

**SUPPLEMENT No. 3 DATED 2 JULY 2019 TO THE BASE
PROSPECTUS DATED 24 APRIL 2019**

J.P.Morgan

J.P. Morgan Structured Products B.V.
(incorporated with limited liability in The Netherlands)

as Issuer

JPMorgan Chase Bank, N.A.
(a national banking association organised under the laws of the United States of America)

as Issuer and as Guarantor in respect of Securities
issued by
J.P. Morgan Structured Products B.V.

JPMorgan Chase & Co.
(incorporated in the State of Delaware, United States of America)
as Issuer

**Structured Securities Programme for the issuance
of
Notes, Warrants and Certificates**

Arranger and Dealer for the Programme

J.P. Morgan

Supplement to the Base Prospectus

This supplement (the "**Supplement**") constitutes a supplement to the base prospectus dated 24 April 2019 (the "**Original Base Prospectus**") as supplemented by Supplement No. 1 dated 17 May 2019 and Supplement No.2 dated 11 June 2019 (and the Original Base Prospectus as so supplemented, the "**Base Prospectus**"), which constitutes three base prospectuses for the purposes of Article 5.4 of Directive 2003/71/EC (as amended from time to time, including by Directive 2010/73 EC): (i) a base prospectus in respect of J.P. Morgan Structured Products B.V. ("**JPMSP**") (the "**JPMSP Base Prospectus**"), (ii) a base prospectus in respect of JPMorgan Chase Bank, N.A (the "**JPMorgan Chase Bank, N.A. Base Prospectus**"), and (iii) a base prospectus in respect of JPMorgan Chase & Co. (the "**JPMorgan Chase & Co. Base Prospectus**"), in each case, prepared in connection with the issue of non-equity securities under the Structured Securities Programme for the issuance of Notes, Warrants and Certificates (the "**Programme**") by JPMSP, JPMorgan Chase Bank, N.A. and JPMorgan Chase & Co., irrevocably guaranteed in respect of Securities issued by JPMSP as to payment, delivery and other obligations by JPMorgan Chase Bank, N.A.

Status of Supplement

The Supplement is a supplement for the purposes of Article 13 of Chapter 1 of Part II of the Luxembourg Law dated 10 July 2005 and amended on 3 July 2012 on prospectuses for securities (the "**Luxembourg Law**"). On 24 April 2019, the *Commission de Surveillance du Secteur Financier* (the "**CSSF**") approved the Base Prospectus for the purposes of Article 7 of the Luxembourg Law. Terms defined in the Base Prospectus have the same meanings when used in this Supplement. This Supplement constitutes a supplement to, and should be read in conjunction with, the JPMSP Base Prospectus, the JPMorgan Chase Bank, N.A. Base Prospectus and the JPMorgan Chase & Co. Base Prospectus.

Responsibility

In relation to the JPMSP Base Prospectus, each of JPMSP and JPMorgan Chase Bank, N.A. accepts responsibility for the information given in this Supplement and confirms that, having taken all reasonable care to ensure that such is the case, the information contained in this Supplement is, to the best of its knowledge, in accordance with the facts and does not omit anything likely to affect its import. In relation to the JPMorgan Chase Bank, N.A. Base Prospectus, JPMorgan Chase Bank, N.A. accepts responsibility for the information given in this Supplement and confirms that, having taken all reasonable care to ensure that such is the case, the information contained in this Supplement is, to the best of its knowledge, in accordance with the facts and does not omit anything likely to affect its import. In relation to the JPMorgan Chase & Co. Base Prospectus, JPMorgan Chase & Co. accepts responsibility for the information given in this Supplement and confirms that, having taken all reasonable care to ensure that such is the case, the information contained in this Supplement is, to the best of its knowledge, in accordance with the facts and does not omit anything likely to affect its import.

Purpose of Supplement

The purpose of this Supplement is to (a) supplement the terms and conditions of the Securities to cater for a benchmark transition event in respect of USD LIBOR (as defined below) and (b) amend and supplement the related information in the Base Prospectus.

Right to withdraw acceptances

In accordance with Article 13 paragraph 2 of the Luxembourg Law, investors in the European Economic Area who have already agreed to purchase or subscribe for Securities issued under the Programme before this Supplement is published have the right, exercisable within two working days after the publication of this Supplement, to withdraw their acceptances. This right is exercisable up to, and including 4 July 2019.

