

CREDIT OPINION

17 April 2019

Update



Rate this Research

RATINGS

ISS Global A/S

Domicile	Denmark
Long Term Rating	Baa2
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

Martin Hallmark +44.20.7772.1953 Senior Vice President martin.hallmark@moodys.com

Richard Etheridge +44.20.7772.1035

Associate Managing Director
richard.etheridge@moodys.com

Yuliya Panarina +44.20.7772.5226 Associate Analyst yuliya.panarina@moodys.com

Eric Kang, CFA +44.20.7772.1965 VP-Senior Analyst eric.kang@moodys.com

CLIENT SERVICES

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

ISS Global A/S

Update to credit analysis

Summary

ISS Global A/S (ISS or the company) is a leading global provider of outsourced facilities management services. It is focused on the self-delivery of services and employs around 486,000 staff in sectors where high staff turnover means there is a critical human resource (HR) and workforce compliance component to its service offering.

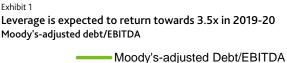
ISS maintained solid organic revenue growth of 3.9% in 2018 (3.4% including discontinued operations), benefiting from new contract wins and growth with larger key accounts. Margin performance was adversely affected by the timing of contract wins and losses, with a company-adjusted operating margin of 5.7% (10 basis points below last year), or 5.5% including discontinued operations (20 basis points below last year).

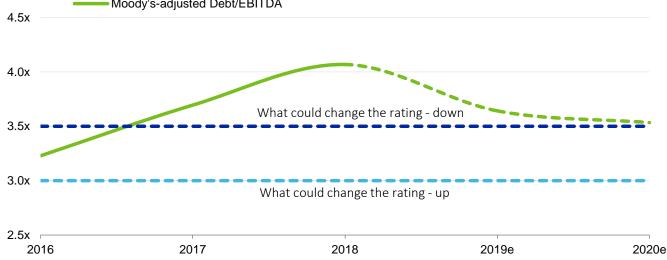
The company is poised to achieve solid growth in 2019 as its new contract with <u>Deutsche Telekom AG</u> (DT, Baa1 negative) is due to commence from July 2019, and is expected to add 4% to revenue on an annual basis. This, combined with continued organic growth and new contract wins, we expect will lead to organic revenue growth in the range of 5%-6% in 2019. There remains an element of execution risk in the implementation of the new DT contract, but we consider the process well managed, with risks suitably mitigated.

While the churn of specific high-margin contracts impacted profitability in 2018, the core business remains solid, with a long-term track record of organic growth and margin stability. The company has a proven ability to pass through cost inflation through contractual increases, renegotiation and scope changes.

ISS is undertaking a strategic shift as it focuses on its core strengths in larger global and integrated services contracts. In December 2018, the company launched a disposal programme, with a total planned exit from 13 countries that represent around 8% of the group's revenue and 4% of company-adjusted EBITDA. The company expects to generate DKK2.0 billion - DKK2.5 billion of net disposal proceeds, which we expect to be used for a combination of debt repayment, reinvestment, acquisitions and returns to shareholders.

Moody's-adjusted debt/EBITDA as of December 2018 was 4.1x, above the Moody's-specified range for the Baa2 rating. This is because of pre-funding of 2020 maturities, the increased use of non-recourse factoring (included within our debt calculations) and also adverse currency movements. We expect the company to use existing surplus cash balances and proceeds from disposals to reduce gross debt in 2019 and 2020 to restore leverage to around 3.5x over the next 12-18 months.





Moody's projections for 2019-20 are Moody's opinion and do not represent the views of the issuer. Source: Moody's Investors Service

In view of the currently high leverage and also modest cash generation, we consider the rating relatively weakly positioned in the rating category. Any deviation from our deleveraging expectations, execution challenges in implementing the new strategy or the new DT contract, or underperformance against revenue and margin expectations could lead to negative rating pressure.

