

# Solutions by STC

## 4 debates into 3Q23 results

Reiterate Rating: UNDERPERFORM | PO: 295.00 SAR | Price: 311.00 SAR

### Not bullish yet – new SAR295 PO

We see 4 debates for stc solutions into 3Q23: i) its organic growth profile; ii) digital revenue progression; iii) profitability; and iv) stock performance versus key peer Elm, and valuation. We cut our 2023/24E EPS by 3.3/3.7% driven by slower top-line growth which leads us to cut our PO to SAR295 (from SAR 314). We reiterate our Underperform rating as we do not see upside from current levels.

### Debate 1: What is Solutions’ organic growth profile?

Solutions grew revenue by 29.5% in 2Q23 (we expect 36.1% for 3Q23) compared with 35.1%/29.5% for Elm. However, ex-Gizza and CCC acquisitions, revenue growth was just 3.3%/9.5% for 2Q/3Q23. Solutions highlights that underlying growth is actually “higher” than like-for-like growth but has not disclosed the number.

### Debate 2: Can digital growth positively surprise?

We prefer the digital exposure versus System/Application integrations, which we think is more competitive. Solutions’ digital segment grew by only 16% in 2Q23 (Elm was +43%) and we forecast 20% for 3Q23. In 2Q23, digital accounted for only 18% of stc solutions revenue versus 72% for Elm. The company has signed an SPA (Sales and Purchase Agreement) for the acquisition of a 40% stake in Devoteam, which should increase exposure to digital consulting, although this will not be fully consolidated.

### Debate 3: Is the uptick in profitability sustainable?

2Q23 EBITDA margin ex ECL was 20.0%, up 230bps Y/Y. Given the significant % of resale via stc or to stc at >65% of revenue, we see limited scope for margins to trend higher and highlight the seasonality around margins, with 4Q being the softest.

### Debate 4: Is stock underperformance versus Elm over?

We don’t think so as: 1) We don’t see much upside risk to consensus for Solutions whereas we are 22% above consensus for Elm on 2024E EPS. 2) Whilst Solutions trades at an 18% discount to Elm on 2024E P/E, we think this is warranted by its growth differential. We forecast 2024E EPS growth of 19% for Solutions vs 30% for Elm.

Estimates (Dec) (SAR)	2021A	2022A	2023E	2024E	2025E
EPS (Adjusted Diluted)	7.01	8.99	10.7	12.6	14.5
EPS Change (YoY)	19.9%	28.2%	18.9%	17.6%	15.0%
Dividend / Share	4.00	5.00	6.05	7.12	8.20
Valuation (Dec)					
P/E	44.4x	34.6x	29.1x	24.7x	21.5x
Dividend Yield	1.29%	1.61%	1.94%	2.29%	2.64%
EV / EBITDA*	30.9x	24.3x	19.9x	17.4x	15.7x
Free Cash Flow Yield*	3.21%	5.28%	4.07%	3.81%	4.34%

\* For full definitions of *IQmethod*<sup>SM</sup> measures, see page 6.

17 October 2023

### Equity

Key Changes		
(SAR)	Previous	Current
Price Obj.	314.00	295.00
2023E Rev (m)	11,478.4	11,013.9
2024E Rev (m)	13,164.1	12,624.2
2025E Rev (m)	14,599.8	14,004.2
2023E EPS	11.05	10.69
2024E EPS	13.05	12.57
2025E EPS	14.74	14.45
2023E DPS	6.21	6.05

**Cesar Tiron** >>  
 Research Analyst  
 Merrill Lynch (DIFC)  
 +971 4 425 8216  
 cesar.tiron@bofa.com

**Evgeny Annenkov** >>  
 Research Analyst  
 Merrill Lynch (DIFC)  
 +971 4 425 8254  
 evgeny.annenkov@bofa.com

### Stock Data

Price	311.00 SAR
Price Objective	295.00 SAR
Date Established	17-Oct-2023
Investment Opinion	B-3-7
52-Week Range	216.80 SAR-392.20 SAR
Mrkt Val / Shares Out (mn)	37,320 SAR / 120.0
Average Daily Value (mn)	11.78 USD
Free Float	20.0%
BofA Ticker / Exchange	XMETF / SAU
Bloomberg / Reuters	SOLUTION AB / 7202.SE
ROE (2023E)	40.8%
Net Dbt to Eqty (Dec2022A)	-95.6%

>> Employed by a non-US affiliate of BofAS and is not registered/qualified as a research analyst under the FINRA rules.

