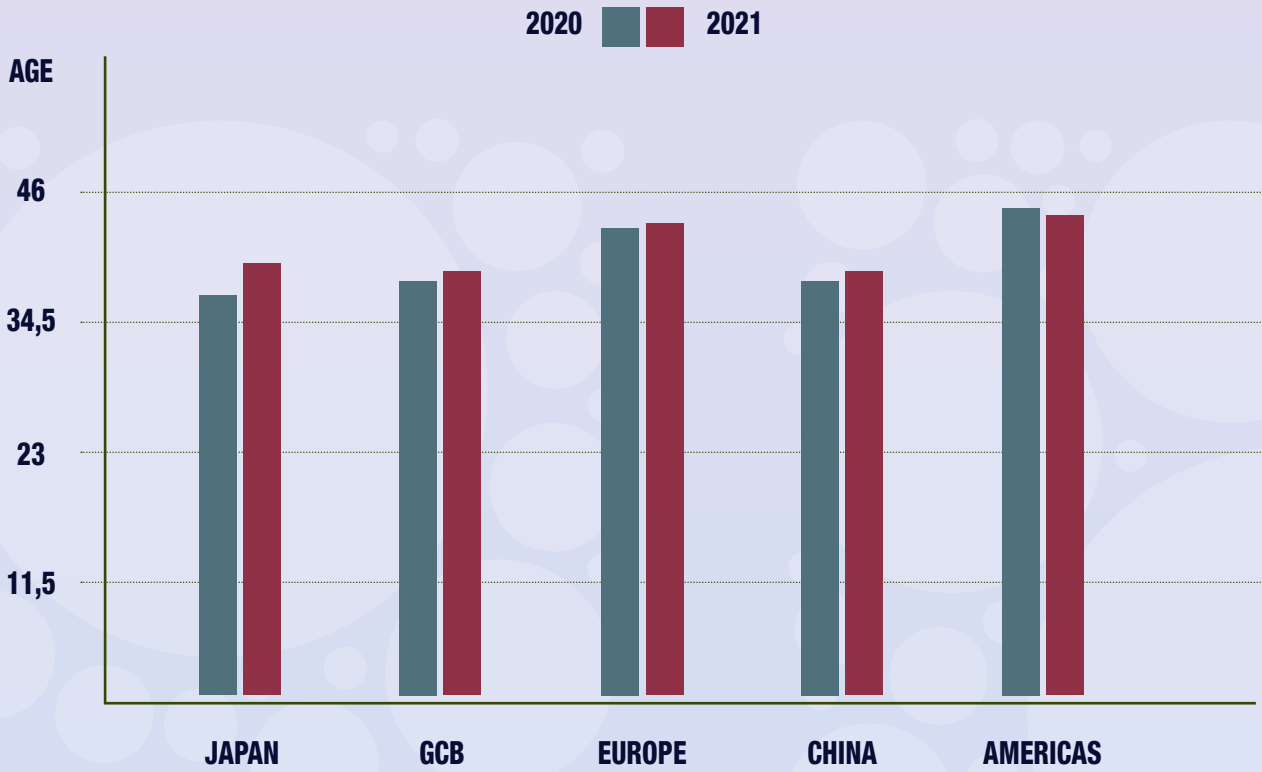


In most Plants, women play key managerial roles as managers, department heads, and supervisors; in Mountain City (Americas), Rayong (Thailand), Worthing (Europe), Kunshan (China) women in managerial positions are exceeding 40% of the total.

OUR COMMITMENT TO PEOPLE

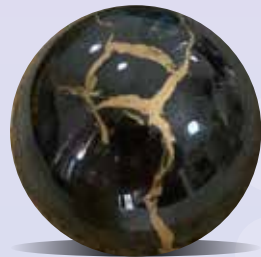
MEDIAN AGE BY REGION

The median age in our Plants guarantees experience, knowledge and commitment, everywhere



Length of seniority depends on the plant's age, but in general we can say that in most of our factories turnover is not an issue and, in general, it's not influencing too much the goals and targets set up. In Americas Region we observed a consistent increase of turnover due to the unfavorable (for the Company) Labour market.

GLOBAL MEETING



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.

PEOPLE DEVELOPMENT

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

OUR COMMITMENT TO PEOPLE

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. This is the reason why Tsubaki Nakashima decided to launch an ambitious 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.



$$V = (C^2 + h + A) \times A$$



100% OF OUR EMPLOYEES took part in training courses, during 2021, for an average of more than 40 hours per person, 60% of which were dedicated to Compliance, Health, Safety and Environment.

UNIVERSITY PARTNERSHIPS	2020	2021	VARIATION	
INTERSHIP STUDENTS	4	8	100%	↑
RESEARCH GRANTS	0	3	300%	↑
INDUSTRIAL PhD PROGRAM	1	1	0%	
UNIVERSITY PROGRAMS	5	12	140%	↑

LEADING BY EXAMPLE

Respect and Honest
Communication

Integrity

Courage

Customer Focus

Strategic Thinking

GROWTH

Value-Based
Decision Making

Cultural
Sensitivity

PEOPLE

People Management

Conflict Management

DELIVERY

Results Orientation

Driving Change

Influence

Vision, purpose
and relationships

INSPIRATION

Comfort around authority

OUR COMMITMENT TO PEOPLE

FROM MANAGEMENT PRINCIPLES TO MANAGEMENT COMPETENCIES

GLOBAL TALENT

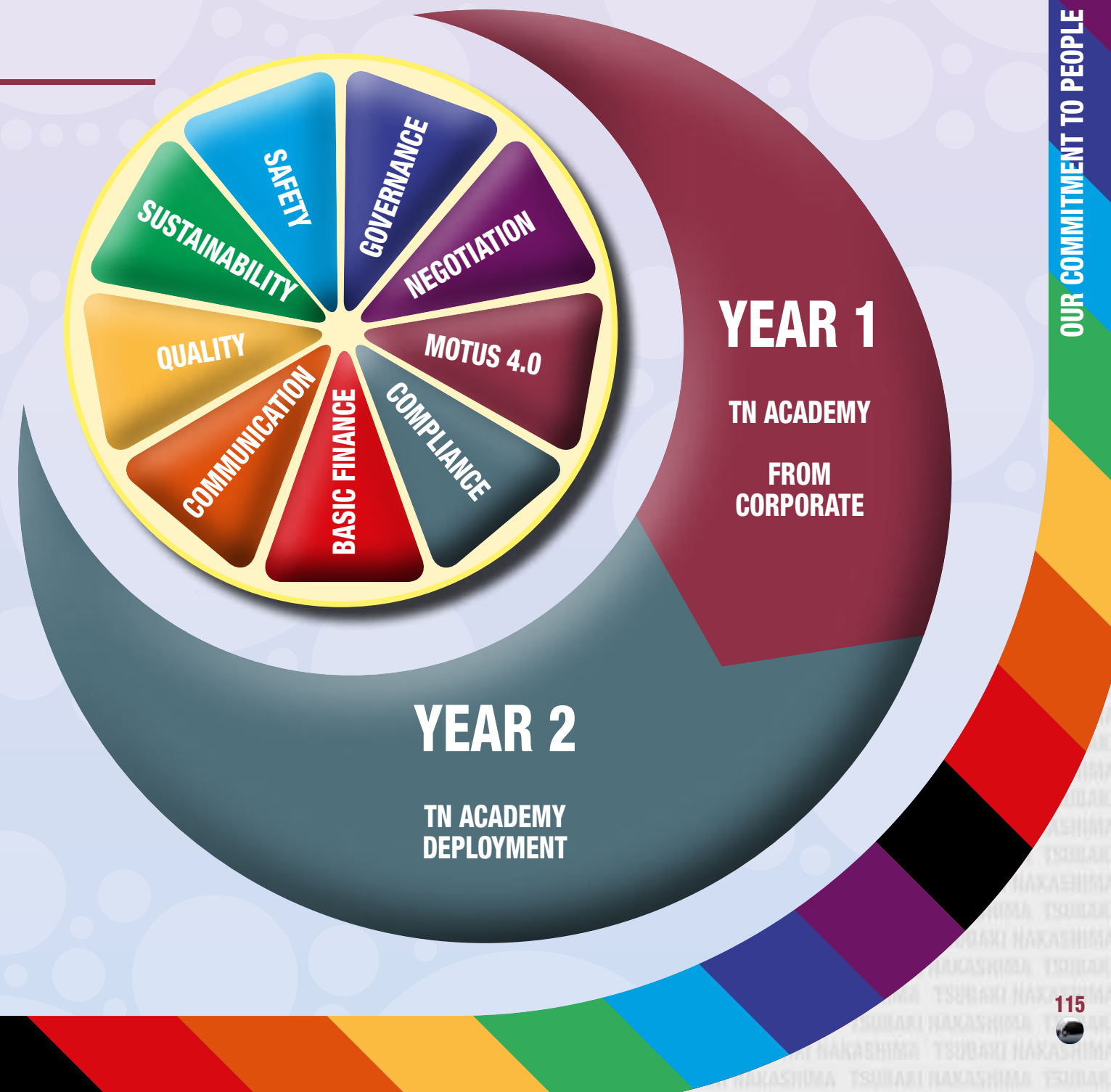
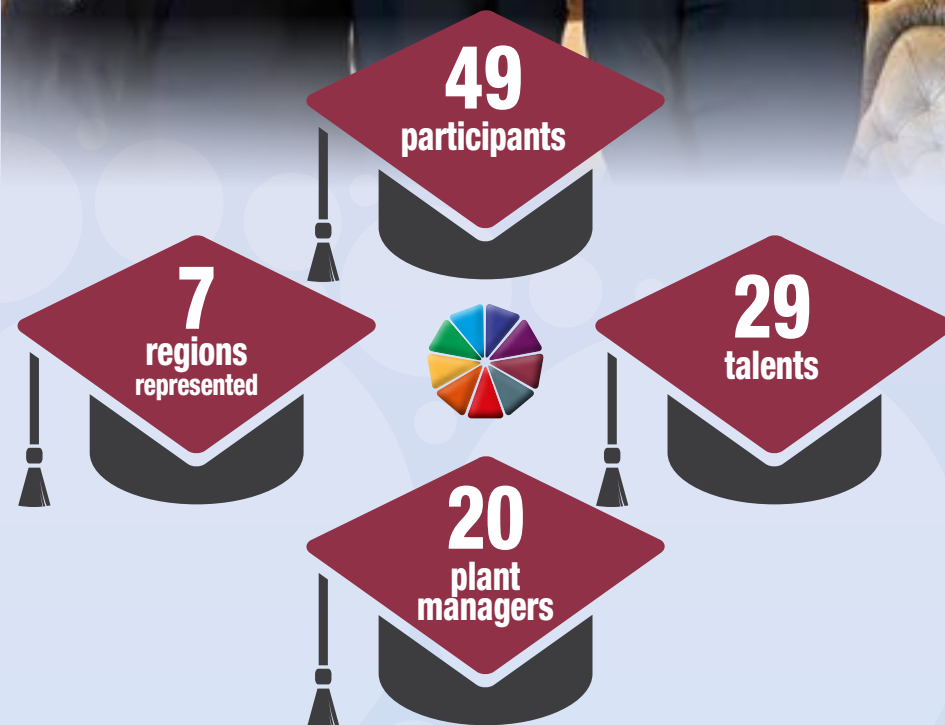
Tsubaki Nakashima has sites around the world to accurately identify and swiftly and flexibly meet the changing needs of customers at different times and in different regions. **The TN Group currently employs about 3,000 people.** A high-performing, diverse workforce is essential for achieving vertical 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** process is a program 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.



The TN Academy is the Tsubaki Nakashima Platform to ensure a common technical and managerial development. The TN Academy concept is based on identifying the Tsubaki Nakashima culture, rules and tools and practices to be used in each organization. It is aimed at a selected audience of participants who, in the following year, will have to disseminate within their respective organizations what they have learned - sort of Ambassadors - , using all the material already prepared and available. In this way, during the course of the MTP 2021-2023, the culture will be diffused and completely absorbed by all participants. In 2021 an important project of research and innovation of products and processes and of preparation for the insertion of new engineers went on, involving the University of Turin (Italy) and Dublin (Ireland).



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.

PURPOSES

- ▼ Leverage a **single tool** for identification of performance relative to assigned goals and relevant competencies for the prior year
- ▼ Everyone has goals that support **overall Goals**
- ▼ Create, maintain **aligned global** performance evaluation process
- ▼ Evaluate and develop **one set of competencies** across Tsubaki Nakashima
- ▼ **Simplicity**

SMART

PURPOSES OF THE GOALS AND OBJECTIVE PROCESS

- 🎯 Translate financial targets in individual and specific tasks
- 🎯 Address the issues we have in every organization (e.g.: Quality, Forecast accuracy, OEE, Productivity...)
- 🎯 Goals must be connected to the strategy (MTP) and BP
- 🎯 Goals must be the result of a discussion between employee and manager

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



1.



3.



4.



5.

1. Training initiatives [Bosnia]
2. Celebrating Dussehra Pooja [India]
3. Christmas with kids [Bosnia]
4. Experiences with schools [Japan]
5. Staff picture [India]
6. Staff picture [Poland]
7. Boot truck discounts [US]
8. Employee Satisfaction Survey

EMPLOYEE
SATISFACTION
SURVEY

8.

Boot Truck Onsite

Boot truck will be arriving on Thursday 9/23/21
6:30 AM to 3:30 PM

The Boot Truck will be open to one customer at a time. Masks will be required and they will be supplied if needed.

We Proudly Offer A 20% Discount For The Following:

- First Responder (per business type)
- Military (active/demer)
- COVID-19 Vaccine

HR will post a list of employees who have already used their \$100 allowance for shoes this year in the breakroom.

