Tesla Inc

Takeaways from Fremont Factory Tour, FSD Demos, and IR Meeting

Neutral

TSLA, TSLA US
Price (17 Aug 26):$339.30

Autos & Auto Parts

Rajat Gupta AC
(1-212) 622-6382
rajat.gupta@jpmorgan.com

Jash Patwa
(1-212) 622-5472
jash.patwa@jpmchase.com

Yash Beswala
(1-212) 622-0028
yash.beswala@jpmchase.com
J.P. Morgan Securities LLC

We recently toured TSLA's Fremont factory and met with the IR team, Paresh Jain and Abhinav Davuluri, coming away with a deeper appreciation for the company's manufacturing capabilities, particularly the high degree of automation and operational intensity that defines the facility, while our discussion with IR provided incremental assurance around both the long-term vision and the near-term execution steps supporting it. Robotaxi scaling appears well positioned, with the limited Cybercab test fleet continuing to validate the technology, though the next major inflection in fleet deployment is tied to the roll out of FSD v15 later this year — TSLA also noted that further Model Y additions to the robotaxi fleet are being limited, reflecting management's conviction in the near-term scalability of Cybercab. On Optimus, production lines are being installed at Fremont (the area was tarped off at the time of our visit) and TSLA remains largely on schedule for the targeted 4 month transition following the May end-of-production for S/X, with initial humanoid deployments in 2H26 expected to focus on Optimus Academy for training and data collection, followed by internal factory use and external sales as early as 2H27. Gen 3 design is now finalized, locking in much of the supply chain, though esthetic elements are still being refined and will be revealed closer to SoP, and data collection remains the critical gating factor — as with FSD, TSLA is intent on building a proprietary in-house data repository. On FSD, the feature is increasingly becoming the primary purchase consideration for consumers, and while management sees long-term pricing power for current and future functionalities as exceeding the $99/mo price point, the near-term focus is on expanding the subscriber base and driving usage, recognizing the importance of fueling both the sales and software development flywheels. Alongside growing FSD awareness and appreciation, TSLA's refreshed model lineup is also cited as a key catalyst for improving demand. Overall, we came away from the factory tour with greater conviction in the robotaxi fleet ramp through late-2026/early-2027, as well as an Optimus SoP that remains largely aligned with previously communicated timelines, both of which are central to the long-term thesis, while near-term commentary on demand drivers and FSD uptake remains constructive. Below are our detailed takeaways:

- **Facility details.** TSLA's Fremont facility serves as the company's primary test bed for innovation, supporting the launch of both new vehicles and humanoids across its expansive ~5 mn sq ft footprint. The plant manufactures premium Model Y and performance and premium Model 3 variants, while the recently decommissioned S/X lines (retired in early May) are being replaced by Optimus production lines. The factory showcases the breadth of TSLA's automation capabilities, featuring numerous custom-built robots and proprietary software designed to enhance manufacturing speed and precision. Production continues under several modernized tents, originally erected during the Model 3 production hell days, which remain integral to the facility's operations. During our visit, we observed gigapress machines, stamping operations, general assembly lines, and participated in FSD demonstrations, including with the Model Y L variant and the Cybertruck.

  - **Giga casting and stamping.** TSLA's innovative giga casting process, first

See page 5 for analyst certification and important disclosures.

Rajat Gupta AC
(1-212) 622-6382
rajat.gupta@jpmorgan.com

introduced with the Model Y, consolidates 70 underbody components that would otherwise require welding, significantly streamlining production. This approach reduces the number of robots needed on the welding line — Model Y utilizes ~300 robots compared to ~1,000 for the Model 3. TSLA also attributes this advancement to its material science expertise, including the development of a custom aluminum alloy, a capability enhanced through its collaboration with SpaceX. On stamping, TSLA employs Schuler presses with six progressive, interchangeable die casts. TSLA stamps ~10 visible vehicle components in-house, while the remaining (hundreds) of stamped parts are sourced from suppliers.

- **Unboxed manufacturing.** TSLA emphasized that Cybercab production leverages an unboxed manufacturing process, where large subassemblies are built independently and in parallel, then joined together at the final stage. This approach allows open access from all angles, enabling simultaneous installation and streamlining the overall assembly process.
- **FSD Demos.** We participated in FSD demos with the Model Y L and Cybertruck, with the team running us through the various modes (ranging from Sloth to Mad Max) where the vehicle demonstrated notable driving accuracy, including navigating through a construction zone with no manual intervention. The Autopark function worked seamlessly as well.