Refer to "Other Important Disclosures" for information on certain BofA Securities entities that take responsibility for the information herein in particular jurisdictions.

**BofA Securities does and seeks to do business with issuers covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.**

**Refer to important disclosures on page 7 to 9. Analyst Certification on page 5. Price Objective Basis/Risk on page 5.**

12612296

Timestamp: 17 October 2023 01:00AM EDT

# iQprofile<sup>SM</sup> Solutions by STC

Key Income Statement Data (Dec)	2021A	2022A	2023E	2024E	2025E
<b>(SAR Millions)</b>					
Sales	7,208	8,805	11,014	12,624	14,004
EBITDA Adjusted	1,117	1,421	1,737	1,981	2,205
Depreciation & Amortization	(209)	(232)	(269)	(285)	(262)
EBIT Adjusted	908	1,189	1,468	1,696	1,943
Net Interest & Other Income	4.92	11.3	10.5	37.3	51.1
Tax Expense / Benefit	(71.1)	(118)	(192)	(222)	(255)
Net Income (Adjusted)	841	1,079	1,282	1,508	1,735
Average Fully Diluted Shares Outstanding	120	120	120	120	120

## Key Cash Flow Statement Data

Net Income (Reported)	833	1,055	1,263	1,485	1,709
Depreciation & Amortization	209	232	269	285	262
Change in Working Capital	107	748	(164)	(266)	(260)
Deferred Taxation Charge	0	0	0	0	0
Other CFO	231	72.3	331	121	128
<b>Cash Flow from Operations</b>	<b>1,379</b>	<b>2,106</b>	<b>1,699</b>	<b>1,625</b>	<b>1,839</b>
Capital Expenditure	(155)	(134)	(160)	(183)	(204)
(Acquisition) / Disposal of Investments	0.19	(372)	(415)	0	0
Other CFI	0	(2,701)	1,298	0	0
<b>Cash Flow from Investing</b>	<b>(155)</b>	<b>(3,207)</b>	<b>723</b>	<b>(183)</b>	<b>(204)</b>
Share Issue / (Repurchase)	(181)	0	0	0	0
Cost of Dividends Paid	(400)	(475)	(595)	(719)	(846)
Increase (decrease) debt	(27.7)	485	(5.15)	(3.43)	(3.43)
Other CFF	(1.07)	47.1	12.3	(29.6)	(29.6)
<b>Cash Flow from Financing</b>	<b>(610)</b>	<b>56.9</b>	<b>(588)</b>	<b>(752)</b>	<b>(879)</b>
<b>Total Cash Flow (CFO + CFI + CFF)</b>	<b>614</b>	<b>(1,043)</b>	<b>1,835</b>	<b>690</b>	<b>757</b>
FX and other changes to cash	0	2,680	(1,318)	0	0
Change in Cash	614	1,637	517	690	757
Change in Net Debt	(642)	(1,152)	(522)	(693)	(760)
Net Debt	(1,547)	(2,699)	(3,221)	(3,915)	(4,675)

## Key Balance Sheet Data

Property, Plant & Equipment	551	473	402	354	330
Goodwill	0	0	0	0	0
Other Intangibles	98.2	373	681	669	651
Other Non-Current Assets	77.6	53.3	70.7	46.1	47.1
Trade Receivables	3,021	4,345	4,693	5,428	6,022
Cash & Equivalents	1,608	3,245	3,762	4,452	5,208
Other Current Assets	1,818	1,794	1,693	1,990	2,348
Total Assets	7,173	10,282	11,301	12,939	14,606
Long-Term Debt	31.3	518	514	514	513
Other Non-Current Liabilities	237	285	400	400	400
Short-Term Debt	29.3	27.8	26.2	23.5	20.8
Other Current Liabilities	4,605	6,629	6,848	7,648	8,376
Total Liabilities	4,902	7,459	7,788	8,584	9,309
Total Equity	2,271	2,823	3,512	4,355	5,297
Total Equity & Liabilities	7,173	10,282	11,301	12,939	14,606