Credit strengths

- » Large scale and diversification, with a wide geographical footprint
- » Strong record of organic revenue growth through the cycle with positive market growth
- » Significant growth potential from the DT contract rollout
- » Substantial surplus cash and expected disposal proceeds to support reduction in Moody's-adjusted leverage

Credit challenges

- » Competitive and fragmented industry
- » Headwinds from recent contract losses and adverse currency movements
- » Low operating margins and inflationary pressures
- » High Moody's-adjusted leverage for the rating, now at 4.1x
- » Execution risks in new strategy and implementing the new DT contract

Rating outlook

The stable outlook reflects our assumptions that ISS will continue on a path of organic growth and will maintain or grow its operating margins in the next 12-18 months. The outlook further assumes that the new DT contract will be implemented in mid-2019, in line with expectations, and that the strategic shift to key accounts and the associated disposal programme are executed effectively without

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.

17 April 2019 ISS Global A/S: Update to credit analysis

material business disruption. It also assumes that the company will maintain a conservative financial policy, with reductions in gross debt leading to Moody's-adjusted leverage reducing to around 3.5x over the next 12-18 months.

Factors that could lead to an upgrade

The ratings are relatively weakly positioned in the Baa2 category and an upgrade is not expected in the near term. However, the ratings could be upgraded if the company achieves:

- » solid growth in organic revenue and stable-to-growing operating margins
- » Moody's-adjusted debt/EBITDA below 3.0x on a sustained basis
- » Moody's-adjusted retained cash flow (RCF)/net debt in the mid-20s in percentage terms

Factors that could lead to a downgrade

Negative rating pressure could develop if:

- » the conditions for a stable outlook are not met
- » Moody's-adjusted debt/EBITDA does not decline to around 3.5x over the next 12-18 months
- » Moody's-adjusted RCF/net debt moves below the high teens in percentage terms

Key indicators

Exhibit 2 ISS Global A/S [1] [2]

USD Billion	Dec-12	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Dec-18	Dec-2019 proj	Dec-2020 proj
Revenue	\$13.7	\$14.0	\$13.2	\$11.8	\$11.8	\$11.2	\$11.4	\$11.8	\$12.5
EBITA Margin	6.2%	5.4%	5.9%	6.0%	6.0%	6.2%	6.1%	5.7%	5.7%
Debt / EBITDA	5.1x	5.1x	3.5x	3.3x	3.2x	3.7x	4.1x	3.6x	3.5x
EBITA / Interest	1.6x	1.8x	3.4x	5.6x	6.3x	6.8x	6.2x	7.2x	7.6x
RCF / Net Debt	8.9%	12.2%	21.5%	22.9%	17.2%	19.4%	16.2%	13.9%	9.3%

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

Profile

Headquartered in Copenhagen, ISS Global A/S (ISS or the company) is one of the world's leading facilities management services providers, with reported revenue of around DKK74 billion in 2018. The company is an indirect, wholly owned subsidiary of ISS A/S, which has been listed on the OMX Nasdaq Copenhagen Stock Exchange since March 2014. On 9 April 2018, ISS A/S had a market capitalisation of around DKK40 billion. ISS Global A/S is the issuer of the group's bonds and is the direct or indirect parent company of the group's operating subsidiaries. Consolidated accounts are prepared at the ISS A/S level and the financial information contained herein refers to ISS A/S' consolidated data.

ISS has a relatively wide global footprint, with a presence in 66 countries as of 31 December 2018. The company's operations are focused on Europe (71% of the group's revenue in 2018), including the Nordics (19%), the UK and Ireland (14%), Switzerland (7%), Spain and Portugal (7%) and France (6%).

ISS' origins are in cleaning services; over time, it has developed a wider offering across a range of facilities management activities, including security, technical services, catering and building management. These services are offered either as single or multiservice contracts (60% of 2018 revenue) or through combined integrated facility services contracts (IFS, 40% of 2018 revenue), and the shift

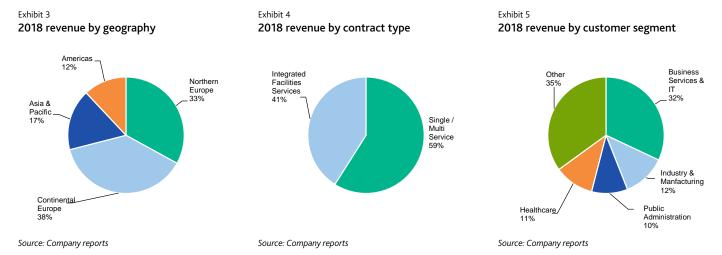
^[2] All historical data are based on ISS A/S financial data.

