



新菱 Shinryo

THE KAITEKI COMPANY

Mitsubishi Chemical Holdings Group



Reduce



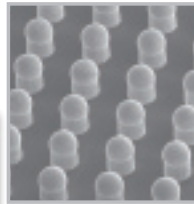
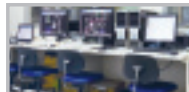
Reliance



Reuse

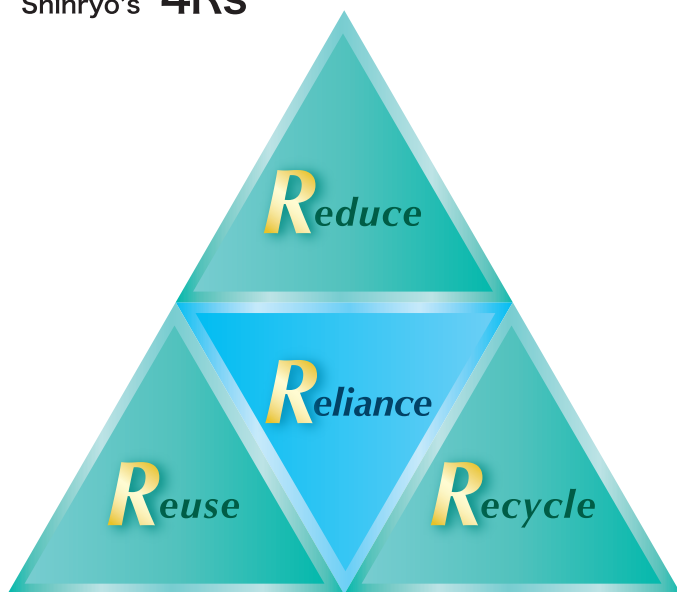


Recycle



Shinryo is developing its business fields anticipating the future of human and nature, by performing “4Rs”; Reduce, Reuse, Recycle and Reliance, making full use of its chemical technology.

Shinryo's “4Rs”



【 Company Profile 】

Company name	Shinryo Corporation
Establish	October 1, 1964
Head Office	RISO Kurosaki-ekimae Bldg., 3-9-22, Kurosaki, Yahatanishi-ku, Kitakyushu-shi, Fukuoka 806-0021
Capital	500 million yen
Stockholder	Mitsubishi Chemical Corporation, 100%
Sales	14,200 million yen (Fiscal Year 2017)
Employees	Approximately 900 employees

【 History 】

- 1964/10 Genkai Industry Corporation was established.
- 1975/04 Company name was changed into "Shinryo Chemical Corporation".
- 1994/10 Company name was changed into "Shinryo Corporation" on the 30th birthday of our company.
- 2006/10 Shinryo Semicontechno Corporation was established by carrying out a merger among three subsidiaries, i.e. Kyushu Shinryo Co., Tohoku Shinryo Co., and Chubu Shinryo Co.
- 2008/04 Shinryo Corporation merged 4 (four) subsidiaries, i.e. Shinryo Semicontechno Co., Shinryo Electronics Co., Shinryo Service Co. and SIMAX Co..



Message from the Top Management



Bearing the image of a clear sky, our corporate symbol expresses kindness and compassion for nature and the environment. All of our business operations are based on our strong devotion to protecting precious nature and the environment and passing them on to the next generation.

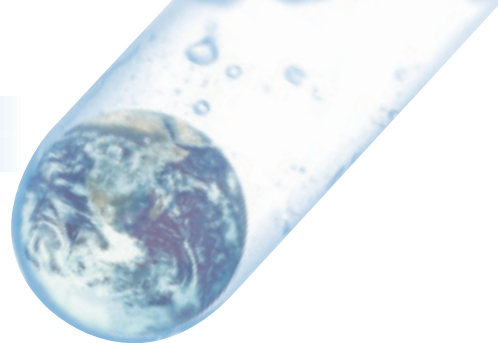
As our specific commitment to the creation of a resource-recycling-oriented society and a reduced environmental footprint, we are developing a wide range of business operations, such as detoxifying/recycling of industrial waste, precision cleaning of semiconductor/panel manufacturing equipment components, reclaiming of silicon wafers, and fine chemicals by taking advantage of chemical technologies.

