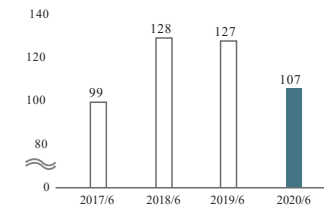


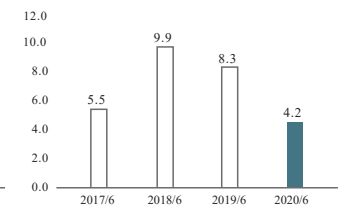
Resource Circulation Business that enhances the sustainability of a society



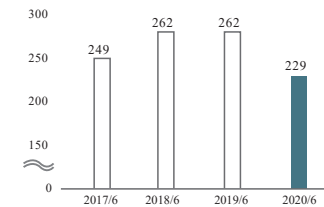
Sales (100 million yen)



Ordinary profit (100 million yen)



Handling volume (1,000 tons)



The ENVIPRO Group promotes the resource circulation business as our key business to achieve our mission statement that is to “contribute to create a sustainable society.” We offer new value to society, engaging in the effective utilization of limited resources, waste reduction, and the production of recycled raw materials from waste, by promoting the reuse, recycling, and remanufacturing of materials that were disposed of as waste.

■ Three key businesses

Our group operates the resource circulation business, focusing on the following three businesses as its key components.

1. Recycling Business (resource recovery)

Our group has been engaged for more than half a century in a recycling business in which metal scrap, waste and others are crushed, and physically sorted into ferrous and nonferrous metals, gold, silver, and copper sediment sludge (mixed metals), plastics, etc.

based on differences in their properties. With the use of advanced sorting technologies based on the above-mentioned technologies as well as our accumulated know-how, it is possible to condense and collect ultrafine precious metal particles from both waste incineration ash and ASR* that seemingly contain no precious metals.

Furthermore, with regard to waste plastics, we have achieved a recycling rate of approximately 94.6%, minimizing simple incineration and landfilling by producing RPF for thermal recycling.

*ASR: Abbreviation of Automobile Shredder Residue. The residue which remains after end-of-use vehicles are dismantled and shredded to remove chlorofluorocarbons and their parts, such as air bags, doors, and engines, and to collect useful metals.

2. Remanufacturing Business (re-production)

Our group promotes and actively invests in the “Remanufacturing Business” which aims to manufacture recycled raw materials out of waste and scrap by taking recycling technologies to the next level. We are engaged in manufacturing recycled resin pellets from waste