- **Cybercab ramp up is closely tied to the FSD v15 roll-out.** Management expressed optimism about the trajectory and pace of the Cybercab production ramp, highlighting that technology validation and production (unboxed manufacturing) are advancing in parallel, with the fleet deployment timeline largely dictated by the upcoming FSD v15 launch later this year. TSLA indicated it is intentionally holding back on adding Model Y units to the robotaxi fleet, expressing confidence in its ability to scale the Cybercab fleet in the near-term. On FSD v15, TSLA views this release as a step-change in performance, comparable to the leap from v13 to v14, which saw a significant increase in parameter count, a larger context window, and a ~20% reduction in latency. The v15 upgrade encompasses seven core technologies, with ~40% of those currently being tested in the robotaxi fleet, where initial feedback has been encouraging. TSLA continues to focus on minimizing regression in core driving functions as it introduces new functionalities to the system, and FSD v15 is seen as the primary gateway to scaling unsupervised FSD. While the current AI/HW4 stack is capable of running v15 and supporting unsupervised FSD, TSLA's AI4.5 compute system is designed to future-proof against rising compute (~10% higher FLOPS) and memory (~2x higher) demands as robotaxi models scale and context windows expand.
- **Robotaxi unit economics remain compelling with Model 3/Y though Cybercab is designed to broaden TAM beyond traditional rideshare.** TSLA highlighted that current robotaxi economics are attractive, with Model Y and Model 3 total cost of ownership at ~$0.60-0.70/mile at average personal vehicle utilization, and dropping ~ $0.50–0.60/mile at the 4-5x higher utilization rates typical for robotaxis, well below the ~$2.5–3.0/mile price charged by incumbent rideshare operators. However, TSLA's vision for robotaxis extends beyond the traditional rideshare segment, which represents only a LSD% of the overall mobility market, and calls for a purpose-built robotaxi platform capable of driving TCO down to ~$0.30/mile. Management also reiterated that the Cybercab is just the initial form factor, with additional vehicle types expected to follow as the platform evolves (citing the obovan demo from the 10/10 event as an example).
- **Optimus is on track for SoP in the coming months with commercial sales expected as early as 2H27.** While we did not have the opportunity to view the Optimus production lines currently being installed following the S/X decommissioning, TSLA indicated it remains largely on schedule with the ~4 month transition target (S/X production ended

Rajat Gupta AC
(1-212) 622-6382
rajat.gupta@jpmorgan.com

in May 2026). No Optimus robots have been deployed at the Fremont factory yet, though management highlighted that stamping and body-in-white operations are likely to benefit most in the near term, given the repetitive and hazardous nature of those tasks. In contrast, the general assembly line still requires human dexterity and is expected to be a longer-dated application for humanoids. The initial rollout plan calls for Optimus robots to be deployed in the Optimus Academy in 2H26, where humanoids will learn by interacting with real-world environments, accelerating TSLA's data collection flywheel. Following this phase, humanoids will be deployed internally at TSLA factories for further data collection and to minimize third-party data complexities, with commercial sales to external customers anticipated as early as 2H27. TSLA is aligning humanoid data collection with FSD methodology and is committed to retaining data ownership internally, rather than relying on third-party datasets, to preserve long-term differentiation. Separately, TSLA noted that compute capacity has scaled ~2x y/y in 1H26, and design finalization (although aesthetics remain a work in progress) represents a key milestone for Optimus, signaling the company's commitment to scaling volumes longer-term (~1 mn units targeted at Fremont, with a longer-term goal of ~10 mn units at Giga Texas). The Gen 3 unveil will be timed closer to SoP to protect competitive advantage, while the scope of Gen 4 (in terms of capability, cost, and scalability) will be informed by Gen 3 field experience.

- **Demand rebound attributed to FSD and model lineup refreshes.** Excluding any potential EV demand uplift from higher gas prices tied to the Middle East conflict (which public franchise dealer management has indicated has not materially impacted BEV demand), TSLA attributes the recent acceleration in unit volumes (2Q26 unit sales +25% y/y and +34% q/q, largest q/q pickup since 2019) to progress on FSD and a refreshed model lineup. The introduction of new base variants, alongside the Model Y L and updated performance models, has broadened TSLA's offering, enabling the company to address a wider range of use cases and price points. On FSD, TSLA has made it the centerpiece of its product portfolio, leveraging improved functionalities to drive incremental customer interest, and management noted a growing trend of customers visiting showrooms specifically to learn about FSD. This sales momentum is also evident internationally, with markets such as Australia and South Korea, and early results from Europe showing a step-change in demand following FSD rollout.
- **Europe FSD approval update.** TSLA is pursuing a dual-track strategy for FSD approval in Europe, engaging directly with the EU (where the approval timeline has been repeatedly delayed and is now expected in October) while simultaneously working with individual countries such as the Netherlands, whose regulatory frameworks can be adopted by other EU member states. Early driving data from Europe shows promising safety metrics, including ~5x fewer collisions over ~65 mn kms of FSD driving, which management believes is gradually increasing regulatory momentum. Once approved, the activation timeline in European markets is expected to be relatively short, measured in weeks rather than months or quarters.
- **FSD pricing remains iterative in the near-to medium-term, albeit representing a significant long-term unlock.** TSLA explained that the transition from upfront FSD purchases to a subscription-only model is designed to maintain flexibility and capture the increasing value of ongoing functionality improvements. In the near term, management is prioritizing vehicle activations and FSD usage, especially as ~50% of TSLA owners historically have not tried FSD and also since a substantial cohort of customers who previously accessed older versions have not activated new subscriptions. TSLA continues to see strong stickiness once customers experience the technology, supporting the 1-month free trial for all new customers and the decision to hold pricing at ~$99/mo.
- **Automotive gross margins.** TSLA noted it has made targeted pricing adjustments on certain Model Y variants and a broader set of Model 3 variants globally to help offset commodity cost headwinds, alongside changes to interest rate subvention that should

