

INOAC CORPORATION CSR REPORT 2018

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Compliance

Report period	This report is based on the activity results of INOAC Corporation in FY 2017 (January 1 through December 31, 2017).
	The contents of FY 2018, FY 2016 and earlier are partly included.
Coverage	This report is based on the activity results of INOAC Corporation, partially including domestic and overseas INOAC GROUP activities.
Issued	August 2018 (Previous issue: August 2017)
Referential guidelines	© Environmental Report Guidelines FY 2012,

Corporate Philosophy

INOAC intends to create a beautiful forest, comprised of many trees of varying character, rather than merely growing a single tall tree.

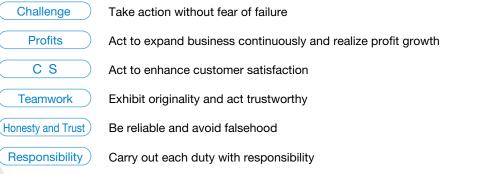
In its efforts to achieve a better life, INOAC has specialized in not only a single business, but has cultivated four business "seeds": polyurethane, rubber, plastics and composite materials. Today it has developed into a conglomerate, supplying diverse products and services, thereby contributing to society.

Innovation & Globalization

INOAC Corporation is leading the world in polymer chemistry and working to be a more global organization with energy and individuality through quick decisions and actions. We will determine our behavioral guidelines and maintain our brand as one that can be trusted by local society, customers and everyone related to INOAC by implementing and achieving our corporate philosophy with actions consistent between inside and outside the company.

Action Guideline





Greeting

Challenge & Innovation \sim To enrich people's lives with materials \sim

We would like to thank you greatly for continuing to support us.

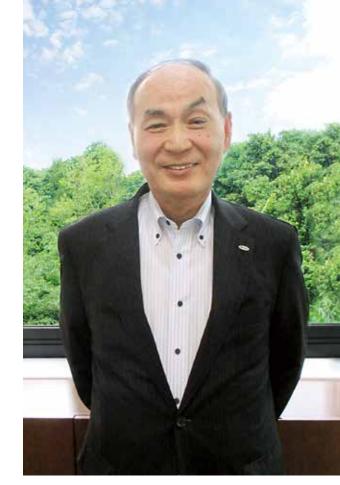
When we look back at the economy last year, the Japanese economy maintained a stable recovery due to companies expanding capital investment and strong personal consumption. The US economy also continues to be stable because of expanded consumption due to improved employment rates. In China, thanks to the government's economic support, the economic downturn was avoided. In Southeast Asia, many countries accelerated their economic growth because increased exports boosted their business.

In FY 2018, the Japanese economy is expected to moderately grow, and a once in a century turning point is also expected because of gasoline-powered vehicles giving way to electric vehicles, the trend toward self-driving cars in the automotive industry, and technological innovation driving a technology shift by using AI and IoT. The environment around us remains uncertain such as the influence of the US policy reorientation including FAFTA renegotiation, the UK leaving the EU, and strengthened environmental regulation in China. We will establish our footing for sustainable growth and globally expand our business with Challenge & Innovation, which is the theme of the whole company under our spirit of change bringing chance. A determined challenge is necessary to seize chances, especially when such vigorous and rapid change is expected.

Our basic policy is considering the material business with material composition and development as a core technology to be a foundation as well as our contributing to society by globally supplying automobile and industrial materials and parts through new material and process development.

We work, challenging and innovating at all times to create new materials to contribute to a safe and clean global environment, to make people's lives rich and comfortable, and to contribute to a sustainable society.

We will greatly appreciate your continuous guidance and encouragement.

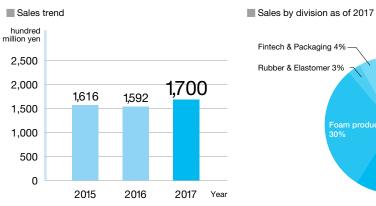


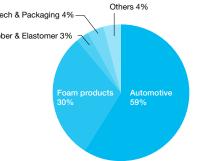
INOAC CORPORATION
President & COO Toyohiko Okina

Company outline

Company name	INOAC CORPORATION
Established	1954
Incorporation Capital	720 million yen
Representative	Chairman & CEO Soichi Inoue
Employees	1,806 (as of December 2017)
Sales	170 billion yen (as of December 2017)
Main Businesses	Development of functional materials based on polyurethane, rubber, plastics, and composites, as well as the manufacturing of products utilizing these materials contributing to a variety of fields closely related to daily life, such as automotive, two-wheeled vehicles, information technology equipment, housing and construction materials, and consumer products.
Head Office	2-13-4 Meieki Minami, Nakamura-ku, Nagoya, Aichi, 450-0003
Head Office (Tokyo)	4F Osaki West-city Bldg., 2-9-3 Osaki, Shinagawa-ku, Tokyo, 141-0032
Offices and Plants	Anjyo, Sakurai, Nanno, Shinshiro, Yana, Toyohashi, Ishimaki, Taketoyo, Kira, Ikeda, Ono, Hadano
Main Sales offices	(Sales branches) Tokyo, Chubu, Osaka, Kyushu(Sales offices) Sapporo, Tohoku, Hamamatsu, Hiroshima
R & D Center	INOAC Technical Center Co., Ltd.
Overseas Locations	North America, China, Korea, Southeast Asia

Sales

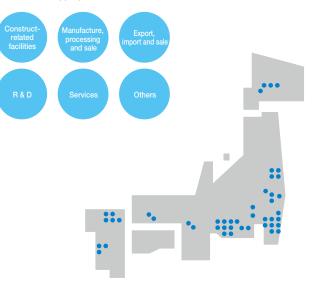




Network

Major domestic bases

Our affiliated, associated and joint venture companies from Hokkaido to Kyushu, in addition to the nationwide network of INOAC CORPORATION, have established a close production and sales network, enabling us to provide our customers with the most appropriate solutions.



Inoue Rubber Co., Ltd.

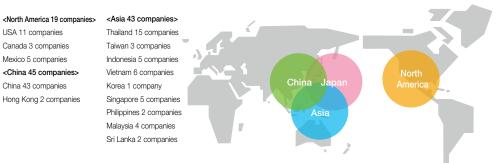
INOAC International Co., Ltd. INOAC Technical Center Co., Ltd.

<Affiliated Companies>

Hokkaido INOAC Co., Ltd. Tohoku INOAC Co., Ltd. Higashi Nihon INOAC Co., Ltd. INOAC Elastomer Co., Ltd. Nishi Nihon INOAC Co., Ltd. Kyushu INOAC Co., Ltd. <Joint Ventures> BASF INOAC Polyurethane Co., Ltd. Rogers Inoac Corporation, and others <Affiliated companies> INOAC Housing & Construction Materials Co., Ltd. HUKLA Japan Inc. INOAC Living Co., Ltd., and others

