UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended February 28, 2023

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from ________________ to __________________

Commission File Number: 001-11038

NORTHERN TECHNOLOGIES INTERNATIONAL CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	**41-0857886**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

4201 Woodland Road
P.O. Box 69
Circle Pines, Minnesota 55014
(Address of principal executive offices) (Zip Code)

(763) 225-6600
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, par value $0.02 per share	NTIC	Nasdaq Global Market

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☐	Accelerated filer ☐
Non-accelerated filer ☒	Smaller reporting company ☒
	Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of April 11, 2023, there were 9,366,358 shares of common stock of the registrant outstanding.

NORTHERN TECHNOLOGIES INTERNATIONAL CORPORATION
FORM 10-Q
February 28, 2023

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This quarterly report on Form 10-Q contains certain forward-looking statements that are within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, and are subject to the safe harbor created by those sections. For more information, see "Part I. Financial Information – Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations – Forward-Looking Statements."

As used in this report, references to "NTIC," the "Company," "we," "our" or "us," unless the context otherwise requires, refer to Northern Technologies International Corporation and its wholly-owned and majority-owned subsidiaries, all of which are consolidated on NTIC's consolidated financial statements.

As used in this report, references to: (1) "NTIC China" refer to NTIC's wholly-owned subsidiary in China, NTIC (Shanghai) Co., Ltd.; (2) "NTI Europe" refer to NTIC's wholly-owned subsidiary in Germany, NTIC Europe GmbH; (3) "Zerust Mexico" refer to NTIC's wholly-owned subsidiary in Mexico, ZERUST-EXCOR MEXICO, S. de R.L. de C.V.; (4) "Zerust India" refer to NTIC's wholly-owned subsidiary in India effective as of September 1, 2021, HNTI Limited (formerly Harita-NTI Limited); and (5)"NTI Asean" refer to NTIC's majority-owned holding company subsidiary, NTI Asean LLC, which holds investments in certain entities that operate in the Association of Southeast Asian Nations (ASEAN) region.

NTIC's consolidated financial statements do not include the accounts of any of its joint ventures. Except as otherwise indicated, references in this report to NTIC's joint ventures do not include any of NTIC's wholly-owned or majority-owned subsidiaries.

As used in this report, references to "EXCOR" refer to NTIC's joint venture in Germany, Excor Korrosionsschutz – Technologien und Produkte GmbH.

All trademarks, trade names or service marks referred to in this report are the property of their respective owners.

PART I - FINANCIAL INFORMATION
ITEM 1. FINANCIAL STATEMENTS
NORTHERN TECHNOLOGIES INTERNATIONAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS AS OF FEBRUARY 28, 2023 (UNAUDITED) AND AUGUST 31, 2022 (AUDITED)

	February 28, 2023	August 31, 2022
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 5,451,111	$ 5,333,890
Available for sale securities	—	5,590
Receivables:		
Trade, excluding joint ventures, less allowance for doubtful accounts of $439,000 as of February 28, 2023 and August 31, 2022	14,675,017	14,136,930
Trade, joint ventures	1,614,934	697,861
Fees for services provided to joint ventures	1,108,907	1,765,117
Income taxes	313,270	—
Inventories	15,180,239	16,341,729
Prepaid expenses	1,833,124	1,953,764
Total current assets	$ 40,176,602	$ 40,234,881
PROPERTY AND EQUIPMENT, NET	$ 13,445,966	$ 12,170,493
OTHER ASSETS:		
Investments in joint ventures	21,522,496	21,814,754
Intangible asset, net	6,409,028	6,633,878
Goodwill	4,782,376	4,782,376
Operating lease right of use asset	374,037	557,571
Total other assets	33,087,937	33,788,579
Total assets	$ 86,710,505	$ 86,193,953
LIABILITIES AND EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$ 6,307,443	$ 7,796,494
Line of credit	7,100,000	5,900,000
Income taxes payable	—	30,742
Accrued liabilities:		
Payroll and related benefits	1,304,717	2,297,543
Other	1,292,950	667,292
Current portion of operating leases	173,179	373,330
Total current liabilities	$ 16,178,289	$ 17,065,401
LONG-TERM LIABILITIES:		
Deferred income tax, net	1,623,364	1,700,015
Operating leases, less current portion	200,858	184,241
Total long-term liabilities	$ 1,824,222	$ 1,884,256
COMMITMENTS AND CONTINGENCIES (Note 12)		
EQUITY:		
Preferred stock, no par value; authorized 10,000 shares; none issued and outstanding	—	—
Common stock, $0.02 par value per share; authorized 15,000,000 shares as of February 28, 2023 and August 31, 2022; issued and outstanding 9,366,357 and 9,232,483, respectively	187,327	184,650
Additional paid-in capital	21,058,721	19,939,131
Retained earnings	50,792,813	50,716,613
Accumulated other comprehensive loss	(6,774,510)	(7,245,132)
Stockholders' equity	65,264,351	63,595,262
Non-controlling interests	3,443,643	3,649,034
Total equity	68,707,994	67,244,296
Total liabilities and equity	$ 86,710,505	$ 86,193,953

See notes to consolidated financial statements.

NORTHERN TECHNOLOGIES INTERNATIONAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS (UNAUDITED)
FOR THE THREE AND SIX MONTHS ENDED FEBRUARY 28, 2023 AND 2022

	Three Months Ended February 28,		Six Months Ended February 28,	
	2023	2022	2023	2022
NET SALES:				
Net sales	$ 18,270,825	$ 16,748,639	$ 38,223,591	$ 34,942,052
Cost of goods sold	11,867,639	11,764,304	25,467,281	24,254,787
Gross profit	6,403,186	4,984,335	12,756,310	10,687,265
JOINT VENTURE OPERATIONS:				
Equity in income from joint ventures	1,128,731	922,832	2,318,135	2,297,581
Fees for services provided to joint ventures	1,252,746	1,246,909	2,434,551	2,505,767
Total joint venture operations	2,381,477	2,169,741	4,752,686	4,803,348
OPERATING EXPENSES:				
Selling expenses	3,418,717	2,971,391	6,926,151	6,209,149
General and administrative expenses	3,084,189	2,518,788	6,214,788	5,115,135
Research and development expenses	994,450	1,218,674	2,251,174	2,454,495
Total operating expenses	7,497,356	6,708,853	15,392,113	13,778,779
OPERATING INCOME	1,287,307	445,223	2,116,883	1,711,834
REMEASUREMENT GAIN ON ACQUISITION OF EQUITY METHOD INVESTEE	—	—	—	3,951,550
INTEREST INCOME	3,451	9,909	9,619	20,852
INTEREST EXPENSE	(115,144)	(7,404)	(206,475)	(10,295)
INCOME BEFORE INCOME TAX EXPENSE	1,175,614	447,728	1,920,027	5,673,941
INCOME TAX EXPENSE	181,795	151,743	292,528	656,123
NET INCOME	993,819	295,985	1,627,499	5,017,818
NET INCOME ATTRIBUTABLE TO NON-CONTROLLING INTERESTS	108,571	113,138	240,009	341,212
NET INCOME ATTRIBUTABLE TO NTIC	$ 885,248	$ 182,847	$ 1,387,490	$ 4,676,606
NET INCOME ATTRIBUTABLE TO NTIC PER COMMON SHARE:				
Basic	$ 0.10	$ 0.02	$ 0.15	$ 0.51
Diluted	$ 0.09	$ 0.02	$ 0.14	$ 0.48
WEIGHTED AVERAGE COMMON SHARES ASSUMED OUTSTANDING:				
Basic	9,366,357	9,214,817	9,353,989	9,211,858
Diluted	9,747,461	9,683,426	9,745,166	9,736,060
CASH DIVIDENDS DECLARED PER COMMON SHARE	$ 0.07	$ 0.07	$ 0.14	$ 0.14

See notes to consolidated financial statements.

NORTHERN TECHNOLOGIES INTERNATIONAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (UNAUDITED)
FOR THE THREE AND SIX MONTHS ENDED FEBRUARY 28, 2023 AND 2022

	Three Months Ended February 28,		Six Months Ended February 28,	
	2023	**2022**	**2023**	**2022**
NET INCOME	$ 993,819	$ 295,985	$ 1,627,499	$ 5,017,818
OTHER COMPREHENSIVE LOSS – FOREIGN CURRENCY TRANSLATION ADJUSTMENT	534,713	26,295	480,796	(382,769)
COMPREHENSIVE INCOME	1,528,532	322,280	2,108,295	4,635,049
COMPREHENSIVE LOSS ATTRIBUTABLE TO NON-CONTROLLING INTERESTS	(111,958)	(136,037)	(250,183)	(292,102)
COMPREHENSIVE INCOME ATTRIBUTABLE TO NTIC	$ 1,640,490	$ 458,317	$ 2,358,478	$ 4,927,151

See notes to consolidated financial statements.

NORTHERN TECHNOLOGIES INTERNATIONAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF EQUITY (UNAUDITED)
FOR THE THREE AND SIX MONTHS ENDED FEBRUARY 28, 2023 AND 2022

	STOCKHOLDERS' EQUITY – THREE MONTHS ENDED FEBRUARY 28, 2023 AND 2022						
	Common Stock		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Non-Controlling Interests	Total Equity
	Shares	Amount					
BALANCE AT NOVEMBER 30, 2021	9,203,446	$ 184,069	$19,146,510	$50,823,730	$ (3,862,085)	$ 3,338,620	$69,630,844
Stock options exercised	18,071	361	(361)	—	—	—	—
Stock option expense	—	—	232,883	—	—	—	232,883
Dividends paid to stockholders	—	—	—	(645,511)	—	—	(645,511)
Dividend received by non-controlling interest	—	—	—	—	—	(102,729)	(102,729)
Net income	—	—	—	182,847	—	113,138	295,985
Other comprehensive income	—	—	—	—	3,396	22,899	26,295
BALANCE AT FEBRUARY 28, 2022	9,221,517	$ 184,430	$19,379,032	$50,361,066	$ (3,858,689)	$ 3,371,928	$69,437,767
BALANCE AT NOVEMBER 30, 2022	9,336,357	$ 187,327	$20,721,235	$50,563,210	$ (7,305,836)	$ 3,707,259	$67,873,195
Stock option expense	—	—	337,486	—	—	—	337,486
Dividends paid to stockholders	—	—	—	(655,645)	—	—	(655,645)
Dividend received by non-controlling interest	—	—	—	—	—	(375,574)	(375,574)
Net income	—	—	—	885,248	—	108,571	993,819
Other comprehensive income	—	—	—	—	531,326	3,387	534,713
BALANCE AT FEBRUARY 28, 2023	9,336,357	$ 187,327	$21,058,721	$50,792,813	$ (6,774,510)	$ 3,443,643	$68,707,994

	STOCKHOLDERS' EQUITY – SIX MONTHS ENDED FEBRUARY 28, 2023 AND 2022						
	Common Stock		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Non-Controlling Interests	Total Equity
	Shares	Amount					
BALANCE AT AUGUST 31, 2021	9,184,811	$ 183,696	$18,736,268	$46,973,092	$ (3,525,030)	$ 3,382,555	$65,750,581
Stock options exercised	34,071	681	138,519	—	—	—	139,200
Stock issued for employee stock purchase plan	2,635	53	38,479	—	—	—	38,532
Stock option expense	—	—	465,766	—	—	—	465,766
Dividends paid to stockholders	—	—	—	(1,288,632)	—	—	(1,288,632)
Dividend received by non-controlling interest	—	—	—	—	—	(302,729)	(302,729)
Net income	—	—	—	4,676,606	—	341,212	5,017,818
Other comprehensive loss	—	—	—	—	(333,659)	(49,110)	(382,769)
BALANCE AT FEBRUARY 28, 2022	9,221,517	$ 184,430	$19,379,032	$50,361,066	$ (3,858,689)	$ 3,371,928	$69,437,767
BALANCE AT AUGUST 31, 2022	9,232,483	$ 184,650	$19,939,131	$50,716,613	$ (7,245,132)	$ 3,649,034	$67,244,296
Stock options exercised	130,254	2,605	413,958	—	—	—	416,563
Stock issued for employee stock purchase plan	3,620	72	38,624	—	—	—	38,696
Stock option expense	—	—	667,008	—	—	—	667,008
Dividends paid to stockholders	—	—	—	(1,311,290)	—	—	(1,311,290)
Dividend received by non-controlling interest	—	—	—	—	—	(455,574)	(455,574)
Net income	—	—	—	1,387,490	—	240,009	1,627,499
Other comprehensive income	—	—	—	—	470,622	10,174	480,796
BALANCE AT FEBRUARY 28, 2023	9,336,357	$ 187,327	$21,058,721	$50,792,813	$ (6,774,510)	$ 3,443,643	$68,707,994

See notes to consolidated financial statements.

NORTHERN TECHNOLOGIES INTERNATIONAL CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS (UNAUDITED)
FOR THE SIX MONTHS ENDED FEBRUARY 28, 2023 AND 2022

	Six Months Ended February 28,	
	2023	**2022**
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net income	$ 1,627,499	$ 5,017,818
Adjustments to reconcile net income to net cash provided by operating activities:		
Stock-based compensation	667,008	465,766
Depreciation expense	488,838	430,991
Amortization expense	294,873	315,631
Remeasurement gain on acquisition of equity method investee	—	(3,951,550)
Loss on disposal of assets	(8,534)	—
Equity in income from joint ventures	(2,318,135)	(2,297,581)
Dividends received from joint ventures	3,464,736	5,362,636
Deferred income taxes	(70,166)	139,338
Changes in current assets and liabilities:		
Receivables:		
Trade, excluding joint ventures	(911,765)	321,322
Trade, joint ventures	(917,073)	(281,153)
Fees for services provided to joint ventures	656,210	426,425
Income taxes	(313,270)	(286,458)
Inventories	996,522	(990,628)
Prepaid expenses and other	259,712	(1,136,130)
Accounts payable	(1,293,897)	674,147
Income tax payable	(29,503)	(376,544)
Accrued liabilities	(388,221)	(1,715,302)
Net cash provided by operating activities	2,204,834	2,118,728
CASH FLOWS FROM INVESTING ACTIVITIES:		
Acquisition of Zerust India business, net of cash acquired	—	(5,062,003)
Proceeds from the sale of available for sale securities	5,590	—
Proceeds from sale of property and equipment	13,000	—
Purchases of property and equipment	(1,871,903)	(618,533)
Investments in patents	(70,023)	(112,297)
Net cash used in investing activities	(1,923,336)	(5,792,833)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Net proceeds from line of credit	1,200,000	4,200,000
Dividends paid on NTIC common stock	(1,311,290)	(1,288,632)
Proceeds from the exercise of stock options	416,563	139,200
Dividends received by non-controlling interest	(455,574)	(302,729)
Proceeds from employee stock purchase plan	38,696	38,532
Net cash (used in) provided by financing activities	(111,605)	2,786,371
EFFECT OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS	(52,672)	694,904
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	117,221	(192,830)
CASH AND CASH EQUIVALENTS AT BEGINNING OF PERIOD	5,333,890	7,680,641
CASH AND CASH EQUIVALENTS AT END OF PERIOD	$ 5,451,111	$ 7,487,811

See notes to consolidated financial statements.

1. INTERIM FINANCIAL INFORMATION

In the opinion of management, the accompanying unaudited consolidated financial statements contain all necessary adjustments, which are of a normal recurring nature, and present fairly the consolidated financial position of Northern Technologies International Corporation and its subsidiaries (the Company) as of February 28, 2023 and August 31, 2022 and the results of the Company's operations for the three and six months ended February 28, 2023 and 2022, the changes in stockholders' equity for the three and six months ended February 28, 2023 and 2022, and the Company's cash flows for the six months ended February 28, 2023 and 2022, in conformity with accounting principles generally accepted in the United States of America (U.S. GAAP).

These consolidated financial statements should be read in conjunction with the consolidated financial statements and related notes contained in the Company's annual report on Form 10-K for the fiscal year ended August 31, 2022. These consolidated financial statements also should be read in conjunction with the "*Management's Discussion and Analysis of Financial Condition and Results of Operations*" section appearing in this report.

Operating results for the three and six months ended February 28, 2023 are not necessarily indicative of the results that may be expected for the full fiscal year ending August 31, 2023.

The Company evaluates events occurring after the date of the consolidated financial statements requiring recording or disclosure in the consolidated financial statements.

2. ACCOUNTING PRONOUNCEMENTS

In June 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2016-13, Measurement of Credit Losses on Financial Instruments, which revises guidance for the accounting for credit losses on financial instruments within its scope, and in November 2018, issued ASU No. 2018-19 and in April 2019, issued ASU No. 2019-04 and in May 2019, issued ASU No. 2019-05, and in November 2019, issued ASU No. 2019-11, which amended the standard. The new standard introduces an approach, based on expected losses, to estimate credit losses on certain types of financial instruments and modifies the impairment model for available-for-sale debt securities. The new approach to estimating credit losses (referred to as the current expected credit losses model) applies to most financial assets measured at amortized cost and certain other instruments, including trade and other receivables, loans, held-to-maturity debt securities, net investments in leases and off-balance-sheet credit exposures. This ASU is effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years, with early adoption permitted. Entities are required to apply the standard's provisions as a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is adopted. The Company is still evaluating the impact of this ASU.

3. INVENTORIES

Inventories consisted of the following:

	February 28, 2023	August 31, 2022
Production materials	$ 5,629,424	$ 6,496,656
Finished goods	9,550,815	9,845,073
	$ 15,180,239	$ 16,341,729

4. PROPERTY AND EQUIPMENT, NET

Property and equipment, net consisted of the following:

	February 28, 2023	August 31, 2022
Land	$ 310,365	$ 310,365
Buildings and improvements	16,428,804	14,778,759
Machinery and equipment	5,792,363	5,643,320
	22,531,532	20,732,444
Less accumulated depreciation	(9,085,566)	(8,561,951)
	$ 13,445,966	$ 12,170,493

On February 28, 2023, the Company purchased the property immediately adjacent to NTIC's headquarters in Circle Pines, Minnesota, which includes a 26,000 square foot industrial building for $1,200,000. The building will be used primarily for warehousing space and light industrial production.

Depreciation expense was $225,962 and $488,838 for the three and six months ended February 28, 2023, respectively, compared to $215,685 and $430,991 for the three and six months ended February 28, 2022, respectively.

5. INTANGIBLE ASSETS, NET

Intangible assets, net consisted of the following:

	As of February 28, 2023		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Patents and trademarks	$ 3,295,678	$ (2,598,950)	$ 696,728
Customer relationships	6,347,000	(634,700)	5,712,300
Total intangible assets, net	$ 9,642,678	$ (3,233,650)	$ 6,409,028

	As of August 31, 2022		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Patents and trademarks	$ 3,225,655	$ (2,515,644)	$ 710,011
Customer relationships	6,347,000	(423,133)	5,923,867
Total intangible assets, net	$ 9,572,655	$ (2,938,777)	$ 6,633,878

Amortization expense related to intangible assets was $147,062 and $294,873 for the three and six months ended February 28, 2023, respectively, compared to $195,737 and $315,631 for the three and six months ended February 28, 2022, respectively.