Rajat Gupta AC
(1-212) 622-6382
rajat.gupta@jpmorgan.com

alleviate some gross margin pressure. Management also noted that 1Q26 and 2Q26 gross margins were modestly impacted by a shift toward subscription-based FSD monetization, as upfront FSD purchases ended in the US and Canada in February 2026 and will phase out elsewhere by August 2026. The ramp-up of cathode and anode production, which began in January 2026, is expected to gradually contribute to COGS efficiencies (typically 18 months for any plant to reach proper scale/utilization), though the magnitude may be difficult to isolate given several other moving parts. Broadly, TSLA emphasized that its operating philosophy is focused on expanding the top line, leveraging significant production runway (up to 3 mn production capacity targeted vs. JPMe 2026E deliveries of ~1.8 mn).

Rajat Gupta [AC]
(1-212) 622-6382
rajat.gupta@jpmorgan.com

J.P.Morgan

Analyst Certification: The Research Analyst(s) denoted by an "AC" on the cover of this report certifies (or, where multiple Research Analysts are primarily responsible for this report, the Research Analyst denoted by an "AC" on the cover or within the document individually certifies, with respect to each security or issuer that the Research Analyst covers in this research) that: (1) all of the views expressed in this report accurately reflect the Research Analyst's personal views about any and all of the subject securities or issuers; and (2) no part of any of the Research Analyst's compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed by the Research Analyst(s) in this report. For all Korea-based Research Analysts listed on the front cover, if applicable, they also certify, as per KOFIA requirements, that the Research Analyst's analysis was made in good faith and that the views reflect the Research Analyst's own opinion, without undue influence or intervention.

All authors named within this report are Research Analysts who produce independent research unless otherwise specified. In Europe, Sector Specialists (Sales and Trading) may be shown on this report as contacts but are not authors of the report or part of the Research Department.

Important Disclosures

Market Maker/ Liquidity Provider: J.P. Morgan is a market maker and/or liquidity provider in the financial instruments of/relate
Inc or related entities.

https://www.jpmm.c

Beneficial Ownership (1% or more): J.P. Morgan beneficially owns 1% or more of a class of common e
related entities.

Client/Non-Investment Banking, Securities-Related: J.P. Morgan currently ha
as clients, and the services provided were non-investment-banking, securities-relat

Non-Investment Banking Compensation
other than investment banking from Tesla Inc

Potential Investment Banking Compensation: J.P. Mo
services in the next three months from Tesla Inc or related

Client/Non-Securities-Related: J.P. Morgan currently has, or had w
services provided were non-securities-related: Tesla Inc or related enti

Debt Position: J.P. Morgan ma

Company-Specific Disclosures:
should be aware that the firm ma
as only a single factor in making
applicable), are available for con

Client: J.P. Morgan currently has, or had within the past 12 months, the following entity(ies)

Analyst Position: An analyst on the Equity or Credit coverage team, non-fundamental analyst who may produc
member of their respective household(s) has a financial interest in the debt or equity securities of Tesla Inc or related en

Rajat Gupta AC
(1-212) 622-6382
rajat.gupta@jpmorgan.com

Date	Rating	Price ($)	Price Target ($)
03-Oct-23	UW	251.60	135
26-Jan-24	UW	182.63	130
03-Apr-24	UW	166.63	115
03-Oct-24	UW	249.02	130
24-Oct-24	UW	213.65	135
12-Mar-25	UW	230.58	120
23-Apr-25	UW	237.97	115
03-Oct-25	UW	436.00	150
29-Jan-26	UW	431.46	145
05-Jun-26	N	418.45	475
23-Jul-26	N	374.01	445

Source: Bloomberg Finance L.P. and J.P. Morgan; price data adjusted for stock splits and dividends.
Initiated coverage Aug 09, 2010. All share prices are as of market close on the previous business day.

The chart(s) show J.P. Morgan's continuing coverage of the stocks; the current analysts may or may not have covered it over the entire period.
J.P. Morgan ratings or designations: OW = Overweight, N= Neutral, UW = Underweight, NR = Not Rated

Explanation of Equity Research Ratings, Designations and Analyst(s) Coverage Universe:
J.P. Morgan uses the following rating system: Overweight (over the duration of the price target indicated in this report, we expect this stock will outperform the average total return of the stocks in the Research Analyst's, or the Research Analyst's team's, coverage universe); Neutral (over the duration of the price target indicated in this report, we expect this stock will perform in line with the average total return of the stocks in the Research Analyst's, or the Research Analyst's team's, coverage universe); and Underweight (over the duration of the price target indicated in this report, we expect this stock will underperform the average total return of the stocks in the Research Analyst's, or the Research Analyst's team's, coverage universe. NR is Not Rated. In this case, J.P. Morgan has removed the rating and, if applicable, the price target, for this stock because of either a lack of a sufficient fundamental basis or for legal, regulatory or policy reasons. The previous rating and, if applicable, the price target, no longer should be relied upon. An NR designation is not a recommendation or a rating. Some stocks under coverage have a rating but no price target; in these cases, we expect the stock will outperform/perform in line/underperform the average total return of the stocks in the Research Analyst's, or the Research Analyst's team's, coverage universe of the relevant duration of the region. In our Asia (ex-Australia and ex-India) and U.K. small- and mid-cap Equity Research, each stock's expected total return is compared to the expected total return of a benchmark country market index, not to those Research Analysts' coverage universe. If it does not appear in the Important Disclosures section of this report, the certifying Research Analyst's coverage universe can be found on J.P. Morgan's Research website, https://www.jpmorganmarkets.com.

