

CREDIT OPINION

21 December 2021

Update

 Rate this Research

RATINGS

Telkom SA SOC Limited

Domicile	Pretoria, South Africa
Long Term Rating	Ba2
Type	LT Corporate Family Ratings
Outlook	Negative

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.

Contacts

Lisa Jaeger +971.4.237.9659
AVP-Analyst
lisa.jaeger@moodys.com

Yara Abdelgelil +971.4.237.9509
Associate Analyst
yara.abdelgelil@moodys.com

Rehan Akbar, CFA +971.4.237.9565
Senior Vice President
rehan.akbar@moodys.com

Telkom SA SOC Limited

Update to credit analysis

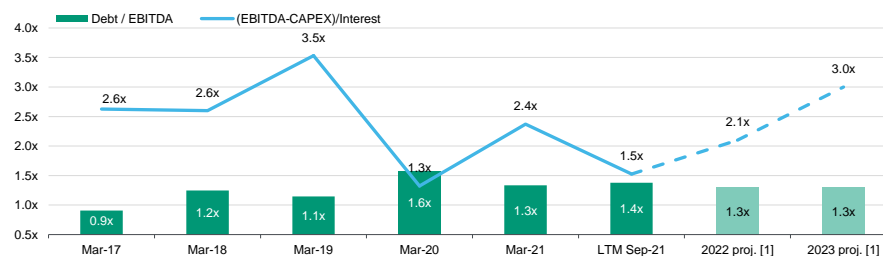
Summary

Telkom SA SOC Limited's (Telkom) Ba2/Aa1.za corporate family ratings reflect our view of the fundamental credit quality of Telkom, represented by its Baseline Credit Assessment (BCA) of ba2, combined with our assumptions of high default dependence with- and moderate support from the South African government. We classify Telkom as a government related issuer (GRI) because it is 40.5% owned by the Government of South Africa. Despite having strong credit metrics and adequate liquidity, Telkom derives all of its revenue from South Africa and therefore its credit standing is strongly correlated to the economic environment in the country. The low growth environment, combined with potential future delays around the allocation of new spectrum, will be a growth constraint to South African mobile network operators.

Telkom's BCA of ba2 is supported by (1) the company's leading market position in South Africa's fixed-line business, with a growing presence in broadband and mobile and (2) conservative financial policy and good credit metrics with debt to EBITDA of 1.4x as of the twelve months ending September 2021 (September 2021 LTM). The rating is constrained by (1) operational concentration in [South Africa](#) (Ba2 negative) and exposure to the country's economic, social, political, legal and regulatory environment; (2) the company's position as the third largest operator in a highly competitive South African mobile market; and (3) low growth prospects with continued, albeit slowing decline of fixed line business and mature mobile market.

Exhibit 1

We expect Telkom's credit metrics to remain strong



[1] This represents Moody's forward view, not the view of the issuer; and unless noted in the text, does not incorporate significant acquisition and divestitures.

Source: Moody's Investors Service

Credit strengths

- » Successfully completed transition towards integrated telecommunications business model to mitigate declining fixed voice revenue
- » Leading market position in South Africa's fixed-line business, with the largest fibre network in South Africa based on fibre kilometres
- » Strong credit metrics and liquidity

Credit challenges

- » Geographic concentration in South Africa
- » Continued, albeit slower decline of fixed line business
- » Relatively small mobile operator in highly competitive South African mobile market, with lower growth prospects going forward

Rating outlook

The negative outlook reflects Telkom's 100% operational concentration in South Africa, exposing the company to the heightened risks associated with the operating environment in South Africa. The outlook could be changed to stable if the Government of South Africa's rating is changed to stable.

Factors that could lead to an upgrade

Given the negative outlook, an upgrade is unlikely in the near-term. The outlook could be changed to stable if the Government of South Africa's rating outlook is changed to stable. Subject to an upgrade of the South African government bond rating, an upgrade of Telkom's ratings could be considered if the fixed line business stabilizes and Moody's adjusted debt/EBITDA sustainably remains below 2.5x.