As of February 28, 2023, future amortization expense related to intangible assets for each of the next five fiscal years and thereafter is estimated as follows:

Remainder of fiscal 2023	$	294,873
Fiscal 2024		589,746
Fiscal 2025		589,746
Fiscal 2026		589,746
Fiscal 2027		589,746
Thereafter		3,755,171
Total	$	6,409,028

6. INVESTMENTS IN JOINT VENTURES

The consolidated financial statements of the Company's foreign joint ventures are initially prepared using the accounting principles accepted in the respective joint ventures' countries of domicile. Amounts related to foreign joint ventures reported in the below tables and the accompanying consolidated financial statements have subsequently been adjusted to conform with U.S. GAAP in all material respects. All material profits on sales recorded that remain on the consolidated balance sheet from the Company to its joint ventures and from joint ventures to other joint ventures have been eliminated for financial reporting purposes.

Financial information from the audited and unaudited financial statements of the Company's joint venture in Germany, Excor Korrosionsschutz – Technologien und Produkte GmbH (EXCOR), and all the Company's other joint ventures are summarized as follows:

	As of February 28, 2023		
	Total	**EXCOR**	**All Other**
Current assets	$ 54,425,899	$ 25,538,114	$ 28,887,785
Total assets	57,924,227	27,376,219	30,548,008
Current liabilities	14,002,680	3,163,365	10,839,315
Noncurrent liabilities	346,645	-	346,645
Joint ventures' equity	43,574,902	24,212,854	19,362,048
Northern Technologies International Corporation's share of joint ventures' equity	21,522,496	12,106,429	9,416,067
Northern Technologies International Corporation's share of joint ventures' undistributed earnings	20,493,861	12,075,524	8,418,337

	Three Months Ended February 28, 2023		
	Total	**EXCOR**	**All Other**
Net sales	$ 25,482,590	$ 9,708,482	$ 15,774,108
Gross profit	10,035,811	4,733,435	5,302,376
Net income	1,969,046	1,365,170	603,876
Northern Technologies International Corporation's share of equity in income from joint ventures	1,128,731	676,800	451,931
Northern Technologies International Corporation's dividends received from joint ventures	422,048	—	422,048

	Six Months Ended February 28, 2023		
	Total	**EXCOR**	**All Other**
Net sales	$ 50,212,879	$ 19,854,403	$ 30,358,476
Gross profit	19,729,379	9,453,477	10,275,902
Net income	4,615,954	3,107,457	1,508,497
Northern Technologies International Corporation's share of equity in income from joint ventures	2,318,135	1,547,944	770,191
Northern Technologies International Corporation's dividends received from joint ventures	$ 3,464,736	$ 2,459,500	$ 1,005,236

	As of August 31, 2022		
	Total	EXCOR	All Other
Current assets	$ 52,428,831	$ 26,047,914	$ 26,380,917
Total assets	55,854,457	27,932,532	27,921,925
Current liabilities	10,981,833	2,943,895	8,037,938
Noncurrent liabilities	1,138,980	—	1,138,980
Joint ventures' equity	43,733,644	24,988,637	18,745,007
Northern Technologies International Corporation's share of joint ventures' equity	21,814,754	12,494,320	9,320,434
Northern Technologies International Corporation's share of joint ventures' undistributed earnings	$ 21,256,923	$ 12,463,415	$ 8,793,508

	Three Months Ended February 28, 2022		
	Total	EXCOR	All Other
Net sales	$ 24,601,767	$ 9,312,434	$ 15,289,333
Gross profit	9,845,002	4,658,450	5,186,552
Net income	1,851,591	1,170,187	681,404
Northern Technologies International Corporation's share of equity in income from joint ventures	922,832	589,048	333,784
Northern Technologies International Corporation's dividends received from joint ventures	$ 320,365	—	$ 320,365

	Six Months Ended February 28, 2022		
	Total	EXCOR	All Other
Net sales	$ 51,624,762	$ 20,612,662	$ 31,012,100
Gross profit	20,877,961	10,127,436	10,750,525
Net income	4,629,196	2,991,734	1,637,462
Northern Technologies International Corporation's share of equity in income from joint ventures	2,297,581	1,499,821	797,760
Northern Technologies International Corporation's dividends received from joint ventures	$ 5,362,636	$ 4,255,200	$ 1,107,436

7. CORPORATE DEBT

On January 6, 2023, the Company entered into a Credit Agreement (the "Credit Agreement") with JPMorgan Chase Bank, N.A. ("JPM"), which provides the Company with a senior secured revolving line of credit (the "Credit Facility") of up to $10.0 million, which includes a $5.0 million sublimit for standby letters of credit. Borrowings of $7,100,000 and $5,900,000 were outstanding under the lines of credit as of February 28, 2023 and August 31, 2022, respectively.

Unless terminated earlier, the Credit Facility will mature on January 6, 2024, and the principal amount thereunder, together with all accrued unpaid interest and other amounts owing thereunder, if any, will be payable in full on such date. Borrowings under the Credit Agreement bear interest at a floating rate, at the option of the Company, equal to either the CB Floating Rate or the Adjusted SOFR Rate. The term "CB Floating Rate" means the greater of the Prime Rate in the United States or 2.50%. The term "Adjusted SOFR Rate" means the term secured overnight financing rate for either one, three or six months (depending on the interest period selected by the Company) plus 0.10% per annum. With respect to any borrowings using an Adjusted SOFR Rate, there is an applicable margin of 2.15% applied per annum. There is no applicable margin with respect to borrowings using a CB Floating Rate.

To secure the Credit Agreement, the Company assigned to JPM a continuing security interest in all of its right, title and interested in collateral made up for the assets of the Company.

The Credit Agreement contains customary affirmative and negative covenants, including, among other matters, limitations on the Company's ability to incur additional debt, grant liens, engage in certain business operations and transactions, make certain investments, modify its organizational documents or form any new subsidiaries, subject to certain exceptions. Further, the Credit Agreement contains a negative covenant that restricts the ability of the Company to redeem or repurchase its common stock or pay dividends if the result of which would cause an event of default under the Credit Agreement. The Credit Agreement also requires the Company to maintain a Fixed Charge Coverage Ratio of at least 1.25 to 1.00. The term "Fixed Charge Coverage Ratio" means the ratio, computed for the Company on a consolidated basis, of net income plus income tax expense, plus amortization expense, plus depreciation expense, plus interest expense, and plus dividends received from joint ventures, minus unfinanced capital expenditures and equity in income from joint ventures, all computed for the twelve month period then ending, to scheduled principal payments made, plus scheduled finance lease payments made, plus interest expense paid, plus income tax expense paid, and plus cash distributions and dividends paid, all computed for the same twelve month period then ending.

The Credit Agreement also contains customary events of default, including, without limitation, payment defaults, material inaccuracy of representations and warranties, covenant defaults, bankruptcy and insolvency proceedings, cross-defaults to certain other agreements, breach of any financial covenant and change of control. Upon the occurrence and during the continuance of any event of default, JPM may accelerate the payment of the obligations thereunder and exercise various other customary default remedies.

In connection with the execution of the Credit Agreement described above, on January 6, 2023, the Amended and Restated Loan Agreement dated August 31, 2021 between Northern Technologies International Corporation and PNC Bank, National Association was terminated.

8. STOCKHOLDERS' EQUITY

During the six months ended February 28, 2023, the Company's Board of Directors declared cash dividends on the following dates in the following amounts to the following holders of the Company's common stock:

Declaration Date	Amount	Record Date	Payable Date
October 20, 2022	$0.07	November 3, 2022	November 16, 2022
January 20, 2023	$0.07	February 1, 2023	February 15, 2023

During the six months ended February 28, 2022, the Company's Board of Directors declared cash dividends on the following dates in the following amounts to the following holders of the Company's common stock:

Declaration Date	Amount	Record Date	Payable Date
October 20, 2021	$0.07	November 3, 2021	November 17, 2021
January 21, 2022	$0.07	February 2, 2022	February 16, 2022

During the six months ended February 28, 2023 and 2022, the Company repurchased no shares of its common stock.

The Company issued 3,620 and 2,636 shares of common stock on September 1, 2022 and 2021, respectively, under the Northern Technologies International Corporation Employee Stock Purchase Plan (ESPP). The ESPP is compensatory for financial reporting purposes. As of February 28, 2023, 65,600 shares of common stock remained available for sale under the ESPP.

9. NET INCOME PER COMMON SHARE

Basic net income per common share is computed by dividing net income by the weighted average number of common shares outstanding. Diluted net income per share assumes the exercise of stock options using the treasury stock method, if dilutive.

The following is a reconciliation of the net income per share computation for the three and six months ended February 28, 2023 and 2022:

	Three Months Ended February 28,		Six Months Ended February 28,	
Numerator:	**2023**	**2022**	**2023**	**2022**
Net income attributable to NTIC	$ 885,248	$ 182,847	$ 1,387,490	$ 4,676,606
Denominator:				
Basic – weighted shares outstanding	9,366,357	9,214,817	9,353,989	9,211,858
Weighted shares assumed upon exercise of stock options	381,104	468,609	391,177	524,202
Diluted – weighted shares outstanding	9,747,461	9,683,426	9,745,166	9,736,060
Basic net income per share:	$ 0.10	$ 0.02	$ 0.15	$ 0.51
Diluted net income per share:	$ 0.09	$ 0.02	$ 0.14	$ 0.48

The dilutive impact summarized above relates to the periods when the average market price of the Company's common stock exceeded the exercise price of the potentially dilutive option securities granted. Net income per common share was based on the weighted average number of common shares outstanding during the periods when computing basic net income per share. When dilutive, stock options are included as equivalents using the treasury stock market method when computing the diluted net income per share. Excluded from the computation of diluted net income per share for the three and six months ended February 28, 2023 were options outstanding to purchase 305,514 shares of common stock. Excluded from the computation of diluted net income per share for the three and six months ended February 28, 2022, were options outstanding to purchase 311,061 shares of common stock.

10. STOCK-BASED COMPENSATION

A summary of stock option activities under the Northern Technologies International Corporation Amended and Restated 2019 Stock Incentive Plan (the 2019 Plan) and the Northern Technologies International Corporation Amended and Restated 2007 Stock Incentive Plan (the 2007 Plan) is as follows:

	Number of Options Outstanding	Weighted Average Exercise Price
Outstanding as of August 31, 2022	1,544,727	$ 10.23
Granted	277,613	$ 11.41
Exercised	(178,331)	$ 6.03
Outstanding as of February 28, 2023	1,644,009	$ 10.52

The weighted average per share fair value of options granted during the six months ended February 28, 2023 and 2022 was $4.75 and $7.29, respectively. The weighted average remaining contractual life of the options outstanding as of February 28, 2023 and 2022 was 6.42 years and 6.25 years, respectively.

The Company recognized compensation expense of $674,971 and $465,766 during the six months ended February 28, 2023 and 2022, respectively. As of February 28, 2023, there was $1,686,298 of unrecognized compensation expense. The amount is expected to be recognized over a period of 2.5 years.

11. SEGMENT AND GEOGRAPHIC INFORMATION

Segment Information

The Company's chief operating decision maker is its Chief Executive Officer. The Company's business is organized into two reportable segments: ZERUST® and Natur-Tec®. The Company has been selling its proprietary ZERUST® rust and corrosion inhibiting products and services to the automotive, electronics, electrical, mechanical, military and retail consumer markets for almost 50 years and, more recently, has targeted and expanded into the oil and gas industry. The Company also sells a portfolio of bio-based and compostable (fully biodegradable) polymer resins and finished products under the Natur-Tec® brand.

The following table sets forth the Company's net sales for the three and six months ended February 28, 2023 and 2022 by segment:

	Three Months Ended February 28,		Six Months Ended February 28,	
	2023	2022	2023	2022
ZERUST® net sales	$ 14,458,747	$ 13,117,777	$ 29,828,748	$ 27,541,562
Natur-Tec® net sales	3,812,078	3,630,862	8,394,843	7,400,490
Total net sales	$ 18,270,825	$ 16,748,639	$ 38,223,591	$ 34,942,052

The following table sets forth the Company's cost of goods sold for the three and six months ended February 28, 2023 and 2022 by segment:

	Three Months Ended February 28,				Six Months Ended February 28,			
	2023	% of Product Sales*	2022	% of Product Sales*	2023	% of Product Sales*	2022	% of Product Sales*
Direct cost of goods sold								
ZERUST®	$ 8,115,451	56.1%	$ 8,151,274	62.1%	$ 17,294,705	58.0%	$ 16,857,941	61.2%
Natur-Tec®	2,931,036	76.9%	2,775,436	76.4%	6,501,709	77.4%	5,697,533	77.0%
Indirect cost of goods sold	821,152	—	837,594	—	1,670,867	—	1,699,313	—
Total net cost of goods sold	$ 11,867,639		$ 11,764,304		$ 25,467,281		$ 24,254,787	

* The percent of segment sales is calculated by dividing the direct cost of goods sold for each individual segment category by the net sales for each segment category.

The Company utilizes product net sales and direct and indirect cost of goods sold for each product in reviewing the financial performance of a product type. Further allocation of Company expenses or assets, aside from amounts presented in the tables above, is not utilized in evaluating product performance, nor does such allocation occur for internal financial reporting.

Geographic Information

Net sales by geographic location for the three and six months ended February 28, 2023 and 2022 were as follows:

	Three Months Ended February 28,		Six Months Ended February 28,	
	2023	2022	2023	2022
Inside the U.S.A. to unaffiliated customers	$ 6,750,997	$ 5,115,963	$ 14,229,158	$ 11,272,285
Outside the U.S.A. to:				
Joint ventures in which the Company is a shareholder directly and indirectly	1,529,763	883,513	2,163,228	1,723,952
Unaffiliated customers	9,990,065	10,749,163	21,831,205	21,945,815
	$ 18,270,825	$ 16,748,639	$ 38,223,591	$ 34,942,052

Net sales by geographic location are based on the location of the customer.

Fees for services provided to joint ventures by geographic location as a percentage of total fees for services provided to joint ventures during the three and six months ended February 28, 2023 and 2022 were as follows:

	Three Months Ended February 28,			
	2023	% of Total Fees for Services Provided to Joint Ventures	2022	% of Total Fees for Services Provided to Joint Ventures
Germany	$ 202,964	16.2%	$ 216,992	17.4%
Poland	199,927	16.0%	172,700	13.9%
Japan	153,795	12.3%	151,933	12.2%
France	118,938	9.5%	115,663	9.3%
Sweden	112,615	9.0%	99,178	8.0%
Finland	91,620	7.3%	85,426	6.9%
Thailand	91,601	7.3%	87,918	7.1%
Czech Republic	91,001	7.3%	69,386	5.6%
South Korea	65,803	5.3%	64,173	5.1%
United Kingdom	65,648	5.2%	86,736	7.0%
Other	58,834	4.6%	96,803	7.5%
	$ 1,252,746	100.0%	$ 1,246,908	100.0%

	Six Months Ended February 28,			
	2023	% of Total Fees for Services Provided to Joint Ventures	2022	% of Total Fees for Services Provided to Joint Ventures
Germany	$ 396,792	16.3%	$ 435,422	17.4%
Poland	386,623	15.9%	349,626	14.0%
Japan	301,715	12.4%	318,740	12.7%
France	228,295	9.4%	231,958	9.3%
Sweden	213,051	8.8%	207,248	8.3%
Finland	182,052	7.5%	165,599	6.6%
Thailand	174,557	7.2%	175,472	7.0%
Czech Republic	171,333	7.0%	139,483	5.6%
South Korea	129,197	5.3%	126,800	5.1%
United Kingdom	123,339	5.1%	181,663	7.2%
Other	127,597	5.1%	173,756	6.8%
	$ 2,434,551	100.0%	$ 2,505,767	100.0%

The geographical distribution of total property and equipment and net sales is as follows:

	At February 28, 2023	At August 31, 2021
China	$ 5,885,664	$ 5,826,898
Other	668,910	565,022
United States	6,891,392	5,778,573
Total property and equipment, net	$ 13,445,966	$ 12,170,493

	Three Months Ended February 28,	
	2023	2022
China	$ 2,871,795	$ 4,163,741
Brazil	1,206,790	936,089
India	4,364,358	4,068,781
Other	3,076,885	2,464,066
United States	6,750,997	5,115,962
Total net sales	$ 18,270,825	$ 16,748,639

	Six Months Ended February 28,	
	2023	2022
China	$ 6,618,435	$ 8,221,593
Brazil	2,574,208	2,232,306
India	9,211,285	8,545,765
Other	5,590,505	4,670,103
United States	14,229,158	11,272,285
Total net sales	$ 38,223,591	$ 34,942,052

Long-lived assets consist of property and equipment. These assets are periodically reviewed to assure the net realizable value from the estimated future production based on forecasted sales exceeds the carrying value of the assets.

Sales to the Company’s joint ventures are included in the foregoing segment and geographic information; however, sales by the Company’s joint ventures to other parties are not included. The foregoing segment and geographic information represents only sales recognized directly by the Company and sold in that geographic territory.

All joint venture operations, including equity in income, fees for services and related dividends, are primarily related to ZERUST® products and services.

12. COMMITMENTS AND CONTINGENCIES

Concentrations

Three joint ventures (the Company’s joint ventures in South Korea, Sweden and France) accounted for 68.1% of the Company’s trade joint ventures receivables as of February 28, 2023, and one joint venture (the Company’s joint venture in South Korea) accounted for 33.8% of the Company’s trade joint venture receivables as of February 28, 2022.

Legal Matters

From time to time, the Company is subject to various other claims and legal actions in the ordinary course of its business. The Company records a liability in its consolidated financial statements for costs related to claims, including future legal costs, settlements and judgments, where the Company has assessed that a loss is probable, and an amount could be reasonably estimated. If the reasonable estimate of a probable loss is a range, the Company records the most probable estimate of the loss or the minimum amount when no amount within the range is a better estimate than any other amount. The Company discloses a contingent liability even if the liability is not probable or the amount is not estimable, or both, if there is a reasonable possibility that material loss may have been incurred. In the opinion of management, as of February 28, 2023, the amount of liability, if any, with respect to these matters, individually or in the aggregate, will not materially affect the Company's consolidated results of operations, financial position or cash flows.

13. FAIR VALUE MEASUREMENTS

Assets and liabilities that are measured at fair value on a recurring basis primarily relate to marketable equity securities. These items are marked-to-market at each reporting period, and the Company estimates that market value approximates costs.

The following tables provide information by level for assets and liabilities that are measured at fair value on a recurring basis:

		Fair Value Measurements Using Inputs Considered as		
	Fair value as of February 28, 2023	Level 1	Level 2	Level 3
Available for sale securities	$ —	$ —	$ —	$ —

		Fair Value Measurements Using Inputs Considered as		
	Fair value as of August 31, 2022	Level 1	Level 2	Level 3
Available for sale securities	$ 5,590	$ 5,590	$ —	$ —

There were no transfers between Level 1, Level 2, or Level 3 during the three and six months ended February 28, 2023 or 2022.

