

### **CREDIT OPINION**

26 January 2017

# Update

### Rate this Research



# RATINGS

#### SGS SA

Domicile	Switzerland
Long Term Rating	A3
Туре	LT Issuer Rating - Dom Curr
Outlook	Stable

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

#### **Analyst Contacts**

Martin Hallmark 44-20-7772-1953 Senior Credit Officer martin.hallmark@moodys.com

Zineb Benchemsi 44-20-7772-1726
Associate Analyst
zineb.benchemsi@moodys.com

Richard Etheridge 44-20-7772-1035

Associate MDCorporate Finance
richard.etheridge@moodys.com

#### CLIENT SERVICES

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

# SGS SA

# Update to Credit Opinion

# **Summary Rating Rationale**

SGS SA (SGS or the company) is the market leader in the global testing, inspection and certification (TIC) industry. The sector has solid growth fundamentals driven by a range of factors, in particular the increase in private consumption and demand for higher product quality in emerging markets, together with increasing regulation and focus on matters of health, safety, food and environmental standards globally. This is expected to drive average annual revenue growth rates in the mid-single digits.

SGS has a relatively high level of sector and geographic diversity which helps to support stability of earnings, delivering positive annual organic growth throughout the economic cycle. However it also has substantial exposures to cyclical sectors, notably the oil and gas market (representing approximately 26% of revenues for the year ended 31 December (FY) 2016) and the minerals and mining sector (11% of FY2016 revenues). Pressure in these sectors has constrained growth and margins since FY2013 and we expect market recoveries to be relatively slow. Despite these near-term effects we remain positive over the longer term growth drivers of the business.

The company achieves high margins although these have reduced mainly as a result of cyclical factors. Whilst there is some downside risk of further margin pressure as the market matures and business model evolves, we expect margins to be supported by the company's efficiency and procurement initiatives, the strength of the company's market positions and low relative cost of TIC services.

The company delivers high levels of operating cash flows and has conservative balance sheet and financial policies. At 31 December 2016 reported net leverage was 0.6x. Moody's-adjusted gross leverage was 1.8x and we expect this to remain in the range 1.75x-2.0x, with acquisitions and shareholder distributions likely to be financed largely from existing cash generation.

# **Credit Strengths**

- » Strong long-term track record of growth through the cycle and positive long-term industry growth dynamics
- » Market leadership, global reach and sector diversity
- » Cost saving opportunities offsetting price pressure in mature and cyclical segments and costs of internal systems and business development
- » Low leverage, high operational cash generation and solid liquidity

# **Credit Challenges**

- » Exposure to oil and gas and minerals sectors with fluctuations in capital investment cycles and commodity prices
- » Continued headwinds in energy-related sectors
- » Increasing digitalisation and technological changes within the market
- » Currency translation exposures particularly to depreciating emerging markets currencies

### **Rating Outlook**

The stable outlook reflects primarily the solid positioning in the A3 category and our expectation that the company will generate continued positive organic growth, that the long-term growth outlook of the industry is sustained and that the company maintains conservative financial policies with low leverage and solid liquidity.

# Factors that Could Lead to an Upgrade

Positive pressure on the ratings could arise if (1) Moody's-adjusted leverage falls comfortably below 2x on a sustainable basis; (2) EBITDA margins remain stable; and (3) the company maintains a conservative financial policy.

# Factors that Could Lead to a Downgrade

Negative ratings pressure could develop if (1) Moody's-adjusted leverage increases above 2.5x on a sustainable basis; (2) there is a material decline in EBITDA margins; or (3) the company adopts more aggressive financial policies in relation to leverage, shareholder distributions and/or liquidity.

# **Key Indicators**

Exhibit 1

	[2]31/12/2016	31/12/2015	31/12/2014	31/12/2013	31/12/2012
Revenue (USD Billion)	\$5.9	\$5.9	\$6.4	\$6.3	\$5.9
EBITA Margin	15.5%	16.9%	16.8%	17.5%	17.6%
Debt / EBITDA	1.8x	2.1x	1.7x	1.3x	1.5x
EBITA / Interest	16.5x	15.3x	16.3x	16.8x	16.1x
RCF / Net Debt	38.4%	27.8%	60.7%	69.0%	53.0%

<sup>[1]</sup> All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations. [2] Based on FY2016 unaudited accounts. Source: Moody's Financial Metrics™

