# MOODY'S INVESTORS SERVICE

# **CREDIT OPINION**

23 February 2024

# Update

# Send Your Feedback

#### RATINGS

#### A.P. Moller-Maersk A/S

Domicile	Copenhagen, Denmark
Long Term Rating	Baa1
Туре	LT Issuer Rating - Dom Curr
Outlook	Stable

Please see the <u>ratings section</u> at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

#### Contacts

Daniel Harlid VP-Senior Credit Officer daniel.harlid@moodys.co	+46.8.5179.1271
Stanislas Duquesnoy Associate Managing Direct stanislas.duquesnoy@mo	
Andreas Soteriou Senior Ratings Associate	+46.8.5179.1272

#### **CLIENT SERVICES**

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

# A.P. Moller-Maersk A/S

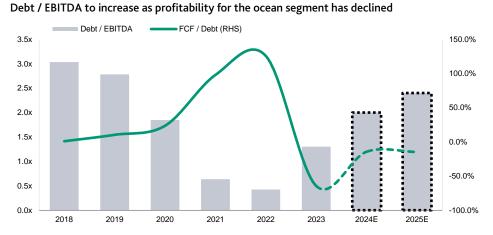
Update following ratings upgrade

## Summary

A.P. Moller-Maersk A/S's (Maersk) Baa1 long-term issuer rating with a positive outlook reflects as positive: (1) one of the largest container shipping and port terminal companies in the world with a growing presence in third-party-logistics (3PL); (2) track record of a more conservative financial policy during the last five years with a strong commitment to maintain an investment-grade rating; (3) stable shareholding and disciplined management; (4) excellent liquidity, supported by our expectations of positive free cash flow (FCF) generation through the cycle and (5) a strong commitment to reduce greenhouse gas emissions already by 2030 and to be net zero across its entire business by 2040.

The rating is constrained by: (1) the historically very volatile market dynamics in global container shipping; (2) a history of volatile and low EBIT margin in percentage terms, although typical for the sector; (3) integration and execution risk with regards to its Logistics and Services (L&S) division as it tries to build out an integrated logistics offering and (4) increased investment need because of its ambitious climate targets.

Exhibit 1



Projections are Moody's opinion and do not represent the views of the issuer Source: Financial Metrics™ and Moody's Investors Service estimates

# **Credit strengths**

- » Status as the second largest container shipping company globally, supported by its stable and profitable terminal business
- » Very strong balance sheet following large debt repayments
- » Strong liquidity, which underpins the clear commitment to an investment-grade rating
- » A supportive shareholder, with a track record of providing support

# **Credit challenges**

- » High reliance on the historically volatile and competitive container shipping industry
- » History of an EBIT margin in the low-single digits in percentage terms, although clearly not the case during the last two years
- » Integration and execution risks related to growth ambitions in logistics segment
- » Increasing investment need as the industry decarbonises

# **Key indicators**

#### Exhibit 2

## A.P. Møller-Mærsk A/S

	2018	2019	2020	2021	2022	2023	2024F	2025F
Size of fleet (number of ships)	710	708	706	738	707	679	679	679
EBIT Margin %	3.9%	4.9%	10.3%	32.2%	38.0%	10.1%	2.8%	0.5%
Debt / EBITDA	3.0x	2.8x	1.8x	0.6x	0.4x	1.3x	2.0x	2.4x
RCF / Net Debt	32%	37%	72%	-1,703%	-257%	23%	-301%	834%
(FFO + Interest Expense) / Interest Expense	6.0x	6.3x	10.0x	29.2x	44.7x	12.1x	8.6x	7.2x

All ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.

Projections are Moody's opinion and do not represent the views of the issuer

Source: Moody's Financial Metrics™ and Moody's Investors Service estimates

# **Rating outlook**

The stable rating outlook balances Maersk's financial flexibility and net cash position with the risk of the container shipping market performing even worse than in Moody's base case. Despite the risk of a Moody's-adjusted debt / EBITDA ratio that exceeds the downgrade trigger of 3.0x during the next 12-18 months, this is mitigated by the absence of net debt as cash will continue to be on or slightly below the company's debt level. Nevertheless, Moody's stresses that current geopolitical risks reduces visibility more than what is normal for the container shipping industry.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on https://ratings.moodys.com for the most updated credit rating action information and rating history.

