Management’s Discussion and Analysis

Results of Operations

1. Management Policies, Operating Environment and Challenges to Be Addressed

Forward-looking statements contained herein are based on MGC Group’s judgment as of March 31, 2021.

Fiscal 2020 was the final year of our previous medium-term management plan, MGC Advance2020. We regrettably failed to achieve the plan’s fiscal-2020 performance targets.

The shortfall was attributable to a combination of external and internal factors. The external ones included reduced demand for certain products due to the COVID-19 pandemic and declines in prices of general-use products, largely in response to US-China trade tensions and supply surpluses stemming from the rise of emerging market economies. The internal factors included structural maturation of our existing businesses and delays in launching and developing new businesses.

Among our core and semi-core businesses, those that provide products insensitive to market price volatility grew briskly. These businesses have maintained their respective competitive advantages while helping to solve societal problems. Their markets also continue to grow.

The economic outlook remains highly opaque with respect to the extent and duration of the pandemic’s impact on economic activity in Japan and globally. MGC will continue to monitor the pandemic’s impact on its business results.

A new Medium-Term Management Plan, “Grow UP 2023,” launched in fiscal 2021, set two new objectives in accord with the MGC Way, the new MGC Group philosophy: shift to a profit structure resilient to changes in the business environment and balance social and economic value. MGC is implementing a three-pronged strategy to achieve each objective.

The New Medium-Term Management Plan: Grow UP 2023

●Objective 1
Shifting to a Profit Structure Resilient to Environmental Changes: Business Portfolio Reforms

■Strategies
- Further strengthen competitively advantageous (“differentiating”) businesses
- Accelerate creation and development of new businesses
- Reevaluate and rebuild unprofitable businesses

To move forward with business portfolio reforms under the Plan, the MGC Group has reevaluated its business categories, classifying those businesses with both competitive advantage and growth potential as “differentiating businesses.” The MGC Group is developing a broad range of differentiating businesses to offer value to society. In chemicals and materials, these include Meta-xylenediamine (MXDA), MX-Nylon, aromatic aldehydes and polyacetal; specialty products include electronics chemicals, BT-related materials, optical polymers and ultra-high refractive lens monomers. The MGC Group will continue to focus management resources on these differentiating businesses, further strengthening profitability.

In addition, the Group will work to accelerate the creation and development of new businesses. Through revisions to its Research Promotion and Supervisory organization, the MGC Group is working to more flexibly draw out the capabilities of its human resources, while maintaining and expanding its existing businesses as a true R&D company and building an R&D system for creating innovation. At the same time, the Group will construct a system for responding to the needs of its customers and markets even more swiftly and precisely, striving to create value that leads to sustainable growth. The Group also plans to continue introducing new products by increasing its research personnel and making even more active investments in R&D.

In addition to these strategies, the MGC Group will also work to reevaluate and rebuild unprofitable businesses as it attempts to shift to a profit structure that is resilient to environmental changes. Specifically, by fiscal 2023, the Group aims to have more than 40% of overall sales come from differentiating businesses, and for unprofitable businesses or those needing rebuilding to represent less than 3% of total sales.

●Objective 2
Balance Social and Economic Value: Toward Sustainable Growth

■Strategies
- Solve social issues through business
- Harmonize shared-value creation and environmental protection
- Strengthen discipline and foundation supporting business activities

Three strategies will be executed with the goal of balancing social and economic value.
While last fiscal year MGC identified materiality--priority issues for management--in line with formulating a new medium-term management plan, it has also established new fiscal 2030 targets to allow the company to make steady progress in materiality management, and has set new key performance indicators (KPIs) for fiscal 2023 aimed at achieving those targets. Specifically, KPIs have been set for GHG emission reductions aimed at air quality control, and for investments and R&D expenditures aimed at solving energy and climate change-related problems. MGC will tie this kind of materiality management to sustainable growth.

●Targeted Management Indicators (final fiscal year of Grow UP 2023)
ROIC will be introduced as a new KPI aimed at promoting management with an awareness of capital efficiency. The MGC Group’s goal in implementing these strategies is to set a new record high for operating income.