### **Detailed Rating Considerations**

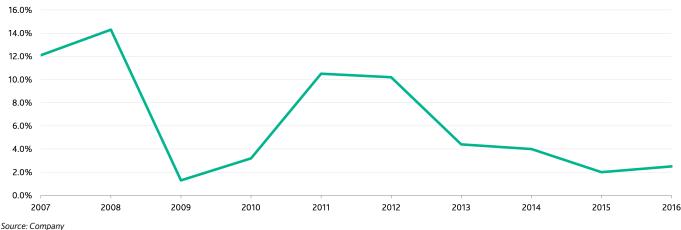
# Long-term track record of positive organic growth and positive long-term growth fundamentals

SGS has delivered positive organic revenue growth through the cycle, with a low of 1.3% in 2009 and positive growth in each of the last 10 years. This reflects the company's high sector, geographic and customer diversity and its entrenched positions with customers. Customer retention rates are very high supported by the company's strong reputation, the low relative cost of its services and integration of upstream laboratory activities into customer operations.

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

26 January 2017 SGS SA: Update to Credit Opinion

Exhibit 2
Organic revenue growth over the last 10 years



Despite a significant exposure to cyclical sectors, as detailed further below, SGS benefits from high levels of sector diversity and strong levels of growth within the TIC sector as a whole. This is driven by a range of factors, in particular increasing regulation and regulatory demand for independent testing, increasing customer focus on regulatory compliance and risk management, greater demand for product quality amongst emerging markets consumers, the growing complexity and globalisation of supply chains, and growing concerns over environmental, health and safety and food standards. This factors have historically driven growth (excluding cyclical factors) in the mid to high single digits. In the near term positive changes in regulatory regimes, in particular in vehicle emissions testing in Europe and in environment and health and safety in the US are likely to provide continued positive growth momentum.

### High levels of sector and geographic diversity

SGS is organised as nine divisions operating across a diverse range of sectors and geographies. Revenues are spread across Europe, Middle East and Africa (EMEA) (44.7% of FY2015 revenues), Asia Pacific (30.2%) and Americas (25.1%). Emerging markets in total represent approximately 50% of revenues and are a key driver of growth due to increasing trade flows, improving product quality standards and growth in private consumption.

The largest customers include oil majors, national governments, retailers and energy companies. Customer concentration is very low: the largest single customer represented only 1.4% of revenues and top 20 represented only 10.4% in FY2014. The diversity of revenues has enabled the company to achieve long-term positive organic growth at a group level over periods of constraints in capital investment and in commodities-related markets.

#### Leading market position and market leading growth rates and diversification

SGS is the global leader in the TIC market, with the highest levels of growth and sector diversity amongst the top three global players. Bureau Veritas and Intertek (both unrated) are the #2 and #3 players respectively and closest competitors in terms of sector coverage, and SGS has the lowest exposure to upstream oil and gas segments amongst the top three companies. The company also competes with a number of more sector-focused operators such as Eurofins (food and biopharma), ALS Group (minerals and life sciences), Core Labs (oil and gas) and Applus (automotive and industrial) (all unrated). Beyond the major players the market is highly fragmented with over 25,000 commercial laboratories as well as in-house and government-run operations.

SGS is the leading player in the majority of its divisions including Oil, Gas and Chemicals Services (OGC) (the company estimated approximately 30% global market share in 2014), minerals (45%), consumer testing (10%), agricultural (60%), automotive (20%) and systems and services certification (10%), and with a circa 5% share in the fragmented industrial segment.

#### Increasing digitalisation and technological changes within the market

There are some indications of potential structural changes in the market in relation to the growing digitalisation of TIC services and increasing levels of e-commerce. TIC providers are required to provide greater automation within their service offering, for example increasing use of sensors within the asset integrity segment, use of drones within crop management and greater use of data analytics

26 January 2017 SGS SA: Update to Credit Opinion

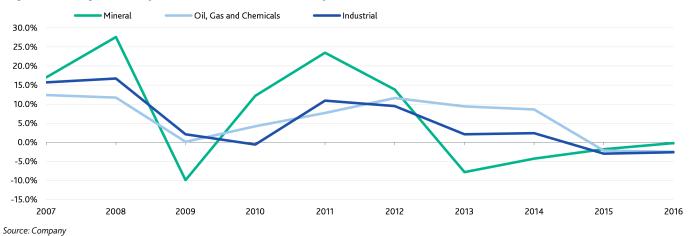
and these require higher levels of technological innovation. In addition the rapid growth of e-commerce is changing the nature of TIC requirements with sourcing, fraud detection and assurance and cyber-security key service elements.