7.



6.



2.

TN INITIATIVES WITH PEOPLE FOR

EMPLOYEE SATISFACTION SURVEY



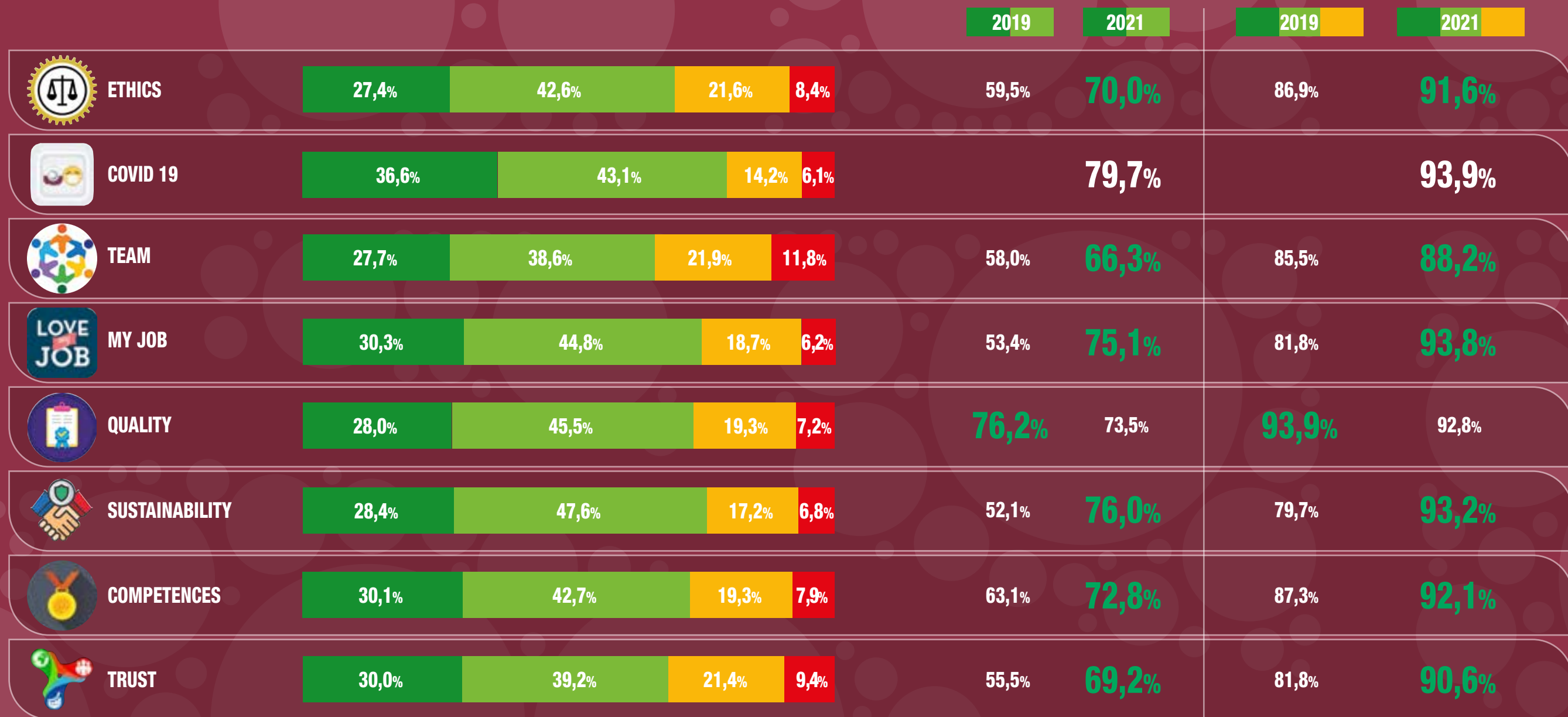
GOALS
& OBJECTIVES

EMPLOYEE
SATISFACTION
SURVEY

GO

PE

PERFORMANCE EVALUATION
AND ORGANIZATIONAL
CAPABILITY ASSESSMENT



EMPLOYEE SATISFACTION SURVEY

OUR COMMITMENT TO PEOPLE

27 QUESTIONS
8 CATEGORIES



TN AWARDS



BX BE EXCEPTIONAL AWARD

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.

BEST RUN PLANT

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

TN AWARDS BX AWARDS

BX AWARD WINNERS
IN KONJIC (BOSNIA)

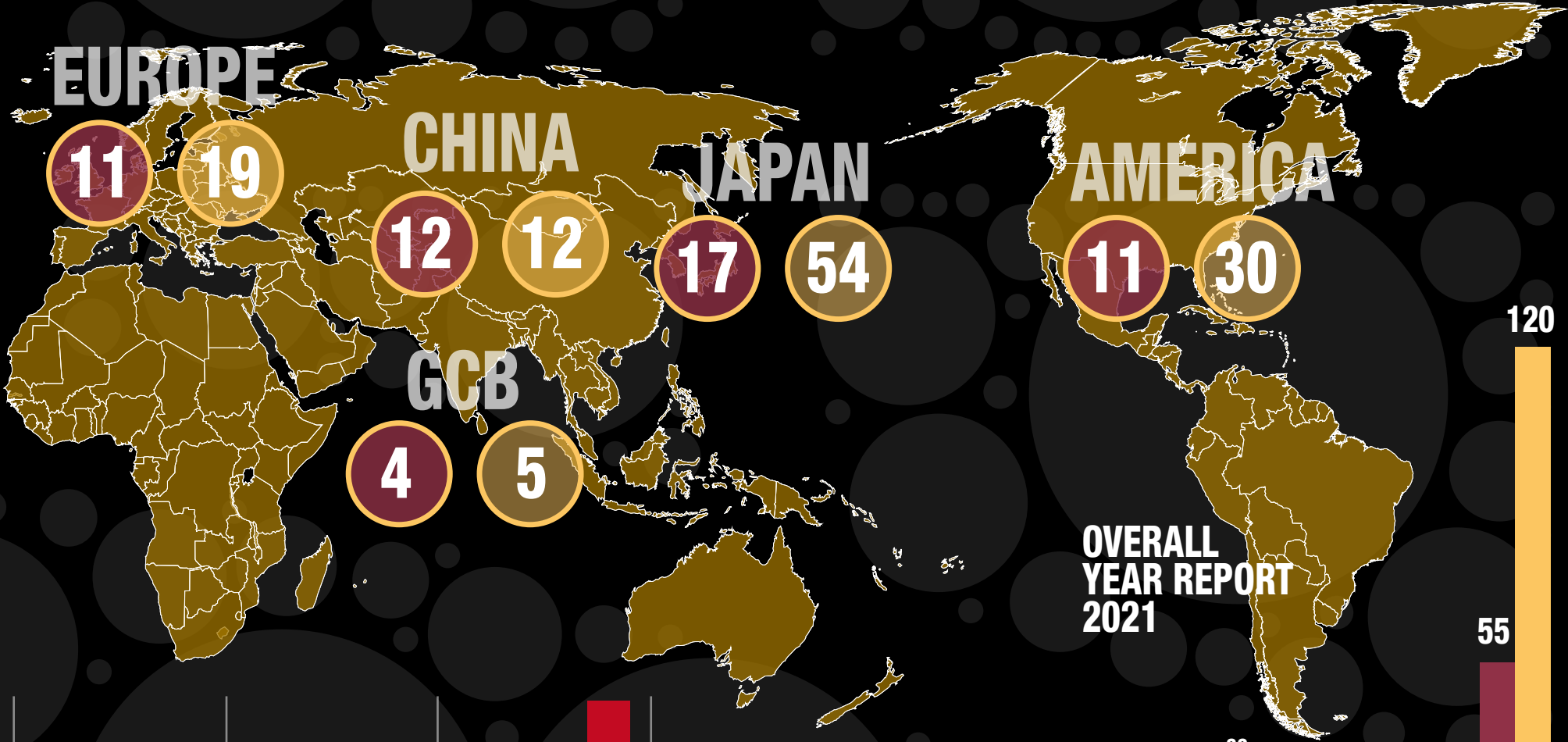


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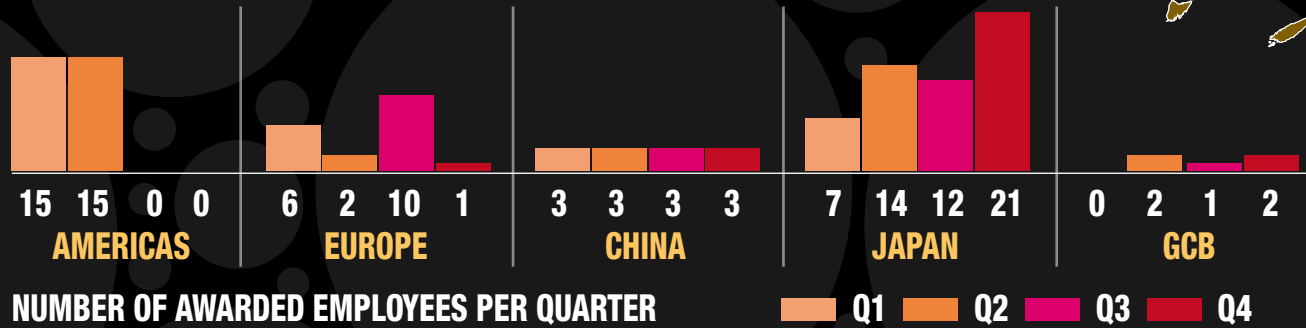
NUMBER
OF ADVANCED
NOMINATIONS
BY REGION

N

NUMBER
OF AWARDED
EMPLOYEES
BY REGION

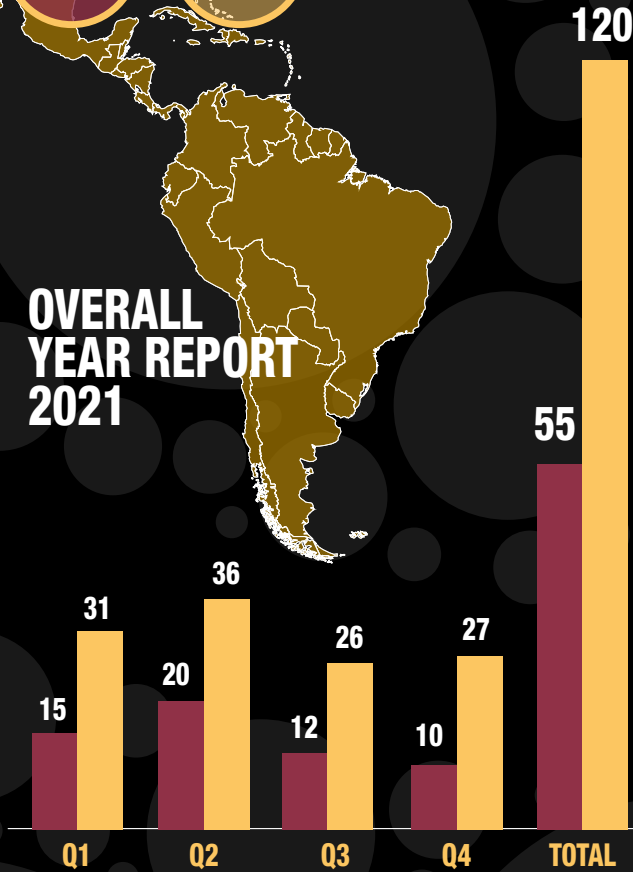


OVERALL
YEAR REPORT
2021



NUMBER OF AWARDED EMPLOYEES PER QUARTER

Q1 Q2 Q3 Q4



SOME INTERESTING FACTS

BIGGEST CONTRIBUTOR
JAPAN

THE MOST CONSISTENT
CHINA:
3 NOMINATIONS, 3 PLANTS,
3 EMPLOYEES EACH QUARTER

THE MOST AWARDED
EMPLOYEES IN 1 QUARTER
JAPAN

PARTICIPATED IN EACH QUARTER
EUROPE CHINA JAPAN

REGION WITH NO SUBMISSION
IN A QUARTER
AMERICA

NUMBER
OF ADVANCED
NOMINATIONS

NUMBER
OF AWARDED
EMPLOYEES

TN AWARDS BEST RUN PLANT

KATSURAGI

JAPAN

PEOPLE	Commitment	4
	Courage	3
	One Team's attitude	3
	TOTAL	3,3
PROFIT	% of BP achievement	4
	OP% 2021 > 2020	4
	Flex vs. OT	4
	TOTAL	4,0
PLANET	Continuous improvement	4
	Covid-19 containment	3
	Use of resources	3
	TOTAL	3,3
FINAL SCORE		10,7



TJB

TN AWARDS BEST RUN PLANT

KATSURAGI

JAPAN



TJB

- SUSTAINABLE DEVELOPMENT AND USE OF NATURAL RESOURCES
- RECYCLING OF SLUDGES "BRIQUETTING"

- REUSE OF WASTED WATER
- GREENER ADDITIVES IN COOLANTS

TN AWARDS BEST RUN PLANT

TAICANG

CHINA

PEOPLE	Commitment	4
	Courage	4
	One Team's attitude	4
	TOTAL	4,0
PROFIT	% of BP achievement	4
	OP% 2021 > 2020	3
	Flex vs. OT	4
	TOTAL	3,7
PLANET	Continuous improvement	4
	Covid-19 containment	4
	Use of resources	4
	TOTAL	4,0
FINAL SCORE		11,7

TCT



TN AWARDS BEST RUN PLANT

TAICANG

CHINA



TCT



TN AWARDS SPECIAL MENTION

CHONGQING

CHINA

TCC

PEOPLE	Commitment	4
	Courage	4
	One Team's attitude	4
	TOTAL	4,0
PROFIT	% of BP achievement	4
	OP% 2021 > 2020	4
	Flex vs. OT	4
	TOTAL	4,0
PLANET	Continuous improvement	3
	Covid-19 containment	4
	Use of resources	4
	TOTAL	3,7
FINAL SCORE		11,7



- TCC ACHIEVED A HIGHER PROFITABILITY STEP BY STEP
- TCC HAS ACHIEVED A SIGNIFICATIVE INCREASE IN PRODUCTION VOLUME AND PRODUCTIVITY

- TCC COMPLETED A HUGE QUALITY IMPROVEMENT IN EXTERNAL RETURN / COMPLAINTS AND INTERNAL REWORK

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.