Consolidated Performance	Target Value (Fiscal 2023)
Sales (100 mil. JPY)	7,300
Operating income (100 mil. JPY)	700
Ordinary income (100 mil. JPY)	800
ROE (Return on equity)	9% or higher
ROIC (Return on invested capital)	10% or higher

Note: ROIC = Ordinary income/invested capital

(Assumptions) Exchange rate: JPY 105/USD, crude oil price (Dubai): 60 USD/BBL

This Management's Discussion & Analysis contains forward-looking statements, including ones pertaining to plans and targets, based on information available as of March 31, 2021, and certain assumptions deemed reasonable. They involve uncertainty. Actual performance may differ significantly from such forward-looking statements as a result of various factors.

2. Business and Other Risks

MGC Group defines "risk" as possibilities or hazards that, if they were to manifest, could inflict economic losses on MGC due to human casualties, property damage, reputational damage, opportunity losses or other such detriments. The Group has built a risk management regime designed for both routine and exigent circumstances. Specifically, it has established Basic Rules on Internal Control & Risk Management, formulated risk management/mitigation policies and established an Internal Control & Risk Management Committee chaired by the officer in charge of internal control and risk management as a decision-making body that reports directly to the president. The committee makes decisions on matters related to risk management policies, initiatives and plans; matters related to business and operational risk management and guidance, direction and oversight incidental thereto; and matters related to guidance, direction and oversight related to business continuity planning. Additionally, it periodically reports to the Board of Directors on the state of risk management.

The main foreseeable risks that could affect the Group's business results, share price, or financial condition are enumerated from 1) through 11) below. They are all risks that the Group deems to be a realistic possibility, though specifics such as the degree and timing of their manifestation and their impacts are impossible to estimate as of the company's annual securities report's filing date (June 25, 2021) (however, they do not necessarily include every risk to which the Group is exposed).

From a medium-term perspective, MGC Group considers mitigation of risks stemming from climate change to be a key management issue with business-continuity implications. Climate-change-induced amplification of the magnitude of natural disasters such as anomalous weather events, typhoons and flooding may disrupt MGC Group manufacturing sites' operations and/or adversely affect product distribution or supply chains. The Group may have to globally deal with fuel or raw material cost inflation, imposition of carbon taxes as a climate-change mitigation measure and/or demands to install additional equipment to reduce environmental impacts.

Initiatives launched by MGC Group to address climate change include the following. In May 2019, the Group endorsed the Task Force on Climate-Related Financial Disclosure's recommendations. It has established an internal Climate change Action Technical committee that discusses and assesses risks and opportunities posed to the Group by climate change. The committee's assessments are reviewed and approved by a CSR Council comprised of directors and chaired by MGC's president. In addition to mitigating risks due to climate change through analyses based on +2°C and +4°C scenarios, the Group will strengthen its resilience to be better able to transform risks into business opportunities.

Issues around disposal and reuse of post-use plastics, most notably marine plastic pollution, are gaining recognition globally. MGC Group places priority on recycling and circularity. It is developing recycling technologies, easily recyclable materials and compostable bioplastics. Other such initiatives include collecting and recycling waste materials generated when customers use its products and actively participating in similar initiatives led by industry organizations.

1) Endogenous Business Risks

Nature of Risks

MGC Group is mainly a manufacturer. With many of its products used as raw materials, intermediate goods or pharmaceutical inputs in customers' business activities, its sales are sensitive to economic conditions in the countries and regions where its customers' products are sold. In particular, market-priced commodities such as methanol, methanol derivatives, general-purpose aromatic chemicals and polycarbonate resins are generally prone to declines in unit sales and sales prices during economic downturns. Such products' economic sensitivity could adversely affect the Group's operating results and/or financial condition.

In specialty and high-value-added product markets, the Group competes on multiple dimensions, including price, quality, functionality, delivery time and customer service. Intensification of competition due to, for example, the advent of products offering alternative functionality, could adversely affect the Group's operating results and/or financial condition. For example, electronic materials supplied mainly to the electronics industry typically have a short product lifecycle and are constantly exposed to competition through technological innovation. The Group's sales consequently could decline as a result of existing products' obsolescence or product development delays. Additionally, some of the Group's products are sold to only a limited number of customers. If one customer stops using such a product, the Group's sales could decrease.