14. SUPPLEMENTAL CASH FLOW INFORMATION

Supplemental disclosures of cash flow information consisted of:

	Three Months Ended February 28,		Six Months Ended February 28,	
	2023	2022	2023	2022
Cash paid for interest	$ 115,144	$ 7,404	$ 206,475	$ 10,295

15. INCOME TAXES

Income tax expense for the three and six months ended February 28, 2023 was $181,795 and $292,528, respectively, compared to $151,743 and $656,123, respectively, for the three and six months ended February 28, 2022. The expense was largely due to foreign operations. The Company has federal and state tax credit carry forwards, net operating loss carry forwards and foreign tax carry forwards. The Company has recorded a full valuation allowance against the U.S. deferred tax assets as of February 28, 2023 and August 31, 2022.

16. SUBSEQUENT EVENTS

On April 7, 2023, the Company's wholly-owned subsidiary in China, NTIC China, entered into a line of credit agreement with China Construction Bank Corporation, which provides NTIC China with a RMB 10,000,000 (USD $1.45 million) revolving line of credit. The term of the credit agreement is for one year, after which an extension of the agreement is required. The credit agreement has an annual interest rate of 3.25% with interest due monthly. The line of credit is secured by various property owned by NTIC China and the line of credit agreement contains certain financial and other covenants.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This Management's Discussion and Analysis provides material historical and prospective disclosures intended to enable investors and other users to assess NTIC's financial condition and results of operations. Statements that are not historical are forward-looking and involve risks and uncertainties discussed under the heading "*Part I. Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations—Forward-Looking Statements*" in this report and under "*Part 1. Item 1A. Risk Factors*" in our annual report on Form 10-K for the fiscal year ended August 31, 2022. The following discussion of the results of the operations and financial condition of NTIC should be read in conjunction with NTIC's consolidated financial statements and the related notes thereto included under the heading "*Part I. Item 1. Financial Statements*."

Business Overview

NTIC develops and markets proprietary, environmentally beneficial products and services in over 65 countries either directly or via a network of subsidiaries, joint ventures, independent distributors, and agents. NTIC's primary business is corrosion prevention marketed mainly under the ZERUST® brand. NTIC has been selling its proprietary ZERUST® products and services to the automotive, electronics, electrical, mechanical, military, and retail consumer markets for almost 50 years and, more recently, has also expanded into the oil and gas industry. Additionally, NTIC markets and sells a portfolio of proprietary bio-based and certified compostable (fully biodegradable) polymer resin compounds and finished products under the Natur-Tec® brand. These products are intended to reduce NTIC's customers' carbon footprint and provide environmentally sound waste disposal options.

NTIC's ZERUST® rust and corrosion inhibiting products include plastic and paper packaging, liquids, coatings, rust removers, cleaners, and diffusers as well as engineered solutions designed specifically for the oil and gas industry. NTIC also offers worldwide, on-site, technical consulting for rust and corrosion prevention issues. NTIC's technical service consultants work directly with the end users of NTIC's ZERUST® rust and corrosion inhibiting products to analyze their specific needs and develop systems to meet their performance requirements. In North America, NTIC sells its ZERUST® corrosion prevention solutions through a network of independent distributors and agents supported by a direct sales force.

Internationally, NTIC sells its ZERUST® corrosion prevention solutions through its wholly-owned subsidiary in China, NTIC (Shanghai) Co., Ltd. (NTIC China), starting September 1, 2021 its wholly-owned subsidiary in India, HNTI Ltd. (Zerust India), its majority-owned joint venture holding company for NTIC's joint venture investments in the Association of Southeast Asian Nations (ASEAN) region, NTI Asean LLC (NTI Asean), certain majority-owned and wholly-owned subsidiaries, and joint venture arrangements in North America, Europe, and Asia. NTIC also sells products directly to its European joint venture partners through its wholly-owned subsidiary in Germany, NTIC Europe GmbH (NTI Europe).

One of NTIC's strategic initiatives is to expand into and penetrate other markets for its ZERUST® corrosion prevention technologies. Consequently, for the past several years, NTIC has focused significant sales and marketing efforts on the oil and gas industry, as the infrastructure that supports that industry is typically constructed using metals that are highly susceptible to corrosion. NTIC believes that its ZERUST® corrosion prevention solutions will minimize maintenance downtime on critical oil and gas industry infrastructure, extend the life of such infrastructure, and reduce the risk of environmental pollution due to leaks caused by corrosion. NTIC markets and sells its ZERUST® rust and corrosion prevention solutions to customers in the oil and gas industry in a continuously increasing number of countries either directly, through its subsidiaries, or through its joint venture partners and other strategic partners. The sale of ZERUST® corrosion prevention solutions to customers in the oil and gas industry typically involves long sales cycles, often including multi-year trial periods with each customer and a slow integration process thereafter.

Natur-Tec® bio-based and compostable plastics are manufactured using NTIC's patented and/or proprietary technologies and are intended to replace conventional petroleum-based plastics. The Natur-Tec® biopolymer resin compound portfolio includes formulations that have been optimized for a variety of applications, including blown-film extrusion, extrusion coating, injection molding, and engineered plastics. These resin compounds are certified to be fully biodegradable in a composting environment and are currently being used to produce finished products, including can liners, shopping and grocery bags, lawn and leaf bags, branded apparel packaging bags and accessories, and various foodservice items, such as disposable cutlery, drinking straws, food-handling gloves, and coated paper products. In North America, NTIC markets its Natur-Tec® resin compounds and finished products primarily through a network of regional and national distributors as well as independent agents. NTIC continues to see significant opportunities for finished bioplastic products and, therefore, continues to strengthen and expand its North American distribution network for finished Natur-Tec® bioplastic products.

Internationally, NTIC sells its Natur-Tec® resin compounds and finished products both directly and through its wholly-owned subsidiary in China and majority-owned subsidiaries in India and Sri Lanka, and through distributors and certain joint ventures.

Impact of COVID-19

As a result of the novel coronavirus (COVID-19) and related government mandated restrictions on NTIC's business, as well as the businesses of its joint ventures, customers and suppliers, disruption to the Company's business and the manufacture and sale of its products and services continued to occur during the first six months of fiscal 2023, including in particular China, and may continue during the remainder of fiscal 2023. While demand in China improved during the second quarter of fiscal 2023 as a result of government restrictions that were lifted, NTIC continued to experience softened demand for its products in China during the first six months of fiscal 2023.

Worldwide Supply Chain Disruptions

Worldwide supply chain disruptions, which were initially brought about by the impact of COVID-19, have persisted despite the recovery in the global economy and financial markets. These issues continued during the first six months of fiscal 2023 and, although these issues have shown some improvement, are expected to continue to some degree throughout the remainder of fiscal 2023. NTIC has experienced longer lead times for raw materials, has been forced to find new suppliers of certain raw materials, and has experienced raw material cost increases compared to prior fiscal quarters. Additionally, NTIC has experienced significantly longer shipping times and significant price increases per shipping container compared to prior fiscal quarters due to ocean freight capacity issues resulting from increased demand for shipping and reduced capacity and equipment. These and other issues resulting from worldwide supply chain disruptions have recently improved but are expected to continue to some degree throughout the remainder of fiscal 2023 and could continue to have a material adverse effect on NTIC's business, operating results and financial condition. The precise financial impact and duration, however, cannot be reasonably estimated at this time.

Financial Overview

NTIC's management, including its chief executive officer, who is NTIC's chief operating decision maker, reports and manages NTIC's operations in two reportable business segments based on products sold, customer base and distribution center: Zerust® products and services and Natur-Tec® products.

Highlights of NTIC's financial results for the three and six months ended February 28, 2023 include the following, with increases or decreases in each case as compared to the respective prior fiscal year period:

- NTIC's consolidated net sales increased 9.1% and 9.4% during the three and six months ended February 28, 2023, respectively, compared to the three and six months ended February 28, 2022 primarily as a result of an increase in sales of and demand for both Zerust® products, as well as targeted price increases on certain products. During the six months ended February 28, 2023, 78.0% of NTIC's consolidated net sales were derived from sales of ZERUST® products and services, which increased 8.3% over the prior fiscal year period, and 22.0% of NTIC's consolidated net sales were derived from sales of Natur-Tec® products, which increased 13.4% over the prior fiscal year period. NTIC's consolidated net sales for the six months ended February 28, 2023 included $3,427,132 of sales made to customers in the oil and gas industry, a 121.1% increase over the prior fiscal year period.

- Cost of goods sold as a percentage of net sales decreased to 65.0% during the three months ended February 28, 2023, compared to 70.2% during the three months ended February 28, 2022, and decreased to 66.6% during the six months ended February 28, 2023, compared to 69.4% during the prior fiscal year period primarily as a result of passing along price increases to customers and increased sales made to customers in the oil and gas industry, which products carry higher margins than our Zerust industrial products and Natur-Tec® products.

- NTIC's equity in income from joint ventures increased 22.3% and 0.9% during the three and six months ended February 28, 2023, respectively, to $1,128,731 and $2,318,135, respectively, compared to $922,832 and $2,297,581 during the three and six months ended February 28, 2022, respectively. These increases were primarily due to an improvement in gross margins and operating profits at the joint ventures. Net sales at the joint ventures increased 3.6% and decreased 2.7% to $25,482,590 and $50,212,879 during the three and six months ended February 28, 2023, respectively, compared to $24,601,767 and $51,624,762 during the three and six months ended February 28, 2022, respectively.

- NTIC's total operating expenses increased 11.7% and 11.8% to $7,497,356 and $15,392,113 during the three and six months ended February 28, 2023, respectively, compared to $6,708,853 and $13,778,779 for the three and six months ended February 28, 2022. These increases were primarily due to increased personnel expenses, including benefits and travel, and expenses incurred during the current fiscal year periods in connection with the startup of a new indirect, majority owned subsidiary formed to assume the operations of a former joint venture in Taiwan, partially offset by payroll tax credits.

- NTIC incurred net income attributable to NTIC of $885,248, or $0.09 per diluted common share, for the three months ended February 28, 2023, compared to $182,847, or $0.02 per diluted common share, for the three months ended February 28, 2022. NTIC incurred net income attributable to NTIC of $1,387,490 or $0.14 per diluted common share, for the six months ended February 28, 2023, compared to $4,676,606, or $0.48 per diluted common share, for the six months ended February 28, 2022. Of the net income attributable to NTIC incurred in the six months ended February 28, 2022, $3,951,550 was due to the gain from the Zerust India acquisition.

Results of Operations

The following table sets forth NTIC's results of operations for the three and six months ended February 28, 2023 and 2022.

	Three Months Ended February 28,					
	2023	% of Net Sales	2022	% of Net Sales	$ Change	% Change
Net sales	$ 18,270,825	100.0%	$ 16,748,639	100.0%	$ 1,522,186	9.1%
Cost of goods sold	11,867,639	65.0%	11,764,304	70.2%	103,335	0.9%
Equity in income from joint ventures	1,128,731	6.2%	922,832	5.5%	205,899	22.3%
Fees for services provided to joint ventures	1,252,746	6.9%	1,246,909	7.4%	5,837	0.5%
Selling expenses	3,418,717	18.7%	2,971,391	17.7%	447,326	15.1%
General and administrative expenses	3,084,189	16.9%	2,518,788	15.0%	565,401	22.4%
Research and development expenses	994,450	5.4%	1,218,674	7.3%	(224,224)	(18.4)%

	Six Months Ended February 28,					
	2023	% of Net Sales	2022	% of Net Sales	$ Change	% Change
Net sales	$ 38,233,591	100.0%	$ 34,942,052	100.0%	$ 3,281,539	9.4%
Cost of goods sold	25,467,281	66.6%	24,254,787	69.4%	1,212,494	5.0%
Equity in income from joint ventures	2,318,135	6.1%	2,297,581	6.6%	20,554	0.9%
Fees for services provided to joint ventures	2,434,551	6.4%	2,505,767	7.2%	(71,216)	(2.8)%
Selling expenses	6,926,151	18.1%	6,209,149	17.8%	717,002	11.5%
General and administrative expenses	6,214,788	16.3%	5,115,135	14.6%	1,099,653	21.5%
Research and development expenses	2,251,174	5.9%	2,454,495	7.0%	(203,321)	(8.3)%

Net Sales. NTIC's consolidated net sales increased 9.1% and 9.4% to $18,270,825 and $38,223,591 during the three and six months ended February 28, 2023, respectively, compared to the three and six months ended February 28, 2022. These increases were primarily a result of increased demand across all market segments, including oil and gas, as well as targeted price increases on certain products.

The following table sets forth NTIC's net sales by product segment for the three and six months ended February 28, 2023 and 2022:

	Three Months Ended February 28,		Six Months Ended February 28,	
	2023	2022	2023	2022
Total ZERUST® sales	$ 14,458,747	$ 13,117,777	$ 29,828,748	$ 27,541,562
Total Natur-Tec® sales	3,812,078	3,630,862	8,394,843	7,400,490
Total net sales	$ 18,270,825	$ 16,748,639	$ 38,223,591	$ 34,942,052

During the three and six months ended February 28, 2023, 79.1% and 78.0% of NTIC's consolidated net sales, respectively, were derived from sales of ZERUST® products and services, which increased 10.2% and 8.3% to $14,458,747 and $29,828,748, respectively, compared to $13,117,777 and $27,541,562 during the three and six months ended February 28, 2022, respectively. These increases were primarily a result of increased demand in North America, as well as targeted price increases on certain products.

The following table sets forth NTIC's net sales of ZERUST® products for the three and six months ended February 28, 2023 and 2022:

	Three Months Ended February 28,			
	2023	2022	$ Change	% Change
ZERUST® industrial net sales	$ 12,653,512	$ 12,539,856	$ 113,656	0.9%
ZERUST® oil & gas net sales	1,805,235	577,921	1,227,314	212.4%
Total ZERUST® net sales	$ 14,458,747	$ 13,117,777	$ 1,340,970	10.2%

	Six Months Ended February 28,			
	2023	2022	$ Change	% Change
ZERUST® industrial net sales	$ 26,401,616	$ 25,991,825	$ 409,791	1.6%
ZERUST® oil & gas net sales	3,427,132	1,549,737	1,877,395	121.1%
Total ZERUST® net sales	$ 29,828,748	$ 27,541,562	$ 2,287,186	8.3%

NTIC's total ZERUST® net sales increased during the three and six months ended February 28, 2023, compared to the prior fiscal year periods, primarily due to increased sales to new and existing oil and gas customers. Overall, demand for ZERUST® products and services depends heavily on the overall health of the markets in which NTIC sells its products, including the automotive, oil and gas, agriculture, and mining markets in particular.

ZERUST® oil and gas net sales increased 212.4% and 121.1% during the three and six months ended February 28, 2023 compared to the prior fiscal year periods primarily as a result of new opportunities with new and existing customers. NTIC anticipates that its sales of ZERUST® products and services into the oil and gas industry will continue to remain subject to significant volatility from quarter to quarter as sales are recognized, specifically due to the volatility of oil prices. Demand for oil and gas products around the world depends primarily on market acceptance and the reach of NTIC's distribution network. Because of the typical size of individual orders and overall size of NTIC's net sales derived from sales of oil and gas products, the timing of one or more orders can materially affect NTIC's quarterly sales compared to prior fiscal year quarters.

During the three and six months ended February 28, 2023, 20.9% and 22.0% of NTIC's consolidated net sales, respectively, were derived from sales of Natur-Tec® products, compared to 21.7% and 21.2% during the three and six months ended February 28, 2022, respectively. Sales of Natur-Tec® products increased 5.0% and 13.4% to $3,812,078 and $8,394,843 during the three and six months ended February 28, 2023, respectively, compared $3,630,862 and $7,400,490 during the three and six months ended February 28, 2022, respectively, as a result of increased global demand. COVID-19 adversely impacted demand for Natur-Tec® products from across the apparel industry, as well as many large users of bioplastics, including college campuses, stadiums, arenas, restaurants, and corporate office complexes. While NTIC has experienced a recovery in many of these areas to pre-pandemic levels, NTIC still expects some of these customers will be the last businesses to fully re-open and operate at full pre-pandemic capacities.

Cost of Goods Sold. Cost of goods sold increased 0.9% and 5.0% for the three and six months ended February 28, 2023, respectively, compared to the three and six months ended February 28, 2022 primarily as a result of the increase in net sales, as described above. Cost of goods sold as a percentage of net sales decreased to 65.0% and 66.6% for the three and six months ended February 28, 2023, compared to 70.2% and 69.4% for the three and six months ended February 28, 2022 primarily as a result of passing along price increases to customers and increased sales made to customers in the oil and gas industry, which products carry higher margins than our Zerust industrial products. Although NTIC has taken certain actions to address inflationary pressures and pass on related cost increases to its customers, it expects some of these inflationary pressures to persist through the end of fiscal 2023. Some improvements from these actions as well as some improvements in gross margin were realized in the six months ended February 28, 2023.

Equity in Income from Joint Ventures. NTIC's equity in income from joint ventures increased 22.3% and 0.9% during the three and six months ended February 28, 2023, respectively, to $1,128,731 and $2,318,135, respectively, compared to $922,832 and $2,297,581 during the three and six months ended February 28, 2022, respectively. These increases were primarily due an improvement in gross margins and operating profits at the joint ventures. NTIC's equity in income from joint ventures fluctuates based on net sales and profitability of the joint ventures during the respective periods. Of the total equity in income from joint ventures, NTIC had equity in income from joint ventures of $1,547,944 attributable to EXCOR during the six months ended February 28, 2023, compared to $1,499,821 attributable to EXCOR during the six months ended February 28, 2022. NTIC had equity in income from all other joint ventures of $770,191 during the six months ended February 28, 2023, compared to $797,760 during the six months ended February 28, 2022.

Fees for Services Provided to Joint Ventures. NTIC recognized fee income for services provided to joint ventures of $1,252,746 and $2,434,551 during the three and six months ended February 28, 2023, respectively, compared to $1,246,909 and $2,505,767 during the three and six months ended February 28, 2022, respectively, representing increases of 0.5% and a decrease of 2.8%, respectively. Fee income for services provided to joint ventures is traditionally a function of the sales made by NTIC's joint ventures; however, at various joint ventures, the fee income for services is a fixed amount that does not fluctuate with the change in sales experienced by certain joint ventures. Net sales at the joint ventures increased 3.6% and decreased 2.7% to $25,482,590 and $50,212,879 during the three and six months ended February 28, 2023, respectively, compared to $24,601,767 and $51,624,762 during the three and six months ended February 28, 2022, respectively. Net sales of NTIC's joint ventures are not included in NTIC's product sales and are not included in NTIC's consolidated financial statements. Of the total fee income for services provided to joint ventures, fees of $396,792 were attributable to EXCOR during the six months ended February 28, 2023, compared to $435,422 attributable to EXCOR during the six months ended February 28, 2022.

Selling Expenses. NTIC's selling expenses increased 15.1% and 11.5% for the three and six months ended February 28, 2023, respectively, compared to the same respective periods in fiscal 2022 due primarily to an increase personnel expense during the current fiscal year period compared to the prior fiscal year period, and expenses incurred during the current fiscal year periods in connection with the startup of a new indirect, majority owned subsidiary formed to assume the operations of a former joint venture in Taiwan, partially offset by payroll tax credits. Selling expenses as a percentage of net sales increased to 18.7% and 18.1% for the three and six months ended February 28, 2023, respectively, from 17.7% and 17.8% for the three and six months ended February 28, 2022, respectively, primarily due to the increased selling expenses as noted above.

