

Company Report

TSE Prime Market / Machinery December 20, 2023

Tsubakimoto Chain (6371)

Analyst

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Cash generation capacity improves, raising expectations for strategic investment and aggressive expansion into new businesses

- Summary: Tsubakimoto Chain (the "Company") has revised its full-year forecasts downward for three consecutive fiscal years since FY2021, giving the impression that it would be difficult to achieve the numerical targets (sales of ¥300–320 billion and operating income of ¥27–35.2 billion) set in the current mid-term management plan (from FY2021 through FY2025). The Company, however, recorded as much as ¥23.9 billion in free cash flow (FCF), with a cumulative operating CF of ¥42.3 billion and a cumulative investment CF outflow of ¥18.3 billion for the two periods from FY2021 to FY2022. With the success of various operational efficiency improvements and measures to reduce working capital, it is on track to meet its mid-term management plan target of ¥50–60 billion in FCF. Net cash at the end of FY2022 reached ¥25.7 billion, and with ample cash, the Company announced a share buyback (up to ¥5 billion, 1.2 million shares) in May 2023. (The buyback was completed on October 27.) The Company's cash generation capacity is improving, and there are growing expectations for its effective strategic investment and aggressive expansion into new businesses to enhance medium- and long-term growth and profitability.
- ➤ Performance trend: Operating income for FY2022 was ¥18.9 billion, up 6.4% year-on-year, exceeding the downward revision forecast made in 3Q, as the Chain Operations and Motion Control Operations businesses maintained strong performance while the Mobility Operations business was leveling off. In FY2023, unlike FY2022, while the Mobility Operations business entered a recovery phase, the Chain Operations, Motion Control Operations, and Materials Handling businesses entered a performance adjustment phase. As a result, the Company lowered its full-year operating income forecast from ¥19.0 billion at the time of the 1H results announcement to ¥16.1 billion, down 15% from the previous year. However, for FCF in 1H FY2023, the Company generated ¥13.5 billion by reducing working capital including inventories, further improving its cash generation capacity.
- ➤ ESG management: In the Tsubaki Group Integrated Report "Tsubaki Report 2023," issued in September 2023, the Company clearly states that, during FY2023, it plans to add ROIC to the metrics for its divisions and to calculate the cost of capital (WACC, cost of shareholders' equity) as management indicators to strengthen business operations with a focus on capital efficiency. The Company is expected to strengthen its sustainability management with improved profitability.
- > Stock price valuation and shareholder returns: The Company's TSR has begun to show improvement, outperforming the machinery industry and TOPIX on the back of earnings recovery expectations and dividend increases. However, since FY2017, the P/B ratio has remained below 1x as the spread between ROIC and WACC turned negative. An improved P/B ratio will require higher ROE and ROIC through improved asset efficiency (i.e., balance sheet reduction) and profitability, as well as a higher P/E ratio through improved sustainability in the Mobility Operations and Materials Handling Operations businesses.

Tsubakimoto Chain's consolidated earnings and stock price data: ¥100 million, yen, %

Trading data		Performance	19/3	20/3	21/3	22/3	23/3	24/3COE
Stock price (Dec/13/2023)	JPY 3,940	Sales	2,385	2,264	1,933	2,158	2,515	2,630
52-weeks range	JPY 4,090~2,927	Operating profit	217	161	88	178	189	161
Market cap	JPY 150 billion	Ordinary profit	216	166	110	200	209	192
Number of outstanding shares	38.2 million shares	Net profit	137	115	87	145	137	138
Avarage trading value(20 days)	JPY 450 million	EPS	364.0	308.7	235.2	392.8	371.1	380.6
Company forecast PER	10.4 times	ROE	8.1	6.7	4.8	7.4	6.4	-
PBR(As of March 2023)	0.65 times	DPS	120.0	120.0	75.0	120.0	130.0	130.0
Company forecast DPS	JPY 130	Dividend payout ratio	33.0	38.9	31.9	30.5	35.0	34.2
Company forecast Dividend yield	3.3%	FCF	-78	60	183	119	120	-
ROIC (March 2023)	6.1%	NetCash	-60	-85	68	175	257	-

Note: ESP and dividend per share in the fiscal year ended March 2018 to the fiscal year ended March 2019 were adjusted on a post-share consolidation basis.

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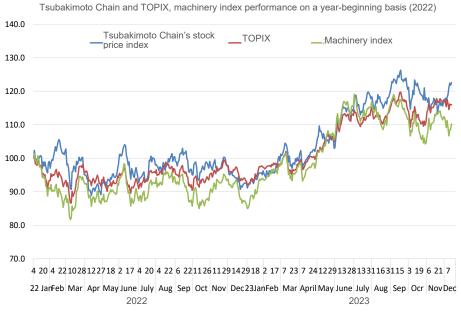
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Figure 1: Tsubakimoto Chain's stock price performance is in line with TOPIX and the machinery index



Source: Created by CGRA



Company Profile

Business: From components to systems in the area of moving parts

The Company was founded in 1917 as a local factory for manufacturing bicycle chains, and it has since expanded into four business areas: industrial chains, motion control, mobility, and materials handling. With its mission "Advance the 'art of moving' beyond expectations," and aspiration "Monozukuri specialists taking the craft of manufacturing to new heights," the Company aims to create added value based on its three core technologies (winding transmission and conveyance, optimizing, and mass production technologies) while demonstrating a frontier spirit, a challenging spirit, and a spirit of co-creation.

The No. 1 global market share for industrial chains and automotive timing chain systems

Chains are components used in a variety of industrial machines, automobiles, motorcycles, and other vehicles to transmit power and convert rotational motion into linear motion. The Company is a leading manufacturer of industrial and timing chains for automotive engines, with an estimated 16% share of the global market for industrial steel chains and 39% for automotive engine timing chain systems. It boasts the No. 1 global market share in both of these categories.

Currently, the Company has four segments: (1) the Chain Operations business which offers approximately 20,000 types of power transmission and conveyance chains; (2) the Motion Control Operations business (MC business) which offers a variety of equipment for power transformation, deceleration, and transmission, such as reduction gears, linear actuators, shaft couplings, fasteners, clutches, and modules; (3) the Mobility Operations business which focuses on timing chain systems, which are used in automobile engines and contribute to improved fuel efficiency and engine downsizing; and (4) the Materials Handling Operations business which specializes in conveyance and sorting systems, as well as storage systems capable of automated storage at ultra-low temperatures.

The Company established the New Business Development Center to accelerate new business development

The Company has been strengthening its efforts to develop new businesses in recent years, and in April 2023, it established the New Business Development Center, through which it is developing innovative technologies and cultivating new markets for further growth.

The highly profitable Chain Operations business drives operating income

Consolidated sales for 1H FY2023 increased 8.3% year-on-year to ¥128.7 billion, and operating income rose 2.9% year-on-year to ¥8.6 billion (operating income margin of 6.7%). By segment, sales to external customers accounted for 36% of consolidated sales in the Chain Operations business, 8% in the MC business, 32% in the Mobility Operations business, 23% in the Materials Handling Operations business, and 1% in other businesses. As for operating income, the Chain Operations business posted ¥7.9 billion (16.9% of operating income margin), the MC business ¥0.2 billion (2.1%), and the Mobility Operations business ¥3.2 billion (7.9%), while the Materials Handling Operations business posted an operating loss of ¥1.6 billion, and other businesses also posted an operating loss of ¥0.4 billion and eliminations of ¥600 million.

Figure 2: Products and customer industries in major segments

Business	Percentage of sales (%)	Main products	Major customer industries and applications
Chain Operations	35%	Drive chains Small-size conveyor chains Large-size conveyor chains Top chains Cable and hose carrier systems, etc.	Various manufacturing plants (automobiles, steel mills, machine tools, LCDs, IT, beverages, foods, etc.) Mining and related fields Water treatment facilities, etc.
Motion Control Operations	9%	Reducers, linear actuators Shaft couplings, locking devices Clutches Modules Various controllers	Various manufacturing plants (automobiles, steel mills, machine tools, LCDs, IT, beverages, foods, etc.) Injection molding machines Medical equipment, etc.
Mobility Operations	31%	Timing chain systems (roller & silent chains, tensioners, etc.) Motorized products In-vehicle one-way clutches, etc.	Automotive engines (ICE, HV) 4WD vehicle transfer cases Electric vehicles (EVs) Motorcycle starters, etc.
Materials Handling Operations	24%	Logistics industry systems Life science field systems Newspaper printing factory systems Automotive industry systems Bulk handling systems Metalworking chips handling/coolant processing systems Maintenance, etc.	Distribution warehouses/centers Pharmaceutical companies and cellular research institutes Paper mills/newspaper printing factories Automotive manufacturing plants Biomass power plants Processing plants using machine tools Other manufacturing plants
Other	1%	Agribusiness Monitoring business, etc.	Plant factories Various plants

Source: Created by CGRA based on Company documents, etc. Percentage of sales: FY2022 actual results



Tsubakimoto Chain - Three Highlights

Highlight #1: The industrial machinery business, a combination of three segments, maintains solid performance

Figure 3 shows the sales and operating income of the Mobility Operations business and the total sales and total operating income of the remaining three segments (industrial machinery business: CGRA's own business classification). While the Mobility Operations business is showing a moderate recovery in performance against the backdrop of a recovery in automobile production, the performance of the three segments as a whole is showing cyclical performance trends, being affected by trends in private-sector facilities. The Mobility Operations business has an operating income margin of around 8%, which is relatively high for the automotive parts business, while the operating income margin for the industrial machinery business, which is the sum of the three segments, is around 7%. While the company's Chain Operations business is outstandingly profitable, the Motion Control Operations and Materials Handing Operations businesses are notably unprofitable. To achieve its mid-term targets and improve its ROE and stock price valuation, the Company must implement measures to promptly improve profitability in its Motion Control Operations and Materials Handling Operations businesses. If these three segments are considered in combination as an industrial machinery business, however, they can be evaluated as a typical cyclical business that can secure stable earnings.

When the three main segments are combined as the industrial machinery business, the Company secures solid performance as a typical cyclical business

Highlight #2: The focus is on strategic use of the ample cash

Comparing the Company's FY2022 and FY2023 to FY2018, before the outbreak of COVID-19, while sales were ¥238.5 billion in FY2018, sales were ¥251.5 billion in FY2022 and projected sales in FY2023 are ¥263 billion. In the past two years, sales have exceeded the pre-COVID level by 5-10%, thanks in part to the effect of the weak yen. In terms of operating income, however, the Company posted an actual operating income of ¥21.7 billion in FY2018, but ¥18.9 billion in FY2022, and the forecast for FY2023 is ¥16.1 billion. These figures are each below their pre-COVID level by 13% to 26%. As for cash flow, the average operating cash flow over the past five years has remained high at ¥22.9 billion, mainly due to working capital constraints, while capital investment has declined from its peak of ¥18.1 billion in FY2017, and investment cash flow has continued to be suppressed. So, FCF has generated a cumulative total of ¥23.9 billion in the two periods since FY2021, when the mid-term management plan started, and a cumulative total of ¥40.4 billion in the five years since FY2018, and is likely to exceed the target FCF set in the plan. With cash and cash equivalents totaling ¥56.9 billion at the end of FY2022 (net cash in FY2020-FY2022), the Company is expected to use its ample cash to implement effective measures such as making strategic investments, developing new businesses, building an optimal portfolio, and strengthening shareholder returns.