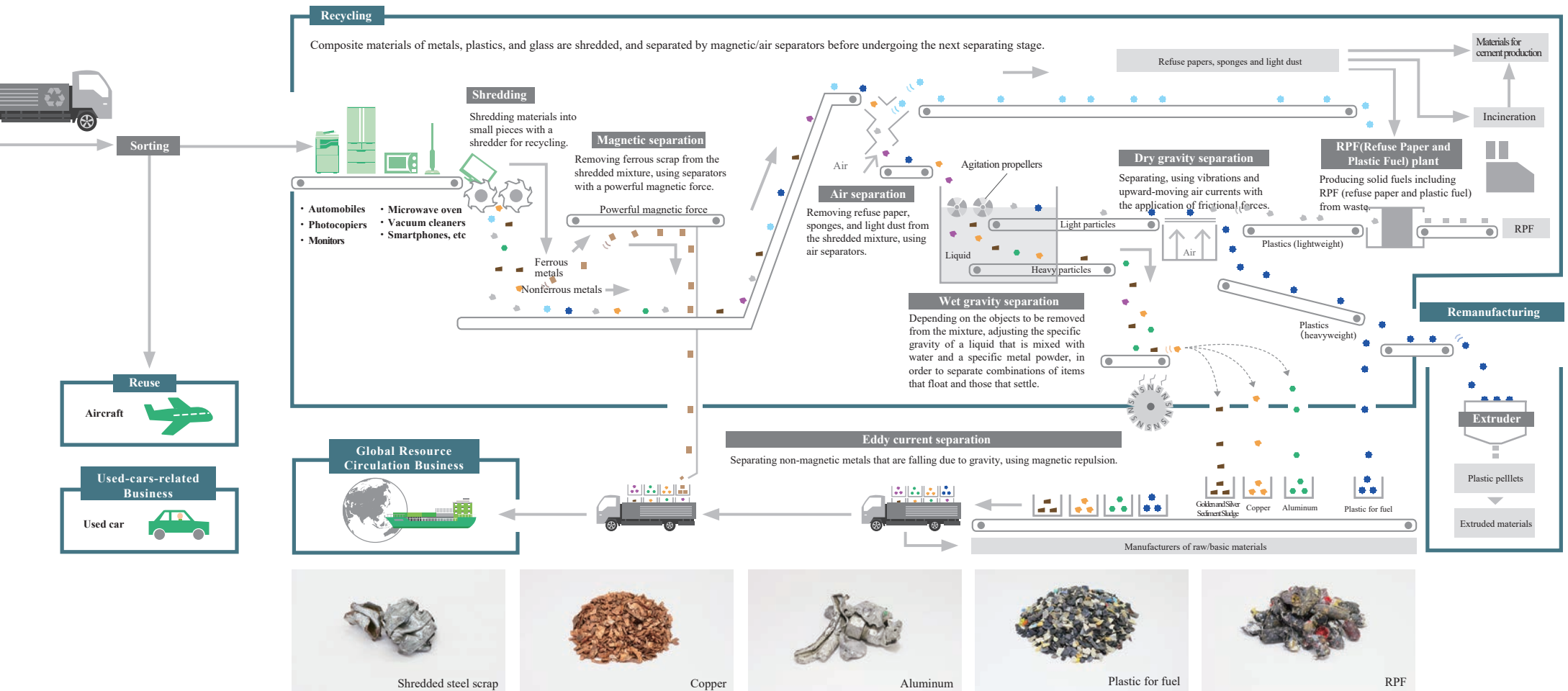
plastics, rubber chips from waste tire rubber, and recycled cobalt and nickel materials from lithium-ion batteries. To become a manufacturer of recycled raw materials for products, we must maintain product quality, fabricate prototypes, ensure a stable product supply, guarantee delivery schedules, and others. We need to have totally different viewpoints in order to develop technologies and business know-how from the recycling businesses. We are now taking up these new challenges.

3. Reuse Business (reuse)

We are engaged in a reuse business that distributes used products and maintenance parts without modifying their functionality or value. The volume of metal scrap and waste will inevitably decrease in Japan where more people share goods and products, and where the population is declining. Therefore, for our group which is engaged in the resource circulation business based on these materials, our involvement in the reuse business is important from the viewpoint of securing materials for our key businesses.

Resource Circulation Business | Flow diagram of treatment/processing in resource circulation business

In the resource circulation business, we promote resource recovery and recycle a large variety of used equipment and machinery, ranging from PCs, mobile phones, home appliances, small appliances, industrial equipment, and other electric and electronic waste, to used mechanical equipment, automobiles, and aircraft. To convert these kinds of waste that are composites of metals and plastics back to useful resources, the Envipro Group has developed a sophisticated physical separation process that starts with advanced shredding. The sophisticated separation technology enables us to not only separate plastics from metals, but also separate the metals into iron, copper, aluminum, stainless steel, and gold and silver sediment sludge. In this way, a very high level of recycling of individual resource materials is realized.



Resource Circulation Business | Promoting resource recovery of waste

Since its inauguration some 70 years ago, ECONECOL Inc. has accumulated abundant expertise in the treatment and recycling of various metal resources and has come to possess proprietary recycling technologies. Through the pursuit of these technologies, it has established an integrated system to collect metals, plastics, minor metals, and precious metals from a variety of scrap and waste materials, and recycle them to resource materials.

Resource recovery from urban mines

The metals including precious metals contained in waste materials such as used cars and household appliances are often referred to as “urban mines,” a reserve of many useful resources. However, advanced technologies are required to convert such composite waste materials into materials ready for use. We shred the “urban mine” waste materials and apply optimum combinations of magnetic force, wind power, wet specific gravity, dry specific gravity, color, and other separation technologies to separate and concentrate individual materials to achieve a high level of resource recovery.