General and Administrative Expenses. NTIC's general and administrative expenses increased 22.4% and 21.5% for the three and six months ended February 28, 2023, respectively, compared to the same respective periods in fiscal 2022 due primarily to increased professional services and travel and personnel expenses during the current fiscal year periods compared to the prior fiscal year periods, as well as expenses incurred during the current fiscal year periods in connection with the startup of a new indirect, majority owned subsidiary formed to assume the operations of a former joint venture in Taiwan, partially offset by payroll tax credits. As a percentage of net sales, general and administrative expenses increased to 16.9% and 16.3% for the three and six months ended February 28, 2023, respectively, from 15.0% and 14.6% for the same respective periods in fiscal 2022 primarily due to the increase in general and administrative expenses as noted above.

Research and Development Expenses. NTIC's research and development expenses decreased 18.4% and 8.3% for the three and six months ended February 28, 2023, respectively, compared to the same respective periods in fiscal 2022 primarily due to decreases in expenses associated with development efforts.

Interest Income. NTIC's interest income decreased to $3,451 and $9,619 during the three and six months ended February 28, 2023, respectively, compared to $9,909 and $20,852 during the three and six months ended February 28, 2022, respectively, due primarily to changes in the invested cash balances.

Interest Expense. NTIC's interest expense increased to $115,144 and $206,475 during the three and six months ended February 28, 2023, respectively, compared to $7,404 and $10,295 during the three and six months ended February 28, 2022, respectively, due primarily to increased outstanding borrowings under the line of credit and increased interest rates, in each case during the current fiscal year periods compared to the prior fiscal year periods.

Remeasurement Gain on Acquisition of Equity Method Investee. Authoritative guidance on accounting for business combinations requires that an acquirer re-measure its previously held equity interest in the acquisition at its acquisition date fair value and recognize the resulting gain or loss in earnings. As such, since NTIC acquired the remaining 50% ownership interest of Zerust India effective September 1, 2021, NTIC recognized a gain of $3,951,550 during the six months ended February 28, 2022. This gain is included in "Remeasurement gain on acquisition of equity method investee" on NTIC's consolidated statements of operations. There was no comparable gain during the current fiscal year period.

Income Before Income Tax Expense. NTIC had income before income tax expense of $1,175,614 and $1,920,027 for the three and six months ended February 28, 2023, respectively, compared to $447,728 and $5,673,941 for the three and six months ended February 28, 2022, respectively.

Income Tax Expense. Income tax expense was $181,795 and $292,528 for the three and six months ended February 28, 2023, respectively, compared to $151,743 and $656,123 during the three and six months ended February 28, 2022, respectively. Income tax expense was calculated based on management's estimate of NTIC's annual effective income tax rate.

NTIC considers the earnings of certain foreign joint ventures to be indefinitely invested outside the United States on the basis of estimates that NTIC's future domestic cash generation will be sufficient to meet future domestic cash needs. As a result, U.S. income and foreign withholding taxes have not been recognized on the cumulative undistributed earnings of $20,493,861 and $21,256,923 as of February 28, 2023, and August 31, 2022, respectively. To the extent undistributed earnings of NTIC's joint ventures are distributed in the future, they are not expected to result in any material additional income tax liability after the application of foreign tax credits.

Net Income Attributable to NTIC. Net income attributable to NTIC increased to $885,248, or $0.09 per diluted common share, for the three months ended February 28, 2023, compared to $182,847, or $0.02 per diluted common share, for the three months ended February 28, 2022. This increase was a result of the increase in gross profit and joint venture income contribution, partially offset by the increase in operating expenses. Net income attributable to NTIC decreased to $1,387,490, or $0.14 per diluted common share, for the six months ended February 28, 2023, compared to $4,676,606, or $0.48 per diluted common share, for the six months ended February 28, 2022. This decrease was primarily due to the $3,951,550 remeasurement gain on acquisition of equity method investee recognized during the prior fiscal year periods, which did not repeat this fiscal year, and to a lesser extent, the increase in operating expenses, partially offset by the increase in gross profit.

NTIC anticipates that its earnings will continue to be adversely affected to some extent by COVID-19, inflation and worldwide supply chain disruptions, among other factors. Additionally, NTIC anticipates that its quarterly net income will continue to remain subject to significant volatility primarily due to the financial performance of its subsidiaries and joint ventures, sales of its ZERUST® products and services into the oil and gas industry, and sales of its Natur-Tec® bioplastics products, which sales fluctuate more on a quarterly basis than the traditional ZERUST® business.

Other Comprehensive Income - Foreign Currency Translations Adjustment. The changes in the foreign currency translations adjustment were due to the fluctuation of the U.S. dollar compared to the Euro and other foreign currencies during the three and six months ended February 28, 2023 compared to the same periods in fiscal 2022.

Liquidity and Capital Resources

Sources of Cash and Working Capital. NTIC's working capital, defined as current assets less current liabilities, was $23,998,313 as of February 28, 2023, including $5,451,111 in cash and cash equivalents, compared to $23,169,480 as of August 31, 2022, including $5,333,890 in cash and cash equivalents and $5,590 in available for sale securities.

On January 6, 2023, NTIC entered into a Credit Agreement (the "Credit Agreement") with JPMorgan Chase Bank, N.A. ("JPM"), which provides NTIC with a senior secured revolving line of credit (the "Credit Facility") of up to $10.0 million. The Credit Facility includes a $5.0 million sublimit for standby letters of credit. Borrowings of $7,100,000 were outstanding under the Credit Facility as of February 28, 2023.

Unless terminated earlier, the Credit Facility will mature on January 6, 2024, and the principal amount thereunder, together with all accrued unpaid interest and other amounts owing thereunder, if any, will be payable in full on such date. Borrowings under the Credit Agreement bear interest at a floating rate, at the option of NTIC, equal to either the CB Floating Rate or the Adjusted SOFR Rate. The term "CB Floating Rate" means the greater of the Prime Rate in the United States or 2.50%. The term "Adjusted SOFR Rate" means the term secured overnight financing rate for either one, three or six months (depending on the interest period selected by NTIC) plus 0.10% per annum. With respect to any borrowings using an Adjusted SOFR Rate, there is an applicable margin of 2.15% applied per annum. There is no applicable margin with respect to borrowings using a CB Floating Rate.

To secure the Credit Agreement, the Company assigned to JPM a continuing security interest in all of its right, title and interested in collateral made up for the assets of the Company.

The Credit Agreement contains customary affirmative and negative covenants, including, among other matters, limitations on NTIC's ability to incur additional debt, grant liens, engage in certain business operations and transactions, make certain investments, modify its organizational documents or form any new subsidiaries, subject to certain exceptions. Further, the Credit Agreement contains a negative covenant that restricts the ability of NTIC to redeem or repurchase its common stock or pay dividends if the result of which would cause an event of default under the Credit Agreement. The Credit Agreement also requires the Company to maintain a Fixed Charge Coverage Ratio of at least 1.25 to 1.00. The term "Fixed Charge Coverage Ratio" means the ratio, computed for the NTIC on a consolidated basis, of net income plus income tax expense, plus amortization expense, plus depreciation expense, plus interest expense, and plus dividends received from joint ventures, minus unfinanced capital expenditures and equity in income from joint ventures, all computed for the twelve month period then ending, to scheduled principal payments made, plus scheduled finance lease payments made, plus interest expense paid, plus income tax expense paid, and plus cash distributions and dividends paid, all computed for the same twelve month period then ending.

The Credit Agreement also contains customary events of default, including, without limitation, payment defaults, material inaccuracy of representations and warranties, covenant defaults, bankruptcy and insolvency proceedings, cross-defaults to certain other agreements, breach of any financial covenant and change of control. Upon the occurrence and during the continuance of any event of default, JPM may accelerate the payment of the obligations thereunder and exercise various other customary default remedies. As of February 28, 2023, NTIC was in compliance with all debt covenants under the Credit Agreement.

In connection with the execution of the Credit Agreement described above, on January 6, 2023, the Amended and Restated Loan Agreement dated August 31, 2021 between Northern Technologies International Corporation and PNC Bank, National Association was terminated.

NTIC believes that a combination of its existing cash and cash equivalents, available for sale securities, forecasted cash flows from future operations, anticipated distributions of earnings, anticipated fees to NTIC for services provided to its joint ventures, and funds available through existing or anticipated financing arrangements will be adequate to fund its existing operations, investments in new or existing joint ventures or subsidiaries, capital expenditures, debt repayments, cash dividends, and any stock repurchases for at least the next 12 months. During the remainder of fiscal 2023, NTIC expects to continue to invest directly and through its use of working capital in Zerust India, NTIC China, Zerust Mexico, NTI Europe, its joint ventures, research and development, marketing efforts, resources for the application of its corrosion prevention technology in the oil and gas industry, and its Natur-Tec® bio-plastics business, although the amounts of these various investments are not known at this time.

NTIC also expects to use some of its capital resources to continue to transition some of its joint ventures as needed or appropriate, which may include additional acquisitions by NTIC of the remaining ownership interests of joint ventures not owned by NTIC, the formation of one or more new subsidiaries to assume the operations of a joint venture, and dissolutions or liquidations of one or more of its joint ventures. Some of these joint venture transitions may materially impact NTIC's results of operations for a particular reporting period. For example, the formation of a new indirect, majority owned subsidiary of NTIC to assume the operations of a former joint venture increased NTIC's operating expenses during the six months ended February 28, 2023.

NTIC traditionally has used the cash generated from its operations, distributions of earnings from joint ventures and fees for services provided to its joint ventures to fund NTIC's new technology investments and capital contributions to new and existing subsidiaries and joint ventures. NTIC's joint ventures traditionally have operated with little or no debt and have been self-financed with minimal initial capital investment and minimal additional capital investment from their respective owners. Therefore, NTIC believes there is limited exposure by NTIC's joint ventures that could materially impact their respective operations and/or liquidity.

In order to take advantage of new product and market opportunities to expand its business and increase its revenues and assist with joint venture transitions, NTIC may decide to finance such opportunities by additional borrowing under its revolving line of credit or raising additional financing through the issuance of debt or equity securities. There is no assurance that any financing transaction will be available on terms acceptable to NTIC or at all or that any financing transaction will not be dilutive to NTIC's current stockholders.

Uses of Cash and Cash Flows. Net cash provided by operating activities during the six months ended February 28, 2023 was $2,204,834, which resulted principally from NTIC's net income, dividends received from joint ventures, depreciation and amortization expense, and stock-based compensation, partially offset by equity in income from joint ventures. Net cash provided by operating activities during the six months ended February 28, 2022 was $2,118,728, which resulted principally from NTIC's net income, dividends received from joint ventures, deferred income tax, depreciation and amortization expense, and stock-based compensation, partially offset by the remeasurement gain on acquisition of equity method investee and equity in income from joint ventures.

NTIC's cash flows from operations are impacted by significant changes in certain components of NTIC's working capital, including inventory turnover and changes in receivables and payables. NTIC considers internal and external factors when assessing the use of its available working capital, specifically when determining inventory levels and credit terms of customers. Key internal factors include existing inventory levels, stock reorder points, customer forecasts and customer requested payment terms. Key external factors include the availability of primary raw materials and sub-contractor production lead times. NTIC's typical contractual terms for trade receivables, excluding joint ventures, are traditionally 30 days and 90 days for trade receivables from its joint ventures. Before extending unsecured credit to customers, excluding NTIC's joint ventures, NTIC reviews customers' credit histories and will establish an allowance for uncollectible accounts based upon factors surrounding the credit risk of specific customers and other information. Accounts receivable over 30 days are considered past due for most customers. NTIC does not accrue interest on past due accounts receivable. If accounts receivables in excess of the provided allowance are determined uncollectible, they are charged to selling expense in the period that the determination is made. Accounts receivable are deemed uncollectible based on NTIC exhausting reasonable efforts to collect. NTIC's typical contractual terms for receivables for services provided to its joint ventures are 90 days. NTIC records receivables for services provided to its joint ventures on an accrual basis, unless circumstances exist that make the collection of the balance uncertain, in which case the fee income will be recorded on a cash basis until there is consistency in payments. This determination is handled on a case-by-case basis.

NTIC experienced an increase in trade receivables and a decrease in inventory as of February 28, 2023, compared to August 31, 2022. Trade receivables, excluding joint ventures, as of February 28, 2023, increased $538,087 compared to August 31, 2022, primarily related to correlating increases to sales.

Outstanding trade receivables, excluding joint ventures balances, increased an average of 8 days to an average of 75 days from balances outstanding from these customers as of February 28, 2023 from an average of 67 days as of August 31, 2022.

Outstanding trade receivables from joint ventures as of February 28, 2023 increased $917,073 compared to August 31, 2022, primarily due to the timing of payments. Outstanding balances from trade receivables from joint ventures increased an average of 166 days to an average of 256 days from balances outstanding from these customers as of February 28, 2023 from an average of 90 days as of August 31, 2022. The significant increase in outstanding balances from trade receivables from joint ventures was due to the timing of a large order, that was subsequently collected. The average days outstanding of trade receivables from joint ventures as of February 28, 2023 were primarily due to the receivables balances at NTIC's joint ventures in Sweden, France, South Korea and Thailand.

Outstanding receivables for services provided to joint ventures as of February 28, 2023 decreased $656,210 compared to August 31, 2022, and the average days to pay increased an average of 4 days to an average of 80 days from an average of 84 days as of August 31, 2022.

Net cash used in investing activities for the six months ended February 28, 2023 and 2022 was $1,923,336 and $5,792,833, respectively, which was primarily the result of the purchase of property and equipment, and investments in patents, and in the case of the prior year period, the purchase of the remaining 50% ownership interest in Zerust India.

Net cash used in financing activities for the six months ended February 28, 2023 was $111,605, which resulted from dividends paid to shareholders and dividends received by non-controlling interests, partially offset by proceeds from the exercise of stock options, borrowings under the line of credit and proceeds from NTIC's employee stock purchase plan. Net cash used in financing activities for the six months ended February 28, 2022 was $2,786,371, which resulted from borrowings under the line of credit and proceeds from NTIC's employee stock purchase plan and the exercise of stock options, partially offset by dividends paid to shareholders and dividends received by non-controlling interests.

Share Repurchase Plan. On January 15, 2015, NTIC's Board of Directors authorized the repurchase of up to $3,000,000 in shares of NTIC common stock through open market purchases or unsolicited or solicited privately negotiated transactions. This program has no expiration date but may be terminated by NTIC's Board of Directors at any time. No repurchases occurred during the six months ended February 28, 2023. As of February 28, 2023, up to $2,640,548 in shares of NTIC common stock remained available for repurchase under NTIC's stock repurchase program.

Cash Dividends. During the six months ended February 28, 2023, NTIC's Board of Directors declared cash dividends on the following dates in the following amounts to the following holders of NTIC's common stock:

Declaration Date	Amount	Record Date	Payable Date
October 20, 2022	$0.07	November 3, 2022	November 16, 2022
January 20, 2023	$0.07	February 1, 2023	February 15, 2023

During the six months ended February 28, 2022, NTIC's Board of Directors declared cash dividends on the following dates in the following amounts to the following holders of NTIC's common stock:

Declaration Date	Amount	Record Date	Payable Date
October 20, 2021	$0.07	November 3, 2021	November 17, 2021
January 21, 2022	$0.07	February 2, 2022	February 16, 2022

The declaration of future dividends is not guaranteed and will be determined by NTIC's Board of Directors in light of conditions then existing, including NTIC's earnings, financial condition, cash requirements, restrictions in financing agreements, business conditions, and other factors, including without limitation the effect of COVID-19 on NTIC's business, operating results and financial condition.

Capital Expenditures and Commitments. NTIC spent $1,871,903 on capital expenditures during the six months ended February 28, 2023, which related primarily to a new warehouse facility, equipment and facility improvements, including the purchase of the property immediately adjacent to NTIC's headquarters in Circle Pines, Minnesota, which includes a 26,000 square foot industrial building, and related renovations. The building will be used primarily for warehousing space and light industrial production. NTIC expects to spend an aggregate of approximately $2,000,000 to $2,500,000 on capital expenditures during fiscal 2023, which it expects will relate primarily to the purchase of the new warehouse facility, equipment and facility improvements, including approximately $700,000 in renovations on the property and building described above.

Inflation and Seasonality

Although inflation in the United States and abroad historically has had little effect on NTIC, inflationary pressures adversely affected NTIC's gross margins during the first six months of fiscal 2023 and are expected to persist into at least the third quarter of fiscal 2023. NTIC believes there is some seasonality in its business. NTIC's net sales in the second fiscal quarter were adversely affected by the long Chinese New Year, the North American holiday season and overall less corrosion taking place at lower winter temperatures worldwide.

Market Risk

NTIC is exposed to some market risk stemming from changes in foreign currency exchange rates, commodity prices and interest rates.

Because the functional currency of NTIC's foreign operations and investments in its foreign joint ventures is the applicable local currency, NTIC is exposed to foreign currency exchange rate risk arising from transactions in the normal course of business. NTIC's principal exchange rate exposure is with the Euro, the Japanese Yen, the Indian Rupee, the Chinese Renminbi, the South Korean Won, and the English Pound against the U.S. Dollar. NTIC's fees for services provided to joint ventures and dividend distributions from these foreign entities are paid in foreign currencies and, thus, fluctuations in foreign currency exchange rates could result in declines in NTIC's reported net income. Since NTIC's investments in its joint ventures are accounted for using the equity method, any changes in foreign currency exchange rates would be reflected as a foreign currency translation adjustment and would not change NTIC's equity in income from joint ventures reflected in its consolidated statements of operations. NTIC does not hedge against its foreign currency exchange rate risk.

Some raw materials used in NTIC's products are exposed to commodity price changes. The primary commodity price exposures are with a variety of plastic resins.

Any outstanding advances under NTIC's Credit Facility with JPM bear interest at a floating rate, at the option of NTIC, equal to either the CB Floating Rate or the Adjusted SOFR Rate, as defined above. Borrowings of $7,100,000 were outstanding under the Credit Facility as of February 28, 2023.

Critical Accounting Policies and Estimates

There have been no material changes to NTIC's critical accounting policies and estimates from the information provided in "*Part II. Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Estimates*" included in NTIC's annual report on Form 10-K for the fiscal year ended August 31, 2022.

Accounting Pronouncements

See Note 2 to NTIC's consolidated financial statements for a discussion of accounting pronouncements.