Despite concerns about a downturn in earnings, the Company is improving the ability to generate cash, and FCF is likely to meet the mid-term target

Highlight #3: The Company announced share buyback and cancellation

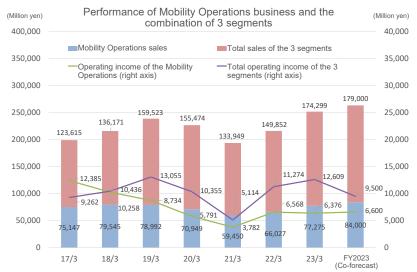
On May 23, 2023, the Company announced that it would purchase 1.2 million of its own shares, or 3.24% of the total number of shares issued, on the Tokyo Stock Exchange in an open market, up to a total acquisition cost of ¥5 billion, and that it would also cancel all shares acquired (acquisition period: June 1, 2023 through March 29, 2024; acquisition completed: October 27, 2023). The mid-term plan had noted that the Company would implement a dividend payout ratio based on a 30% payout ratio of ¥20–24 billion over the five-year period from FY22/3 to FY26/3 as well as possibly repurchasing its own shares, but the share retirement was new information. Since the announcement, the Company's share price generally continued rising in line with TOPIX, and it has been increasingly outperforming TOPIX and the machinery Index since August.

After FY2017, the P/B ratio started to fall below 1x, with ROE beginning to fall below 10%, and the P/B ratio at the end of FY2022 fell to 0.53x. The P/E ratio also fell below 10x to 8.7x in FY2022, due to long-term EV risk and concerns about the structurally low profitability of the Materials Handling Operations business. To improve the P/B ratio, the Company will need to manage its business portfolio with an awareness of the cost of capital and establish an optimal capital structure, as well as implement measures to realize its long-term vision for a higher P/E ratio and ensure sustainability.

Forecasted total return ratio for FY2023, including share buybacks, is expected to increase to 67% (payout ratio of 34%)

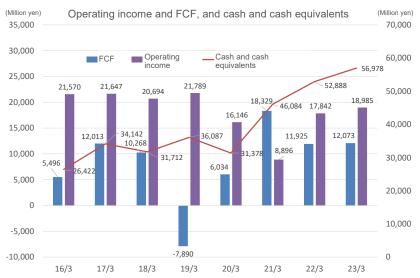


Figure 3: Industrial machinery business, a combination of 3 segments, continues to perform solidly



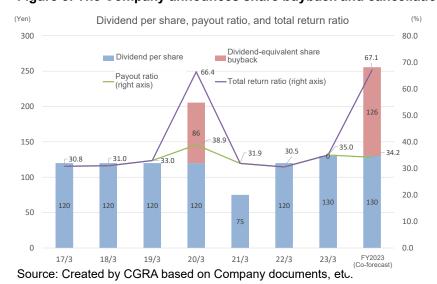
Earnings forecasts were revised downward for the third consecutive fiscal year, but profit levels themselves remained strong

Figure 4: Cash generation capacity is steadily strengthening



Various improvement measures have been successful, and FCF has been improving

Figure 5: The Company announces share buyback and cancellation



Expectations for continuous shareholder returns



Major Events in 2023 and Changes from the Previous Report

Major events in 2023

Major events in 2023 include the announcement of a share buyback and cancellation, as well as the SBT certification of the Company's greenhouse gas emission reduction targets, which indicates that the Company is working to improve its sustainability. The Company is also steadily proceeding with organizational restructuring, including the establishment of the New Business Development Center. The following figure shows only the new products featured in the main press releases, but the Company announced seven new products in 2023 (compared to six in 2022, and five in 2021).

The Company will be required to implement faster and more strategic measures in the future

Figure 6: Major events in 2023

Item	Date	Details
IR information	October 31 May 23	Lowered its earnings forecast Announced the repurchase and cancellation of treasury stock (acquisition completed: October 27)
Sustainability	November 17 October 11 September 28 June 16 April 6	Joined the Battery Association for Supply Chain (environment) Consolidated the head office functions and renewed the office environment (social) Published an Integrated report (ESG) Received SBT certification for greenhouse gas emissions reduction goals (environment) Certified as an "Eco-First Company" by the Ministry of the Environment (environment)
Major new products (press releases)	September 28 June 29 May 19 April 24	Launched the 3D materials handling system T-AstroX (Materials Handling) Added environmental impact reduction models to the Quick-Sort lineup (Materials Handling) Linked eLINK charging and discharging device for EVs with a system made by Yourstand (Other) Developed a multi-purpose, electric-power-assisted, three-wheeled bicycle (Mobility)
Organizational reform	September 21 May 8 April 1	Reformed the organization of its R&D center Formed a capital and business alliance with EAGLYS in Al image recognition technology Established the New Business Development Center

FY2023 forecasts were revised downward due to the sluggish Materials Handling Operations business and other factors

Since the previous Follow-Up Report issued on February 6, 2023, the Company's share price and valuation have been on an upward trend, partly due to the effect of the share buyback. As for the external environment, while automobile production is seeing a strong recovery, machine tool orders, which serve as a barometer for private capital investment, are declining faster than expected. The FY2023 forecast was revised downward due to the ongoing depreciation of the yen in the foreign exchange market, inflated prices for various materials, investments in human resources, and a downturn in the Materials Handling Operations business.

be required to implement measures to strengthen profitability in addition to continuous shareholder returns

The Company will

Figure 7: Changes since the previous Follow-up Report

•		•	•
		Previous report (February 6, 2023)	This report (December 13, 2023)
Share price: Yen		3,030	3,940
Dividend per share: Yen		130 (Co-forecast for FY2022)	130 (Co-forecast for FY2023)
Dividend yield: %		4.3 (Co-forecast for FY2022)	3.3 (Co-forecast for FY2023)
P/E ratio: Times		8.2 (Co-forecast for FY2022)	10.4 (Co-forecast for FY2023)
P/B ratio: Times		0.54 (End of FY2021)	0.65 (End of FY2022)
Net sales: ¥100 million		2,450 (Co-forecast for FY2022)	2,630 (Co-forecast for FY2023)
Operating income: ¥100 r	million	175 (Co-forecast for FY2022)	161 (Co-forecast for FY2023)
Automobile production:	CY2022	8,100 (forecast)	8,501 (actual)
10,000 units	CY2023	9,000 (forecast)	9,000 (forecast)
Machine tool orders:	CY2022	17,596 (actual)	17,596 (actual)
¥100 million	CY2023	16,000 (forecast)	14,600 (forecast)
US policy interest rates: 9	%	4.75	5.50
US Dollar : Yen		128.6	145.6
TOPIX		1,970	2,355

Source: Created by CGRA. Machine tool orders are based on the Japan Machine Tool Builders' Association. Automobile production and machine tool order forecasts are created by CGRA.



Mid-Term Management Plan 2025 and Progress

Summary of "Mid-Term Management Plan 2025"

Under its "Mid-Term Management Plan 2025," which began in FY2021, the Company aims to achieve sales of $\pm 300-320$ billion, an operating income margin of 9–11% (operating income of $\pm 27-35.2$ billion), and an ROE of at least 8% in FY2025, which is the final year of the plan. The plan also mentions that the Company is considering flexible share buybacks to improve the ROE, based on a payout ratio of 30%, as a form of shareholder return. As ESG-related KPIs, the Company plans to reduce CO₂ emissions at domestic group companies by 30% compared to FY2013, and at least 20% at overseas group companies compared to FY2018.

Figure 8: Mid-Term Plan 2025 numerical targets

Objective	КРІ	FY2025
Profitability	Net sales	JPY 300-320 billion
Profitability	Operating income ratio	9-11%
Capital efficiency	ROE	8 % or more
Shareholder returns	Dividend payout ratio	Based on 30 %
ESG	Reduction of CO2 emissions	Down 30 % from FY2013 (target: domestic group companies) Down 20 % or more from FY2018 (target: overseas group companies)

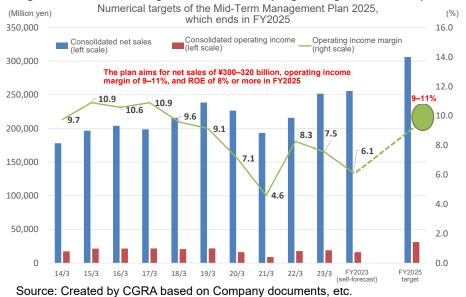
Business Segments	FY2020	Results	FY2025 Targets			
business segments	Net sales (JPY 100 million)	Operating income ratio (%)	Net sales (JPY 100 million)	Operating income ratio (%)		
Chain	613	12.8%	800~850	15% or more		
Motion Control	196	4.1%	320~350	12% or more		
Mobility	577	6.4%	950~1,000	11 % or more		
Materials Handling Systems	536	△ 4.1%	900~950	6% or more		

The Company seems to have difficulty achieving the numerical targets set forth in its mid-term management plan

In FY2021, the first year of the mid-term plan, sales grew 11.6% year-on-year to ¥215.8 billion and operating income increased 100.6% year-on-year to ¥17.8 billion (operating income margin of 8.3%), showing steady progress. In FY2022, sales increased 16.5% year-on-year to ¥251.5 billion, and operating income increased 6.4% year-on-year to ¥18.9 billion (operating income margin of 7.5%). For FY2023, the third year of the midterm plan, the Company revised its earnings forecast downward at the time of the 1H results announcement, presenting a 4.5% year-on-year increase in projected sales to ¥263 billion and a 15.2% year-on-year decrease in projected operating profit to ¥16.1 billion (operating income margin of 6.1%). By segment, the Chain Operations business has already met its numerical targets for FY2025, but the remaining three businesses are falling short. The Materials Handling Operations business, in particular, seems to be in a perpetual slump in profitability, and drastic measures will be required to achieve the numerical targets. The Mobility Operations business is also likely to have difficulty achieving its targets, as demand for its products is noticeably weak in the Chinese market, which is experiencing an economic slowdown and a shift to EVs.

The Company will need to align the performance of its businesses and take drastic measures to improve profitability in order to achieve its numerical targets

Figure 9: Mid-Term Management Plan 2025 is progressing in line with expectations





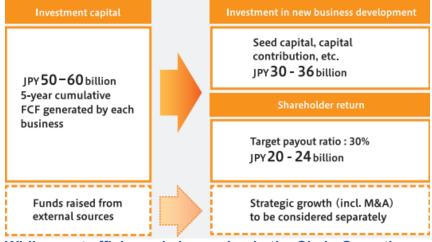
Noticeable Improvement in Cash Generation Capacity

Medium-term plan targets FCF of ¥50-60 billion

Under the current mid-term management plan, the Company intends to earn a cumulative FCF of ± 50 –60 billion over the five-year period, of which ± 30 –36 billion is to be invested in upfront investments and investments to create next-generation businesses, while ± 20 –24 billion is to be used for dividends based on a payout ratio of 30%. The Company also intends to make strategic growth investments, including M&A, by raising funds from outside sources, depending on the size of investments.

Figure 10: Cash allocation targets set in the mid-term management plan

The Company will secure its target FCF with high feasibility, but has not made any significant investments in new businesses



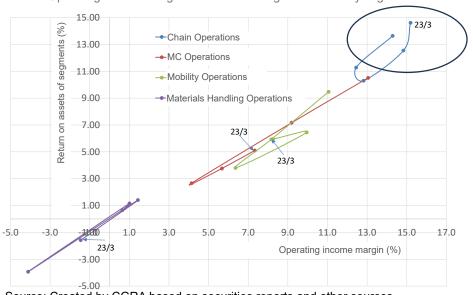
While asset efficiency is improving in the Chain Operations business, it is worsening in the Mobility Operations business

Although it appears difficult to achieve the numerical performance targets set forth in the mid-term management plan, the Company is working to improve its cash generation capacity. Cumulative FCF from FY2021 to FY2022 has already secured ¥23.9 billion, and FCF for FY2023 H1 reached ¥13.5 billion. The reduction of working capital, improvement of production efficiency, and shortening of production lead time are considered to have been successful. In particular, the effect of the improved asset efficiency of the Chain Operations business appears to be significant. However, CGRA believes that it is important to note that the Mobility Operations business has also experienced a slight deterioration in asset efficiency.

