

U.S. SMID-Cap Software

AI-future of Cybersecurity: An entrepreneur's AI security vision



Peter Weed
 +1 917 344 8390
 peter.weed@bernsteinsg.com



Armin Hadavi, CFA
 +1 917 344 8463
 armin.hadavi@bernsteinsg.com



Luwei Yang
 +1 917 344 8342
 luwei.yang@bernsteinsg.com

With many cybersecurity companies trading [near all-time highs](#) driven by excitement for [AI-driven budget expansion and demand](#), we were fortunate to host Amol Mathur, cyber entrepreneur and recent Palo Alto executive (head of their Cloud and AI businesses), for a discussion on the outlook and opportunity. We really appreciate Amol's perspective, given his deep experience working on leading product at top cyber companies — 20+ years spanning cloud security, data security, application security, endpoint security, and security operations. He has held leadership roles at McAfee, Akamai, IBM, and most recently Palo Alto Networks, where he helped lead Cloud and AI initiatives. AND in many ways, what was most intriguing to us is he chose NOW as the time to jump into an entrepreneurial venture when he could have kept the cushy executive roles. In the back of our mind was a key question: what is it that he's seeing that caused him to take on the risk of being a Founder.

Why now? AI is the most significant cybersecurity shift in decades, and Amol sees massive greenfield for startups. He thinks AI is creating a new attack surface that needs a new generation of security products. This is a greenfield with no established incumbents — a ripe opportunity to found a company to secure AI agents. The key dynamics allowing startups to succeed vs. established vendors really come down to a couple parts. First, a belief that a new AI security buying center will emerge. And second, independent “Switzerland” AI Agent cybersecurity will be advantaged vs. established vendors. In these types of market conditions the history shows new startups often win and become the future giants. He sees a path to get there!

New AI-cyber buyer may emerge, positioning startups to serve them natively. Unlike traditional cybersecurity categories, where vendor leaders and cyber buyers are already well-defined, buyers are currently rapidly deploying AI under board-level mandates while security teams are still trying to understand the associated risks. It means the CISO is tapping team members to look at this problem on a stand-alone basis, and not through one of the existing cyber pillars. This may set up naturally to become a new buying center.

“Switzerland” startups may be well positioned vs. vendors within existing pillars. Amol points out that attacks increasingly span endpoints, cloud environments, identities, applications, and AI systems, making data aggregation and context more important than any individual security product. He believes new winning cybersecurity vendors will collect, correlate, and analyze data across current cyber pillars to produce high-confidence outcomes. He also highlighted the emergence of AI-native SOC platforms and the shift toward separating security analytics from underlying SIEM or cyber data lakes.

What may be the new AI-cyber category? Securing AI agents and agentic workflows. He distinguished between “securing with AI” (using AI to improve existing security product and operations performance) and “securing AI” (protecting AI systems themselves). His view is that AI Agents introduce a fundamentally new threat model because they are trusted systems whose behavior is influenced by prompts, context, and external data. As a result, agent security, agent identity, and understanding agent intent are likely to become major new cybersecurity categories over the next several years. Startups may capture a significant portion of this value, in his mind (and we found this consistent with our CISO interviews and survey where startups are being considered broadly).

BERNSTEIN TICKER TABLE

Ticker	Rating	Cur	21 Aug 2026	Price Target	TTM	Adjusted EPS				Adjusted P/E (x)		
			Closing Price		Rel. Perf.	Cur	2025A	2026E	2027E	2025A	2026E	2027E
NET (Cloudflare)	M	USD	293.14	164.00	31.6%	USD	0.92	1.32	1.98	317.0	222.1	147.9
CRWD (CrowdStrike)	M	USD	191.95	103.00	65.0%	USD	0.93	1.25	1.66	205.9	154.2	115.5
FTNT (Fortinet)	M	USD	153.51	102.00	77.0%	USD	2.76	3.62	4.11	55.7	42.5	37.4
OKTA (Okta)	O	USD	135.14	141.00	30.0%	USD	3.50	3.91	4.64	38.6	34.5	29.1
PANW (Palo Alto Networks)	O	USD	357.87	253.00	74.7%	USD	3.43	3.63	4.89	104.4	98.5	73.1
S (SentinelOne)	O	USD	21.19	19.00	6.9%	USD	0.20	0.36	0.59	105.7	58.4	35.7
ZS (Zscaler)	O	USD	181.75	224.00	(53.2)%	USD	3.28	4.21	5.42	55.5	43.2	33.6
SPX			7,674.37									

O - Outperform, M - Market-Perform, U - Underperform, NR - Not Rated, CS - Coverage Suspended

CRWD, OKTA, S base year is 2026;

Source: Bloomberg, Bernstein estimates and analysis.

INVESTMENT IMPLICATIONS

No changes to our models, price targets, or ratings.

The discussion tends to support our previously expressed thesis that during the emergence of new technical architectures and buyers that existing vendors may receive a more limited portion of the upside. When asked about what makes it easier for a startup to realize the upside, he emphasized both the advantage of a new “Switzerland” that looks across existing cyber vendors’ pillars/platforms and that the new buyers in enterprises often prefer a new best-of-breed offering. On both these counts he also went deeper in our discussion, pointing out his experience with what we think is the classic “innovators dilemma” — the existing priorities and investments make it hard for an incumbent to build a winning offering given all the other priorities they have, have a clean story relative to their current platform, and access the new buyers with the current commercial team.

Net net: we are watching for startups in “AI for cybersecurity” and “Securing AI” that could emerge and become winners. The category leader(s) may become standalone and public, while their trailing competitors may be acquired by large incumbent platforms and vendors looking for a toehold in the gold rush.