Gold, silver, and copper sediment sludge (mixed metal)

Collection of precious metals from waste incineration ash

Through further advancement of the separation technologies, we have developed a technology to collect precious metals from waste incineration ash discharged from general waste incineration facilities. A patent on the technology was issued in May 2019. Waste incineration ash is normally disposed of in landfills. Our collection technology contributes to the improvement of the resource recovery rate and the reduction of the amount of waste incineration ash put to landfill.

Amount of waste incineration ash collected

2,298t

Quantity of precious metals collected from waste incineration ash

Au (gold) 43.4kg Ag (silver) 361.0kg

RPF production

RPF (Refuse Paper and Plastic Fuel) is a solid fuel that is made by compressing such waste plastics and paper waste that are difficult to put to material recycling. It is characterized by stable quality and being more environment-friendly than coal or other fuels. We produce approximately 25,000 tons of RPF per year, and are continuously supplying it to paper mills and other manufacturing industries for use as boiler fuel. It is expected to become more widely used as an alternative fuel to promote recycling.



RPF

Reuse and recycling of aircrafts

In May 2019, we won the tender for two retired dedicated aircrafts of the Japanese government invited by the Air Self-Defense Force. They were sold to a US buyer as a reuse and recycling resource to collect aircraft maintenance parts. Unlike selling them just as used aircrafts, correct valuation of the aircrafts and their parts and components was necessary. The know-how we had accumulated over the years on the evaluation and conversion to cash of metals and other composite materials was key to the success of the transaction. In the United States and Europe, the current major market for reuse and recycling of aircrafts, companies who trade used aircrafts are usually different from those who deal with the recycling of frames and other non-usable resources. We will continue to contribute to the reuse and recycling of aircrafts as a pioneer in providing a one-stop, comprehensive service of evaluating and recycling, capitalizing on its rich know-how on recycling.



Aircraft

Wide-ranging one-stop services

We offer one-stop services that range from collection, transportation, and disposal of waste to building demolition. Usually, removal of machinery and equipment from factories and offices prior to demolition requires separate contracts with multiple companies, each having specific licenses for collection, transportation, or disposal of discarded articles (including those containing low-concentration PCB or asbestos), or remediation of contaminated soil after demolition. We can offer one-stop services encompassing waste removal and disposal, demolition of structures, and remediation of contaminated soil after demolition, thus helping to increase the recycling rate and at the same time reducing the burden and costs on the part of the customer.

Promoting responsible recycling

Marking one of the cornerstones evidencing the technologies and track record behind its diverse business, we became certified for the R2 Standard in August 2019. The R2 Standard refers to a certification program managed under the guidance of the U. S. Environmental Protection Agency to encourage and evaluate responsible actions for electrical and electronic equipment recyclers. The R2 Standard covers recycling of used electrical and electronic equipment such as mobile phones, TV sets, and computers. Because of the reliability of this certification, R2 certified recyclers are increasingly preferred in the market. We will continue to strive to promote responsible recycling of electric/electronic equipment, ITC equipment and secondary batteries.