See the report
"Chain Operations
Business Briefing
and Kyotanabe
Plant Tour" issued
by the Company on
April 11, 2023

Figure 11: Noticeable improvement in asset efficiency in the Chain Operations business

Operating income margin and return on segment assets by segment



Source: Created by CGRA based on securities reports and other sources



Value Created and Performance Trend of the Chain Operations Business

Social value created by and business strategies of the Chain Operations business

The Chain Operations business provides essential power transmission components for various production facilities and contributes to the creation of social value by minimizing energy loss through the world's highest level of transmission performance, saving space through downsizing, and automating and saving labor. Meanwhile, the Company's business strategy is to promote manufacturing reforms at its main Kyotanabe Plant while strengthening the development of new next-generation products, maximizing synergies with its MC business, and expanding its after-sales service business.

Steady implementation of business strategies is expected to further improve asset efficiency and profitability

FY2023 full-year forecast: Revised upward

Net sales in 1H FY2023 (April–September) exceeded the Company's plan (¥43.0 billion), growing 7.6% year-on-year to ¥46.9 billion. Operating income was also much higher than the Company's plan (¥5.8 billion), rising 26.0% year-on-year to ¥7.9 billion (operating income margin of 16.9%). Sales remained strong in the Americas, where there had been concerns about a slowdown, and they exceeded expectations in Japan, Europe, and the Indian Ocean Rim. The Company was able to absorb increased expenses for personnel, R&D, and other areas through cost reductions associated with productivity improvements, product price increases, and the effect of the depreciating yen, and it secured an increase in operating income.

The FY2023 full-year forecast was revised upward from the initial forecast, with net sales expected to increase 2.1% y-o-y from ¥86.0 billion in the previous term to ¥92.0 billion, and operating income to increase 0.8% y-o-y from ¥11.8 billion in the previous term to ¥13.8 billion (operating income margin of 15.0%). Orders for the July–September period declined 4.9% y-o-y to ¥22.1 billion (up 2.4% from the April–June period), and although the Company is in an adjustment phase, it is expected to post record-high profits thanks to strong 1H results, the effect of product price hikes, and the weaker yen.

The Company maintains a relatively strong order book

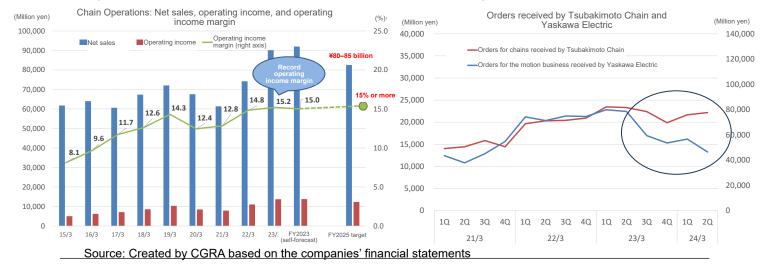
The right graph in Figure 12 below compares orders (servo motors and inverters) of the Company's Chain Operations business and Yaskawa Electric's motion business. Since Yaskawa Electric announces its financial results about a month earlier than the Company does, CGRA pays attention to it as a leading indicator of private-sector capital investment. Private capital investment is currently in an adjustment phase. But the Company's Chain Operations business continues to enjoy a relatively robust order environment due to its growing market share and its consumable nature.

Orders are underpinned by an increase in market share, particularly in the U.S. market

Mid-term management plan and progress: Achieved 3 years ahead of schedule

The Chain Operations business is targeting sales of ¥80–85 billion and an operating income margin of at least 15% in FY2025, the final year of the mid-term management plan, and has already met these numerical targets three years ahead of schedule. The business is expected to achieve stable growth in sales and further improvement in profit margins by developing new applications and expanding its product lineup.

Figure 12: Chain Operations business performance trends and leading indicators





Value Created and Performance Trend of the Motion Control Operations Business

Social value created by and business strategies of the Motion Control (MC) Operations business

The reducers, electric cylinders, clutches, shaft couplings, and fasteners produced by the MC business are used in the moving and driving parts of various machines. They are important components that affect operating performance and machining accuracy. Meanwhile, the Company's business strategy is to unify its Chain and MC businesses; collaborate on new product development, procurement, and equipment introduction; and strive to generate synergies. The Company also plans to sell products as a set with ATR, a US coupling manufacturing and sales company that it acquired in July 2022, strengthen its product lineup, and expand its sales area to the Asian region and other regions.

Synergies with the acquired company and the effects of new product launches planned for the future are expected to emerge

FY2023 full-year forecast: Revised downward

Net sales in 1H FY2023 (April–September) outperformed the Company's plan (¥11.0 billion), rising 2.6% year-on-year to ¥11.1 billion, but operating income fell 68.6% year-on-year to ¥233 million (operating income margin of 2.1%), below the plan (¥0.5 billion). Sales in the Americas, China, and the Indian Ocean Rim remained firm, securing an increase in revenue, but sales in Japan declined due to inventory adjustments at distributors who had excess inventory after receiving advance orders, inflated material prices, and the heavy burden of fixed costs, including personnel expenses, caused the business to post a decline in operating income.

The FY2023 full-year forecast was revised downward from the initial forecast, with net sales expected to decrease down 5.6% y-o-y from ¥24.0 billion in the previous term to ¥22.0 billion, and operating income to break even from ¥1.5 billion. Behind this lie the downturn in 1H results and the continued slump in orders received during the July–September period, down 9.8% y-o-y (up 1.2% from the April–June period) to ¥5.1 billion, as well as increased fixed cost burdens such as personnel and R&D expenses, and inflated material prices.

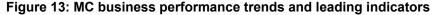
Machine tool orders to enter phase of search for bottoming out

The right graph in Figure 13 below shows orders received by the Company's MC business and quarterly machine tool orders announced by the Japan Machine Tool Builders' Association. The year-on-year growth rate of machine tool orders, a barometer of private-sector capital investment, has already turned negative for 15 months in real terms. CGRA expects this growth rate to turn positive from mid-2024 onward, and a period of order recovery is expected to begin toward 2025.

Mid-term management plan and progress: Struggles continue

The MC business is targeting net sales of \$32-35 billion and an operating income margin of at least 12% in FY2025, but its performance remains sluggish due to weak private-sector capital investment and inventory adjustments by distributors. While product price hikes are also showing positive effects, the Company is expected to strategically implement measures such as the early launch of new products to the market, synergies with the acquired ATR Sales Inc., and enhanced after-sales service.

In the MC business, domestic sales account for about 70% of total sales, and it is expected that the environment for profitable domestic operations of this business will improve





Source: Created by CGRA based on the Company's financial statements and machine tool orders from Japan Machine Tool Builders' Association.



Value Created and Performance Trend of the Mobility Operations Business

Social value created by and business strategies of the Mobility Operations business

The Mobility Operations business creates social value in the form of automobile engines that offer a lower fuel consumption and a longer service life as they become smaller, lighter, and more powerful. Battery electric vehicles (BEVs) do not use chains themselves as they have no engines, but chains are an essential component for HV engines and hydrogen engines to support miniaturization. Meanwhile, the business strategy is to gain market share while reducing capital investment in timing chain systems, and to develop new applications such as EnedriveChain for BEVs and clutches for vehicles and e-bikes, utilizing the power transmission technology that the Company has cultivated over many years.

Although the Chinese market is a concern, the business is expected to continue to grow steadily in FY2024

FY2023 full-year forecast: Revised slightly downward

Net sales in 1H FY2023 (April–September) outperformed the Company's plan (¥39.0 billion), rising 11.4% year-on-year to ¥40.5 billion, and operating income exceeded the plan (¥2.2 billion) by 46%, rising 34.9% year-on-year to ¥3.2 billion (operating income margin of 7.9%). The business secured increased sales in Japan, the Americas, the Indian Ocean Rim, South Korea, and elsewhere as a result of a recovery in production volume at finished vehicle manufacturers due to the easing of the semiconductor shortage. In addition to the effect of increased sales, the business secured an increase in profit as price pass-on effects and lower material prices absorbed increased labor and other fixed cost burdens.

The FY2023 full-year forecast was increased by 8.7% y-o-y from ¥80.0 billion in the previous term to ¥84.0 billion for net sales, but the operating income forecast was revised down slightly by 3.5% y-o-y from ¥6.9 billion in the previous term to ¥6.6 billion (operating income margin of 7.9%). Orders for the July–September period increased 14.3% y-o-y to ¥21.1 billion (up 5.3% from the April–June period), continuing the recovery trend. However, given the slow recovery of the Chinese market, the business is expected to achieve only a moderate recovery in 2H.

Automobile production, a leading performance indicator, remains on a recovery track

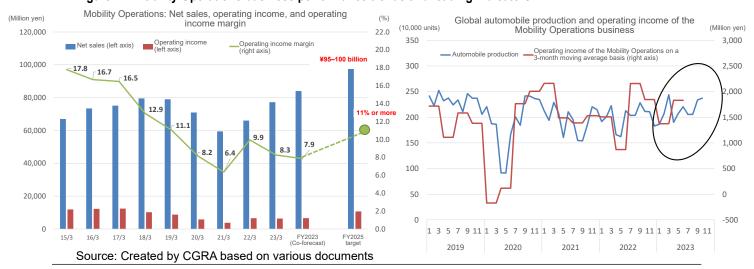
The right graph in Figure 14 below shows the global production volume of eight Japanese automakers and the operating income of the Mobility Operations business (lagged by three months to account for the gap between their fiscal years). With automobile production steadily recovering, the Mobility Operations business is likely to continue to drive the Company's performance in FY2024.

Mid-term management plan and progress

The Mobility Operations business is targeting net sales of $$\pm 95-100$$ billion and an operating income margin of at least 11% in FY2025, the final year of the mid-term plan. Although the shift to EVs is accelerating in the Chinese market and there are concerns about the outlook for the Thai market, the business is expected to increase its market share and improve profitability through production reforms and other measures, as well as win new projects for BEVs.

Global automobile production, a leading performance indicator, continues to be a focus of attention

Figure 14: Mobility Operations business performance trends and leading indicators





Value Created and Performance Trend of the Materials Handling Operations Business

Social value created by and business strategies of the Materials Handling Operations business

The Materials Handling Operations business creates social value in the form of automation and energy conservation through highly efficient logistics with accurate and high-speed sorting operations, as well as by contributing to the research and development of low-polymer pharmaceuticals and the field of biological samples such as DNA. The business is also expected to contribute to the field of regenerative medicine, which is attracting worldwide attention as a next-generation medical treatment. Meanwhile, the Company's business strategy is to differentiate itself by leveraging advanced technologies such as IT and AI, and to develop new businesses such as providing automated solutions for logistics warehouses through an alliance with KDDI, as well as to build a business foundation using data, strengthen the maintenance business, and expand the regenerative medicine business.