MGC Group externally sources electric power and raw materials like xylene. Its manufacturing operations could be disrupted if a required input were to become unavailable. Its operating results and/or financial condition could be adversely affected by a sharp rise in input prices also.

Main Risk Mitigation Measures
MGC Group endeavors to develop new markets and businesses in addition to conducting basic and applied research to develop new products and manufacturing processes and improve existing ones. Other risk mitigation measures include close communication and collaboration, inclusive of R&D, with customers, use of long-term supply contracts with both suppliers and customers, and sourcing of raw materials and other inputs from multiple suppliers.

2) Overseas Business Risk

Nature of Risk
MGC Group has subsidiaries and manufacturing and sales operations in Asia, North America, South America, the Middle East and elsewhere. Depending on country-specific conditions, such overseas operations and even dividend remittances from overseas subsidiaries could be disrupted by political instability or societal or economic turmoil due to a natural disaster, war, infrastructure failure, a widespread infectious disease outbreak or other unforeseeable circumstances. Other risks that could adversely affect the Group's operating results and/or financial condition include problems due to differences in legal systems, investment restrictions imposed by foreign governments, nationalization or expropriation of assets, and personnel or labor issues.

Main Risk Mitigation Measures
To respond to overseas risks as effectively and expeditiously as possible, MGC Group endeavors to gather information from various sources, including locally stationed expat personnel, joint venture partners, attorneys and government authorities.

3) Joint Venture Risk

Nature of Risk
MGC Group has numerous manufacturing joint ventures in not only Japan but also foreign countries such as Saudi Arabia, Venezuela, Thailand, China, South Korea, and Trinidad and Tobago. It sources and sells products such as methanol and engineering plastics through its JVs. The Group's joint venture partners are not under the control of the Group. There is consequently no assurance they will make decisions in the best interests of the Group or even the joint ventures themselves. In the event of a joint venture's dissolution or other such circumstances, the Group's operating results and/or financial condition could be adversely affected.

Main Risk Mitigation Measures
MGC Group seeks to maintain and further improve good communication, share targets and objectives and maintain relationships with its joint venture partners while mitigating risks through joint venture agreements and other operational agreements.

4) Product Quality Risk

Nature of Risk
As noted above, MGC Group manufactures many products that are used as raw materials, intermediate goods or pharmaceuticals in customers' business activities and that conform to specifications agreed upon with the customer. However, if it sells a qualitatively defective product, it may have to compensate customers that used the defective product, end-product users and/or other parties for not only direct damages but also opportunity losses. Its societal reputation also may be impaired. In such an event, the Group's operating results and financial condition could be adversely affected.

Main Risk Mitigation Measures
Even though most MGC Group manufacturing sites operate in conformance with globally recognized quality control standards, the Group has liability insurance coverage that includes product liability insurance as a precaution against risk. Other means by which the Group mitigates risk include explicitly limiting the scope of its liability as necessary in agreements with customers.

5) Natural Disaster and Accident Risks

Nature of Risks
MGC Group has numerous manufacturing sites in Japan and elsewhere. Their production activities could be disrupted by earthquakes, storms, flooding or other natural disasters, war, terrorism, civil unrest, labor actions, communication infrastructure failures, widespread outbreaks of infectious diseases such as COVID-19, equipment malfunctions, human error or other unforeseeable circumstances. Given that MGC Group handles hazardous chemical substances on a daily basis, it cannot completely eliminate the possibility of explosions, fires, toxic gas leaks or other accidents that damage production facilities, harm employees, inflict losses on neighboring property owners or customers, pollute the environment or otherwise inflict damages. Additionally, many MGC Group manufacturing sites have multiple production facilities that share utilities such as electricity, water and steam. Interruption of utility service to a manufacturing site consequently could shut down the site's entire production operations. In such an event, the Group's operating results and/or financial condition could be adversely affected.