Please read our recent notes for perspectives on Cybersecurity investment implications for Q2 earnings and H2 overall in our recent notes:

- [Cybersecurity: Off-cycle readthrough from earnings thus far](#)
- [Cybersecurity: mid-'26 CISO conference call transcript covering budget trends and priorities + AI-impact](#)
- [Cybersecurity Mid-'26 CISO survey: AI-driven demand continues!](#)
- [Growth Software & Cyber: H2'26 outlook flips the script???](#)

DETAILS

The discussion was broad, including:

- Which parts of cybersecurity are likely to benefit the most from AI-induced tailwinds
- Whether network or endpoint security is “better” positioned to capture the upside
- Where will existing vendors vs. new entrants more likely reap these benefits
- How far will AI Labs push into (and potentially disrupt) the existing cybersecurity landscape
- If AI will shift the balance of spend between the SOC (i.e., the CISO’s world) and Cloud Ops (e.g., Datadog’s vision of cybersecurity)
- How “platformization” shakes out — still a winner or not post AI

Amol’s central thesis was that AI represents the largest platform shift in cybersecurity in decades, creating both a new attack surface and a new generation of security products. This is what motivated him to leave Palo Alto Networks and start a company focused on securing AI agents. Unlike traditional cybersecurity markets with established leaders, AI security remains a largely greenfield opportunity, while enterprises are rapidly deploying AI under board-level mandates despite still trying to understand the associated risks.

His perspective: AI is not simply another feature within cybersecurity, but a fundamental architectural change. The most compelling opportunities appear to be in AI-native security operations, agent security, and products that bridge the gap between security teams and the developers and operators who actually drive remediation. The industry’s next generation of winners will likely be those that combine deep security expertise with a clear understanding of how AI changes both the threat landscape and enterprise workflows.

WHICH PARTS OF CYBERSECURITY ARE LIKELY TO BENEFIT THE MOST FROM AI-INDUCED TAILWINDS: OPERATIONAL EFFECTIVENESS + REMEDIATION, DETECTION & RESPONSE (AKA “DR”)

Perhaps the most important distinction Amol made was between “securing with AI” and “securing AI.” Securing with AI refers to using AI to improve existing cybersecurity functions such as threat detection, triage, red teaming, and vulnerability management. Effectively there is the operational benefits of AI to improve the SOC’s human efforts across prevention, remediation, and response. AI use by adversaries means attacks are coming faster and reaction time needs to move to machine speed — enhancing the SOC with AI tools can help them keep up. On the other hand, Securing AI, is about protecting AI systems themselves, especially autonomous AI agents.

Amol framed cybersecurity around three outcome-oriented pillars the SOC cares about, all needing to become much faster to evolve in the face of AI-enhanced threat actors:

- Risk Prevention: Prevent vulnerabilities before deployment through secure-by-design development, hardening, code scanning, and threat modeling.
- Risk Remediation: Find and fix exposures in production environments through vulnerability management, exposure management, and posture management.
- Detection & Response: Rapidly identify and contain threats once they occur through technologies such as SIEM, SOC, EDR, and XDR.

The biggest near-term opportunities appear to be in real time remediation and detection/response, where large data volumes and complex decision-making are well suited for AI-driven automation. His joke was that we will see more and more xxDR where the xx is some letters from vendors talking about their own DR capabilities. And even the use of AIDR to talk about the fact they are doing AI-specific DR.

Agent security and Identity could be the other major investment categories... but other than Identity infrastructure, it might create new product categories (and winners?) He argued that AI agents introduce an entirely new threat

model because they are trusted entities that can be influenced by prompts, external content, tools, and context. Traditional security approaches that focus on identifying unauthorized behavior are often insufficient when an agent's actions may appear legitimate while still causing harm. This leads to a major opportunity around agent security and identity. While identity infrastructure vendors (e.g. Okta) will play an important role by providing infrastructure for agent identities and permissions, Amol believes that effective agent security requires understanding an agent's intent in real time. The long-term goal is a world in which agents receive dynamically scoped permissions based only on the specific task they are performing. Achieving that vision requires visibility into prompts, objectives, workflows, and agent behavior, creating a new category of security products focused on agent observability and protection.

IS NETWORK OR ENDPOINT SECURITY “BETTER” POSITIONED TO CAPTURE THE “DR” UPSIDE? YES + NO

A recurring theme throughout the discussion was that modern attacks increasingly span multiple domains, making cross-platform visibility more important than ever. Endpoint, network, cloud, SASE, and identity tools each provide only a partial view of risk. As attacks move across these boundaries, security operations platforms and next-generation SIEMs remain critical because they aggregate data and context from multiple sources and connect the dots.

Network and endpoint will capture some DR opportunity... but broader upside more likely to accrue to a “Switzerland” across them? Amol's point of view is that the individual pillar owners will naturally win in their Next Generation SIEM DR areas, serving the buyer responsible for them — e.g., the NOC or endpoint team in the case of Palo Alto or CrowdStrike. But he also felt that there is an added winning strategy to having a cross-cutting access to the data and context required to generate high-confidence outcomes across cyber pillars.

AI-native SOC operations vendors operating above the cyber pillars are emerging to solve the signal-to-noise problem that has plagued security teams for years. By using AI agents as automated analysts, these platforms investigate alerts, correlate evidence across systems, and prioritize incidents that truly require human attention. In addition, we may see the traditional model in which SIEM vendors own both the data layer and analytics layer is being challenged. Data platforms such as Snowflake and Databricks are trying to increasingly argue that data should remain under customer control while security analytics are delivered separately on top. So these new AI-native SOC startups (e.g., Torq, 7AI, Prophet, Dropzone) now operate across all the pillars, with the pillars' cyber context stored in master data repositories hosted in data lake style vendors.