Information being supplemented

I. Amendments to the Summary of the Programme

Element D.6 (*Key risks that are specific to the Securities*) of the Summary of the Programme is supplemented by deleting the third paragraph under the sub-section headed "[For Floating Rate Notes or Floating Rate Coupon Certificates, insert: **Risks relating to Floating Rate Securities:**" on page 112 of the Original Base Prospectus and replacing it with the following:

"[The benchmark rate against which the floating rate of interest or coupon rate may be materially modified or permanently discontinued. In the case of the former, no changes will be made in respect of the Securities despite such modification. *[Insert unless the Securities are linked to USD LIBOR: In the case of the latter, the Calculation Agent may determine to obtain the rate through quotations from reference banks, replacement of the original rate with a comparable rate or by reference to the last reported rate. If it is unable to determine a floating rate of interest or coupon rate, it may determine that the floating rate Securities shall be early redeemed.]* / *[Insert for Securities linked to USD LIBOR: If the Calculation Agent determines that the relevant USD LIBOR rate has ceased or will cease to be published, then the relevant USD LIBOR rate shall be determined by reference to a replacement rate based on a forward looking rate of the applicable tenor based on the Secured Overnight Financing Rate ("SOFR") or, if not available, a compounded SOFR rate or other possible fallback, and the terms and conditions will be amended as the Calculation Agent determines appropriate to reflect such replacement rate.]* / [The UK Financial Conduct Authority has committed to begin planning a transition away from LIBOR to alternative reference rates that are based on actual transactions. It is envisaged that the current LIBOR arrangements shall continue until at least the end of 2021. In the case of the latter, the Calculation Agent may determine to obtain the rate through quotations from reference banks, replacement of the original rate with a comparable rate or by reference to the last reported rate. If it is unable to determine a floating rate of interest or coupon rate, it may determine that the floating rate Securities shall be early redeemed.]"

II. Amendments to the Risk Factors

The section entitled "Risk Factors" is supplemented by inserting the following new Risk Factor 19.6 immediately after the existing Risk Factor 19.5 (*The regulation and reform of certain published rates, indices and other values or "benchmarks" may adversely affect the value of and return on Securities linked to such values or benchmark*) on pages 199 to 200 of the Original Base Prospectus:

"19.6 Risks relating to USD LIBOR

(a) *USD LIBOR may be replaced by a successor or substitute interest rate*

On 27 July 2017, the Chief Executive of the U.K. Financial Conduct Authority (the "FCA"), which regulates the London Interbank Offered Rate ("**LIBOR**"), announced that the FCA will no longer persuade or compel banks to submit rates for the calculation of LIBOR (including the USD LIBOR rate) after 2021. Such announcement indicates that the continuation of LIBOR on the current basis cannot be guaranteed after 2021, and there is a substantial risk that LIBOR will be discontinued or modified by 2021.

If the Calculation Agent determines that a Benchmark Transition Event and its related Benchmark Replacement Date have occurred with respect to USD LIBOR, then a Benchmark Replacement will be selected by the Calculation Agent in accordance with the provisions of the USD LIBOR Benchmark Transition Event Appendix. The selection of a Benchmark Replacement, and any decisions, determinations or elections made by the Calculation Agent or by the Issuer in connection with implementing a Benchmark Replacement with respect to the Securities in accordance with the provisions of the USD LIBOR Benchmark Transition Event Appendix, could result in adverse consequences to the relevant Rate of Interest or Floating Rate Coupon or rate of

interest determined for the applicable interest determination date, as the case may be, on the Securities during the applicable Interest Period or Floating Rate Coupon Period, as the case may be, which could adversely affect the return on, value of and market for the Securities. Further, there is no assurance that the characteristics of any Benchmark Replacement will be similar to USD LIBOR, or that any Benchmark Replacement will produce the economic equivalent of USD LIBOR.

(b) ***The occurrence of a Benchmark Transition Event and the potential reliance on the Secured Overnight Financing Rate to determine the Rate of Interest or Floating Rate Coupon may adversely affect the return on and the market value of the Securities***

Under the provisions of the USD LIBOR Benchmark Transition Event Appendix, if a Benchmark Transition Event and its related Benchmark Replacement Date occur with respect to USD LIBOR, and if the Calculation Agent cannot determine the relevant USD LIBOR rate by means of interpolating from other tenors of USD LIBOR, then the rate of interest or floating rate coupon on the Securities during the applicable Interest Period or Floating Rate Coupon Period or in respect of any determination date, as the case may be, will be determined based on the Secured Overnight Financing Rate ("**SOFR**") (unless a Benchmark Transition Event and its related Benchmark Replacement Date also occur with respect to the Benchmark Replacements that are linked to SOFR, in which case the rate of interest or floating rate coupon will be based on the next-available Benchmark Replacement). In the following discussion of SOFR, references to SOFR-linked Securities shall mean the Securities at any time when the rate of interest or floating rate coupon on the Securities is or will be determined based on SOFR.