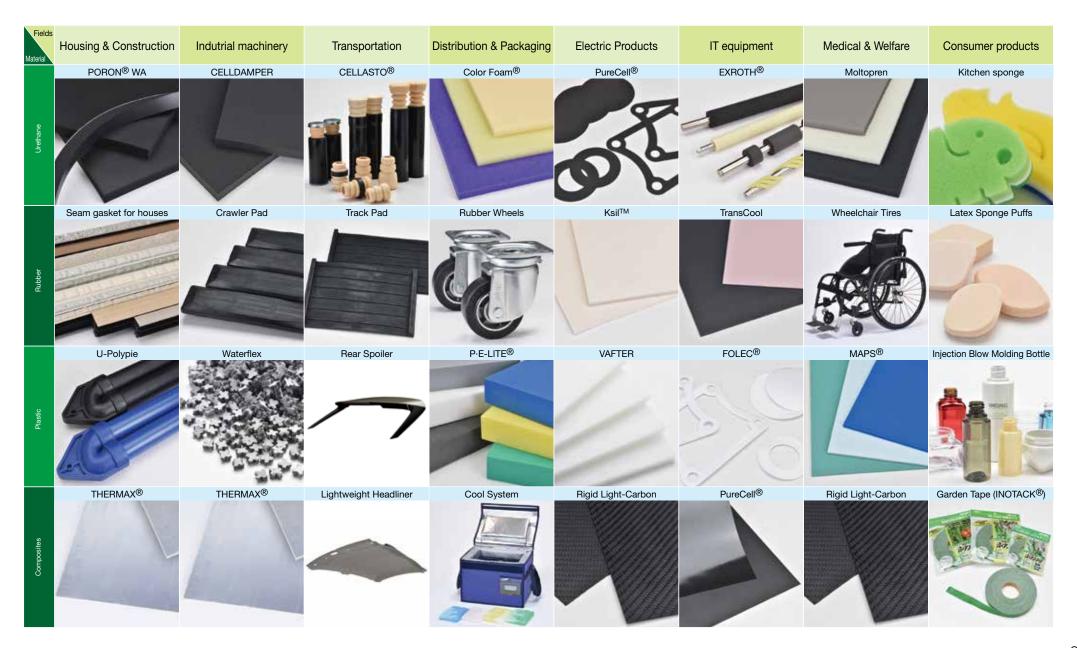
Major overseas bases

We have constructed a system of proposing and supplying research, development, material processing, molding technique, and mass production at 13 countries and regions worldwide centering on North America and Asia.



Sales service

Business overview ~INOAC materials utilized in a variety of fields~



INOAC brands INOAC brands

We focus on adding functional value by making the most of the ideas and technologies based on the materials we have created. Our original products utilizing various materials including complete interior items offering both design and function, support our comfortable lives.







IRC Tire was founded in 1926 as a manufacturer of tires and tubes for bicycles. Since then, we have produced daily-use tires for comfortable riding and racing tires for world-class racing, building upon our experience in manufacturing and business. For the past 30 years, we have conducted business overseas as well.





We will continue adding value as we meet our customers' needs through IRC brand products. HUKLA is a total-interior brand focused on beautiful form and comfortable lifestyle. We produce top-quality furniture with excellent design and high-grade materials to provide our customers with a pleasant feeling and healing. We believe that the HUKLA collection will make your life more comfortable than ever with natural texture and a variety of colors and patterns.

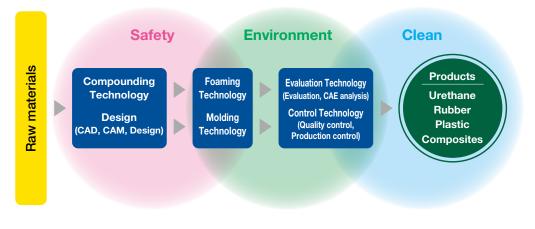




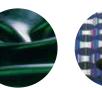
AEROFLOW is an original series of bedding for women. It has been newly developed using INOAC's cutting-edge materials and processing technologies. It conforms perfectly to the feminine body and leads to the most comfortable sleep possible.

R & D

INOAC Corporation is engaged in R & D, full of creativity, in view of the future under the motto of making life affluent. We are always providing new materials to a wide range of fields such as the automotive industry, information and communication industry, electronics industry, industrial materials and consumer products by fully using compounding, foaming and molding technologies with various kinds of urethane, plastic and elastomer that are mainly polymeric and also by using other techniques for composite materials. Simultaneously, we are advancing our R & D to reduce environmental burdens, save weight and energy, and provide highly functional new products and new processes.







Rubber & Flastomer



New materials & composite materials

Research and development system

We are advancing our original new material development by regarding high-polymer material technology such as polyurethane, rubber, resin material, and more as our core technology with INOAC Technical Center Co., Ltd. and Global Technical Division centered. We are also promoting new material development and applied development research with an eye toward the future with an arrangement of R&D systems in the USA, China, Thailand and other countries, emphasizing the importance of collaborative research and technological development with domestic and overseas universities and public research institutions.

The technical division of each department succeeded in commercializing urethane foam masks, TURBOFLEX II, New Ino-Coat and FOLEC food trays by using the molding process and material composition techniques. They also promote the high functionality of heat and shock resistance with urethane foam and proceed with developing products that satisfy customer needs. The process development department created and introduced an automated manufacturing line that was reduced in size.

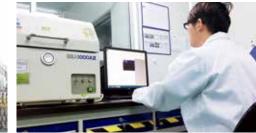




ITC JAPAN INOAC Technical Center Co., Ltd.



ITC CHINA Suzhou INOAC New Polymers Co., Ltd.



Feature story | Work on social issues

special content

Our efforts to improve product quality

INOAC GROUP has introduced a comprehensive management system based on ISO 9001 and is working with the product quality assurance system in cooperation with our customers to assure product safety while also supplying excellent products and services to satisfy our customers.

Safety in our products is the beginning of everything. We secure safety in our products in the compliance Code of Conduct and arrange our system in order to implement the Code. We are also working to ensure the design process includes essential safety design.



No critical quality problem
 Strict quality review & to strengthen inspection function
 To enhance examination of new products

Quality assurance

1. Implement quality audits to monitor quality assurance activities

INOAC GROUP continues to improve process conformity and effectiveness by implementing the PDCA* cycle of the quality management system, and implements integrated quality audits for better quality assurance.

*PDCA: Plan, Do, Check, and Action

2. Implement product examinations to secure stable quality

INOAC GROUP objectively evaluates if the content and level of the measures to prevent risks related to products are necessary and sufficient during new product development by implementing design verification, design review and validation to secure product safety.

3. Implement audits to secure quality in production

INOAC GROUP implements audits for quality assurance to see whether (1) the quality for receiving materials and purchases is secured in product manufacturing and (2) products satisfy the performance and characteristics with respect to the design quality in accordance with our important quality commodity audit at 34 domestic bases and 8 overseas bases.



4. Implement managing chemicals to secure environmental safety

We quickly respond to customer inquiries through our chemical substance management system regarding substances that may influence our environment.

The chemicals in purchased materials and parts (domestic and overseas products) are thoroughly managed in accordance with our Green Procurement Management Provisions.

Feature story | Work on social issues



5. Ongoing quality education to secure quality improvement

We provide ongoing quality education to all our employees from new employees to employees in charge of key positions because the quality of each employee's work is the base for INOAC to determine product and service quality.

(Key positions are administrative positions including managers and higher positions.)

- New employee induction course: Study of basic knowledge about quality, cause investigation, etc.
- Quality control education: Introduction to quality control, statistical quality control technique, study of quality engineering, etc.
- Other quality-related training: Training of knowledge about products, compliance education, chemical management education, etc.



6. Develop global human resources to improve overseas field capability

Since our company's basic management policies include developing production bases for local production and local consumption combined with promoting management localization, the employment, education and promotion of candidates for executive positions at overseas bases is urgent.