HOW FAR WILL AI LABS PUSH INTO (AND POTENTIALLY DISRUPT) THE EXISTING CYBERSECURITY LANDSCAPE

We discussed the increasing focus of AI Labs (e.g., OpenAI, Anthropic) on cybersecurity or at least cybersecurity related topics. Certainly this is somewhat a risk remediation effort for them — they want to be sure the code written with their AI Coding Agents can't be accused of creating security holes, or that their AI Agents can't be used to find and exploit weakness in technology or be leveraged for social engineering campaigns. So we jointly agreed that some of the effort is really self-preservation.

Amol believes AI Labs are most likely to focus on Application Security (e.g., code security, code scanning, software testing). Specifically he thinks Application Security capabilities will increasingly become a differentiating feature among AI coding assistants because enterprise buyers of AI Coding Agents will evaluate not only how effective these tools are at producing valuable code, but also how secure that code is. The area he expects to face the greatest disruption is code scanning and vulnerability prioritization. Historically, organizations have struggled with overwhelming numbers of findings and poor prioritization. AI models can reason across code bases, evaluate exploitability, and determine which vulnerabilities actually matter. As a result, cybersecurity vendors across multiple categories face a growing challenge from customers asking why they should pay for specialized products if a large language model can already perform a meaningful portion of the work.

...and not to enter any broader cybersecurity pillars. However, he does not expect AI Labs to aggressively enter broader cybersecurity categories such as security operations, detection and response, or exposure management. Partially because it's not required to address the strategic rationale that causes AI Labs to get into Application Security. But in many ways the even more critical observation is that these broader cyber pillars require significant domain expertise, workflows, integrations, and productization beyond the capabilities of AI Labs. Lack of strategic need + difficulty to enter is not a great recipe for AI Labs to prioritize broader cybersecurity build-out at a time when they are fighting more important battles for market share and quality of their AI Agents.

WILL AI SHIFT THE BALANCE OF SPEND BETWEEN THE SOC (I.E., THE CISO'S WORLD) AND CLOUD OPS (E.G., DATADOG'S VISION OF CYBERSECURITY)? MAYBE

Amol stressed that many security vendors focus too heavily on serving security teams rather than the people who actually remediate risk. He framed organizations as having "facilitators" and "doers." Security teams identify and prioritize risks as the "facilitators", while developers, DevOps teams, and operators ultimately implement fixes as the "doers". Products that seamlessly integrate cybersecurity insights into developer or DevOps or Cloud Ops workflows, rather than forcing developers or DevOps or Cloud Ops into separate security tools, are likely to be most successful. He pointed to Wiz as an example of a company that succeeded by explicitly building for both security teams and DevOps / Cloud Operations practitioners.

AI creates even more challenges for the "doers" as code and AI Agent scale goes up. There will be more and more demand for this cybersecurity insight at the time "doers" are working.

HOW "PLATFORMIZATION" SHAKES OUT – STILL A WINNER OR NOT POST AI

Amol defines a platform as a common data layer with shared taxonomy, combined with a common automation layer to enable the security capabilities built on top. Because these capabilities operate from the same understanding of risk, organizations can achieve faster, better, and more cost-effective outcomes across domains. A successful platform should be able to connect and correlate data together across all IT and security assets such as infrastructure, application, endpoints, workforce, and AI systems, as the context from this common data layer is essential for key security functions such as risk prioritization, remediation, or understand the blast radius in detection and response.

Platforms also provide additional benefits, although these are secondary compared with the value created by the common data layer. From a commercial perspective, organizations can benefit from simplified vendor management, contracting, and support. A common user interface can also improve operational efficiency for some teams. However, this benefit is less relevant across highly specialized silos, such as firewall administration teams and SOC teams, whose missions and workflows differ significantly. Furthermore, the emergence of headless architectures may reduce the long-term importance of fixed-function user interfaces, as experiences become increasingly delivered through flexible workflows and AI-driven interactions.

DISCLOSURE APPENDIX

I. REQUIRED DISCLOSURES

References to "Bernstein" or the "Firm" in these disclosures relate to the following entities: Bernstein Institutional Services LLC (April 1, 2024 onwards), Sanford C. Bernstein & Co., LLC (pre April 1, 2024), Bernstein Autonomous LLP, BSG France S.A. (April 1, 2024 onwards), Sanford C. Bernstein (Hong Kong) Limited 盛博香港有限公司, Sanford C. Bernstein (Canada) Limited, Sanford C. Bernstein (India) Private Limited (SEBI registration no. INH000006378), Sanford C. Bernstein (Singapore) Private Limited, Sanford C. Bernstein Japan KK (サンフォード・C・バーンスタイン株式会社) and analysts employed by Société Générale Africa Technologies & Services to produce Bernstein research under a Global Services Agreement in place between Bernstein and Société Générale.

Bernstein is part of a joint venture between Société Générale (SG) and AllianceBernstein, L.P. (AB). Unless specifically noted otherwise, for purposes of these disclosures, references to Bernstein's "affiliates" relate to both SG and AB and their respective affiliates.

VALUATION METHODOLOGY

This research publication covers six or more companies. For valuation methodology and other company disclosures:

Please visit: <https://bernstein-autonomous.bluematrix.com/sellside/Disclosures.action>.

Or, you can also write to the Director of Compliance, Bernstein Institutional Services LLC, 245 Park Avenue, New York, NY 10167.

RISKS

This research publication covers six or more companies. For risks and other company disclosures:

Please visit: <https://bernstein-autonomous.bluematrix.com/sellside/Disclosures.action>.

Or, you can also write to the Director of Compliance, Bernstein Institutional Services LLC, 245 Park Avenue, New York, NY 10167.