Coverage Universe: Gupta, Rajat : ACV Auctions (ACVA), Adient (ADNT), Aptiv (APTV), Asbury Automotive (ABG), AutoNation (AN), Avis Budget Group (CAR), BorgWarner Inc. (BWA), Camping World (CWH), CarMax (KMX), Carvana (CVNA), Dana Inc (DAN), Dauch Corp (DCH), Ford Motor (F), Garrett Motion (GTX), General Motors (GM), Gentex Corporation (GNTX), Gentherm (THRM), Goodyear (GT), Group 1 Automotive (GPI), Hertz Global Holdings (HTZ), Lear Corporation (LEA), Lithia Motors (LAD), Magna International Inc. (MGA), OPENLANE Inc (OPLN), Penske Automotive (PAG), Rivian Automotive (RIVN), Sonic Automotive (SAH), Tesla Inc (TSLA), Visteon Corporation (VC)

J.P. Morgan Equity Research Ratings Distribution, as of July 04, 2026

	Overweight (buy)	Neutral (hold)	Underweight (sell)
J.P. Morgan Global Equity Research Coverage*	53%	36%	12%
IB clients**	83%	80%	73%
JPMS Equity Research Coverage*	51%	37%	12%
IB clients**	95%	92%	87%

***Please note that the percentages may not add to 100% because of rounding.**
****Percentage of subject companies within each of the "buy," "hold" and "sell" categories for which J.P. Morgan h investment banking services within the previous 12 months.**
For purposes of FINRA ratings distribution rules only, our Overweight rating falls into a buy rating category; our into a hold rating category; and our Underweight rating falls into a sell rating category. Please note that stocks wit are not included in the table above. This information is current as of the end of the most recent calendar quarter.

Equity Valuation and Risks: For valuation methodology and risks associated with covered companies or price targets fo please see the most recent company-specific research report at http://www.jpmorganmarkets.com, contact the primary an

Morgan representative, or email research.disclosure.inquiries@jpmorgan.com. For material information about the proprietary models used, please see the Summary of Financials in company-specific research reports and the Company Tearsheets, which are available to download on the company pages of our client website, http://www.jpmorganmarkets.com. This report also sets out within it the material underlying assumptions used.

History of Investment Recommendations:
A history of J.P. Morgan investment recommendations disseminated during the preceding 12 months can be accessed on the Research & Commentary page of http://www.jpmorganmarkets.com where you can also search by analyst name, sector or financial instrument.

Analysts' Compensation: The research analysts responsible for the preparation of this report receive compensation based upon various factors, including the quality and accuracy of research, client feedback, competitive factors, and overall firm revenues.

Other Disclosures

J.P. Morgan is a marketing name for investment banking businesses of JPMorgan Chase & Co. and its subsidiaries and affiliates worldwide.

UK MIFID FICC research unbundling exemption: UK clients should refer to UK MIFID Research Unbundling exemption for details of J.P. Morgan's implementation of the FICC research exemption and guidance on relevant FICC research categorisation.

All research material made available to clients are simultaneously available on our client website, J.P. Morgan Markets, unless specifically permitted by relevant laws. Not all research content is redistributed, e-mailed or made available to third-party aggregators. For all research material available on a particular stock, please contact your sales representative.

Any long form nomenclature for references to China; Hong Kong; Taiwan; and Macau within this research material are Mainland China; Hong Kong SAR (China); Taiwan (China); and Macau SAR (China).

J.P. Morgan Research may, from time to time, write on issuers or securities targeted by economic or financial sanctions imposed or administered by the governmental authorities of the U.S., EU, UK or other relevant jurisdictions (Sanctioned Securities). Nothing in this report is intended to be read or construed as encouraging, facilitating, promoting or otherwise approving investment or dealing in such Sanctioned Securities. Clients should be aware of their own legal and compliance obligations when making investment decisions.

Any digital or crypto assets discussed in this research report are subject to a rapidly changing regulatory landscape. For relevant regulatory advisories on crypto assets, including bitcoin and ether, please see https://www.jpmorgan.com/disclosures/cryptoasset-disclosure.

The author(s) of this research report 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.

Exchange-Traded Funds (ETFs): J.P. Morgan Securities LLC ("JPMS") acts as authorized participant for substantially all U.S.-listed ETFs. To the extent that any ETFs are mentioned in this report, JPMS may earn commissions and transaction-based compensation in connection with the distribution of those ETF shares and may earn fees for performing other trade-related services, such as securities lending to short sellers of the ETF shares. JPMS may also perform services for the ETFs themselves, including acting as a broker or dealer to the ETFs. In addition, affiliates of JPMS may perform services for the ETFs, including trust, custodial, administration, lending, index calculation and/or maintenance and other services.