^[3] Moody's projections for 2019-20 are Moody's opinion and do not represent the views of the issuer.

Source: Moody's Financial Metrics

to multiple services has driven the company towards an increasing focus on global companies for which its scale and global reach provide competitive advantages.

ISS generates around 15%-20% of its group revenue through above-base (non-portfolio) revenue under existing contracts. This revenue is inherently more variable and more vulnerable to cyclical effects.

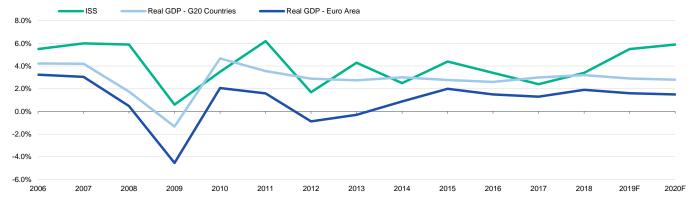


Detailed credit considerations

Strong track record of organic revenue growth through the cycle

ISS has a strong trading record over the economic cycle. In each of the last 10 years, the company has recorded positive organic revenue growth, with the lowest level of 0.6% recorded in 2009. Revenue is relatively closely correlated to economic growth in the company's key regions; hence, European GDP growth is an important revenue driver.

Exhibit 6
ISS has a long term track record of organic revenue growth
Change in organic revenue compared with G-20 countries and Euro area Real GDP



Moody's projections for 2019-20 are Moody's opinion and do not represent the views of the issuer. Sources: Company reports, Haver, IMF, Moody's Macroeconomic Board

While the non-portfolio business is generally more vulnerable to economic conditions, historical trends support the sustainability of revenue driven by high levels of contracted income; strong retention rates; and high geographical, customer and service-line diversification.

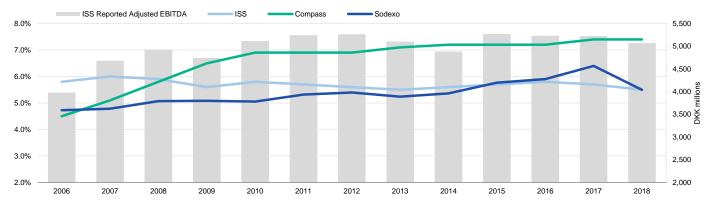
There was only a modest decline in profitability in 2009, with reported EBITDA before exceptional items falling by around 4%. This was followed by a swift recovery, with organic revenue growth of 3.5% in 2010 and reported EBITDA recovering above 2008 levels.

17 April 2019 ISS Global A/S: Update to credit analysis

Exhibit 7

Reported adjusted EBITDA and operating margins show resilience over the cycle

Reported adjusted operating margins for ISS compared with Compass, Sodexo and ISS' reported adjusted EBITDA



Data refers to financial years ending 30 September for Compass, 31 December for ISS and 31 August for Sodexo.

ISS' margins include discontinued operations.

Margins refer to reported operating profit margin before exceptional and nonrecurring items.

Source: Company reports

Reported adjusted operating margins have been relatively stable, consistently in the 5.5%-5.8% range for each of the last 10 years. The company has shown an ability to withstand cost inflation, for example, from increases in minimum wage levels in the UK and Turkey in 2017 and 2018, through a combination of contractual pass-through, customer price renegotiation, scope changes and efficiency programmes.