## Business Performance\*

Return On Capital Employed	33.7%	35.9%	33.3%	31.6%	30.7%
Return On Equity	40.1%	42.6%	40.8%	38.6%	36.1%
Operating Margin	12.5%	13.2%	13.1%	13.2%	13.7%
Free Cash Flow (MM)	1,195	1,951	1,506	1,409	1,603

## Quality of Earnings\*

Cash Realization Ratio	1.64x	1.95x	1.33x	1.08x	1.06x
Asset Replacement Ratio	0.74x	0.58x	0.60x	0.64x	0.78x
Tax Rate	7.87%	10.1%	13.2%	13.0%	13.0%
Net Debt/Equity	-68.1%	-95.6%	-91.7%	-89.9%	-88.3%
Interest Cover	NM	NM	33.7x	44.7x	NM

\* For full definitions of iQmethod<sup>SM</sup> measures, see page 6.

## Company Sector

Computer Services

## Company Description

Established in 2002, Solutions is the leading KSA-based ICT services provider with SAR46bn TAM in which it has c.20% share (as of 2022E). In Oct-22, Solutions has completed the acquisition of Giza Systems that expands its geographical presence (mainly Egypt) and enhances capabilities (mainly application integration). Saudi Telecom Company is the largest shareholder (79.0%).

## Investment Rationale

Solutions' TAM has plenty of long-term drivers. However, the company's high legacy exposure means it is currently focused on transformation towards digital. The Giza purchase makes sense, in our view, but we see little immediate impact. This could keep 2022-26E LFL revenue growth and profitability below the key peer Elm. As we see downside to our valuation, we rate the stock Underperform.

## Stock Data

Price to Book Value

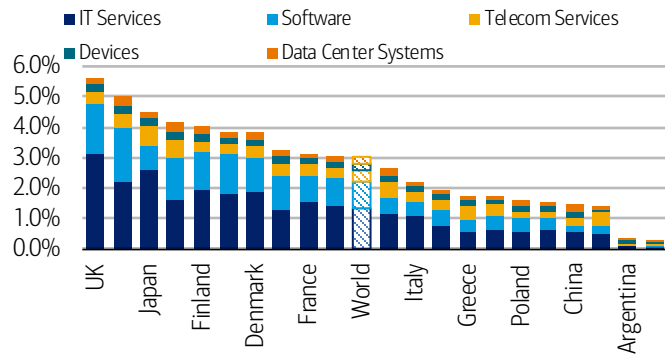
10.6x



# Invest case in key charts

## Exhibit 1: Enterprise IT end-user spending (total): 2023 penetration (as % of GDP) by segment, ex-internal services

KSA: 1.4% penetration vs 3.0% world average; 0.9% vs 2.7% ex-telecom



Source: Gartner (September 2023), IMF- (October 2023)

BofA GLOBAL RESEARCH

## Exhibit 2: 3Q23E Preview

We expect 20% net profit growth, up 20.4% YoY

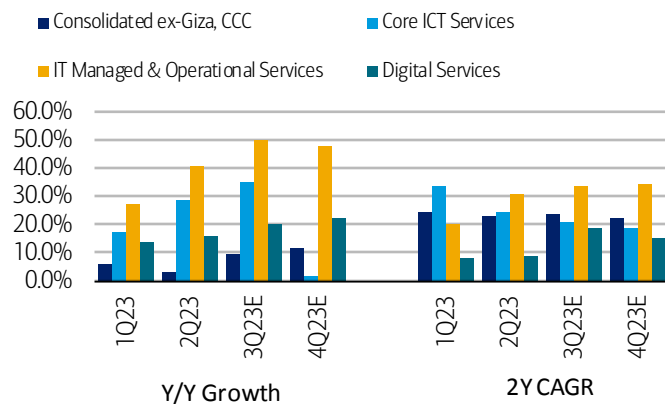
SAR m	3Q23E	3Q22A	Y/Y	2Q23A	Q/Q
<b>Revenue</b>	<b>2,775</b>	<b>2,039</b>	<b>36.1%</b>	<b>2,701</b>	<b>2.7%</b>
Core ICT Services	1,369	1,014	35.0%	1,377	-0.6%
IT Managed and Operational Services	879	586	50.0%	825	6.5%
Digital Services	527	439	20.0%	499	5.7%
Cost of revenue	(2,081)	(1,540)	35.1%	(1,970)	5.7%
<b>Gross profit</b>	<b>694</b>	<b>499</b>	<b>39.0%</b>	<b>732</b>	<b>-5.2%</b>
Gross margin	25.0%	24.5%	0.5pp	27.1%	-2.1pp
OpEx incl. D&A	(283)	(186)	52.5%	(344)	-17.8%
<b>Operating Profit (EBIT)</b>	<b>411</b>	<b>313</b>	<b>31.0%</b>	<b>387</b>	<b>6.0%</b>
D&A	(71)	(55)	28.8%	(68)	3.5%
<b>EBITDA</b>	<b>481</b>	<b>368</b>	<b>30.7%</b>	<b>456</b>	<b>5.7%</b>
EBITDA margin	17.4%	18.1%	-0.7pp	16.9%	0.5pp
<b>Net profit</b>	<b>361</b>	<b>300</b>	<b>20.4%</b>	<b>342</b>	<b>5.7%</b>