Options and Futures related research: If the information contained herein regards options- or futures-related research, such information is available only to persons who have received the proper options or futures risk disclosure documents. Please contact your J.P. Morgan Representative or visit https://www.theocc.com/components/docs/riskstoc.pdf for a copy of the Option Clearing Corporation's Characteristics and Risks of Standardized Options or https://www.finra.org/sites/default/files/2020-08/Security_Futures_Risk_Disclosure_Statement_2020.pdf for a copy of the Security Futures Risk Disclosure Statement.

Changes to Interbank Offered Rates (IBORs) and other benchmark rates: Certain interest rate benchmarks are, or may in the future become, subject to ongoing international, national and other regulatory guidance, reform and proposals for reform. For more information, please consult: https://www.jpmorgan.com/global/disclosures/interbank_offered_rates

Private Bank Clients: Where you are receiving research as a client of the private banking businesses offered by JPMorgan Chase & Co. and its subsidiaries ("J.P. Morgan Private Bank"), research is provided to you by J.P. Morgan Private Bank and not by any other division of J.P. Morgan, including, but not limited to, the J.P. Morgan Corporate and Investment Bank and its Global Research division.

Legal entity responsible for the production and distribution of research: The legal entity identified below the name of the Reg AC Research Analyst who authored this material is the legal entity responsible for the production of this research. Where multiple Reg AC Research Analysts authored this material with different legal entities identified below their names, these legal entities are jointly responsible for the production of this research. Where more than one legal entity is listed under an analyst's name, the first legal entity is responsible for the production unless stated otherwise. Research Analysts from various J.P. Morgan affiliates may have contributed to the production of this material but may not be licensed to carry out regulated activities in your jurisdiction (and do not hold themselves out as being able to do so). Unless otherwise stated below in the legal entity disclosures, this material has been distributed by the legal entity responsible for production, or where more than one legal entity is listed under the analyst's name, the first legal entity will be responsible for distribution. If you have any queries, please contact the relevant Research Analyst in your jurisdiction or the entity in your jurisdiction that has distributed this research material.

Legal Entities Disclosures and Country-/Region-Specific Disclosures:
Argentina: JPMorgan Chase Bank N.A Sucursal Buenos Aires is regulated by Banco Central de la República Argentina ("BCRA"- Central Bank of Argentina) and Comisión Nacional de Valores ("CNV"- Argentinian Securities Commission - ALYC y AN Integral N°51).

Australia: J.P. Morgan Securities Australia Limited ("JPMSAL") (ABN 61 003 245 234/AFS Licence No: 238066) is regulated by the Australian Securities and Investments Commission and is a Market Participant of ASX Limited, a Clearing and Settlement Participant of ASX Clear Pty Limited and a Clearing Participant of ASX Clear (Futures) Pty Limited. This material is issued and distributed in Australia by or on behalf of JPMSAL only to "wholesale clients" (as defined in section 761G of the Corporations Act 2001). A list of all financial products covered can be found by visiting https://www.jpmm.com/research/disclosures. J.P. Morgan seeks to cover companies of relevance to the domestic and international investor base across all Global Industry Classification Standard (GICS) sectors, as well as across a range of market capitalisation sizes. If applicable, in the course of conducting public side due diligence on the subject company(ies), the Research Analyst team may at times perform such diligence through corporate engagements such as site visits, discussions with company representatives, management presentations, etc. Research issued by JPMSAL has been prepared in accordance with J.P. Morgan Australia's Research Independence Policy which can be found at the following link: J.P. Morgan Australia - Research Independence Policy.

Brazil: Banco J.P. Morgan S.A. is regulated by the Comissao de Valores Mobiliarios (CVM) and by the Central Bank of Brazil. Ombudsman J.P. Morgan: 0800-7700847 / 0800-7700810 (For Hearing Impaired) / ouvidoria.jp.morgan@jpmchase.com.

Canada: J.P. Morgan Securities Canada Inc. is a registered investment dealer, regulated by the Canadian Investment Regulatory Organization and the Ontario Securities Commission and is the participating member on Canadian exchanges. This material is distributed in Canada by or on behalf of J.P.Morgan Securities Canada Inc.

Chile: Inversiones J.P. Morgan Limitada is an unregulated entity incorporated in Chile.

China: J.P. Morgan Securities (China) Company Limited has been approved by CSRC to conduct the securities investment consultancy business.

Colombia: Banco J.P. Morgan Colombia S.A. is supervised by the Superintendencia Financiera de Colombia (SFC). Any reference in this material to products or services offered abroad by entities other than the Bank in Colombia is included exclusively for descriptive purposes. Such references do not constitute, and should not be construed as, promotional activity or the provision of financial products or services within Colombian territory, as defined under applicable Colombian regulation.