OCCUPATIONAL SAFETY & HEALTH

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. 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**.

ESH & E ISO CERTIFICATIONS

13 PLANTS
HAVE



5 PLANTS
HAVE



3 PLANTS
HAVE



13 PLANTS
WITH ESH & E CERTIFICATIONS

21
CERTIFICATES



OCCUPATIONAL ACCIDENTS

REGION	ACCIDENTS REPORTED	OCCUPATIONAL DISEASES	FIRES
JAPAN	11	0	0
CHINA	7	0	0
GCB	0	0	0
EUROPE	21	0	3
AMERICAS	14	1	1

OCCUPATIONAL SAFETY & HEALTH



THE FREQUENCY AND SEVERITY OF OCCUPATIONAL ACCIDENTS IN MOST OF TSUBAKI NAKASHIMA'S PLANTS WERE **LOWER THAN THE NATIONAL AVERAGE** AND IN COMPARISON TO 2020.

**TRANSFORM
NEXT 2023**

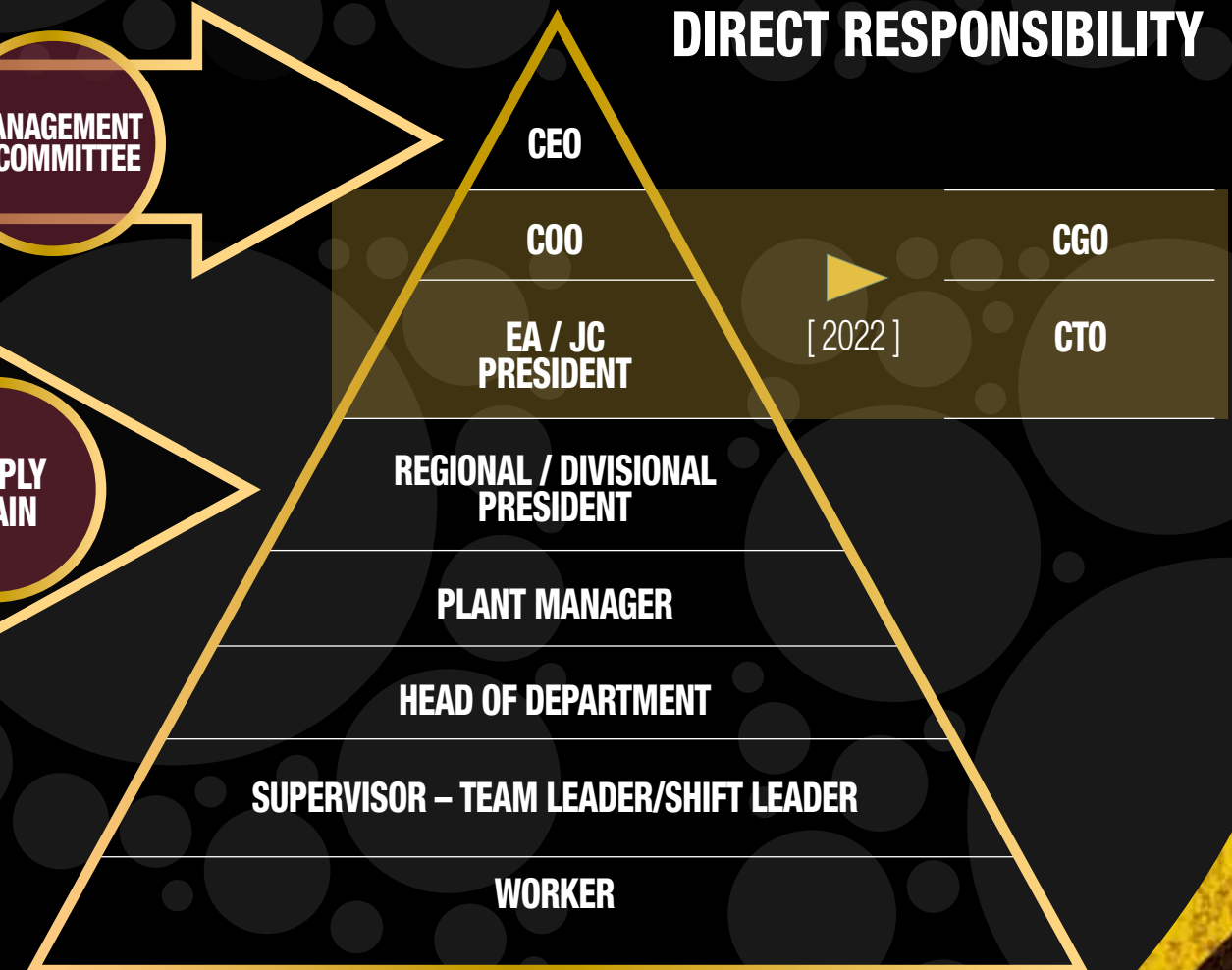
ACCOUNTABILITY PYRAMID

STAFF SUPPORT



MANAGEMENT
& COMMITTEE

DIRECT RESPONSIBILITY



[2022]

CGO
CTO

OCCUPATIONAL SAFETY & HEALTH

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

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**

**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**

 SECRETARÍA DE MEDIO AMBIENTE, URBANIZACIÓN Y CLIMA		GOVERNMENT OF THE CITY OF MEXICO SECRETARÍA DE MEDIO AMBIENTE, URBANIZACIÓN Y CLIMA		SECRETARÍA DE MEDIO AMBIENTE, URBANIZACIÓN Y CLIMA SECRETARÍA DE MEDIO AMBIENTE, URBANIZACIÓN Y CLIMA
SECRETARÍA DE MEDIO AMBIENTE, URBANIZACIÓN Y CLIMA		SECRETARÍA DE MEDIO AMBIENTE, URBANIZACIÓN Y CLIMA		SECRETARÍA DE MEDIO AMBIENTE, URBANIZACIÓN Y CLIMA

Purpose:
Every plant must establish a program to ensure that air emissions generated by its operations are controlled and are managed in accordance with applicable local, regional, state and federal environmental laws and regulations, and Mexican legislation to, use (PSE) digital sustainability platform tool policies.

Scope:
This policy applies to all its plants worldwide that generate air emissions.

Purpose and Objectives:
This policy supports PSE's goals to minimize air emissions, environmental pollution from its plant operations.

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 may contribute into the air. A written plan must be developed that include the following:

1. An inventory of all potentially hazardous emissions released to the atmosphere including their composition, health risk (mg, flammable, corrosive, generation risk, location, facility, location, point of release and associated processes and operations).
2. Verification that airtime releases are controlled as required by applicable laws and regulations or guidelines.
3. A strategy to reduce air emissions, especially those that are harmful to human health or the environment.
4. An identification of air emissions requiring permits, and procedures for obtaining such permits, keeping them current, and ensuring compliance with all permit conditions.
5. Procedures to prevent the inadvertent release of air emissions.
6. Procedures to which personnel are required opportunities to an accidental release to the atmosphere, including emergency shutdown, containment, evacuation and notification.
7. Procedures to monitor proposed sources of air emissions prior to their installation to ensure alternatives to be minimized and appropriate permits obtained. As part of this analysis, alternatives to allowing the emissions must be evaluated.

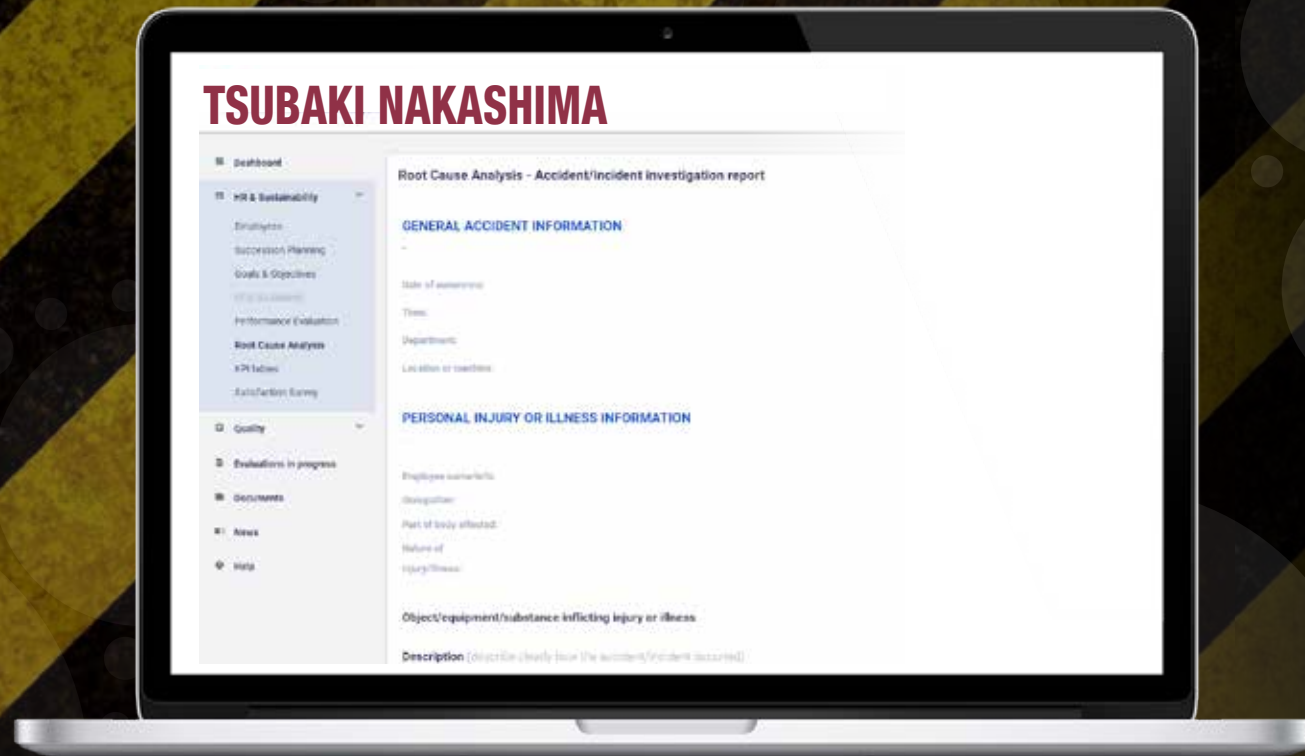
Accountability:
Plant Management is responsible for the implementation of this policy.

Document ID: PSE-001-2023-001

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	JURISDIKCIJAS KĀRTUMA KĀRTUMA KĀRTUMA			OT 00000
OT 00000-0-00-000000	OT 00000-0-00-000000	OT 00000-0-00-000000	OT 00000-0-00-000000	OT 00000-0-00-000000

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 EHS 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 2021 we implemented our Safety Engineering Manual, a detailed guidance on how machine guarding and electrical safety is to be set up and maintained to ensure employee protection.



SAFETY ERGONOMICS

During 2021 and as part of the TN Academy, a specific chapter was dedicated to Ergonomics. Even if the work activities carried out in our plants do not expose employees to significant risks to their musculoskeletal system, the identification of categories of hazards and risks, their measurement, and the subsequent re-design of workstations on a human scale are very important to prevent accidents and occupational diseases. The training course introduced Ergonomics as an applied science, anthropometry, the potential consequences on the worker's body, the different categories of risk (from repetitive movements, from incongruous posture, from handling loads, to pulling and pushing), and then analyzed which are the principles for a correct design of workplaces that reduce risks and increase productivity.

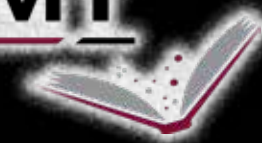
OCCUPATIONAL SAFETY & HEALTH

ERGONOMICS



TN

ACADEMY



1.



2.



1. / 2. Health Reward Program and Psychological Support [US]
3. Vaccines for Covid and Flu [US]
4. Participations to Tata Run [India]



3.

4.



TN INITIATIVES

SAFETY & HEALTH



5.



6.

5. Employee motivation program [India]
6. Fire safety training [India]

RESPONSE TO THE CORONAVIRUS PANDEMIC 2021

While the impact of the spread of coronavirus infection in 2020 caused an abrupt and significant slowdown in the global economy, 2021 on the other hand saw a recovery that made up for much of what had been lost in the previous year. Unfortunately, successive variants of the virus, in particular the one called Omicron, continued to mow down people, and also our employees; globally (and also in our case), the new variants have mainly spread to Europe and the United States.

The availability of vaccines and progressive vaccination campaigns, combined with staff awareness activities, the prevention and protection measures adopted and the great flexibility of our global production system, which is one of the Group's strengths, made it possible to meet the Customers' needs.

In total, as of December 31, 2021, nearly 1,600 employees had tested negative, while 464 had tested positive, showing symptoms that were not particularly significant or likely to lead to serious consequences. As of December 31, 448 employees were fully recovered and only 16 were still positive and therefore isolated at home. Most employees have been vaccinated, and progressively the number of infections is decreasing.

The Risk Management Committee(s) continued 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.

REGION	% OF VACCINATED
JAPAN	84,85%
CHINA	95,33%
GCB	82,5%
EUROPE	83,34%
AMERICAS	48%

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.