Source: Company reports, BofA Global Research estimates

BofA GLOBAL RESEARCH

## Exhibit 3: Revenue growth Y/Y and 2Y CAGR

IT managed & operational services stand out from rest of the segment

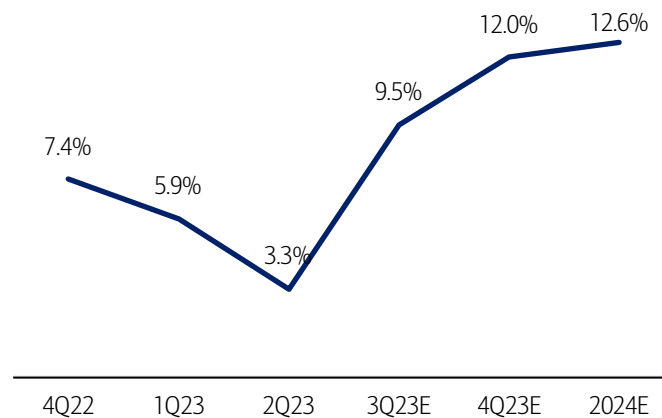


Source: Company reports, BofA Global Research estimates

BofA GLOBAL RESEARCH

## Exhibit 4: Revenue growth ex-Giza, CCC

Growth to peak at 12.6% in 2024E



Source: Company reports, BofA Global Research estimates

BofA GLOBAL RESEARCH

## Exhibit 5: Change in estimates, SAR m

We cut 2023E/24E Adj.Net profit by -3.3/-3.7%

	New		Old		Change	
	2023E	2024E	2023E	2024E	2023E	2024E
Revenue	11,014	12,624	11,478	13,164	-4.0%	-4.1%
Gross profit	2,633	2,957	2,533	2,907	4.0%	1.7%
Adj EBITDA	1,737	1,981	1,724	1,961	0.8%	1.0%
Adj Net profit	1,282	1,508	1,326	1,566	-3.3%	-3.7%

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

## Exhibit 6: BofA vs Consensus

We are -5.2%/-3.8% below 2023/24 E consensus

	2023E			2024E		
	BofA	Cons	Diff	BofA	Cons	Diff
SAR m						
Revenue	11,014	10,678	3.1%	12,624	12,078	4.5%
EBITDA adj.	1,737	1,724	0.8%	1,981	1,958	1.2%
Margin	15.8%	16.1%	-0.4pp	15.7%	16.2%	-0.5pp
EBIT	1,444	1,432	0.8%	1,669	1,662	0.4%
Net Income adj	1,282	1,353	-5.2%	1,508	1,567	-3.8%
EPS adjusted	10.69	10.86	-1.6%	12.57	12.39	1.4%
DPS declared	6.05	5.84	3.6%	7.12	6.84	4.2%