The Materials
Handling
Operations
business must
improve earning
power while
promoting
differentiated
business
development that
no other company
can match

FY2023 full-year forecast: Operating loss to widen

Net sales in 1H FY2023 (April–September) underperformed the Company's plan (¥32.0 billion), rising 7.0% year-on-year to ¥30.0 billion, and operating income was much lower than the plan (¥0.1 billion), resulting in an operating loss of ¥1.6 billion, a reversal from the profitable forecast. Behind this lie a deterioration of 1.5 billion yen in the performance of CCC in the U.S., soaring material prices, and a decline in revenue from domestic operations, which are highly profitable.

The FY2023 full-year forecast was revised downward from the initial forecast, with net sales expected to increase 6.6% y-o-y from ¥66.0 billion in the previous term to ¥65.0 billion, and operating income to fall from a profit of ¥1 billion to an operating loss of ¥1.8 billion. Orders for the July–September period increased 8.9% y-o-y to ¥17.3 billion (up 0.3% from the April–June period), showing a moderate recovery trend, but considering the loss in 1H results and future projects to be booked for sales, the Materials Handling Operations business is expected to remain in an operating loss in 2H.

U.S. CCC struggles to improve earnings

U.S. subsidiary CCC continues to suffer a widening operating loss due to delays in the start of construction of projects for which it has received orders as a result of a two-month labor strike at GM and other U.S. companies, making it difficult for the company to recover fixed costs. However, the backlog of orders for Stellantis and Ford is increasing, and new orders for EVs also appear to be coming in.

Many observers in the stock market want the Company to make drastic improvements

Mid-term management plan and progress

The Materials Handling Operations business plans to achieve net sales of ¥90–95 billion and an operating income margin of at least 6% in FY2025, the final year of the mid-term plan. It currently seems difficult for the business to achieve its goals, but it is certainly making progress with interesting business developments and new products on the market. It is expected that this business will strengthen the Company's earning power.

Figure 15: Materials Handling Operations business performance





Stock Price Valuation Considerations

Estimation of reasonable stock price by SOTP

The segment profit ratio is normally used when estimating a reasonable stock price for a sum-of-the-parts (SOTP). However, since the Materials Handling business is expected to post an operating loss, CGRA estimated a reasonable stock price by applying the sector's expected P/E ratio to the combined sales composition of the Chain Operations and Motion Control Operations businesses (43%) and the sales composition of the Mobility Operations businesses (32%). Applying the average P/E of 17.4x for 112 machinery companies in the Prime Market as of November 2023 and the average forecast P/E of 9.2x for Aisin, Aisan Industry, FCC, Tokai Rika Co., and Tokyo Radiator MFG, which have EV risk, to the above sales composition ratio, CGRA estimates that the Company has a reasonable P/E of 10.4x, and estimates the theoretical share price to be ¥3,958 based on the Company's EPS forecast of ¥380.6. For a higher P/E ratio, the Company will be required to improve sustainability by strengthening the profitability of its Materials Handling Operations business and eliminating uncertainty in its Mobility Operations business.

The Mobility
Operations
business and the
Materials Handling
Operations
business are facing
challenges due to
the sustainability of
their operations

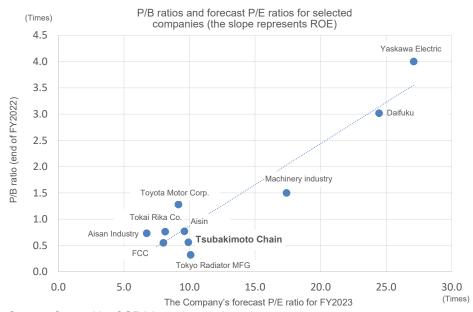
Figure 16 plots the positioning of P/B ratios versus P/E ratios for major companies. (The slope represents ROE.) Yaskawa Electric, which has high long-term growth expectations in its robotics and motion business, and Daifuku, which has high growth and profitability in its materials handling business, have gained long-term sustainability and thus have high P/E ratios. In addition, Yaskawa Electric and Daifuku have ROE of 16% and 13%, respectively, both of which contribute to pushing up their P/B ratios.

What does the Company's P/B ratio tell us?

The P/B ratio is calculated by multiplying ROE by the P/E ratio. The Company's P/B ratio at the end of FY2022 is 0.53x, which is calculated by multiplying ROE (6.4%) by P/E ratio (8.6x/year). ROE is decomposed into return on sales (5.5%) x total asset turnover (sales / total assets = 0.7x) x financial leverage (total assets / shareholders' equity = 1.6x). The Company is considered a low P/B stock, but its P/B ratio used to be over 1x. At the end of FY2016, for example, the P/B ratio was 1.1x, ROE was 9.9%, and the P/E ratio was 11.9x/year. At the time, ROE was relatively asset efficient, with a return on net sales of 7.3%, an asset turnover ratio of 0.8x, and financial leverage of 1.8x. By business segment, the operating income margin for the Mobility Operations business was 16.5% (7.9% forecast for FY2023), and the remaining three segments combined were also 7.5% (5.3% forecast for FY2023), ensuring high profitability and sustainability for the Company. An improved P/B ratio will require higher ROE through improved asset efficiency (i.e., balance sheet reduction) and profitability, as well as a higher P/E ratio through improved sustainability in the Mobility Operations and Materials Handling Operations businesses.

The Company's P/B ratio may suggest the need for balance sheet reform through fundamental changes

Figure 16: Positioning of P/B ratios versus P/E ratios for major companies



Source: Created by CGRA based on various documents



Shareholder Returns

The Company's TSR is on an improving trend

As for the total shareholder return (TSR), which indicates the overall return after taking into account the Company's share price at the end of the fiscal year and accumulated dividends, the return was 9.5% when the Company's share price was held one year ago at the end of FY2021, and 13.6% when the share price was held two years ago at the end of FY2020. Both of these outperform the machinery industry and the TOPIX return including dividends. This is likely due to the expected recovery in earnings and the increased dividend. However, investors who acquired the Company's shares between FY2016 and FY2019 currently have unrealized losses of 10–16%, and this has significantly underperformed versus the machinery industry and the TOPIX return.

For continued improvement in its TSR, the Company will need to improve its performance and continue to return profits to shareholders. In recent years, leading ESG management companies such as OMRON have incorporated TSR into their executive compensation calculation criteria. The Company applies a performance-linked compensation system (66% of fixed compensation) to its directors, but CGRA believes that the introduction of TSR is also effective in strengthening governance, increasing management speed, and enhancing the effectiveness of management from the perspective of shareholders and investors.

Figure 17: Total shareholder returns of Tsubakimoto Chain, the machinery industry, and TOPIX

	1 yr. ago (Mar '22)	2 yrs. ago (Mar '21)	3 yrs. ago (Mar '20)	5 yrs. ago (Mar '18)	7 yrs. ago (Mar '16)	10 yrs. ago (Mar '13)
Tsubakimoto Chain	9.5	13.6	-10.4	-12.7	15.4	76.0
Machinery industry	8.6	4.5	67.1	29.3	98.2	152.6
TOPIX	5.8	7.9	53.4	31.8	75.2	142.1
vs. the machinery industry: pt.	0.9	9.1	-77.5	-42.0	-82.8	-76.6
vs. TOPIX: pt.	3.7	5.7	-63.8	-44.5	-59.8	-66.1

Source: Created by CGRA based on various documents

Announced the repurchase and cancellation of treasury stock

On May 23, 2023, the Company announced the repurchase and cancellation of 1.2 million shares, or 3.24% of the total number of shares outstanding, for a total acquisition cost of up to ¥5 billion, in order to implement a flexible capital policy in response to changes in the business environment, to enhance shareholder returns, and to improve capital efficiency. The Company was scheduled to conduct an on-lot market repurchase on the TSE during the period from June 1, 2023 to March 29, 2024, but the maximum number of shares to be repurchased was reached, so the share repurchase was terminated as of October 27, 2023.

The mid-term plan had noted that the Company might buy back its own shares, but the share retirement was new information. CGRA believes that the Company decided to retire its treasury stock because as of October 27, the ratio of treasury stock to total shares outstanding reached 5.3%, making the Company its own third largest shareholder among its top 10 shareholders.

Share buybacks are a tool for shareholder return, and they can also be used to return profits to employees and motivate them through corporate acquisitions via stock swaps and the Japanese version of an employee stock ownership plan (ESOP). The Company is expected to strategically and continuously repurchase shares based on cash allocation.

TSR has begun to show improvement over the past two years

The Company is expected to strategically and continuously repurchase shares based on cash allocation



Deepening Sustainability Management

External evaluation of the Company's ESG management

The Nikkei SDGs Management Survey rated Komatsu, Daikin Industries, and DMG Mori at 4.5 on a scale of 5, ranking the Company in the 3.5 group with Amada, Ebara, and Yaskawa Electric. By item, the Company was rated A++ for SDGs strategy and economic value, A++ for social value, and A++ for environmental value, but only A+ for governance. The Company's effectiveness in realizing its Long-Term Vision 2030 and medium-term management plan will be tested as it prepares for the arrival of the EV era.

Governance challenges remain in external evaluation

The focus is on effective ROIC management

According to CGRA's analysis, the Company has high cash generation capacity and a strong balance sheet, but declining flow profitability and lower long-term growth expectations have led to a lower ROE and P/E ratio, resulting in a P/B ratio below 1x. In the Tsubaki Group Integrated Report "Tsubaki Report 2023" issued in September 2023, the Company clearly states on pages 14 and 17 that, during FY2023, it plans to add ROIC to the metrics for its divisions and calculate the cost of capital (WACC, cost of shareholders' equity) as management indicators to strengthen business operations with a focus on capital efficiency.

The Company is expected to build an optimal portfolio with effectiveness through ROIC management

Going forward, the Company's board of directors intends to discuss and monitor policies, goals, and specific initiatives for improvement by accurately identifying and evaluating the current situation to achieve ROE above cost of equity and ROIC above WACC, while maintaining awareness of cost of capital, return on equity (ROE and ROIC), and stock price (market capitalization and P/B ratio). The Company will have to review its business portfolio with effectiveness and timely disclosure of information.

The Company's P/B ratio was 1x in FY2016, but has been below 1x since then. In fact, CGRA estimates that the spread between the Company's ROIC and WACC has turned negative since FY2017. It is hoped that the company will transform its earnings structure with effective capital efficiency in mind.

Expectations for new outside director Mr. Tanisho from Hitachi Zosen

Mr. Takashi Tanisho, who previously served as President and CEO of Hitachi Zosen, was appointed as an outside director in June 2023. Hitachi Zosen spun off its mainstay shipbuilding division in 2002 and released all shares of Japan Marine United (JMU) in 2021, completely withdrawing from the shipbuilding business. In October 2024, the company will change its name to Kanadevia Corporation, completely removing the word "zosen," meaning "shipbuilding," from its name. Today, Hitachi Zosen has four businesses: environment, machinery & infrastructure, decarbonization, and other. It has used the shipbuilding technology it has cultivated to develop its business flexibly to meet the needs of the times, and its P/B ratio has improved to 1.1x, ROE to 11.5% of the previous year, and forecast P/E ratio to 11.7x for FY2023. Mr. Tanisho has experience in painful business restructuring as well as corporate acquisitions, and he has a background in developing new businesses. He is expected to contribute to the future transformation and challenges of the Tsubakimoto Chain.