Dubai International Financial Centre (DIFC): JPMorgan Chase Bank, N.A., Dubai Branch is regulated by the Dubai Financial Services Authority (DFSA) and its registered address is Dubai International Financial Centre - The Gate, West Wing, Level 3 and 9 PO Box 506551, Dubai, UAE. This material has been distributed by JP Morgan Chase Bank, N.A., Dubai Branch to persons regarded as professional clients or market counterparties as defined under the DFSA rules.

European Economic Area (EEA): Unless specified to the contrary, research is distributed in the EEA by J.P. Morgan SE ("JPM SE"), which is authorised as a credit institution by the Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB). JPM SE is a company headquartered in Frankfurt with registered address at TaunusTurm, Taunustor 1, Frankfurt am Main, 60310, Germany. The material has been distributed in the EEA to persons regarded as professional investors (or equivalent) pursuant to Art. 4 para. 1 no. 10 and Annex II of MiFID II and its respective implementation in their home jurisdictions ("EEA professional investors"). This material must not be acted on or relied on by persons who are not EEA professional investors. Any investment or investment activity to which this material relates is only available to EEA relevant persons and will be engaged in only with EEA relevant persons.

Hong Kong: J.P. Morgan Securities (Asia Pacific) Limited (CE number AAJ321) is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission in Hong Kong, and J.P. Morgan Broking (Hong Kong) Limited (CE number AAB027) is regulated by the Securities and Futures Commission in Hong Kong. JP Morgan Chase Bank, N.A., Hong Kong Branch (CE Number AAL996) is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission, is organized under the laws of the United States with limited liability. Where the distribution of this material is a regulated activity in Hong Kong, the material is distributed in Hong Kong by or through J.P. Morgan Securities (Asia Pacific) Limited and/or J.P. Morgan Broking (Hong Kong) Limited.

India: J.P. Morgan India Private Limited (Corporate Identity Number - U67120MH1992FTC068724), having its registered office at J.P. Morgan Tower, Off. C.S.T. Road, Kalina, Santacruz - East, Mumbai – 400098, is registered with the Securities and Exchange Board of India (SEBI) as a 'Research Analyst' having registration number INH000001873. J.P. Morgan India Private Limited is also registered with SEBI as a member of the National Stock Exchange of India Limited and the Bombay Stock Exchange Limited (SEBI Registration Number – INZ000239730) and as a Merchant Banker (SEBI Registration Number - MB/INM000002970). Telephone: 91-22-6157 3000, Facsimile: 91-22-6157 3990 and Website: http://www.jpmipl.com. JPMorgan Chase Bank, N.A. - Mumbai Branch is licensed by the Reserve Bank of India (RBI) (Licence No. 53/ Licence No. BY.4/94; SEBI - IN/CUS/014/ CDSL : IN-DP-CDSL-444-2008/ IN-DP-NSDL-285-2008/ INBI00000984/ INE231311239) as a Scheduled Commercial Bank in India, which is its primary license allowing it to carry on Banking business in India and other activities, which a Bank branch in India are permitted to undertake. For non-local research material, this material is not distributed in India by J.P. Morgan India Private Limited. Compliance Officer: Ashutosh Sharma; ashutosh.j.sharma@jpmchase.com; +912261575002. Grievance Officer: Ramprasadh

K, jpmipl.research.feedback@jpmorgan.com; +912261573000. Registration granted by SEBI and certification from NISM in no way guarantee performance of the intermediary or provide any assurance of returns to investors. Please visit Terms and Conditions and Most Important Terms and Conditions (MITC). The annual Compliance audit report is available at http://www.jpmipl.com/#research.

Indonesia: PT J.P. Morgan Sekuritas Indonesia is a member of the Indonesia Stock Exchange and is registered and supervised by the Otoritas Jasa Keuangan (OJK).

Korea: J.P. Morgan Securities (Far East) Limited, Seoul Branch, is a member of the Korea Exchange (KRX). JPMorgan Chase Bank, N.A., Seoul Branch, is licensed as a branch office of foreign bank (JPMorgan Chase Bank, N.A.) in Korea. Both entities are regulated by the Financial Services Commission (FSC) and the Financial Supervisory Service (FSS). For non-macro research material, the material is distributed in Korea by or through J.P. Morgan Securities (Far East) Limited, Seoul Branch.

Japan: JPMorgan Securities Japan Co., Ltd. and JPMorgan Chase Bank, N.A., Tokyo Branch are regulated by the Financial Services Agency in Japan.

Malaysia: This material is issued and distributed in Malaysia by JPMorgan Securities (Malaysia) Sdn Bhd (18146-X), which is a Participating Organization of Bursa Malaysia Berhad and holds a Capital Markets Services License issued by the Securities Commission in Malaysia.

Mexico: J.P. Morgan Casa de Bolsa, S.A. de C.V., J.P. Morgan Grupo Financiero is member of the Mexican Stock Exchange ("Bolsa Mexicana de Valores") and the Institutional Stock Exchange ("Bolsa Institucional de Valores"), and it is authorized to act as a broker dealer by the National Banking and Securities Exchange Commission ("Comisión Nacional Bancaria y de Valores").