Positive market growth profile

The global outsourced facilities services market is large and highly fragmented, with different levels of maturity and demand dynamics across regions. The company has estimated that the market is growing annually at mid-single digits in percentage terms, driven by a combination of economic activity and greater levels of outsourcing, as customers increasingly seek to focus on their core activities and in the context of increasing complexity of health, safety, workforce and environmental compliance. Growth is typically faster in emerging markets because of lower levels of outsourcing penetration, where the market is focused, to a greater extent, on single services. In more mature markets, customers are trending towards IFS, a subsector exhibiting near double-digit growth in percentage terms, as larger and more sophisticated buyers seek vendor consolidation, value-added partnerships and an element of risk-transfer of compliance issues.

Customers typically commence IFS in limited regions or within a small scope of services and subsequently expand, allowing attractive and relatively predictable growth with existing customers. We expect the expansion of IFS and growth with larger key accounts to require a continued strong focus on technology to deliver efficient and value-added services. The smaller regional single-service market is by contrast somewhat more challenging and price sensitive as customers continually demand cost savings, which become incrementally harder to achieve. This market is better suited to larger operators with high network density, and a wider range of cost-saving opportunities become available as customers transfer to more complex IFS contracts.

This market environment has informed the company's strategic shift, announced in December 2018, in which it has decided to exit 16 countries deemed noncore. These regions are generally focused on single service and smaller customers and have a higher degree of local competition.

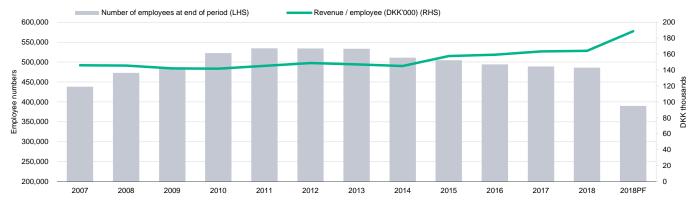
Competitive and fragmented industry

The market is fragmented, with a wide range of local and regional competitors focused mainly on smaller single-service contracts. Within IFS, competition is limited mainly to large global companies such as Sodexo and also includes providers of property-related or "hard FM" services such as <u>Jones Lang Lasalle Incorporated</u> (Baa1 stable), <u>CBRE Services, Inc.</u> (Baa2 positive) and <u>Cushman & Wakefield</u> (issuing through <u>DTZ U.S. Borrower, LLC</u>, B2 stable). In addition, technology companies such as <u>Oracle Corporation</u> (A1 stable), <u>Cisco Systems, Inc.</u> (A1 stable) and <u>International Business Machines Corporation</u> (A1 ratings under review for downgrade) have entered the facilities management market with automated solutions in areas such as security and reception.

ISS' competitive strengths reside in its scale and global leadership and its focus on self-delivery of highly labour-intensive activities; it employs 486,000 staff, requiring a complex HR management capability. Hard facilities management (FM) competitors typically use third-party providers for a large proportion of their services and ISS has greater potential to extract cost savings from activities managed internally and to leverage the efficiency, productivity and compliance benefits of its HR platform. Nevertheless, hard FM companies represent important competitors because larger contracts typically contain a high proportion of building-related technical services such as heating and ventilation, and property management. Technology and data analytics are likely to play an increasing part in market development, as shown by ISS' partnership with IBM; while automation may start to reduce the staff management component of the market, we expect ISS' activities to remain highly labour-intensive in the medium term.

As ISS has carried out divestments, shifted towards more technical services and IFS, and rationalised its European operations, its staff profile has changed. This is evident from a gradually reducing headcount and increase in revenue per employee, as shown in Exhibit 8.

Exhibit 8
Employee numbers and revenue per employee



2018PF data relates to continuing operations excluding targeted disposals.

Changes in revenue per employee are affected by organic growth, currency movements, and acquisitions and divestments. Source: Company reports

Strong revenue growth expected from 2019 after customer churn impacts on profitability and cash flow in 2018

ISS' trading in 2018 was impacted by several headwinds related to contract churn, currency and competitive pressures in its noncore segment. Nevertheless, organic revenue growth amounted to 3.4% (3.9% excluding the noncore operations targeted for disposal), up from 2.4% in the previous year (2.9% excluding noncore). Trading was, as expected, negatively impacted by the loss of three major contracts (DXC Technology Company (Baa2 stable), HP Inc. (Baa2 stable) and the EMEA operations of a global account), which reduced revenue by around 2%, which was more than offset by new wins and growth with existing contracts. In addition, adverse currency movements reduced revenue by around 3.2%.