There are growing expectations for the capabilities of newly appointed outside director Mr. Tanisho





Consolidated P/L, B/S and Cash Flows

Figure 18: Consolidated P/L and Segment earnings data

(¥ mn,%)	15/3	16/3	17/3	18/3	19/3	20/3	21/3	22/3	23/3	24/3CoE
Sales	196,738	203,976	198,762	215,716	238,515	226,423	193,399	215,879	251,574	263,000
YOY	10.5	3.7	-2.6	8.5	10.6	-5.1	-14.6	11.6	16.5	4.5
COGS	137,014	142,241	138,191	152,629	171,959	166,158	145,764	153,134	180,321	-
COGS ratio	69.6	69.7	69.5	70.8	72.1	73.4	75.4	70.9	71.7	-
SG&A	38,296	40,164	38,924	42,392	44,767	44,118	38,737	44,902	52,267	-
SG&A ratio	19.5	19.7	19.6	19.7	18.8	19.5	20.0	20.8	20.8	-
Operating income	21,427	21,570	21,647	20,694	21,789	16,146	8,896	17,842	18,985	16,100
YOY	23.5	0.7	0.4	-4.4	5.3	-25.9	-44.9	100.6	6.4	-15.2
Operating income ratio	10.9	10.6	10.9	9.6	9.1	7.1	4.6	8.3	7.5	6.1
Non-operating income/expenses	836	539	357	1,049	-167	552	2,129	2,204	1,973	3,100
Non-operating profits	1,516	1,505	1,505	1,784	1,809	1,918	3,265	3,230	2,933	-
Equity-method investment profits	33	49	17	5	27	44	47	81	122	-
Non-operating losses	680	966	1,148	735	1,976	1,366	1,136	1,026	960	-
Equity-method investment losses	0	0	0	0	0	0	0	0	0	-
Financial balance	259	470	485	632	637	781	584	802	1,168	-
Interest earned	136	134	99	119	150	152	129	154	332	-
Dividends earned	488	661	670	780	851	1,010	775	944	1,119	-
Interest paid	365	325	284	267	364	381	320	296	283	-
Ordinary income	22,263	22,109	22,004	21,743	21,621	16,698	11,026	20,045	20,958	19,200
YOY	23.7	-0.7	-0.5	-1.2	-0.6	-22.8	-34.0	81.8	4.6	-8.4
Ordinary income ratio	11.3	10.8	11.1	10.1	9.1	7.4	5.7	9.3	8.3	7.3
Extraordinary income/loss	321	-1,665	-429	-579	-2,189	111	1,133	35	-2,666	-
Extraordinary income	365	75	10	0	4	533	1,190	130	376	-
Extraordinary loss	44	1,740	439	579	2,193	422	57	95	3,042	-
Pretax income	22,583	20,444	21,575	21,164	19,432	16,809	12,159	20,081	18,292	-
Taxes and deferred taxes	8,163	7,643	6,721	6,422	5,577	5,123	3,377	5,418	4,429	-
Tax ratio	36.1	37.4	31.2	30.3	28.7	30.5	27.8	27.0	24.2	-
Minority interests	267	33	257	75	75	109	75	119	120	-
Net income	14,153	12,766	14,596	14,666	13,779	11,576	8,706	14,543	13,742	13,800
YOY	38.6	-9.8	14.3	0.5	-6.0	-16.0	-24.8	67.0	-5.5	0.4
NP margin	7.2	6.3	7.3	6.8	5.8	5.1	4.5	6.7	5.5	5.2
EPS	75.65	68.24	390.15	387.44	364.03	308.71	235.23	392.88	371.12	380.60
Segment Sales										
Chain	61,721	63,998	60,600	67,338	72,023	67,526	61,312	74,174	90,096	92,000
Motion Control	22,557	21,975	21,563	24,156	25,591	23,813	18,024	19,906	23,316	22,000
Mobility	66,978	73,473	75,147	79,545	78,992	70,949	59,450	66,027	77,275	84,000
Material Handling Systems	45,169	44,354	41,043	44,187	61,827	64,212	53,618	55,728	60,973	65,000
Others	2,968	3,186	3,001	3,331	3,548	3,542	3,941	3,074	3,200	3,000
Elimination	-2,658	-3,011	-2,594	-2,843	-3,469	-3,622	-2,948	-3,031	-3,287	-3,000
Consolidated Sales	196,738	203,976	198,762	215,716	238,515	226,423	193,399	215,879	251,574	263,000
Segment Profit										
Chain	5,002	6,172	7,102	8,502	10,292	8,406	7,862	11,005	13,687	13,800
Motion Control	2,400	2,428	2,218	3,060	3,340	2,189	747	1,129	1,710	0
Mobility	11,916	12,258	12,385	10,258	8,734	5,791	3,782	6,568	6,376	6,600
Material Handling Systems	1,940	659	706	416	402	647	-2,202	799	-888	-1,800
Others	123	84	-1	-41	-43	20	-330	-442	-534	-1,100
Elimination	44	-30	-765	-1,502	-936	-909	-963	-1,217	-1,365	-1,400
Consolidated Operating Income	21,427	21,570	21,647	20,694	21,789	16,146	8,896	17,842	18,985	16,100
Operating Income Margin										
Chain	8.1	9.6	11.7	12.6	14.3	12.4	12.8	14.8	15.2	15.0
Motion Control	10.6	11.0	10.3	12.7	13.1	9.2	4.1	5.7	7.3	0.0
Mobility	17.8	16.7	16.5	12.9	11.1	8.2	6.4	9.9	8.3	7.9
Material Handling Systems	4.3	1.5	1.7	0.9	0.7	1.0	-4.1	1.4	-1.5	-2.8
Others	4.2	2.6	0.0	-1.2	-1.2	0.6	-8.4	-14.4	-16.7	-36.7
Elimination	-1.7	1.0	29.5	52.8	27.0	25.1	32.7	40.2	41.5	46.7
Consolidated Operating Income Margin	10.9	10.6	10.9	9.6	9.1	7.1	4.6	8.3	7.5	6.1
Conconducte Operating Income Margin	10.0	10.0	10.9	9.0	3.1	7.1	7.0	0.0	1.0	0.1

Consolidated EPS for FY2016, FY2017, FY2018 are adjusted to reflect the value after stock consolidation(reverse split)