Because SOFR is published by Federal Reserve Bank of New York ("**FRBNY**") based on data received from other sources, the Issuer has no control over its determination, calculation or publication. There can be no assurance that SOFR will not be discontinued or fundamentally altered in a manner that is materially adverse to the interests of investors in the SOFR-linked Securities. If the manner in which SOFR is calculated is changed, that change may result in a reduction of the amount of interest or coupon payable on the SOFR-linked Securities, which may adversely affect the trading prices of the SOFR-linked Securities. If the rate at which interest or coupon accrues on the Securities during the applicable Interest Period or Floating Rate Coupon Period, as the case may be, on any day or for any Interest Period or Floating Rate Coupon Period, as the case may be, or in respect of any interest determination date, declines to zero or becomes negative, no interest or coupon will be payable on the Securities with respect to that Interest Period or Floating Rate Coupon Period or the relevant payment date, as the case may be.

FRBNY started publishing SOFR in April 2018. FRBNY has also started publishing historical indicative Secured Overnight Financing Rates dating back to 2014, although such historical indicative data inherently involves assumptions, estimates and approximations. Investors should not rely on such historical indicative data or on any historical changes or trends in SOFR as an indicator of the future performance of SOFR. Since the initial publication of SOFR, daily changes in the rate have, on occasion, been more volatile than daily changes in comparable benchmark or market rates, and SOFR over the term of the notes may bear little or no relation to the historical actual or historical indicative data. In addition, the return on and value of the SOFR-linked Securities may fluctuate more than floating rate debt securities that are linked to less volatile rates. An established trading market for the SOFR-linked notes may never develop or may not be very liquid. Market terms for debt securities that are linked to SOFR, such as the spread over the base rate reflected in the interest rate provisions, may evolve over time, and as a result, trading prices of the SOFR-linked notes may be lower than those of later-issued debt securities that are linked to SOFR. Similarly, if SOFR does not prove to be widely used in debt securities that are similar or comparable to the SOFR-linked notes, the trading price of the SOFR-linked notes may be lower than those of debt securities that are linked to rates that are more widely used. Investors in the SOFR-linked notes may not be able to sell the SOFR-linked notes at all or may not be able to sell the SOFR-linked notes at prices that will provide them with a yield comparable to similar

investments that have a developed secondary market, and may consequently suffer from increased pricing volatility and market risk. For more information, see Risk Factor 19.6(d) "*Supplemental information about SOFR*" below.

(c) ***Uncertainty as to some of the potential benchmark replacements and any benchmark replacement conforming changes we make may adversely affect the return on and the market value of the Securities***

The Benchmark Replacements specified in the provisions of the USD LIBOR Benchmark Transition Event Appendix include Term SOFR, a forward-looking term rate which will be based on SOFR. Term SOFR is currently being developed under the sponsorship of FRBNY, and there is no assurance that the development of Term SOFR will be completed. If a Benchmark Transition Event and its related Benchmark Replacement Date occur with respect to USD LIBOR, and if the Calculation Agent cannot determine the relevant USD LIBOR rate by means of interpolating from other tenors of USD LIBOR, and, at that time, a form of Term SOFR has not been selected or recommended by the Relevant Governmental Body, then the next-available Benchmark Replacement under the provisions of the USD LIBOR Benchmark Transition Event Appendix will be used to determine the amount of interest or coupon payable on the Securities during the applicable Interest Period or Floating Rate Coupon Period or in respect of the applicable interest determination date, as the case may be, for the next applicable Interest Period or Floating Rate Coupon Period or interest determination date, as the case may be, and all subsequent Interest Periods or Floating Rate Coupon Periods or interest determination dates, as the case may be, (unless a Benchmark Transition Event and its related Benchmark Replacement Date occur with respect to that next-available Benchmark Replacement).

Under the provisions of the USD LIBOR Benchmark Transition Event Appendix, if a particular Benchmark Replacement or Benchmark Replacement Adjustment cannot be determined, then the next-available Benchmark Replacement or Benchmark Replacement Adjustment will apply. These replacement rates and adjustments may be selected or formulated by (i) the Relevant Governmental Body (such as the Alternative Reference Rates Committee of FRBNY), (ii) ISDA or (iii) in certain circumstances, the Issuer. In addition, the provisions of the USD LIBOR Benchmark Transition Event Appendix expressly authorise us to make Benchmark Replacement Conforming Changes with respect to, among other things, the determination of Interest Periods or Floating Rate Coupon Periods or interest determination dates, as the case may be, and the timing and frequency of determining rates and making payments of interest or coupon. The application of a Benchmark Replacement and Benchmark Replacement Adjustment, and any implementation of Benchmark Replacement Conforming Changes, could result in adverse consequences to the amount of interest or coupon payable on the Securities during the applicable Interest Period or Floating Rate Coupon Period or in respect of the applicable interest determination date, as the case may be, which could adversely affect the return on, value of and market for the Securities. Further, there is no assurance that the characteristics of any Benchmark Replacement will be similar to the then-current USD-LIBOR rate that it is replacing, or that any Benchmark Replacement will produce the economic equivalent of the then-current USD-LIBOR rate that it is replacing. For more information, see Risk Factor 19.6(d) "*Supplemental information about SOFR*".