Forward-Looking Statements

This quarterly report on Form 10-Q contains not only historical information, but also forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These forward-looking statements are subject to the safe harbor created by those sections. In addition, NTIC or others on NTIC's behalf may make forward-looking statements from time to time in oral presentations, including telephone conferences and/or web casts open to the public, in press releases or reports, on NTIC's Internet web site, or otherwise. All statements other than statements of historical facts included in this report or expressed by NTIC orally from time to time that address activities, events, or developments that NTIC expects, believes, or anticipates will or may occur in the future are forward-looking statements, including, in particular, the statements about NTIC's plans, objectives, strategies, and prospects regarding, among other things, NTIC's financial condition, results of operations and business, the anticipated effect of COVID-19 and its acquisition of Zerust India on NTIC's business, operating results and financial condition, the outcome of contingencies, such as legal proceedings. NTIC has identified some of these forward-looking statements in this report with words like "believe," "can," "may," "could," "would," "might," "forecast," "possible," "potential," "project," "will," "should," "expect," "intend," "plan," "predict," "anticipate," "estimate," "approximate," or "continue" or the negative of these words or other words and terms of similar meaning. The use of future dates is also an indication of a forward-looking statement. Forward-looking statements may be contained in the notes to NTIC's consolidated financial statements and elsewhere in this report, including under the heading "*Management's Discussion and Analysis of Financial Condition and Results of Operations*."

Forward-looking statements are based on current expectations about future events affecting NTIC and are subject to uncertainties and factors that affect all businesses operating in a global market as well as matters specific to NTIC. These uncertainties and factors are difficult to predict, and many of them are beyond NTIC's control. The following are some of the uncertainties and factors known to us that could cause NTIC's actual results to differ materially from what NTIC has anticipated in its forward-looking statements:

- The effect of worldwide disruption in supply issues on NTIC's business, operating results and financial condition, which will likely continue through the end of fiscal 2023, regardless of the status of COVID-19;
- The effect of COVID-19 on NTIC's business, operating results and financial condition, including in particular in China, and disruption to our customers, suppliers and subcontractors, as well as the global economy and financial markets;
- The effect of current worldwide economic conditions, inflation, recessionary indicators and any turmoil and disruption in the global credit, financial and banking markets or the perception of adverse conditions on NTIC's business and the business of NTIC's customers, supplier, vendors and other third parties with whom NTIC conducts business;
- The effect of the ongoing war between Russia and Ukraine, and the effect of the war and the resulting sanctions by U.S. and European governments on commodity price fluctuations, which have decreased our margins and the margins of our joint ventures and resulted in decreased joint venture profitability, which will likely continue through the end of fiscal 2023;
- NTIC's operations in China and the risks associated therewith, including trade or other issues that may result from increasing tensions between the U.S. and China;
- Variability in NTIC's sales of ZERUST® products and services to the oil and gas industry and Natur-Tec® products and NTIC's equity income of joint ventures, which variability in sales and equity in income from joint ventures, in turn, subject NTIC's earnings to quarterly fluctuations;
- Risks associated with NTIC's international operations and exposure to fluctuations in foreign currency exchange rates, import duties, taxes, and tariffs;
- The effect of the United Kingdom's process to exit the European Union on NTIC's operating results, including, in particular, future net sales of NTIC's European and other joint ventures;
- The effect of the health of the U.S. automotive industry on NTIC's business and the evolution of the automotive industry towards electric vehicles;
- NTIC's dependence on the success of its joint ventures and fees and dividend distributions that NTIC receives from them;
- Risks associated with NTIC's acquisition of the remaining 50% ownership interest in its Indian joint venture, Zerust India;

- NTIC’s relationships with its joint ventures and its ability to maintain those relationships, especially in light of anticipated succession planning issues, and risks associated with possible future acquisitions of the remaining ownership interests of certain joint ventures;

- Fluctuations in the cost and availability of raw materials, including resins and other commodities, including supply chain disruptions and weather related impacts;

- The success of and risks associated with NTIC’s emerging new businesses and products and services, including in particular NTIC’s ability and the ability of NTIC’s joint ventures to sell ZERUST® products and services to the oil and gas industry and Natur-Tec® products and the often lengthy and extensive sales process involved in selling such products and services;

- NTIC’s ability to introduce new products and services that respond to changing market conditions and customer demand;

- Market acceptance of NTIC’s existing and new products, especially in light of existing and new competitive products;

- Maturation of certain existing markets for NTIC’s ZERUST® products and services and NTIC’s ability to grow market share and succeed in penetrating other existing and new markets;

- Increased competition, especially with respect to NTIC’s ZERUST® products and services, and the effect of such competition on NTIC’s and its joint ventures’ pricing, net sales, and margins;

- NTIC’s reliance upon and its relationships with its distributors, independent sales representatives, and joint ventures;

- NTIC’s reliance upon suppliers;

- Oil prices, which may affect sales of NTIC’s ZERUST® products and services to the oil and gas industry, and which may be impacted by the ongoing war between Russia and Ukraine;

- The costs and effects of complying with laws and regulations and changes in tax, fiscal, government, and other regulatory policies, including rules relating to environmental, health, and safety matters;

- Unforeseen product quality or other problems in the development, production, and usage of new and existing products;

- Unforeseen production expenses incurred in connection with new customers and new products;

- Loss of or changes in executive management or key employees and the need to hire and train local support in a timely manner in order to support customer needs;

- Ability of management to manage around unplanned events;
- Pending and future litigation;
- NTIC's reliance on its intellectual property rights and the absence of infringement of the intellectual property rights of others;
- NTIC's ability to maintain effective internal control over financial reporting, especially in light of its joint venture arrangements;
- Changes in applicable laws or regulations and NTIC's failure to comply with applicable laws, rules, and regulations;
- Changes in generally accepted accounting principles and the effect of new accounting pronouncements;
- Fluctuations in NTIC's effective tax rate;
- The effect of extreme weather conditions on NTIC's operating results; and
- NTIC's reliance upon its management information systems.

For more information regarding these and other uncertainties and factors that could cause NTIC's actual results to differ materially from what NTIC has anticipated in its forward-looking statements or otherwise could materially adversely affect its business, financial condition or operating results, see NTIC's annual report on Form 10-K for the fiscal year ended August 31, 2022 under the heading "*Part I. Item 1A. Risk Factors*."

All forward-looking statements included in this report are expressly qualified in their entirety by the foregoing cautionary statements. NTIC wishes to caution readers not to place undue reliance on any forward-looking statement that speaks only as of the date made and to recognize that forward-looking statements are predictions of future results, which may not occur as anticipated. Actual results could differ materially from those anticipated in the forward-looking statements and from historical results due to the uncertainties and factors described above and others that NTIC may consider immaterial or does not anticipate at this time. Although NTIC believes that the expectations reflected in its forward-looking statements are reasonable, NTIC does not know whether its expectations will prove correct. NTIC's expectations reflected in its forward-looking statements can be affected by inaccurate assumptions NTIC might make or by known or unknown uncertainties and factors, including those described above. The risks and uncertainties described above are not exclusive, and further information concerning NTIC and its business, including factors that potentially could materially affect its financial results or condition, may emerge from time to time. NTIC assumes no obligation to update, amend, or clarify forward-looking statements to reflect actual results or changes in factors or assumptions affecting such forward-looking statements. NTIC advises you, however, to consult any further disclosures NTIC makes on related subjects in its annual reports on Form 10-K, quarterly reports on Form 10-Q, and current reports on Form 8-K that NTIC files with or furnishes to the Securities and Exchange Commission.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

NTIC is exposed to some market risk stemming from changes in foreign currency exchange rates, commodity prices and interest rates.

Because the functional currency of NTIC's foreign operations and investments in its foreign joint ventures is the applicable local currency, NTIC is exposed to foreign currency exchange rate risk arising from transactions in the normal course of business. NTIC's principal exchange rate exposure is with the Euro, the Japanese Yen, the Indian Rupee, the Chinese Renminbi, the South Korean Won, and the English Pound against the U.S. Dollar. NTIC's fees for services provided to joint ventures and dividend distributions from these foreign entities are paid in foreign currencies, and, thus, fluctuations in foreign currency exchange rates could result in declines in NTIC's reported net income. Since NTIC's investments in its joint ventures are accounted for using the equity method, any changes in foreign currency exchange rates would be reflected as a foreign currency translation adjustment and would not change NTIC's equity in income from joint ventures reflected in its consolidated statements of operations. NTIC does not hedge against its foreign currency exchange rate risk.

Some raw materials used in NTIC's products are exposed to commodity price changes. The primary commodity price exposures are with a variety of plastic resins.

Any outstanding advances under NTIC's Credit Facility with JPM bear interest at a floating rate, at the option of NTIC, equal to either the CB Floating Rate or the Adjusted SOFR Rate, as defined above. Borrowings of $7,100,000 were outstanding under the Credit Facility as of February 28, 2023.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

NTIC maintains disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended) that are designed to provide reasonable assurance that information required to be disclosed by NTIC in the reports it files or submits under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms and that such information is accumulated and communicated to NTIC's management, including NTIC's principal executive officer and principal financial officer, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. NTIC's management evaluated, with the participation of its Chief Executive Officer and its Chief Financial Officer, the effectiveness of the design and operation of NTIC's disclosure controls and procedures as of the end of the period covered in this report. Based on that evaluation, NTIC's Chief Executive Officer and Chief Financial Officer concluded that NTIC's disclosure controls and procedures were effective as of the end of such period to provide reasonable assurance that information required to be disclosed in the reports that NTIC files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to NTIC's management, including NTIC's Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

There was no change in NTIC's internal control over financial reporting that occurred during the quarter ended February 28, 2023 that has materially affected or is reasonably likely to materially affect NTIC's internal control over financial reporting, other than changes implemented to continue integrating Zerust India's internal controls with NTIC's internal controls.

PART II - OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

See Note 12 to NTIC's consolidated financial statements in *Part I. Item 1. Financial Statements* of this report.

ITEM 1A. RISK FACTORS

Although Item 1A. is inapplicable to NTIC as a smaller reporting company, NTIC hereby discloses the following revised risk factor described in its annual report on Form 10-K for the fiscal year ended August 31, 2021:

The operations of NTIC China may be adversely affected by China's evolving economic, political, and social conditions as well as increasing tensions between the United States and China.

The results of operations and future prospects of NTIC China may be adversely affected by, among other things, changes in China's political, economic, and social conditions, changes in the relationship between China and its western trade partners, changes in policies of the Chinese government, changes in laws and regulations or in the interpretation of existing laws and regulations, changes in foreign exchange regulations, measures that may be introduced to control inflation, such as interest rate increases, changes in the rates or methods of taxation, and increasing tensions between the United States and China. In addition, changes in demand could result from increased competition with local Chinese manufacturers who have cost advantages or who may be preferred suppliers for Chinese end users. Also, Chinese commercial laws, regulations, and interpretations applicable to non-Chinese owned market participants, such as NTIC China, are continually changing, and such changes may require NTIC China to change how it conducts its business. These laws, regulations, and interpretations could impose restrictions on NTIC's and NTIC China's ownership or operations or NTIC's interests in China and could adversely affect NTIC's business, results of operations, and financial condition.

Local regulations in China related to the electric power shortage that began in 2021 may adversely affect NTIC China's operations or the operations of our suppliers with facilities in China. For example, these regulations could result in partial or complete factory shutdowns due to a lack of continuous supply of electrical power. Additionally, the price of electric power may be increased, and peak-demand periods during which prices are higher may be extended by local governments. Certain of our resin suppliers with facilities in China were adversely impacted by these regulations, which contributed to constrained supply. Although NTIC China's operations have not been significantly impacted by regulations related to electric power shortages to date, such regulations may in the future decrease or shut down production or increase product costs, which could adversely affect NTIC's business, results of operations, and financial condition.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

Recent Sales of Unregistered Equity Securities

During the three months ended February 28, 2023, NTIC did not issue any shares of its common stock or other equity securities of NTIC that were not registered under the Securities Act of 1933, as amended.

Issuer Purchases of Equity Securities

The following table shows NTIC's second quarter of fiscal 2023 stock repurchase activity.

Period	Total Number of Shares (or Units) Purchased	Average Price Paid Per Share (or Unit)	Total Number of Shares (or Units) Purchased As Part of Publicly Announced Plans or Programs	Maximum Number of Shares (or Units) that May Yet Be Purchased Under the Plans or Programs
December 1, 2022, through December 31, 2022	0	$0	0	(1)
January 1, 2023, through January 31, 2023	0	$0	0	(1)
February 1, 2023, through February 28, 2023	0	$0	0	(1)
Total	0	$0	0	(1)(2)

(1) On January 15, 2015, NTIC's Board of Directors authorized the repurchase of up to $3,000,000 in shares of NTIC common stock through open market purchases or unsolicited or solicited privately negotiated transactions. This program has no expiration date but may be terminated by NTIC's Board of Directors at any time.

(2) As of February 28, 2023, up to $2,640,548 in shares of NTIC common stock remained available for repurchase under NTIC's stock repurchase program.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

Not applicable.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

Not applicable.

ITEM 6. EXHIBITS

The following exhibits are being filed or furnished with this quarterly report on Form 10-Q:

Exhibit No.	Description
3.1	Restated Certificate of Incorporation of Northern Technologies International Corporation, dated January 31, 2023 (filed herewith)
10.1	Credit Agreement between JPMorgan Chase Bank, N.A. and Northern Technologies International Corporation, dated December 19, 2022 (filed herewith)
31.1	Certification of President and Chief Executive Officer pursuant to SEC Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith)
31.2	Certification of Chief Financial Officer pursuant to SEC Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith)
32.1	Certification of President and Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith)
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith)
101	The following materials from NTIC's Quarterly Report on Form 10-Q for the fiscal quarter ended February 28, 2023, formatted in Inline XBRL (Extensible Business Reporting Language): (i) the unaudited Consolidated Balance Sheets, (ii) the unaudited Consolidated Statements of Operations, (iii) the unaudited Consolidated Statements of Comprehensive Income, (iv) the unaudited Consolidated Statements of Equity, (v) the unaudited Consolidated Statements of Cash Flows, and (vi) Notes to Consolidated Financial Statements (filed herewith)
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

NORTHERN TECHNOLOGIES INTERNATIONAL CORPORATION

Date: April 13, 2023

/s/ Matthew C. Wolsfeld
Matthew C. Wolsfeld, CPA
Chief Financial Officer
(Principal Financial and Accounting Officer and
Duly Authorized to Sign on Behalf of the Registrant)

<u>Delaware</u>

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE RESTATED CERTIFICATE OF "NORTHERN TECHNOLOGIES INTERNATIONAL CORPORATION", FILED IN THIS OFFICE ON THE THIRTY- FIRST DAY OF JANUARY, A.D. 2023, AT 9:47 O`CLOCK A.M.

Jeffrey W. Bullock, Secretary of State

844552 8100
SR# 20230312706

Authentication: 202629480
Date: 02-02-23

You may verify this certificate online at
corp.delaware.gov/authver.shtml

State of Delaware
Secretary of State
Division of Corporations
Delivered 09:47 AM
01/31/2023
FILED 09:47AM 01/31/2023
SR 20230312706 - File
Number 844552

RESTATED CERTIFICATE OF INCORPORATION OF
NORTHERN TECHNOLOGIES INTERNATIONAL CORPORATION

(Pursuant to Section 245 of the General Corporation Law of the State of Delaware)

Northern Technologies International Corporation, a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the "General Corporation Law"),

DOES HEREBY CERTIFY:

FIRST: That the name of this corporation is Northern Technologies International Corporation (the "Corporation") and that the Corporation was originally incorporated pursuant to the General Corporation Law on October 12, 1977 under the name Northern Instruments Corporation.

SECOND: That the Corporation's Restated Certificate of Incorporation only restates and integrates and does not further amend the provisions of the Corporation's Certificate of Incorporation as theretofore amended or supplemented, and there is no discrepancy between those provisions in the Corporation's Certificate of Incorporation and the provisions of the Corporation's Restated Certificate of Incorporation.

THIRD: That the Board of Directors duly adopted resolutions approving the restatement and integration of the Corporation's Certificate of Incorporation pursuant to Section 245 of the General Corporation Law, declaring said restatement and integration to be advisable and in the best interests of the Corporation and its stockholders, which resolution setting forth the proposed restatement and integrations is as follows:

RESOLVED, that the Certificate of Incorporation of the Corporation be restated and integrated in its entirety as follows:

ARTICLE I.

The name of this Corporation is Northern Technologies International Corporation.

ARTICLE II.

The address of its registered office in the State of Delaware is 1209 Orange Street, Corporation Trust Center, in the City of Wilmington, County of New Castle, 19801. The name of the Corporation's registered agent at such address is The Corporation Trust Company.

ARTICLE III.

The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of Delaware.

ARTICLE IV.

The Corporation shall have the authority to issue Fifteen Million Ten Thousand (15,010,000) shares of stock divided into Fifteen Million (15,000,000) shares of Two Cent ($.02) par value common stock and Ten Thousand (10,000) shares of no par value preferred stock.

ARTICLEV.

Election of directors need not be by written ballot.

ARTICLE VI.

The Corporation shall be managed by the Board of Directors, which shall exercise all powers conferred under the law of the State of Delaware, including without limitation the power:

(a) To hold meetings, to have one or more offices and to keep the books of the Corporation, except as otherwise expressly provided by law, at such places, whether within or without the State of Delaware, as may from time to time be designated by the Board.

(b) To adopt, amend or repeal bylaws of the Corporation, subject to the reserved power of the stockholders to adopt, amend or repeal bylaws.

(c) To fix and determine from time to time an amount to be set apart out of any funds of the Corporation available for dividends a reserve or reserves for working capital or any other proper purpose or to abolish any such reserve or reserves.

ARTICLE VII.

Each director and officer, past or present, of the Corporation, and their respective heirs, administrators and executors, shall be indemnified by the Corporation in accordance with, and to the fullest extent provided by, the provisions of the Delaware General Corporation Laws as they may from time to time be amended.

ARTICLE VIII.

The Corporation reserves the right to amend, alter, change or repeal any prov1s1on contained in this Restated Certificate of Incorporation, in the manner now or hereafter prescribed by statute, and all rights conferred upon stockholders herein are granted subject to this reservation.

ARTICLE IX.

No director or officer of the Corporation shall be personally liable to the Corporation or its stockholders for monetary damages for any breach of fiduciary duty by such a director or officer as a director or officer, respectively, except to the extent provided by applicable law (i) for any breach of the director's or officer's duty of loyalty to the Corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) pursuant to Section 174 of the General Corporation Law of Delaware, in the case of directors only, (iv) for any transaction from which such director or officer derived an improper personal benefit, or (v) for any action by or in the right of the Corporation, in the case of officers only. If the General Corporation Law of Delaware is amended to authorize corporate action further eliminating or limiting the personal liability of directors or officers, then the liability of a director or officer of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law of Delaware as so amended. No amendment to or repeal of this Article IX shall apply to or have any effect on the liability or alleged liability of any director or officer of the Corporation for or with respect to any acts or omissions of such director or officer occurring prior to such amendment or repeal.

IN WITNESS WHEREOF, this Restated Certificate of Incorporation has been executed by a duly authorized officer of this Corporation on this 31st day of January, 2023.