## Factors that could lead to an upgrade

» Positive ratings pressure would require the company further diversifying its business profile such that non shipping related activities generate a meaningful share of group EBIT. Furthermore, the company is required to sustain a debt / EBITDA ratio below 2.0x while maintaining its very strong liquidity profile. This also includes generating positive free cash flow after shareholder remuneration over the cycle, as well as consistently reporting a high single digit EBIT margin percentage wise.

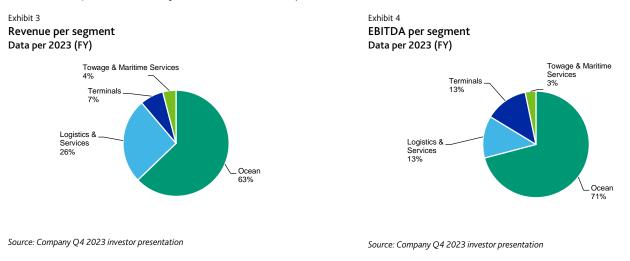
## Factors that could lead to a downgrade

» Negative ratings pressure could arise if the company's debt/EBITDA ratio increased toward 3.0x. Additionally, RCF/ net debt falling below 35%, negative free cash flow after shareholder remuneration or a weakened liquidity profile would cause negative pressure on ratings, as well as the company's EBIT-margin being below 5% on a sustained basis.

# Profile

Headquartered in Copenhagen, Denmark, A.P. Møller-Mærsk A/S (Maersk) is an integrated container logistics company. The company's main business areas encompass container shipping, port terminals and logistics. In 2023 Maersk reported revenue of \$51.1 billion and EBIT of \$3.9 billion.

In 1904, the Møller family founded the group, which today is one of the largest Danish companies listed on the Nasdaq-OMX Copenhagen, with a current market capitalization of around DKK230 billion. The largest shareholder is the A.P. Moller Foundation (A.P. Møller Fonden) which ultimately controls 55% of the capital and 72% of the votes<sup>1</sup>.



# **Detailed credit considerations**

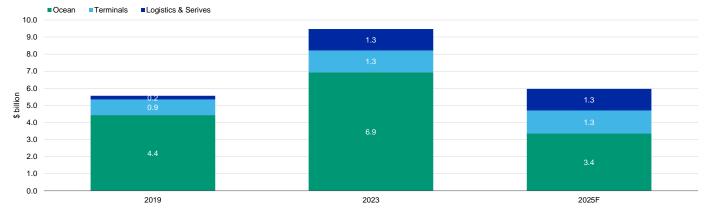
## One of the largest container shipping companies with growing presence in logistics

With a total fleet of 672 vessels (60% of nominal capacity is owned by the company and the remainder is leased), which carried around 24 million ton equivalent units (TEUs) in 2023, Maersk is the second largest container shipping company in the world. According to Alphaliner, the company holds the market-leading position in the trade lanes of Asia-Europe, Asia — North America, Intra-Americas, Latin America and Africa. Through APM terminals, the company operates one of the largest port terminal businesses in the world, with 59 terminals across 31 countries. In 2023, the division reported revenue of \$3.8 billion and EBIT of \$1.0 billion, making them the fourth largest terminal operator in the world after <u>DP World Limited</u> (Baa2 Stable), <u>PSA International Pte. Ltd.</u> (Aa1 Stable) and <u>Shanghai International Port (Group) Co., Ltd</u> (A1 Negative).

Over the last four years, Maersk has built up a sizeable logistics business consisting of hinterland and air transport, contract logistics and value adding services such as customs clearance. As seen in exhibit 5, EBITDA for the division grew to \$1.3 billion in 2023 from \$200 million in 2019 and we expect the share of group EBITDA to hover around 20% in 2025.