RATINGS DEFINITIONS, BENCHMARKS AND DISTRIBUTION**EQUITY RATINGS DEFINITIONS****Bernstein brand**

The Bernstein brand rates stocks based on forecasts of relative performance for the next 12 months versus the S&P 500 for stocks listed on the U.S. and Canadian exchanges, versus the Bloomberg Europe Developed Markets Large and Mid Cap Price Return Index EUR (EDME) for stocks listed on the European exchanges and emerging markets exchanges outside of the Asia Pacific region, versus the Bloomberg Japan Large and Mid Cap Price Return Index USD (JPL) for stocks listed on the Japanese exchanges, and versus the Bloomberg Asia ex-Japan Large and Mid Cap Price Return Index (ASIA) for stocks listed on the Asian (ex-Japan) exchanges -unless otherwise specified.

The Bernstein brand has three categories of ratings:

- Outperform: Stock will outpace the market index by more than 15 pp
- Market-Perform: Stock will perform in line with the market index to within +/- 15 pp
- Underperform: Stock will trail the performance of the market index by more than 15 pp

Coverage Suspended: Coverage of a company under the Bernstein research brand has been suspended. Ratings and price targets are suspended temporarily, are no longer current, and should therefore not be relied upon.

Not Rated: A rating assigned when the stock cannot be accurately valued, or the performance of the company accurately predicted, at the present time. The covering analyst may continue to publish research reports on the company to update investors on events and developments.

Not Covered (NC) denotes companies that are not under coverage.

Bernstein brand stock ratings are based on a 12-month time horizon.

Autonomous brand – common stocks

The Autonomous brand rates common stocks as indicated below. As our benchmarks we use the Bloomberg Europe 600 Financials Price Return Index (E600BK) and Bloomberg Europe Dev Mkt Financials Large and Mid Cap Price Ret Index EUR (EDMFI) index for developed European banks and Payments, the Bloomberg Europe 600 Insurance Price Return Index (E600IN) for European insurers, the S&P 500 and S&P Financials for US banks and Payments coverage, S5LIFE for US Insurance, the S&P Insurance Select Industry (SPSIINS) for US Non-Life Insurers coverage, the Bloomberg Emerging Markets Financials Large, Mid and Small Cap Price Return Index (EMLSF) for emerging market banks and insurers and Payments, and the Bloomberg Japan Financials Large & Mid Cap Price Return Index (JPFILM) for Japanese Financials. Ratings are stated relative to the sector (not the market).

The Autonomous brand has three categories of common stock ratings:

- Outperform (OP): Stock will outpace the relevant index by more than 10 pp
- Neutral (N): Stock will perform in line with the market index to within +/-10 pp
- Underperform (UP): Stock will trail the performance of the relevant index by more than 10 pp

Coverage Suspended: Coverage of a company under the Autonomous research brand has been suspended. Ratings and price targets are suspended temporarily, are no longer current, and should therefore not be relied upon.

Not Rated: A rating assigned when the stock cannot be accurately valued, or the performance of the company accurately predicted, at the present time. The covering analyst may continue to publish research reports on the company to update investors on events and developments.

Those denoted as 'Feature' (e.g., Feature Outperform FOP, Feature Under Outperform FUP) are our core ideas.

Not Covered (NC) denotes companies that are not under coverage.

Autonomous brand common stock ratings are based on a 12-month time horizon.

Autonomous brand – preferred stocks

The Autonomous brand has three categories of preferred stock ratings:

- Outperform (OP): The total return of the preferred instrument is expected to outperform preferred securities of other issuers operating in similar sectors or rating categories over the next six months.
- Neutral (N): The total return of the preferred instrument is expected to perform in line with preferred securities of other issuers operating in similar sectors or rating categories over the next six months.
- Underperform (UP): The total return of the preferred instrument is expected to underperform preferred securities of other issuers operating in similar sectors or rating categories over the next six months.

Autonomous preferred stock ratings are based on a 6-month time horizon.

AUTONOMOUS CREDIT RESEARCH

Where this report contains investment recommendations for credit instruments, as defined in article 3(1)(35) of the Market Abuse Regulation, the information below is presented to comply with its disclosure requirements.

The report may also include reference(s) to published opinions by other Autonomous or Bernstein analysts covering the equity securities of the issuer(s) referenced herein. Please note an investment recommendation for credit instruments published by the author(s) of this report may differ from the published view of the analyst covering equity securities for the issuer(s) contained in this report and vice versa.

CREDIT RATINGS DEFINITIONS

The Autonomous brand has three categories of credit ratings:

- Credit Outperform (C-OP): The total return of the Reference Credit Instrument is expected to outperform the credit spread of bonds of other issuers operating in similar sectors or rating categories over the next six months.

- Credit Neutral (C-N): The total return of the Reference Credit Instrument is expected to perform in line with the credit spread of bonds of other issuers operating in similar sectors or rating categories over the next six months.
- Credit Underperform (C-UP): The total return of the Reference Credit Instrument is expected to underperform the credit spread of bonds of other issuers operating in similar sectors or rating categories over the next six months.

Autonomous credit ratings are based on a 6-month time horizon.

A list of all investment recommendations produced by the author(s) of this report alongside credit ratings history are available upon request.

It is at the sole discretion of the Firm as to when to initiate, update and cease research coverage. The Firm has established, maintains and relies on information barriers to control the flow of information contained in one or more areas (i.e. the private side) within the Firm, and into other areas, units, groups or affiliates (i.e. public side) of the Firm

DISTRIBUTION OF EQUITY RATINGS/INVESTMENT BANKING SERVICES

Equity Rating	Market Abuse Regulation (MAR) and FINRA Rating Category	Global Rating Distribution	Investment Banking Relationships*
Outperform	BUY	51.2%	15.3%
Market-Perform (Bernstein Brand) Neutral (Autonomous Brand)	HOLD	35.8%	16.2%
Underperform	SELL	13.1%	13.6%

* These figures represent the percentage of companies within each equity rating category for which affiliates of Bernstein have provided investment banking services within the previous 12 months.
As of June 30, 2026. All figures are updated quarterly.