Factors that could lead to a downgrade

Telkom's ratings are likely to be downgraded in case of a further downgrade of South Africa's sovereign rating, although Moody's will continue to monitor resilience of Telkom's credit profile against macro-economic shocks. A downgrade would also be considered if Telkom's liquidity profile weakens, debt/EBITDA exceeds 3.5x on a sustained basis or retained cash flow/total debt falls below 20% on a sustained basis.

Key indicators

Exhibit 2

Key Indicators for Telkom SA SOC Limited[1][2][3]

	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21	LTM Sep-21	2022-proj. [2]	2023-proj. [2]
Revenue (ZAR Billion)	41.0	39.7	41.8	43.0	43.2	43.1	43.2	43.9
Debt / EBITDA	0.9x	1.2x	1.1x	1.6x	1.3x	1.4x	1.3x	1.3x
RCF / Debt	64.3%	49.3%	50.9%	39.6%	60.5%	64.8%	63.0%	60.4%
(EBITDA - CAPEX) / Interest Expense	2.6x	2.6x	3.5x	1.3x	2.4x	1.5x	2.1x	3.0x

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

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

[3] Moody's Forecasts (f) or Projections (proj.) are Moody's opinion and do not represent the views of the issuer.

Source: Moody's Investors Service

Profile

Telkom is the leading South African fixed-line operator and the third incumbent mobile operator, controlling around 1.1 million fixed telephone access lines, most of which are connected to digital exchanges, and has 16.3 million active mobile subscribers in South Africa, making it the third largest mobile operator in the country by number of subscribers. As of 30 September 2021, the company had the largest national fibre network across South Africa. Telkom operates across four segments: Consumer (mobile, fixed-line

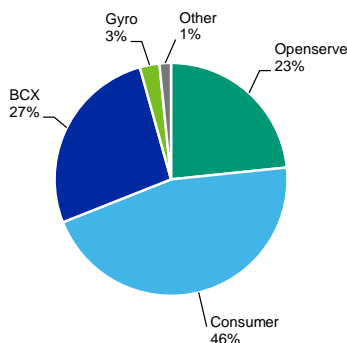
This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moody's.com for the most updated credit rating action information and rating history.

and broadband), Business Connection Group (BCX, offering information and communication technology services, ICT), Openserve (wholesale data), and Gyro/ Swiftnet (masts and towers property portfolio).

Telkom is listed on the Johannesburg Stock Exchange (JSE) and is 40.5% owned by the South African government, 10.5% by the Public Investment Corporation, a South African state-owned investment management company, and the remaining 49.0% is free float, as of 30 September 2020. The company is planning to list a minority stake in Swiftnet on the JSE before the end of the March 2022 financial year. Following the listing Telkom will continue to consolidate Swiftnet.

Exhibit 3

Revenue by business segment September 2021 LTM

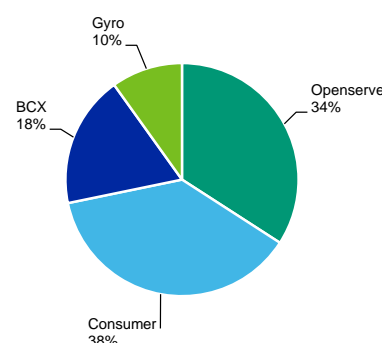


Note: Includes revenue from external customers and intersegmental operating revenue, before intracompany eliminations

Sources: Company information, Moody's Investors Service

Exhibit 4

EBITDA by business segment September 2021 LTM



Note: Based on company reported EBITDA, before intracompany eliminations and excluding other losses