#### Exhibit 5

Logistics EBITDA has grown significantly following multiple acquisition over the last four years Reported EBITDA per division



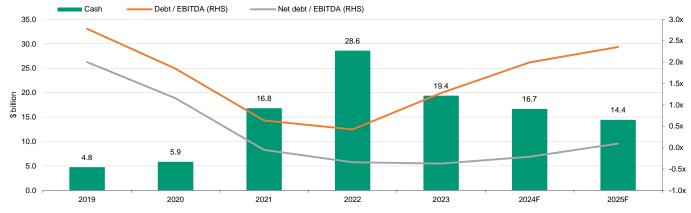
We have excluded the Towage division (Svitzer) as it will be spun off from Maersk during the second quarter of 2024 Projections are Moody's opinion and do not represent the views of the issuer Source: Company annual reports

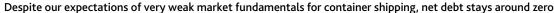
The driver of this strategy has been to increase the share of wallet with its largest ocean customers by offering what the company calls integrated logistics — transporting and handling its customers' goods from factory to end customer instead of simply transporting a container from one port to another. With this strategy the company aspires to position itself as a logistics provider rather than a container shipping company whose core offering is perceived as being highly commoditised and undifferentiated.

### Rating underpinned by prudent balance sheet and liquidity management

Although risks are plenty for Maersk and the container shipping industry, <u>the decision to upgrade Maersk's rating to Baa1 with a stable outlook</u> follows 18 months of monitoring the company's actions in terms of preserving a conservative balance sheet and liquidity management which resulted in a cash balance of around \$19.5 billion as of Dec. 31, 2023. This liquidity buffer is still record high compared to pre-pandemic levels. As seen in exhibit 6, we expect Moody's-adjusted debt / EBITDA to increase to around 2.4x in 2025 as a result of continued downward pressure on freight rates but at the same time the company will still be more or less net debt free. This incorporates our forecast of Maersk's Ocean division showing negative EBIT at least through the first half of 2025.





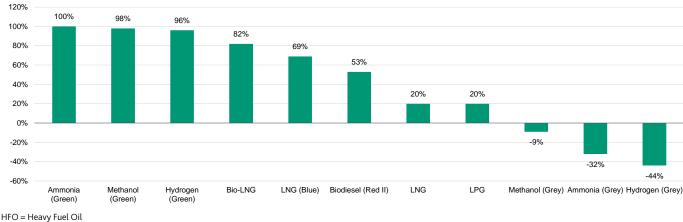


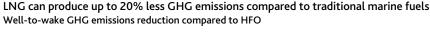
Projections are Moody's opinion and do not represent the views of the issuer Source: Moody's Financial Metrics™ and Moody's Investors Service estimates Part of the reason for a sustained cash high cash balance is Maersk's limited committed capex outflows for the next three years as its orderbook continues to be low compared to industry peers. As such, key credit metrics such as RCF / net debt and still solidly positions the Baa1 rating.

#### Ambitious environmental goals also entail high risks

Maersk's climate strategy leads the container shipping industry, aiming to cut scope 1 emissions by 35% by 2030 from 2022 levels. By 2040, Maersk seeks net zero emissions. However, this ambitious plan carries risks. Unlike many competitors, Maersk is shunning liquified natural gas (LNG) and is instead opting for green methanol, which can be nearly emission-free. LNG combustion, according to Clarkson Research, can reduce GHG emissions of up to 20% compared with traditional maritime bunker fuel (exhibit 7), making it incompatible with Maersk's 2040 net zero goal. Yet with one of the industry's lowest order book / fleet ratio (10%), Maersk risks lagging its peers in reducing GHG emissions during the current decade. Having said that, the company's decarbonisation plan also relies on other initiatives aim to enhance energy efficiency of its operations.

#### Exhibit 7





HFO = Heavy Fuel Oil Source: Clarkson Research

A second risk is Maersk's inability to control future fleet composition due to its 40% capacity leased on time charters, making its 2040 decarbonisation goal partly reliant on chartering companies like <u>Danaos Corporation</u> (Ba2 stable) and <u>Global Ship Lease</u> (Ba3 stable).

The third risk comes from Maersk's commitment to zero-emission fuels, resulting in an older fleet than some competitors (theoretically Maersk could order more green-methanol powered ships but the bottleneck is limited production of such fuels). By the end of 2026, Maersk's fleet will have a capacity-weighted age of 14.4 years, with 88% still using traditional fuels. This compares unfavorably to <u>CMA CGM</u> (Ba1 Stable), the third largest carrier, with corresponding figures of 9.7 years and 60%. Clarkson Research suggests that by 2026 significant share of container ships with an age of 14 years and older will not be CII compliant under current operating conditions (speed, fuel type etc).