Source : Created by CGRA based on Company documents



Figure19: Consolidated B/S and Cash Flows

(¥ mn, %)	14/3	15/3	16/3	17/3	18/3	19/3	20/3	21/3	22/3	23/3
Current assets	100,626	116,619	116,536	125,400	132,144	143,949	134,083	145,185	166,512	182,054
Cash on hand and in banks	13,518	17,504	20,195	26,332	29,590	33,647	29,019	41,869	49,104	56,908
Receivables	44,337	47,338	48,726	50,760	55,612	59,807	57,046	55,377	59,131	63,208
Marketable securities	7,877	12,020	7,533	7,965	4,646	4,114	3,965	6,189	6,339	2,674
Inventories	29,625	33,574	33,153	33,875	37,676	41,884	40,278	38,389	49,008	55,882
Other current assets	5,269	6,183	6,929	6,468	4,618	4,495	3,773	3,360	2,930	3,381
Fixed assets	128,213	142,122	137,570	141,814	151,429	161,966	160,015	162,147	166,107	163,823
Tangible fixed assets	96,852	101,613	102,777	105,435	113,285	116,946	118,579	115,059	114,918	115,097
Intangible fixed assets	5,807	5,132	4,352	3,841	2,968	12,787	11,361	10,695	10,700	9,081
Investments and other assets Total assets	25,554 228.840	35,376 258,742	30,444 254,106	32,537 267,215	35,175 283,574	32,233 305,916	30,074 294,098	36,391 307,332	40,488 332,620	39,644 345,878
Current liabilities	62,003	59,435	55,525	66,558	70,796	82,617	67,081	61,690	67,839	65,588
Notes payable - trade	25,269	25,902	24,986	25,462	34,148	33,701	27,030	25,674	28,373	29,643
Short-term borrowings	18,847	11,761	10,547	20,225	11,292	22,779	17,139	11,953	13,142	9,328
Other current liabilities	17,887	21,773	19,992	20,872	25,356	26,137	22,912	24,064	26,324	26,617
Long-term liabilities	45,208	55,014	52,766	44,439	43,012	47,844	50,961	58,147	55,023	53,707
Convertible bonds	0	10,000	10,000	10,000	10,000	15,000	15,000	15,000	15,000	15,000
Long-term debt	17,690	15,146	14,269	4,409	5,288	5,992	9,369	14,214	9,727	9,457
Other long term liabilities	27,518	29,868	28,497	30,030	27,723	26,851	26,592	28,933	30,295	29,249
Total liabilities	107,212	114,450	108,291	110,997	113,808	130,461	118,043	119,838	122,863	119,295
Minority interests	3,194	3,851	3,774	3,744	1,848	1,720	1,695	1,703	2,000	2,184
Shareholders' equity	118,433	140,439	142,041	152,474	167,916	173,734	174,360	185,791	207,756	224,398
Total net assets	121,628	144,291	145,815	156,218	169,764	175,454	176,055	187,494	209,757	226,582
Total liabilities and shareholders' equity	228,840	258,742	254,106	267,215	283,574	305,916	294,098	307,332	332,620	345,878
(¥ mn, %)	14/3	15/3	16/3	17/3	18/3	19/3	20/3	21/3	22/3	23/3
Operating CF	19,761	22,189	19,090	25,434	27,657	24,197	20,275	27,890	21,000	21,352
Income before income taxes and minority interests	17,572	22,583	20,444	21,575	21,164	19,432	16,809	12,159	20,081	18,292
Depreciation and amotization	8,745	9,476	10,402	10,342	11,005	12,366	12,739	12,682	12,694	13,299
Working capital total	-220	-4,110	-3,721	-2,804	720	-5,847	-3,318	3,143	-7,998	-5,851
Income taxes	-6,099	-7,193	-9,785	-6,126	-6,664	-7,354	-5,089	-3,810	-3,533	-7,403
Others	-237	1,433	1,750	2,447	1,432	5,600	-866	3,716	-244	3,015
		.,								
Investing CF	-17,166	-14,306	-13,593	-13,420	-17,389	-32,088	-14,241	-9,560	-9,075	-9,279
Investing CF Purchase of investment securities	-17,166 -223	-14,306 -548	-13,593 -194	-229	-11	-212	-15	-252	-12	-24
Investing CF Purchase of investment securities Proceeds from sales of investment securities	-17,166 -223 665	-14,306 -548 0	-13,593 -194 0	-229 19	-11 0	-212 328	-15 215	-252 166	-12 352	-24 793
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment	-17,166 -223 665 -13,232	-14,306 -548 0 -9,384	-13,593 -194 0 -13,750	-229 19 -14,151	-11 0 -15,542	-212 328 -17,273	-15 215 -14,661	-252 166 -9,723	-12 352 -8,004	-24 793 -8,922
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets	-17,166 -223 665 -13,232 104	-14,306 -548 0 -9,384 356	-13,593 -194 0 -13,750 147	-229 19 -14,151 135	-11 0 -15,542 167	-212 328 -17,273 198	-15 215 -14,661 171	-252 166 -9,723 689	-12 352 -8,004 178	-24 793 -8,922 354
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment	-17,166 -223 665 -13,232 104 0	-14,306 -548 0 -9,384 356 0	-13,593 -194 0 -13,750 147 0	-229 19 -14,151 135 0	-11 0 -15,542 167 0	-212 328 -17,273 198 -15,457	-15 215 -14,661 171 0	-252 166 -9,723 689 0	-12 352 -8,004 178 0	-24 793 -8,922 354 0
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets	-17,166 -223 665 -13,232 104	-14,306 -548 0 -9,384 356	-13,593 -194 0 -13,750 147	-229 19 -14,151 135	-11 0 -15,542 167	-212 328 -17,273 198	-15 215 -14,661 171	-252 166 -9,723 689	-12 352 -8,004 178	-24 793 -8,922 354
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment	-17,166 -223 665 -13,232 104 0	-14,306 -548 0 -9,384 356 0	-13,593 -194 0 -13,750 147 0	-229 19 -14,151 135 0	-11 0 -15,542 167 0	-212 328 -17,273 198 -15,457	-15 215 -14,661 171 0	-252 166 -9,723 689 0	-12 352 -8,004 178 0	-24 793 -8,922 354 0
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others	-17,166 -223 665 -13,232 104 0 -4,479	-14,306 -548 0 -9,384 356 0 -4,730	-13,593 -194 0 -13,750 147 0 207	-229 19 -14,151 135 0 807	-11 0 -15,542 167 0 -2,001	-212 328 -17,273 198 -15,457 327	-15 215 -14,661 171 0 48	-252 166 -9,723 689 0 -440	-12 352 -8,004 178 0 -1,589	-24 793 -8,922 354 0 -1,480
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others	-17,166 -223 665 -13,232 104 0 -4,479	-14,306 -548 0 -9,384 356 0 -4,730	-13,593 -194 0 -13,750 147 0 207	-229 19 -14,151 135 0 807	-11 0 -15,542 167 0 -2,001	-212 328 -17,273 198 -15,457 327	-15 215 -14,661 171 0 48	-252 166 -9,723 689 0 -440	-12 352 -8,004 178 0 -1,589	-24 793 -8,922 354 0 -1,480
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF	-17,166 -223 665 -13,232 104 0 -4,479 2,594 -3,196 -642	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -2,647 -1,239	-13,593 -194 0 -13,750 147 0 207 5,496 -5,476 -1,540	-229 19 -14,151 135 0 807 12,013 -4,084 -688	-11 0 -15,542 167 0 -2,001 10,268 - 13,191 -9,410	-212 328 -17,273 198 -15,457 327 -7,890 12,679 15,780	-15 215 -14,661 171 0 48 6,034 -10,385 -2,398	-252 166 -9,723 689 0 -440 18,329 4,354 1,213	-12 352 -8,004 178 0 -1,589 11,925 -7,780 -658	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF Financial CF	-17,166 -223 665 -13,232 104 0 -4,479 2,594 -3,196 -642 -175	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -2,647 -1,239 1,135	-13,593 -194 0 -13,750 147 0 207 5,496 -5,476 -1,540 -190	-229 19 -14,151 135 0 807 12,013 -4,084 -688 913	-11 0 -15,542 167 0 -2,001 10,268 - 13,191 -9,410 1,042	-212 328 -17,273 198 -15,457 327 -7,890 12,679 15,780 1,813	-15 215 -14,661 171 0 48 6,034 -10,385 -2,398 376	-252 166 -9,723 689 0 -440 18,329 4,354 1,213 -1,687	-12 352 -8,004 178 0 -1,589 11,925 -7,780 -658 -3,005	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581 145
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF Financial CF Net increase(decrease) in long term debt Net increase(decrease) in short term debt Cash divident paid	-17,166 -223 665 -13,232 104 0 -4,479 2,594 -3,196 -642 -175 -1,497	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -2,647 -1,239 1,135 -2,432	-13,593 -194 0 -13,750 147 0 207 5,496 -5,476 -1,540 -190 -3,554	-229 19 -14,151 135 0 807 12,013 -4,084 -688 913 -3,928	-11 0 -15,542 167 0 -2,001 10,268 -13,191 -9,410 1,042 -4,544	-212 328 -17,273 198 -15,457 327 -7,890 12,679 15,780 1,813 -4,731	-15 215 -14,661 171 0 48 6,034 -10,385 -2,398 376 -4,541	-252 166 -9,723 689 0 -440 18,329 - 4,354 1,213 -1,687 -3,330	-12 352 -8,004 178 0 -1,589 11,925 -7,780 -658 -3,005 -3,516	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581 145 -4,813
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF Financial CF Net increase(decrease) in long term debt Net increase(decrease) in short term debt	-17,166 -223 665 -13,232 104 0 -4,479 2,594 -3,196 -642 -175	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -2,647 -1,239 1,135	-13,593 -194 0 -13,750 147 0 207 5,496 -5,476 -1,540 -190	-229 19 -14,151 135 0 807 12,013 -4,084 -688 913	-11 0 -15,542 167 0 -2,001 10,268 - 13,191 -9,410 1,042	-212 328 -17,273 198 -15,457 327 -7,890 12,679 15,780 1,813	-15 215 -14,661 171 0 48 6,034 -10,385 -2,398 376	-252 166 -9,723 689 0 -440 18,329 4,354 1,213 -1,687	-12 352 -8,004 178 0 -1,589 11,925 -7,780 -658 -3,005	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581 145
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF Financial CF Net increase(decrease) in long term debt Net increase(decrease) in short term debt Cash divident paid Others	-17,166 -223 665 -13,232 104 0 -4,479 2,594 -3,196 -642 -175 -1,497 -882	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -2,647 -1,239 1,135 -2,432 -111	-13,593 -194 0 -13,750 147 0 207 5,496 -5,476 -1,540 -190 -3,554 -192	-229 19 -14,151 135 0 807 12,013 -4,084 -688 913 -3,928 -381	-11 0 -15,542 167 0 -2,001 10,268 -13,191 1,042 -4,544 -279	-212 328 -17,273 198 -15,457 327 -7,890 12,679 15,780 1,813 -4,731 -183	-15 215 -14,661 171 0 48 -10,385 -2,398 376 -4,541 -3,822	-252 166 -9,723 689 0 -440 18,329 -4,354 1,213 -1,687 -3,330 -550	-12 352 -8,004 178 0 -1,589 -7,780 -658 -3,005 -3,516 -601	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581 145 -4,813 -714
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF Financial CF Net increase(decrease) in long term debt Net increase(decrease) in short term debt Cash divident paid Others Effect of exchange rate changes on cash and cash equivalent	-17,166 -223 665 -13,232 104 0 -4,479 2,594 -3,196 -642 -175 -1,497 -882 1,378	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -2,647 -1,239 1,135 -2,432 -111	-13,593 -194 0 -13,750 147 0 207 5,496 -5,476 -1,540 -190 -3,554 -192	-229 19 -14,151 135 0 807 12,013 -4,084 -688 913 -3,928 -381	-11 0 -15,542 167 0 -2,001 10,268 10,268 -13,191 -9,410 1,042 -4,544 -279 374	-212 328 -17,273 198 -15,457 327 -7,890 12,679 15,780 1,813 -4,731 -183	-15 215 -14,661 171 0 48 -10,385 -2,398 376 -4,541 -3,822	-252 166 -9,723 689 0 -440 18,329 -4,354 1,213 -1,687 -3,330 -550	-12 352 -8,004 178 0 -1,589 11,925 -7,780 -658 -3,005 -3,516 -601	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581 145 -4,813 -714
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF Financial CF Net increase(decrease) in long term debt Net increase(decrease) in short term debt Cash divident paid Others Effect of exchange rate changes on cash and cash equivalent Changes on cash and cash equivalents	-17,166 -223 665 -13,232 104 0 -4,479 2,594 -3,196 -642 -175 -1,497 -882 1,378 776	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -2,647 -1,239 1,135 -2,432 -111 741 5,976	-13,593 -194 0 -13,750 147 0 207 5,496 -5,476 -1,540 -190 -3,554 -192 -957 -937	-229 19 -14,151 135 0 807 12,013 -4,084 -688 913 -3,928 -381 -649 7,279	-11 0 -15,542 167 0 -2,001 10,268 1-13,191 -9,410 1,042 -4,544 -279 374 -2,548	-212 328 -17,273 198 -15,457 327 -7,890 15,780 1,813 -4,731 -183	-15 215 -14,661 171 0 48 -10,385 -2,398 376 -4,541 -3,822 -358 -4,708	-252 166 -9,723 689 0 -440 18,329 -4,354 1,213 -1,687 -3,330 -550	-12 352 -8,004 178 0 -1,589 11,925 -7,780 -658 -3,005 -3,516 -601 2,658 6,803	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581 145 -4,813 -714 1,980 4,089