Prior to April 1, 2024, Sanford C. Bernstein & Co., LLC. issued the ratings and price target information in the graph(s) below for the following companies: Cloudflare Inc, Crowdstrike Holdings Inc, Fortinet Inc, Okta Inc, Palo Alto Networks Inc, SentinelOne Inc and Zscaler Inc.

PRICE CHARTS/ RATINGS AND PRICE TARGET HISTORY

This research publication covers six or more companies. For price chart and other company disclosures, please visit <https://bernstein-autonomous.bluematrix.com/sellside/Disclosures.action> or you can write to the Director of Compliance, Bernstein Institutional Services LLC, 245 Park Avenue, New York, NY 10167.

CONFLICTS OF INTEREST

SG and/or its affiliates beneficially own 0.5% or more of [the total issued share capital/any class of common equity securities] with a net [long/short] position of: Okta Inc, SentinelOne Inc and Zscaler Inc.

Bernstein and/or affiliates have received compensation for investment banking services in the past twelve months from Zscaler Inc.

Bernstein and/or affiliates have received compensation for non-investment banking securities-related products or services in the previous twelve months from the following clients: Palo Alto Networks Inc and SentinelOne Inc.

Certain affiliates of Bernstein act as market maker or liquidity provider in the equities securities of: Cloudflare Inc, Okta Inc.

Certain affiliates of Bernstein act as market maker or liquidity provider in the debt securities of: SentinelOne Inc.

Affiliates of Bernstein managed or co-managed in the past twelve months a public offering of securities of Zscaler Inc.



Bernstein and/or affiliates had an investment banking client relationship during the past twelve months with Zscaler Inc.

OTHER MATTERS

The legal entity(ies) employing the analyst(s) listed in this report, and their location, can be determined by the country code of their phone number, as follows:

- +1 Bernstein Institutional Services LLC; New York, New York, USA
- +44 Bernstein Autonomous LLP; London UK
- +212 Société Générale Africa Technologies & Services; Casablanca, Morocco
- +33 BSG France S.A.; Paris, France
- +34 BSG France S.A.; Madrid, Spain
- +41 Bernstein Autonomous LLP; Geneva, Switzerland
- +49 BSG France S.A.; Frankfurt, Germany
- +91 Sanford C. Bernstein (India) Private Limited; Mumbai, India
- +852 Sanford C. Bernstein (Hong Kong) Limited 盛博香港有限公司; Hong Kong, China
- +65 Sanford C. Bernstein (Singapore) Private Limited; Singapore
- +81 Sanford C. Bernstein Japan KK; Tokyo, Japan

Where this report has been prepared by research analyst(s) employed by a non-US affiliate, such analyst(s), is/are (unless otherwise expressly noted below) not registered as associated persons of Bernstein Institutional Services LLC or any other SEC-registered broker-dealer and are not licensed or qualified as research analysts with FINRA. Accordingly, such analyst(s) may not be subject to FINRA's restrictions regarding (among other things) communications by research analysts with a subject company, interactions between research analysts and investment banking personnel, participation by research analysts in solicitation and marketing activities relating to investment banking transactions, public appearances by research analysts, and trading securities held by a research analyst account.

Where this report has been prepared by research analyst(s) employed by Société Générale Africa Technologies & Services (part of the Société Générale group of companies), it has been prepared on behalf of a Bernstein company under a Global Services Agreement in place between Bernstein and Société Générale.

CERTIFICATION

Each research analyst listed in this report, who is primarily responsible for the preparation of the content of this report, certifies that all of the views expressed in this publication accurately reflect that analyst's personal views about any and all of the subject securities or issuers and that no part of that analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views in this publication.

II. ADDITIONAL GLOBAL CONFLICT DISCLOSURES

Separate branding is maintained for "Bernstein" and "Autonomous" research products.

- Bernstein produces a number of different types of research products including, among others, fundamental and quantitative analysis under both the "Autonomous" and "Bernstein" brands. Recommendations contained within a research product may differ from recommendations contained within other types of research products, whether differing time horizons, methodologies or otherwise. Furthermore, views or recommendations within a research product under one brand may differ from views or recommendations under the same type of research product issued

U.S. SMID-CAP SOFTWARE

BERNSTEIN | SOCIÉTÉ GÉNÉRALE

III. OTHER IMPORTANT INFORMATION AND DISCLOSURES

Within the Firm, and into other areas, units, groups or affiliates (i.e., public side) of the Firm, maintains and relies on information barriers to control the flow of information contained in one or more areas (i.e., the private side). It is at the sole discretion of the Firm as to when to initiate, update and cease research coverage. The Firm has established

brand. The Research Ratings System for the two brands and other information related to those Rating Systems are included in the previous section.

- Autonomous operates as a separate business unit within the following entities: Bernstein Institutional Services LLC, Bernstein Autonomous LLP, Sanford C. Bernstein (Hong Kong) Limited 盛博香港有限公司 and Sanford C. Bernstein (India) Private Limited. For information relating to “Autonomous” branded products (including certain Sales materials) please visit: www.autonomous.com. For information relating to Bernstein branded products please visit: www.bernsteinresearch.com.

Analysts are compensated based on aggregate contributions to the research franchise as measured by account penetration, productivity and proactivity of investment ideas. No analysts are compensated based on performance in, or contributions to, generating investment banking revenues.

This report has been produced by an independent analyst as defined in Article 3 (1)(34)(i) of EU 596/2014 Market Abuse Regulation (“MAR”) and the same article of MAR as it forms part of United Kingdom domestic law by virtue of the European Union (Withdrawal) Act 2018.