The contract churn was margin dilutive because of the higher profitability of mature contracts and the initial costs of new business. As a result, the company-adjusted operating profit declined to 5.5% (5.7% excluding noncore) from 5.7% in the previous year (5.8% excluding noncore). Margins were also negatively affected by competition in noncore countries, and also in Sweden, but benefited by around 20 basis points from one-off contract settlement gains.

ISS is poised to deliver substantial growth in 2019 and 2020 as a result of new contract wins, in particular the contract with DT, which is due to commence in July 2019 and is expected to be worth around 4% of revenue annually. As a result, we expect organic revenue growth in the region of 5%-6% in 2019 and 2020. We expect operating margins to improve over the next two years as the effects of contract churn unwind and recent contracts ramp up, with the underlying profitability remaining relatively stable. However, as the company is gradually focusing more on larger contracts, the adverse effects of margin churn could occur more regularly.

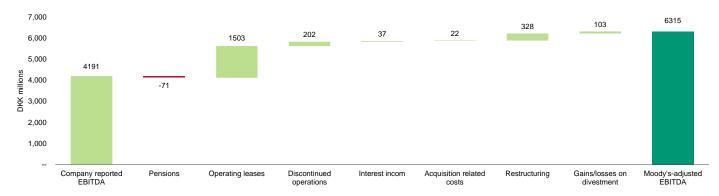
There are execution risks in the timing, ramp-up and profitability of the new DT contract. However, the contract, while large, is within the company's usual activities and is on track. Substantial risk mitigation measures have been put in place, particularly in relation to staff recruitment and systems.

In 2018, the company also experienced adverse working capital movements of around DKK1.5 billion, financed by an increase in non-recourse factoring. This outflow was because of the ramp-up of new contracts, including DT, the shift to larger customers and short-term timing issues. We expect further but more limited working capital outflows in 2019 as the DT contract commences.

High leverage, expected to reduce to around 3.5x over next 12-18 months

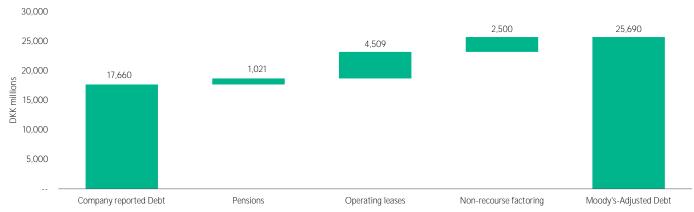
Moody's-adjusted leverage, calculated on a gross basis, increased to 4.1x as of 31 December 2018 from 3.6x as of 31 December 2017 and 3.2x two years earlier. This metric is outside our target range for the rating of 3.0x-3.5x. The increase in leverage has been affected by debt issuance to pre-fund maturities, a debt-financed acquisition in 2017, the existence of and increase in previously undisclosed non-recourse factoring and (to a lesser extent) by adverse currency movements. However, we expect Moody's-adjusted leverage to reduce to around 3.5x in the next 12-18 months through debt repayments from surplus cash and disposal proceeds.

Exhibit 9
Moody's-adjusted EBITDA reconciliation for 2018



Source: Moody's Financial Metrics

Exhibit 10 Moody's-adjusted debt reconciliation for 2018



Source: Moody's Financial Metrics

The company reported a non-recourse factoring amount of DKK2.5 billion as of 31 December 2018, an increase of DKK1.5 billion from the previous year. This amount reflects an increase in the working capital balance mentioned above and the growing use of larger customers of supply chain financing (SCF) arrangements within contracts. We expect the level of non-recourse factoring to reduce to around DKK2 billion as short-term effects unwind, offset by the ramp-up of the DT contract and growing use of SCF.