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF Financial CF Net increase(decrease) in long term debt Net increase(decrease) in short term debt Cash divident paid Others Effect of exchange rate changes on cash and cash equivalent Changes on cash and cash equivalents Cash and cash equivalents at the beginning of the year	-17,166 -223 -665 -13,232 104 0 -4,479 2,594 -3,196 -642 -175 -1,497 -882 1,378 776 20,194	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -2,647 -1,239 1,135 -2,432 -111 741 5,976 21,291	-13,593 -194 0 -13,750 147 0 207 5,496 -5,476 -1,540 -190 -3,554 -192 -957 -937 27,360	-229 19 -14,151 135 0 807 12,013 -4,084 -688 913 -3,928 -381 -649 7,279 26,422	-11 0 -15,542 167 0 -2,001 10,268 -13,191 -9,410 1,042 -4,544 -279 374 -2,548 34,142	-212 328 -17,273 198 -15,457 327 -7,890 15,780 1,813 -4,731 -183 -414 4,374 31,712	-15 215 -14,661 1771 0 48 -10,385 -2,398 376 -4,541 -3,822 -358 -4,708 36,087	-252 166 -9,723 689 0 -440 18,329 -4,354 1,213 -1,687 -3,330 -550 730 14,706 31,378	-12 352 -8,004 178 0 -1,589 -11,925 -7,780 -658 -3,005 -3,516 -601 2,658 6,803 46,084	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581 145 -4,813 -714 1,980 4,089 52,888
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF Financial CF Net increase(decrease) in long term debt Net increase(decrease) in short term debt Cash divident paid Others Effect of exchange rate changes on cash and cash equivalent Changes on cash and cash equivalents	-17,166 -223 665 -13,232 104 0 -4,479 2,594 -3,196 -642 -175 -1,497 -882 1,378 776	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -2,647 -1,239 1,135 -2,432 -111 741 5,976	-13,593 -194 0 -13,750 147 0 207 5,496 -5,476 -1,540 -190 -3,554 -192 -957 -937	-229 19 -14,151 135 0 807 12,013 -4,084 -688 913 -3,928 -381 -649 7,279	-11 0 -15,542 167 0 -2,001 10,268 1-13,191 -9,410 1,042 -4,544 -279 374 -2,548	-212 328 -17,273 198 -15,457 327 -7,890 15,780 1,813 -4,731 -183	-15 215 -14,661 171 0 48 -10,385 -2,398 376 -4,541 -3,822 -358 -4,708	-252 166 -9,723 689 0 -440 18,329 -4,354 1,213 -1,687 -3,330 -550	-12 352 -8,004 178 0 -1,589 11,925 -7,780 -658 -3,005 -3,516 -601 2,658 6,803	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581 145 -4,813 -714 1,980 4,089
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF Financial CF Net increase(decrease) in long term debt Net increase(decrease) in short term debt Cash divident paid Others Effect of exchange rate changes on cash and cash equivalent Changes on cash and cash equivalents Cash and cash equivalents at the beginning of the year Cash and cash equivalents at the end of the year	-17,166 -223 -665 -13,232 104 0 -4,479 2,594 -3,196 -642 -175 -1,497 -882 1,378 776 20,194	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -1,239 1,135 -2,432 -111 741 5,976 21,291 27,360	-13,593 -194 0 -13,750 147 0 207 5,496 -1,540 -190 -3,554 -192 -957 -937 27,360 26,422	-229 19 -14,151 135 0 807 12,013 -4,084 -688 913 -3,928 -381 -649 7,279 26,422 34,142	-11 0 -15,542 167 0 -2,001 10,268 -13,191 -9,410 1,042 -4,544 -279 374 -2,548 34,142 31,712	-212 328 -17,273 198 -15,457 327 -7,890 15,780 1,813 -4,731 -183 -414 4,374 31,712 36,087	-15 215 -14,661 1771 0 48 -10,385 -2,398 376 -4,541 -3,822 -358 -4,708 36,087 31,378	-252 166 -9,723 689 0 -440 18,329 -4,354 1,213 -1,687 -3,330 -550 730 14,706 31,378	-12 352 -8,004 178 0 -1,589 11,925 -7,780 -658 -3,005 -3,516 -601 2,658 6,803 46,084 52,888	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581 145 -4,813 -714 1,980 4,089 52,888
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF Financial CF Net increase(decrease) in long term debt Net increase(decrease) in short term debt Cash divident paid Others Effect of exchange rate changes on cash and cash equivalents Cash and cash equivalents at the beginning of the year Cash and cash equivalents at the end of the year	-17,166 -223 -665 -13,232 -104 -0 -4,479 -3,196 -642 -175 -1,497 -882 -1,378 -776 -20,194 -21,291	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -2,647 -1,239 1,135 -2,432 -111 741 5,976 21,291	-13,593 -194 0 -13,750 147 0 207 5,496 -5,476 -1,540 -190 -3,554 -192 -957 -937 27,360	-229 19 -14,151 135 0 807 12,013 -4,084 -688 913 -3,928 -381 -649 7,279 26,422	-11 0 -15,542 167 0 -2,001 10,268 -13,191 -9,410 1,042 -4,544 -279 374 -2,548 34,142	-212 328 -17,273 198 -15,457 327 -7,890 15,780 1,813 -4,731 -183 -414 4,374 31,712	-15 215 -14,661 1771 0 48 -10,385 -2,398 376 -4,541 -3,822 -358 -4,708 36,087	-252 166 -9,723 689 0 -440 18,329 -4,354 1,213 -1,687 -3,330 -550 730 14,706 31,378 46,084	-12 352 -8,004 178 0 -1,589 -11,925 -7,780 -658 -3,005 -3,516 -601 2,658 6,803 46,084	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581 145 -4,813 -714 1,980 4,089 52,888 56,978
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF Financial CF Net increase(decrease) in long term debt Net increase(decrease) in short term debt Cash divident paid Others Effect of exchange rate changes on cash and cash equivalent Changes on cash and cash equivalents Cash and cash equivalents at the beginning of the year Cash and cash equivalents at the end of the year	-17,166 -223 -665 -13,232 104 0 -4,479 -3,196 -642 -175 -1,497 -882 1,378 776 20,194 21,291 0.80	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -2,647 -1,239 1,135 -2,432 -111 741 5,976 21,291 27,360 0.81	-13,593 -194 0 -13,750 147 0 207 5,496 -1,540 -1,540 -1,90 -3,554 -192 -957 -937 27,360 26,422 0.80	-229 19 -14,151 135 0 807 12,013 -4,084 -688 913 -3,928 -381 -649 7,279 26,422 34,142 0.76	-11 0 -15,542 167 0 -2,001 10,268 -13,191 -9,410 1,042 -4,544 -279 374 -2,548 34,142 31,712 0.78	-212 328 -17,273 198 -15,457 327 -7,890 15,780 1,813 -4,731 -183 -414 4,374 31,712 36,087	-15 215 -14,661 1771 0 48 -10,385 -2,398 376 -4,541 -3,822 -358 -4,708 36,087 31,378	-252 166 -9,723 689 0 -440 18,329 -4,354 1,213 -1,687 -3,330 -550 730 14,706 31,378 46,084	-12 352 -8,004 178 0 -1,589 11,925 -7,780 -658 -3,005 -3,516 -601 2,658 6,803 46,084 52,888 0.67	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581 145 -4,813 -714 1,980 4,089 52,888 56,978
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF Financial CF Net increase(decrease) in long term debt Net increase(decrease) in short term debt Cash divident paid Others Effect of exchange rate changes on cash and cash equivalent Changes on cash and cash equivalents Cash and cash equivalents at the beginning of the year Cash and cash equivalents at the end of the year Sales/total assets (x) Sales/fixed assets (x)	-17,166 -223 665 -13,232 104 0 -4,479 2,594 -3,196 -642 -175 -1,497 -882 1,378 776 20,194 21,291 0.80 1.90	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -2,647 -1,239 1,135 -2,432 -111 741 5,976 21,291 27,360 0.81 1,98	-13,593 -194 0 -13,750 147 0 207 5,496 -1,540 -1,90 -3,554 -192 -957 -937 27,360 26,422 0.80 2.00	-229 19 -14,151 135 0 807 12,013 -4,084 -688 913 -3,928 -381 -649 7,279 26,422 34,142 0.76 1.91	-11 0 -15,542 167 0 -2,001 10,268 -13,191 -9,410 1,042 -4,544 -279 374 -2,548 34,142 31,712 0.78 1.97	-212 328 -17,273 198 -15,457 327 -7,890 15,780 1,813 -4,731 -183 -414 4,374 31,712 36,087 0.81 2.07	-15 215 -14,661 1771 0 48 -10,385 -2,398 376 -4,541 -3,822 -358 -4,708 36,087 31,378	-252 166 -9,723 689 0 -440 18,329 -4,354 1,213 -1,687 -3,330 -550 730 14,706 31,378 46,084	-12 352 -8,004 178 0 -1,589 -11,925 -7,780 -658 -3,005 -3,516 -601 -2,658 6,803 46,084 52,888 0.67 1.88	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581 145 -4,813 -714 1,980 4,089 52,888 56,978
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF Financial CF Net increase(decrease) in long term debt Net increase(decrease) in short term debt Cash divident paid Others Effect of exchange rate changes on cash and cash equivalent Changes on cash and cash equivalents Cash and cash equivalents at the beginning of the year Cash and cash equivalents at the end of the year Sales/total assets (x) Sales/fixed assets (x) Sales/current assets (x)	-17,166 -223 665 -13,232 104 0 -4,479 -3,196 -642 -175 -1,497 -882 1,378 776 20,194 21,291 0.80 1.90 1.80	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -2,647 -1,239 1,135 -2,432 -111 741 5,976 21,291 27,360 0.81 1.98 1.81	-13,593 -194 0 -13,750 147 0 207 5,496 -5,476 -1,540 -190 -3,554 -192 -957 -937 27,360 26,422 0.80 2.00 1.75	-229 19 -14,151 135 0 807 12,013 -4,084 -688 913 -3,928 -381 -649 7,279 26,422 34,142 0.76 1.91 1.64	-11 0 -15,542 167 0 -2,001 10,268 1-13,191 -9,410 1,042 -4,544 -279 374 -2,548 34,142 31,712 0.78 1.97 1.68	-212 328 -17,273 198 -15,457 327 -7,890 12,679 15,780 1,813 -4,731 -183 -414 4,374 31,712 36,087	-15 215 -14,661 171 0 48 -10,385 -2,398 376 -4,541 -3,822 -358 -4,708 36,087 31,378 0.75 1.92 1.63	-252 166 -9,723 689 0 -440 18,329 -4,354 1,213 -1,687 -3,330 -550 730 14,706 31,378 46,084 0.64 1.66 1.39	-12 352 -8,004 178 0 -1,589 11,925 -7,780 -658 -3,056 -601 2,658 6,803 46,084 52,888 0.67 1.88 1.39	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581 145 -4,813 -714 1,980 4,089 52,888 56,978 0.74 2.19
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF Financial CF Net increase(decrease) in long term debt Net increase(decrease) in short term debt Cash divident paid Others Effect of exchange rate changes on cash and cash equivalent Changes on cash and cash equivalents Cash and cash equivalents at the beginning of the year Cash and cash equivalents at the end of the year Sales/total assets (x) Sales/current assets (x) Sales/current assets (x) Sales/inventories (days)	-17,166 -223 -665 -13,232 104 0 -4,479 -3,196 -642 -175 -1,497 -882 1,378 -776 20,194 21,291 0.80 1.90 1.80 85.26	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -2,647 -1,239 1,135 -2,432 -111 741 5,976 21,291 27,360 0.81 1.98 1.81 84.18	-13,593 -194 0 -13,750 147 0 207 5,496 -5,476 -1,540 -190 -3,554 -192 -957 -937 27,360 26,422 0.80 2.00 1.75 85.61	-229 19 -14,151 135 0 807 12,013 -4,084 -688 913 -3,928 -381 -649 7,279 26,422 34,142 0.76 1.91 1.64 88.52	-11 0 -15,542 167 0 -2,001 10,268 1-13,191 -9,410 1,042 -4,544 -279 374 -2,548 34,142 31,712 0.78 1.97 1.68 85.55	-212 328 -17,273 198 -15,457 327 -7,890 12,679 15,780 1,813 -4,731 -183 -414 4,374 31,712 36,087	-15 215 -14,661 171 0 48 -10,385 -2,398 376 -4,541 -3,822 -358 -4,708 36,087 31,378 0.75 1.92 1.63 90.24	-252 166 -9,723 689 0 -440 18,329 -4,354 1,213 -1,687 -3,330 -550 730 14,706 31,378 46,084 0.64 1.66 1.39 98.49	-12 352 -8,004 178 0 -1,589 -1,589 -1,780 -658 -3,005 -3,516 -601 -601 -2,658 6,803 46,084 52,888 0.67 1.88 1.39	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581 145 -4,813 -714 1,980 4,089 52,888 56,978 0.74 2,19 1,44