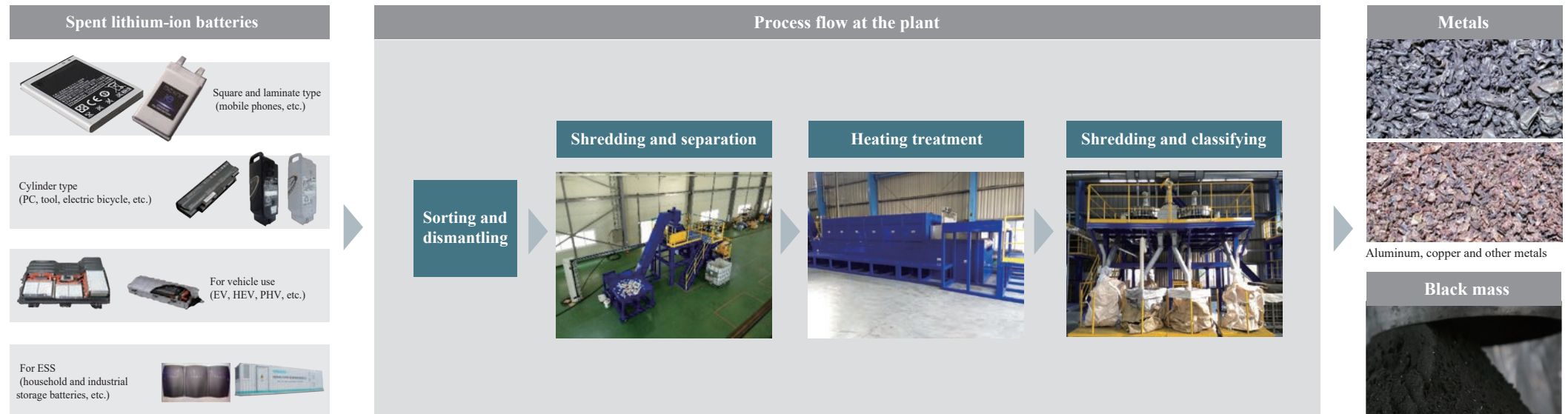
R2 certificate

Resource Circulation Business | Recycling of lithium-ion batteries

Lithium-ion batteries (LIBs), which contain cobalt and nickel known as minor metals, are widely used in mobile devices such as smart phones and laptops, as well as home appliances. In addition, the global decarbonization trend has led to an increase in the amount of LIB used in electric vehicles. There is a risk that the growing demand for LIB could raise pressure on the supply and demand balance of cobalt and nickel in the near future, which has been a cause for concern.

VOLTA Inc. is engaged in the recycling of rechargeable batteries such as LIB and Nickel Hydrogen batteries, which have traditionally been simply incinerated. By having established a resource circulation business of minor metals, we contribute to the effective use of limited resources.

Lithium-ion battery treatment flow diagram



■ Establish a safe and rapid recycling process

We are capable of recycling various types of spent LIB that are generated in town. The physical sorting technologies of the Envipro Group are fully applied for the dismantling and sorting of the batteries and the casings. In order to ensure the safety of the neighboring and surrounding environment, we employ a heat-drying method and no incineration in the treatment process so as to minimize toxic gas generation. In addition, we have introduced a unique exhaust gas treatment system. In November 2020, we successfully received R2 certification with a view to establishing its position as a responsible recycler.

The currently-operated recycling process can produce concentrated cobalt and nickel sludge called black mass. We are considering

refining the black mass in-house in the future for sale of the materials to customers in the battery-related industry.

■ Obtaining a license to treat/dispose of industrial waste

In July 2020, we obtained a license to treat/dispose of industrial waste. This enables us to handle waste batteries with a low content of minor metals, thereby expanding our business scope.

One-stop services from removal through disposal of unneeded goods



■ Overview of “Comfortable Life Support”

Kuroda Recycle Co., Ltd. launched its "Comfortable Life Support" business in 2017, serving the area of Hakodate City and its environs in southern Hokkaido, to make a contribution to the community. Initially, the business was limited to tidying up of individual homes. As the birthrate declined and aging of the population progressed, the business scope expanded to include offices, tenants, and large commercial facilities. The integrated service by the recycling company covering removal, transportation, and disposal of unneeded goods helps achieve a high recycling rate of the treated materials, while reducing the client's labor and cost. Although the contact point is just one, the network cultivated within the Envipro Group is mobilized to offer constructive proposals to solve problems of all kinds.

(i) Tidying up of individual homes

We provide comprehensive service of removing, transporting, treating, and disposing of unneeded goods out of individual homes.

(ii) Removal of unneeded goods out of offices and tenants

We provide one-stop services of removing, transporting, and treating in-house unneeded goods out of offices, tenants, and large commercial facilities.

(iii) Demolition of buildings

We are engaged in demolition of houses and stores, as well as the collection of chlorofluorocarbon gas from air-conditioning equipment etc.