SGS is adapting its offering in response to these changes with an investment programme to improve its technology platform as well as through selective technology-driven acquisitions. In the medium to longer term these developments may put pressure on growth rates and margins, as well as introducing the potential for new technologically-driven competitors to take share. However we believe that fundamental drivers of growth in TIC exist, and that solid positive growth in non-cyclical sectors will continue. In addition efficiency and procurement initiatives, including those currently underway, will serve to protect profitability, notwithstanding the likely need for continued reorganisation in order for the company to develop its business model and maintain competitiveness.

### Exposure to cyclical oil and gas and minerals markets which remain under pressure

Whilst there is a broad sector diversity SGS is exposed to certain commodity markets, in particular the oil & gas and minerals & mining sectors. Oil & gas revenues represented approximately 26% of group revenues in FY2016, spread across the entire value chain from exploration and production, distribution, refining and retail. Approximately 4% of group revenues are derived from upstream exploration and production activities which are most exposed to variations in the oil price. The minerals sector represented approximately 11% of group revenues, and has shown significant volatility historically, as it has gradually moved upstream from trade inspection to geochemistry services for exploration.

Exhibit 3
Organic revenue growth for cyclical sub-sectors over the last 10 years



The oil & gas and minerals sectors are in the phase of prolonged downturns, since 2013 and 2014 respectively. The oil price decline since mid-2014 has had a gradual effect on the business as its limited exposure to upstream activities initially provided some protection, however as cost pressures have been felt across the sector the impact has been more widespread. This was particularly the case in 2016 with the Industrial division, which serves existing production plants including within the oil & gas industry, where double-digit price reductions resulted in an organic revenue decline in the division of 2.6% in FY2016.

Despite recent oil price rises following OPEC's agreement to limit production, we expect oversupply, high inventories and weak demand growth to limit price recovery. As a result we expect SGS to experience continued pressure in the oil and gas sector in 2017. However we expect continued price volatility which will support SGS's trading-related activities.

Similarly we do not expect any rapid recovery in the minerals and mining sector. Prices for most metals are near cyclical lows but we consider that the recent price declines reflect longer term structural issues, in particular Chinese industrial production, global growth rates and excess supply. Accordingly we believe the sector will take longer to rebalance, and that SGS's minerals revenues will continue to be broadly flat over the next 12-18 months.

26 January 2017 SGS SA: Update to Credit Opinion

In total the oil & gas, minerals and industrials divisions represented 44% of FY2016 revenues, a gradually declining proportion of the total group as the company continues to diversify and shift towards other sectors. The remaining business continued to record solid results, with approximately 6.2% organic revenue growth in FY2016.

#### Slowdown in revenue growth and margin pressure in 2016

In FY2016 SGS reported organic revenue growth of 2.5%, an improvement on the 2.0% achieved in FY2015 but still below long run mid single digit growth expectations, as pressures on energy sectors continue to weigh on results. There was also a marked slowdown in performance in the second half of 2016, when revenue growth slowed to 1.6% on an organic basis. This was due mainly to pressures in the industrial division (-4.8% decline in organic revenues in the second half, compared to -0.1% in the first half). However there were also notable slowdowns in non-energy sectors, with organic revenue growth at 5.3% in the second half of the year, 2 percentage points lower than in the first 6 months. This was due to poor harvests and low commodity prices affecting the agriculture segment, and fewer launches of mobile devices in the year hitting the consumer division.

In addition margins were 50bps lower in FY2016 compared to the prior year on a constant currency basis.

Exhibit 4
Revenue, Adjusted Operating income and Margin bridge, 2015-2016

	Revenues CHF M	Adjusted Operating Income CHF M	Adjusting Operating Margin
FY2015 (at constant currencies)	5,644	898	15.9%
Organic revenue growth effect	139	22	
Mix effect		9	0.2%
Acquisition effect	203	20	-0.2%
MIN / OGC / IND Divisons		-19	-0.3%
Non-Energy Sectors		-11	-0.2%
Disposals	-1		
FY2016	5,985	919	15.4%

Notes: FY2015 revenues and operating income stated on a constant currency as reported by the company; MIN / OGC / IND refers to the results of the Minerals, Oil, Gas and Chemicals and Industrial Divisions; Non-Energy Sectors refers to all other divisions Source: Company, Moody's analysis and estimates

Whilst margins reduced by approximately 30bps as a result of volume and price pressure in the energy-related sectors, a further 20bps margin reduction was experienced in the remaining business. This was attributed largely to investments in the business and in the start-up phase of new contracts, as well as some margin pressure in agriculture.

