

Special Feature: Chemicals Business Growth and Construction Materials Business Integration

Integration Purpose

UBE and Mitsubishi Materials established UBE-MITSUBISHI CEMENT CORPORATION as a 50:50 joint venture in 1998, through which they integrated their cement sales and logistics capabilities to cut logistics and back-office expenses.

The operating climate for the domestic cement business has experienced dramatic changes, slower demand and significantly higher energy prices being two examples. The two companies thus needed to create a new structure that reinforces their relationship so their cement businesses could grow.

The full integration of the construction materials businesses of the two companies, including production, will pour domestic cement business cash flows into businesses offering growth potential in Japan and abroad. UBE and Mitsubishi Materials should accordingly keep delivering sustainable growth by contributing to social infrastructure development and a circular economy.

Business Integration

UBE and Mitsubishi Materials Corporation plan to integrate their cement and related businesses in April 2022. This special feature discusses the reason for this move

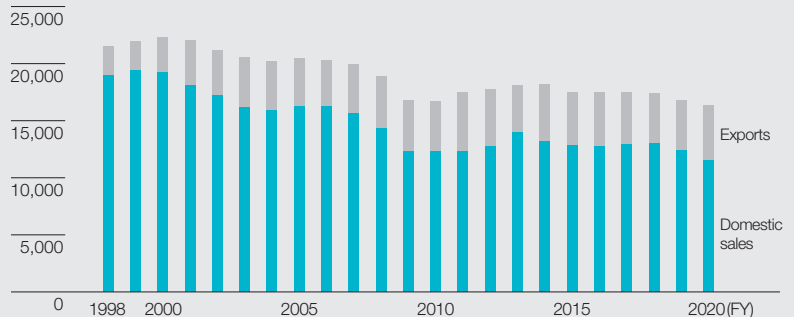
and the new company's growth prospects. It also explores the goals of the chemicals business, which will become UBE's sole segment after integration, and the Company's efforts to become carbon neutral by 2050.

- 1923**
Production starts at Ube Cement Factory
- 1955**
Production begins at Isa Cement Factory
- 1964**
Production starts at Kanda Cement Factory
- 1998**
UBE-MITSUBISHI CEMENT CORPORATION established

History of UBE-MITSUBISHI CEMENT

Since its establishment in 1998, UBE-MITSUBISHI CEMENT has endeavored to maintain stable supplies of cement, which is essential for constructing infrastructure, by leveraging an extensive domestic logistics network. That joint venture ranks second in its industry in Japan in terms of cement sales volume. In view of recently falling cement demand, that company needed to streamline operations to maintain stable supplies.

Cement Sales Volume
(Thousands of metric tons)



Isa Cement Factory (Clinker production capacity of 3.77 million metric tons annually*)

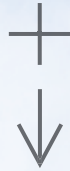
* Source: Japan Cement Association's Cement Handbook 2020

Strengths and Business Model



Strengths of UBE's cement business

- Large port facilities, coal center, and other infrastructure in Ube area
- Nationwide ready-mixed concrete production and sales network
- Inorganic materials business of Ube Material Industries, Ltd.



Strengths of Mitsubishi Materials' Cement Business

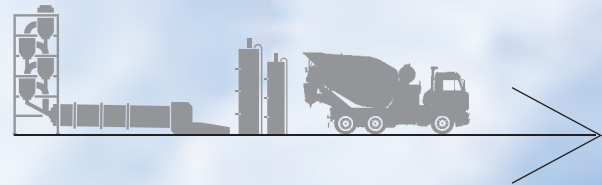
- Kyushu Plant, with Japan's largest cement production capacity
- Ample limestone resources at Higashitani Mine
- Highly competitive cement and ready-mixed concrete businesses in the United States

Combining strengths of two companies with integration benefits

Growth Prospects

In the domestic market, the new entity will endeavor to reinforce its business underpinnings by maximizing synergies to drive efficiency across the entire value chain, including by optimizing the production structure and restructuring sales and logistics for the downstream ready-mixed concrete and other businesses. It will thereby enhance its position by contributing to social infrastructure development and a circular economy. The company will focus resources that domestic cement businesses have on businesses with growth potential in Japan and abroad. These include the overseas cement and ready-mixed concrete businesses and the high-performance inorganic materials business, which employs high-quality limestone.

Through these efforts, UBE and Mitsubishi Materials will pursue sustainable growth by optimizing their business management structures.



Profile of New Company

Name	Mitsubishi UBE Cement Corporation
Location	Iino Building, 2-1-1, Uchisaiwaicho, Chiyoda-ku, Tokyo
Businesses	Cement and ready-mixed concrete businesses in Japan and overseas, limestone business, energy and environment-related business, construction materials business, and other related business
Capitalization	¥50,000 million
Representatives	Makoto Koyama, Representative Director, President Kazuto Hirano, Representative Director, Vice President
Planned business launch date	April 1, 2022

Mitsubishi Materials
Kyushu Plant

(Clinker production capacity of 6.61 million metric tons annually*)

* Source: Japan Cement Association's Cement Handbook 2020

Description

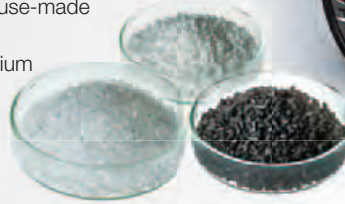
- 1 Applications
- 2 Features
- 3 Production structure



Employed in Toyota Mirai's pressurized hydrogen tank liner

Nylon Composites

- 1 Automotive parts, etc.
- 2 Technological strengths underpinned by record in supplying automakers and Japan's largest nylon supply capacity with inhouse-made raw materials
- 3 Acquired Repol S.L. in Spain in 2019 and Premium Composite Technology North America, Inc., in the United States in 2020 to establish global production and quality assurance structures