New Zealand: This material is issued and distributed by JPMSAL in New Zealand only to "wholesale clients" (as defined in the Financial Markets Conduct Act 2013). JPMSAL is registered as a Financial Service Provider under the Financial Service providers (Registration and Dispute Resolution) Act of 2008.

Philippines: J.P. Morgan Securities Philippines Inc. is a Trading Participant of the Philippine Stock Exchange and a member of the Securities Clearing Corporation of the Philippines and the Securities Investor Protection Fund. It is regulated by the Securities and Exchange Commission.

Singapore: This material is issued and distributed in Singapore by or through J.P. Morgan Securities Singapore Private Limited (JPMSS) [MDDI (P) 057/08/2025 and Co. Reg. No.: 199405335R], which is a member of the Singapore Exchange Securities Trading Limited, and/or JPMorgan Chase Bank, N.A., Singapore branch (JPMCB Singapore), both of which are regulated by the Monetary Authority of Singapore. This material is issued and distributed in Singapore only to accredited investors, expert investors and institutional investors, as defined in Section 4A of the Securities and Futures Act, Cap. 289 (SFA). This material is not intended to be issued or distributed to any retail investors or any other investors that do not fall into the classes of "accredited investors," "expert investors" or "institutional investors," as defined under Section 4A of the SFA. Recipients of this material in Singapore are to contact JPMSS or JPMCB Singapore in respect of any matters arising from, or in connection with, the material.

South Africa: J.P. Morgan Equities South Africa Proprietary Limited and JPMorgan Chase Bank, N.A., Johannesburg Branch are members of the Johannesburg Securities Exchange and are regulated by the Financial Services Conduct Authority (FSCA).

Taiwan: J.P. Morgan Securities (Taiwan) Limited is a participant of the Taiwan Stock Exchange (company-type) and regulated by the Taiwan Securities and Futures Bureau. Material relating to equity securities is issued and distributed in Taiwan by J.P. Morgan Securities (Taiwan) Limited, subject to the license scope and the applicable laws and the regulations in Taiwan. **To the extent that J.P. Morgan Securities (Taiwan) Limited produces research materials on securities not listed on the Taiwan Stock Exchange or Taipei Exchange ("Non-Taiwan Listed Securities"), these materials shall not constitute securities recommendations for the purpose of applicable Taiwan regulations, and, for the avoidance of doubt, J.P. Morgan Securities (Taiwan) Limited does not act as broker for Non-Taiwan Listed Securities.** According to Paragraph 2, Article 7-1 of Operational Regulations Governing Securities Firms Recommending Trades in Securities to Customers (as amended or supplemented) and/or other applicable laws or regulations, please note that the recipient of this material is not permitted to engage in any activities in connection with the material that may give rise to conflicts of interests, unless otherwise disclosed in the "Important Disclosures" in this material.

Thailand: This material is issued and distributed in Thailand by JPMorgan Securities (Thailand) Ltd., which is a member of the Stock Exchange of Thailand and is regulated by the Ministry of Finance and the Securities and Exchange Commission. The registered address is 548 One City Center Building, 50th Floor, Ploenchit Road, Lumphini, Pathum Wan, Bangkok 10330.

UK: Research is produced in the UK by J.P. Morgan Securities plc ("JPMS plc") which is a member of the London Stock Exchange and is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority or J.P. Morgan Markets Limited ("JPMML Ltd") which is authorised and regulated by the Financial Conduct Authority. Unless specified to the contrary, this material is distributed in the UK by JPMS plc and is directed in the UK only to: (a) persons having professional experience in matters relating to investments falling within article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) (Order) 2005 ("the FPO"); (b) persons outlined in article 49 of the FPO (high net worth companies, unincorporated associations or partnerships, the trustees of high value trusts, etc.); or (c) any persons to whom this communication may otherwise lawfully be made; all such persons being referred to as "UK relevant persons". This material must not be acted on or relied on by persons who are not UK relevant persons. Any investment or investment activity to which this material relates is only available to UK relevant persons and will be engaged in only with UK relevant persons. A description of J.P. Morgan EMEA's policy for prevention and avoidance of conflicts of interest related to the production of Research can be found at the following link: J.P. Morgan EMEA - Research Independence Policy.

Rajat Gupta AC
(1-212) 622-6382
rajat.gupta@jpmorgan.com

U.S.: J.P. Morgan Securities LLC ("JPMS") is a member of the NYSE, FINRA, SIPC, and the NFA. JPMorgan Chase Bank, N.A. is a member of the FDIC. Material published by non-U.S. affiliates is distributed in the U.S. by JPMS who accepts responsibility for its content.