## Earnings volatility will most likely continue in container shipping industry

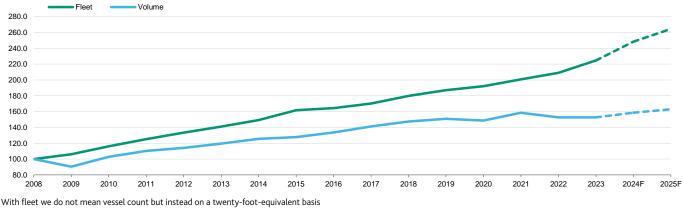
Historically, container shipping has been a highly competitive market arena, with too many companies offering more or less the same commoditised shipping service. Over the past decade, the industry has experienced a wave of consolidation. Such consolidation includes Maersk's €3.7 billion acquisition of Hamburg Süd in 2017, <u>Hapag-Lloyd AG's</u> (Ba2 Positive) merger with United Arab Shipping Company the same year and CMA CGM's \$2.4 billion acquisition of Neptune Oriental Lines in 2016. The effect of such consolidation has been significant, with the top five companies controlling around 65% of the market at present, compared with 43% in 2013. At present, over 80% of the deployed capacity belongs to carriers in one of the three container shipping alliances, under which each carrier makes a substantial contribution of ships to the other carrier(s) on a long-term basis.

The consolidation in the industry, coupled with relatively high barriers to entry, should in theory translate into more stable financial performance going forward. However, profits have always been dependent to demand / supply dynamics and this will most likely

continue for the foreseeable future. With regards to the latter point, there has historically been a mismatch between demand and supply growth, partly because a large container vessel can take 2-3 years to build. As such, demand may well have decreased when large inflows of new vessels enter the market thus leading to overcapacity. As seen in exhibit 8, there is still a structural overcapacity of vessels in the market.

#### Exhibit 8

The global fleet has outgrown annual volumes significantly since 2008 and is expected to do so over the next two years Growth in total fleet and loaded container shipments, [2008=100]

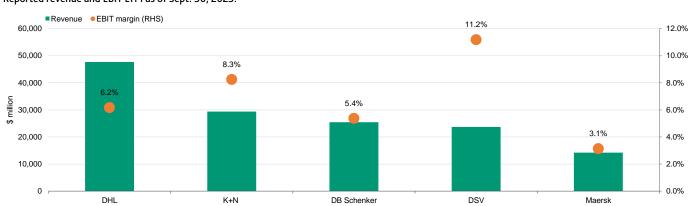


Source: Clarksons

### Risks are high but so are rewards when Maersk challenges an entrenched business model

Maersk has already come a long way with its logistics offering and is moving aggressively with head-to-head competition with its own customers (freight forwarders), already offering customers a one-stop-shop in managing companies' transport and logistics value chains. Part of the strategy rests on tieing customers closer to the company and reduce dependency on the freight forwarders; effectively this means competing with its own customers. This has never really been tested before and thus it needs to balance its two different divisional targets - maintaining a fleet size of 4.1 - 4.3 million TEUs for its Ocean division and at the same time ensuring enough capacity to deliver a 10% organic growth rate for its Logistics & Services division. Also the size of its logistics franchise is relatively small and less profitable than the likes of <u>Deutsche Post AG</u> (A2 stable), <u>Deutsche Bahn AG's</u> (Aa1 stable) Schenker, <u>DSV A/S</u> (A3 stable) and Kuehne + Nagel as seen in exhibit 9.

#### Exhibit 9



Maersk Logistics & Services still significantly smaller than peers Reported revenue and EBIT LTM as of Sept. 30, 2023.

Source: Company interim reports

Although Maersk's logistics business is small compared with the largest peers, the third-party-logistics (3PL) industry is highly fragmented and regionalised. Also, we believe Maersk will continue to add scale by acquisitions as has been the case historically. The company has publicly said they are looking into a possible acquisition of Schenker, where its owner Deutsche Bahn officially launched the sale process in Dec. 23, which would be a transformative milestone in Maersk's history. We also note positively that penetration rate among its largest 200 Ocean customers — how many customers in container shipping that also do business with the L&S division — is very high.

