

## Highlights of Semiconductor Production Equipment Manufacturers' Financial Results for Fiscal Year Ended March 2022

The following are Japan Credit Rating Agency, Ltd. (JCR)'s perception of the current status and highlights for rating concerning the financial results for the fiscal year ended March 2022 (FY2021) and earnings forecasts for FY2022 of three semiconductor production equipment manufacturers: DISCO CORPORATION ("DISCO"), SCREEN Holdings Co., Ltd., ("SCREEN HD") and Tokyo Electron Limited ("Tokyo Electron").

### 1. Industry Trend

According to Semiconductor Equipment and Materials International (SEMI) and other data, the world's semiconductor production equipment sales volume reached USD 102.6 billion in 2021, up 44% year on year, hitting the record high two consecutive years. Logic and foundries, and DRAM showed a large increase. NAND-type flash memory was also strong. By region, China, which promotes enhancement of the semiconductor industry as a national strategy, became the largest market two years in a row followed by South Korea and Taiwan. These three countries showed a high year-on-year increase. Demand for semiconductors is extremely strong backed by various technological innovations and expansion of applications, and semiconductor manufacturers and foundries are making capital investments aggressively. In 2021, various industries faced a serious semiconductor shortage. The typical industry affected was the automobile industry, which was forced to reduce the production volume of automobile with reasons of a shortage of semiconductors and others. The shortage has been continuing due partly to a bottleneck in the supply chain caused by the COVID-19 pandemic. SEMI predicts that the sales volume of semiconductor manufacturers will also likely continue growing for 2022.

Facing with heating up of the U.S-China trade friction, unevenly located semiconductor production regions, a serious shortage of semiconductors and others, major countries/regions other than China have made movements to establish a semiconductor supply chain network in their own countries/regions. Taiwan Semiconductor Manufacturing Company, Ltd. ("TSMC"), the world's largest foundry, announced in 2020 that it would construct a new plant in Arizona, U.S.A., and in 2021, Samsung Electronics Co., Ltd. in South Korea and US-based Intel Corporation, both are leading semiconductor manufacturers, respectively announced construction of a new plant, Samsung in Texas, U.S.A., and Intel in Ohio, U.S.A. and eastern part of Germany. TSMC, Samsung Electronics and Intel are so-called the Big Three. Semiconductors are now positioned as indispensable strategic materials for economic security and their significance has been recognized again. They are also drawing attention as a key device toward realizing the digital society and decarbonized society.

### 2. Financial Results

In this section, JCR primarily mentions the total figures of the three companies, DISCO, SCREEN HD and Tokyo Electron. Among the three, the business size of Tokyo Electron is large and the total figures of the three are susceptible to those of Tokyo Electron. Tokyo Electron, one of the world's leading semiconductor production equipment manufacturers, produces a wide-range of products mainly those in semiconductor front-end process and is a symbol for the domestic industry.

For FY2021, the total net sales and operating income for the three companies increased two fiscal years in a row indicated by net sales stood at 2,669.4 billion yen, up 40.3% year on year, and operating income stood at 752.0 billion yen, up 88.8% year on year. This is backed by the above-mentioned favorable business environment. In addition to strong demand for new equipment caused by the customers' strong appetite of capital investment, demand for consumables, parts and services was also strong backed by the high operation rates of customers' facilities. The operating income margin exceeded 20% in the previous fiscal year, and it reached 28.2% in FY2021. That said the impacts of shortage of materials and tight demand-supply conditions of logistics were limited in general. Looking at the performance on a semiannual basis, it is still improving and expanding hitting the latest bottom in the first half of FY2019.

By company, all the three companies increased net sales and operating income, and exceeded the highest net sales and operating income in the past. DISCO and Tokyo Electron hit the record high two fiscal year in a row. DISCO's operating income margin exceeded 35% and that of Tokyo Electron nearly reached 30%. Although there is a gap between SCREEN HD's operating income margin and these of the two companies, it is on improvement. Approximately 50% of DISCO's net sales are in US dollars, which is large compared to these of other companies. Therefore, depreciation of the yen partly boosted the net sales and operating income. Transactions of the semiconductor production equipment business of Tokyo Electron and SCREEN HD are primarily in the yen; therefore the impact of currency fluctuation is limited.

The cash flow generation ability has also increased due to growing earnings capacity. The total operating cash flow of the three companies in FY2021 increased 72.7% from the previous fiscal year to 448.7 billion yen. By company, all the tree companies increased operating cash flow from the previous fiscal year and generated positive free cash flow. Combined financial structure of the three companies is still favorable. The equity ratio has been high at the 60% level since the end of FY2007, hitting 68.0% at the end of FY2021, 68.9% a year earlier. By company, equity ratio of DISCO and Tokyo Electron exceeded 70%. In addition, both companies have been maintaining a net cash position. On the other hand, SCREEN HD's equity ratio exceeded 50% at the end of FY2020 for the first time and moved to net cash. It maintained the equity ratio exceeding 50% and net cash at the end of FY2021 as well.