IN 2021 TSUBAKI NAKASHIMA TOOK PART TO MANY EVENTS SUCH AS IN ATLANTA, RUSSIA, SPAIN, COLOMBIA AND GERMANY. WE ARE MEMBERS OF GLOBAL VISION ZERO COUNCIL AND OF THE SAFETY GOVERNANCE FOUNDATION.

INTERNATIONAL EVENTS AND PARTICIPATION IN EXTERNAL INITIATIVES



TN ATMO SPHERE

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.

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.



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.

CHOOSE

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.

CREATE

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

OUR ENVIRONMENT

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

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



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 ALL OUR FACTORIES IN THE WORLD. 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.



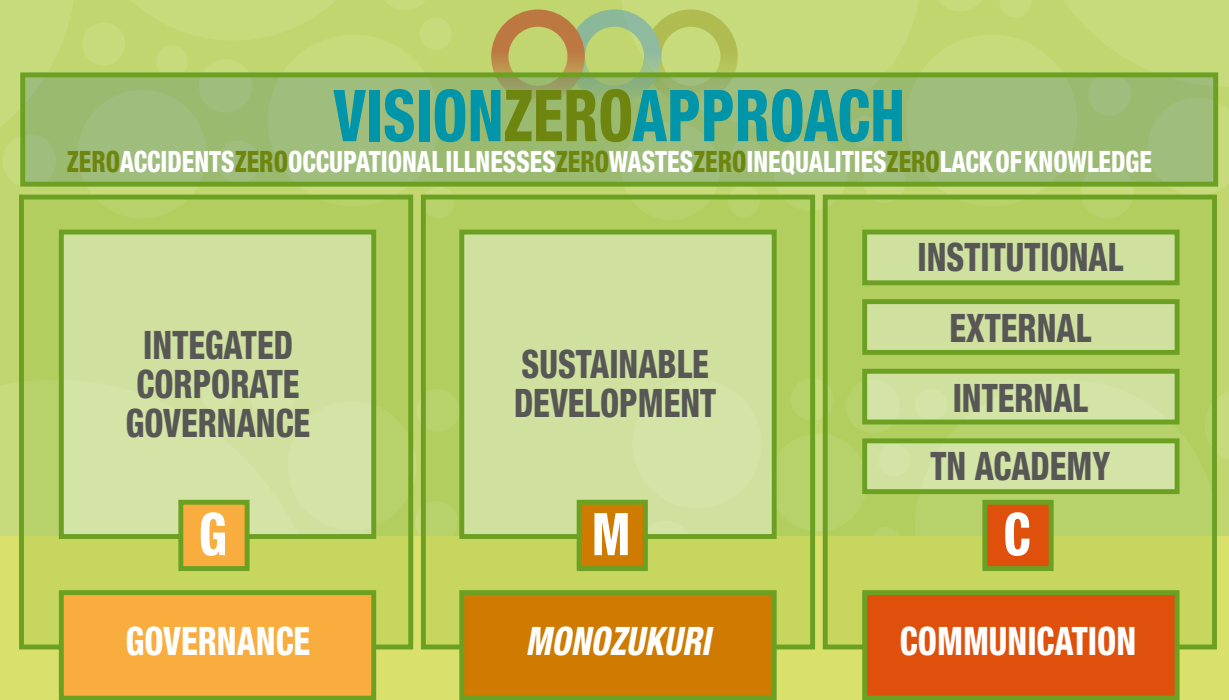
THE RECENTLY CREATED SUSTAINABILITY COMMITTEE

IS RESPONSIBLE FOR ASSISTING THE MANAGEMENT COMMITTEE BY FULFILLING A PREPARATORY, CONSULTATIVE AND ADVISORY ROLE IN ASSESSMENTS AND DECISION-MAKING PROCESSES WITH REGARD TO

ENVIRONMENTAL, SOCIAL AND GOVERNANCE

ISSUES, RELATED TO TSUBAKI NAKASHIMA BUSINESS AND ITS ENGAGEMENT WITH ALL STAKEHOLDERS, THE CORPORATE GOVERNANCE OF THE COMPANY, AND THE REVIEW OF SCENARIOS ENVISAGED IN THE PREPARATION OF THE MEDIUM TERM AND BUSINESS PLANS, BASED ALSO ON THE ANALYSIS OF SIGNIFICANT ISSUES FOR THE CREATION OF LONG-TERM VALUE.

SUSTAINABILITY COMMITTEE



SUSTAINABILITY DEVELOPMENT

ONE TEAM MANAGEMENT SYSTEM STRUCTURE

Documental Level	ONE TEAM MANAGEMENT SYSTEM			Type
1.0 Statement	ENVIRONMENT	SOCIAL	GOVERNANCE	Vision, Mission, Policy
1.1 Manual 2.0 Mandatory Procedures 2.1 Company Procedures	ENVIRONMENT ENERGY	HR HEALTH & SAFETY	FINANCE QUALITY ETHIC & COMPLIANCE	Manuals (scope & context) Procedures Guidelines Specifications Forms
Reference International Standard	ISO 14001 ISO 50001	ISO 9001 IATF 16949 ISO 45001	J-Sox ISO 9001 IATF 16949 ISO 9100 ISO 13485 ISO 37000 ISO 37301	

ONE TEAM

INTEGRATED CORPORATE GOVERNANCE

4 TIERS

T1 and T2 defined at Corporate Level

T3 and T4 integrated and/or defined at Regional and/or Local Level

T1

Vision, Mission, Policy, Managerial Statement, Manual(s)

T1 defines the One Team Governance System's structure, principles, guidelines, accountability and responsibility

T2

Corporate Policies

T2 defines Mandatory Procedures and Policies

T3

Instructions, Local Operative Procedures, Best Practices

T3 is defined at local level (Region, Plant), according to the local laws and T1 and T2

T4

Forms and Records

T4 provides forms, records and evidences (Corporate - Region - Plant)

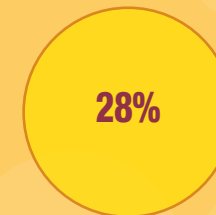
SUSTAINABILITY AUDITS 2021

Japan (4 plants)



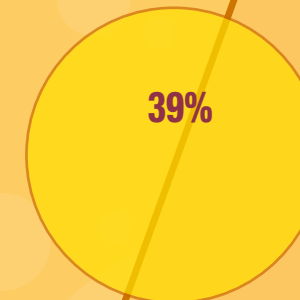
9%

Americas (4 plants)



28%

China (3 plants)



39%

Global Ceramic Business (2 plants)



5%

Europe (7 plants)



19%

NOVEMBER
2021

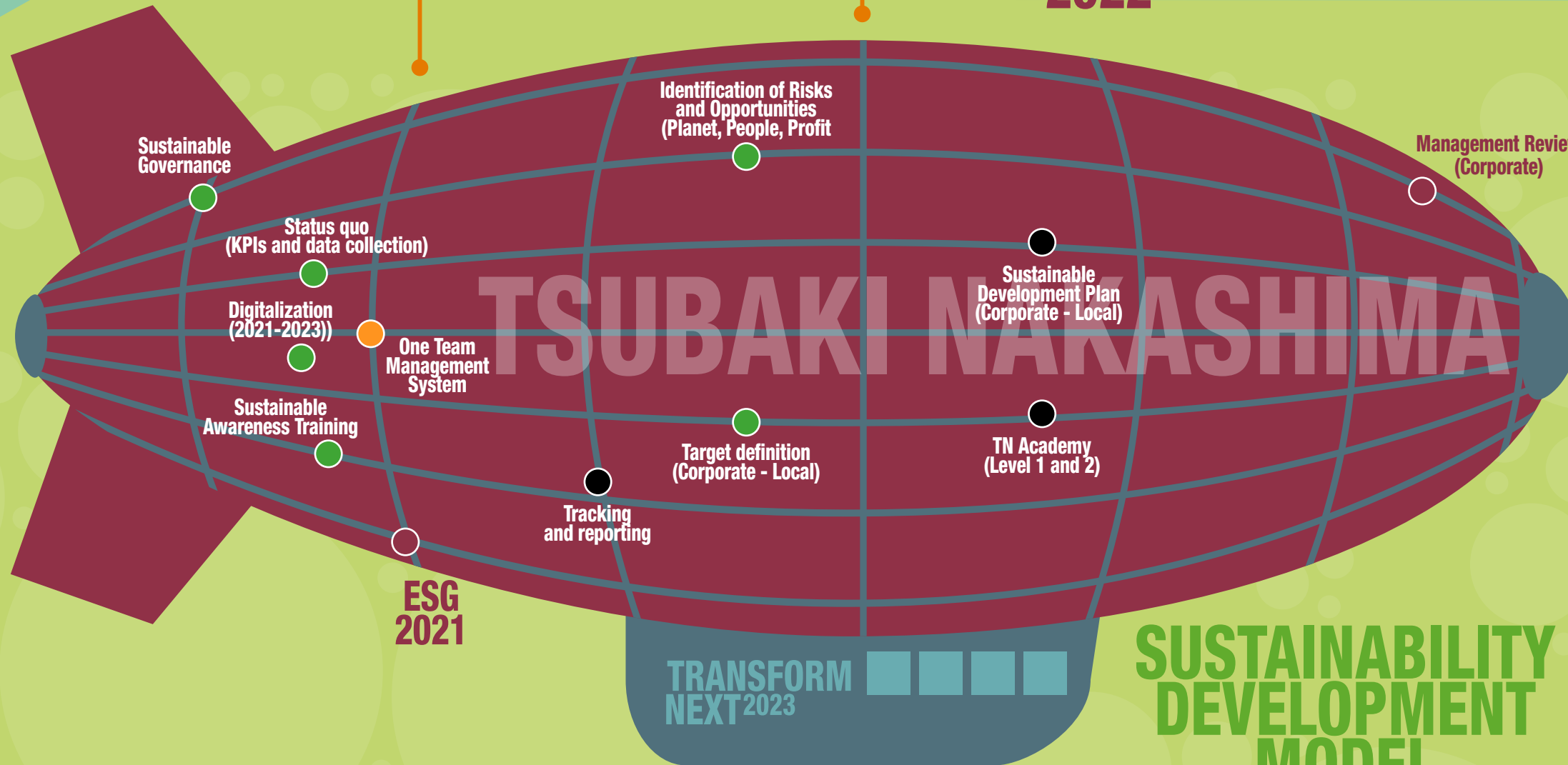
Quarter 4
2021

Quarter 1
2022

2022

PURPOSE

SUSTAINABILITY



SUSTAINABLE DEVELOPMENT

The **Paris Agreement** and the **AGENDA 2030** of the United Nations aim to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2°C above pre-industrial levels. As a result, several global goals have been set to fight climate change:

Global CO₂ emissions need to be reduced by 45% by 2030 from 2010 levels (last official data available)

Carbon neutrality by 2050: carbon neutrality is a state of net-zero CO₂ emissions. This can be achieved by balancing emissions of CO₂ with its removal.

ENVIRONMENTAL STATE OF ART

Carbon footprint
Water footprint
Other relevant environmental impacts
Setting environmental KPIs
Benchmarking between plants

ENVIRONMENTAL STATE OF ART

ENVIRONMENTAL TARGETS ACHIEVED

Analysis of energy and environmental efficiency measures already carried out
Calculation of savings/benefits obtained in terms of environmental impact
Re-calculation of KPIs

ENVIRONMENTAL TARGETS ACHIEVED

MONOZUKURI

ENVIRONMENTAL TARGETS TO BE ACHIEVED

Calculation of multi-year environmental sustainability targets
Calculation of GHG reduction goals with science-based targets
Drawing up the environmental sustainability plan between plants

ENVIRONMENTAL TARGETS

MEASURES FOR ENVIRONMENTAL SUSTAINABILITY

Analysis of the needed interventions aimed at reducing the carbon footprint
Analysis of the interventions aimed at reducing the water footprint

MEASURES FOR ENVIRONMENTAL SUSTAINABILITY



1

ENVIRONMENTAL DATA COLLECTION

2

DEFINITION OF THE ENVIRONMENTAL STATE OF ART OF THE GROUP

SUSTAINABILITY ROADMAP

3

DEFINITION AND CALCULATION OF SUSTAINABILITY KPIs

4

DEFINITION OF SUSTAINABILITY TARGETS AND GOALS

5

DESIGN THE SUSTAINABILITY PLAN
FOCUS ON 2022
AND ROAD TO 2030

WHAT IS IMPORTANT ENVIRONMENTAL

TO CONSIDER FOR SUSTAINABILITY

ENERGY



- Natural gas consumption
- Other fuel consumption
- Electrical energy consumption
- Percentage of renewable energy

MATERIALS



- Raw materials quantity
- Additives and chemicals quantity
- Packaging materials quantity

- Scope 1 CO₂
- Scope 2 CO₂
- Scope 3 CO₂



CO₂ EMISSIONS

- Quantity of hazardous waste
- Quantity of recycled waste



WASTE

- Volume of water used from the mains and well
- Volume of recovered rain water
- Volume of disposed water



WATER

TN SUSTAINABLE
ROADMAP



ENVIRONMENTAL

KPIS

ENERGY



- Specific energy consumption (kWh/ton)
- Percentage of renewable energy (% Green energy)

WASTE



- Hazardous waste (ton hazardous waste / ton)
- Sludge (ton sludge / ton)
- Percentage of recycled waste (% of recycled waste)