## Business profile benefits from one of the largest networks of port terminal in the world

Maersk's Terminals division, APM Terminals, owns 59 terminals across 31 countries as well as operating an additional seven hub terminals reported under the Ocean segment. This includes marquee assets such as the Pier 400 terminal in the port of Los Angeles. Maersk's terminal is the largest container port terminal in the Western Hemisphere and has a capacity to handle around 4.4 million TEUs annually. Furthermore, its Maasvlakte II terminal in the port of Rotterdam is the second largest in the port with a handling capacity of 2.7 million TEUs. Per Dec. 31, 2022, the average remaining concession length was 18 years. Over the past four years, the division has been able to obtain 90% of the targeted long-term concession extensions (one unsuccessful).

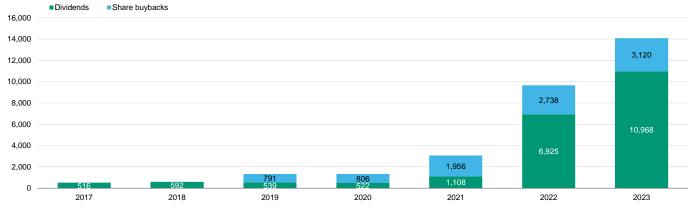
Maersk differentiates itself from its European peers through its network of hub and gateway terminals, which provides the company with control over traffic prioritisation. This control likely contributes to Maersk's industry-leading service reliability, as the company has a better overview of container flow because of its control over both transport and handling. This is an important cornerstone of its strategy to grab a higher share of its customers' logistics wallets as supply chain visibility serves as a unique selling point. The Ocean segment has consistently accounted for approximately 35% of Maersk's volume over the past five years.

## Stable shareholding and disciplined financial policy

Maersk is indirectly owned (through A.P. Møller Holding A/S) by the Foundation headed by the Møller family. Historically, the Foundation has been linked to the stability and long-term security of Maersk's operations, adjusting the group's leverage and corporate development with respect to changes in the economic environment. The company's dividend policy stipulates the company distributing between 30-50% of the underlying net result to shareholders in dividend. Furthermore, the company has from time to time initiated and executed share buyback programs; since the end of 2020, the company's share repurchases have amounted to \$8.6 billion as seen in exhibit 10. Balancing these shareholder-friendly actions is the very supportive shareholder and the company's public commitment to maintaining an investment-grade rating.

#### Exhibit 10

#### Despite a total net profit of \$50.2 billion during 2020-2022, shareholder remuneration has remained disciplined

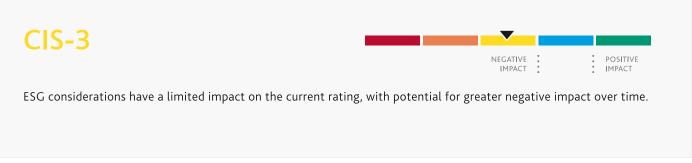


Source: Company annual reports

## **ESG considerations**

## A.P. Moller-Maersk A/S' ESG credit impact score is CIS-3

#### Exhibit 11 ESG credit impact score



#### Source: Moody's Investors Service

**CIS-3** indicates that ESG considerations have a limited impact on Maersk's current credit rating with potential for greater negative impact over time. This is mainly driven by risks related to the environment in general and carbon transition in particular. Stricter environmental regulations on both a global as well as on a regional level will continue to increase which will force shipping companies to invest in its fleet to ultimately eliminate greenhouse gas emissions from its operation.

# Exhibit 12 ESG issuer profile scores ENVIRONMENTAL SOCIAL GOVERNANCE E-4 S-3 G-2 G-2

Source: Moody's Investors Service

## Environmental

**E-4**. Maersk faces environmental risks that mainly relates to carbon transition and waste and pollution, which are high for the global shipping industry in terms of stricter regulations not just on CO2 emissions but also NOX and SOX as well as ballast water. These challenges are mitigated by shipping companies through a combination of new orders for more energy-efficient vessels as well as investments in technologies aimed to reduce greenhouse gas emissions for existing fleets.

## Social

**S-3**. Maersk's exposure to social risks mainly stems from health and safety for its crew living at sea as well as increasing environmental awareness among its customers and growing demand for green transport solutions.

## Governance

**G-2**. Maersk's exposure to governance risks mainly relates to a concentrated ownership in the A.P. Moller Foundation ultimately controlled by the Moller family. In addition, only 6 out of 10 members of the board are considered independent. This is balanced by a conservative financial policy and strong management track record.