Always rising to take on the challenges that face our customers and society, we have provided Reduce, Reuse, and Recycle solutions for many years. Thanks to our proven expertise, we have earned the value of “Reliance” from both our domestic and overseas customers.

Earning your reliance and recognition are what drives each and every one of our employees. Each one of us in a united effort is committed to continuous evolution in order to provide new products and services for the future.

Toshiro Eto, President





Shinryo contributes to society through Reduce, Reuse, Recycling, and proprietary technology as well as special expertise, aiming at achieving a zero-emission society.

Recycling

At Shinryo we are able to respond to all of our customer's various recycling needs, including the recycling of such substances as oil, waste acid, waste alkaline, raw materials for cement, and other accumulated industrial chemical waste.

【 Business line 】

- ◎ Recycling of raw materials
- ◎ Recycling of waste acid and alkali
- ◎ Recycling by crushing (Glass bottles)



Futajima Plant



Water treatment equipment

Chemical recycling

Through recycling of used chemical products, which were previously disposed of as industrial waste, Shinryo sets its sights on realizing a resource-saving, environment-preserving recycling society with zero emissions.

【 Business line 】

- ◎ Regeneration of solvents
- ◎ Regeneration of polishing agent adsorbents
- ◎ Regeneration of rare and precious metals
- ◎ Extraction of active substances from natural products (collagen, etc.)
- ◎ Regeneration of ion-exchange resins



Extraction tank



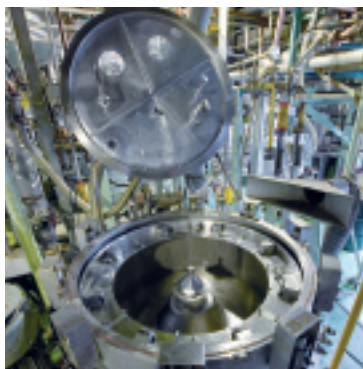
Clean room

Fine-chemical

As a group of precision chemistry professionals, we respond to wide-ranging customer needs with the motto of Quick response, High purity, and Low impurities, from the development of fine chemicals to the implementation of full-scale production.

【 Business line 】

- ◎ Raw materials for cosmetics
- ◎ Photoresist light-sensitive resins
- ◎ Printer and copier photosensitive agents
- ◎ Toner electric charge adjustment agents



Centrifugal separator



Decentralized control system

Group Company Corporation RecycleTech

Spent copiers and personal computers are received, and meticulously disassembled and separated by quality/kind of materials by hand to make these devices recyclable.

Recycling rate **99.8%**





Our precision cleaning and surface treatment technology was developed for the best cleaning process to remove contaminants not visible to the naked eye and minimize metals.

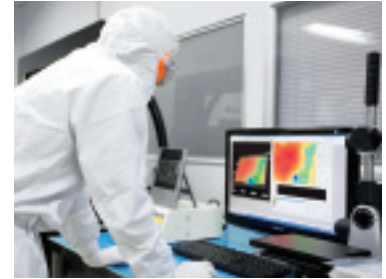
We respond to domestic cleaning requests with a network of 9 plants.