We expect ISS to reduce its gross debt, excluding non-recourse factoring, by around DKK3 billion over the next 12-18 months as near-term maturities are partly financed by surplus cash. The company had cash on balance sheet of DKK6.8 billion as of 31 December 2018. In addition, ISS expects to generate DKK2.0 billion-DKK2.5 billion of net proceeds from disposals in 2019 and 2020. The company

intends to return at least 25% of these proceeds to shareholders through share buybacks or extraordinary dividends. The remaining proceeds, alongside operating cash flow, will be allocated for debt repayment, transformational projects (of DKK700 million-DKK800 million), M&A and shareholder distributions. According to the company, several sales processes have been completed or are well advanced, and we expect over half the disposals to close in the next 12 months.

Conservative financial policies

ISS has adopted conservative financial policies since its IPO in 2014. We expect the company to continue to focus on organic growth, with acquisitions likely to be mainly small bolt-on transactions financed from existing credit facilities and cash flow. The company is seeking to maintain reported net leverage of below 2.5x at all times (2.8x after the adoption of IFRS 16 from 2019). While the metric is currently below the 2.5x target level (at 2.1x as of December 2018), seasonal cash outflow and dividend payment are likely to move reported leverage back towards the target maximum.

ISS' dividend policy remains a 50% payout ratio on profit before goodwill amortisation and impairment on brands and customer contracts. The company retains financial flexibility through a proportion of discretionary dividends to be declared once other cash requirements are identified.

ISS has a rigorous corporate governance environment that complied with all of the Danish Corporate Governance recommendations as of 31 December 2018. Compliance with labour regulations and adherence to workplace standards are key risks that are addressed through wide-ranging policies and procedures. ISS self-delivers most of its services, and this enables the company to exercise stronger control over labour compliance risks than under subcontractor models, and effective management of customers' own compliance risk is a key part of its service offering.

Currency translation exposure

ISS is exposed to foreign-currency rate movements principally through the translation of currency flows into its reporting currency, the Danish krone. Of ISS' drawn debt, 99.7% is denominated in euros (as of 31 December 2018); hence, the company's leverage levels are exposed to depreciation in the rates of its basket of currencies against the euro. Around 37% of the company-adjusted operating profit in 2018 was denominated in euros. Key currency exposures are to Nordic currencies (11%), UK sterling (16%), Swiss franc (12%) and the US dollar (5%), and there are also significant exposures to emerging-market currencies. The appreciation of the Danish krone and the euro against a basket of other currencies, in particular UK sterling, had an adverse effect in 2018. We expect the company to take steps to improve its currency hedging in the next 12 months, which would be credit positive.

Liquidity analysis

We expect ISS' liquidity to be good over the next 12-18 months. As of 31 December 2018, the company had cash balances of around DKK6.8 billion (€915 million). Further liquidity buffer is provided by the company's largely undrawn €1 billion revolving credit facility, available until 2023. The financial year end represents a seasonally high liquidity position, with working capital outflows and dividend payments over the first four months of the year leading to a cash outflow of around DKK1.5 billion-DKK2.0 billion.

Structural considerations

ISS Global A/S is a wholly owned subsidiary of ISS World Services A/S, which itself is wholly owned by the listed company ISS A/S. ISS Global A/S is the direct or indirect parent of the group's operating companies and issues debt under its Euro Medium Term Note Programme. As of 31 December 2018, ISS Global A/S had intercompany loans of DKK2 billion owing to its holding companies, down from DKK6.6 billion in 2017, which rank pari passu with the company's senior unsecured debt. In addition, operating companies pay annual royalties of around DKK1.3 billion to ISS World Services A/S. However, ISS A/S is managed as a group as a whole, and the intercompany loans are expected to remain at low levels. Accordingly, we do not apply any downward notching to the note ratings.