Carbon footprint (ton CO₂ / ton) ●
Scope 1 & Scope 2
total emissions (ton CO₂) ●



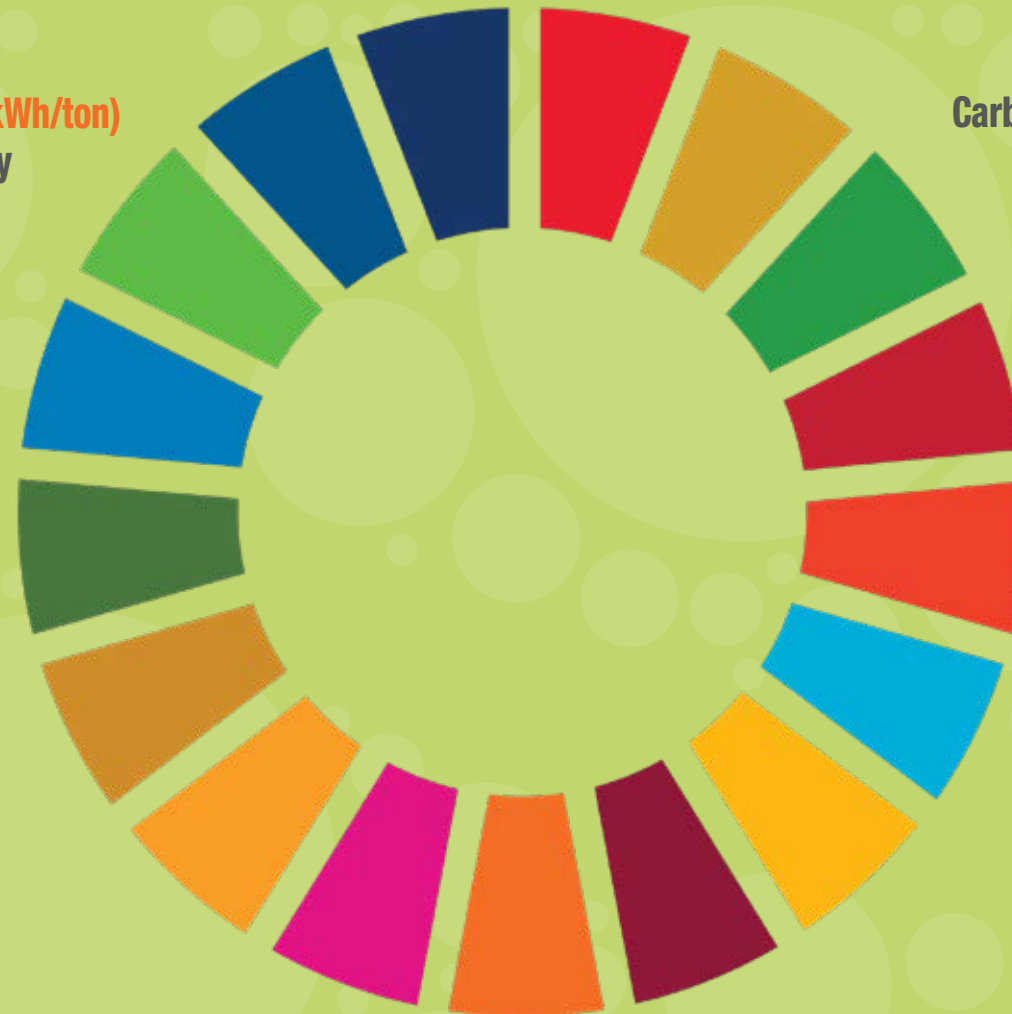
CO₂ EMISSIONS

Water footprint (m³ / ton) ●
Percentage of disposal water (% disposal water)



WATER

TN SUSTAINABLE
ROADMAP



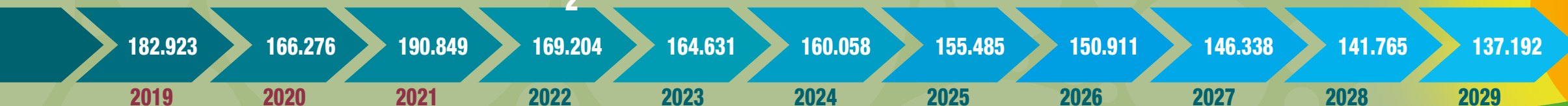
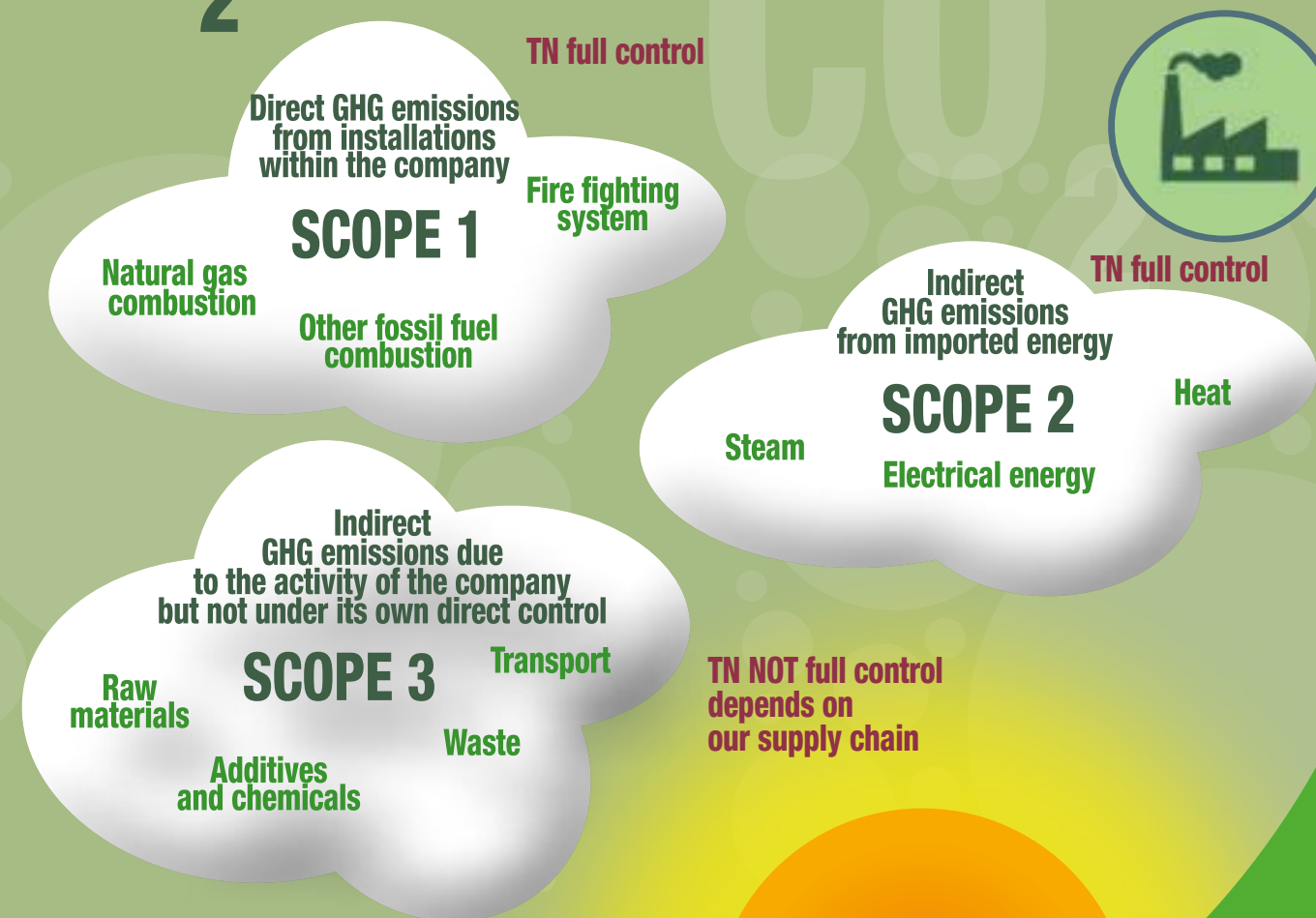
HOW WAS OUR TARGET BUILT?

TN CO₂ TARGET

The **Paris Agreement** is the first-ever universal, legally binding global climate change agreement, adopted at the Paris climate conference (COP21) in December 2015. Then it is the most important international agreement regarding climate change and environmental sustainability. The Paris Agreement sets out a global framework to avoid dangerous climate change by limiting global warming to well below 2°C and pursuing efforts to limit it to 1.5°C. **Paris Agreement Target: limiting global warming to well below 2°C above pre-industrial levels (1850-1900)** To meet this goal, global CO₂ emissions need to be reduced by 45% by 2030 from 2010 levels, and reach net-zero emissions by 2050, as states by the United Nations in the Sustainable Development Goal n.13 “Climate Action”. It is important to note that the goal of the Planet, set by the Paris Agreement, is related to the containment of the temperature increase below 2 degrees compared to pre-industrial levels. In order to pursue this goal, global CO₂ emissions will be reduced by 45% in 2030 compared to 2010. It is important to note that the first goal has as its reference years the period 1850-1900, while the second target has as its reference year 2010. In order to set a reliable environmental sustainability target TN has chosen the methodology proposed by Science Based Target which provides companies with a clearly-defined path to reduce emissions in line with the Paris Agreement goals. Targets are considered ‘science-based’ if they are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement – limiting global warming to well-below 2°C above pre-industrial levels and pursuing efforts to limit warming to 1.5°C. The target that TN has set itself using the Science Based methodology is therefore in line with that of the Paris Agreement and is therefore also in line with UN goal 13 (to reduce CO₂ emissions by 45% in 2030 compared to 2010). **Why does TN only need to reduce its emissions by 27.5% if the UN goal says 45%? Because TN has chosen 2019 as its base year and not 2010**, the base year chosen for UN target 13. By entering into the calculation tool proposed by Science Based Target the Scope 1 and Scope 2 CO₂ emissions of 2019 (TN’s base year) and TN’s productions and choosing 2030 as the target year, the tool calculated that to be in compliance with the Paris Agreement TN must reduce its emissions by 27.5%.

OUR TARGET: -27.5% Tons CO₂ BY 2030 COMPARED TO 2019

CO₂ EMISSIONS FOCUS

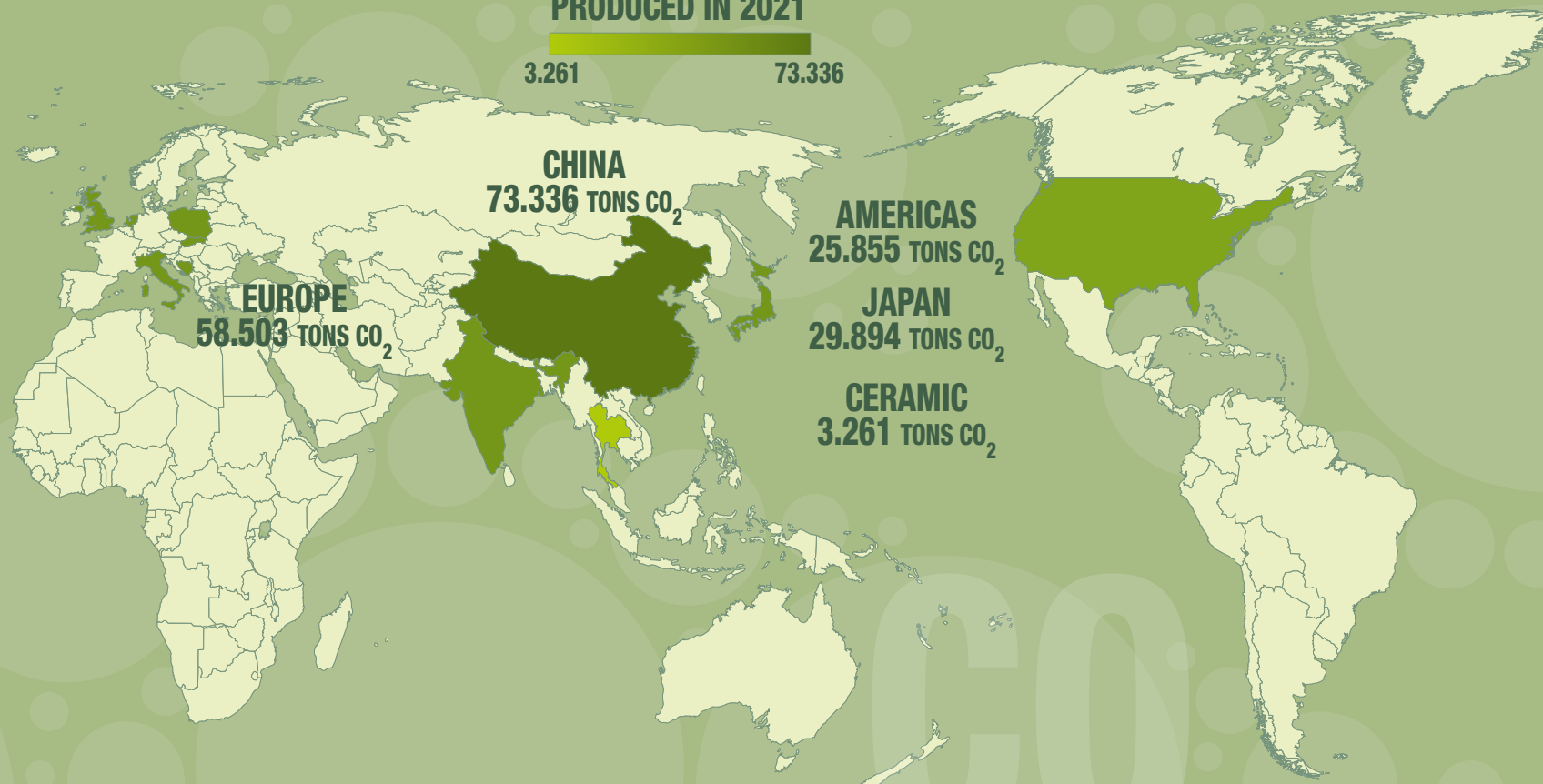




CO₂ EMISSIONS

TOTAL QUANTITY OF CO₂ TONS (SCOPE 1 AND SCOPE 2)
PRODUCED IN 2021

3.261 73.336



TSUBAKI NAKASHIMA
190.849 TONS CO₂

QUANTITY OF CO₂ TONS (SCOPE 1 AND SCOPE 2)
PRODUCED PER TON OF PRODUCT

CARBON FOOTPRINT (TON CO₂ / TON)

	2021	TARGET 2022
JAPAN	2,3	2,0
EUROPE	1,4	1,3
CERAMIC	35,9*	31,8
CHINA	2,3	2,0
AMERICAS	1,9	1,7
TN TSUBAKI NAKASHIMA	1,9	1,7

*the KPI concerning the ceramic region for 2021 has been adjusted with respect to what was shown in the preliminary report "ESG_Report_2021_Digest". This is due to a correction of the input data inserted for the calculation of the carbon footprint (production data at the denominator different).