Precision cleaning

【 Business line 】

◎ Precision cleaning

Precision cleaning of various manufacturing equipment parts, including semiconductors and FPD (liquid crystal, organic EL), and solar cells
Recovery of value items, cleaning of pipes, and processing to render items harmless



Surface treatment and regeneration and Parts processing

【 Business line 】

◎ Parts processing

Additional processing, repairs, and new production

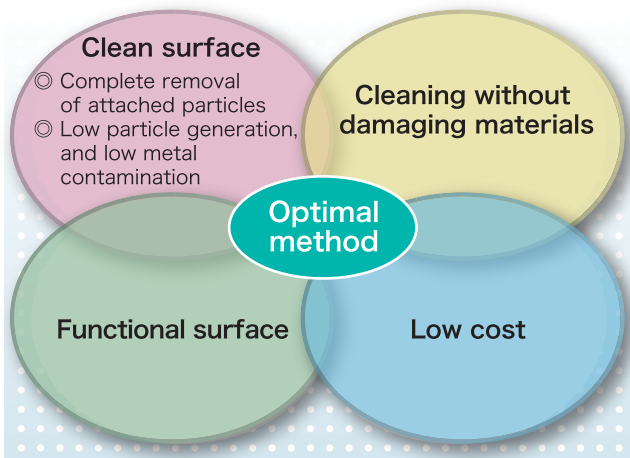
◎ Surface treatment and regeneration

Thermal spraying and anodized aluminium, precision polishing, blast, quartz regeneration, nickel plating, chemical polishing, electrolytic polishing, fluoride resin coating, etc.



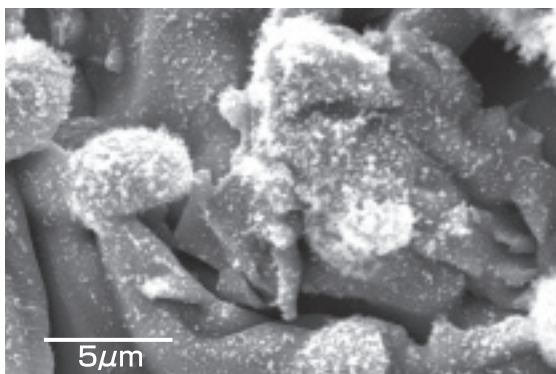
Development center to develop cleaning technology and perform analysis

■ Concepts of precision cleaning design

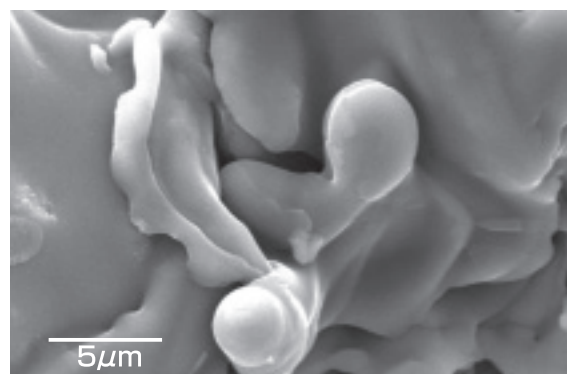


Precision cleaning line

■ Actual examples of precision cleaning (Removing ultra-fine particles)



Before



After

(10,000 x image)

Wafer Device Business

We respond to customer problems and requests in relation to semiconductors and wafers with our own technology.

Wafer reclaiming (200mm, 300mm)

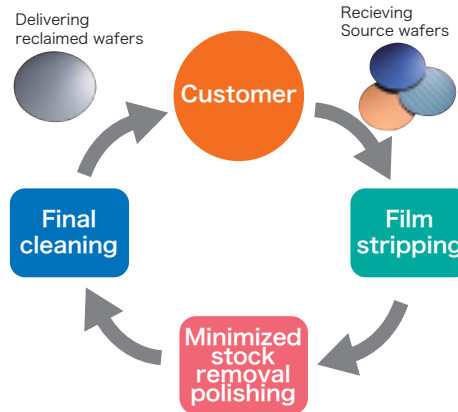
Huge amount of monitor and dummy wafers are consumed in the semiconductor manufacturing processes in order to diagnose equipment status and process conditions. We receive the consumed monitor / dummy wafers from our customers and return them with re-usable quality to our customers after film stripping, minimized stock removal polishing and final cleaning.

We provide our customers with substantial cost reductions through increase of number of times reclaimed wafers can be used by optimized film stripping and minimized stock removal^(※1), and a short turn-around time.