To our readers in the United States: Bernstein Institutional Services LLC, a broker-dealer registered with the U.S. Securities and Exchange Commission (“SEC”) and a member of the U.S. Financial Industry Regulatory Authority, Inc. (“FINRA”) is distributing this publication in the United States and accepts responsibility for its contents. Where this material contains an analysis of debt product(s), such material is intended only for institutional investors and is not subject to the US independence and disclosure standards applicable to debt research prepared for retail investors.

Bernstein Institutional Services LLC may act as principal for its own account or as agent for another person (including an affiliate) in sales or purchases of any security which is a subject of this report. This report does not purport to meet the objectives or needs of any specific individuals, entities or accounts.

To our readers in Canada: If this publication pertains to a Canadian domiciled company, it is being distributed in Canada by Sanford C. Bernstein (Canada) Limited, which is licensed and regulated by the Canadian Investment Regulatory Organization. If the publication pertains to a non-Canadian domiciled company, it is being distributed by Bernstein Institutional Services LLC, which is licensed and regulated by both the SEC and FINRA, into Canada under the International Dealers Exemption.

This document may not be passed onto any person in Canada unless that person qualifies as “permitted client” as defined in Section 1.1 of NI 31-103.

To our readers in Brazil: This report has been prepared by Bernstein Institutional Services LLC, and Banco BTG Pactual S.A. (“BTG”) is responsible for the distribution of this report in Brazil.

To readers in the United Kingdom: This publication has been issued or approved for issue in the United Kingdom by Bernstein Autonomous LLP, authorised and regulated by the Financial Conduct Authority and located at 60 London Wall, London EC2M 5SH, +44 (0)20-7170-5000. Registered in England & Wales No OC343985.

This document is for distribution only to persons who (i) have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the “Financial Promotion Order”), (ii) are persons falling within Article 49(2)(a) to (d) (“high net worth companies, unincorporated associations, etc.”) of the Financial Promotion Order, (iii) are outside the United Kingdom, or (iv) are persons to whom an invitation or inducement to engage in investment activity (within the meaning of section 21 of the FSMA) in connection with the issue or sale of any securities may otherwise lawfully be communicated or caused to be communicated (all such persons together being referred to as “relevant persons”). This document is directed only at relevant persons and must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this document relates is available only to relevant persons and will be engaged in only with relevant persons.

To our readers in the member states of the EEA: This publication is being distributed by BSG France SA, which is authorised and regulated by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and Autorité des Marchés Financiers (AMF).

To our readers in Hong Kong: This publication is being distributed in Hong Kong by Sanford C. Bernstein (Hong Kong) Limited 盛博香港有限公司, which is licensed and regulated by the Hong Kong Securities and Futures Commission (Central Entity No. AXC846) to carry out Type 4 (Advising on Securities) regulated activities and subject to the licensing conditions mentioned in the SFC Public Register (<https://www.sfc.hk/publicregWeb/corp/AXC846/details>). This publication is solely for professional investors, as defined in the Securities and Futures Ordinance (Cap. 571). The purpose of this report is solely to provide an analysis of the issuers referred to in this report and is not intended for any purpose contrary to the laws of Hong Kong.

To our readers in Singapore: This publication is being distributed in Singapore by Sanford C. Bernstein (Singapore) Private Limited, only to accredited investors or institutional investors, as defined in the Securities and Futures Act 2001 of Singapore ("SFA"). Recipients in Singapore should contact Sanford C. Bernstein (Singapore) Private Limited in respect of matters arising from, or in connection with, this publication. Sanford C. Bernstein (Singapore) Private Limited is regulated by the Monetary Authority of Singapore and licensed under the SFA as a capital markets services licence holder for dealing in capital markets products that are securities and collective investment schemes and an exempt financial adviser for advising on, issuing and promulgating analyses and reports on securities. Sanford C. Bernstein (Singapore) Private Limited is registered in Singapore with Company Registration No. 20213710W and located at 8 Marina Boulevard, #12-01, Marina Bay Financial Centre, Singapore 018981, +65-6326-7000.

To our readers in the People's Republic of China: The securities referred to in this document are not being offered or sold and may not be offered or sold, directly or indirectly, in the People's Republic of China (for such purposes, not including the Hong Kong and Macau Special Administrative Regions or Taiwan, the "PRC") in contravention of any applicable laws of the PRC.

This document does not constitute an offer to sell or the solicitation of an offer to buy any securities in the PRC to any person to whom it is unlawful to make the offer or solicitation in the PRC.

We do not represent that this document may be lawfully distributed, or that any securities may be lawfully offered, in compliance with any applicable registration or other requirements in the PRC, or pursuant to an exemption available thereunder, or assume any responsibility for facilitating any such distribution or offering. In particular, no action has been taken by us which would permit a public offering of any securities or distribution of this document in the PRC. Accordingly, the securities are not being offered or sold within the PRC by means of this document or any other document. Neither this document nor any advertisement or other offering material may be distributed or published in the PRC, except under circumstances that will result in compliance with any applicable laws and regulations.

To our readers in Japan: This publication is being distributed in Japan by Sanford C. Bernstein Japan KK (サンフォード・C・バーンスタイン株式会社), which is registered in Japan as a Financial Instruments Business Operator with the Kanto Local Finance Bureau (registration number: The Director-General of Kanto Local Finance Bureau (FIBO) No.3387) and regulated by the Financial Services Agency. It is also a member of Investment Management Association of Japan. This publication is solely for qualified institutional investors in Japan only, as defined in Article 2, paragraph (3), items (i) of the Financial Instruments and Exchange Act.

For the institutional client readers in Japan who have been granted access to the Bernstein website by Daiwa Securities Group Inc. ("Daiwa"), your access to this document should not be construed as meaning that Bernstein is providing you with investment advice for any purposes. Whilst Bernstein has prepared this document, your relationship is, and will remain with, Daiwa, and Bernstein has neither any contractual relationship with you nor any obligations towards you.