### 3. Highlights for Rating

Two companies, SCREEN HD and Tokyo Electron, which have disclosed their full-year earnings forecast for FY2022, project an increase in net sales and operating income, and SCREEN HD expects to mark a record high, achieving a two straight yearly increase in net sales and operating income. Tokyo Electron's net sales and operating income are expected to hit the highest three fiscal years in a row. Tokyo Electron's operating income margin exceeds 30% in the calculation. DISCO, as in the past, announced only the earnings forecasts for the next quarter. It expects a year-on-year increase in net sales and operating income for the first quarter of FY2022.

For FY2022, a certain degree of attention needs to be paid to shortage of materials including semiconductors, tight supply-demand conditions of logistics and an impact of the situation between Russia and Ukraine to semiconductor supply chains. Despite the fact, companies' performance for FY2022 will highly likely favorable backed by the favorable order receiving environment, entering a full-scale growth stage of the performance. The companies mainly procure materials in Japan and the impact of the pandemic in the material procurement seems to be relatively small. Due to growing earnings capacity, enhancement of the financial foundation will highly likely progress further.

JCR has determined the rating outlook of SCREEN HD and Tokyo Electron Positive given the following: i) strong semiconductor production equipment market fueled by the increased significance of semiconductors; ii) increased earning capacity and cash flow generation capacity backed by the above-mentioned market condition; iii) further enhancement of the financial foundation, etc. Without occurring special events such as abrupt changes in the semiconductor production equipment market and serious shortage of materials, both companies' rating will highly likely be upgraded. On the other hand, JCR is paying attention to degree of performance improvement DISCO can achieve while having a constraint on the production capacity. In addition, JCR will also continue watching whether value addition will be advanced in the semiconductor back-end process, DISCO's target market, as with the semiconductor front-end process.

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(Chart 1) Business Performance

(Unit: Yen in 100 mn)

		FY2020			FY2021			FY2022		
		Actual	1st half	2nd half	Actual	1st half	2nd half	Forecast	1st half	2nd half
DISCO (security code: 6146)	Net Sales	1,828	832	996	2,537	1,160	1,376	-	-	-
	Operating Income	531	233	297	915	399	515	-	-	-
	Operating Income Margin(%)	29.0	28.1	29.9	36.1	34.4	37.4	-	-	-
	Net Income	390	166	224	662	285	376	-	-	-
SCREEN HD (security code: 7735)	Net Sales	3,203	1,427	1,776	4,118	1,872	2,246	4,600	2,195	2,405
	Operating Income	244	64	180	612	240	371	745	320	425
	Operating Income Margin(%)	7.6	4.5	10.1	14.9	12.9	16.6	16.2	14.6	17.7
	Net Income	151	33	117	454	176	278	500	220	280
Tokyo Electron (security code: 8035)	Net Sales	13,991	6,681	7,309	20,038	9,325	10,712	23,500	11,000	12,500
	Operating Income	3,206	1,474	1,732	5,992	2,746	3,246	7,160	3,190	3,970
	Operating Income Margin(%)	22.9	22.1	23.7	29.9	29.5	30.3	30.5	29.0	31.8
	Net Income	2,429	1,120	1,309	4,370	2,002	2,368	5,230	2,340	2,890
Total of 3 companies	Net Sales	19,022	8,940	10,081	26,694	12,358	14,336	-	-	-
	Operating Income	3,982	1,772	2,210	7,520	3,386	4,133	-	-	-
	Operating Income Margin(%)	20.9	19.8	21.9	28.2	27.4	28.8	-	-	-
	Net Income	2,971	1,319	1,652	5,487	2,464	3,023	-	-	-

(Source: Prepared by JCR based on the financial materials of above companies)

(Chart 2) Cash Flows & Financial Conditions

(Unit: Yen in 100 mn)

		End-FY2020	End-FY2021
DISCO	Operating Cash Flow	567	836
	Interest-bearing Debt	0	N.A.
	Ready Liquidity	1,098	1,257
	Equity Capital	2,512	2,926
	Equity Ratio (%)	76.3	72.3
	DER (times)	0.00	N.A.
SCREEN HD	Operating Cash Flow	572	817
	Interest-bearing Debt	437	442
	Ready Liquidity	627	1,330
	Equity Capital	2,083	2,477
	Equity Ratio (%)	54.5	53.9
	DER (times)	0.21	0.18
Tokyo Electron	Operating Cash Flow	1,458	2,833
	Interest-bearing Debt	38	N.A.
	Ready Liquidity	3,115	3,712
	Equity Capital	10,129	13,351
	Equity Ratio (%)	71.1	70.5
	DER (times)	0.00	N.A.
Total of 3 companies	Operating Cash Flow	2,598	4,487
	Interest-bearing Debt	475	N.A.
	Ready Liquidity	4,840	6,301
	Equity Capital	14,725	18,755
	Equity Ratio (%)	68.9	68.0
	DER (times)	0.03	N.A.

(Note 1) Assuming DISCO and Tokyo Electron did not have any outstanding balance of bonds and loans as of the end of FY2021.

(Source: Prepared by JCR based on the financial materials of above companies)

<Reference>

Issuer: DISCO CORPORATION

Long-term Issuer Rating: AA- Outlook: Stable

Issuer: SCREEN Holdings Co., Ltd.

Long-term Issuer Rating: A- Outlook: Positive

Issuer: Tokyo Electron Limited

Long-term Issuer Rating: AA Outlook: Positive

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