【 Business line 】

- ◎ Wafer reclaiming (200mm, 300mm)
- ◎ Cleaning of shipping boxes
 - FOSB / FOUF and others. We also provide cleaning of your wafer boxes or pods
- ◎ Reclaiming of specially-treated wafers
 - We have experiences to reclaim specially treated wafers, such as surface-treated wafers.
- ◎ Various measurement and analysis on wafers
- ◎ Sales of silicon wafers

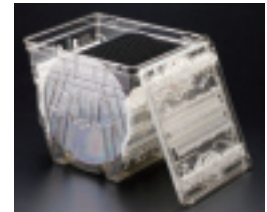
Shinryo's proprietary technology to minimize and optimize stock removal by polishing depending on condition of received wafers from you.



Manufacturing line



Single-wafer polishing



300mm wafers

Electronic Processed Items

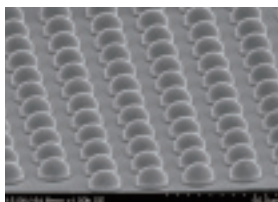
With leadframe exterior plating as our base, we develop new plating technologies that offer various functional plated products that meet customer needs such as microfabrication, pitch reduction, increased precision and high functionality.

【 Business line 】

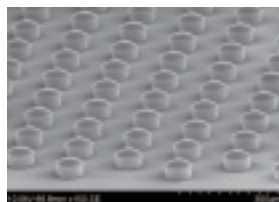
- ◎ Leadframe exterior plating
- ◎ Ball plating (for cored solder balls)
- ◎ Wafer bump plating
- ◎ Wire plating
- ◎ Various functional plating (abrasion resistance, slidability, corrosion resistance, etc.)
- ◎ Development prototype production services



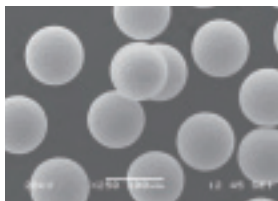
Wafer plating equipment



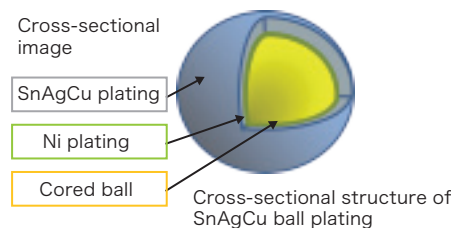
Wafer bump plating $\varnothing 10 \mu\text{m}$



Cu pillar + solder bump plating $\varnothing 75 \mu\text{m}$



SnAgCu ball plating $\varnothing 100 \mu\text{m}$



IC lead SnAgCu plating

Analytical technology and quality assurance

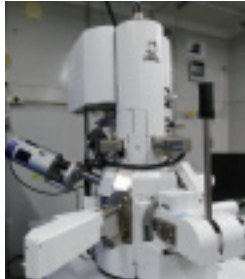
Having various analytical devices, we strive to maintain our reliable inspection system from the aspects of facilities, inspectors, and standards.

Main analytical devices

We own and operate various analytical devices, such as particle inspection machines.



ICP/AES



FE-SEM



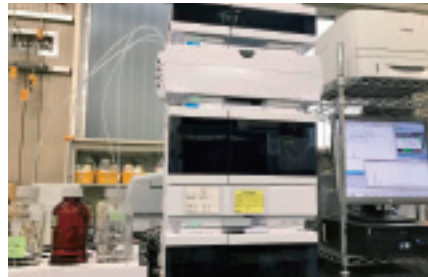
XRF



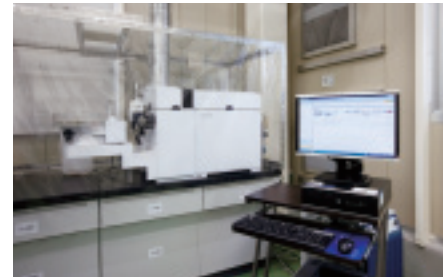
Particle Inspection Machine



GC/MS



HPLC



ICP/MS

Quality assurance system ISO9001 and ISO14001 accredited

We obtained ISO9001 certification in 1998 and ISO14001 certification in 2002.