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF Financial CF Net increase(decrease) in long term debt Net increase(decrease) in short term debt Cash divident paid Others Effect of exchange rate changes on cash and cash equivalent Changes on cash and cash equivalents Cash and cash equivalents at the beginning of the year Cash and cash equivalents at the end of the year Sales/total assets (x) Sales/fixed assets (x) Sales/inventories (days) Sales/receivables (days)	-17,166 -223 -665 -13,232 104 0 -4,479 2,594 -3,196 -642 -175 -1,497 -882 1,378 776 20,194 21,291 0.80 1.90 1.80 85,26 88,35 53,06 51,75	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -2,647 -1,239 1,135 -2,432 -111 741 5,976 21,291 27,360 0.81 1.98 1.81 84.18 85.04 47.47 54.28	-13,593 -194 0 -13,750 147 0 207 5,496 -5,476 -1,540 -190 -3,554 -192 -957 -937 27,360 26,422 0.80 2.00 1.75 85.61 85.95	-229 19 -14,151 135 0 807 12,013 -4,084 -688 913 -3,928 -381 -649 7,279 26,422 34,142 0.76 1.91 1.64 88.52 91.35	-11 0 -15,542 167 0 -2,001 10,268 -13,191 -9,410 1,042 -4,544 -279 374 -2,548 34,142 31,712 0.78 85.55 89.99	-212 328 -17,273 198 -15,457 327 -7,890 15,780 1,813 -4,731 -183 -414 4,374 31,712 36,087 0.81 2.07 1.73 84,44 88,31 51,91 56,79	-15 215 -14,661 1771 0 48 6,034 -10,385 -2,398 376 -4,541 -3,822 -358 4,708 36,087 31,378 0.75 1.92 1.63 90.24 94.19 48.95 59.29	-252 166 -9,723 689 0 -440 18,329 -4,354 1,213 -1,687 -3,330 -550 730 14,706 31,378 46,084 0.64 1.66 1.39 98.49 106.09	-12 352 -8,004 178 0 -1,589 11,925 -7,780 -658 -3,005 -3,516 -601 2,658 6,803 46,084 52,888 0.67 1.88 1.39 104.16 96.80	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581 145 -4,813 -714 1,980 4,089 52,888 56,978 0.74 2.19 1,44 106.16 88.75
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF Financial CF Net increase(decrease) in long term debt Net increase(decrease) in short term debt Cash divident paid Others Effect of exchange rate changes on cash and cash equivalent Changes on cash and cash equivalents Cash and cash equivalents at the beginning of the year Cash and cash equivalents at the end of the year Sales/total assets (x) Sales/fixed assets (x) Sales/fixed assets (days) Sales/receivables (days) Sales/payables (days)	-17,166 -223 665 -13,232 104 0 -4,479 -3,196 -642 -175 -1,497 -882 1,378 776 20,194 21,291 0.80 1.90 1.80 85,26 88,35 53,06 51,75 120,55	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -2,647 -1,239 1,135 -2,432 -111 741 5,976 21,291 27,360 0.81 1.98 1.81 84.18 85.04 47.47 54.28 121.75	-13,593 -194 0 -13,750 147 0 207 5,496 -1,546 -1,546 -1,554 -192 -957 -937 27,360 26,422 0.80 2.00 1.75 85.61 85.95 45.53 55.90 126.03	-229 19 -14,151 135 0 807 -12,013 -4,084 -688 913 -3,928 -381 -649 7,279 26,422 34,142 0.76 1.91 1.64 88.52 91.35 46.32 57.06 133.55	-11 0 -15,542 167 0 -2,001 10,268 -13,191 -9,410 1,042 4,544 -279 374 -2,548 34,142 31,712 0.78 1.97 1.68 85.55 89.99 50.43 59.21 125.12	-212 328 -17,273 198 -15,457 327 -7,890 15,780 1,813 -4,731 -183 -414 4,374 31,712 36,087 0.81 2.07 1.73 84,44 88,31 51,91 56,79 120,84	-15 215 -14,661 1771 0 48 6,034 -10,385 -2,398 376 -4,541 -3,822 -358 -4,708 36,087 31,378 0.75 1.92 1.63 90.24 94.19 48.95 59.29 135.48	-252 166 -9,723 689 0 -440 18,329 -4,354 1,213 -1,687 -3,330 -550 730 14,706 31,378 46,084 0.64 1.66 1.39 98.49 106.09 49.73 60.45 154.85	-12 352 -8,004 178 0 -1,589 11,925 -7,780 -658 -3,005 -3,516 -601 2,658 6,803 46,084 52,888 0.67 1.88 1.39 104.16 96.80 45.69 62.46 155.27	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581 145 -4,813 -714 1,980 4,089 52,888 56,978 0.74 2.19 1.646 1088,75 42.09 64.88 152.82
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF Financial CF Net increase(decrease) in long term debt Net increase(decrease) in short term debt Cash divident paid Others Effect of exchange rate changes on cash and cash equivalent Changes on cash and cash equivalents Cash and cash equivalents at the beginning of the year Cash and cash equivalents at the end of the year Sales/total assets (x) Sales/fixed assets (x) Sales/fixed assets (x) Sales/inventories (days) Sales/receivables (days) Sales/payables (days) Shareholders' equity ratio (%) CCC(days) ROE (%)	-17,166 -223 665 -13,232 104 0 -4,479 -3,196 -642 -175 -1,497 -882 1,378 776 20,194 21,291 0.80 1.90 1.80 85,26 88,35 53,06 51,75 120,55	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -2,647 -1,239 1,135 -2,432 -111 741 5,976 21,291 27,360 0.81 1.98 1.81 84.18 85.04 47.47 54.28 121.75	-13,593 -194 0 -13,750 147 0 207 5,496 -1,540 -1,540 -1,90 -3,554 -192 -957 -937 27,360 26,422 0.80 2.00 1.75 85.61 85.95 45.53 55.90 126.03 9.0	-229 19 -14,151 135 0 807 -12,013 -4,084 -688 913 -3,928 -381 -649 7,279 26,422 34,142 0.76 1.91 1.64 88.52 91.35 46.32 57.06 133.55 9.9	-11 0 -15,542 167 0 -2,001 10,268 -13,191 -9,410 1,042 -4,544 -279 374 -2,548 34,142 31,712 0.78 1.97 1.68 85.55 89.99 50.43 59.21 125.12 9.2	-212 328 -17,273 198 -15,457 327 -7,890 15,780 1,813 -4,731 -183 -414 4,374 31,712 36,087 0.81 2.07 1.73 84,44 88,31 51,91 56,79 120,84 8.1	-15 215 -14,661 1771 0 48 -10,385 -2,398 376 -4,541 -3,822 -358 -4,708 36,087 31,378 0.75 1.92 1.63 90.24 94.19 44.95 59.29 135.48 6.7	-252 166 -9,723 689 0 -440 18,329 -4,354 1,213 -1,687 -3,330 -550 730 14,706 31,378 46,084 0.64 1.66 1.39 98.49 106.09 49,73 60.45 154.85 4.8	-12 352 -8,004 178 0 -1,589 -11,925 -7,780 -658 -3,005 -3,516 -601 2,658 6,803 46,084 52,888 0.67 1.88 1.39 104.16 96.80 45.69 62.46 155.27 7.4	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581 145 -4,813 -714 1,980 4,089 52,888 56,978 0.74 2.19 1.44 106.16 88.75 42.09 64.88 152.82 6.4
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF Financial CF Net increase(decrease) in long term debt Net increase(decrease) in short term debt Cash divident paid Others Effect of exchange rate changes on cash and cash equivalent Changes on cash and cash equivalents Cash and cash equivalents at the beginning of the year Cash and cash equivalents at the end of the year Sales/total assets (x) Sales/fixed assets (x) Sales/inventories (days) Sales/receivables (days) Sales/payables (days) Sales/payables (days) Shareholders' equity ratio (%) CCC(days) ROE (%) ROA (%)	-17,166 -223 -665 -13,232 104 0 -4,479 -3,196 -642 -175 -1,497 -882 1,378 776 20,194 21,291 0.80 1.90 1.80 85,26 88,35 53,06 51,75 120,55 9,3 4,6	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -2,647 -1,239 1,135 -2,432 -111 741 5,976 21,291 27,360 0.81 1.98 1.81 84.18 85.04 47.47 54.28 121.75 10.9 5.8	-13,593 -194 0 -13,750 147 0 207 5,496 -5,476 -1,540 -190 -3,554 -192 -957 -937 27,360 26,422 0.80 2.00 1.75 85.61 85.95 45.53 55.90 126.03 9.0 5.0	-229 19 -14,151 135 0 807 -4,084 -688 913 -3,928 -381 -649 7,279 26,422 34,142 0.76 1.91 1.64 88.52 91.35 46.32 57.06 133.55 9.9 5.6	-11 0 0 -15,542 167 0 -2,001 10,268 1-13,191 -9,410 1,042 -4,544 -279 374 -2,548 34,142 31,712 0.78 1.97 1.68 85.55 89.99 50.43 59.21 125.12 9.2 5.3	-212 328 -17,273 198 -15,457 327 -7,890 12,679 15,780 1,813 -4,731 -183 -4,14 4,374 31,712 36,087 0.81 2.07 1.73 84,44 88.31 51.91 56.79 120.84 8.1	-15 215 -14,661 171 0 48 -10,385 -2,398 376 -4,541 -3,822 -358 -4,708 36,087 31,378 0.75 1.92 1.63 90.24 94.19 48.95 59.29 135.48 6.7	-252 166 -9,723 689 0 -440 18,329 -4,354 1,213 -1,687 -3,330 -550 730 14,706 31,378 46,084 0.64 1.66 1.39 98.49 106.09 49.73 60.45 154.85 4.8 2.9	-12 352 -8,004 178 0 -1,589 -1,589 -1,780 -658 -3,056 -601 -601 2,658 6,803 46,084 52,888 0.67 1.88 1.39 104.16 96.80 45.60 45.60 45.60 46.60 45.60 47.70 47.70 48.70 48.70 48.70 49.	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581 145 -4,813 -714 1,980 4,089 52,888 56,978 0.74 2.19 1.44 106.16 88.75 42.09 64.88 152,82 6.4 4.1
Investing CF Purchase of investment securities Proceeds from sales of investment securities Additions to property, plant and equipment Proceeds from sales of fixed assets Purchase of subsidiary investment Others FCF Financial CF Net increase(decrease) in long term debt Net increase(decrease) in short term debt Cash divident paid Others Effect of exchange rate changes on cash and cash equivalent Changes on cash and cash equivalents Cash and cash equivalents at the beginning of the year Cash and cash equivalents at the end of the year Sales/total assets (x) Sales/fixed assets (x) Sales/fixed assets (x) Sales/inventories (days) Sales/receivables (days) Sales/payables (days) Shareholders' equity ratio (%) CCC(days) ROE (%)	-17,166 -223 665 -13,232 104 0 -4,479 -3,196 -642 -175 -1,497 -882 1,378 776 20,194 21,291 0.80 1.90 1.80 85,26 88,35 53,06 51,75 120,55	-14,306 -548 0 -9,384 356 0 -4,730 7,882 -2,647 -1,239 1,135 -2,432 -111 741 5,976 21,291 27,360 0.81 1.98 1.81 84.18 85.04 47.47 54.28 121.75	-13,593 -194 0 -13,750 147 0 207 5,496 -1,540 -1,540 -1,90 -3,554 -192 -957 -937 27,360 26,422 0.80 2.00 1.75 85.61 85.95 45.53 55.90 126.03 9.0	-229 19 -14,151 135 0 807 -12,013 -4,084 -688 913 -3,928 -381 -649 7,279 26,422 34,142 0.76 1.91 1.64 88.52 91.35 46.32 57.06 133.55 9.9	-11 0 -15,542 167 0 -2,001 10,268 -13,191 -9,410 1,042 -4,544 -279 374 -2,548 34,142 31,712 0.78 1.97 1.68 85.55 89.99 50.43 59.21 125.12 9.2	-212 328 -17,273 198 -15,457 327 -7,890 15,780 1,813 -4,731 -183 -414 4,374 31,712 36,087 0.81 2.07 1.73 84,44 88,31 51,91 56,79 120,84 8.1	-15 215 -14,661 1771 0 48 -10,385 -2,398 376 -4,541 -3,822 -358 -4,708 36,087 31,378 0.75 1.92 1.63 90.24 94.19 44.95 59.29 135.48 6.7	-252 166 -9,723 689 0 -440 18,329 -4,354 1,213 -1,687 -3,330 -550 730 14,706 31,378 46,084 0.64 1.66 1.39 98.49 106.09 49,73 60.45 154.85 4.8	-12 352 -8,004 178 0 -1,589 -11,925 -7,780 -658 -3,005 -3,516 -601 2,658 6,803 46,084 52,888 0.67 1.88 1.39 104.16 96.80 45.69 62.46 155.27 7.4	-24 793 -8,922 354 0 -1,480 12,073 -9,963 -4,581 145 -4,813 -714 1,980 4,089 52,888 56,978 0,74 2,19 1,44 106.16 88,75 42,09 64,88 152,82 6,4

Source : Created by CGRA based on Company documents



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Capital Goods Research & Advisory Co., Ltd.

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