(d) ***Supplemental information about SOFR***

SOFR is published by the FRBNY and is intended to be a broad measure of the cost of borrowing cash overnight collateralised by Treasury securities. FRBNY reports that SOFR includes all trades in the Broad General Collateral Rate, plus bilateral Treasury repurchase agreement ("**repo**") transactions cleared through the delivery-versus-payment service offered by the Fixed Income Clearing Corporation (the "**FICC**"), a subsidiary of The Depository Trust & Clearing Corporation ("**DTCC**"). SOFR is filtered by FRBNY to remove a portion of the foregoing transactions considered to be "specials". According to FRBNY, "specials" are repos for specific-issue

collateral which take place at cash-lending rates below those for general collateral repos because cash providers are willing to accept a lesser return on their cash in order to obtain a particular security.

FRBNY reports that SOFR is calculated as a volume-weighted median of transaction-level tri-party repo data collected from The Bank of New York Mellon, which currently acts as the clearing bank for the tri-party repo market, as well as General Collateral Finance Repo transaction data and data on bilateral Treasury repo transactions cleared through the FICC's delivery-versus-payment service. FRBNY notes that it obtains information from DTCC Solutions LLC, an affiliate of DTCC.

FRBNY currently publishes SOFR daily on its website at <https://apps.newyorkfed.org/markets/autorates/sofr>. FRBNY states on its publication page for SOFR that use of SOFR is subject to important disclaimers, limitations and indemnification obligations, including that FRBNY may alter the methods of calculation, publication schedule, rate revision practices or availability of SOFR at any time without notice. Information contained in the publication page for SOFR is not incorporated by reference in, and should not be considered part of, this Base Prospectus."

III. Amendments to the terms and conditions of the Securities

The terms and conditions of the Securities are amended and supplemented as follows:

- (a) General Condition 4.2(c) (*Consequences of an Index Cessation Event or Administrator/Benchmark Event*) on pages 273 to 275 of the Original Base Prospectus is deleted in its entirety and replaced with the following:

"(i) *Index Cessation Event*: Notwithstanding anything else in General Condition 4.2(b) (*Determination of Rate of Interest*) and subject to General Condition 4.2(c)(iii) (*USD LIBOR Benchmark Transition Event*) below, if the Calculation Agent determines that an Index Cessation Event has occurred or is existing on any day in respect of any Floating Rate Notes, then (subject to the final paragraph of this General Condition 4.2(c)(i)) the Calculation Agent shall determine the Rate of Interest for each subsequent Interest Period in respect of such Floating Rate Notes as follows (such that, in respect of any such Interest Period, the Rate of Interest shall be determined by the first of (A), (B) or (C) below (applied sequentially) which the Calculation Agent determines is able to be utilised in order to determine the Rate of Interest):

(A) the Rate of Interest shall be determined by reference to the arithmetic mean, as calculated by the Calculation Agent, of the rates of interest that each of the five major banks selected by the Calculation Agent in the interbank market (or, if appropriate, money, swap or over-the-counter index options market) that is most closely connected with the benchmark rate on which the relevant Floating Rate Option is based is quoting to leading banks in respect of an amount of deposits in the Specified Currency that is representative for a single transaction in the relevant market for a period equal to the relevant Designated Maturity (commencing on the relevant Reset Date) on the Interest Determination Date at such local time which is customary to determine bid and offered rates in respect of deposits in the Specified Currency in the relevant market, provided that if the Calculation Agent is unable to find five such banks then as many of such banks as the Calculation Agent is able to select so long as there are at least two such banks selected;

(B) the Rate of Interest shall be determined by reference to the rate which the Calculation Agent determines has replaced the relevant Floating Rate Option

in customary market usage in the international debt capital markets for the purposes of determining rates of interest in respect of bonds denominated in the Specified Currency and of a comparable duration to the relevant Designated Maturity, or, if the Calculation Agent determines that there is no such rate, such other rate as the Calculation Agent determines is most comparable to the relevant Floating Rate Option;

- (C) the Rate of Interest shall be the Rate of Interest determined in respect of the immediately preceding Interest Period (after any readjustment to any difference between any Margin, Maximum Rate of Interest or Minimum Rate of Interest applicable to the such preceding Interest Period and to the relevant Interest Period), provided that if no Rate of Interest has been determined in respect of any such preceding Interest Period (or there is no such preceding Interest Period), the Rate of Interest shall be the rate as determined by the Calculation Agent in its reasonable discretion, provided that, in the case of each of paragraph (A), (B) and (C) (excluding the proviso within paragraph (C)), the application of the provisions of such paragraph (as applicable) is and would not be unlawful at any time under any applicable law or regulation and would not contravene any applicable licensing requirements to determine the Rate of Interest in accordance with the terms of such provisions.