Sources: Company information, Moody's Investors Service

Detailed credit considerations

Geographic concentration in South Africa

Telkom's revenue and EBITDA are exclusively generated in South Africa, which exposes the company to the economic, political, social, legal and regulatory environment of the country. The South African economy declined by 6.4% in 2020 amid the pandemic and we expect a relatively slow recovery of 4.1% in 2021 and 1.8% in 2022. Even prior to the pandemic, the economic environment in South Africa was weak and public finances continue to be under pressure, while social and political divisions slow progress on economic reforms. While Telkom's revenue and EBITDA overall remained stable in the face of slow or even negative economic growth, some parts of its business are more dependent on the macroeconomic environment. Particularly the IT segment in the BCX division, which generates revenue from projects for enterprises and public sector entities is exposed to macroeconomic cycles. This business has declined by an average rate of 9% per year since 2017, with the decline particularly accelerating since 2020 as macroeconomic pressures intensified. Also mobile average revenue per user (ARPU) in South Africa remains low, with limited ability to increase while consumer spending power remains under pressure.

The telecoms industry also faces ongoing delays with regard to updated regulation in South Africa, which reduces investments and growth. There are a number of critical regulatory decisions that may affect Telkom that are difficult to assess at this stage, namely (1) upcoming spectrum allocations, whereby access to spectrum below 1000 megahertz would offer a greater coverage with less infrastructure requirements for Telkom; and (2) implementation of government plans for a wholesale open access network (WOAN). A spectrum auction that was initially scheduled for 2020 has been repeatedly delayed and challenged in court by the three largest mobile operators, including Telkom.

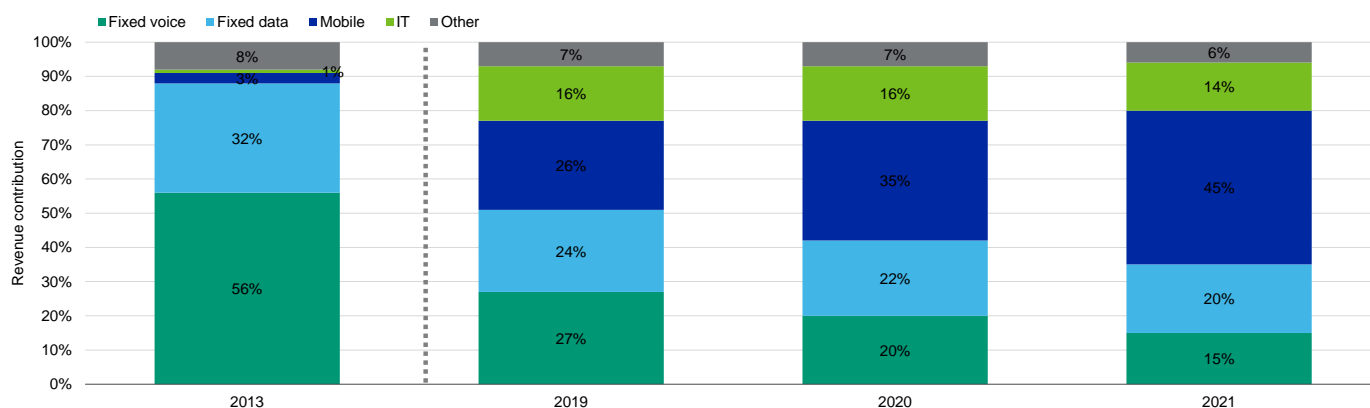
Successful transition to integrated telecommunications business model

Over time Telkom's business model has become increasingly diversified and integrated (see exhibit 5). To offset the steady decline in demand for fixed voice services, which used to be Telkom's main product, the company embarked on a turnaround strategy in 2013 to broaden its service offering. After completion of the strategic turnaround, Telkom remains the leader in fixed telephony and broadband in South Africa, but the company has also built out a sizeable mobile service offering in its consumer division and added enterprise

ICT services for businesses and public sector entities through the acquisition of BCX in 2015. Its ICT services include hosting, managed solutions, cloud and data center services. Telkom also has an infrastructure business, including its wholesale broadband network in the Openserve division and its mast and tower property portfolio, Swiftnet, which is part of the Gyro division. The infrastructure businesses derive a substantial portion of their revenue from leasing network and tower capacity to other mobile operators and third party clients.