To our readers in Australia: Sanford C. Bernstein (Hong Kong) Limited 盛博香港有限公司 is responsible for distributing research in Australia. It is regulated by the Securities and Exchange Commission under U.S. laws, by the Financial Conduct Authority under U.K. laws, which differs from Australian laws. Sanford C. Bernstein (Hong Kong) Limited 盛博香港有限公司 is exempt from the requirement to hold an Australian financial services license under the Corporations Act 2001 in respect of the provision of the following financial services to wholesale clients:

- providing financial product advice;
- dealing in a financial product;
- making a market for a financial product; and
- providing a custodial or depository service.

To our readers in India: This publication is being distributed in India by Sanford C. Bernstein (India) Private Limited (SCB India) which is licensed and regulated by Securities and Exchange Board of India ("SEBI") as a research analyst entity under the SEBI (Research Analyst) Regulations, 2014, having registration no. INH000006378 and as a stock broker having registration no. INZ000213537. SCB India is currently engaged in the business of providing research and stock broking services. Please refer to www.bernsteinresearch.in for more information.

- SCB India is a Private limited company incorporated under the Companies Act, 2013, on April 12, 2017 bearing corporate identification number U65999MH2017FTC293762, and registered office at Level 3A, 4th Floor, First International Financial Centre, Plot Nos C-54 and C-55, G Block, Near CBI Office, Bandra Kurla Complex, Bandra (East), Mumbai 400098, Maharashtra, India (Phone No: +91-22-68421401).

- For details of Associates (i.e., affiliates/group companies) of SCB India, kindly email MUM-BERNSTEIN-InCompliance@bernsteinsg.com.
- SCB India does not have any disciplinary history as on the date of this report.
- Except as noted above, SCB India and/or its Associates (i.e., affiliates/group companies), the Research Analysts authoring this report, and their relatives
 - do not have any financial interest in the subject company
 - do not have actual/beneficial ownership of one percent or more in securities of the subject company;
 - is not engaged in any investment banking activities for Indian companies, as such;
 - have not managed or co-managed a public offering in the past twelve months for any Indian companies;
 - have not received any compensation for investment banking services or merchant banking services from the subject company in the past 12 months;
 - have not received compensation for brokerage services from the subject company in the past twelve months;
 - have not received any compensation or other benefits from the subject company or third party related to the specific recommendations or views in this report; and
 - do not currently, but may in the future, act as a market maker in the financial instruments of the companies covered in the report.
 - do not have any conflict of interest in the subject company as of the date of this report.
- Except as noted above, the subject company has not been a client of SCB India during twelve months preceding the date of distribution of this research report. Neither SCB India nor its Associates (i.e., affiliates/group companies) have received compensation for products or services other than investment banking, merchant banking or brokerage services from the subject company in the past twelve months.
- The principal research analyst(s) who prepared this report, members of the analysts' team, and members of their households are not an officer, director, employee or advisory board member of the companies covered in the report.
- Our Compliance officer / Grievance officer is Ms. Rupal Talati, who can be reached at +91-22-68421451, or MUM-BERNSTEIN-InCompliance@bernsteinsg.com / Scbin-investorgrievance@bernsteinsg.com
- The Research investor charter and Terms & Conditions of SCB India are available on its website and may be accessed at [Sanford C. Bernstein \(India\) Private Limited](https://bernsteinresearch.in/) (https://bernsteinresearch.in/) for your reference.
- Disclaimer: Registration granted by SEBI, and certification from NISM, is in no way a guarantee of performance of the intermediary or provide any assurance of returns to investors. Investments in securities market are subject to market risks. Read all the related documents carefully before investing.

To our readers in Switzerland: This document is provided in Switzerland by or through Bernstein Autonomous LLP, and is provided only to qualified investors as defined in article 10 of the Swiss Collective Investment Scheme Act ("CISA") and related provisions of the Collective Investment Scheme Ordinance and in strict compliance with applicable Swiss law and regulations. The products mentioned in this document may not be suitable for all types of investors. This document is based on the Directives on the Independence of Financial Research issued by the Swiss Bankers Association (SBA) in January 2008.

To our readers in the Middle East: Bernstein Autonomous LLP, DIFC branch has its principal office at Gate Village 06, DIFC, Dubai, UAE. Bernstein Autonomous LLP, DIFC branch is regulated by the Dubai Financial Services Authority (DFSA) with the registration number CL10040 and is provisioned for Arranging Deals in Investments and Advising on Financial Products. All communications and services are directed at Professional Clients and Market Counterparties only (as defined in the DFSA rulebook). Persons other than Professional Clients and Market Counterparties, such as Retail Clients, are not the intended recipients of our communications or services.

LEGAL

All research publications are disseminated to our clients through posting on the firm's password protected websites, bernsteinresearch.com and autonomous.com. Certain, but not all, research publications are also made available to clients through third-party vendors or redistributed to clients through alternate electronic means as a convenience.

This publication has been published and distributed in accordance with the Firm's policy for management of conflicts of interest in investment research, a copy of which is available from Bernstein Institutional Services LLC, Director of Compliance, 245 Park Avenue, New York, NY 10167. Additional disclosures and information regarding Bernstein's business are available on our website www.bernsteinresearch.com.

The securities described herein may not be eligible for sale in all jurisdictions or to certain categories of investors where that permission profile is not consistent with the licenses held by the entities noted herein. This document is for distribution only as may be permitted by law. This publication is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of, or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or which would subject any of the entities referenced herein or any of their subsidiaries or affiliates to any registration or licensing requirement within such jurisdiction. This publication is based upon public sources we believe to be reliable, but no representation is made by us that the publication is accurate or complete. We do not undertake to advise you of any change in the reported information or in the opinions herein. This publication was prepared and issued by entity referred to herein for distribution to eligible counterparties or professional clients. This publication is not an offer to buy or sell any security, and it does not constitute investment, legal or tax advice. The investments referred to herein may not be suitable for you. Investors must make their own investment decisions in consultation with their professional advisors in light of their specific circumstances. The value of investments may fluctuate, and investments that are denominated in foreign currencies may fluctuate in value as a result of exposure to exchange rate movements. Information about past performance of an investment is not necessarily a guide to, indicator of, or assurance of, future performance.