CO₂ EMISSIONS

**TN SUSTAINABLE
ROADMAP**

CO₂ EMISSIONS OF SCOPE 1 AND SCOPE 2

comes from the energy
consumption:

Scope 1 emissions
are about Fossil fuels
combustion and
Scope 2 emissions
about electricity
consumption.

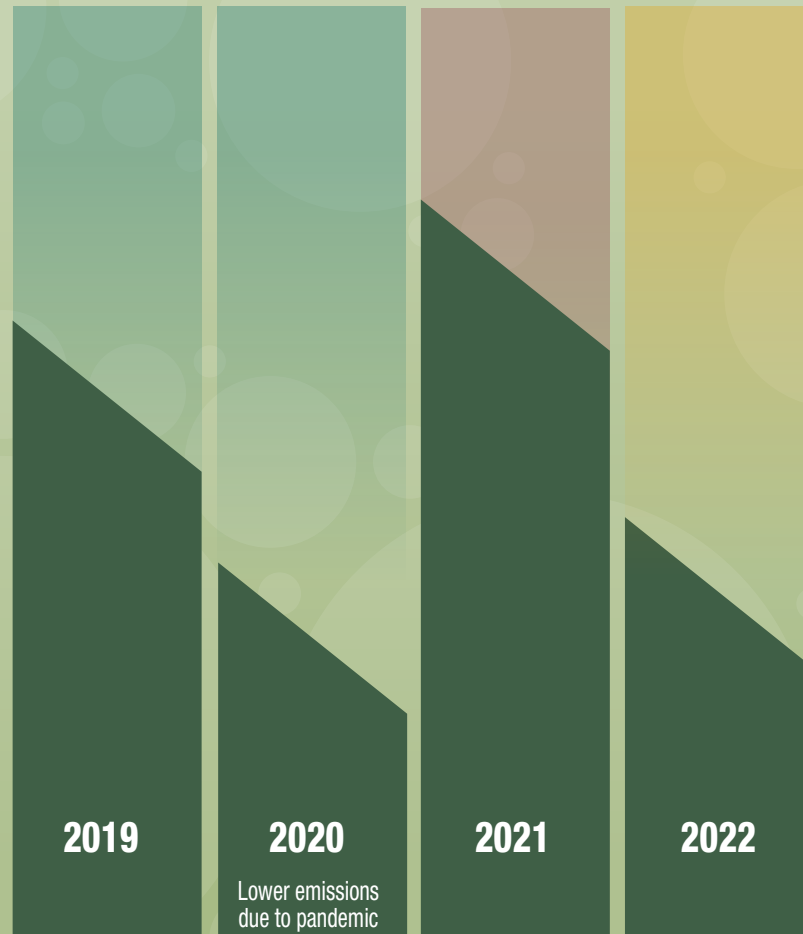
In 2020 a drop in CO₂
emissions is observed
which is due to the
pandemic from Covid
and therefore
less production.

**TN IS COMMITTED
TO REDUCING
ITS EMISSIONS IN 2022
FROM 190.849 TONS CO₂
TO 169.204 TONS CO₂.**

Effective action plans
and project, continuous
control and monitoring
of CO₂ emissions data
will also avoid the
green washing effect.

CO₂ TOTAL EMISSIONS - SCOPE 1 AND SCOPE 2 - IN TONS

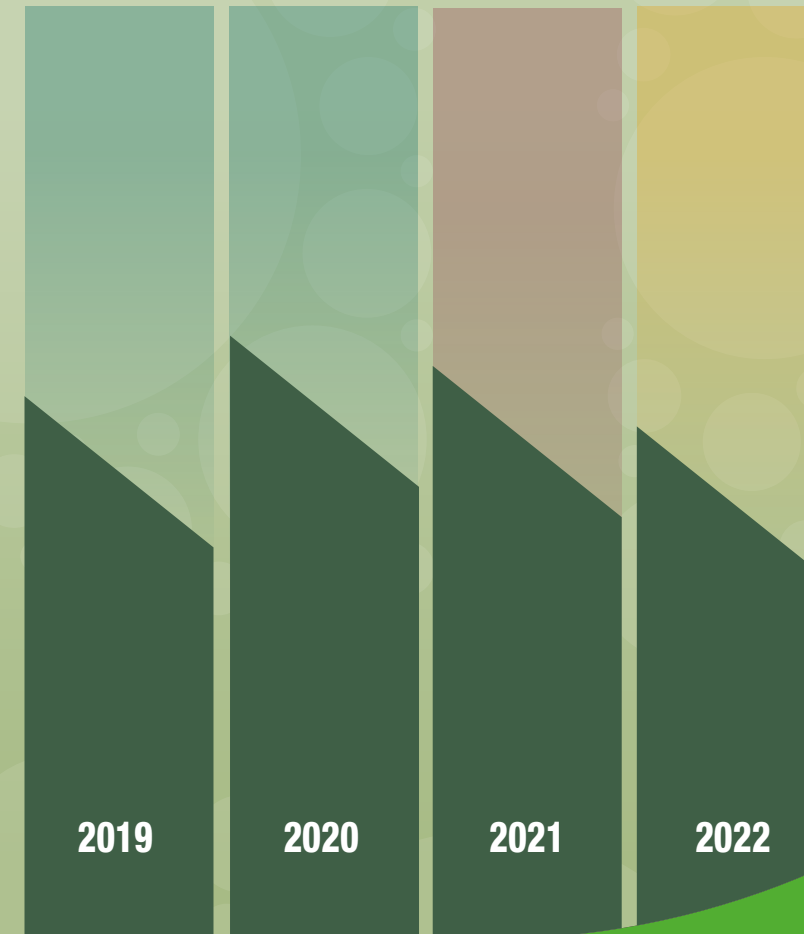
182.923 166.276 190.849 169.204



Lower emissions
due to pandemic

CARBON FOOTPRINT (SCOPE 1 & SCOPE 2) TONS CO₂ / TON PRODUCT

1,8 2,0 1,9 1,7



In addition to the target
on total CO₂ emissions, a
**CARBON FOOTPRINT
TARGET** has also
been set, which must
therefore reflect the
reduction in CO₂.

This parameter is
an indicator of the
“environmental”
efficiency of the
company (amount
of CO₂ emitted to
produce one ton of
product), and it's
able to represent
the **SUSTAINABLE
GROWTH**
of a company.



HOW TO REACH 2022

CO₂ REDUCTION GOAL

**SOLAR
ENERGY**

**RELAMPING
WITH LED
LIGHTS**

**HEAT
TREATMENT
MAINTENANCE AND
OPTIMIZATION**

**ENGINE
POWER
REDUCTION**

**COMPRESSOR
MAINTENANCE
AND
OPTIMIZATION**

**IoT (INTERNET
OF THINGS)
DEVICE SENSOR
AND AUTOMATIC
CONTROLS**

**PREDICTIVE
MAINTENANCE**

**35/342
MONOZUKURI
PROJECTS**

included in BP2022
(10,2% of the projects
are related to sustainability)
will generate

9.250 TON CO₂ REDUCTION

**HEAT
TREATMENT
insulation**

**FLASHING
electric
motors optimization**

**GRINDING
pressure and
electric motors
optimization**

**LAPPING
time cycle
optimization**

**HEADING
production
optimization**

31%

26%

19%

14%

10%

ENERGY BALANCE

**2030
TARGET**

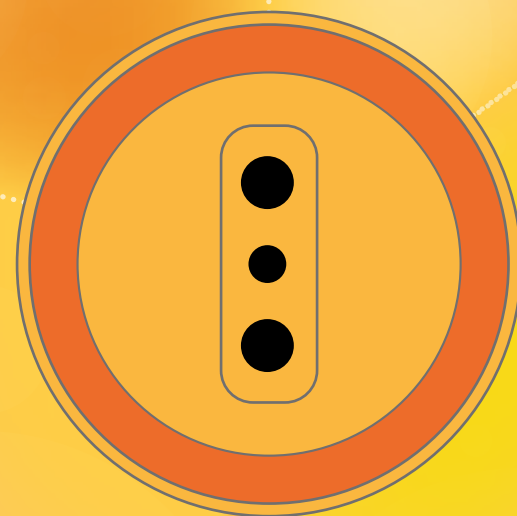


ENERGY

ENERGY CONSUMPTION BREAKDOWN 2021

AMERICAS
21%

JAPAN
15%



CHINA
26%

EUROPE
37%

CERAMIC
2%

% OF GREEN ENERGY = 26%
TSUBAKI NAKASHIMA 276.309 MWh

QUANTITY OF ENERGY CONSUMED PER TON OF PRODUCT

ENERGY INTENSITY (MWh / TON PRODUCT)

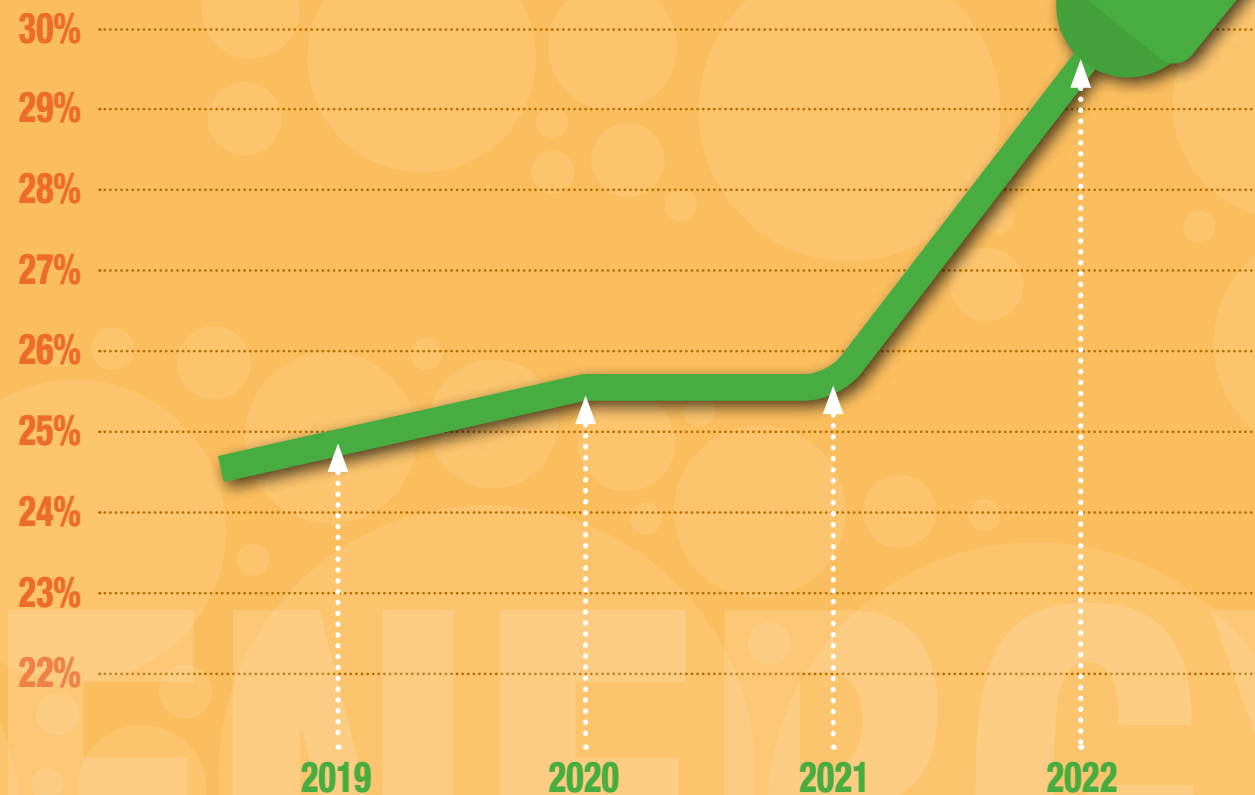
	2021	TARGET 2022
 JAPAN	3,1	2,7
 EUROPE	2,5	2,4
 CERAMIC	49,5*	44,0
 CHINA	2,2	2,0
 AMERICAS	4,0	3,1
TN TSUBAKI NAKASHIMA	2,7	2,4

*the KPI concerning the ceramic region for 2021 has been adjusted with respect to what was shown in the preliminary report "ESG_Report_2021_Digest". This is due to a correction of the input data inserted for the calculation of the carbon footprint (production data at the denominator different).