NORTHERN TECHNOLOGIES INTERNATIONAL CORPORATION

By: ______________________________

Matthew C. Wolsfeld

Its: Chief Financial Officer and Corporate Secretary

Exhibit 10.1

Credit Agreement

This agreement dated as of December 19, 2022, is between JPMorgan Chase Bank, N.A. (together with its successors and assigns, the "**Bank**"), whose address is 10 S Dearborn St, Floor 35, Chicago, IL, 60603-2300, ATTN: Credit Executive- MN, and NORTHERN TECHNOLOGIES INTERNATIONAL CORPORATION (the "**Borrower**"), whose address is 4201 Woodland Road, Circle Pines, MN 55014.

1. Credit Facilities.

1.1 Scope. This agreement governs Facility A, and, unless otherwise agreed to in writing by the Bank and the Borrower or prohibited by any Legal Requirement, governs the Credit Facilities as defined below. The Bank has established procedures for the Borrower to obtain advances under any Credit Facilities. Any other procedures that the Bank agrees to regarding obtaining advances, including automatic loan sweeps, shall not change the terms or conditions of this agreement or the other Related Documents regarding the Credit Facilities.

1.2 Facility A (Line of Credit). The Bank has approved a credit facility to the Borrower in a principal amount not to exceed $10,000,000.00, at any one time outstanding ("**Facility A**"). Credit under Facility A shall be repaid as described in a Line of Credit Note executed at the same time as this agreement, along with any renewals, modifications, extensions, rearrangements, restatements and replacements or substitutions.

Non Usage Fee. The Borrower will pay "non-usage fee," each calendar quarter, based on the amount of credit in Facility A that has not been used. This fee is determined by A x (B – C) x (D/360):

- A equals 0.10%
- B equals the maximum amount of Facility A
- C equals the average daily outstanding principal balance of Facility A during the calendar quarter
- D equals the actual number of days elapsed during the calendar quarter

The Borrower must pay any non-usage fees within fifteen (15) days after receiving an invoice from the Bank. The Bank may begin to accrue the foregoing fee on the date this agreement becomes effective.

Letter of Credit Sub-Limit. At any time the Borrower is entitled to an advance under Facility A, the Bank agrees to issue letters of credit (all letters of credit issued for the account of the Borrower which are outstanding on the date of this agreement and any letter of credit issued under this agreement, together with any and all amendments, modifications, renewals, extensions, increases, restatements and rearrangements of and substitutions and replacements for, any of the foregoing, a "**Letter of Credit**" or "**Letters of Credit**") for the account of the Borrower in an amount not in excess of the maximum advance that it would then be entitled to obtain under Facility A, provided that (a) the aggregate maximum amount which is drawn and remains unreimbursed under all Letters of Credit plus the aggregate maximum available amount which may be drawn under all Letters of Credit which are outstanding at any time (the "**L/C Obligations**"), shall not exceed $5,000,000.00, (b) the issuance of any Letter of Credit with an expiration date beyond the maturity date of the Line of Credit Note shall be subject to the approval of the Bank, (c) any Letter of Credit shall be a standby or commercial letter of credit and the form of the requested Letter of Credit shall be satisfactory to the Bank, and (d) the Borrower shall have executed an application and reimbursement agreement for any Letter of Credit in a form satisfactory to the Bank. While any Letter of Credit is outstanding, the maximum amount of advances that may be outstanding under the Line of Credit Note shall be automatically reduced by the L/C Obligations. The Borrower shall pay the Bank a fee for each standby letter of credit that is issued, such fee to be agreed upon for each letter of credit from time to time by the Bank and the Borrower, provided, however, that if an agreement is not reached, the Bank shall be under no obligation to issue any letter of credit hereunder. The Borrower shall pay the Bank a fee for each commercial letter of credit that is issued, such fee to be agreed upon for each letter of credit from time to time by the Bank and the Borrower, provided, however, that if an agreement is not reached, the Bank shall be under no obligation to issue any letter of credit hereunder. No credit shall be given for fees paid due to early termination of any Letter of Credit. The Borrower shall also pay the Bank's standard transaction fees with respect to any transactions occurring on account of any Letter of Credit. Each fee shall be payable when the related letter of credit is issued, and transaction fees shall be payable upon completion of the transaction as to which they are charged. All fees may be debited by the Bank to any deposit account of the Borrower with the Bank without further authority and, in any event, shall be paid by the Borrower within ten (10) days following billing. The Bank is authorized, but not obligated to make an advance under the Line of Credit Note without notice to the Borrower, to make payment on a drawing under any Letter of Credit. The aggregate principal amount of advances outstanding at any one time under the Line of Credit Note (and any and all renewals, modifications, extensions, rearrangements, restatements thereof and replacements or substitutions therefor) evidencing Facility A plus the aggregate amount of L/C Obligations outstanding at any time (the "**Aggregate Outstanding Amount**") shall not exceed the maximum amount of Facility A. If the Aggregate Outstanding Amount still exceeds the maximum amount of Facility A after the Line of Credit Note balance is reduced to zero (that is, L/C Obligations exceed the maximum amount of Facility A), the Borrower shall provide cash collateral to the Bank for the L/C Obligations in an amount sufficient to eliminate the excess. References in this agreement to the principal amount outstanding under the Credit Facilities shall include L/C Obligations.

2. Definitions and Interpretations.

2.1 Definitions. As used in this agreement, the following terms have the following respective meanings:

A. "**Affiliate**" means any Person directly or indirectly controlling, controlled by or under common control with, another Person.

B. "**Anti-Corruption Laws**" means all laws, rules, and regulations of any jurisdiction applicable to the Borrower or its Subsidiaries from time to time concerning or relating to bribery or corruption.

C. "**Collateral**" means all Property, now or in the future subject to any Lien in favor of the Bank, securing or intending to secure, any of the Liabilities.

D. "**Capital Expenditures**" means any expenditures or the incurrence of any obligation or liability for any asset which is classified as a capital asset under GAAP.

E. "**Credit Facilities**" means all extensions of credit from the Bank to the Borrower, existing or extended with this agreement, or hereafter arising.

F. "**Distributions**" means all dividends and other distributions made to any Equity Owners, other than salary, bonuses, and other compensation for services expended in the current accounting period.

G. "**Equity Interests**" means equity ownership interests in a business or not for profit entity, and any warrants, options or other rights entitling the holder thereof to purchase or acquire any such equity interest.

H. "**Equity Owner**" means an owner of any Equity Interests.

I. "**GAAP**" means generally accepted accounting principles in effect from time to time in the United States of America, consistently applied.

J. "**Legal Requirement**" means any law, order, Sanctions, regulation (or interpretation of any of the foregoing) of any federal, state or local governmental authority or self-regulatory organization having jurisdiction over the Bank, any Obligor or any of its Subsidiaries or their respective Properties or any agreement by which any of them is bound.

K. "**Liabilities**" means all indebtedness, liabilities and obligations of every kind and character of the Borrower to the Bank, whether the obligations, indebtedness and liabilities are individual, joint and several, contingent or otherwise, now or hereafter existing, including, without limitation, all liabilities, interest, costs and fees, arising under or from any note, open account, overdraft, credit card, lease, Rate Management Transaction, letter of credit application, endorsement, surety agreement, guaranty, acceptance, foreign exchange contract or depository service contract, whether payable to the Bank or to a third party and subsequently acquired by the Bank, any monetary obligations (including interest) incurred or accrued during the pendency of any bankruptcy, insolvency, receivership or other similar proceedings, regardless of whether allowed or allowable in such proceeding, and all renewals, extensions, modifications, consolidations, rearrangements, restatements, replacements or substitutions of any of the foregoing.

L. "**Lien**" means any mortgage, deed of trust, pledge, charge, encumbrance, security interest, collateral assignment or other lien or restriction of any kind.

M. "**Net Income**" means net income under GAAP, but excluding extraordinary or non-recurring items, as reasonably determined by the Bank.

N. "**Notes**" means all promissory notes, instruments and/or contracts now or hereafter evidencing the Credit Facilities.

O. "**Obligor**" means any Borrower, guarantor, surety, co-signer, endorser, general partner or other Person who may now or in the future be obligated to pay any of the Liabilities, and any Person providing Collateral.

P. "**Organizational Documents"** means, with respect to any Person, certificates of existence or formation, documents establishing or governing the Person including all amendments, and modifications.

Q. "**Person**" means any individual, business or other entity, or any governmental authority.

R. "**Property**" means any interest in any kind of property or asset, whether real, personal or mixed, tangible or intangible.

S. "**Rate Management Transaction**" means any transaction (including an agreement with respect thereto) that is a rate swap, basis swap, forward rate transaction, commodity swap, commodity option, equity or equity index swap, equity or equity index option, bond option, interest rate option, foreign exchange transaction, cap transaction, floor transaction, collar transaction, forward transaction, currency swap transaction, cross-currency rate swap transaction, currency option, derivative transaction or any other similar transaction (including any option with respect to any of these transactions) or any combination thereof, whether linked to one or more interest rates, foreign currencies, commodity prices, equity prices or other financial measures.

T. "**Related Documents**" means this agreement, and any other instrument or document executed in connection with this agreement or with any of the Liabilities.

U. "**Sanctions**" means economic or financial sanctions or trade embargoes imposed, administered or enforced from time to time by (a) the U.S. government, including those administered by the Office of Foreign Assets Control of the U.S. Department of the Treasury or the U.S. Department of State, and (b) if the Borrower has operations outside of the United States, the United Nations Security Council, the European Union, any European Union member state, Her Majesty's Treasury of the United Kingdom or other relevant sanctions authority.

V. "**Sanctioned Country**" means, at any time, a country, region or territory which is the subject or target of any Sanctions.

W. "**Sanctioned Person**" means, at any time, (a) any Person listed in any Sanctions-related list of designated Persons maintained by (i) the Office of Foreign Assets Control of the U.S. Department of the Treasury, the U.S. Department of State, and (ii) if the Borrower has operations outside of the United States, the United Nations Security Council, the European Union, any European Union member state, Her Majesty's Treasury of the United Kingdom or other relevant sanctions authority (b) any Person operating, organized or resident in a Sanctioned Country (c) any Person controlled by any such Person or Persons described in the foregoing clauses (a) or (b), or (d) any Person otherwise the subject of any Sanction.

X. "**SEC**" means the U.S. Securities and Exchange Commission.

Y. "**Subsidiary**" means, as to any particular Person (the "parent"), a Person the accounts of which would be consolidated with those of the parent in the parent's consolidated financial statements if such financial statements were prepared in accordance with GAAP as well as any other Person of which fifty percent (50%) or more of the Equity Interests is directly or indirectly owned, controlled or held, by the parent or by any Person or Persons controlled by the parent, either alone or together with the parent.

Z. "**Unfinanced Capital Expenditures**" means, for any period, Capital Expenditures made during such period which are not financed from the proceeds from (i) the sale of any investments, or (ii) any indebtedness (other than Facility A); it being understood and agreed that, to the extent any Capital Expenditures are financed with the proceeds of Facility A, such Capital Expenditures shall be deemed Unfinanced Capital Expenditures.

2.2 Interpretations. If any provision of this agreement cannot be enforced, the remaining portions of this agreement shall continue in effect. The provisions of this agreement shall control in the event of any conflict or inconsistency between this agreement and the provisions of any other Related Documents. Any reference to a particular document includes all modifications, supplements, replacements, renewals or extensions of that document. Whenever the Bank's determination, consent, or approval is required under this agreement or the other Related Documents or whenever the Bank may at its option take or refrain from taking any action under this agreement or the other Related Documents, such decision shall be in the sole discretion of the Bank.

2.3 Borrowers Generally. As used in this agreement and the Related Documents, "**Borrower**" means any borrower individually, or all borrowers collectively, as the context may require. For the avoidance of doubt,

(a) the fees, facility amounts, payment amounts, and dollar thresholds and limitations are intended to apply in the aggregate for all borrowers (provided that letter of credit fees shall be payable with respect to each letter of credit, if applicable);

(b) all actions agreed to be taken by (i) any borrower with respect to its property or accounts shall be taken by such borrower and (ii) any group of borrowers with respect to their joint property or accounts shall be taken by such group of borrowers;

(c) all grants to the Bank made by each borrower are made with respect to its respective property or interest therein, real and personal;

(d) all agreements, covenants, representations and warranties, waivers, consents, acknowledgements, appointments, authorizations, releases, ratifications, affirmations or reaffirmations, and requests for advances made in or under this agreement or any Related Document are made by each borrower for itself and its own rights and property, as applicable and unless otherwise expressly specified in this agreement;

(e) all certifications made by any borrower to the Bank on behalf of and with respect to the Borrower are made on behalf of and with respect to all borrowers;

(f) the Bank may exercise its remedies, whether contractual, by law, in equity or otherwise, (i) against the property of any borrower as a result of a breach by any Obligor and (ii) against the property of all or fewer than all of the borrowers, in each case in the Bank's sole discretion;

(g) knowledge of any borrower constitutes knowledge of the Borrower for all purposes of this agreement and the Related Documents;

(h) the unenforceability of this agreement or any Related Document against any borrower does not affect the enforceability of this agreement or such Related Document, as applicable, against any other borrower party hereto or thereto; and

(i) (i) the financial statements delivered under this agreement shall be the consolidated financial statements of the borrower that is the parent entity of the consolidated group of entities, (ii) the officer executing compliance certificates and borrower base certificates, as and to the extent otherwise required under this agreement, shall be an officer of the borrower that is the parent entity of the consolidated group and (iii) references in this agreement and the Related Documents to the fiscal year of the Borrower shall mean the fiscal year of the borrower that is the parent entity of the consolidated group, in each case if applicable and unless otherwise expressly specified in this agreement.

Each borrower agrees that notices and demands made by the Bank to or upon any borrower in accordance with this agreement or any of the Related Documents constitutes notice or demand, as applicable, made by the Bank to or upon all borrowers on the date received by such borrower.

3. Conditions Precedent to Extensions of Credit.

3.1 The following conditions must be satisfied before any extension of credit governed by this agreement must be made by the Bank:

A. Representations. The Borrower and any other parties, represent that all statements and information contained in the Related Documents is true and accurate as of the date of the request for credit;

B. No Event of Default. There has been no default, event of default or event that would constitute a default or event of default (pending giving of notice or a lapse of time or both), of any provision of this agreement, the Notes or any other Related Documents or would result from the extension of credit;

C. Loan Documents. The Notes, and any other documents which the Bank may reasonably require to give effect to the transactions described in this agreement or the other Related Documents have been delivered to the Bank in form and substance satisfactory to the Bank;

D. Organizational and Authorizing Documents. The Organizational Documents and all certificates of authority to transact business, certificates of good standing, borrowing resolutions, appointments, officer's certificates, certificates of incumbency, and other documents which empower and authorize or evidence the power and authority of the Borrower or any Obligor to execute and deliver the Notes and Related Documents (i) are within its powers, (ii) have been duly authorized by all necessary action of its governing body, (iii) do not contravene the terms of its Organizational Documents or other agreement or document governing its affairs, and (iv) have been delivered to the Bank in a form and substance satisfactory to the Bank; and

E. No Prohibition or Onerous Conditions. The making of the extension of credit is not prohibited by and does not subject the Bank, any Obligor, or any Subsidiary of the Borrower to any penalty or onerous condition.

4. Affirmative Covenants. The Borrower agrees to do, and cause each of its Subsidiaries to do, each of the following:

4.1 Insurance. Maintain insurance with financially sound and reputable insurers, that are satisfactory to the Bank. The insurance will cover its Property and business against those casualties and contingencies and in the types and amounts according to sound business and industry practices, and furnish to the Bank, upon request, reports on each existing insurance policy showing such information as the Bank may reasonably request.

4.2 Financial Records. Maintain proper books and records according to GAAP, that are consistent with financial statements previously submitted to the Bank.

4.3 Inspection. Permit the Bank, and its agents to: (a) inspect and photograph its Property, to examine and copy files, books and records, and to discuss its business, operations, prospects, assets, and financial condition with the Borrower's or its Subsidiaries' officers and accountants, at times and intervals as the Bank reasonably determines; (b) perform audits, appraisals or other inspections of the Collateral, including the records and documents related to the Collateral; and (c) confirm with any Person any obligations and liabilities of the Person to the Borrower or its Subsidiaries. The Borrower will, and will cause its Subsidiaries to cooperate with any inspection, appraisal or audit. The Borrower will promptly pay the Bank the reasonable costs and expenses of any audit or inspection of the Collateral (including fees and expenses charged internally by the Bank).

4.4 Other Agreements. Comply with all terms and conditions of all material agreements, whether now or hereafter existing, between it and any other Person.

4.5 Financial Reports. Furnish to the Bank whatever information, statements, books and records the Bank may from time to time reasonably request, including at a minimum:

A. Within forty-five (45) days after and as of the end of each fiscal quarter, the consolidated financial statements of the Borrower and its Subsidiaries prepared in accordance with GAAP, including a balance sheet as of the end of that period, and income statement for that period, and, if requested by the Bank, statements of cash flow and retained earnings for that period, all certified as correct by one of its authorized agents; provided, that to the extent any of the foregoing is available on the SEC EDGAR website, delivery to the Bank shall be deemed to have occurred upon availability of such financial statements on such website.

B. Within one hundred and twenty (120) days after and as of the end of each of its fiscal years, the consolidated financial statements of the Borrower and its Subsidiaries prepared in accordance with GAAP, including a balance sheet and statements of income, cash flow and retained earnings, such financial statements to be audited by an independent certified public accountant of recognized standing satisfactory to the Bank; provided, that to the extent any of the foregoing is available on the SEC EDGAR website, delivery to the Bank shall be deemed to have occurred upon availability of such financial statements on such website.

C. Within forty-five (45) days after each fiscal year end, the projected financial statements for the fiscal year then commencing, all in form and detail as is acceptable to the Bank.

D. Compliance Certificates. Provide the Bank, within forty-five (45) days after the end of each fiscal quarter and at such other times as the Bank may request, with a Compliance Certificate in form satisfactory to the Bank, certified and executed by Borrower's chief financial officer, or other officer satisfactory to the Bank. In the event of a conflict between this agreement and the Compliance Certificate, the terms of this agreement shall control.

4.6 Notices of Claims, Litigation, Defaults, etc. Promptly inform the Bank in writing of: (1) all existing and threatened litigation, claims, investigations, administrative proceedings and similar actions or changes in Legal Requirements affecting it, of which it has knowledge, and could materially affect its business, assets, affairs, prospects or financial condition; (2) the occurrence of any event which gives rise to the Bank's option to terminate the Credit Facilities; (3) any additions to or changes in the locations of its businesses; and (4) any alleged breach by the Bank of any provision of this agreement or of any other Related Document.

4.7 Title to Assets and Property. Maintain good and marketable title to all of its Properties, and defend them against all claims and demands of all Persons at any time claiming any interest in them.

4.8 Additional Assurances. Promptly make, execute and deliver any and all agreements, documents, and instruments that the Bank may request to evidence any of the Credit Facilities, cure any defect in the execution and delivery of any of the Related Documents, perfect any Lien or comply with any Legal Requirement applicable to the Bank or the Credit Facilities.

4.9 Employee Benefit Plans. Maintain each employee benefit plan as to which it may have any liability, in compliance with all Legal Requirements.

4.10 Banking Relationship. Establish and maintain its primary banking depository and disbursement relationship with the Bank.