Main Risk Mitigation Measures
While pursuing continuous improvement based on an environmental safety management system, MGC Group diligently strives to upgrade its safety and disaster preparedness regime through better risk assessment and thorough safety training. In addition to of course endeavoring to properly maintain and stably operate its manufacturing facilities, the Group also formulates business continuity plans and builds redundancy into its network of production sites, including overseas. Additionally, the Group mitigates risk with broad insurance coverage that includes fire, business interruption, oil pollution and liability insurance.

In response to the COVID-19 pandemic, MGC Group swiftly set up a Crisis Response Headquarters and has been expeditiously implementing anti-pandemic measures. Even now, it continues to refine its plants and other workplaces' anti-pandemic measures customized to specific operations on a workplace-by-workplace basis to ensure the safety of its stakeholders, particularly its employees and their families and its customers. Specific measures include proactively using online videoconferencing throughout the Group to reduce opportunities for contagion, allowing head office staff and other employees to work from home and repeatedly adjusting on-site staffing in response to changing infection rates.

6) Information Security Risk

Nature of Risk

MGC Group possesses confidential and personal information required for its business activities and uses various information systems in its operations amid ongoing digitalization of its businesses. In the event of a leak of such information, an information system failure, a cyberattack, fraud committed by a malicious third-party or other such event, the Group's business activities and/or operating results could be adversely affected.

Main Risk Mitigation Measures

MGC Group has established an information security regime and internal regulations based on various guidelines and educates its employees to increase their information-security literacy. It also conducts ongoing initiatives to ensure the adequacy of and upgrade its information security.

7) Investment Risk

Nature of Risk

MGC Group invests in capital assets and R&D to grow its businesses and increase its competitiveness. In doing so, it focuses its efforts on strengthening existing businesses and developing new businesses aligned with prospective market needs. The Group also invests and intends to continue investing in business expansion in Japan and overseas through such means as establishing or co-founding new companies, including joint ventures, and acquiring existing companies.

If the Group fails to earn adequate returns on such investments or incurs impairment losses on non-current assets, securities valuation losses or equity-method investment losses, its operating results and/or financial condition could be adversely affected.

Main Risk Mitigation Measures

MGC Group has established and carries out internal investment screening procedures and performs additional due diligence as warranted by the nature of the prospective investment. Additionally, involved organizational units endeavor to devise appropriate risk mitigation measures.

8) Currency Risk

Nature of Risk

Export, import, and other transactions denominated in foreign currencies could adversely affect the Group's operating results and/or financial condition, including by reducing sales revenues or exacerbating losses, as a result of exchange rate movements.

Additionally, financial statement accounts denominated in overseas MGC Group subsidiaries' local currencies are translated into yen to prepare MGC's consolidated financial statements. Such currency translation could adversely affect the Group's operating results and/or financial condition depending on then-prevailing exchange rates.

Main Risk Mitigation Measures

MGC Group partially hedges currency risk associated with foreign-currency receivables and payables, mainly using currency forward contracts, in accord with internal regulations.

9) Financing and Interest Rate Risks

Nature of Risks

MGC Group partially meets its financing needs by borrowing from financial institutions. In the event of a precipitous change in the financial environment, the Group's operating results and/or financial condition could be adversely affected, including by inability to access funding or increased interest expense due to a rise in interest rates.

Main Risk Mitigation Measures

MGC Group strives to maintain adequate financial soundness as measured by indicators such as debt/equity ratio and shareholders' equity ratio. It also endeavors to optimize its mix of fixed- and variable-rate debt and maintain healthy, favorable relationships with financial institutions and other sources of capital.

10) Compliance Risk

Nature of Risk

MGC Group handles toxic and otherwise hazardous chemical substances, including high-pressure gases, as an inherent aspect of its operations. As such, it is globally subject to various legal and regulatory restrictions at every stage from manufacturing to storage, distribution and sales. If the Group were to fail to comply with said legal restrictions or any other law or regulation or societal norm, its operating results and/or financial condition could be adversely affected by resultant criminal, civil or administrative liability, remediation costs, social sanctions or reputational damage.

Main Risk Mitigation Measures

In addition to establishing specialized organizational units to oversee environmental and other regulatory compliance, the Group has built a compliance regime, including an internal whistleblowing system, and endeavors to fully comply with laws and regulations. It also implements various measures to foster a general compliance consciousness among its personnel.