We expect some recovery of revenue growth rates in 2017 as mobile launches resume and new contracts ramp up, however some of the pressures causing softness in revenue growth in the latter part of 2016 are likely to continue in the near term, particularly in relation to price pressures within the Industrial division. Margin pressure may also continue, although some factors causing this are likely to abate, in particular the ramp up of recent contracts and the stabilisation of energy sector performance, and we expect margins to be supported by the company's ongoing efficiency and procurement initiatives.

Whilst we expect the recovery of cyclical segments of the company to be relatively slow, we remain positive over the company's longer term growth prospects and this is supported by the continued strong growth in non-energy sectors and underlying industry drivers.

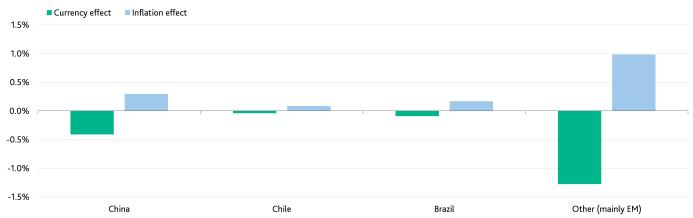
26 Ianuary 2017 SGS SA: Update to Credit Opinion

#### Exposure to emerging market currencies and risks of ongoing currency depreciation against the swiss franc

Currency movements have had a significant impact on historic trading results, as the company has very limited trading activity in CHF (approximately CHF20 million revenues and CHF100 million costs in FY2014). Adverse currency movements have been experienced in each year since 2009 except for 2012.

The largest currency exposures are to the euro (26% of FY2016 revenues), US dollar (14%), and the Chinese renminbi (13%), and around half of revenues are in emerging markets currencies. The high emerging markets exposure is likely to give rise to continued currency depreciation given the higher inflation rates in these economies. In recent years emerging markets inflation has been running steadily at around 4% p.a. and was 3.7% in 2016 (source: Capital Economics), which has driven depreciation of emerging markets currencies against the Swiss franc. The company seeks to mitigate these risks through both inflation and currency indexation in a proportion of its contracts.

Exhibit 5
SGS is exposed to a broad range of emerging markets currencies
Effect of currency movements and inflation on SGS total revenue growth, FY2016



Currency effect refers to year-on-year movement in exchange rate compared to CHF x proportion of currency as a percentage of total revenues. Inflation effect is annual change in CPI x proportion of currency as a percentage of total revenues.

Source: Company, Capital Economics, Inflation.eu, Trading Economics, Moody's Investors Service

Whilst the company reports the movements for its top 10 currency exposures, our analysis shows that the remaining currencies, which relate largely to emerging markets, are the principal cause of currency-driven revenue declines, having an effect of approximately -1.3% on FY2016 revenues. As a result of exposure to depreciating emerging markets currencies we expect that SGS will continue to experience currency depreciation reducing revenue growth by an average rate of around 1-2% per annum.

#### Low leverage and high operational cash generation

Leverage is low with Moody's-adjusted gross leverage of 1.8x at 31 December 2016, after adjusting for pensions and operating leases. The company retains significant levels of cash and marketable securities of approximately CHF1.0 billion at 31 December 2016 and net leverage is only 0.9x on a Moody's-adjusted basis. Cash generation is strong with low debt servicing costs and strong working capital inflows over the last two years, leading to reported operating cash (before capex) conversion of 80-85% of EBITDA in FY2015 and FY2016.

The company's financial policy remains conservative. The company is slightly accelerating is M&A activity, with a proposed acquisition spend of CHF1 billion over 2016 to 2020, however this remains low in the context of cash generation and the conservative balance sheet. Similarly dividend distributions and the company's share buyback programmes tend to be financed from internally generated cash with limited requirements for additional debt funding. Whilst the company has not stated a leverage target, we expect it to maintain a conservative financial structure with leverage in the range 1.75x to 2.0x on a Moody's-adjusted basis.