The integrated business model has allowed Telkom to successfully diversify its income streams away from the declining fixed line voice business and positions the company well as a convergent telecom operator. Convergent offerings allow the company to serve a wider range of customers and to provide bundled packages with opportunities to upsell and increase customer loyalty. Nevertheless revenue growth has been slow over the past few years, at an average rate of just 1.3% per year from financial year ending March 2017 to March 2021 and for the six months ending September 2021, revenue declined by 0.5% from the same period a year earlier. Moody's adjusted EBITDA is only 0.7% higher for the twelve months ending September 2021 than it was in March 2017. This slow growth is driven by the combination of continued decline of Telkom's fixed voice service, some cyclical in the BCX business and a highly competitive and relatively mature mobile market in South Africa that makes it difficult to grow this business faster than the fixed voice business is declining.

Exhibit 5

Evolution of Telkom's revenue mix 2013 to 2021

Sources: Telkom, Moody's Investors Service

After rapid growth of mobile business, future growth prospects are lower in competitive and mature South African mobile market

The mobile business, comprising both voice and data services, has become Telkom's primary revenue driver and accounted for 45% of group revenue for the year ending March 2021, increasing to 49% for the six months ending September 2021. Telkom's mobile business has in the past grown rapidly, from 1.8 million subscribers in March 2014, generating around ZAR350 million in revenue to 16.3 million subscribers and ZAR19.5 billion of revenue for the twelve months ending September 2021. Telkom was able to generate this rapid growth despite competition from three larger, more established mobile operators Vodacom (majority owned by [Vodafone Group plc](#), Baa2 stable), [MTN Group Limited](#) (Ba2 negative) and Cell C. Telkom overtook Cell C in terms of subscriber numbers in 2020, becoming the third largest mobile operator in South Africa. Telkom's market share however still significantly lags behind the 30% market share of the second largest operator MTN and its profitability is also significantly lower at a mobile business EBITDA margin of 29% for the six months ending September 2021 against margins generally in excess of 40% for MTN's and Vodacom's South African operations. We expect growth of the mobile segment in South Africa will slow over the next years as the mobile market is mature, as indicated by a penetration rate of 162% as of 2020 according to the World Bank, meaning there are 162 mobile subscriptions for every 100 residents, which is amongst the highest levels in the world. Over the six months to September 2021, subscriber growth continued to be strong at 18.8% against the same period a year earlier, however this was mainly driven by a nearly equivalent 17.9% decline in ARPU, indicating intense pricing pressure to maintain subscriber growth.

Focus on cost savings and network commercialization

For profitability to improve, efficiencies and cost savings are crucial. Telkom is focussed on streamlining and has significantly reduced its workforce in recent years. Profitability was negatively impacted in 2020 due to provisioning for credit losses and the decline in revenues at BCX. As the economy recovers from the pandemic, we expect EBITDA margins to recover back to pre-pandemic levels of 28-29% from 27.4% as of the twelve months ending September 2021. A new roaming agreement with MTN concluded in 2021 will help to reduce roaming costs and improve network coverage.

With growth of the mobile business expected to slow down, Telkom is focussing on cementing its leadership in broadband/ fixed data, which contributes to revenue across its Consumer, BCX and Openserve divisions and which accounts for most of the EBITDA generated by the Openserve division. Openserve accounted for 34% of Telkom's EBITDA for the twelve months ending September 2021 (see exhibit 4) and therefore already constitutes a substantial part of the company's profitability.