Rating methodology and scorecard factors

The principal methodology used in rating ISS 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 11
Rating factors
ISS Global A/S

Business and Consumer Service Industry Grid [1][2][3]	Curre FY 12/31		Moody's 12-18 Month Forward View As of 4/10/2019 [4]	
Factor 1 : Scale (20%)	Measure	Score	Measure	Score
a) Revenue (USD Billion)	\$11.4	A	\$11.8 - \$12.5	А
Factor 2 : Business Profile (20%)	-			
a) Demand Characteristics	А	A	A	А
b) Competitive Profile	A	Α	A	А
Factor 3 : Profitability (10%)	-			
a) EBITA Margin	6.1%	Caa	5.7%	Caa
Factor 4 : Leverage and Coverage (40%)				
a) Debt / EBITDA	4.1x	Ва	3.5x	Ва
b) EBITA / Interest	6.2x	Baa	7.2x-7.6x	Baa
c) RCF / Net Debt	16.2%	Ba	16%	Ва
Factor 5 : Financial Policy (10%)				
a) Financial Policy	Baa	Baa	Baa	Baa
Rating:				
a) Indicated Rating from Grid		Baa2		Baa2
b) Actual Rating Assigned				Baa2

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

^[2] As of 12/31/2018.

^[3] All data are based on ISS A/S' financial data.

^[4] 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.

^[5] Projected RCF / Net Debt is stated excluding incremental investments and special distributions expected to be partly financed from disposal proceeds Source: Moody's Financial Metrics

Appendix

Exhibit 12 ISS A/S' summary financials and ratios with projections

In DKK million	Dec-16	Dec-17	Dec-18	Dec-2019 Proj	Dec-2020 Proj
Income Statement					
Net Sales	78,658	79,912	73,592	77,640	82,220
EBITDA	6,850	6,560	6,315	5,824	6,002
EBIT	3,969	3,885	3,935	3,980	4,192
Interest Expense	758	742	725	620	620
Balance Sheet					
Cash & Mkt Sec	4,300	6,275	6,834	4,582	4,221
Total Debt	22,108	23,710	25,690	21,211	21,211
Cash Flow Statement					
CAPEX	2,437	2,450	2,351	2,282	2,401
Retained Cash Flow	3,082	3,421	3,047	2,315	1,576
Free Cash Flow	719	1,225	870	(582)	(661)
RCF / Net Debt	17.3%	19.6%	16.2%	16.2%	15.9%
FCF/Debt	3.3%	5.1%	3.4%	-2.7%	-3.1%
Profitability					
% Change in Sales (YoY)	6.1%	1.6%	0.0%	5.5%	5.9%
EBITA Margin %	6.0%	5.7%	6.1%	5.7%	5.7%
Interest Coverage					
EBITA / Interest Expense	6.3x	6.2x	6.2x	13.1x	13.5x
(EBITDA - CAPEX) / Interest Expense	5.8x	5.5x	5.5x	12.8x	13.1x
<u>Leverage</u>					
Debt / EBITDA	3.2x	3.6x	4.1x	3.6x	3.5x

All historical data are based on ISS A/S' financial data.

Moody's projections for 2019-20 are Moody's opinion and do not represent the views of the issuer.

RCF / Net Debt projected in 2019 and 2020 is stated excluding incremental investments and special distributions expected to be partly financed from disposal proceeds Source: Moody's Investors Service

Ratings

Exhibit 13

Category	Moody's Ratin	
ISS GLOBAL A/S		
Outlook	Stable	
Issuer Rating -Dom Curr	Baa2	
Senior Unsecured	Baa2	
Source: Moody's Investors Service		

17 April 2019 ISS Global A/S: Update to credit analysis

© 2019 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-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 OR IMPAIRMENT. SEE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S RATINGS. 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 ON TON STITUTE 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 NOR 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.

CREDIT RATINGS AND MOODY'S PUBLICATIONS 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 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 CREDIT 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 ratings opinions and services rendered by it fees ranging from \$1,000 to approximately \$2,700,000. 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 www.moodys.com 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.

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 ratings opinions and services rendered by it fees ranging from JPY125,000 to approximately JPY250,000,000.

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

REPORT NUMBER

1170228

CLIENT SERVICES

 Americas
 1-212-553-1653

 Asia Pacific
 852-3551-3077

 Japan
 81-3-5408-4100

 EMEA
 44-20-7772-5454