If the Calculation Agent determines the Rate of Interest in accordance with (A), (B) or (C) above it may make such adjustment(s) that it determines to be appropriate, if any, to any variable, calculation methodology, valuation, settlement, payment terms or any other terms of the Floating Rate Notes to account for such change to the method of determination of the Rate of Interest, including (but not limited to) any such adjustment(s) that the Calculation Agent determines are required in order to reduce or eliminate, to the extent reasonable practicable, any change in the economic value of the Floating Rate Notes from such change to the method of determination of the Rate of Interest.

If the Calculation Agent determines that the application of (A), (B) or (C) above would not achieve a commercially reasonable result, the Calculation Agent may determine that the Floating Rate Notes shall be redeemed, in which event the Issuer will cause to be paid to each Holder in respect of each Floating Rate Note held by it an amount equal to the Early Payment Amount (as defined in General Condition 31.1 (*Definitions*)), provided that, if Early Payment Amount 1 or Early Payment Amount 2 applies, the words "(but ignoring the event which resulted in such early redemption)" shall be deleted).

- (ii) *Administrator/Benchmark Event*: if the Calculation Agent determines that an Administrator/Benchmark Event has occurred or is existing on any day in respect of any Floating Rate Notes and a Relevant Benchmark, the Calculation Agent may determine that the Floating Rate Notes shall be redeemed, in which event the Issuer will cause to be paid to each Holder in respect of each Floating Rate Note held by it an amount equal to the Early Payment Amount (as defined in General Condition 31.1 (*Definitions*)), provided that, if Early Payment Amount 1 or Early Payment Amount 2 applies, the words "(but ignoring the event which resulted in such early redemption)" shall be deleted).
- (iii) *USD LIBOR Benchmark Transition Event*: notwithstanding anything else in the Conditions, if the relevant ISDA Rate in respect of any Floating Rate Notes is a USD LIBOR rate (of any tenor) and the Calculation Agent determines that a Benchmark Transition Event and its related Benchmark Replacement Date have

occurred prior to the Reference Time in respect thereof on any date of determination of the Rate of Interest or other variable or amount under the Conditions that depends on the determination of USD LIBOR, then:

- (A) the provisions of the USD LIBOR Benchmark Transition Event Appendix shall apply in respect of the Securities in relation to such USD LIBOR rate; and
- (B) the provisions of General Condition 4.2(c)(i) (*Index Cessation Event*) shall not apply in respect of the Securities in respect of such USD LIBOR rate.

For the purposes of this sub-paragraph (iii), each of "**Benchmark Replacement Date**", "**Benchmark Transition Event**", "**Reference Time**" and "**USD LIBOR**" have the respective meanings given to those terms in the USD LIBOR Benchmark Transition Event Appendix."

- (b) General Condition 8.2(c) (*Consequences of an Index Cessation Event or Administrator/Benchmark Event*) on pages 280 to 282 of the Original Base Prospectus is deleted in its entirety and replaced with the following:

"(i) *Index Cessation Event*: Notwithstanding anything else in General Condition 8.2(b) (*Determination of Floating Rate Coupon*) and subject to General Condition 8.2(c)(iii) (*USD LIBOR Benchmark Transition Event*) below, if the Calculation Agent determines that an Index Cessation Event has occurred or is existing on any day in respect of any Floating Rate Coupon Certificates, then (subject to the final paragraph of this General Condition 8.2(c)(i)) the Calculation Agent shall determine the Floating Rate Coupon for each subsequent Floating Rate Coupon Period in respect of such Floating Rate Coupon Certificates as follows (such that, in respect of any such Floating Rate Coupon Period, the Floating Rate Coupon shall be determined by the first of (A), (B) or (C) below (applied sequentially) which the Calculation Agent determines is able to be utilised in order to determine the Floating Rate Coupon):

- (A) the Floating Rate Coupon shall be the arithmetic mean, as calculated by the Calculation Agent, of the rates of interest that each of the five major banks selected by the Calculation Agent in the interbank market (or, if appropriate, money, swap or over-the-counter index options market) that is most closely connected with the benchmark rate on which the relevant Floating Rate Option is based is quoting to leading banks in respect of an amount of deposits in the Specified Currency that is representative for a single transaction in the relevant market for a period equal to the relevant Floating Rate Coupon Period (commencing on the first day of such Floating Rate Coupon Period) on the Floating Rate Coupon Determination Date at such local time which is customary to determine bid and offered rates in respect of deposits in the Specified Currency in the relevant market, provided that if the Calculation Agent is unable to find five such banks then as many of such banks as the Calculation Agent is able to select so long as there are at least two such banks selected;
- (B) the Floating Rate Coupon shall be determined by reference to the rate which the Calculation Agent determines has replaced the relevant Floating Rate Option in customary market usage in the international debt capital markets for the purposes of determining rates of interest in respect of bonds denominated in the Specified Currency and of a comparable duration to the relevant Floating Rate Coupon Period, or, if the Calculation Agent

determines that there is no such rate, such other rate as the Calculation Agent determines is most comparable to the relevant Floating Rate Option;