Source: BofA Global Research estimates, Bloomberg consensus forecasts

BofA GLOBAL RESEARCH



# Valuation

## Exhibit 7: Solutions DCF model, SAR m

We use a 8.8% WACC and 3.0% terminal growth

Valuation (SAR m)	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Revenue	12,624	14,004	15,475	16,868	18,133	19,221	20,086	20,689
y-o-y growth	14.6%	10.9%	10.5%	9.0%	7.5%	6.0%	4.5%	3.0%
Adj EBITDA	1,981	2,205	2,480	2,702	2,904	3,077	3,215	3,310
y-o-y growth	14.0%	11.3%	12.5%	9.0%	7.5%	6.0%	4.5%	3.0%
Margin	15.7%	15.7%	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%
D&A	(285)	(262)	(271)	(283)	(294)	(306)	(318)	(330)
Adj. EBIT	1,696	1,943	2,209	2,420	2,610	2,771	2,897	2,980
Cash tax rate (% of adj.EBIT)	11.3%	11.4%	11.6%	11.6%	11.6%	11.6%	11.6%	11.6%
Cash tax paid	(192)	(222)	(255)	(280)	(302)	(320)	(335)	(344)
Capex	(183)	(204)	(225)	(250)	(274)	(296)	(315)	(331)
Capex as % of Revenue	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.6%	1.6%
Change in working capital	(266)	(260)	(308)	(336)	(362)	(384)	(401)	(414)
NWC change as % of Revenue	2.1%	1.9%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Other adjustments (provisions)	118	118	118	118	118	118	118	118
Unlevered FCF	1,458	1,638	1,810	1,954	2,085	2,195	2,281	2,339
y-o-y growth	-5.1%	12.4%	10.5%	8.0%	6.7%	5.3%	3.9%	2.5%
Discount factor	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5
Discounted cash flows	699	1,443	1,465	1,453	1,425	1,378	1,316	1,240
Terminal								21,907
<b>EV, SAR m</b>								<b>32,326</b>
Net debt /(cash) incl. leases 2023E								(3,451)
End of service benefits provision 2023E								400
Minorities								-
<b>Equity value, SAR m</b>								<b>35,378</b>
NOSH diluted, m								120.0
<b>Fair value / share, SAR</b>								<b>295</b>

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH



## Price objective basis & risk

### Solutions by STC (XMETF)

Our discounted cash flow (DCF)-based price objective (PO) is SAR295. We assume a terminal growth of 3.0% and weighted-average cost of capital (WACC) of 8.8%. We see the following upside risks to our PO: (i) Saudi digitalization spending (including in the public sector) growing faster than expected, (ii) wider than forecasted margin expansion driven by operating leverage and revenue mix, (iii) the cloud business tracking ahead of expectations that might warrant higher stock multiples, (iv) better working capital trends, so FCF generation. Downside risks are: (i) faster transition to the cloud pressuring core ICT and managed services, (ii) volatile Saudi and Egypt macro, (iii) intensifying competition with local and international players, (iv) more competition could mean higher employee attrition and so pressure on personnel expenses, (v) execution risks related to the acquisition of Giza Systems.

## Analyst Certification

I, Cesar Tiron, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

### EEMEA - Telecoms & Media Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
<b>BUY</b>				
	Airtel Africa Limited	AAFRF	AAF LN	Cesar Tiron
	Allegro	ALEGF	ALE PW	Cesar Tiron
	Etihad Etisalat	XEHTF	EEC AB	Cesar Tiron
	Naspers	NAPRF	NPN SJ	Cesar Tiron
	Naspers	NPSNY	NPSNY US	Cesar Tiron
	Prosus	PROSF	PRX NA	Cesar Tiron
	Prosus	XWRYF	PRX SJ	Cesar Tiron
	Prosus	PROSY	PROSY US	Cesar Tiron
	Turkcell	XOFTF	TCELL TI	Evgeny Annenkov
	Turkcell	TKC	TKC US	Evgeny Annenkov
<b>NEUTRAL</b>				
	MTN Group	MTNOF	MTN SJ	Cesar Tiron
	OTE	HLTOF	HTO GA	Evgeny Annenkov
	Saudi Telecom Company (STC)	XUTUF	STC AB	Cesar Tiron
<b>UNDERPERFORM</b>				
	e&	XDICF	EAND UH	Cesar Tiron
	Elm Company	XMYLF	ELM AB	Cesar Tiron
	Solutions by STC	XMETF	SOLUTION AB	Cesar Tiron
	Telkom SA	TKMJF	TKG SJ	Cesar Tiron
	Turk Telekom	TRKNF	TTKOM TI	Evgeny Annenkov
	Vodacom	VODAF	VOD SJ	Cesar Tiron
	Zain KSA	XOCTF	ZAINKSA AB	Cesar Tiron
<b>RVW</b>				
	MTS	XKIFF	MTSS RM	Cesar Tiron
	VEON Ltd	VEON	VEON US	Cesar Tiron
	Yandex	YNDX	YNDX US	Cesar Tiron