Disposition of tenant's unneeded goods



Demolition of a residential house

■ Community-based recycling business

In the southern Hokkaido area, demolition and disposition of wooden houses are increasing. Accordingly, we receive an increasing number of inquiries for the disposal of wood waste and other waste construction materials generated from the demolition of buildings. Also, the need is rising for the management of waste generated by the fisheries industry, one of the core industries in the region. However, there are neither recycling plants nor land-fill disposal sites for such waste in the nearby area, and appropriate and prompt waste management is getting more and more difficult.

To respond to these issues, we have added a new shredding line to treat wood chips and waste plastics and to start accepting fishing tools and other hard-to-treat waste.

Operating the existing shredding and separation facilities and the new line together, we improve the capability of treatment in order to recycle those waste into raw materials for wooden products, wood chips as fuel, or cement raw fuel. In this way, we contribute to promoting community-based resource recycling and stimulating the local economy by enabling comprehensive waste management and recycling which reduces the amount of waste that needs to be transported to distant sites for disposal.

■ ASR Recycling Business

We are also engaged in the recycling business of Automobile Shredder Residue (ASR), which remains after end-of-use vehicles are dismantled to remove chlorofluorocarbons and their parts, such as air bags, doors and engines, and shredded to collect useful metals. ASR contains metal particles that were not collected during the shredding process. By further separating/pulverizing and kneading ASR, we successfully collect the metal particles and recycle them as materials for cement production, thereby contributing to improving the recycling rates of scrap cars.

There are only a small number of ASR recycling facilities nationwide. Hence, our facility in Hakodate-City, Hokkaido, accepts ASR from outside of Hokkaido.



ASR Recycling Facility

Regional circular and ecological economy through recycling



Syn Eco Plaza Azumino

■ A recycling facility for regional circular and ecological economy through recycling

"Syn Eco Plaza Azumino," a recycling facility SYN ECO Inc. opened in April 2019, collects, recycles, and disposes of bulky waste, specified home appliances, and resource materials generated in Azumino City as a general waste disposal facility. The facility can accept and treat large used furniture such as items that the city residents find hard to bring in directly to the Clean Center, the inter-municipal public treatment facility. It is appreciated by many residents of Azumino City, particularly as a rare facility that can recycle the legally specified home appliances (TV sets, air conditioners, washing machines, refrigerators).

■ Permanent placement of resource materials collection box

We operate 17 collection stations of "Mottainai BOX", a container for the collection of resource materials, in the Chushin region, the central part of Nagano. Each of the stations is managed with utmost care to the local environment to receive used paper, metals, and other resource materials.

In fiscal 2019, we collected approximately 6,000 tons of such resources through this program for our intermediate treatment and thus contributed to the resource recovery. A number of companies have agreed to set up the "Mottainai BOX" in their premises, contributing to the local resource circulation.



Mottainai BOX

■ Supporting the comfortable life of local residents 快適ライフサポート

We extend a "Comfortable Life Support", a home pick-up service for people who cannot transport bulky waste by themselves. In order to respond to various requests, we have established a service platform to help solve the problems of the local residents, such as discharge, disposal, or transfer of large furniture and the like and pruning of garden trees. Recently we receive more inquiries about estate sale services. Staff members officially registered as liquidation professionals provide the services (including in-life clearance), listening attentively to the wishes of the family members. We also provide one-stop services from disposal of unneeded goods and building demolition to the necessary legal paperwork of abandoned houses, being one of the nationwide social problems

■ Large shredder for high quality intermediate treatment

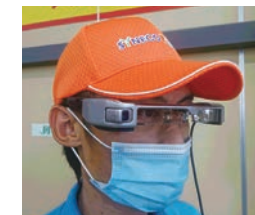
Our head office plant has the largest shredder in Nagano used for the intermediate treatment of metals, waste plastics, waste paper, etc. By taking advantage of the features that shredding gives to the intermediate treatment, we treat ferrous metals, nonferrous metals, and composite waste and send each of the recycled materials to manufacturers, who make them into new products. The treated mixed metals and nonferrous metals are re-sorted and re-made by other group companies, taking advantage of economies of scale as a Group. In addition, our big used paper packing machine is used to pack different types of used papers and ship to paper-manufacturing companies to make recycled paper. In this way, we play an important role in the

circulation of resources.