High-Performance Coatings

Including polycarbonate diol (PCD) and polyurethane dispersion (PUD)

- 1 Including automotive interior materials (synthetic leather), paints, and floor coverings
- 2 Demand growing for eco-friendly coating materials with low volatile organic compounds (VOCs)* that leverage the high performance of PCD
- 3 Planning to lift capacity to match demand expansion



Chemicals Business Growth

After integration to create the new company, the cement business will contribute to the UBE Group as an equity-method affiliate by leveraging synergies to enhance profitability. UBE will pursue further growth as a chemicals company, transforming its business structure and specializing to shift to a structure that is less energy-intensive and less vulnerable to market fluctuations and building a resilient business portfolio with growth potential. UBE will broaden its global scale and drive the UBE Group's expansion by allocating resources to priority businesses and products. Among them are fine chemicals, including high-performance coatings, nylon composites, separation membranes and other polyimide-related products, and peripheral fields.

Fine Chemicals

- 1 Including lithium-ion battery (LiB) materials, semiconductor materials, raw materials for polyurethane and polyester resins, intermediate raw materials for pharmaceuticals and agrochemicals, and fragrances
- 2 Globally and domestically unique specialty offerings including C1 chemical products from proprietary nitrite technology, divalent phenol products, C12 chemical products, and amine products
- 3 In C1 chemicals, developing licensing business in China for technology to produce monoethylene glycol from dimethyl oxalate and looking to establish dimethyl carbonate production sites in China and the United States to drive global C1 chemical chain expansion



Polyimide

- 1 COF films for displays, polyimide for flexible circuit boards and flexible display circuit boards
- 2 World's only manufacturer integrating production from biphenyltetracarboxylic dianhydride (BPDA) monomers

Separation Membranes

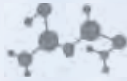
- 1 Separating and recovering CO₂, H₂, N₂, dehumidification, dehydration of bioalcohol, and other gases and vapor
- 2 Japan's sole gas separation membrane manufacturer with a sophisticated separation technology that helps realize a green society



Glossary

* Volatile organic compounds (VOCs): These organic chemicals evaporate or sublimate easily, entering the atmosphere as gases. They are factors in the forming of suspended particulate matter (PM) and photochemical oxidant pollution.





● **Chemicals Business** While creating new technologies through R&D and expanding sales of environmentally friendly products and technologies, we are rigorously conserving energy and improving processes. Also, we are rebuilding our business structure that does not rely heavily on fossil resources by focusing on specialty chemicals, and are pursuing the following initiatives.

	Fiscal 2020 results	Fiscal 2021 initiatives
Domestic plants and domestic Group companies	<ul style="list-style-type: none"> Reduced utility consumption by improving equipment design Reduced electricity consumption by removing bottlenecks in the process Upgraded to energy-saving facilities 	<ul style="list-style-type: none"> Increase use of unused utility from other companies Upgrade to energy-saving facilities
Overseas Group companies	<ul style="list-style-type: none"> Reduced utility consumption by optimizing operation of a caprolactam plant in Thailand Upgraded to energy-saving facilities 	<ul style="list-style-type: none"> Reduce utility consumption by optimizing operation of a caprolactam plant in Thailand Upgrade to energy-saving facilities
CO₂ emissions cuts	Approx. 17,300 metric tons	Approx. 9,700 metric tons

Initiatives to Become Carbon Neutral by 2050

From fiscal 2022, the UBE Group will shift to a new business structure, with Ube Industries taking on the chemicals business, Mitsubishi UBE Cement Corporation taking on the construction materials business, and UBE Machinery Corporation, Ltd. taking on the machinery business. Our operations will continue striving to become carbon neutral in light of the Japanese government's commitment to such a goal for the nation overall. Please see page 15 for details.



● **Construction Materials Company** We invested heavily in waste heat power generation facilities that became operational at the Isa Factory in January 2020 and high-efficiency clinker coolers that should go online at the Kanda Factory in fiscal 2022. We are also continuing to undertake decarbonization initiatives, such as to step up the use of plastic and other wastes as thermal and energy alternatives. We set up the cross-company Global Warming Countermeasures Project organization in April 2021, and are accelerating the assessment of efforts to attain carbon neutrality. At the same time, we are implementing the following initiatives.

	Fiscal 2020 results	Fiscal 2021 initiatives
Cement factories	<ul style="list-style-type: none"> Converted clinker cooler bag filter exhaust fans to inverter setups at Isa Factory Upgraded to energy-saving facilities 	<ul style="list-style-type: none"> Rationalization of cement crushing process at Kanda Factory Upgrade to energy-saving facilities
Power plants	<ul style="list-style-type: none"> Increased use of biomass fuel for independent power producer (IPP) setup Upgraded to energy-saving facilities 	<ul style="list-style-type: none"> Upgrade to energy-saving facilities
CO₂ emissions cuts	Approx. 94,200 metric tons	Approx. 10,300 metric tons



● **Machinery Company** Each unit in the Machinery Company is focusing on developing products that help conserve the environment and is also working on providing services that leverage existing facilities.

In the steelmaking business, we are also expanding environmental recycling operations, notably to completely melt and process industrial and medical waste in manufacturing processes.

On top of contributions to society overall, we are undertaking the following initiatives.

	Fiscal 2020 results	Fiscal 2021 initiatives
	<ul style="list-style-type: none"> Ube Steel: Reduced fuel consumption by upgrading preheaters Upgraded to energy-saving facilities 	<ul style="list-style-type: none"> Ube Steel: Reduce fuel consumption by upgrading preheaters Upgrade to energy-saving facilities
CO₂ emissions cuts	Approx. 800 metric tons	Approx. 600 metric tons