INOAC GROUP has implemented education such as trainer training and teaching quality control techniques since 2013 in China where many of our overseas bases are located. Last year we focused on 201 front field managers and candidates, implementing on-site training to improve their

field capability, implement appropriate process management and strengthen the capability of maintaining processes in a stable manner at 19 bases in total.

We will expand our education overseas in Thailand, Indonesia, Vietnam and other countries by regarding the education in China as a model for the future.



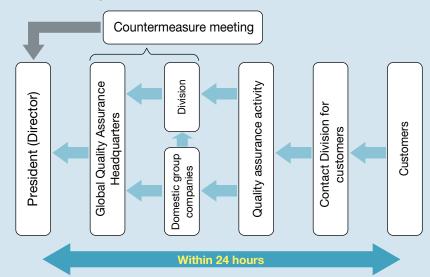
Risk management for quality

1. Response system for early detection and prevention of critical complaints

We are working hard on early detection and prevention of critical quality problems.

We attach great importance to rapid and appropriate response, and have "Quality dial 110 provisions" to prevent critical quality problems from expanding damages.

We center on the functional quality division of our headquarters, cooperating with the functional quality division of each department, to rapidly respond, detect issues as soon as possible and prevent complaints.



Quality risk management flow chart

special content 02

Welfare and Nursing care business

The rate of the elderly to the total population has accelerated sharply since Japan became an aging society in 1970; now the rate of the population over 65 years old to the total population exceeds 21 percent, which is a super aging society. The rate of the elderly is expected to increase in the future; the rate will be approximately 30 percent in 2025 and 40 percent in 2060. Social problems are generated such as an insufficient labor population, medical care, pensions and nursing care. INOAC is working on such social issues through our business.

Converting our real estate into nursing care facilities

Insufficient facilities for the elderly who need nursing care have become more and more serious year after year. INOAC is converting our real estate into facilities for the elderly to respond to such social requirements. We started with a home nursing care support center built in Nagoya City, Aichi Prefecture in 2000, built a home for the elderly with a clinic attached to it in Nagoya City in 2016, and have built six facilities for the elderly so far. When creating the facilities, we used Thermax, which is INOAC's high-functioning heat-insulating board with excellent heat insulation and thermal barriers that is moisture-proof, and FoamLight, which is on-site foam heat insulation with excellent heat insulation, which wraps a building with air foam, in the foundations, walls and ceilings. We promote energy saving and expand our know-how as a specialist in air conditioning, hot-water supply and heat insulation. The facilities use our original nursing care brand, Smile, and Smile products and furniture.

<image>

FoamLight

An example of a room

すよ。 Smile Fuwamo



Thermax

Smile, the brand of INOAC nursing care goods, to cuddle the heart among smiling faces

We have pursued the gentleness of the parts contacting human body since 1997, and accordingly started the development of welfare/nursing care goods with especially good quality. We put the Reversible PRO Mattress on the market in 2002, which was developed in cooperation with the Japanese Society of Pressure Ulcers. With thinking that originated from our desire to deliver our smile to the people for whom care is provided and to the people who provide care, we established Smile, our care product brand, in 2014. "Smile" was named after reading of Roman letters of "smile". We are working to cuddle hearts among smiling faces by manufacturing products on the basis of softness.



Takashi Ishii, President

VOICE

Message from INOAC LIVING

Toward an aging society accelerating in the future

INOAC LIVING develops extremely useful and required products from the perspective of manufacturers of rubber, urethane and resin materials as well as staff using such products and the elderly for whom such products are used.

Our soft material group supports the muscles of the elderly to reduce the burdens on their bodies. For example, Swimo, a wheelchair cushion using automobile seat technology, which has achieved body pressure dispersion and high durability, stabilizes sitting and supports standing up. This product is utilized in the Soft Wall Cushion to protect only the necessary parts from impact by combining the suction effect of PureCell and PE foam. We are working to contribute to our aging society through our products with safety and comfort as the key.

We also promote cooperation with and contribution to local society by presenting our products including medical and nursing care mats to neighboring hospitals and facilities. This is mainly conducted by our factories and business offices because we regard medical and nursing care as community-based businesses.

Exhibited at International Home Care and Rehabilitation Exhibition



INOAC LIVING displayed products at the international care apparatus exhibition, H.C.R 2017, held at Tokyo Big Sight in September 2017. The centerpiece in this exhibition was Swimo, the wheelchair cushion that enables smoothly standing up. In our exhibition booth, we held a product introduction seminar conducted by a doctor working for Amakusa Hospital, who is also an associate developer and many people came. Swimo utilizing INOAC's urethane mold technique has realized an unprecedentedly high-quality cushion, which has generated much positive feedback.

Environmental idea

INOAC respects the natural environment of our irreplaceable earth and contributes to realizing an affluent society that is comfortable to live in through technology harmonized with our environment and environment-friendly corporate activities.

Environmental policy

- We comply with environment-related laws and regulations and other requirements, and implement business activities that society can trust.
- ② We promote reducing CO2 emission such as energy saving to prevent global warming.
- ③ We work on resource conservation, waste reduction and recycling to contribute to a recycling-oriented society.
- ④ We appropriately manage chemicals that may influence the environment and reduce the risk to preserve our environment.
- (5) We actively develop products with less environmental impacts contributing to conservation of the nature throughout the lifecycles of the products.
- (6) We promote environmental management, educate employees about the environment, implement environmental audits and continue to improve.
- ⑦ We contribute to establishing a sustainable society through local environmental preservation work as good corporate citizens.



Environmental management system

The person responsible for environmental management implements the integrated management of the environment under the direct control of top management and implements environmental activities for the whole company in the activities of the Environmental Committee, working to promote environmental activities in an organized fashion. We organized a specific section committee to handle industrial waste and energy saving to further accelerate reduction and to promote environmental management in cooperation with each committee.

We also started activities conformable to ISO 14001:2015 in January 2017 and are working to achieve our objectives under a regime close to our main work by completely reviewing manuals.

Environmental preservation promotion



Internal environmental audits

External environmental examination

We implement internal environmental audits to check the operational state of our environmental management.

The audit team consists of two to three employees who have completed the auditor training prescribed by the company, and checks if the environmental management system is appropriately operated, maintained and improved. Regarding organizations with inappropriate operations, additional audits are implemented and followed by corrective action. We ask the Japan Quality Assurance Organization (JQA), which is an external certification registration body, to implement examinations to check if the environmental management system is appropriately operating in accordance with ISO 14001:2015. We also implemented an examination for shifting to ISO14001:2015 whose activities started in January in FY 2017. As the result, no items indicated for improvement were found, and the system including shifting was determined to be sustained. As an overall assessment, issues to be considered about influence on management in expanding objectives and others were listed.

Summarization of major activities in FY 2017

The results of INOAC's main work for the environment in FY 2017 are shown in the table below.

We reduced energy consumption compared with the previous fiscal year even though we could not reach our reduction objectives due to insulation countermeasures in our facilities. Although we moved forward on recycling, we did not reach our objectives for reducing waste disposal because the market standards for valued resources have become stricter year after year. About the release amount of PRTR substances, we introduced CO2 foaming equipment to reduce methylene chloride as a foaming agent, promoted substituting a cleaning agent with non-PRTR substances for a cleaning agent with PRTR substances, reached our objectives and substantially passed it.