We are audited for upgrades every year for continuous accreditation. Also, with a QA group installed in each division, we have established a system to deliver reliable quality to customers.



Contribution to CO₂ reduction

We contribute to client and our CO₂ reduction efforts through our business activities.



Effect of CO₂ reduction

2016	205,000t
2017	226,000t
2018	224,000t

※Method of calculation ... According to the internal rules

To be a company in which employees shine

We were awarded the “Kitakyushu City Work-Life Balance Award, Mayor’s Prize” in 2009. In 2010, we acquired a Next-Generation Accreditation Mark (nickname: Kurumin) with the approval of the Labor Bureau. We have also been registered in the “Declaration of Support for Childrearing” sponsored by Fukuoka Prefecture.



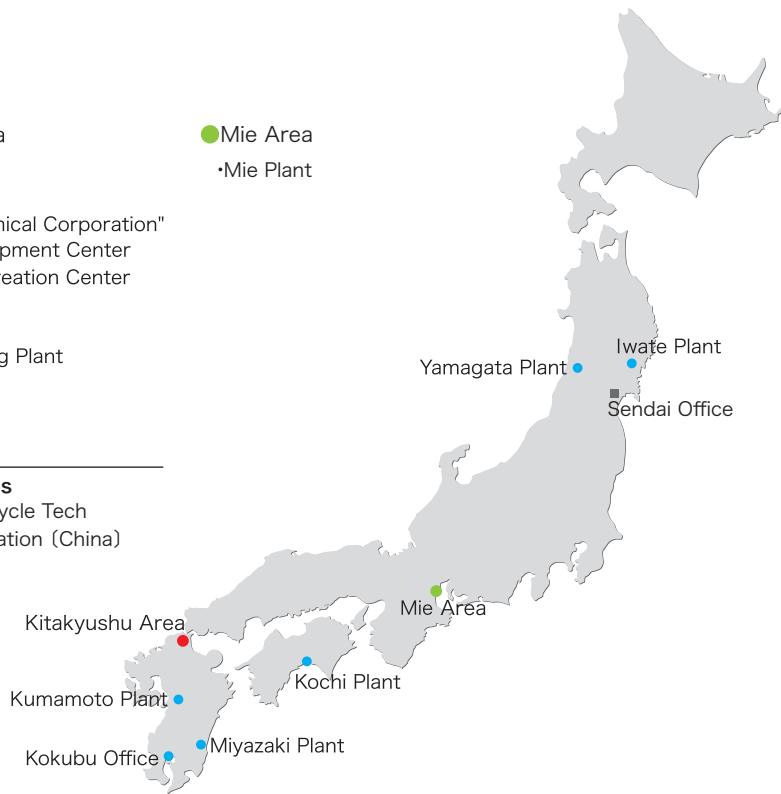
Network

● Kitakyushu Area

- Head Office
- Plant in "Mitsubishi Chemical Corporation"
- Technical Development Center
- New Business Creation Center
- Futajima Plant
- Fukuoka Plant
- Functional Plating Plant

● Mie Area

- Mie Plant



Group Companies

- Corporation Recycle Tech
- GEM tek Corporation (China)



Iwate Plant



Yamagata Plant



Mie Plant



Fukuoka Plant



Kumamoto Plant



Miyazaki Plant

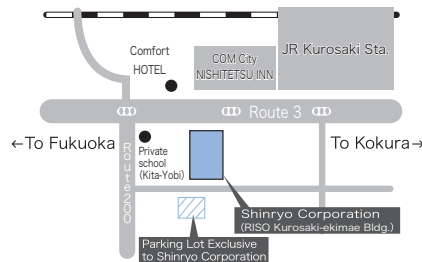


Kochi Plant

Shinryo Corporation

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Access



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