### Requirement for strong governance and control environment to protect reputation

The company's reputation as a trusted provider is critical to its success and any decline its standing, through poor quality of testing or weakness in its control environment could have a material effect. The company has a strong control culture to protect its reputation.

It operates staff rotation, has a matrix reporting structure with local country managers and divisional heads, and carries out internal audit procedures including random inspections and issuing anonymous samples to test quality and accuracy of results. Quality issues continue to be relatively limited and isolated in nature.

### **Liquidity Analysis**

The company has a solid liquidity position with balance sheet cash and marketable securities of approximately CHF1.0 billion at 31 December 2016. It also has CHF600 million committed facilities available until 2021 which were undrawn as at 31 December 2016.

#### **Profile**

SGS is the global leader in the testing, inspection and certification market. The company is headquartered in Geneva, Switzerland and is listed on the Swiss Stock Exchange. The company's market capitalisation was CHF16.4 billion as at 25 January 2017.

SGS operates a network of approximately 2,000 offices and laboratories worldwide and employs over 92,000 staff. In FY2016 the company reported revenues of CHF6.0 billion and adjusted operating income of CHF919 million.

# **Rating Methodology and Scorecard Factors**

The principal methodology used in rating SGS was the Business and Consumer Service Industry Rating Methodology published in October 2016. Please see the Credit Policy page on www.moodys.com for a copy of this methodology.

Exhibit 6

Business and Consumer Service Industry Grid [1][2]		ent /2016		Moody's 12-18 Month Forward View As of 1/24/2017 [3]	
Factor 1 : Scale (20%)	Measure	Score	Measure	Score	
a) Revenue (USD Billion)	\$5.9	Baa	\$6.2 - \$6.4	Baa	
Factor 2 : Business Profile (20%)					
a) Demand Characteristics	A	A	A	Α	
b) Competitive Profile	A	A	A	Α	
Factor 3 : Profitability (10%)					
a) EBITA Margin	15.5%	Ba	16% - 16.5%	Ва	
Factor 4 : Leverage and Coverage (40%)					
a) Debt / EBITDA	1.8x	A	1.75x - 2.0x	А	
b) EBITA / Interest	16.5x	Aa	17x - 18x	Aa	
c) RCF / Net Debt	36.2%	Baa	30% - 35%	Baa	
Factor 5 : Financial Policy (10%)					
a) Financial Policy	A	A	A	Α	
Rating:					
a) Indicated Rating from Grid		A3		A3	
b) Actual Rating Assigned				A3	

[1] All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations. [2] Based on unaudited accounts as of 12/31/2016. [3] This represents Moody's forward view; not the view of the issuer; and unless noted in the text, does not incorporate significant acquisitions and divestitures. Source:

Moody's Financial Metrics™

# **Ratings**

#### Exhibit 7

Category	Moody's Rating		
SGS SA			
Outlook	Stable		
Issuer Rating -Dom Curr	A3		
Source: Moody's Investors Service			

© 2017 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 INVESTORS SERVICE, INC. AND ITS RATINGS AFFILIATES ("MIS") ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT-LIKE SECURITIES, AND MOODY'S PUBLICATIONS MAY INCLUDE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES. 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. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS AND MOODY'S OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. CREDIT RATINGS AND MOODY'S PUBLICATIONS ON OT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. NEITHER CREDIT RATINGS AND PUBLISHES MOODY'S PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS AND PUBLISHES MOODY'S PUBLICATIONS 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 AND MOODY'S PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS OR MOODY'S PUBLICATIONS 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.

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 rating process or in preparing the Moody's publications.

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 contained 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 SUCH RATING OR 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 rating, agreed to pay to Moody's Investors Service, Inc. for appraisal and rating services rendered by it fees ranging from \$1,500 to approximately \$2,500,000. MCO and MIS also maintain policies and procedures to address the independence of MIS's ratings and rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold ratings from MIS and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at <a href="https://www.moodys.com">www.moodys.com</a> under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

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. It would be reckless and inappropriate for retail investors to use MOODY'S credit ratings or publications when making an investment decision. If in doubt you should contact your financial or other professional adviser.

Additional terms for Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any rating, agreed to pay to MJKK or MSFJ (as applicable) for appraisal and rating services rendered by it fees ranging from JPY200,000 to approximately JPY350,000,000.

 $MJKK\ and\ MSFJ\ also\ maintain\ policies\ and\ procedures\ to\ address\ Japanese\ regulatory\ requirements.$ 

REPORT NUMBER 1054396