Telkom has the largest broadband network across South Africa and continued investment in the network is one of Telkom's key priorities, accounting for 43% of total investments during the six months ending September 2021. During this period, the company increased homes passed with fibre by 54% to more than 707,000 compared to a year earlier and increased the number of homes connected by 34% to nearly 332,000. At the same time the share of customers connected to fibre rather than legacy technologies increased to 59% from 39%. Telkom sees particular demand growth from other carriers for use of its strong backhaul capacity. As Telkom continues its investments in the network and mobile customers' demand for speed and data consumption increases, we expect that demand from other mobile carriers for Telkom's network will continue to grow strongly. At the same time the decline in demand for fixed voice services will level off as the contribution to Telkom's revenues has already reduced substantially. The combination of growth in fixed data and slower decline of fixed voice should over the next 2-3 years lead to a stabilization and eventual growth of revenue and EBITDA from Openserve.

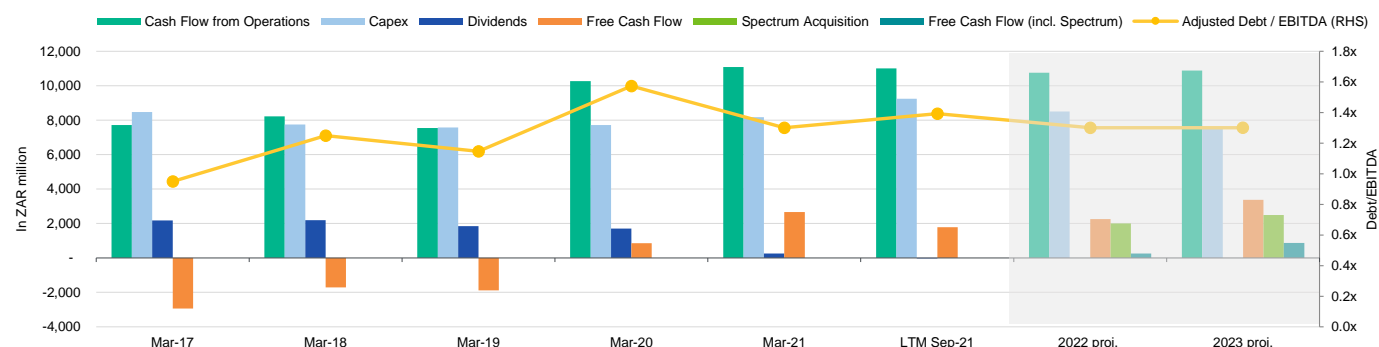
Telkom announced it plans to list its mobile mast and tower portfolio, Swiftnet, on the JSE before the end of March 2022. Telkom will maintain majority ownership, control and will continue to consolidate the tower business. We expect both the initial cash raised from the minority listing as well as the resulting ongoing tower lease payments to be small and not to have a meaningful credit impact. Telkom is already commercializing its tower portfolio with an average colocation rate of 1.55x, meaning it is renting out space on a significant number of its towers to other mobile network operators or other third parties. While below the international target norm of 2x, the colocation rate is in line with pan-African and emerging markets independent tower company [IHS Holding Limited](#) (B2 stable) and an adequate ratio for a tower portfolio in growth stage.

Financial credit metrics remain strong despite operating performance pressures

Telkom has conservative financial policies with target net leverage of 1.0 - 1.2x and a strong track record of complying with financial targets. For the twelve months ending September 2021 net leverage stood at 1.1x. This compares to Moody's adjusted leverage of 1.4x, which we view as low for Telkom. Leverage could temporarily increase slightly once the spectrum auction proceeds, Telkom indicated it expects to pay c. ZAR4 billion in the auction. Nevertheless we expect Telkom will remain within its leverage targets thanks to proceeds from the Swiftnet listing and suspension of any dividend payments for the time being.

Telkom also has the flexibility to be more prudent in its capital spending over the next 12 months, spending at the lower end of its market guidance between 16% and 20% of revenue and slowing down the migration of copper to fibre. We will continue to make capital investments a priority over dividends for the coming years.

