

MediaTek Inc.

Addressing Key Investor Questions

Overweight

2454.TW, 2454.TT

Price (01 Jul 26): NT\$4,335.00

Price Target (Jun-27): NT\$5,300.00

1. **TPU v8t (Zebrafish) ramping up on track, with potential for upside to 2027 revenue guidance:** We believe TPU v8t is on track for a volume ramp-up in 4Q26, supporting the company's target of US\$2bn in ASIC revenue (or 400-500k unit shipments) this year. For 2027, management has guided to US\$7-12bn in ASIC revenue (implying 10-15% share of a US\$70-80bn ASIC market), underpinned by strong customer demand and confidence in material availability. We have seen Google TPU demand skewing toward our previous bull-case scenario and have revised up our TPU estimates in May (now forecasting 8mn market TPU shipments in 2027 vs. 5mn units expected six months ago ([latest CoWoS report](#))). However, we still see upside to our current MediaTek enterprise ASIC revenue estimate of US\$10.8bn in 2027 (~2.5mn TPU v8t units, ~30% share of 8mn total TPU shipments), with further upside beyond US\$12bn achievable if MediaTek can secure additional substrate and 3nm wafer capacity.
2. **TPU v9 Humufish design status on track to tape out in the next 2-3 quarters, market share likely to skew to the upside, given challenges with competitor program:** We believe TPU v9 (Humufish) is on track to tape out in late 2026-early 2027, with revenue contribution starting in late 2027 or early 2028. We believe that v9 Humufish ASP should be 2-3x that of v8t (US\$12k+ vs. ~US\$4.3k), reflecting significantly greater design complexity (4 N2 compute dies, 4 I/O dies, and 4 memory I/O dies vs. 1 N3 compute die and 1 I/O die in v8t). Meanwhile, our supply chain checks continue to indicate that the key competing project (Pumafish) from US Fabless competitor has been either canceled or postponed, creating an opportunity for MediaTek to gain share in 2028-29. While we do not expect the competitor to be entirely absent - likely launching Sunfish v8i variant with 4 N3 based compute dies - we still expect MediaTek to benefit from an earlier mass-production timeline (tape-out at least 1-2 quarters ahead of peers' v9). We are currently expecting ~2M units for Humufish v9 units in 2028, but do expect further upside, depending on Intel EMIB-T packaging yield progress. Our recent research indicates an extension of v9 Humufish (called Triggerfish), with specific design changes (including more SRAM and potentially a controller die within the package) to extend Humufish to accommodate inference needs as well. This could also result in upside to Mediatek's TPU v9 family shipment expectations in 2028-29.
3. **TPUv10 RFQ in progress, engagement model similar to v9, confident of securing a key project:** MediaTek is currently engaged in the TPU v10 RFQ process, based on our checks, with results expected in the coming months. We see a high probability of MediaTek securing at least one TPU v10 (Icefish) project, with Broadcom supporting another v10 project. While there is some discussion around additional v10 variants—potentially including a full CoT model—our checks indicate that GOOG is still embracing a semi-COT model for the v10 family. Key IP that Mediatek is providing in the v10 generation would be 448 G High Speed electrical SERDES, die-to-die interconnect and experience in 3D packaging – we still do not see Google embracing CPO for its TPU projects in the v10 generation. We do see the possibility of further accelerator variants in the v9 family, including a fast-inference chip likely

Technology and Telecoms

Gokul Hariharan ^{AC}

(852) 2800-8564

gokul.hariharan@jpmorgan.com

J.P. Morgan Securities (Asia Pacific) Limited/ J.P. Morgan Broking (Hong Kong) Limited

Jennifer Hsieh

(886-2) 2725-9868

jennifer.hsieh@jpmorgan.com

J.P. Morgan Securities (Taiwan) Limited

David Chou

(886-2) 2725-9618

david.chou@jpmorgan.com

J.P. Morgan Securities (Taiwan) Limited

Jason Chen

(886-2) 2725-9864

jason.bh.chen@jpmorgan.com

J.P. Morgan Securities (Taiwan) Limited

Subham Singhania

(91-22) 6157-3801

subham.singhania@jpmorgan.com

J.P. Morgan India Private Limited

awarded to Marvell (SRAM based inference, codenamed Merope), as Google's Compute program expands in scope and attempts to match workloads with specific ASICs.