ENERGY

GREEN ENERGY



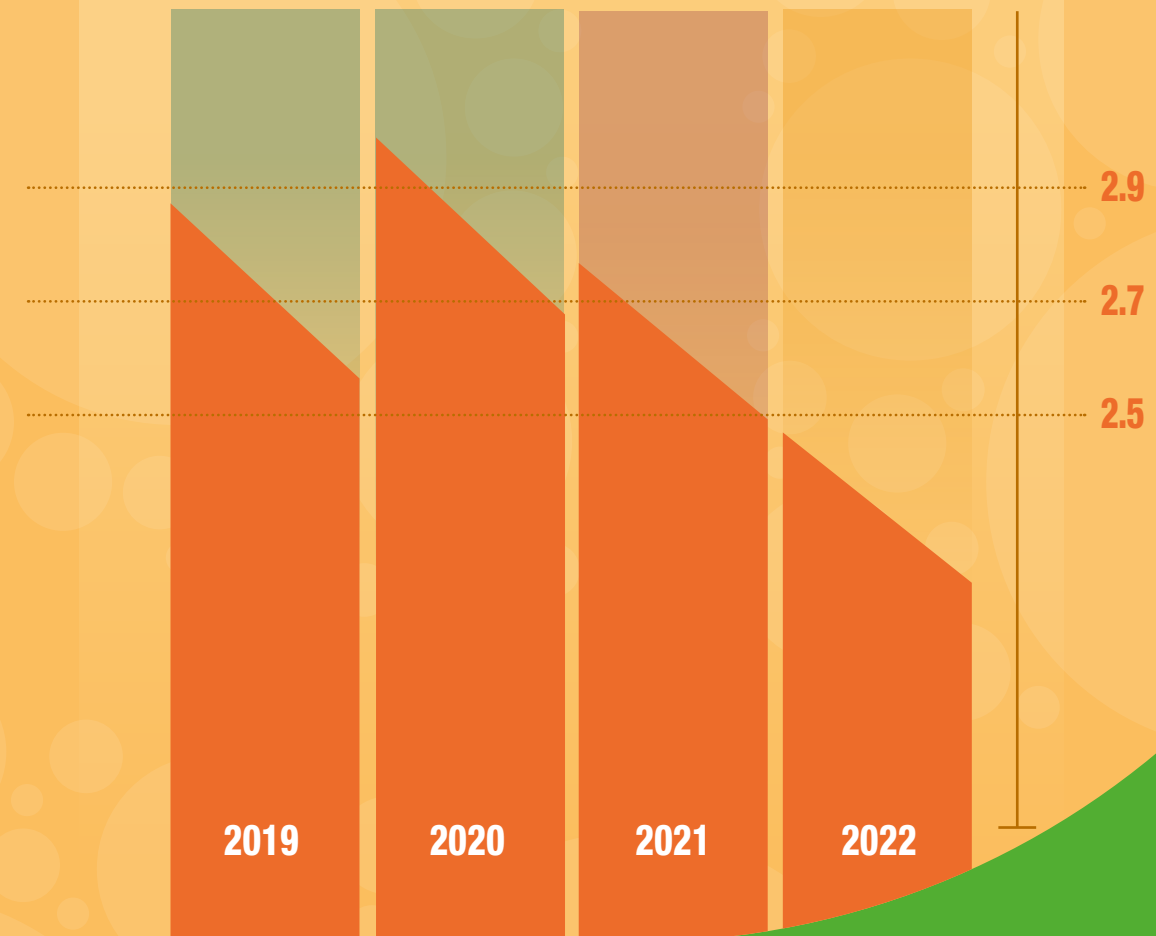
% OF RENEWABLE SOURCES

In addition to energy efficiency efforts TN will also engage in the **TRANSITION TO RENEWABLE ENERGY**. For this reason, one of the key targets in the coming years is to **INCREASE THE PERCENTAGE OF RENEWABLE ENERGY CONSUMED**.

In order to achieve the CO₂ reduction target, TN has also set itself **ENERGY EFFICIENCY TARGETS**. TN has always focused on energy efficiency and reducing energy consumption, and this is evident from the trend in the graph. Thanks to the actions carried out over the years, 2021 is the year with the lowest indicator or the most energy efficient year. **TN HAS SET ITSELF A CHALLENGING TARGET IN TERMS OF REDUCING ENERGY CONSUMPTION BY 2022 AND, WITH A FOCUS ON SUSTAINABLE GROWTH, INTENDS TO ACHIEVE IT THROUGH A SET OF KEY ENERGY AND TECHNOLOGICAL INNOVATION PROJECTS.**

ENERGY INTENSITY (MWh/ TON PRODUCT)

on the basis of the reduction in CO₂ of Scope 1 and Scope 2 calculated by Science Based Target, the relative reduction in energy consumption has been calculated





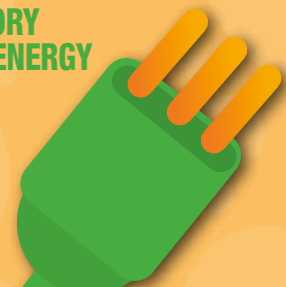
ENERGY

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 beside 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 towards 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.

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.

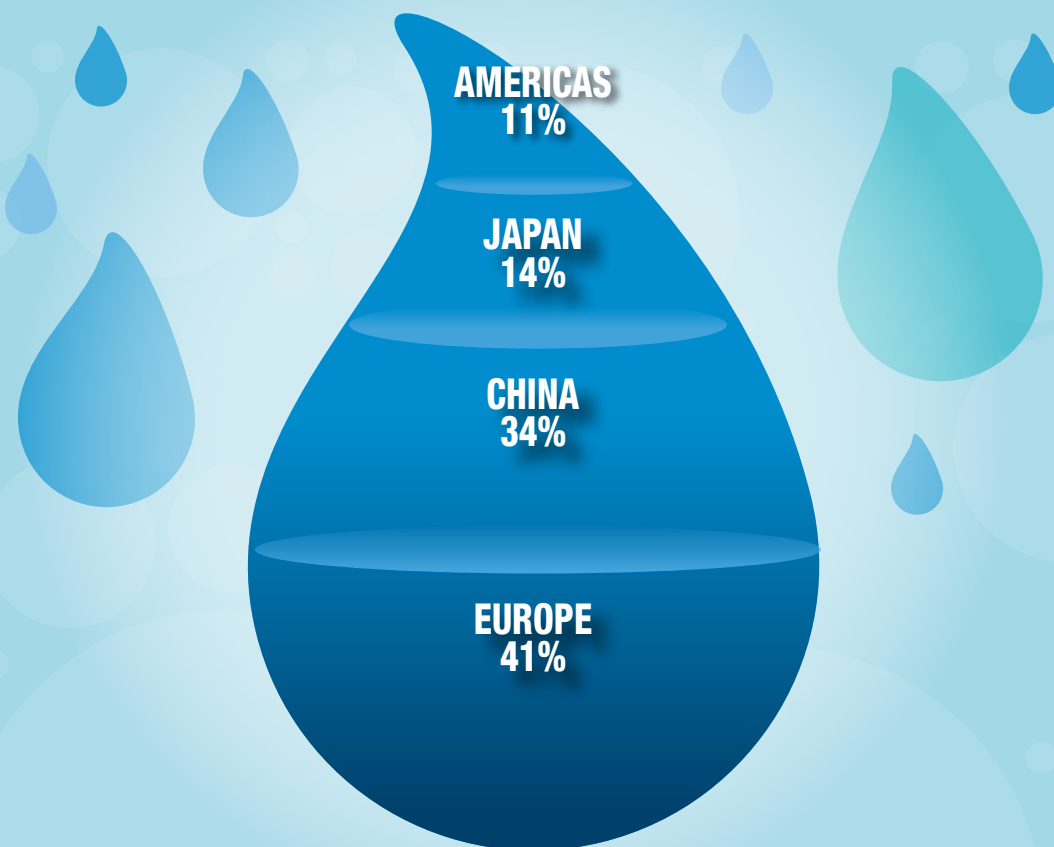
On top of it and to reduce energy consumption in manufacturing, a recently created Project has been developed, led by Monozukuri's Global Function, assisted by the CHRO. The international standard ISO 50002 defines all the process leading to the identification of opportunities for improvement of energy 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 INFORM SUPPLIERS THAT PRODUCTS PURCHASE IS SUBORDINATE TO ENERGY SAVING**
 - **TO INTERNALLY COMMUNICATE AND SHARE ENERGY MANAGEMENT SYSTEM**
 - **TO EVALUATE OPPORTUNITY TO BUY HIGHLY EFFICIENT PLANT AND EQUIPMENT**



WATER






WATER CONSUMPTION BREAKDOWN 2021



% OF DISCHARGED WATER = 46%
TSUBAKI NAKASHIMA 317.226 M³

QUANTITY OF WATER CONSUMED PER TON OF PRODUCT

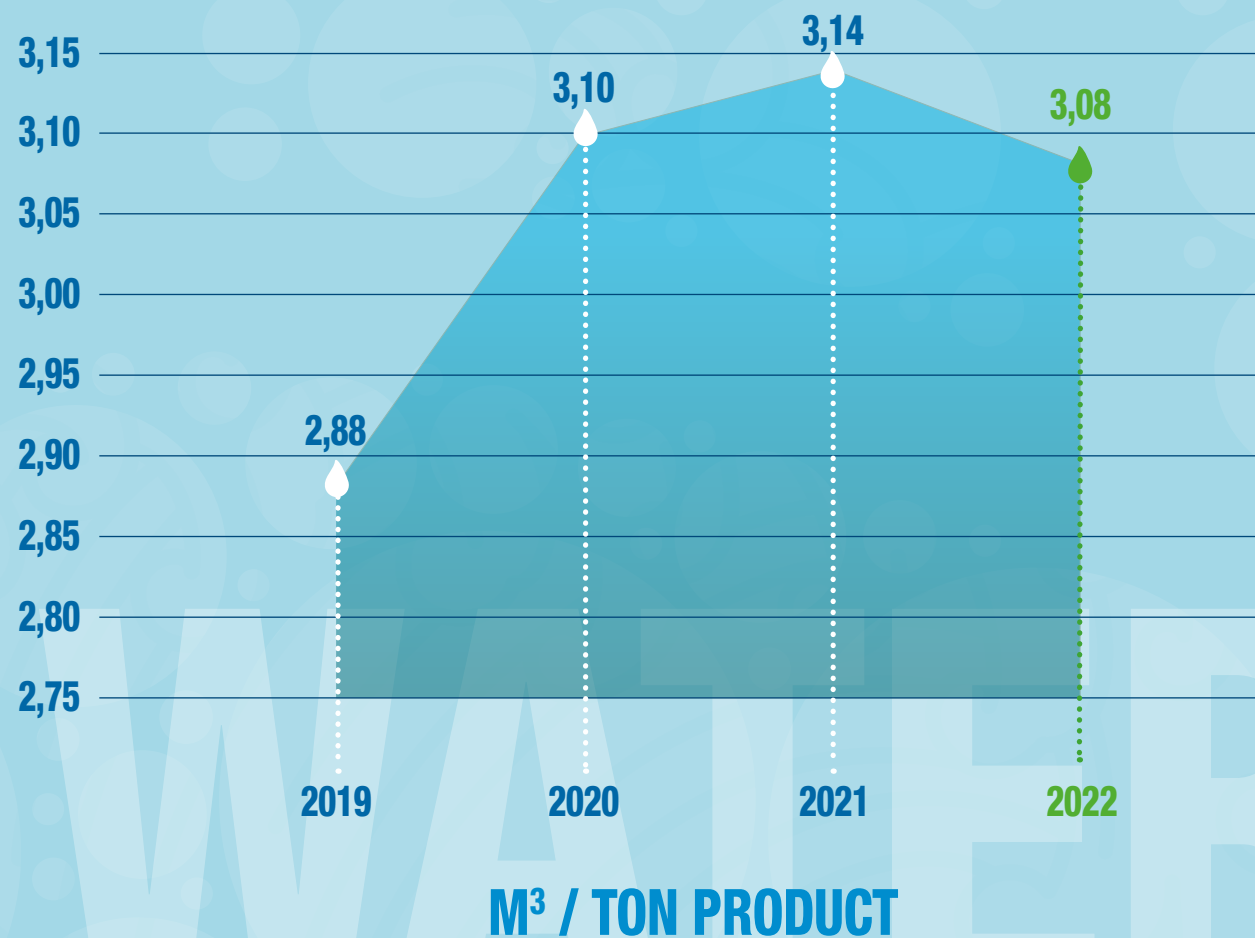
WATER FOOTPRINT (M³ / TON PRODUCT)

	2021	TARGET 2022
 JAPAN	3,3	3,2
 EUROPE	3,1	3,1
 CERAMIC	3,8	3,7
 CHINA	3,3	3,3
 AMERICAS	2,6	2,6
TN TSUBAKI NAKASHIMA	3,1	3,1