Items to be worked on	Policy and obj	ectives of activities in FY 2017	Activity results in FY 2017	Results
Energy			Intensity 348.5 Used amount (crude oil equivalent) 28,244 kL (2017 result)	Ŷ
	Used amount (crude oil equivalent):		Used amount (crude oil equivalent): 91.6 kL	
Reduction in waste Factory-related site Office-related site		Intensity (treated amount/production sum) 5.45 and below Treated amount: 4,634 t (2016 results)	Intensity 6.48 Treated amount: 5,254 t (2017 results)	Ŷ
		Treated amount: 1,818 kg or below	Treated amount: 1,553 kg	-
PRTR substances Reduction in release and transfer amounts	Intensity (release amou 2.67 and below Release amount + tra 187,930 kg (2016)	nt + transfer amount)/production sum)	Intensity 1.64 Release amount + transfer amount 132,887kg (2017)	Ŧ
Environmental improvement work	Environmental improve 1,046 cases or more	ment cases (total in the entire company):	1,726 cases	-
Environmental communication	Issue CSR report		Issued	-

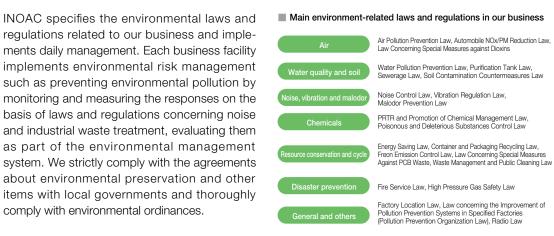
The provided the provided the progress made the

* Business places from which environment data are collected to summarize major activities are shown below:

INOAC CORPORATION	Anjo Plant, Sakurai Plant, Nanno Plant, Yana Plant, Ishimaki Plant, Ikeda Plant, Ikeda Second Plant, Ono Plant, Jinno Plant, Ukiha Plant, Headquarters (Nagoya City), Tokyo branch, Osaka branch				
INOAC Living Co., Ltd	Ibigawa Plant,	Kyushu INOAC Co., Ltd.	Kikuchi Plant, Ukiha Plant, Kita-Kyushu Plant,		

Techno Foam Japan Co., Ltd. Headquarters, Saitama Plant Kyushu Color Foam Co., Ltd.

Compliance with environmental laws and regulations



Local government ordinances are omitted.

Some of the laws are described in abbreviated forms.

Training for emergencies

We identify accidents and emergencies in accordance with the characteristics of each business facility, and periodically implement training to prevent environmental pollution such as fires and chemical leakage (oils, solvents, etc.) from facilities.

General disaster training was held on June 2 and November 30, 2017, and individual training is implemented in accordance with the characters of departments including training for preventing raw materials from flowing out and evacuation drills at night in the Anjo Plant. In other facilities, trainings for emergencies are implemented as preparation.



Anjo Plant: Water drainage by fire-fighting team





Sakurai Plant: Training in early fire extinguishment

Nanno Plant: Measures against raw material leakage

Reduction of energy consumption

INOAC has promoted reducing CO2 emissions and saving energy to prevent global warming. We implemented efficiency increases in dryers and room heating by utilizing waste heat from boilers and fans, heat insulation measures on factory roofs, boiler piping, cure furnaces and more, and promoted LED use.

The amount of energy used in FY 2017 almost leveled off in comparison with FY 2016, and was reduced by approximately 5 percent (crude oil equivalent) compared with FY 2014.

[Cases]

Significant implementation contents for energy saving promotion in 2017

Increase in air conditioning efficiency by removing waste heat from rooms (summer) and bringing waste heat into rooms (winter)

Countermeasures to prevent air leakage by ultrasonic air leak detectors

Heat insulation by covering plant roof

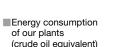
Enhanced air conditioning efficiency by partition curtains

Curing furnace heat insulation with INOAC's THERMAX, a heat insulating material

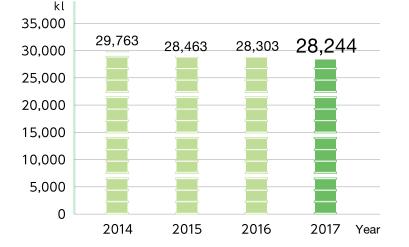
Installation of insulation jacket on tank in boiler room

LED illumination management by control switch

Power reduction by utilizing waste heat from boiler room









Anjo Plant: Heat insulation cover on plant roofs



Affiliated companies: Installation of insulation jacket on tanks

Kita-Kyushu Plant: Taking-out and taking-in of waste heat from fans

Other work for preventing global warming

INOAC is working on preventing global warming from other perspectives too. We provide our employees with education on power saving including cool biz, which is our energy-saving attire campaign, with summer eco-style campaigns. We also work on cooperative transportation and smooth deliveries, a modal shift to railway and maritime transport, and distribution base intensiveness. In addition, we participate in the CO2 Reduction and Lights Off Campaign propelled by the Ministry of the Environment every year, and implemented the campaign at 10 facilities including our group companies on June 21 (summer solstice) and July 7 (Star Festival) in 2017 too.

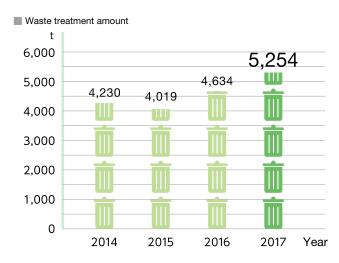
Reducing the environmental burden

Waste reduction

Regarding waste reduction, the companywide waste reduction committee, as the leader, promotes reports of waste reduction cases, application of such waste reduction to other facilities, reductions in loss by detecting the reductions and improvements in yields and expansion of utilizing recycled resources including recycling by separating used paper and material recycling at each business place. However, the criteria for valued resources have become stricter; therefore, in many cases we had to disposal resources as industrial waste.

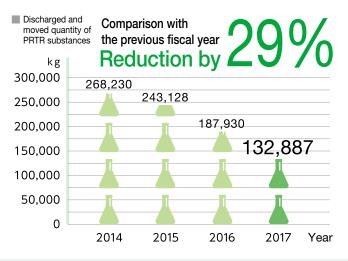
Reducing environmental burden substances

INOAC uses PRTR substances such as m-tolylene diisocyanate, which is a raw material of polyurethane foams, xylene or toluene, which are used in the coating process. We have promoted increases in using paints with low solvent rates (high solid type) and stopped using 1-bromopropane at the cleaning process of a urethane injection machine as work for reduction in handling amounts and the releasing amount of such target substances. Thanks to this work, we achieved remarkable reductions in 2017 by approximately 29% compared with 2016 and by approximately 50% compared with 2014.



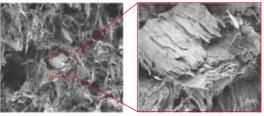
NCV project participation

The NCV (Nano Cellulose Vehicle) project was launched by the Ministry of the Environment to improve automobile fuel consumption by weight and CO2 reduction by applying cellulose nanofiber (CNF), which is a light-weight and high-strength next generation material, to the automotive field. Kyoto University leads the project and more than 20 industrial, academic and governmental institutions participate. INOAC CORPORATION has participated in this project from the beginning, evaluated moldability, physical properties and more, and worked to implement practical realization. http://www.rish.kyoto-u.ac.jp/ncv/





CNF-contained foaming PP resin molded article (product picture)



Microphotograph of CNF-contained foaming PP resin molded article

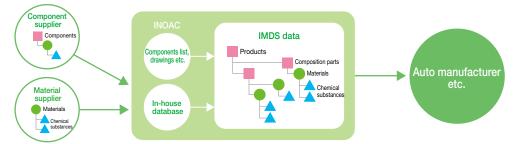
Business places from which environment data are collected on pages 14 and 15 are shown below.