4. **More progress on new customer RFQs; increased rack-level design from smaller customers; Tesla most likely in the next 1-2 quarters:** We believe MediaTek is in RFQ discussions with several hyperscalers (we believe Tesla, Meta, and Microsoft, etc.). While all are still in RFQ stage, we see the best chance of a win at Tesla, given its need for more front-end design support, which aligns with MediaTek's strengths. While any win would not contribute revenue before late 2028-2029, confirmation would be positive for sentiment as it demonstrates diversification away from a single large customer. We believe that MediaTek is now securing multiple RFQs from various ASIC design service projects, after the successful tape out of TPUv8t. Several of these projects are also seeing some design engagement at a rack-level basis, rather than just for ASIC chip design.
5. **Intel EMIB-T likely for TPUv9; a return to TSMC 3D SoIC is possible for TPU v10:** We now believe that MediaTek has finalized Intel EMIB-T as the primary packaging choice for TPU v9 Humufish, with CoWoS based solution unlikely to be pursued. Based on our checks, EMIB yield for large-size packaging remains low (likely around 60%), but MediaTek appears to be confident that yield can improve before mass production ramps up in late 2027 and the chance of meaningful execution risk remains low. However, for TPU v10, we believe Google is considering a 3D packaged IC solution for logic-logic integration, which may suggest a return to TSMC SoIC packaging, along with CoWoS-L. We believe that Intel's 3D packaging (Foveros Direct) is still at a very early stage of ramp as compared to TSMC SoIC. For logic-HBM integration, we also believe that TSMC is now aggressively pushing for larger reticle size CoWoS-L / CoPoS in the 2029-30 timeframe, which will align with the mass production ramp timeline for TPU v10.
6. **Concerns about competition from QCOM in Datacenter ASIC are early and overblown:** QCOM (covered by Joseph Cardoso) announced last week at its investor day that it is expanding into the DC field, partnering with Meta (on C1000 datacenter CPU) and Microsoft (on its AI inference chip using HBC memory). Meanwhile, QCOM highlighted two custom silicon hyperscaler clients (one likely ByteDance, the other likely AWS, in our view) targeting US\$1+bn revenue each in 2027. We agree that the recent Alphawave acquisition gives QCOM access to SerDes IP, and its chip-design pedigree is strong given the long experience in smartphone/CE. However, prior experience in smaller consumer CPUs may take time to translate into a reliable track record in large AI accelerators. MediaTek, in comparison, has been engaged in TPU projects since 2020 and has been developing its Serdes IP since 2018, before gaining firm traction. QCOM has two advantages at this point, in our view: (1) Architectural license access for ARM instruction set, which can help it differentiate in ARM CPUs over time, and (2) Strong N3 wafer allocation at TSMC, which, in the current shortage environment, could translate into datacenter ASIC revenues, especially from customers like AWS, even if design engagement is not very high. Based on our checks, we do not see any large AI ASIC projects based on CoWoS or 2.5D packaging, where QCOM is the lead design service partner.
7. **Gross margins to dip modestly, while OP margins should ramp up meaningfully as DC ASIC business ramps up:** We expect MediaTek GM to dip by 2-3ppts YoY in 2026 to 45-46%, reflecting ASIC dilution and a smaller smartphone revenue base amid weak end demand. Rising input costs (wafers, OSAT, substrates), on the other hand, should be broadly offset by the late-2026 price hikes, keeping margins stable throughout 2026. While ASIC GM is below the corporate average, its OPM contribution is accretive. As DC ASIC business ramps, we expect GMs to settle at ~42% in 2028, while OP margins could move up to ~25%. We model the datacenter ASIC business to represent ~50%/~70% of company OP in 2027/28, helping expand OPM to ~20%/~25% (vs. 17% in 2025).
8. **A long-term pursuit of full-COT from GOOG is unavoidable, but will take time:** A