- (C) the Floating Rate Coupon shall be the Floating Rate Coupon determined in respect of the immediately preceding Floating Rate Coupon Period (after any readjustment to any difference between any Margin, Maximum Floating Rate Coupon or Minimum Floating Rate Coupon applicable to the such preceding Floating Rate Coupon Period and to the relevant Floating Rate Coupon Period), provided that if no Floating Rate Coupon has been determined in respect of any such preceding Floating Rate Coupon Period (or there is no such preceding Floating Rate Coupon Period), the Floating Rate Coupon shall be the rate as determined by the Calculation Agent in its reasonable discretion.

If the Calculation Agent determines the Floating Rate Coupon in accordance with (A), (B) or (C) above it may make such adjustment(s) that it determines to be appropriate, if any, to any variable, calculation methodology, valuation, settlement, payment terms or any other terms of the Floating Rate Coupon Certificates to account for such change to the method of determination of the Floating Rate Coupon, including (but not limited to) any such adjustment(s) that the Calculation Agent determines are required in order to reduce or eliminate, to the extent reasonable practicable, any change in the economic value of the Floating Rate Coupon Certificates from such change to the method of determination of the Floating Rate Coupon.

If the Calculation Agent determines reasonably that the application of (A), (B) or (C) above would not achieve a commercially reasonable result, the Calculation Agent may determine that the Floating Rate Coupon Certificates shall be redeemed, in which event the Issuer will cause to be paid to each Holder in respect of each Floating Rate Coupon Certificate held by it an amount equal to the Early Payment Amount (as defined in General Condition 31.1 (*Definitions*)), provided that, if Early Payment Amount 1 or Early Payment Amount 2 applies, the words "(but ignoring the event which resulted in such early redemption)" shall be deleted).

- (ii) *Administrator/Benchmark Event*: if the Calculation Agent determines that an Administrator/Benchmark Event has occurred or is existing on any day in respect of any Floating Rate Coupon Certificates and a Relevant Benchmark, the Calculation Agent may determine that the Floating Rate Coupon Certificates shall be redeemed, in which event the Issuer will cause to be paid to each Holder in respect of each Floating Rate Coupon Certificate held by it an amount equal to the Early Payment Amount (as defined in General Condition 31.1 (*Definitions*)), provided that, if Early Payment Amount 1 or Early Payment Amount 2 applies, the words "(but ignoring the event which resulted in such early redemption)" shall be deleted).
- (iii) *USD LIBOR Benchmark Transition Event*: notwithstanding anything else in the Conditions, if the relevant ISDA Rate in respect of any Floating Rate Certificates is a USD LIBOR rate (of any tenor) and the Calculation Agent determines that a Benchmark Transition Event and its related Benchmark Replacement Date have occurred prior to the Reference Time in respect thereof on any date of determination of the Floating Rate Coupon or other variable or amount under the Conditions that depends on the determination of USD LIBOR, then:
 - (A) the provisions of the USD LIBOR Benchmark Transition Event Appendix shall apply in respect of the Securities in relation to such USD LIBOR rate; and

- (B) the provisions of General Condition 8.2(c)(i) (*Index Cessation Event*) shall not apply in respect of the Securities in respect of such USD LIBOR rate.

For the purposes of this sub-paragraph (iii), each of "**Benchmark Replacement Date**", "**Benchmark Transition Event**", "**Reference Time**" and "**USD LIBOR**" have the respective meanings given to those terms in the USD LIBOR Benchmark Transition Event Appendix."

- (c) a new USD LIBOR Benchmark Transition Event Appendix in the form as set out in the Schedule to this Supplement is inserted as a new section V (*Appendix 2 – USD LIBOR Benchmark Transition Event Appendix*) immediately after the existing section IV (*Appendix – Provisions regarding Resolutions of Holders of German Securities*) on pages 559 to 563 of the Original Base Prospectus.
- (d) the existing section IV (*Appendix – Provisions regarding Resolutions of Holders of German Securities*) on pages 559 to 563 of the Original Base Prospectus is now referred to as (*Appendix 1 – Provisions regarding Resolutions of Holders of German Securities*) and all references throughout the Base Prospectus to such Appendix shall be deemed to be to Appendix 1 instead.

General

To the extent that there is any inconsistency between (a) any statement in this Supplement or any statement incorporated by reference into the Base Prospectus by this Supplement and (b) any other statement in or incorporated by reference into the Base Prospectus, the statements in (a) above will prevail.

This Supplement will be published on the Luxembourg Stock Exchange's website at www.bourse.lu.