INOAC CORPORATION/Anjo Plant, Sakurai Plant, Nanno Plant, Yana Plant, Ishimaki Plant, Ikeda Plant, Ikeda Second Plant, Ono Plant, Jinno Plant, Ukiha Plant, Headquarters (Nagoya City), Tokyo branch, Osaka branch Ibigawa Plant, INOAC Living Co., Ltd.
Kikuchi Plant, Ukiha Plant, Kita-Kyushu Plant, Kyushu INOAC Co., Ltd.
Kikuchi Plant, Techno Foam Japan Co., Ltd.
Kyushu Color Foam Co., Ltd.

Promoting IMDS, chemSHERPA*² and more

INOAC registers information on chemicals and reports it to our customers through IMDS^{*1}, especially in the automotive field, which is our main strength, and has a management system to obtain the necessary information via our supply chain and to register IMDS.

Information collection through IMDS in INOAC - reporting process and chemical management system



Information collection and report to our customers using the chemSHERPA*2 format that has been widely used in the industry, especially in the electrical machinery industry are supported (The format was changed from the previously used JAMP format to the above).

- *1 IMDS (International Material Data System): A database for transmitting and obtaining information on materials and chemicals over the internet for the automotive industry, which was developed to comply with the EU ELV Directive as a start
- *2 chemSHERPA: A unified format to transmit information on chemicals contained in products in the supply chain, which the Ministry of Economy, Trade and Industry took the initiative in developing

Establishment of in-house database

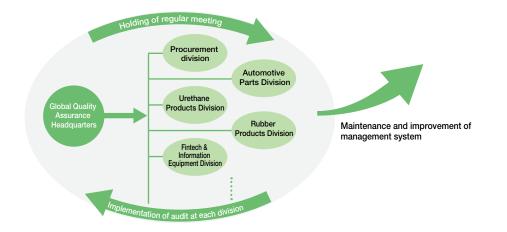
The automotive division operates the in-house database through which information on chemical substances contained in purchased parts and raw materials is managed in an integrated manner, which contributes to improved work efficiency, the accuracy of the contents to be reported in the registration with IMDS and the investigation of Substances of Concern contained in the purchased parts and raw materials.

Establishment and execution of green procurement criteria

We list chemical substances regulated by laws and regulations, or customers, and list chemical substances that we should reduce after understanding their content. We show them as green procurement criteria to suppliers; we use such lists to obtain information on chemical substances contained in raw materials to be purchased.

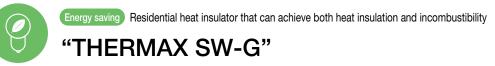
Communication about chemical substance management

The global quality assurance headquarters that is a company-wide organization and leader regarding environmental management gathers the chemical management section in each department and meets once every two months. At the meetings, they review the green procurement criteria, check the management system, establish or change operation rules, and exchange opinions concerning the latest trends in chemical regulations such as the REACH regulation and RoHS Directive, as well as periodically implementing auditing the management system in each department to maintain and improve an appropriate and reliable management system.



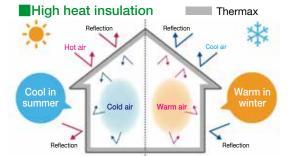
Harmony with the environment

Environment-friendly products ①



Recently, the demand for heat insulation materials has increased because of increasing interest in energy saving at residences; the demand for heat insulators for residences that can achieve both heat insulation and incombustibility has also increased due to frequent large-scale fires. We developed THERMAX SW-G to respond to this demand. THERMAX SW-G is a rigid polyisocyanurate (PIR) foam board that prevents fire from entering inside due to a surface char layer formed by the isocyanurate structure; THERMAX SW-G has extremely high incombustibility even when burning on a burner at the temperature of 1200°C for 5 minutes as well as excellent thermal insulation performance.





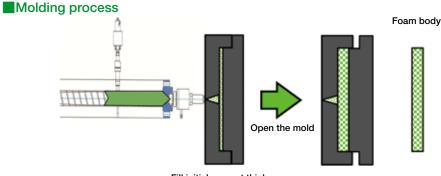
■他の素材との性能比較 PF: Phenolic foam, XPS: Extruded styrer					
	THERMAX SW-G	General PIR	PF	XPS	Fiber-based heat insulation material
Thermal conductivity	0	0	0	0	\bigtriangleup
Fire protection and fireproof performance	O Carbonization/Shape retaining	 Ignition/Combustion	Carbonization/Decomposition	△ Dissolution	O Shrinkage deformation
Oxygen index	0	\bigtriangleup	0	0	0
Moistureproof performance	O	0	0	O	





The deck is placed on both sides of the automobile luggage area and the part where the tool kit for repairing flat tires and other tools are stored. This was an injection molded article previously made of normal resin, but we now use a resin material containing a chemical foaming agent and have reduced the weight by approximately ten percent while retaining the same strength with the high foaming method by opening the mold a little after filling gas generated by the heat inside the cylinder in the mold. The foaming type usually needs coating due to surface design, but this product does not need any coating and has the same level of design, contributing to improving the operation environment at production.





Fill initial amount thinly

Environment-friendly products 2

Clean Special resin material using clean supercritical foaming technique "TURBOFLEXII", a lightweight and high resilience material for shoes

TURBOFLEXII is a special resin material with low specific gravity and high impact resilience that is manufactured by supercritical injection foam molding without any chemical foaming agents that generate harmful gas. The material is used for the midsole heel of high-performance sport shoes. For example, this material is used for SKY MID/SKY LO volleyball shoes manufactured by DESCENTE LTD. and some players in the V Premier League use these shoes.



Harmony with

the environment



"SKY MID"

Performance comparison with conventional models

Item	Unit	TURBOFLEXI	Conventional material: EVA	
Density	kg/cm ³	300	130	
Impact resilience	%	70	40 =	
C-rigidity	o	53	48	
Compression permanent strain	%	49	71	

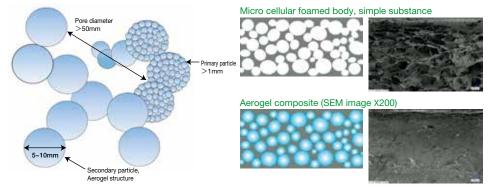
* The values shown above are measures of central tendencies and are not guaranteed values.

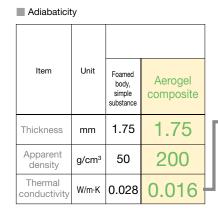
Impact resilience (ball reboundability)

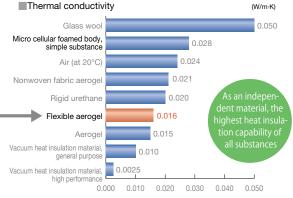


(Energy saving) Composite with excellence in heat insulation, processability and flexibility "Flexible aerogel", a next-generation heat insulating material

Aerogel is a dried porous gel with low density and high porosity, which is notably weak as a simple substance. Therefore, impregnating a nonwoven fabric base material with it or the like is required for commercialization, as a heat insulation material, due to weak points such as gel falling (powder falling) during use and insufficient heat insulation. Aerogel becomes an excellent product featuring extremely rare powder falling, high heat insulation, processability and flexibility by making a composite (filling in cell) with a special foamed body with a skin layer having a fine cell structure. Aerogel is expected to be utilized in various fields such as automobiles and construction materials in the future.