key question on the durability of MediaTek's ASIC business is GOOG's pursuit of a full-CoT (Customer Owned Tooling) business model, similar to AWS for Trainium. In the very long term, we do believe GOOG will attempt to move towards a full CoT model to take more control of the chip design, but for designs until TPU v10 we are not seeing any change from the current semi-CoT approach. In the next 3-4 years, we believe that MediaTek is likely to benefit from the rising adoption of this semi-CoT model, and should gain meaningful share against Broadcom, given the 40-50% cheaper offering. At the same time, smaller projects within GOOG's ASIC portfolio (such as Server CPU, video accelerators) could migrate to a full-CoT model much more quickly, and more design service vendors are also entering the supply chain, such as Marvell and Alchip. We believe that MediatTek is fully cognizant of this longer-term tail risk and is cultivating other ASIC projects to mitigate exposure, as well as move into rack-level design to enhance its value add to new ASIC customers.

9. **Investor feedback – increased interest from Global Tech investors, next watch point is second customer confirmation:** We have seen a much broader set of global tech investors express interest in MediaTek stock in the last two months, after the successful tapeout of its TPUv8t project for GOOG. If MediaTek is able to move TPUv9 to tapeout on time, we expect global tech investor interest to surge meaningfully, given its position as a credible competitor to Broadcom. For Asian investors, TPU expectations have already moved up meaningfully and the next watch point would be the confirmation of a second ASIC customer (we believe Tesla is quite likely), and potential details of project award for TPU v10.
10. **Core business units struggling but broad-based price hikes to support revenues and gross margins:** Unit demand in core businesses (smartphones, TVs, and consumer IoT) continues to be challenging due to weaker consumer demand and impact from rising memory prices, but MediaTek is still able to see healthy growth in computing, 5G thin modems, and automotive. In addition, MediaTek is raising prices across its core business, averaging 5-10%, on our estimates, with the increases flowing through revenue in late 3Q26 to early 2027. This should stabilize GMs in core businesses, as the increases are largely intended to offset rising costs from OSATs, substrates, and foundry price adjustments. We expect non-ASIC revenue to grow mildly in 2026, despite challenges in consumer demand.

Investment Thesis, Valuation and Risks

MediaTek Inc. *(Overweight; Price Target: NT\$5,300.00)*

Investment Thesis

We are Overweight on MediaTek, given (1) MediaTek's v9 TPU project (Humufish) appearing to emerge as the primary v9 family in 2028-29, (2) MediaTek's smoother execution with v9 positioning it well to maintain its leadership in v10 competition, and (3) solid prospects in datacenter solutions, ranging from XPU's to interconnect solutions, custom HBM and full-rack-level enablement, with strong engagement for new XPU projects from most hyperscalers. Key catalysts from here on, in our view, are (1) indications of a larger role with TPU v9 if EMIB-T packaging execution goes on track, (2) the announcement of new customers before the end of the year – we believe Meta, Tesla are key potential customers, (3) the expansion of the datacenter TAM to include interconnect solutions and rack-level implementation beyond the top 4 CSPs.

Valuation

Our Jun-27 PT of NT\$5,300 is based on our SoTP valuation (consisting of 12x 12M fwd core earnings + 40x 12M fwd ASIC-related earnings).

Risks to Rating and Price Target

Key downside risks include: (1) further pressure on Smartphone SoC GMs due to cost escalations and increased competition; and (2) slower progress on the NVDA partnership, given NVDA's expanded engagement with Intel and other chip makers.