## iQmethod<sup>SM</sup> Measures Definitions

<b>Business Performance</b>	<b>Numerator</b>	<b>Denominator</b>
Return On Capital Employed	$\text{NOPAT} = (\text{EBIT} + \text{Interest Income}) \times (1 - \text{Tax Rate}) + \text{Goodwill Amortization}$	Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill Amortization
Return On Equity	Net Income	Shareholders' Equity
Operating Margin	Operating Profit	Sales
Earnings Growth	Expected 5 Year CAGR From Latest Actual	N/A
Free Cash Flow	Cash Flow From Operations – Total Capex	N/A
<b>Quality of Earnings</b>	<b>Numerator</b>	<b>Denominator</b>
Cash Realization Ratio	Cash Flow From Operations	Net Income
Asset Replacement Ratio	Capex	Depreciation
Tax Rate	Tax Charge	Pre-Tax Income
Net Debt-To-Equity Ratio	Net Debt = Total Debt – Cash & Equivalents	Total Equity
Interest Cover	EBIT	Interest Expense
<b>Valuation Toolkit</b>	<b>Numerator</b>	<b>Denominator</b>
Price / Earnings Ratio	Current Share Price	Diluted Earnings Per Share (Basis As Specified)
Price / Book Value	Current Share Price	Shareholders' Equity / Current Basic Shares
Dividend Yield	Annualised Declared Cash Dividend	Current Share Price
Free Cash Flow Yield	Cash Flow From Operations – Total Capex	Market Cap = Current Share Price × Current Basic Shares
Enterprise Value / Sales	$\text{EV} = \text{Current Share Price} \times \text{Current Shares} + \text{Minority Equity} + \text{Net Debt} + \text{Other LT Liabilities}$	Sales
EV / EBITDA	Enterprise Value	Basic EBIT + Depreciation + Amortization

iQmethod<sup>SM</sup> is the set of BofA Global Research standard measures that serve to maintain global consistency under three broad headings: Business Performance, Quality of Earnings, and valuations. The key features of iQmethod are: A consistently structured, detailed, and transparent methodology. Guidelines to maximize the effectiveness of the comparative valuation process, and to identify some common pitfalls.

iQdatabase<sup>®</sup> is our real-time global research database that is sourced directly from our equity analysts' earnings models and includes forecasted as well as historical data for income statements, balance sheets, and cash flow statements for companies covered by BofA Global Research.

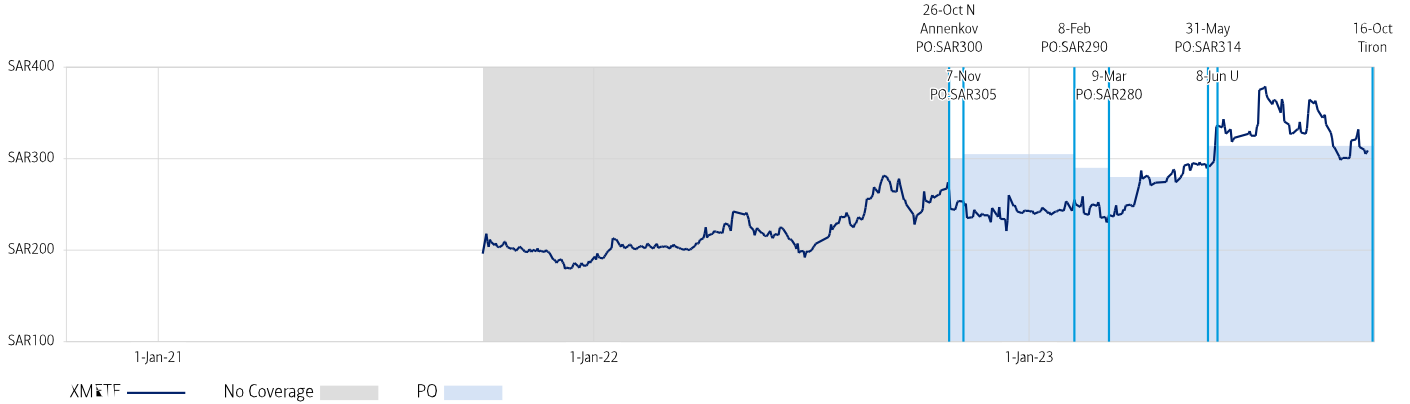
iQprofile<sup>SM</sup>, iQmethod<sup>SM</sup> are service marks of Bank of America Corporation. iQdatabase<sup>®</sup> is a registered service mark of Bank of America Corporation.