## Liquidity analysis

Maersk's liquidity is excellent, with total available liquidity of \$24.4 billion as of Dec. 31, 2023, and was composed of (i) cash of \$5.7 billion (excluding \$1.0 billion in restricted cash), (ii) term deposits longer than three months of \$12.7 billion and (iii) \$6.1 billion of revolving credit facilities (all undrawn). Maturity of the facilities are between 2026 and 2027. In addition, 97% of its vessels and

containers are unencumbered, which can be used as a source of liquidity if needed. Maersk's current guidance on gross capital spending is \$9.0-\$10.0 billion in total during 2024-25, driven by intensified growth in logistics and investments related to its environmental targets.

# **Rating methodology and scorecard factors**

The principal methodology used in rating Maersk is the <u>Shipping Methodology</u>, published in June 2021. The assigned rating of Baa1 is one notch lower than the scorecard-indicated outcome in our forward view. The difference can be explained by very high uncertainty on how the container shipping industry will cope with the expected very difficult market over the next 18 months.

Exhibit 13 Rating factors A.P. Moller-Maersk A/S

Global Shipping Inudstry Scorecard [1]	Currer 12/31/20		Moody's Forward View Next 12-18 months [2] [3]		
Factor 1: SCALE (10%)	Measure	Score	Measure	Score	
a) Size of fleet (number of ships)	671	A	671	А	
Factor 2: BUSINESS PROFILE (20%)					
a) Business Profile	Baa	Baa	Baa	Baa	
Factor 3: PROFITABILITY AND EFFICIENCY (5%)					
a) EBIT Margin	10.1%	В	0.50%	Caa	
Factor 4: LEVERAGE AND COVERAGE (45%)					
a) Debt / EBITDA	1.3x	A	2.4x	А	
b) RCF / Net Debt	18.7%	Са	830%	Aaa	
c) (FFO + Interest Expense) / Interest Expense	12.1x	A	7.2x	А	
d) Unencumbered Assets	Aaa	Aaa	Aaa	Aaa	
Factor 5: FINANCIAL POLICY (20%)					
a) Financial Policy	Baa	Baa	Baa	Baa	
Rating Outcome:	·				
a) Scorecard-Indicated Rating	-	Baa1		A3	
b) Actual Rating Assigned				Baa1	

[1] All ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations

[2] As of 02/12/2024

[3] This represents Moody's forward view, not the view of the issuer.

Source: Moody's Financial Metrics™ and Moody's Investors Service estimates

# Ratings

Exhibit 14

Category	Moody's Rating
A.P. MOLLER-MAERSK A/S	
Outlook	Stable
Issuer Rating -Dom Curr	Baa1
Senior Unsecured	Baa1
Source: Moody's Investors Service	

# **Appendix**

#### Exhibit 15

## Moody's-Adjusted Debt Reconciliation for A.P. Moller-Maersk A/S<sup>[1][2]</sup>

	FYE	FYE	FYE	FYE	FYE	LTM
in USD millions	Dec-2018	Dec-2019	Dec-2020	Dec-2021	Dec-2022	Sep-2023
As Reported Debt	11,888.0	16,753.0	15,373.0	15,335.0	15,643.0	14,853.0
Pensions	259.0	272.0	297.0	215.0	191.0	191.0
Leases	9,441.1	0.0	0.0	0.0	0.0	0.0
Moody's-Adjusted Debt	21,588.1	17,025.0	15,670.0	15,550.0	15,834.0	15,044.0

[1] All figures are calculated using Moody's estimates and standard adjustments.

[2] Periods are Financial Year-End unless indicated. LTM = Last Twelve Months.

Source: Moody's Financial Metrics <sup>TM</sup>

Exhibit 16

#### Moody's-Adjusted EBITDA Reconciliation for A.P. Moller-Maersk A/S<sup>[1][2]</sup>

	FYE	FYE	FYE	FYE	FYE	LTM
in USD millions	Dec-2018	Dec-2019	Dec-2020	Dec-2021	Dec-2022	Sep-2023
As Reported EBITDA	4,305.0	6,202.0	8,680.0	24,482.0	37,183.0	16,720.0
Unusual Items - Income Stmt	-174.0	-81.0	-202.0	0.0	0.0	0.0
Pensions	4.0	1.0	3.0	12.0	12.0	12.0
Leases	2,985.0	0.0	0.0	0.0	0.0	0.0
Moody's-Adjusted EBITDA	7,120.0	6,122.0	8,481.0	24,494.0	37,195.0	16,732.0

[1] All figures are calculated using Moody's estimates and standard adjustments.