General: Additional information is available upon request. The information in this material has been obtained from sources believed to be reliable. While all reasonable care has been taken to ensure that the facts stated in this material are accurate and that the forecasts, opinions and expectations contained herein are fair and reasonable, JPMorgan Chase & Co. or its affiliates and/or subsidiaries (collectively J.P. Morgan) make no representations or warranties whatsoever to the completeness or accuracy of the material provided, except with respect to any disclosures relative to J.P. Morgan and the Research Analyst's involvement with the issuer that is the subject of the material. Accordingly, no reliance should be placed on the accuracy, fairness or completeness of the information contained in this material. There may be certain discrepancies with data and/or limited content in this material as a result of calculations, adjustments, translations to different languages, and/or local regulatory restrictions, as applicable. These discrepancies should not impact the overall investment analysis, views and/or recommendations of the subject company(ies) that may be discussed in the material. Artificial intelligence tools may have been used in the preparation of this material, including assisting in data analysis, pattern recognition, and content drafting for research material. J.P. Morgan accepts no liability whatsoever for any loss arising from any use of this material or its contents, and neither J.P. Morgan nor any of its respective directors, officers or employees, shall be in any way responsible for the contents hereof, apart from the liabilities and responsibilities that may be imposed on them by the relevant regulatory authority in the jurisdiction in question, or the regulatory regime thereunder. Opinions, forecasts or projections contained in this material represent J.P. Morgan's current opinions or judgment as of the date of the material only and are therefore subject to change without notice. Periodic updates may be provided on companies/industries based on company-specific developments or announcements, market conditions or any other publicly available information. There can be no assurance that future results or events will be consistent with any such opinions, forecasts or projections, which represent only one possible outcome. Furthermore, such opinions, forecasts or projections are subject to certain risks, uncertainties and assumptions that have not been verified, and future actual results or events could differ materially. The value of, or income from, any investments referred to in this material may fluctuate and/or be affected by changes in exchange rates. All pricing is indicative as of the close of market for the securities discussed, unless otherwise stated. Past performance is not indicative of future results. Accordingly, investors may receive back less than originally invested. This material is not intended as an offer or solicitation for the purchase or sale of any financial instrument. The opinions and recommendations herein do not take into account individual client circumstances, objectives, or needs and are not intended as recommendations of particular securities, financial instruments or strategies to particular clients. This material may include views on structured securities, options, futures and other derivatives. These are complex instruments, may involve a high degree of risk and may be appropriate investments only for sophisticated investors who are capable of understanding and assuming the risks involved. The recipients of this material must make their own independent decisions regarding any securities or financial instruments mentioned herein and should seek advice from such independent financial, legal, tax or other adviser as they deem necessary. J.P. Morgan may trade as a principal on the basis of the Research Analysts' views and research, and it may also engage in transactions for its own account or for its clients' accounts in a manner inconsistent with the views taken in this material, and J.P. Morgan is under no obligation to ensure that such other communication is brought to the attention of any recipient of this material. Others within J.P. Morgan, including Strategists, Sales staff and other Research Analysts, may take views that are inconsistent with those taken in this material. Employees of J.P. Morgan not involved in the preparation of this material may have investments in the securities (or derivatives of such securities) mentioned in this material and may trade them in ways different from those discussed in this material. This material is not an advertisement for or marketing of any issuer, its products or services, or its securities in any jurisdiction.

Confidentiality and Security Notice: This transmission may contain information that is privileged, confidential, legally privileged, and/or exempt from disclosure under applicable law. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution, or use of the information contained herein (including any reliance thereon) is STRICTLY PROHIBITED. Although this transmission and any attachments are believed to be free of any virus or other defect that might affect any computer system into which it is received and opened, it is the responsibility of the recipient to ensure that it is virus free and no responsibility is accepted by JPMorgan Chase & Co., its subsidiaries and affiliates, as applicable, for any loss or damage arising in any way from its use. If you received this transmission in error, please immediately contact the sender and destroy the material in its entirety, whether in electronic or hard copy format. This message is subject to electronic monitoring: https://www.jpmorgan.com/disclosures/email

MSCI: Certain information herein ("Information") is reproduced by permission of MSCI Inc., its affiliates and information providers ("MSCI") ©2026. No reproduction or dissemination of the Information is permitted without an appropriate license. MSCI MAKES NO EXPRESS OR IMPLIED WARRANTIES (INCLUDING MERCHANTABILITY OR FITNESS) AS TO THE INFORMATION AND DISCLAIMS ALL LIABILITY TO THE EXTENT PERMITTED BY LAW. No Information constitutes investment advice, except for any applicable Information from MSCI ESG Research. Subject also to msci.com/disclaimer

Sustainalytics: Certain information, data, analyses and opinions contained herein are reproduced by permission of Sustainalytics and: (1) includes the proprietary information of Sustainalytics; (2) may not be copied or redistributed except as specifically authorized; (3) do not constitute investment advice nor an endorsement of any product or project; (4) are provided solely for informational purposes; and (5) are not warranted to be complete, accurate or timely. Sustainalytics is not responsible for any trading decisions, damages or other losses related to it or its use. The use of the data is subject to conditions available at https://www.sustainalytics.com/legal-disclaimers. ©2026 Sustainalytics. All Rights Reserved.

"Other Disclosures" last revised July 04, 2026.

Rajat Gupta AC
(1-212) 622-6382
rajat.gupta@jpmorgan.com

Morgan any research material received from J.P. Morgan or an authorized third-party ("J.P. Morgan Data") in any third-party artificial intelligence ("AI") systems or models when such J.P. Morgan Data is accessible by a third-party.

Completed 18 Aug 2026 05:22 PM EDT Disseminated 18 Aug 2026 05:22 PM EDT