Evaluation and awards from our customers

INOAC has flexibly fulfilled these needs as a material process manufacturer by reforming materials into the shapes needed by markets. In FY 2017, many customers at home and abroad continued to highly regard our work to solve customer issues.

In Japan, the chemical information division has been recognized as a Premium Partner for 7 years, and automobile-related divisions have received the Technological Development Award, Award of Excellence in Promotion of Reducing Old Type Supply Parts, Award of Excellence in Cost Price Section and Award of Contribution to Tohoku Manufacturing because of the high evaluation of the interior of new models and VA/VE proposal. Vietnam IPV received the Delivery Award because they could deliver good products without any delays. Thailand IAT was highly evaluated due to TPS* work on the ceiling assembly process, complete achievement of service part delivery time and safe improvement activities for the coating process. Taiwan KIC was highly evaluated due to zero faulty delivery. China IES received the Quality Achievement Award and Award of Cooperative Cost Price; IHA received the Award of Excellence in Package Design; DIME received the (Quality) Excellent Supplier Award and the Award of Appreciation for Environment, Quality, Cost, and Delivery (EQCD); DIME II received the Appreciation Award for the supporting role for a long time.

* TPS: Toyota Production System



EQCD Appreciation Award from Nakayama CANON

Delivery Award from Quality Excellence Award from HARADA INDUSTRIES VIETNAM Yulon Nissan Motor Co., Ltd.



Tohoku Manufacturing Contribution Award from Toyota Motor East Japan, Inc.



VA/VE Proposal Award from SUZUKI MOTOR CORPORATION

Quality improvement work

The quality policy of the INOAC GROUP is manufacturing trusted by customers. We implement diverse activities for quality improvement by emphasizing work to prevent critical complaints, raising the level of our quality management system and training all employees.

We use the PDCA* cycle on a daily basis and work to provide customers with satisfactory quality in the first place.

* PDCA: Plan, Do, Check, and Action

[Cases]

Work to prevent serious complaints

Our auditing and instruction at domestic and overseas production bases include important quality commodity audits, official authentication audits and audits of the state of implementing agreements with customers to improve the quality capacity in order to prevent quality failure that presents great risks for the company such as lost social credibility and large amounts of guarantee money. For new products using any new techniques, materials, processes and applications, we conduct DR* to prevent serious failure before putting the products on the market.

*DR: Design Review

Quality innovation (automatization, introduction of IoT)

We are developing automatization at manufacturing sites to establish worker-friendly and highly efficient product lines with stable quality. We are also working on appearance inspection by using image processing and laser technology to reduce the burden for inspectors and to enhance quality assurance for customers. The introduction of IoT to plants is promoted to understand the state of the production process on a real-time basis and to enable sign management showing machine failure and defective products on the basis of the data.



Supply chain management

Procurement basic policy

1 Promotion of global procurement

We enhance global procurement and partnerships with our customers by utilizing our domestic and overseas bases.

2 Compliance with laws, social codes and office regulations

We comply with laws, social codes and office regulations, and promote healthy and open procurement.

3 Promotion of fair, just and sincere procurement

We provide our customers with fair and just competitive opportunities to promote sincere procurement.

Procurement considering the environment and human rights

We conduct procurement while considering our global environment in accordance with INOAC's environmental policies. For the raw material use that may cause human rights issues or social problems such as conflict minerals, we conduct procurement with much consideration.

Construction of partnership on the basis of mutual trust with business connections

We construct firm relationships of mutual trust and cooperate with our business connections to maintain and improve mutual technological capability and quality.

Optimal procurement at global bases

We contribute to countries where our bases are located by procuring local raw materials and components, and build good partnerships with our business connections by thinking of optimal quality and price, and long-term trade. We promote higher strategic procurement to respond to global production.

Enhancement of partnership with business connections

We organize the INOAC Cooperative Assembly consisting of our business connections of approximately 80 organizations to implement our work. INOAC and our business connections try to cooperate more. For example, we invite representatives of our business connections to our whole group presentation conference and ask them to give us presentations about work to promote compliance, risk management, etc. at lecture meetings.



Promotion of green procurement

Measures for conflict minerals

In order to advance the measures for environmental regulation that have become stricter from year to year, we determine the INOAC Green Procurement Criteria and promote procurement in consideration of our global environment. We also work on considering the improvement in loading efficiency to improve procurement logistics and even reduce the environmental burden. Regarding the conflict mineral issue that minerals produced in endless conflict areas such as the Democratic Republic of Congo and adjacent countries become a source of funds, we work to disclose information in cooperation with our business connections under the policy of not using such minerals.

Contributing to society and community 1

INOAC GROUP uses various opportunities to promote activities contributing to society and communities through technical support, human resource development, cultural support and more. We also participate in exchange with local residents.

International Polyurethane Technology Foundation

Applications of polyurethane are diversely expanding in many fields including consumer products, distribution, automotive parts and information devices.

The polyurethane industry is expected to continue to greatly contribute to industrial development, and the whole industry needs to respond to social demand and issues including the preservation of our global environment in the face of environmental themes such as safety, cleanliness, ecology and energy saving. This foundation was established with the aim of further developing the study of polyurethane and fostering human resources to develop the polyurethane industry in the future. Since the establishment in 2014, the foundation has supported assisting research abroad.

INOAC International Education and Scholarship Foundation

INOAC expanding their business globally since the 1950s established "INOAC International Education and Scholarship Foundation" in 1987 to foster human resources who can be actively involved in the world. The foundation has awarded scholarships to excellent foreign students studying in Japan and excellent Japanese students studying overseas, and the number of awarded students exceeded 300 so far.





INOAC Innovation Support Program

The foundation has implemented cultural support activities, "INOAC Innovation Support" for years. The support activities range widely such as sponsoring public performances of ballet and opera and more. Sponsoring public performances is helpful in culture promotion and deepens the commitment between society and INOAC.



Contributing to society and community \bigcirc

Overseas

INOAC Polymer Lanka (PVT) Ltd. INOAC Lanka (PVT) Ltd. (Sri Lanka)

In May 2017, southwest Sri Lanka was attacked by a record-breaking torrential rain which severely damaged the area. They provided the flooded area with relief supplies and also provided victims with medical examinations.

In addition, they donated their manufactured mattresses to the hospital near their plant in August, which was the second donation.





INOAC Polymer Vietnam (Vietnam)

They receive two Japanese undergraduates in the internship program twice a year and provide them with some training. Through practical work at a Japanese company abroad, they provide them with the opportunity for intercultural and social experiences.

INOAC Vietnam Co., Ltd. (Vietnam)

They receive Japanese undergraduates in the internship program for two weeks twice a year and provide them with the opportunity to work with Vietnamese employees. This enables them to think internationally and contributes to fostering human resources who can be globally active in the future.

INOAC Automotive (Thailand) Co., Ltd. (Thailand)

They donated candles and lamps to Waranat Temple for the lantern festival in July. Their representative visited an orphans' home in Boon Chu in August and donated money and goods.

Volunteers among the employees also donated their blood to the Chonburi Red Cross in August.



Domestic

Anjyo Plant

They hold a bazaar on Tanabata, which is always on July 7, and at the end of the year every year to communicate with neighbors through the on-spot sale of their manufacturing products and events. They also sponsor the Anjo Tanabata Festival and receive a goodwill ambassador. They participate in cleaning, provide interns with work experience and implement crime prevention patrols.