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/related to MediaTek Inc. or related entities.
- **Client:** J.P. Morgan currently has, or had within the past 12 months, the following entity(ies) as clients: MediaTek Inc. or related entities.
- **Client/Non-Investment Banking, Securities-Related:** J.P. Morgan currently has, or had within the past 12 months, the following entity(ies) as clients, and the services provided were non-investment-banking, securities-related: MediaTek Inc. or related entities.
- **Client/Non-Securities-Related:** J.P. Morgan currently has, or had within the past 12 months, the following entity(ies) as clients, and the services provided were non-securities-related: MediaTek Inc. or related entities.
- **Potential Investment Banking Compensation:** J.P. Morgan expects to receive, or intends to seek, compensation for investment banking services in the next three months from MediaTek Inc. or related entities.
- **Non-Investment Banking Compensation Received:** J.P. Morgan has received compensation in the past 12 months for products or services other than investment banking from MediaTek Inc. or related entities.
- **Debt Position:** J.P. Morgan may hold a position in the debt securities of MediaTek Inc. or related entities, if any.

Company-Specific Disclosures: J.P. Morgan does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision. Important disclosures, including price charts and credit opinion history tables (if applicable), are available for compendium reports and all J.P. Morgan–covered companies, and certain non-covered companies, by visiting <https://www.jpmm.com/research/disclosures>, calling 1-800-477-0406, or e-mailing research.disclosure.inquiries@jpmorgan.com with your request.

MediaTek Inc. (2454.TW, 2454 TT) Price Chart



Source: Bloomberg Finance L.P. and J.P. Morgan; price data adjusted for stock splits and dividends.
Initiated coverage Jul 22, 2001. 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: Hariharan, Gokul : ASE Technology Holding Co Ltd (3711.TW), ASMPT Ltd (0522) (0522.HK), AirTAC (1590.TW), Alchip Technologies (3661.TW), BizLink (3665.TW), Chipbond Technology (6147.TWO), GDS Holdings (GDS), GUC (3443.TW), Hiwin (2049.TW), Hon Hai Precision (2317.TW), MediaTek Inc. (2454.TW), Nien Made (8464.TW), Novatek Microelectronics Corp. (3034.TW), Powerchip Semiconductor Manufacturing Corp. (6770.TWO), SMIC (0981) (0981.HK), Silicon Motion (SIMO), Sinbon (3023.TW), TSMC (2330.TW), Teco Electric & Machinery (1504.TW), UMC (2303.TW), Vanguard International Semiconductor Corp. (5347.TWO), Voltronic Power Technology (6409.TW), Xiaomi (1810) (1810.HK)

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

	Overweight (buy)	Neutral (hold)	Underweight (sell)
J.P. Morgan Global Equity Research Coverage*	51%	37%	12%
IB clients**	83%	79%	74%
JPMS Equity Research Coverage*	49%	39%	13%
IB clients**	94%	93%	85%

*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 has provided 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 Neutral rating falls into a hold rating category; and our Underweight rating falls into a sell rating category. Please note that stocks with an NR designation 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 for covered companies, please see the most recent company-specific research report at <http://www.jpmorganmarkets.com>, contact the primary analyst or your J.P. 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.

Registration of non-US Analysts: Unless otherwise noted, the non-US analysts listed on the front of this report are employees of non-US affiliates of J.P. Morgan Securities LLC, may not be registered as research analysts under FINRA rules, may not be associated persons of J.P. Morgan Securities LLC, and may not be subject to FINRA Rule 2241 or 2242 restrictions on communications with covered companies, public appearances, and trading securities held by a research analyst account.

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.jpmpil.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: Ramprasad K, jpmpil.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.jpmpil.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 (JPMS) [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 JPMS 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, Lumpini, 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](#).

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](https://www.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 May 16, 2026.

Copyright 2026 JPMorgan Chase & Co. All rights reserved. This material or any portion hereof may not be reprinted, sold or redistributed without the written consent of J.P. Morgan. It is strictly prohibited to use or share without prior written consent from J.P. 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 01 Jul 2026 10:08 PM HKT

Disseminated 01 Jul 2026 10:09 PM HKT