SCHEDULE TO THIS SUPPLEMENT

"APPENDIX 2

USD LIBOR BENCHMARK TRANSITION EVENT APPENDIX

The provisions of this USD LIBOR Benchmark Transition Event Appendix apply in the circumstances set out in General Condition 4.2(c)(iii) (*USD LIBOR Benchmark Transition Event*) and General Condition 8.2(c)(iii) (*USD LIBOR Benchmark Transition Event*), as applicable.

1. *Benchmark Replacement*: If the Calculation Agent determines that a Benchmark Transition Event and its related Benchmark Replacement Date have occurred prior to the Reference Time in respect of any determination of the relevant USD LIBOR rate on any date for the purposes of the determination of the Rate of Interest, Floating Rate Coupon or other variable or amount under the Conditions that depends on the determination of USD LIBOR, the Benchmark Replacement will replace the then-current Benchmark Rate for all purposes relating to the Securities during the applicable Interest Period or Floating Rate Coupon Period or other applicable period or date(s), as the case may be, in respect of such determination on such date and all determinations on all subsequent dates under the Securities.
2. *Benchmark Replacement Conforming Changes*: In connection with the implementation of a Benchmark Replacement, the Issuer or the Calculation Agent may make Benchmark Replacement Conforming Changes from time to time.
3. For the purposes of this USD LIBOR Benchmark Transition Event Appendix only, unless the context otherwise requires, the following terms shall have the respective meanings set out below:

"Benchmark Rate" means, initially, USD LIBOR of the appropriate tenor; provided that if a Benchmark Transition Event and its related Benchmark Replacement Date have occurred with respect to USD LIBOR or the then-current Benchmark Rate, then "Benchmark Rate" means the applicable Benchmark Replacement.

"Benchmark Replacement" means the Interpolated Benchmark with respect to the then-current Benchmark Rate, plus the Benchmark Replacement Adjustment for such Benchmark Rate; provided that if the Calculation Agent cannot determine the Interpolated Benchmark as of the Benchmark Replacement Date, then "Benchmark Replacement" means the first alternative set forth in the order below that can be determined by the Calculation Agent as of the Benchmark Replacement Date:

- (a) the sum of: (i) Term SOFR and (ii) the Benchmark Replacement Adjustment;
- (b) the sum of: (i) Compounded SOFR and (ii) the Benchmark Replacement Adjustment;
- (c) the sum of: (i) the alternate rate of interest that has been selected or recommended by the Relevant Governmental Body as the replacement for the then-current Benchmark Rate for the applicable Corresponding Tenor and (ii) the Benchmark Replacement Adjustment;
- (d) the sum of: (i) the ISDA Fallback Rate and (ii) the Benchmark Replacement Adjustment;
- (e) the sum of: (i) the alternate rate of interest that has been selected by the Issuer or the Calculation Agent as the replacement for the then-current Benchmark Rate for the applicable Corresponding Tenor giving due consideration to any industry-accepted rate of interest as a replacement for the then-current Benchmark Rate for U.S. dollar-denominated floating rate notes at such time and (ii) the Benchmark Replacement Adjustment.

"Benchmark Replacement Adjustment" means the first alternative set forth in the order below that can be determined by the Calculation Agent as of the Benchmark Replacement Date:

- (a) the spread adjustment (which may be a positive or negative value or zero), or method for calculating or determining such spread adjustment, that has been selected or recommended by the Relevant Governmental Body for the applicable Unadjusted Benchmark Replacement;
- (b) if the applicable Unadjusted Benchmark Replacement is equivalent to the ISDA Fallback Rate, then the ISDA Fallback Adjustment;
- (c) the spread adjustment (which may be a positive or negative value or zero) that has been selected by the Issuer or the Calculation Agent giving due consideration to any industry-accepted spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of the then-current Benchmark Rate with the applicable Unadjusted Benchmark Replacement for U.S. dollar-denominated floating rate notes at such time.

"Benchmark Replacement Conforming Changes" means, with respect to any Benchmark Replacement, any technical, administrative or operational changes (including without limitation changes to the definition of "Interest Period", "Floating Rate Coupon Period" or "Interest Determination Date" or other applicable periods and dates, as the case may be, timing and frequency of determining rates and making payments of interest or coupon, rounding of amounts or tenors, and other administrative matters) that the Calculation Agent determines is appropriate to reflect the adoption of such Benchmark Replacement in a manner substantially consistent with market practice (or, if the Calculation Agent determines that adoption of any portion of such market practice is not administratively feasible or if the Calculation Agent determines that no market practice for use of the Benchmark Replacement exists, in such other manner as the Calculation Agent determines is reasonably necessary).