The plant collects reusable resources from local municipalities in Nagano. In parallel, we collaborate with PTAs of local elementary and junior high schools, welfare providers, and local J-League football team Matsumoto Yamaga FC in the collection of reusable resources so as to develop community-based recycling activities.

■ Establishment of an IT-based sophisticated recycling system

In December 2019, we introduced to the shop floor a novel system using wearable devices. This enables novice operators to work with more confidence, as they are navigated by the image and voice instructions prepared from the expert's perspective. As a result, work standardization has become possible, and less skilled workers perform the same work procedures as skilled workers to increase overall productivity. The system has not only freed skilled workers and supervisors of the burden of coaching, but also visualized their know-how and expertise, which helps prevent work errors. In the resource recovery process of specified home appliances, the recycling rate is displayed in a timely manner, and the intake of waste appliances and the shipping out of collected resources are controlled integrally, so the system captures the entire recycling process.



Wearable device



Recycling rate visualized

Manufacturing high-quality recycled materials from waste

■ Safety technology and universal design

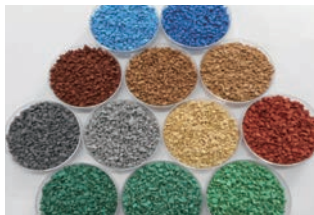
Toyo Rubber Chip Co., Ltd. procures waste tires and offcuts of industrial rubber products to make black rubber mulch for recycling. We also produce color rubber chips out of synthetic rubber.

● Black rubber mulch

Most of the synthetic rubber products found in the market are made from petroleum and other virgin natural resources. In contrast, we have a nearly 80-year long history since 1942 of using waste tires and offcuts of industrial rubber products as precious starting materials for recycling. Currently, we procure 5,700 tons of waste rubber materials annually, and manufacture rubber chips, rubber powders, and other recycled raw materials, as well as final products such as rubber panels for pedestrians. Rubber chips are mainly used for elastic pavement and cushioning of artificial turf, contributing to the "safety" of people. Rubber powders, which are finer than rubber chips, are used as the raw material for automobile brake linings and as a filler



Black rubber mulch



Color rubber chips



Rubber panels for pedestrians

for tires. Rubber panels for pedestrians help reduce accidents at railroad crossings.

While other companies mostly manufacture standardized products, we use its unique processing technology to tailor its rubber panel products to the configuration of the railroad crossing, including any track intersection and diversion. Our products fill the front-line needs that cannot be met by off-the-shelf products. They are leveraged by the technical staff's years of experience and expertise.

● Color rubber chips

We also manufacture color rubber chips using synthetic rubber, EPDM (ethylene propylene diene monomer). It is used in playground facilities, nursery school and kindergarten gardens, and nursing homes, public facilities, hospitals, and other safety-critical situations, because it is rich in color that can be freely designed to meet the needs, and reduces the risk of fatal injury in the event of fall or stumbling. In addition, we have a drop test machine and have



Dekoboko Square in Hibikinada Green Park

established an in-house system for quality assurance, including conformity with the HIC1000 safety standard for head injuries. Furthermore, the color rubber chips suppress temperature rise more effectively than do black rubber mulch. For this reason, they are used in artificial turf cushioning and poolside flooring for heat prevention purpose, thus providing not only safety but also comfort features.

■ Sustainable products made at the RE100 plant

In May 2019, we became an RE100 plant, with 100% of the electricity used in its plant sourced from renewable energy. Literally, we now produce sustainable products in a sustainable plant. The electric power we use at the plant is supplied from the RE100 menu of retail power operators. In addition, power generated at the Komiya Solar Power Plant of SYN ECO in Matsumoto City, Nagano, one of our group companies, is used preferably through non-fossil fuel energy certificate with tracking information.



Maebashi Children Park