[2] Periods are Financial Year-End unless indicated. LTM = Last Twelve Months.

Source: Moody's Financial Metrics TM

## **Endnotes**

1 The A.P. Moller Foundation directly controls 9.9% of the capital and 14.1% of the votes and indirectly an additional 41.7% of the capital and 51.5% of the votes through its 100% ownership in A.P. Møller Holding A/S as well as 3.9% of the capital and 6.5% of the votes through Den A.P. Møllerske Støttefond.

© 2024 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved. CREDIT RATINGS ISSUED BY MOODY'S CREDIT RATINGS AFFILIATES ARE THEIR CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED OR OTHERWISE MADE AVAILABLE BY MOODY'S (COLLECTIVELY, "MATERIALS") MAY INCLUDE SUCH CURRENT OPINIONS. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT OR IMPAIRMENT. SEE APPLICABLE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S CREDIT RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER OPINIONS INCLUDED IN MOODY'S MATERIALS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S MATERIALS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES OR OTHERWISE MAKES AVAILABLE ITS MATERIALS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS, AND MATERIALS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR MATERIALS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER.

ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT. FOR CLARITY, NO INFORMATION CONTAINED HEREIN MAY BE USED TO DEVELOP, IMPROVE, TRAIN OR RETRAIN ANY SOFTWARE PROGRAM OR DATABASE, INCLUDING, BUT NOT LIMITED TO, FOR ANY ARTIFICIAL INTELLIGENCE, MACHINE LEARNING OR NATURAL LANGUAGE PROCESSING SOFTWARE, ALGORITHM, METHODOLOGY AND/OR MODEL.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the credit rating process or in preparing its Materials. To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information chained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY CREDIT RATING, ASSESSMENT, OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any credit rating, agreed to pay to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it. MCO and Moody's Investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investor Service, Inc. and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at <u>www.moodys.com</u> under the heading "Investor Relations — Corporate Governance — Charter Documents - Director and Shareholder Affiliation Policy."

Moody's SF Japan K.K., Moody's Local AR Agente de Calificación de Riesgo S.A., Moody's Local BR Agência de Classificação de Risco LTDA, Moody's Local MX S.A. de C.V, I.C.V., Moody's Local PE Clasificadora de Riesgo S.A., and Moody's Local PA Calificadora de Riesgo S.A. (collectively, the "Moody's Non-NRSRO CRAs") are all indirectly wholly-owned credit rating agency subsidiaries of MCO. None of the Moody's Non-NRSRO CRAs is a Nationally Recognized Statistical Rating Organization.

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.

Additional terms for India only: Moody's credit ratings, Assessments, other opinions and Materials are not intended to be and shall not be relied upon or used by any users located in India in relation to securities listed or proposed to be listed on Indian stock exchanges.

Additional terms with respect to Second Party Opinions (as defined in Moody's Investors Service Rating Symbols and Definitions): Please note that a Second Party Opinion ("SPO") is not a "credit rating". The issuance of SPOs is not a regulated activity in many jurisdictions, including Singapore. JAPAN: In Japan, development and provision of SPOs fall under the category of "Ancillary Businesse", not "Credit Rating Business", and are not subject to the regulations applicable to "Credit Rating Business" under the Financial Instruments and Exchange Act of Japan and its relevant regulation. PRC: Any SPO: (1) does not constitute a PRC Green Bond Assessment as defined under any relevant PRC laws or regulations; (2) cannot be included in any registration statement, offering circular, prospectus or any other documents submitted to the PRC regulatory authorities or otherwise used to satisfy any PRC regulatory disclosure requirement; and (3) cannot be used within the PRC for any regulatory purpose or for any other purpose which is not permitted under relevant PRC laws or regulators. For the purposes of this disclaimer, "PRC" refers to the mainland of the People's Republic of China, excluding Hong Kong, Macau and Taiwan.

REPORT NUMBER 1397660

### **CLIENT SERVICES**

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