Exhibit 6

Cash flow generation has improved and allows to keep leverage stable

[1] Cash flow from operations shown excluding dividend payments

[2] 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 Investors Service

South African government support and dependence assumptions result in no rating uplift

Moody's default dependence assessment reflects the degree of correlation of a government-related issuer, such as Telkom, and its supporting government to being jointly susceptible to adverse circumstances that simultaneously move them closer to default. The "high" default dependence assumption reflects our view that both the South African government and Telkom's performance are highly correlated to the general business cycle in South Africa. In addition, it factors the moderate link between the government and Telkom, given the firm's partial privatisation during the past decade. Despite its 40.5% stake in Telkom, the South African government has no board representation, which limits its influence over the strategic direction of the company.

The "moderate" support assessment reflects the strategic role of the company in expanding telecommunications links to citizens in rural areas and in poorly serviced townships adjacent to large urban centres. The assessment also takes into account the government's moderate interventionist tendencies. Any reduction in government ownership could weaken our support assumption, but will not impact the overall rating position, given Telkom's standalone credit profile as reflected by the ba2 BCA, which is currently in line with that of the Government of South Africa.

ESG considerations**TELKOM SA SOC LIMITED's ESG Credit Impact Score is Neutral-to-Low CIS-2**

Exhibit 7

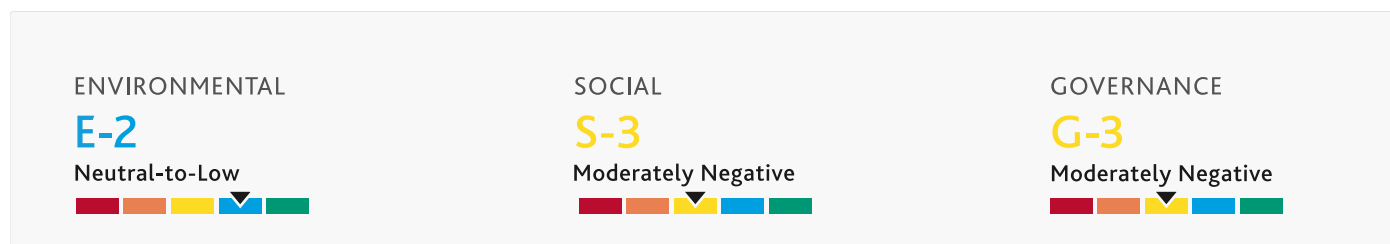
ESG Credit Impact Score**CIS-2****Neutral-to-Low**

For an issuer scored CIS-2 (Neutral-to-Low), its ESG attributes are overall considered as having a neutral-to-low impact on the current rating; i.e., the overall influence of these attributes on the rating is non-material.

Source: Moody's Investors Service

Telkom's ESG Credit Impact Score is Neutral-to-Low (**CIS-2**), meaning ESG attributes have a low credit impact on Telkom's rating. This factors in Telkom's low environmental risk exposure and moderate social and governance risks, which are offset by the company's conservative financial policy and strong management track record. The low credit impact is also a reflection of the rating being capped by South Africa's sovereign rating.

Exhibit 8

ESG Issuer Profile Scores

Source: Moody's Investors Service

Environmental

The company's exposure to environmental risks is low and in line with the overall industry. Telkom is mostly focussed on energy efficient projects to reduce energy consumption and increasingly rely on renewable sources.

Social

Telkom faces moderately negative social risks as it is exposed to well entrenched labour unions with rigid employee regulations and changing demographic and societal trends towards the use of telecom related technology. This is partially mitigated by Telkom's good track record over the past few years in reducing its overall work force, in particular in its declining fixed voice business and of successfully growing mobile voice and data businesses to offset declining fixed voice revenues.

Data security and data privacy issues are prominent in the sector. Telecommunications providers exchange large amounts of data, and a breach could cause legal, regulatory or reputation issues. In addition, a breach could result in increased operational costs to mitigate cyberattacks and reduce exposure to the loss of private data.