"Benchmark Replacement Date" means the earliest to occur of the following events with respect to the then-current relevant USD LIBOR rate:

- (a) in the case of paragraph (a) or (b) of the definition of "Benchmark Transition Event", the later of (i) the date of the public statement or publication of information referenced therein and (ii) the date on which the administrator of the Benchmark Rate permanently or indefinitely ceases to provide the Benchmark Rate; or
- (b) in the case of paragraph (c) of the definition of "Benchmark Transition Event", the date of the public statement or publication of information referenced therein.

For the avoidance of doubt, if the event giving rise to the Benchmark Replacement Date occurs on the same day as, but earlier than, the Reference Time in respect of any determination, the Benchmark Replacement Date will be deemed to have occurred prior to the Reference Time for such determination.

"Benchmark Transition Event" means the occurrence of one or more of the following events with respect to the then-current Benchmark Rate:

- (a) a public statement or publication of information by or on behalf of the administrator of the Benchmark Rate announcing that such administrator has ceased or will cease to provide the Benchmark Rate, permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the Benchmark Rate;
- (b) a public statement or publication of information by the regulatory supervisor for the administrator of the Benchmark Rate, the central bank for the currency of the Benchmark Rate, an insolvency official with jurisdiction over the administrator for the Benchmark Rate, a resolution authority with jurisdiction over the administrator for the Benchmark Rate or a court or an entity with similar insolvency or resolution authority over the administrator for the Benchmark Rate, which states that the administrator of the Benchmark Rate has ceased or will cease to provide the Benchmark Rate permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the Benchmark Rate; or

- (c) a public statement or publication of information by the regulatory supervisor for the administrator of the Benchmark Rate announcing that the Benchmark Rate is no longer representative.

"Compounded SOFR" means the compounded average of SOFRs for the applicable Corresponding Tenor, with the rate, or methodology for this rate, and conventions for this rate being established by the Issuer or the Calculation Agent in accordance with:

- (a) the rate, or methodology for this rate, and conventions for this rate selected or recommended by the Relevant Governmental Body for determining compounded SOFR; provided that:
- (b) if, and to the extent that, the Issuer or the Calculation Agent determines that Compounded SOFR cannot be determined in accordance with clause (a) above, then the rate, or methodology for this rate, and conventions for this rate that have been selected by it giving due consideration to any industry-accepted market practice for U.S. dollar-denominated floating rate notes at such time.

For the avoidance of doubt, the calculation of Compounded SOFR will exclude the Benchmark Replacement Adjustment and the margin of 101 basis points (1.01%).

"Corresponding Tenor" with respect to a Benchmark Replacement means a tenor (including overnight) having approximately the same length (disregarding business day adjustment) as the applicable tenor for the then-current Benchmark Rate.

"Federal Reserve Bank of New York's Website" means the website of the Federal Reserve Bank of New York at <http://www.newyorkfed.org>, or any successor source. Information contained in the Federal Reserve Bank of New York's Website is not incorporated by reference in, and should not be considered part of, this Base Prospectus.

"Interpolated Benchmark" with respect to the Benchmark Rate means the rate determined for the Corresponding Tenor by interpolating on a linear basis between: (1) the Benchmark Rate for the longest period (for which the Benchmark Rate is available) that is shorter than the Corresponding Tenor and (2) the Benchmark Rate for the shortest period (for which the Benchmark Rate is available) that is longer than the Corresponding Tenor.

"ISDA Fallback Adjustment" means the spread adjustment (which may be a positive or negative value or zero) that would apply for derivatives transactions referencing the ISDA Definitions to be determined upon the occurrence of an index cessation event with respect to USD LIBOR for the applicable tenor.

"ISDA Fallback Rate" means the rate that would apply for derivatives transactions referencing the ISDA Definitions to be effective upon the occurrence of an index cessation date with respect to USD LIBOR for the applicable tenor excluding the applicable ISDA Fallback Adjustment.

"Reference Time" with respect to any determination of the Benchmark Rate means (1) if the Benchmark Rate is USD LIBOR, 11:00 a.m. (London time) on the relevant Interest Determination Date or Floating Rate Coupon Determination Date, as the case may be, and (2) if the Benchmark Rate is not USD LIBOR, the time determined by the Calculation Agent in accordance with the Benchmark Replacement Conforming Changes.

"Relevant Governmental Body" means the Federal Reserve Board and/or the Federal Reserve Bank of New York, or a committee officially endorsed or convened by the Federal Reserve Board and/or the Federal Reserve Bank of New York or any successor thereto.

"SOFR" with respect to any day means the secured overnight financing rate published for such day by the Federal Reserve Bank of New York, as the administrator of the benchmark, (or a successor administrator) on the Federal Reserve Bank of New York's Website.

"Term SOFR" means the forward-looking term rate for the applicable Corresponding Tenor based on SOFR that has been selected or recommended by the Relevant Governmental Body.

"Unadjusted Benchmark Replacement" means the Benchmark Replacement excluding the Benchmark Replacement Adjustment.

"USD LIBOR" means the London inter-bank offered rate for deposits in USD."