# Disclosures

## Important Disclosures

### Solutions by STC (XMETF) Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

### Equity Investment Rating Distribution: Technology Group (as of 30 Sep 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	Count	Percent
Buy	204	51.52%	Buy	104	50.98%
Hold	95	23.99%	Hold	45	47.37%
Sell	97	24.49%	Sell	27	27.84%

### Equity Investment Rating Distribution: Global Group (as of 30 Sep 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	Count	Percent
Buy	1869	53.48%	Buy	1046	55.97%
Hold	828	23.69%	Hold	461	55.68%
Sell	798	22.83%	Sell	370	46.37%

<sup>R1</sup> Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

**FUNDAMENTAL EQUITY OPINION KEY:** Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. **VOLATILITY RISK RATINGS**, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. **INVESTMENT RATINGS** reflect the analyst's assessment of both a stock's absolute total return potential as well as its attractiveness for investment relative to other stocks within its Coverage Cluster (defined below). Our investment ratings are: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. An investment rating of 6 (No Rating) indicates that a stock is no longer trading on the basis of fundamentals. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).

Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster <sup>R2</sup>
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

<sup>R2</sup> Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

**INCOME RATINGS**, indicators of potential cash dividends, are: 7 - same/higher (dividend considered to be secure), 8 - same/lower (dividend not considered to be secure) and 9 - pays no cash dividend. **Coverage Cluster** is comprised of stocks covered by a single analyst or two or more analysts sharing a common industry, sector, region or other classification(s). A stock's coverage cluster is included in the most recent BofA Global Research report referencing the stock.

Price Charts for the securities referenced in this research report are available on the [Price Charts website](#), or call 1-800-MERRILL to have them mailed.

In the US, retail sales and/or distribution of this report may be made only in states where these securities are exempt from registration or have been qualified for sale: Solutions by STC. BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.

## Other Important Disclosures

From time to time research analysts conduct site visits of covered issuers. BofA Global Research policies prohibit research analysts from accepting payment or reimbursement for travel expenses from the issuer for such visits.



Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.

The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.

Officers of BofA or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.

Refer to [BofA Global Research policies relating to conflicts of interest](#).

**"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.**

**Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:**

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no. 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at [www.bofam.com/BofASEdisclaimer](http://www.bofam.com/BofASEdisclaimer); BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSCF); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Investment Industry Regulatory Organization of Canada; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.

This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSCF; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the [Electronic Communications Disclaimers](#) for further information.

This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

**General Investment Related Disclosures:**

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities.

This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

This report may contain a short-term trading idea or recommendation, which highlights a specific near-term catalyst or event impacting the issuer or the market that is anticipated to have a short-term price impact on the equity securities of the issuer. Short-term trading ideas and recommendations are different from and do not affect a stock's fundamental equity rating, which reflects both a longer term total return expectation and attractiveness relative to other stocks within its Coverage Cluster. Short-term trading ideas and recommendations may be more or less positive than a stock's fundamental equity rating.





BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned herein. Investors in such securities and instruments, including ADRs, effectively assume currency risk.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

**Copyright and General Information:**

Copyright 2023 Bank of America Corporation. All rights reserved. iQdatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities.

Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

Subject to the quiet period applicable under laws of the various jurisdictions in which we distribute research reports and other legal and BofA Securities policy-related restrictions on the publication of research reports, fundamental equity reports are produced on a regular basis as necessary to keep the investment recommendation current.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies.

Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.