11) Litigation Risk

Nature of Risk

In the event of an unfavorable outcome to litigation or other legal proceedings brought against MGC Group in connection with its domestic or overseas operations, the Group's operating results and/or financial condition could be adversely affected. For example, the Group seeks to protect its intellectual property through such means as applying for and obtaining patents in Japan and overseas. It also endeavors to avoid infringing on other parties' rights. However, if litigation pertaining to intellectual property rights was to be decided against MGC, the Group's operating results and/or growth could be adversely affected.

Main Risk Mitigation Measures

MGC Group endeavors to not only comply with all laws and regulations applicable to its operations but also avoid disputes through such means as researching other parties' rights and drafting proper agreements that explicitly delineate rights and obligations with the assistance of attorneys and other expert advisors..

3. Management's Analysis of Financial Position, Business Results and Cash Flows

1) Summary of Operating Performance

The fiscal-2020 financial position, business results and cash flows (collectively referred to below as "operating performance") of MGC Group (MGC and its consolidated subsidiaries and equity-method affiliates) are summarized below.

(1) Consolidated Business Results

During the fiscal year ended March 2021 (April 1, 2020 – March 31, 2021), the world economy remained harsh due to the global fallout from the novel coronavirus pandemic. Although signs of recovery emerged thanks to national stimulus packages, progress in vaccination and other positive factors, the pandemic has yet to be contained, causing the outlook for the future to remain unclear.

Against this backdrop, the MGC Group nevertheless saw consistently strong demand for its semiconductor-related products and optical polymers. On the other hand, demand for such offerings as automotive-related products fell in the first half due to the novel coronavirus pandemic, while, at the same time, market prices remained sluggish for general-purpose products. However, the second half brought overall recovery in demand, along with upturns in methanol market prices.

In these circumstances, the MGC Group strove to execute basic policies under "MGC Advance2020," a medium-term management plan. More specifically, the Group endeavored to improve its corporate value by promoting such strategies as "Strengthening the earning power of existing businesses with a focus on core businesses," "Creating and developing new businesses," and "Implementing investment strategies to form an optimal business portfolio."

The MGC Group's net sales decreased year on year due primarily to a drop in the sales volume of general-purpose aromatic chemicals and foamed plastics.

However, group operating income rose year on year, despite increases in repair and other fixed costs, thanks primarily to growth in the sales volume of semiconductor-related products and optical polymers, along with lower raw material and fuel prices.

Ordinary income increased due to the higher operating income as well as improvement in equity in earnings of affiliates related to overseas methanol producing companies that reflected the absence of one-off costs (¥7.8 billion) recorded in the previous fiscal year in connection with a joint venture in Saudi Arabia.

Profit attributable to owners of parent grew, despite such factors as growth in impairment losses and a decrease in gain on sales of investment securities, due mainly to the increase in ordinary income.

(Billions of yen)

	FY2019	**FY2020**	Change
Net sales	613.3	**595.7**	(17.6)
Operating income	34.2	**44.5**	10.2
Ordinary income	31.1	**50.2**	19.1
Profit attributable to owners of parent	21.1	**36.0**	14.9

Operating results by segment are as described below.

In addition, the MGC Group revised the definition of its reportable segments in the first quarter of the fiscal year ended March 31, 2021. To provide comparative year-on-year segment results, the Group has restated the operating results of the previous fiscal year to reflect the revised segmentation.

[Basic Chemicals]

The methanol business saw an improvement in earnings thanks mainly to an upturn in market prices in the second half.

Methanol and ammonia-based chemicals posted a decrease in earnings compared with the previous fiscal year due mainly to a decline in market prices of MMA-based products and an increase in repair costs.

Specialty aromatic chemical products posted earnings on par with the previous fiscal year, due mainly to remarkable second-half recovery in the sales volume of meta-xylenediamine, which had previously been affected by first-half plunge in demand, in addition to solid sales of aromatic aldehydes.

General-purpose aromatic chemical products suffered decreases in net sales and earnings compared with the previous fiscal year. This was, despite lower raw material and fuel prices, mainly attributable to sluggish sales volumes of meta-xylene and purified isophthalic acid, as well as lower sales prices of these offerings.