WATER

WATER FOOTPRINT



COOLANTS

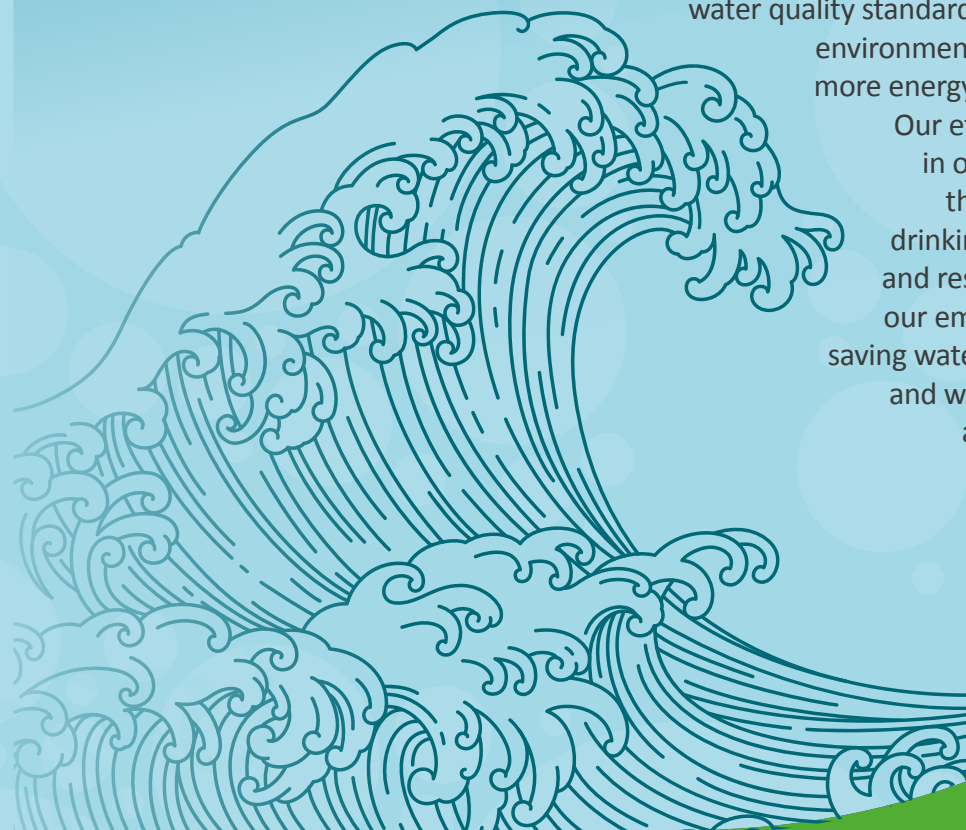
In the manufacture of precision balls, coolant is used for processing, and sludge is generated during processing. In order to reduce the amount of sludge generated, we are working to improve our manufacturing technology. The water-soluble cutting fluid used in the polishing process is recycled by removing 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

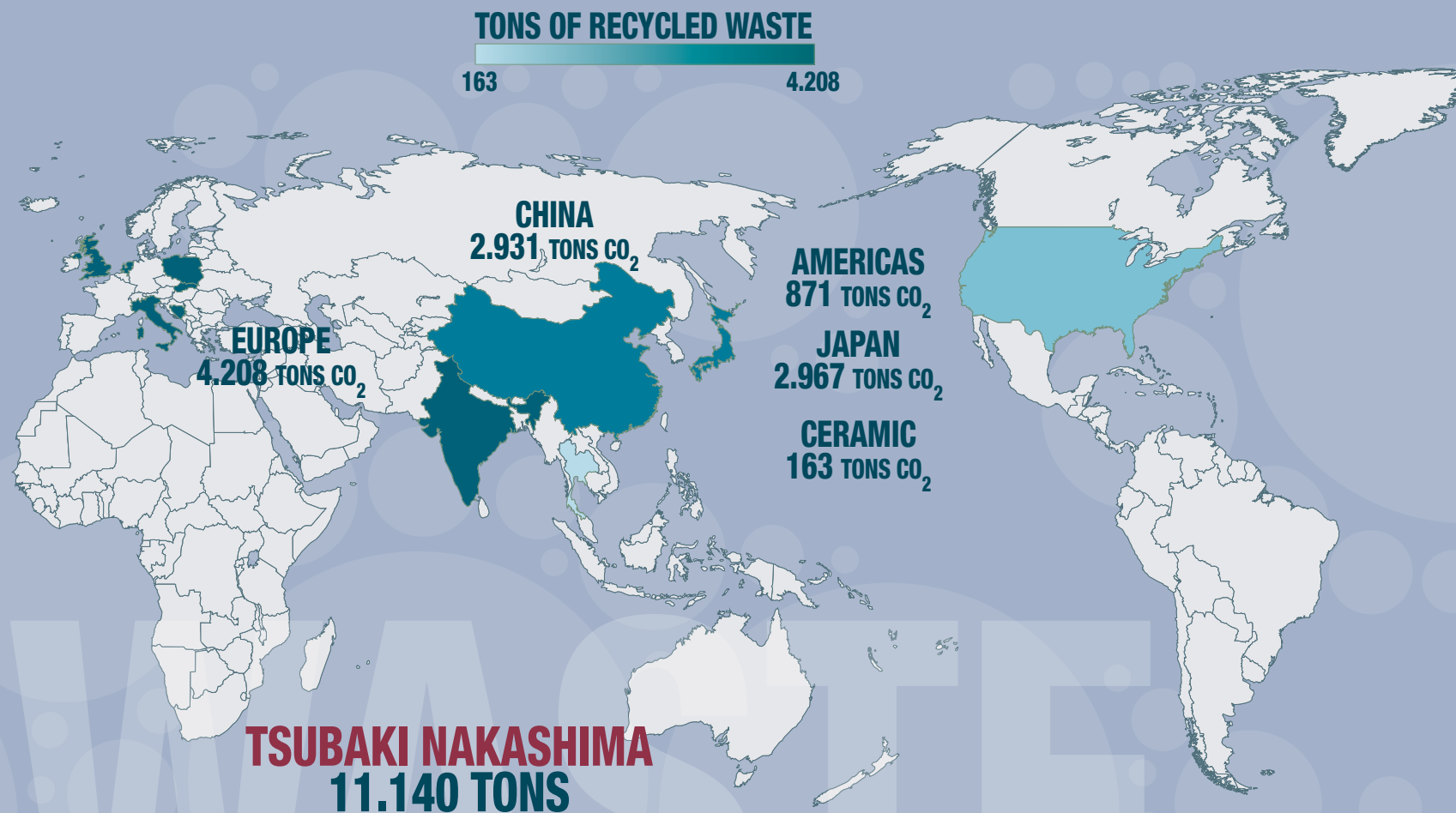
water quality standards. We are also mitigating our overall environmental impacts, including by introducing more energy efficient water processing facilities.

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.





WASTE



Both the definition of waste and its actual possibility of being recycled depend not only on objective and market factors, but above all on the legislation of each country. Indeed, it is not uncommon for the same waste generated by the same production process, but in different countries, to have a different codification and thus either have to go to disposal or be able to be recovered.

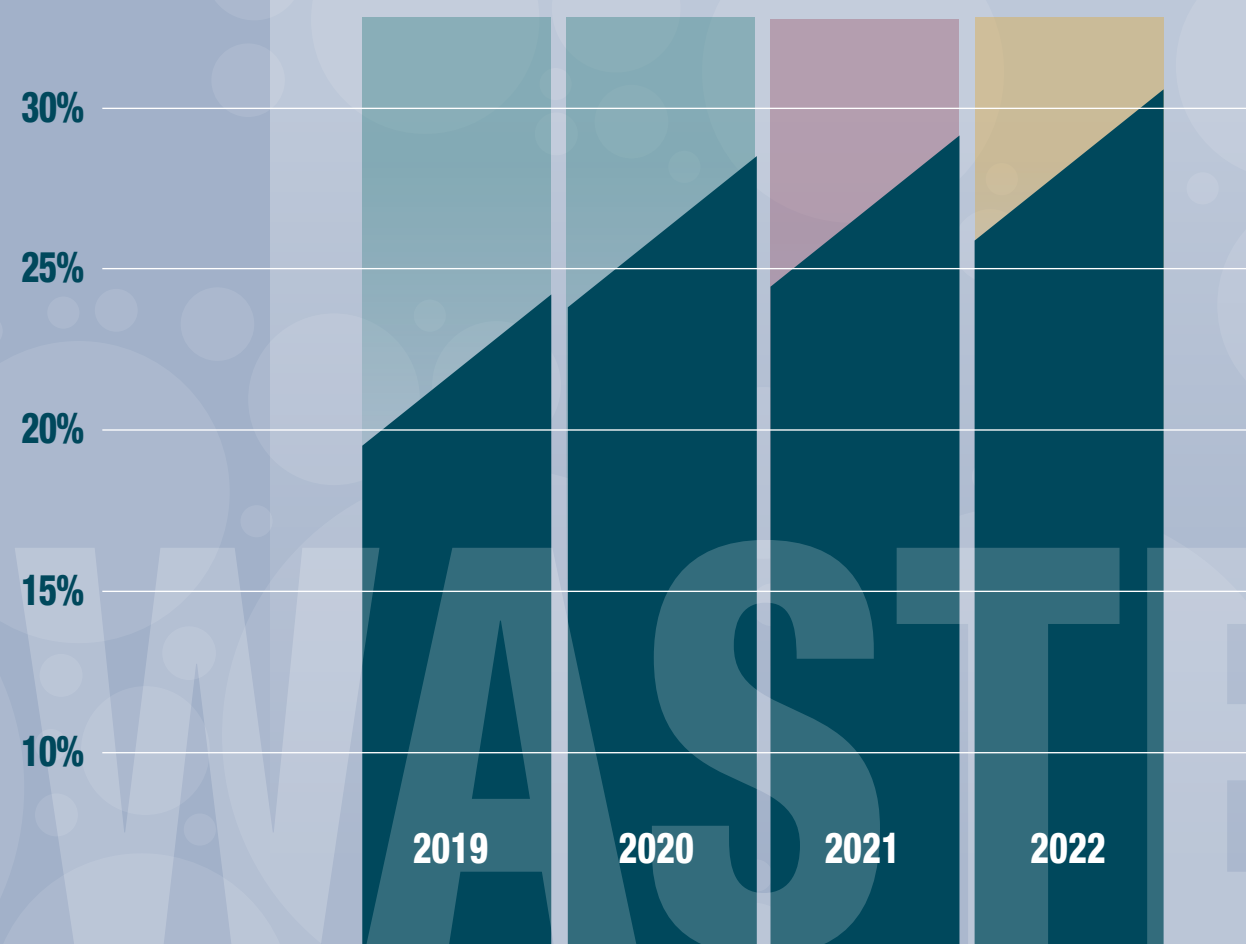
QUANTITY OF RECYCLED WASTE

RECYCLED RATE (%)		
	2021	TARGET 2022
JAPAN	51%	55%
EUROPE	33%	35%
CERAMIC	28%	30%
CHINA	36%	39%
AMERICAS	10%	11%
TN TSUBAKI NAKASHIMA	31%	33%



WASTE

% RECYCLED WASTE



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.

TN INITIATIVES AND PROJECTS

SUSTAINABILITY

TN SUSTAINABLE ROADMAP



1. Energy analysis of the furnaces [Poland]
2. New led lighting [Okayama, Japan]
3. Air gun on grinding machines [Taiwan]
4. / 5. Ducts and roof renewal [Sechibaru, Japan]
6. 4BEE Project, apiary established by the factory [Poland]

1.



3.

2.



4. / 5.



6.



TN INITIATIVES AND PROJECTS SUSTAINABILITY

**TN SUSTAINABLE
ROADMAP**



7.



1.



3.



4.



5.



6.

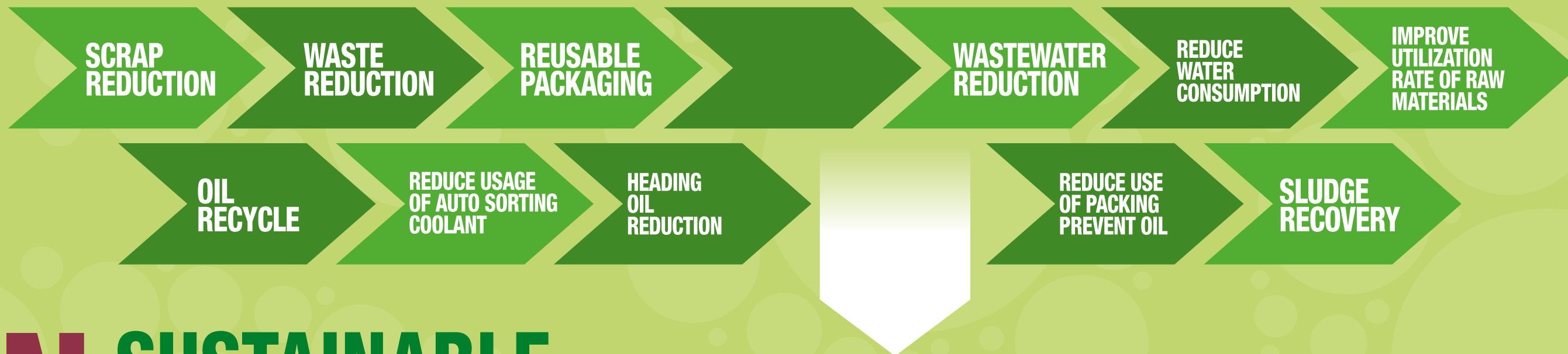


2.

1. Cleaning of the river near the factory [Katsuragi, Japan]
3. New electric forklift [India]
4. / 5. Improving of the buildings [Slovakia]
2. Oxytrees project [Poland]
6. Electric cars free charge in the factory [Italy]
7. Bike to work, promoting the use of bikes [Italy]

SUSTAINABILITY

PROJECTS 2022



TN SUSTAINABLE ROADMAP

**45/342
MONOZUKURI
PROJECTS**

included in BP2022
(13,2% of the projects)
are in line with UN AGENDA 2030
waste and water targets

SUSTAINABILITY AND SUPPLIERS

TSUBAKI NAKASHIMA environmental sustainability goals are in line with global sustainability targets (Paris Agreement).

It is important to engage our Suppliers in this fight against climate change and in the transition to environmental sustainability and decarbonization. We believe that all of our suppliers must be committed to the same challenges as we are facing, in other words, those related to environmental sustainability. We also believe that it is very important to share and support each other in this sustainability roadmap.

TN SUSTAINABLE ROADMAP

COMPLIANCE AND ENVIRONMENTAL LAWS AND REGULATION

THE GROUP REPORTED ZERO VIOLATIONS OF ENVIRONMENTAL LAWS AND REGULATIONS IN FISCAL 2021



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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, being: graphic designer, actor in theatre and film industry, journalist, director, author and poet. Since 2021 he's been working at new strategies and ideas for an efficient, creative and impressive corporate identity and communication for TSUBAKI NAKASHIMA.



Mario Bois



NOTES

NOTES