4.11 Compliance with Anti-Corruption Laws and Sanctions. Maintain in effect and enforce policies and procedures designed to ensure compliance by the Borrower, its Subsidiaries and their respective directors, officers, employees and agents with Anti-Corruption Laws and applicable Sanctions.

5. Negative Covenants.

5.1 Without the Bank's prior written consent, the Borrower will not and no Subsidiary of the Borrower will:

A. Distributions. Redeem, retire, purchase or otherwise acquire, directly or indirectly, any of its Equity Interests, return any contribution to an Equity Owner or, other than stock dividends and dividends paid to the Borrower, declare or pay any Distributions; provided, however, that if there is no existing default under this agreement or any other Related Document and to do so will not cause a default under this agreement or any other Related Document the Borrower may pay Distributions to its Equity Owners.

B. Debt. Incur, contract for, assume, or permit to remain outstanding, indebtedness for borrowed money, installment obligations, or obligations under finance leases, other than (1) unsecured trade debt incurred in the ordinary course of business, (2) indebtedness owing to the Bank, (3) indebtedness outstanding as of the date hereof that has been disclosed to the Bank in writing and that is not to be paid with proceeds of borrowings under the Credit Facilities, and (4) purchase money indebtedness of up to $2,000,000.00 in the aggregate principal amount at any time outstanding.

C. Guaranties. Guarantee or otherwise become or remain liable on the undertaking of another.

D. Liens. Create or permit to exist any Lien on any of its Property except: existing Liens known to and approved by the Bank; Liens to the Bank; Liens incurred in the ordinary course of business securing current non- delinquent liabilities for taxes, worker’s compensation, unemployment insurance, social security and pension liabilities; and purchase money security interests which secure any purchase money indebtedness permitted under this agreement.

E. Use of Proceeds. Use any proceeds of the Credit Facilities: (1) for any personal, family or household purpose; (2) for the purpose of "purchasing or carrying any margin stock" within the meaning of Federal Reserve Board Regulation U; (3) in furtherance of an offer, payment, promise to pay, or authorization of the payment or giving of money, or anything else of value, to any Person in violation of any Anti-Corruption Laws; (4) for the purpose of funding, financing or facilitating any activities, business or transaction of or with any Sanctioned Person, or in any Sanctioned Country except to the extent permitted for a person required to comply with Sanctions; or (5) in any manner that would result in the violation of any Sanctions.

F. Business Operations and Continuity of Operations. (1) Engage in any business activities (a) in violation of any Legal Requirement; (b) substantially different from those in which it is presently engaged; (2) fail to maintain its existence, cease operations, liquidate, merge, transfer, acquire or consolidate with any other Person, change its name, dissolve, divide, or allocate any assets under any plan of division or similar arrangement, create any series limited liability company, allocate any property to any series, or sell any assets out of the ordinary course of business; (3) enter into or permit to exist any arrangement with any Person providing for the leasing by it of Property which has been sold or transferred by it to such Person; (4) change its business organization, the jurisdiction under which its business organization is formed or organized, or its chief executive office, or any places of its businesses; or (5) if the Borrower is an individual, change the name on his/her driver's license or state issued identification card, as applicable, without notifying the Bank within thirty (30) days of the change, or change the state of his/her principal residence, without notifying the Bank within thirty (30) days of the change.

G. Limitation on Negative Pledge Clauses. Except as otherwise expressly permitted by this Agreement, enter into or permit to exist any agreement with any Person other than the Bank which prohibits or limits its ability to create or permit to exist any Lien on any of its Property, whether now owned or hereafter acquired.

H. Conflicting Agreements. Enter into or permit to exist any agreement containing any provision which would be violated or breached by the performance of its obligations under this agreement or any of the other Related Documents.

I. Transfer of Ownership. Permit any pledge, sale or other transfer of any Equity Interest in it.

J. Limitation on Loans, Advances, Investments, and Receivables. Purchase, hold or acquire any Equity Interest or evidence of indebtedness of, make or permit to exist any loans or advances to, permit to exist any receivable from, or make or permit to exist any investment or acquire any interest whatsoever in, any Person, except: (1) extensions of trade credit to customers in the ordinary course of business on ordinary terms; (2) commercial paper, certificates of deposit, US Treasury or other governmental agency obligations; and (3) loans, advances, investments and receivables existing as of the date of this agreement that have been disclosed to and approved by the Bank in writing and that are not to be paid with proceeds of borrowings under the Credit Facilities.

K. Organizational Documents. Unless at least thirty (30) day prior written notice is provided to the Bank, amend or modify any of its Organizational Documents.

L. Government Regulation. (1) Be or become subject at any time to any Legal Requirement or list of any government agency (including, without limitation, the U.S. Office of Foreign Asset Control list) that prohibits or limits the Bank from making any advance or extension of credit to it or from otherwise conducting business with it, or (2) fail to provide documentary and other evidence of its identity as may be requested by the Bank at any time to enable the Bank to verify its identity or to comply with any applicable Legal Requirement, including, without limitation, Section 326 of the USA Patriot Act of 2001, 31 U.S.C. Section 5318.

M. Subsidiaries. Form, create or acquire any Subsidiary.

5.2 Financial Covenants. Without the prior written consent of the Bank, the Borrower will not:

A. Fixed Charge Coverage Ratio. Permit at any fiscal quarter end the Fixed Charge Coverage Ratio to be less than 1.25 to 1.00. As used in this subsection, the term "**Fixed Charge Coverage Ratio**" means the ratio, computed for the Borrower and its Subsidiaries on a consolidated basis, of

(a) Net Income plus income tax expense, plus amortization expense, plus depreciation expense, plus interest expense, and plus dividends received from joint ventures, minus Unfinanced Capital Expenditures, and minus equity in income from joint ventures, all computed for the twelve month period then ending, to

(b) scheduled principal payments made, plus scheduled finance lease payments made, plus interest expense paid, plus income tax expense paid, and plus cash Distributions paid, all computed for the same twelve month period then ending.

5.3 Financial Statement Calculations. The financial covenant(s) set forth in Section 5.2 entitled "Financial Covenants", except as may be otherwise expressly provided with respect to any particular financial covenant, shall be calculated on the basis of the Borrower's financial statements prepared on a consolidated basis with its Subsidiaries in accordance with GAAP, provided that, if after the date hereof there occurs any change in GAAP or in the application thereof on the operation of any provision hereof and the Bank notifies the Borrower that the Bank requests an amendment to any provision hereof for such purpose, regardless of whether any such notice is given before or after such change in GAAP or in the application thereof, then such provision shall be interpreted on the basis of GAAP as in effect and applied immediately before such change shall have become effective until such provision is amended in accordance herewith. Notwithstanding the foregoing, for purposes of determining compliance with any financial covenant contained herein, the effects of FASB Accounting Standards Update 2016- 02 (Topic 842) shall be disregarded.

6. Representations.

6.1 Representations and Warranties by the Borrower. To induce the Bank to enter into this agreement, the Borrower represents and warrants as of the date of this agreement and as of the date of each request for credit under the Credit Facilities that each of the following statements is true and correct and shall remain so until all Credit Facilities and all Liabilities under the Notes and other Related Documents are paid in full:

(a) its name as it appears in this agreement is its exact name as it appears in its most recently filed public organic record and other Organizational Documents,

(b) the execution and delivery of this agreement and the other Related Documents to which it is a party, and the performance of the obligations they impose, do not violate any Legal Requirement, conflict with any agreement by which it is bound, or require the consent or approval of any other Person,

(c) this agreement and the other Related Documents have been duly authorized, executed and delivered by all parties thereto (other than the Bank) and are valid, enforceable and binding agreements, except as may be limited by bankruptcy, insolvency or other laws affecting the enforcement of creditors' rights generally and by general principles of equity,

(d) all balance sheets, profit and loss statements, and other financial statements and other information furnished to the Bank are accurate and fairly reflect the financial condition of the Persons to which they apply on their effective dates, which financial condition has not changed materially and adversely since those dates,

(e) no litigation, claim, investigation, administrative proceeding or similar action is pending or threatened against it, and no other event has occurred which may materially affect it or any of its Subsidiaries' financial condition, properties, business, affairs or operations, other than litigation, claims, or other events, if any, that have been disclosed to and acknowledged by the Bank in writing,

(f) all of its tax returns and reports that are or were required to be filed, have been filed (or extensions with respect to such returns and reports were timely filed), and all taxes, assessments and other governmental charges have been paid in full, except those presently being contested by it in good faith and for which adequate reserves have been provided,

(g) it is not an "investment company" or a company "controlled" by an "investment company", within the meaning of the Investment Company Act of 1940, as amended,

(h) there are no defenses or counterclaims, offsets or adverse claims, demands or actions of any kind, personal or otherwise, that it could assert with respect to this agreement or the Credit Facilities,

(i) it owns, or is licensed to use, all material trademarks, trade names, copyrights, technology, know-how and processes necessary for the continued current conduct of its business, and

(j) there has been no default, event of default or event that would constitute a default or event of default (pending giving of notice or a lapse of time or both), of any provision of this agreement, the Notes or any other Related Documents.

6.2 Representations and Warranties Regarding Anti-Corruption Laws and Sanctions. The Borrower represents and warrants as of the date of this agreement and as of the date of each request for credit under the Credit Facilities that the Borrower has implemented and maintains in effect policies and procedures designed to ensure compliance by the Borrower, its Subsidiaries and their respective directors, officers, employees and agents with Anti-Corruption Laws and applicable Sanctions, and the Borrower, its Subsidiaries and their respective directors and officers and to the knowledge of the Borrower its employees and agents, are in compliance with Anti-Corruption Laws and applicable Sanctions in all material respects. None of (a) the Borrower, any Subsidiary, any of their respective directors, officers or to the knowledge of the Borrower employees, or (b) to the knowledge of the Borrower, any agent of the Borrower or any Subsidiary that will act in any capacity in connection with or benefit from the credit facility established hereby, is a Sanctioned Person. No advance, letter of credit, use of proceeds or other transaction contemplated by the Credit Facilities will violate Anti-Corruption Laws or applicable Sanctions.

7. Default/Remedies.

7.1 Events of Default/Acceleration. If any of the following events occurs, the Notes shall become due immediately, without notice, at the Bank's option:

A. Any Obligor fails to pay when due any of the Liabilities, or any amount payable with respect to any of the Liabilities, or under any Note, any other Related Document.

B. Any Obligor or any of its Subsidiaries: (i) fails to observe or perform any term, covenant, condition or agreement of any of the Related Documents or any other agreement, now or hereafter in effect, with the Bank, or any Affiliate of the Bank or their respective successors and assigns and such failure continues for a period of thirty (30) days after notice thereof by the Bank; or (ii) makes any materially incorrect or misleading representation to the Bank.

C. Any Obligor (i) terminates or revokes or purports to terminate or revoke its guaranty or any Obligor's guaranty becomes unenforceable in whole or in part; or (ii) fails to perform promptly under its guaranty.

D. Any Obligor or any of its Subsidiaries (i) defaults under the terms of any agreement or instrument relating to any debt for borrowed money (other than the debt evidenced by the Related Documents) and the effect of such default will allow the creditor to declare the debt due before its stated maturity; or (ii) fails to pay when due any other debt to any Person (including the Bank), or under any agreement or instrument evidencing other debt to any Person.

E. There is any loss, theft, damage, or destruction of any Collateral not covered by insurance.

F. Any event occurs that would permit the Pension Benefit Guaranty Corporation to terminate any employee benefit plan of any Obligor or any Subsidiary of any Obligor.

G. Any Obligor or any of its Subsidiaries: (i) becomes insolvent or unable to pay its debts as they become due; (ii) makes an assignment for the benefit of creditors; (iii) consents to or commences any proceeding under any bankruptcy, reorganization, liquidation, insolvency or similar laws; (iv) conceals or removes any of its Property, with intent to hinder, delay or defraud any of its creditors; (v) makes or permits a transfer of any of its Property, which may be fraudulent under any bankruptcy, fraudulent conveyance or similar law; or (vi) makes a transfer of any of its Property to or for the benefit of a creditor at a time when other creditors similarly situated have not been paid.

H. A custodian, receiver, or trustee is appointed for any Obligor or any of its Subsidiaries or for a substantial part of their respective Property.

I. Any Obligor or any of its Subsidiaries, without the Bank's prior written consent: (i) liquidates, divides or allocates any assets under a plan of division or similar arrangement, creates any series limited liability company, allocates any property to any series, or is dissolved; (ii) merges or consolidates with any other Person; (iii) leases, sells or otherwise conveys a material part of its assets or business outside the ordinary course of its business; (iv) leases, purchases, or otherwise acquires a material part of the assets of any other Person, except in the ordinary course of its business; or (v) agrees to do any of the foregoing; provided, however, that any Subsidiary of an Obligor may merge or consolidate with any other Subsidiary of that Obligor, or with the Obligor, so long as the Obligor is the survivor.

J. Proceedings are commenced under any bankruptcy, reorganization, liquidation, or similar laws against any Obligor or any of its Subsidiaries and remain undismissed for sixty (60) days after commencement; or any Obligor or any of its Subsidiaries consents to the commencement of those proceedings.

K. Any judgment in excess of $100,000.00 not covered by insurance is entered against any Obligor or any of its Subsidiaries that remains undischarged for a period of thirty (30) consecutive days during which execution shall not be effectively stayed, or any attachment, seizure, sequestration, levy, or garnishment is issued against any Property of any Obligor or any of its Subsidiaries or any Collateral.

L. Any individual Obligor dies, or a guardian or conservator is appointed for any individual Obligor or all or any portion of their respective Property, or the Collateral.

M. Any material adverse change occurs in: (i) the Property, financial condition, business, assets, prospects, liabilities, or operations of any Obligor or any of its Subsidiaries; (ii) any Obligor's ability to perform its obligations under the Related Documents; or (iii) the Collateral.

7.2 Remedies. At any time after the occurrence of a default, the Bank may do one or more of the following: (a) cease permitting the Borrower to incur any Liabilities; (b) terminate any commitment of the Bank evidenced by any of the Notes; (c) declare any of the Notes to be immediately due and payable, without notice of acceleration, presentment and demand or protest or notice of any kind, all of which are hereby expressly waived; (d) exercise all rights of setoff; and (e) exercise any and all other rights pursuant to any of the Related Documents.

A. Generally. The rights of the Bank under this agreement and the other Related Documents are in addition to other rights (including without limitation, other rights of setoff) the Bank may have contractually, by law, in equity or otherwise, all of which are cumulative and hereby retained by the Bank. Each Obligor agrees to stand still with regard to the Bank's enforcement of its rights, including taking no action to delay, impede or otherwise interfere with the Bank's rights to realize on any Collateral.

B. Bank's Right of Setoff. If default shall have occurred, the Bank and each of its Affiliates is hereby authorized at any time and from time to time, to the fullest extent permitted by law, to set off and apply any and all deposits (general or special time or demand, provisional or final) at any time held and other obligations at any time owing by the Bank or any Affiliate to or for the credit or the account of any Borrower against any of and all the Liabilities, irrespective of whether or not the Bank shall have made any demand under the Related Documents and although such obligations may be unmatured. The rights of the Bank under this Section are in addition to other rights and remedies (including other rights of setoff) which the Bank may have.

8. Miscellaneous.

8.1 Notice. Any notices and demands under or related to this agreement shall be in writing and delivered to the Borrower at its address stated in this agreement and if to the Bank, Manager Wholesale Lending Services, JPMorgan Chase Bank, N.A., 10 S. Dearborn, IL1-1145 (Floor L2), Chicago, IL 60603-2300 with a copy addressed to Kyle Siebold, JPMorgan Chase Bank, N.A., 650 3rd. Ave. S. Ste 450 Flr 4, Minneapolis, WI 55402, by one of the following means: (a) by hand; (b) by overnight courier service; or (c) by certified or registered mail. Notice shall be deemed given upon receipt. Any party may change its address for purposes of the receipt of notices and demands by giving notice of the change in the manner provided in this provision.

8.2 Statements. The Bank may provide the Borrower with account statements or invoices with respect to any of the Liabilities ("Statements"). Unless otherwise agreed to herein, the Bank is under no duty or obligation to provide Statements, which, if provided, will be solely for the Borrower's convenience. Statements may contain estimates of the amounts owed during the relevant billing period, whether of principal, interest, fees or other Liabilities. If the Borrower pays the full amount indicated on a Statement on or before the due date indicated on such Statement, the Borrower shall not be in default of payment with respect to the billing period indicated on such Statement; provided, that acceptance by the Bank of any payment that is less than the total amount actually due at that time (including but not limited to any past due amounts) shall not constitute a waiver of the Bank's right to receive payment in full at another time.

8.3 No Waiver. No delay on the part of the Bank in the exercise of any right or remedy waives that right or remedy. No single or partial exercise by the Bank of any right or remedy precludes any other future exercise of it or the exercise of any other right or remedy. The making of an advance during the existence of any default or subsequent to the occurrence of a default or when all conditions precedent have not been met shall not constitute a waiver of the default or condition precedent. No waiver or indulgence by the Bank of any default is effective unless it is in writing and signed by the Bank, nor shall a waiver on one occasion bar or waive that right on any future occasion.

8.4 Integration; Severability. This agreement, the Notes, and the other Related Documents embody the entire agreement and understanding between the Borrower and the Bank and supersede all prior agreements and understandings relating to their subject matter. If any one or more of the obligations of the Borrower under this agreement, the Notes, or the other Related Documents or any provision thereof is held to be invalid, illegal or unenforceable in any jurisdiction, the validity, legality and enforceability of the remaining obligations of the Borrower and the remaining provisions shall not in any way be affected or impaired; and the invalidity, illegality or unenforceability in one jurisdiction shall not affect the validity, legality or enforceability of such obligations or provisions in any other jurisdiction.

8.5 Governing Law and Venue. This agreement and (unless stated otherwise therein) all Related Documents shall be governed by and construed in accordance with the laws of the State of Illinois (without giving effect to its laws of conflicts). The Borrower agrees that any legal action or proceeding with respect to any of its obligations under this agreement may be brought by the Bank in any state or federal court located in the State of Illinois, as the Bank in its sole discretion may elect. By the execution and delivery of this agreement, the Borrower submits to and accepts, for itself and in respect of its property, generally and unconditionally, the non-exclusive jurisdiction of those courts. The Borrower waives any claim that the State of Illinois is not a convenient forum or the proper venue for any such suit, action or proceeding.

8.6 Non-Liability of the Bank. The relationship between the Borrower on one hand and the Bank on the other hand shall be solely that of borrower and lender. The Bank shall have no fiduciary obligations to the Borrower. The Bank is not to be deemed an Affiliate of the Borrower or any of its Subsidiaries.

8.7 Indemnification of the Bank. The Borrower agrees to indemnify, defend and hold the Bank, its parent companies, Subsidiaries, Affiliates, their respective successors and assigns and each of their respective shareholders, directors, officers, employees and agents (collectively, the "**Indemnified Persons** ") harmless for, from any and against any and all loss, liability, obligation, damage, penalty, judgment, claim, deficiency, expense, interest, penalties, attorneys' fees (including the fees and expenses of any attorneys engaged by the Indemnified Person) and amounts paid in settlement ("**Claims**") to which any Indemnified Person may become subject both before and after judgment, arising out of or relating to the Credit Facilities, the Liabilities under this agreement or any other Related Documents or the Collateral, except to the limited extent that the Claims are proximately caused by the Indemnified Person's willful misconduct. The indemnification provided for in this paragraph shall survive the termination of this agreement and shall not be affected by the presence, absence or amount of or the payment or nonpayment of any claim under, any insurance.