Sakurai Plant

Regarding work experience for junior high school students and internships for senior high school students, they are provided with the opportunity to experience picking the parts for assembling an automobile and assembling at the final stage as part of school events for the purpose of actually realizing the nobility of labor. In addition, they hold a bazaar at the end of the year, and clean once a week, too.



Nanno Plant

They sponsor the firework event in Kaizu Summer Festival in Gifu Prefecture every year where this plant is located.

They receive junior high school students for work experience and senior high school students for internships every year and foster a desirable feeling of working and feeling occupations through experience learning, which helps them to understand cooperativeness.

Promoting work-life balance

System for compatibility support

We are working to support compatibility between work and family to have an employee-friendly workplace and promote women's remarkable work. According to the regulations regarding childcare leave, childcare leave is provided before the child is two years old. Five days of sick/injured child care leave are provided if you have one child and ten days of special (paid) leave are provided if you have two or more children. We introduced a system of reduced working hours for childcare by which the period can be extended to up to three years if the child is a third grade or younger student in an elementary school. We also institute five days of special paid leave when a spouse gives birth to a baby.

List of compatibility support systems (enforcement year)

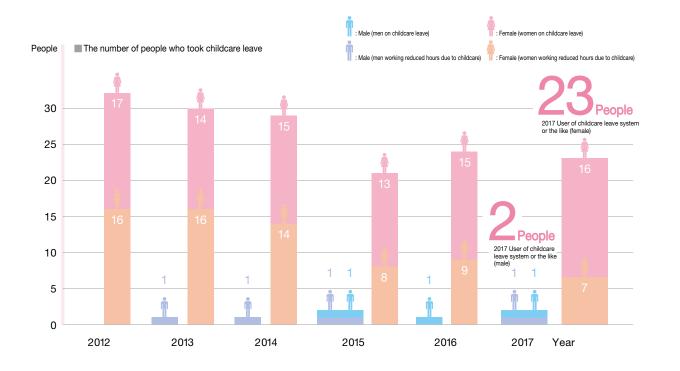
Maternity leave for spouse (before 1980) Implementation of flextime system (1990) Regulations regarding family care leave (1990) Happy holiday leave (1991) Regulations regarding childcare leave (1992) Regulations regarding measures for maternity health management (1998) System for paid half days off (2000) Family support holiday leave (2005) Sick/injured child care leave (2005) Regulations regarding childcare leave amended (leave period extension) (2005) System of reduced work hours for childcare (2008) Family care leave (2010)

Promoting annual paid vacation

While people clamor for work-style reform these days, the obligation of taking at least 5 days of annual paid vacation in a year seems to be legislated.

Considering this movement, we encourage our employees, including managers, to plan on and take at least 5 days of annual paid vacation from FY 2017.





Promoting female employees

INOAC positively uses female employees and creates an environment where female employees can contribute to the company, fully demonstrating their skills and knowledge for their work after we bring out their potential. We hold a Seminar for promoting women's success at work every year for female candidates for management positions to encourage female employee thinking and career enhancement. We also hold a Seminar of promoting women's success at work every year for male candidates for management positions to make a system by which we can support female employee success.

Employment of challenged persons

In order to realize a society where everyone's possibility is broadened, we hire challenged persons. Attentiveness to other people is created in employee minds and consciousness and is enhanced by hiring challenged persons.



People

The number of promotions to female managers (including INOAC Technical Center Co., Ltd.)

2002 =	2007	2008	2009 -	≈ 2011	2012 -	≈ 2016	2017	Year
1	1	2	2	1	1	0	0	
Unit: Number of people						-		

Total number of promotions to female managers: People

Work regarding enforcement of the Law on Promoting Women in the Workplace

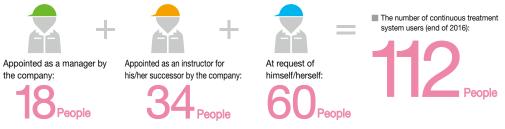
In connection with enforcing the Law on Promoting Women in the Workplace in April 2016, we work on promoting women's success at work with the three goals below to encourage them to demonstrate their potential and develop their careers in many divisions for the five years from April 1, 2016 to March 31, 2021.

Goal

- 1 To raise the proportion of female subsection chiefs to that of male subsection chiefs, we work to promote 10% of female candidates to subsection chief in this term.
- 2 To find more female candidates for management positions, we will increase the proportion of female participants to 10% in the training courses for the mid-grade employees or for subsection chiefs.
- 3 We will make the usage rate of managers' annual paid vacation equal to the rate of general employees'.

User of continuous treatment system

Since January 2015, we have been working to create an environment in which senior citizens can continue their careers with us. We are increasing wages, working positively for them to continue as effective and responsible employees.



Welcoming international

We move international employees working at overseas local subsidiaries to the mother plant in Japan, and welcome them as trainees to improve their techniques and skills for human resource development. By bringing back and utilizing their knowledge and experiences learned in Japan, localization is facilitated and globalized know-how is handed down. We also welcome technical interns from overseas local subsidiaries. They can contribute to work site improvement after returning to their own countries through operations at specific production sites for a certain period of time in Japan. We hope that they will have self-awareness as members of our group and be fans of INOAC through such experiences.

Employee education

The Global HR & General Affairs Division plans and executes the Employee Education that enhances the ability of and provides a place for development for the employees of the INOAC Group. Regarding employee education, a yearly schedule is drawn up every year and uploaded on the company's message board; then all employees can read it at any time. Study and training that employees would like to take and supervisors would like their supervisees to take can be drawn up all year round.

Stratified education

Both the Humanity Education that provides training that enhances personal attractiveness, common grounds as working adults and strength in character as well as the Capability Education that provides competence and proficiency expected in the jobs are offered. Milestone Education is provided for each job title including managers, newly appointed key positions, subsection chiefs, group leaders and other mainstay backbone jobs when they start the position. Employees of the same rank from all over the country gather together for their Milestone Education to work on common tasks to make networks through training and lodging together.

Sectional Specialty Education

The Sectional Specialty Education provides the basic knowledge, domain knowledge and specific skills required for each specialty. The educational curriculum has been built to reflect the need for education from each division of the Group.

Sales Division: Trainings that enhances the sales skills at the beginner, middle and expert levels.

Engineering Division: Trainings that improves the presentation and communication skills of the backbone mainstay level employees.



Global HR Development

The INOAC Group deploys its factories and offices globally in more than 50 locations. In order to develop the human capital that is ready for progress in globalization, INOAC stresses its Global HR Development activities. The Global Mindset Seminars try to improve the global sense of employees by exposing them to first-hand experiences outside Japan through Overseas Study Trips and Short Term Overseas Business Trips beginning from their junior years. Candidates for being stationed in overseas offices or factories are systematically trained through the Pre-Overseas Post Training with multiple courses including experience from ex-expatriates before actually being sent to overseas business locations.

Harassment prevention

INOAC implements the following measures against harassment in the company.

1 Declaration and publication of company policy

INOAC declares the company policy concerning harassment including sexual and power harassment.

2 Establishment of consultation desk

The consultation desk to address harassment in the workplace is established in the personnel and general affairs divisions in each area on a nationwide scale. Consultation desks for women and consultation desks at the labor union side are also established.

In-house research on actual conditions

The Power Harassment Questionnaire is administered annually to all employees to try to understand the actual conditions.