Foamed plastics were buoyed by second-half recovery in demand in the automotive industry, which had been hit by demand stagnation in the first half, and growing product needs associated with food packaging and civil engineering. Reflecting these and other factors, earnings from these offerings were virtually unchanged from the previous fiscal year.

(Billions of yen)

	FY2019	**FY2020**	Change
Net sales	357.3	**315.0**	(42.2)
Operating income	11.2	**9.6**	(1.6)
Ordinary income	4.7	**11.0**	6.2

[Specialty Chemicals]

Inorganic chemicals posted an increase in earnings compared with the previous fiscal year thanks primarily to growth in the sales volume of chemicals for use in semiconductor manufacturing.

Earnings from engineering plastics were on par with the previous fiscal year thanks mainly to second-half recovery in demand for polycarbonates and polyacetal for automotive and other applications, despite lower first-half demand in these fields.

Optical materials were somewhat affected by signs of stagnation in sales volume in the fourth quarter due to such factors as shortages of semiconductors and inventory adjustments carried out by customers. However, these offerings posted increases in net sales and earnings due to the growing use of multiple camera lenses in smartphones and growth in optical polymer sales volume thanks to measures executed in October 2019 to enhance production capacity.

Electronic materials saw increases in net sales and earnings. This was mainly attributable to growing demand for products used in data centers and other ICT-related fields as well as the higher sales volume of BT materials for semiconductor packaging, the core product category for electronic materials, reflecting the introduction of a new product for use in antenna-in-package substrates to be installed in 5G-compatible smartphones.

Oxygen absorbers such as AGELESS™ posted an increase in earnings compared with the previous fiscal year, despite a decline in demand for offerings used in souvenirs and other tourism-related products, thanks mainly to a solid volume of exports.

(Billions of yen)

	FY2019	**FY2020**	Change
Net sales	255.1	**267.4**	12.3
Operating income	25.5	**34.8**	9.2
Ordinary income	28.1	**37.5**	9.3

[Other]

In Other, the Group posted an increase in earnings from energy-related businesses due to surges in electricity rates in the fourth quarter.

(Billions of yen)

	FY2019	**FY2020**	Change
Net sales	0.8	**13.2**	12.3
Operating income	0.0	**3.2**	3.1
Ordinary income	0.0	**3.2**	3.2

(2) Financial Position

Consolidated assets at March 31, 2021, totaled ¥836.3 billion, a ¥64.6 billion increase from the previous fiscal year-end.

Current assets totaled ¥402.1 billion, a ¥43.4 billion increase attributable largely to increases in cash and deposits and trade notes and accounts receivable.

Non-current assets totaled ¥434.2 billion, a ¥21.1 billion increase attributable mainly to growth in investment securities.

Liabilities totaled ¥254.9 billion, a ¥31.3 billion increase. Current liabilities increased ¥4.3 billion, mainly as a result of growth in short-term borrowing. Non-current liabilities increased ¥26.9 billion, mostly because of an increase in bonds payable.

Net assets totaled ¥581.4 billion, a ¥33.2 billion increase largely due to growth in retained earnings.

The Group consequently ended the fiscal year with an equity ratio 62.7%

(3) Cash Flows

Cash and cash equivalents at March 31, 2021, totaled ¥91.0 billion, a ¥21.0 billion increase from the previous fiscal year-end.

(Cash Flows from Operating Activities)

Operating activities provided net cash of ¥55.4 billion, ¥18.7 billion less than in the previous fiscal year. The decrease was largely due to growth in trade notes and accounts receivable.

(Cash Flows from Investing Activities)
Investing activities used net cash of ¥40.3 billion, ¥6.4 billion more than in the previous fiscal year. The increase was largely attributable to an increase in loan advances.

(Cash Flows from Financing Activities)
Financing activities provided net cash of ¥5.1 billion, a ¥54.7 billion increase from the previous fiscal year. The increase resulted largely from an increase in proceeds from issuance of bonds.

2) Discussion and Analysis of Operating Performance from Management's Perspective

The following discussion and analysis of MGC Group's operating performance from management's perspective contains forward-looking statements based on management's judgment as of March 31, 2021.