8.8 Counterparts; Effectiveness. This agreement and any Related Document may be executed in multiple counterparts, each of which, when so executed, shall be deemed an original, but all such counterparts, taken together, shall constitute one and the same of such agreement or document. Except as provided in Section 3 entitled "Conditions Precedent to Extensions of Credit", this agreement will become effective when both (1) it has been executed by the Bank and (2) the Bank has received counterparts to this agreement which, when taken together, bear the signatures of each of the other parties hereto.

8.9 Advice of Counsel. The Borrower acknowledges that it has had the opportunity to be advised by counsel, in the negotiation, execution and delivery of this agreement and any other Related Documents.

8.10 Recovery of Additional Costs. If the imposition of or any change in any Legal Requirement, or the interpretation or application of any thereof by any court or administrative or governmental authority (including any request or policy not having the force of law) shall impose, modify, or make applicable any taxes (except federal, state, or local income or franchise taxes imposed on the Bank), reserve requirements, liquidity requirements, capital adequacy requirements, Federal Deposit Insurance Corporation (FDIC) deposit insurance premiums or assessments, or other obligations which would (A) increase the cost to the Bank for extending, maintaining or funding the Credit Facilities, (B) reduce the amounts payable to the Bank under the Credit Facilities, or (C) reduce the rate of return on the Bank's capital as a consequence of the Bank's obligations with respect to the Credit Facilities, then the Borrower agrees to pay the Bank such additional amounts as will compensate the Bank therefor, within five (5) days after the Bank's written demand for such payment. The Bank's demand shall be accompanied by an explanation of such imposition or charge and a calculation in reasonable detail of the additional amounts payable by the Borrower, which explanation and calculations shall be conclusive in the absence of manifest error.

8.11 Expenses. To the extent not prohibited by law, and regardless of whether the transactions contemplated by this agreement are consummated, the Borrower is liable to the Bank and agrees to pay on demand all reasonable costs and expenses of every kind incurred (or charged by internal allocation) in connection with the negotiating, preparing, making, servicing and collection (in bankruptcy or otherwise) of the Credit Facilities and the realization on any Collateral and any other amounts owed under this agreement or the Related Documents, both before and after judgment, including without limitation reasonable attorneys' fees and court costs. The obligations of the Borrower under this section shall survive the termination of this agreement.

8.12 **Assignments.** The Borrower agrees that the Bank may at any time sell, assign or transfer one or more interests or participations in all or any part of its rights and obligations in the Notes to one or more purchasers whether or not related to the Bank. Notwithstanding anything to the contrary in this agreement, the Bank may at any time pledge or assign a security interest in all of any portion of its rights under this agreement to secure obligations of the Bank to a Federal Reserve Bank or a Federal Home Loan Bank; provided that no such pledge or assignment shall release the Bank from any of its obligations hereunder or substitute any such pledgee or assignee for the Bank as a party hereto.

8.13 **Marketing Consent.** The Borrower hereby authorizes the Bank, at Bank's sole expense, and without any prior approval by or compensation to the Borrower, to include the Borrower's name and logo in advertising, marketing, tombstones, case studies and training materials, posted on the Internet (including social media), on the Bank's Intranet, in pitchbooks and materials sent to prospective and existing customers, in newspapers or journals and to give such other publicity to this agreement and any related products and services, as Bank may from time to time determine in its sole discretion.

8.14 **Waivers.** To the maximum extent not prohibited by applicable Legal Requirements, the Borrower waives (a) any right to receive notice of the following matters before the Bank enforces any of its rights: (i) any demand, diligence, presentment, dishonor and protest, or (ii) any action that the Bank takes regarding any Person, any Collateral, or any of the Liabilities, that it might be entitled to by law or under any other agreement; (b) any right to require the Bank to proceed against the Borrower, any other Obligor or any Collateral, or pursue any remedy in the Bank's power to pursue; (c) any defense based on any claim that any Obligor's obligations exceed or are more burdensome than those of the Borrower; (d) the benefit of any statute of limitations affecting liability of any Obligor or the enforcement hereof; (e) any defense arising by reason of any disability or other defense of the Borrower or by reason of the cessation from any cause whatsoever (other than payment in full) of the obligation of the Borrower for the Liabilities; and (f) any defense based on or arising out of any defense that the Borrower may have to the payment or performance of the Liabilities or any portion thereof. Each Obligor consents to any extension or postponement of time of its payment without limit as to the number or period, to any substitution, exchange or release of all or any part of any Collateral, to the addition of any other party, and to the release or discharge of, or suspension of any rights and remedies against, any Obligor.

8.15 **Confidentiality.** The Bank agrees that it will treat information provided by the Borrower or its representatives to the Bank (the "**Information**") as confidential; provided, however, that the Bank may disclose the Information (a) to its Affiliates and its and its Affiliates' directors, employees, officers, auditors, consultants, agents, counsel and advisors (such Affiliates and such Persons collectively, "**Representatives**"), it being understood that its Representatives shall be informed by the Bank of the confidential nature of such Information and be instructed to comply with the terms of this section to the same extent as is required of the Bank hereunder; (b) in response to a subpoena or other legal process, or as may otherwise be required by law, order or regulation, or upon the request or demand of any governmental or regulatory agency or authority having jurisdiction over the Bank or its Representatives or to defend or prosecute a claim brought against or by the Bank and/or its Representatives; (c) to actual and prospective assignees, actual and prospective participants, and actual and prospective swap counterparties, provided that all such participants, assignees or swap counterparties execute an agreement with the Bank containing provisions substantially the same as those contained in this section; (d) to holders of Equity Interests in the Borrower, other than holders of any Equity Interest in a publicly traded company; (e) to any Obligor; and (f) with the Borrower's consent. The restrictions contained in this section shall not apply to Information which (a) is or becomes generally available to the public other than as a result of a disclosure by the Bank or its Representatives in breach of this section, or (b) becomes available to the Bank or its Representatives from a source, other than the Borrower or one of its agents, who is not known to the Bank or its Representatives to be bound by any obligations of confidentiality to the Borrower, or (c) was known to the Bank or its Representatives prior to its disclosure to the Bank or its Representatives by the Borrower or one of its agents or was independently developed by the Bank or its Representatives, or (d) was or is, after the date hereof, disclosed (or required to be disclosed) by the Borrower to the Bank or any of its Representatives under or in connection with any existing financing relationship between the Borrower and the Bank or any of its Representatives, the disclosure of which shall be governed by the agreements executed in connection with such financing relationship. Any Person required to maintain the confidentiality of the Information as provided in this section shall be considered to have complied with its obligation to do so if such Person has exercised the same degree of care to maintain the confidentiality of such Information as such Person would accord to its own confidential information.

8.16 Electronic Signature. Delivery of an executed counterpart of a signature page of this document and any Related Document that is an Electronic Signature transmitted by telecopy, emailed pdf. or any other electronic means that reproduces an image of an actual executed signature page shall be effective as delivery of a manually executed counterpart of such document. The words "execution," "signed," "signature," "delivery," and words of like import in or relating to this document and any Related Document shall be deemed to include Electronic Signatures, deliveries or the keeping of records in any electronic form (including deliveries by telecopy, emailed pdf. or any other electronic means that reproduces an image of an actual executed signature page), each of which shall be of the same legal effect, validity or enforceability as a manually executed signature, physical delivery thereof or the use of a paper-based recordkeeping system, as the case may be; provided that nothing herein shall require the Bank to accept Electronic Signatures in any form or format without its prior written consent and pursuant to procedures approved by it. If the Bank agrees to accept any Electronic Signature, it shall be entitled to rely on such Electronic Signature purportedly given by or on behalf of the signer(s) without further verification thereof and without any obligation to review the appearance or form of any such Electronic Signature and any Electronic Signature shall be promptly followed by a manually executed counterpart. Without limiting the generality of the foregoing, the signer(s) hereby (i) agrees that, for all purposes, including without limitation, in connection with any workout, restructuring, enforcement of remedies, bankruptcy proceedings or litigation among the Bank and signer(s) of this document or any Related Document, Electronic Signatures transmitted by telecopy, emailed pdf. or any other electronic means that reproduces an image of an actual executed signature page and/or any electronic images of this document and any Related Document shall have the same legal effect, validity and enforceability as any paper original, (ii) agrees that the Bank may, at its option, create one or more copies of this document and any Related Document in the form of an imaged electronic record in any format, which shall be deemed created in the ordinary course of such Person's business, and destroy the original paper document (and all such electronic records shall be considered an original for all purposes and shall have the same legal effect, validity and enforceability as a paper record), (iii) waives any argument, defense or right to contest the legal effect, validity or enforceability of this document and any Related Document based solely on the lack of paper original copies of this document and any Related Document, respectively, including with respect to any signature pages thereto and (iv) waives any claim against the Bank for any liabilities arising solely from the Bank's reliance on or use of Electronic Signatures and/or transmissions by telecopy, emailed pdf. or any other electronic means that reproduces an image of an actual executed signature page, including any liabilities arising as a result of the failure of the signer(s) hereto to use any available security measures in connection with the execution, delivery or transmission of any Electronic Signature. For purposes of this section, **"Electronic Signature"** shall mean, an electronic sound, symbol, or process attached to, or associated with, a contract or other record and adopted by a Person with the intent to sign, authenticate or accept such contract or record.

8.17 Limitation of Liability. To the extent permitted by applicable law (i) the signer(s) hereto shall not assert, and the signer(s) hereto hereby waives, any claim against the Bank for any liabilities arising from the use by others of information or other materials (including, without limitation, any personal data) obtained through telecommunications, electronic or other information transmission systems (including the Internet), and (ii) no party hereto shall assert, and each such party hereby waives, any liabilities against any other party hereto, on any theory of liability, for special, indirect, consequential or punitive damages (as opposed to direct or actual damages) arising out of, in connection with, or as a result of, this Agreement, any other Related Document, or any agreement or instrument contemplated hereby or thereby, the Credit Facilities or the use of the proceeds thereof; provided that, nothing in this clause shall relieve the Borrower of any obligation it may have to indemnify an Indemnified Person against special, indirect, consequential or punitive damages asserted against such Indemnified Person by a third party.

9. USA PATRIOT ACT NOTIFICATION. The following notification is provided to the Borrower pursuant to Section 326 of the USA Patriot Act of 2001, 31 U.S.C. Section 5318:

IMPORTANT INFORMATION ABOUT PROCEDURES FOR OPENING A NEW ACCOUNT. To help the government fight the funding of terrorism and money laundering activities, Federal law requires all financial institutions to obtain, verify, and record information that identifies each Person that opens an account, including any deposit account, treasury management account, loan, other extension of credit, or other financial services product. What this means for the Borrower: When the Borrower opens an account, if it is an individual the Bank will ask for its name, taxpayer identification number, residential address, date of birth, and other information that will allow the Bank to identify it, and, if it is not an individual the Bank will ask for its name, taxpayer identification number, business address, and other information that will allow the Bank to identify it. The Bank may also ask, if the Borrower is an individual, to see its driver's license or other identifying documents, and if it is not an individual, to see its Organizational Documents or other identifying documents.

10. WAIVER OF SPECIAL DAMAGES. WITH RESPECT TO THIS AGREEMENT AND ALL RELATED DOCUMENTS, THE BORROWER WAIVES, TO THE MAXIMUM EXTENT NOT PROHIBITED BY LAW, ANY RIGHT THE UNDERSIGNED MAY HAVE TO CLAIM OR RECOVER FROM THE BANK IN ANY LEGAL ACTION OR PROCEEDING ANY SPECIAL, EXEMPLARY, PUNITIVE OR CONSEQUENTIAL DAMAGES.

11. **JURY WAIVER.** TO THE MAXIMUM EXTENT NOT PROHIBITED BY APPLICABLE LAW, THE BORROWER AND THE BANK (BY ITS ACCEPTANCE HEREOF) HEREBY VOLUNTARILY, KNOWINGLY, IRREVOCABLY AND UNCONDITIONALLY WAIVE ANY RIGHT TO HAVE A JURY PARTICIPATE IN RESOLVING ANY DISPUTE (WHETHER BASED ON CONTRACT, TORT, OR OTHERWISE) BETWEEN THE BORROWER AND THE BANK ARISING OUT OF OR IN ANY WAY RELATED TO THIS AGREEMENT OR THE OTHER RELATED DOCUMENTS. THIS PROVISION IS A MATERIAL INDUCEMENT TO THE BANK TO PROVIDE THE FINANCING DESCRIBED HEREIN.

Borrower:
NORTHERN TECHNOLOGIES INTERNATIONAL CORPORATION

By: /c/Matthew C. Wolsfeld
Matthew C. Wolsfeld, Chief Financial Officer
Printed Name Title

Date Signed: 1/5/23

Bank:
JPMorgan Chase Bank, N.A.

By: /s/Martin A. Cherrney
Martin A. Cherrney, Authorized Officer
Printed Name Title

Date Signed: 1/5/23

Cynthia Svientek \ CDP-9471690000000 \ STRM
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COMPLIANCE CERTIFICATE

To: JPMorgan Chase Bank, N.A.

This Compliance Certificate (**"Certificate"**), for the period ended ________________, 20______, is furnished pursuant to that certain Credit Agreement dated as of December 19, 2022 (as amended, modified, renewed or extended from time to time, the **"Agreement"**) among NORTHERN TECHNOLOGIES INTERNATIONAL CORPORATION (the **"Borrower"**), and JPMorgan Chase Bank, N.A. (the **"Bank"**). Unless otherwise defined herein, capitalized terms used in this Compliance Certificate have the meanings ascribed thereto in the Agreement.

THE UNDERSIGNED HEREBY CERTIFIES THAT:

1. I am the ______________________ of the Borrower and I am authorized to deliver this Certificate on behalf of the Borrower and its Subsidiaries;

2. I have reviewed the terms of the Agreement and I have made, or have caused to be made under my supervision, a detailed review of the compliance of the Borrower and its Subsidiaries with the Agreement during the accounting period covered by the attached financial statements (the **"Relevant Period"**);

3. The attached financial statements of the Borrower and, as applicable, its Subsidiaries and/or Affiliates for the Relevant Period: (a) have been prepared on an accounting basis consistent with the requirements of the Agreement, and (b) to the extent that the attached are not the Borrower's annual fiscal year end statements, are subject to normal year-end audit adjustments and the absence of footnotes;

4. The examinations described in paragraph 2 did not disclose and I have no knowledge of, except as set forth below, (a) the existence of any condition or event which constitutes a default or an event of default under the Agreement or any other Related Document during or at the end of the Relevant Period that is continuing or as of the date of this Certificate, or which would, subject to the giving of notice or the lapse of time or both, constitute a default or event of default under the Agreement or any other Related Document during or at the end of the Relevant Period or as of the date of this Certificate or (b) any change in the accounting basis or in the application thereof that has occurred since the date of the annual financial statements delivered to the Bank in connection with the closing of the Agreement or subsequently delivered as required in the Agreement;

5. I hereby certify that, except as set forth below, no Obligor has, if applicable, changed its (i) name, (ii) chief executive office, (iii) principal place of business, (iv) the type of entity it is or (v) state of incorporation or organization without having received the Bank's prior written consent;

6. Schedule I attached hereto sets forth financial data and computations evidencing the Borrower's compliance with certain covenants of the Agreement, all of which data and computations are true, complete and correct; and

7. Described below are the exceptions, if any, referred to in paragraph 4 hereof by listing, in detail, the (i) nature of the condition or event, the period during which it has existed and the action which the Borrower has taken, is taking, or proposes to take with respect to each such condition or event or (ii) change in the accounting basis or the application thereof and the effect of such change on the attached financial statements:

____

____

____

The foregoing certifications, together with the computations set forth in Schedule I hereto and the financial statements delivered with this Certificate in support hereof, are made and delivered this ____ day of ______________, ______.

NORTHERN TECHNOLOGIES INTERNATIONAL CORPORATION

By:______________________________

Name:______________________________

Title:______________________________

Schedule I to Compliance Certificate for NORTHERN TECHNOLOGIES INTERNATIONAL CORPORATION
Financial Covenants

Compliance as of ________________, 20____(the **"Compliance Test Date"**) with
Certain covenants contained in the Agreement and
Supporting calculations attached hereto

5.2 **Financial Covenants**. Without the prior written consent of the Bank, the Borrower will not:

A. Fixed Charge Coverage Ratio. Permit at any fiscal quarter end the Fixed Charge Coverage Ratio to be less than 1.25 to 1.00. As used in this subsection, the term "**Fixed Charge Coverage Ratio**" means the ratio, computed for the Borrower and its Subsidiaries on a consolidated basis, of

A) Net Income	$
plus income tax expense	$
plus amortization expense	$
plus depreciation expense	$
plus interest expense	$
plus dividends received from joint ventures	$
minus Unfinanced Capital Expenditures	$
minus equity in income from joint ventures	$
A TOTAL	**$**
B) scheduled principal payments made	$
plus scheduled finance lease payments made	$
plus interest expense paid	$
plus income tax expense paid	$
plus cash Distributions paid	$
B TOTAL	**$**
A Total / B Total = Fixed Charge Coverage Ratio	**___:1.00**

As of the Compliance Test Date shown above, the **Fixed Charge Coverage Ratio** is _____._____ to 1.00

Compliance as of the Compliance Test Date shown above: [ ] Yes [ ] No

Exhibit 31.1

CERTIFICATION PURSUANT TO SECTION 302(a) OF THE SARBANES-OXLEY ACT OF 2002

I, G. Patrick Lynch, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Northern Technologies International Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: April 13, 2023

/s/ G. Patrick Lynch

G. Patrick Lynch
President and Chief Executive Officer
(principal executive officer)

Exhibit 31.2

CERTIFICATION PURSUANT TO SECTION 302(a) OF THE SARBANES-OXLEY ACT OF 2002

I, Matthew C. Wolsfeld, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Northern Technologies International Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: April 13, 2023

/s/ Matthew C. Wolsfeld
Matthew C. Wolsfeld, CPA
Chief Financial Officer and Corporate Secretary
(principal financial officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Northern Technologies International Corporation (the “Company”) for the period ended February 28, 2023, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, G. Patrick Lynch, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge and belief:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ G. Patrick Lynch
G. Patrick. Lynch
President and Chief Executive Officer
(principal executive officer)

Circle Pines, Minnesota
April 13, 2023

Exhibit 32.2

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Northern Technologies International Corporation (the “Company”) for the period ended February 28, 2023, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Matthew C. Wolsfeld, Chief Financial Officer and Corporate Secretary of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge and belief:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Matthew C. Wolsfeld
Matthew C. Wolsfeld, CPA
Chief Financial Officer and Corporate Secretary (principal financial officer)

Circle Pines, Minnesota
April 13, 2023