Electromagnetic radiation (for example, from mobile antennas or mobile handsets) has repeatedly been said to be potentially harmful to the environment and health. While the need for higher mobile data speeds will increase electromagnetic radiation, we do not see it as a significant environmental risk for global telecommunication providers, given the existing regulatory radiation limits and ongoing technology improvements.

Governance

Telkom faces moderate governance risks as the government of South Africa is the largest shareholder with 40.5% ownership. This could lead to increased government interference, even though we recognize that the government has a track record of not actively interfering in the company's management. The risk of any interference having a credit damaging impact is further mitigated by Telkom's conservative financial policies and good track record in adhering to these.

Liquidity analysis

We consider Telkom's liquidity profile to be adequate as it benefits from cash and cash equivalents of ZAR3.4 billion as of September 2021. Together with expected operating cash flow of around ZAR10 billion for the next 12 months, this is sufficient to meet its committed obligations over the next 12 months, which include debt maturities, operating expenses and planned capital spending.

In addition, Telkom has access to ZAR6.2 billion of undrawn committed borrowing facilities, most of which are in the form of 360-day evergreen facilities. While we don't consider these as strong sources of liquidity, we note that banks have been routinely rolling over facilities. Some of Telkom's facilities include financial covenants, including interest cover and net leverage, which the company has been able to meet comfortably.

Rating methodology and scorecard factors

The principal methodology used in rating the company was our Telecommunications Service Providers rating methodology published in January 2017. The 2 notch difference between the grid indicated outcome and the Ba2 rating is due to the constraint from the South African sovereign rating.

Exhibit 9

Rating factors

Telkom SA SOC Limited

Scorecard Factors

Telkom SA SOC Limited

Telecommunications Service Providers Industry Scorecard [1][2]

Current
LTM 9/30/2021Moody's 12-18 Month Forward View
As of 12/13/2021 [3]

Factor 1 : Scale (12.5%)	Measure	Score
a) Revenue (USD Billion)	\$2.9	B
Factor 2 : Business Profile (27.5%)		
a) Business Model, Competitive Environment and Technical Positioning	B	B
b) Regulatory Environment	Baa	Baa
c) Market Share	Baa	Baa
Factor 3 : Profitability and Efficiency (10%)		
a) Revenue Trend and Margin Sustainability	Baa	Baa
Factor 4 : Leverage and Coverage (35%)		
a) Debt / EBITDA	1.4x	A
b) RCF / Debt	64.8%	Aaa
c) (EBITDA - CAPEX) / Interest Expense	1.5x	B
Factor 5 : Financial Policy (15%)		
a) Financial Policy	Baa	Baa
Rating:		
a) Scorecard-Indicated Outcome		Baa3
b) Actual Rating Assigned		
Government-Related Issuer		
Factor		
a) Baseline Credit Assessment	ba2	
b) Government Local Currency Rating	Ba2	
c) Default Dependence	High	
d) Support	Moderate	
e) Actual Rating Assigned	Ba2	

Measure	Score
\$3.1 - \$3.2	B
B	B
Baa	Baa
Baa	Baa
Baa	Baa
Baa	Baa
1.3x	A
61% - 63%	Aaa
2.1x - 3x	Ba
Baa	Baa
	Baa3
	Ba2

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

[2] As of 9/30/2021(L); Source: Moody's Financial Metrics™

[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 Investors Service

Ratings

Exhibit 10

Category	Moody's Rating
TELKOM SA SOC LIMITED	
Outlook	Negative
Corporate Family Rating	Ba2
NSR Corporate Family Rating	Aa1.za