(1) Assessment, Discussion and Analysis of Operating Performance

Business results in fiscal 2020, the third year of the MGC Advance2020 medium-term management plan, are recapped below. They ended up falling short of the plan's fiscal-2020 targets.

(Billions of yen)

Consolidated KPI	**Fiscal 2020 actual**	Fiscal 2020 target*	Difference
Net sales	**595.7**	750	(154.3)
Operating income	**44.5**	65	(20.5)
Ordinary income	**50.2**	80	(29.8)
ROE (Return on equity)	**7.1%**	≥ 12%	-4.9ppt

*Revised May 13, 2019

The shortfalls relative to the plan's targets were largely attributable to a shortfall in unit sales and major changes in the external environment relative to our assumptions at the time the plan was initially formulated. These changes included depressed market prices of general-use chemicals such as methanol, purified isophthalic acid and polycarbonates.

While the Group's business results may continue to be affected by changes in economic conditions and/or market prices, including such changes due to the pandemic, the Group will proceed to execute its new Grow UP 2023 medium-term management plan's strategies in pursuit of the plan's fiscal-2023 targets. Specific initiatives are discussed below by segment.

Medium/long-term challenges to be addressed include the new medium-term management plan's two objectives and their respective three-pronged strategies discussed above in "1) Management Policies, Operating Environment and Challenges to Be Addressed" under "Results of Operations." Additionally, we plan to invest a cumulative ¥240 billion and spend a cumulative ¥73 billion on R&D during the plan's three-year term. In addition to proactively making strategic investments in differentiating businesses, we will maximally leverage intra- and extra-Group technologies and human resources through our newly reorganized R&D program to progress as a unified group toward our top priorities: shifting to a profit structure resilient against changes in the environment and balancing social and economic value.

Following is management's assessment, discussion and analysis of operating performance by segment.

[Basic Chemicals]
The basic chemicals segment's business results were as follows.

(Billions of yen)

Consolidated KPI	**Fiscal 2020 actual**	Fiscal 2020 target*1	Difference
Net sales*2	**322.8**	450	(127.2)
Operating income	**9.6**	30	(20.4)
Ordinary income	**11.0**	37	(26.0)

*1 Revised May 13, 2019
*2 Including intersegment sales and transfers.

The segment failed to achieve its targets in the previous medium-term management plan as a result of multiple factors, including depressed methanol prices due to a global demand contraction, delays and commissioning a new methanol plant in Trinidad and Tobago, a pandemic-induced contraction in foamed plastic demand and reductions in purified isophthalic acid unit sales and sales prices.

Going forward, the segment will develop new technologies to produce methanol as a circular carbon product, reduce costs by increasing logistic/production efficiency, stabilize overseas methanol production subsidiaries' operations, plan investments in new production capacity and implement sales expansion strategies for specialty aromatic chemicals such as meta-xylenediamine and aromatic aldehydes, and implement differentiation and growth strategies at JSP Corporation.

[Specialty Chemicals]

The specialty chemicals segment's business results were as follows.

(Billions of yen)

Consolidated KPI	Fiscal 2020 actual	Fiscal 2020 target	Difference
Net sales*	267.8	300	(32.2)
Operating income	34.8	36	(1.2)
Ordinary income	37.5	44	(6.5)

*Including intersegment sales and transfers.

Sales of optical polymers and BT semiconductor packaging materials were stronger than forecasted, but inorganic chemical sales fell short of forecast, polycarbonate prices slumped and demand for engineering plastics and oxygen absorbers were depressed by the pandemic. The segment consequently failed to achieve its medium-term management plan targets.

Going forward, the segment aims to better meet growing demand through such means as expanding sales of high-value-added polycarbonates, stepping up its presence in the polyacetal market, strengthening its global network of existing and new super-pure hydrogen peroxide production sites, expanding optical polymer production capacity and building a new raw-material monomer plant. It will also endeavor to increase the overseas share of its oxygen absorber sales, enlarge oxygen absorbers' scope of application and expand BT materials sales by capturing new demand for BT as an electronic material and expanding overseas manufacturing subsidiaries' production capacity.