This report is directed to and intended only for our clients who are "eligible counterparties", "professional clients", "institutional investors" and/or "professional investors" as defined by the aforementioned regulators, and must not be redistributed to retail clients as defined by the aforementioned regulators. Retail clients who receive this report should note that the services of the entities noted herein are not available to them and should not rely on the material herein to make an investment decision. The result of such act will not hold the entities noted herein liable for any loss thus incurred as the entities noted herein are not registered/ authorised/ licensed to deal with retail clients and will not enter into any contractual agreement/arrangement with retail clients. This report is provided subject to the terms and conditions of any agreement that the clients may have entered into with the entities noted herein. All research reports are disseminated on a simultaneous basis to eligible clients through electronic publication to our client portal.

The information in this report was prepared by Bernstein solely for the internal business use of our clients. Clients may store, display, analyze, reformat and print the information in this report for this limited use only. Clients may not copy, alter, create derivative works, resell, reverse engineer, commercially exploit, share or distribute any part of the information contained herein for any purpose without Bernstein's express written consent. These restrictions include extracting data or using the content to develop indices or other products. Further, you may not use this report, or any portion of this report, to train or finetune any third-party machine learning or artificial intelligence system, or as a prompt or input into any such system. You also may not, without Bernstein's express written consent, do any of the foregoing in connection with your own internal machine learning or artificial intelligence system.

Bernstein may use artificial intelligence tools in the preparation of its materials. Any such materials are reviewed by Bernstein's research analysts prior to publication.

This report has been prepared for information purposes only and is based on current public information that we consider reliable, but the entities noted herein do not warrant or represent (express or implied) as to the sources of information or data contained herein are accurate, complete, not misleading or as to its fitness for the purpose intended even though the entities noted herein rely on reputable or trustworthy data providers, it should not be relied upon as such. Opinions expressed are the author(s)' current opinions as of the date appearing on the material only and we do not undertake to advise you of any change in the reported information or in the opinions herein.

Any references to Societe Generale herein are purely factual, based upon publicly available information, and included for comparative purposes only. They do not constitute an opinion or recommendation with respect to the securities of Societe Generale.

This publication was prepared and issued by the entity referred to herein for distribution to eligible counterparties or professional clients. The information in this report is intended for general circulation and does not constitute an offer to buy or sell any security, investment, legal or tax advice nor a personal recommendation, as defined by any of the aforementioned regulators. It does not take into account the particular investment objectives, financial situations, or needs of individual investors. The report has not been

reviewed by any of the aforementioned regulators and does not represent any official recommendation from the aforementioned regulators. The investments referred to herein may not be suitable for you. Investors must make their own investment decisions in consultation with advice sought from a financial adviser regarding the suitability of the investment product, taking into account the specific investment objectives, financial situation or particular needs of any recipient of the recommendation, before the recipient makes a commitment to purchase the investment product.

The analysis contained herein is based on numerous assumptions. Different assumptions could result in materially different results. The information in this report does not constitute, or form part of, any offer to sell or issue, or any offer to purchase or subscribe for shares, or to induce engagement in any other investment activity. The value of any securities or financial instruments mentioned in this report may fluctuate subject to market conditions. Information about past performance of an investment is not necessarily a guide to, indicative of, or assurance of future performance. Estimates of future performance mentioned by the research analyst in this report are based on assumptions that may not be realized due to unforeseen factors like market volatility/fluctuation. In relation to securities or financial instruments denominated in a foreign currency other than the clients' home currency, movements in exchange rates will have an effect on the value, either favorable or unfavorable. Before acting on any recommendations in this report, recipients should consider the appropriateness of investing in the subject securities or financial instruments mentioned in this report and, if necessary, seek independent professional advice.

The securities described herein may not be eligible for sale in all jurisdictions or to certain categories of investors where that permission profile is not consistent with the licenses held by the entities noted herein. This document is for distribution only as may be permitted by law. It is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or would subject the entities noted herein to any regulation or licensing requirement within such jurisdiction.

Source: Bloomberg Index Services Limited. BLOOMBERG® is a trademark and service mark of Bloomberg Finance L.P. and its affiliates (collectively "Bloomberg"). Bloomberg or Bloomberg's licensors own all proprietary rights in the Bloomberg Indices. Neither Bloomberg nor Bloomberg's licensors approves or endorses this material, or guarantees the accuracy or completeness of any information herein, or makes any warranty, express or implied, as to the results to be obtained therefrom and, to the maximum extent allowed by law, neither shall have any liability or responsibility for injury or damages arising in connection therewith.

No part of this material may be reproduced, distributed or transmitted or otherwise made available without prior consent of the entities noted herein. Copyright Bernstein Institutional Services LLC Bernstein Autonomous LLP, BSG France S.A., Sanford C. Bernstein (Hong Kong) Limited 盛博香港有限公司, Sanford C. Bernstein (Canada) Limited, Sanford C. Bernstein (India) Private Limited (SEBI registration no. INH000006378), Sanford C. Bernstein (Singapore) Private Limited and Sanford C. Bernstein Japan KK (サンフォード・C・バーンスタイン株式会社). All rights reserved. The trademarks and service marks contained herein are the property of their respective owners. Any unauthorized use or disclosure is strictly prohibited. The entities noted herein may pursue legal action if the unauthorized use results in any defamation and/or reputational risk to the entities noted herein and research published under the Bernstein and Autonomous brands.