Source: Moody's Investors Service

Appendix

Exhibit 11

Moody's-Adjusted Debt Reconciliation for Telkom SA SOC Limited^{[1][2]}

(in ZAR Millions)	FYE Mar-17	FYE Mar-18	FYE Mar-19	FYE Mar-20	FYE Mar-21	LTM Ending Sep-21
As Reported Debt	6,378	9,427	10,241	16,782	15,839	16,044
Pensions	1,151	1,966	752	0	255	255
Operating Leases	3,135	3,312	3,546	0	0	0
Moody's-Adjusted Debt	10,664	14,705	14,539	16,782	16,094	16,299

[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

Exhibit 12

Moody's-Adjusted EBITDA Reconciliation for Telkom SA SOC Limited^{[1][2]}

(in ZAR Millions)	FYE Mar-17	FYE Mar-18	FYE Mar-19	FYE Mar-20	FYE Mar-21	LTM Ending Sep-21
As Reported EBITDA	10,824	10,580	10,706	9,391	11,614	11,833
Pensions	82	84	87	37	35	35
Operating Leases	1,045	1,104	1,182	0	0	0
Unusual	-208	-59	700	1,187	395	-48
Non-Standard Adjustments	0	70	-2	-11	0	0
Moody's-Adjusted EBITDA	11,743	11,779	12,673	10,604	12,044	11,820

[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

Exhibit 13

Peer comparison^{[1][2]}

(in US millions)	Telkom SA SOC Limited			MTN Group Limited			Millicom International Cellular S.A.		
	Ba2 Negative			Ba1 Negative			Ba1 Stable		
	FYE Mar-20	FYE Mar-21	LTM Sep-20	FYE Dec-19	FYE Dec-20	LTM Jun-21	FYE Dec-19	FYE Dec-20	LTM Sep-21
Revenues	\$2,919	\$2,656	\$2,912	\$10,498	\$10,967	\$11,865	\$4,336	\$4,171	\$4,357
EBITDA	\$719	\$740	\$798	\$4,385	\$4,587	\$4,968	\$1,746	\$1,631	\$1,739
Total Debt	\$940	\$1,090	\$1,083	\$10,055	\$9,921	\$9,770	\$7,067	\$6,710	\$6,220
Cash & Cash Equivalents	\$265	\$339	\$225	\$1,555	\$2,110	\$2,856	\$1,164	\$875	\$723
EBITDA Margin	24.6%	27.9%	27.4%	41.8%	41.8%	41.9%	40.3%	39.1%	39.9%
(EBITDA-CAPEX) / Interest Expense	1.3x	2.4x	1.5x	2.3x	2.6x	2.6x	1.3x	1.1x	1.5x
Debt / EBITDA	1.6x	1.3x	1.4x	2.2x	1.9x	1.8x	4.1x	4.1x	3.6x
FCF / Debt	0.4%	11.2%	5.4%	-3.5%	10.1%	18.2%	-3.6%	-0.8%	-1.5%
RCF / Debt	39.6%	6048.0%	64.8%	25.8%	34.1%	41.7%	11.6%	11.8%	13.1%

[1] All figures & ratios calculated using Moody's estimates & standard adjustments.

[2] FYE = Financial Year-End. LTM = Last Twelve Months. RUR* = Ratings under Review, where UPG = for upgrade and DNG = for downgrade. Source: Moody's Financial MetricsTMSource: Moody's Financial Metrics TM

© 2021 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 OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED BY MOODY'S (COLLECTIVELY, "PUBLICATIONS") 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 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. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS 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 ITS 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, ASSESSMENTS, OTHER OPINIONS, AND 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, ASSESSMENTS, OTHER OPINIONS OR 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.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND 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 its 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, 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 fees ranging from \$1,000 to approximately \$5,000,000. 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 Investors Service and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moody.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 61 003 399 657 AFSL 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 credit rating, agreed to pay to MJKK or MSFJ (as applicable) for credit ratings opinions and services rendered by it fees ranging from JPY125,000 to approximately JPY550,000,000.

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

REPORT NUMBER

1308215