(2) Factors that May Materially Affect Operating Performance

Factors that may materially affect MGC Group's operating performance are discussed in "2) Business Risks" under "Results of Operations."

Visibility with respect to the extent and duration of the pandemic's impact on economic activity in Japan and globally remains highly opaque, partly because of renewed spread of the virus driven by new variants. That said, the global economy is expected to recover and grow by virtue of the vaccine rollout and governments' economic stimulus policies.

Depending on how the pandemic evolves going forward, it could depress demand across a broad range of sectors, including the automotive, housing, infrastructure, electric machinery and electronics sectors, to the detriment of demand for MGC Group products used as raw materials in such sectors. In the basic chemicals segment, the pandemic's impact on products such as foamed plastic, specialty aromatic chemicals and methanol is a concern. Products subject to similar concerns in the specialty chemicals segment include engineering plastics and oxygen absorbers.

(3) Capital Resources and Liquidity

MGC Group's main uses of working capital are manufacturing expenses and operating expenses such as selling, general and administrative expenses.

Its uses of capital for investment purposes include capital expenditures, which it primarily funds with cash on hand, borrowings from financial institutions and bond issuance.

Fiscal 2020 cash flows are analyzed in "(3) Cash Flows" under "1) Summary of Operating Performance."

MGC ended fiscal 2020 with ¥98.4 billion of interest-bearing debt and ¥91.0 billion of cash and cash equivalents.

(4) Objective Metrics for Assessing Management Policies/Strategies' Execution Status and Management Targets' Attainment

Objective metrics MGC Group uses to assess its management policies/strategies execution status and its management targets' attainment are disclosed above in "1) Management Policies, Operating Environment and Challenges to Be Addressed" under "2Results of Operations." To facilitate swift management decision-making on matters such as investments in and exits from businesses, said metrics include a measure of capital efficiency in addition to net sales and profits.

(5) Significant Accounting Estimates and Their Underlying Assumptions

Significant accounting estimates used to prepare consolidated financial statements and their underlying assumptions are disclosed in "(s) Significant Accounting Estimates" under "1. Summary of Significant Accounting Policies" under "Notes to Consolidated Financial Statements."

4. Research and Development

In fiscal 2020, the final year of the MGC Advance2020 medium-term management plan aimed at bringing Vision 2021 to fruition, MGC Group vigorously carried out R&D activities to strengthen existing businesses' earnings power with a focus on core businesses and create and develop new businesses under the banner of "creating value to share with society."

The Group substantially reorganized its R&D operations in fiscal 2020, placing the four company divisions' research departments and research laboratories and all research departments previously within Corporate R&D's Advanced Business Development Division under the centralized control of the R&D Promotion Division. Under this new organizational structure, the Group has made progress in strengthening existing businesses' earnings power and developing new businesses by further accelerating R&D from a Group-wide perspective.

The Advanced Business Development Division continued to develop businesses in new domains through R&D collaborations with external partners, including startups, investees and public research institutions. It also moved forward with commercialization of internally developed products, including medical packaging materials and solid electrolytes, while developing products in new domains, including allergy diagnostics, through open innovation. The factory-grown produce business in Shirakawa, Fukushima Prefecture, provides reliably safe vegetables to the public.

MGC Group inclusive of its subsidiaries employs a total of 942 personnel, roughly10% of its total workforce, in research and development. Its research expenses totaled ¥19,905 million in fiscal 2020.

Fiscal 2020 research themes, research results and research and development costs by segment were as follows:

(Millions of yen)

Segment	Fiscal 2020
Basic Chemicals Segment	9,166
Specialty Chemicals Segment	10,739

5. Capital Expenditures

Summary of Capital Expenditures

Fiscal-2020 capital expenditures of MGC Group (MGC and its consolidated subsidiaries) were as follows.

(Millions of yen)

Segment	Fiscal 2020
Basic chemicals segment	19,482
Specialty chemicals segment	18,619
Other	637
Eliminations and corporate	1,543
Total	40,282

6. Dividend

(Yen)

	Interim	Fiscal year-end	Annual
Fiscal 2020	35	35	70