4 Harassment education

All the managers in INOAC are required to attend the Harassment Lecture.

Personal development

The Distance Learning Program supports employees who wish to work on their personal development. After the completion of this program, the company refunds applicable employees with half the cost of the distance learning. Each year, copies of a Distance Learning Guidebook that includes more than 100 courses are distributed to employees. About 100 employees take advantage of this program every year.



Principles and basic policy for safety

- ① Safety is the basis of the very existence of the Company.
- ②All accidents and hazards are preventable.
- Safety is achieved through the awareness and responsible action of each employee.

Based on the safety policy above, safety being prioritized over everything else is demonstrated and the practice of stop, call, and wait after risk prediction is being followed. With an annual activity plan defined incorporating activities of the Ministry of Health, Welfare and Labour as well as monthly focus topics learned from past incidents, the safety and health management practice is further enhanced through repeated education/training as well as improvements in weak spots discovered by safety and health evaluations.

Safety Practitioners Conference

1. Summary from the 2017 Conference ①Reports from disaster prevention activities

O Statistics and analysis of hazards in the INOAC Group

- ③Notices and changes in the Safety and Health Act
- 2. As education and awareness raising to prevent occupational accidents(1)Work hazard prevention

• Kyushu and Tohoku (via TV)

- Grabbing Karuta (Japanese traditional playing cards) on which slogans related to safety and health are written
- 3. Policy for FY 2018

 Explanation of activities of safety, health and disaster prevention in FY 2018
 Proposal from the Work Union



Safety Conference

Whole-Company Safety Committee Meeting

As the safety activities lead by the top management and participated in by the whole company...

©Central Safety and Health Committee: Held four times a year

◎Field inspection by officers: Twice per year

OSafety Practitioners Conference: Six times per year

Safety and Health Committee at each location: Monthly

Through these activities, INOAC enhances the company-wide awareness of safety, health and hazard prevention and builds

an organization culture for preventing hazards from occurring in the future.



Field safety inspection by top management

Developing safety-conscious workers with the Safety Dojo (Safety Gym)

The Safety Dojo lets employees experience work hazards in safe settings using 15 simulators that enable the employees to see, hear and feel the hazards. The experience helps build a workplace capable of achieving the zero-hazard standard by enabling the employees to become more sensitive to potential hazards, able to predict them and ensure safe work practices.



Safety dojo

Activities toward enhancing employee health

Each manager is responsible for leading the effort by showing examples to improve the knowledge and skill. ©Consultation for mental health and harassment

Outdoor smoking space to separate smoking

- Reduction in road surface temperature as an environmental measure
- Study and lead sessions by industrial physicians and the health insurance association
- Preventive measures against heatstroke



Heat insulating pavement (reducing road surface temperature by reflecting infrared rays)

Hazard prevention activities

Acting under the Crisis Management Protocol helps minimize damage by natural and other disasters and ensures early restoration

- 1. Large earthquakes
- OAlleviation of earthquake damage to buildings and facilities
- Safety and disaster prevention equipment and stockpiles for earthquakes
- Responses after earthquakes
- Stockpile of mattresses to contribute to the community
- 2. Measures against fires, storms, and floods
- Prevention of fires and explosions in manufacturing facilities
- Preparations for and establishment of structures against storm and flood damage
- Introduction of W-info, a weather information distribution system



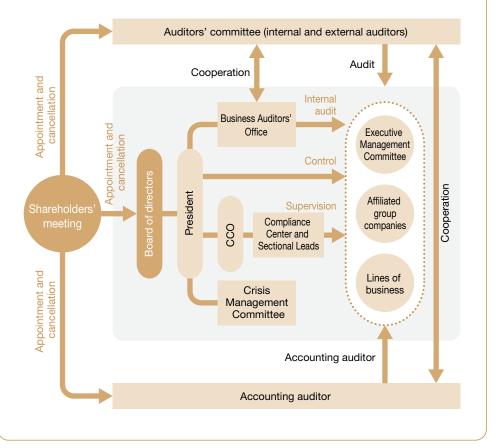
INOAC CSR REPORT 2018

Corporate governance

Our basic view on corporate governance

INOAC considers enhancing corporate governance as an important management issue to raise the Group's performance, value and trust from society.

Corporate governance structure (management structure)



[Corporate governance structure]

Board of Directors

Comprised of seven members, the Board of Directors decides important issues in INOAC's business. Each board member reports the execution, financial and performance statuses of his/her division, based on which the Board supervises and controls the business execution of the Company.

Executive Officer System

In order to separate supervisory and executional responsibilities, INOAC has introduced its Executive Officer System. Each Executive Officer endowed with his/her own authority from the Board acts as the head of the business unit, group company or major functional organization while he/she represents facilitating decision making and business execution.

Board of Auditors

The Board of Auditors is composed of three auditors including two external auditors. Each Auditor attends important meetings including the board meetings and supervises the business execution of Directors by inquiring about their business execution.

[Internal Control System]

Measures are implemented to ensure the execution of the business complies with applicable laws as well as the Company's articles of incorporation.

Compliance

Information management

Compliance promotion structure and employee education on the Corporate Code of Conduct. Control of documents with the Document Control Procedure that defines the responsible division and storage period for each document.

Control structure as the corporate group

For affiliated companies, the Affiliated Company Document Control Procedure is developed. Clarification of the execution rules and auditing by the Auditors as necessary.

Risk management

The Executive Management Committee manages each risk with the Crisis Management Committee being held as necessary. Quickly obtain risk information and establish the response structure through the permanent Negative Information Hotline.

Compliance

Basic views on compliance

INOAC believes the compliance requirement goes beyond following the applicable laws to require each employee act with a high level of ethics. In order for INOAC to satisfy its corporate responsibilities and expectations from customers, only following the applicable laws is insufficient; employees must also recognize their social responsibilities as part of the corporation.

Compliance education

In addition to the development of the internal regulations, an educational program aimed to raise awareness of the compliance requirements is provided to sales reps, people in charge of procurement, new recruits and other new hires in all business locations. The educational program includes case studies assuming issues in the actual work environments, taking hints from compliance issues of other companies and discussions on questions raised in the daily work, working to raise the awareness of the people being trained.

Consultation support

In case of any compliance violation, the Company must immediately respond to the situation. For this purpose, INOAC has established the Help Line through which anybody may consult with both the Legal Group and the external law office about his/her concern. Internal Reporting and Whistleblower Protection Regulations are also in place so that whistleblowers are not subjected to any adverse treatments because of their actions.

Compliance and Ethics Program

The Compliance and Ethics Program has been implemented with the Compliance Center established within the Tokyo Headquarters.

A Chief Compliance Officer (CCO), to lead the Compliance Center, a Compliance Officer for each of the domestic and overseas areas and business locations and a Compliance Leader for each division have been appointed.

A structure to enhance employee consciousness toward the compliance is being established with necessary internal regulations being developed.

Internal audit

Internal audits are conducted on lines of businesses as well as domestic group companies for the purposes of compliance, risk management and law observance. Items found during the audit to need improvement are tracked regularly to raise the governance standards of the whole INOAC Group.

Box for Issues to be Addressed

The Box for Issues to be Addressed (consultation contact) has been established so that the Company may immediately respond and take measures to prevent any further damage, going beyond compliance issues alone to also address issues on product quality, safety and environment, sales, procurement and more.



[Inquiries]

INOAC CORPORATION

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