EUREX Architects of trusted markets

Whitepaper

Liquidity Reboot: EURO STOXX 50® Options & 0DTE Daily Options

May 2026

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Including updates from both EURO STOXX 50® Index Options (OESX) and EURO STOXX 50® End-of-Day Index Options (OEXP)

March 2026 introduced the first significant volatility shock since both the new OESX and OEXP frameworks went live (July 2025 and January 2026, respectively). As a reminder, the most significant change to the framework was a new mantra that order book quoted spreads and sizes should be market-dependent, and ultimately volatility-dependent.

The new framework dictates that the exchange provides incentives based on actual spread and size quoted throughout different volatility regimes, rather than against fixed pre-defined thresholds. Subsequently, the new framework stresses the need for constant liquidity-provisioning, regardless of the volatility regime. While quoted widths and sizes will differ based on stress levels in the market, the new framework penalizes a total lack of quoting altogether.

This creates a smooth and competitively quoted surface for traders, starting from zero-day-to-expiry (0DTE) to two years out in the EURO STOXX 50® Index Options complex over a broad range of deltas (at least $2 \leq |\Delta| \leq 80$). Finally, liquidity providers are incentivized based on passive volume traded, effectively establishing the first maker/taker program on Eurex, under the slogan "a good quote is a traded quote".

As evident in the data provided in this update, the new liquidity framework drove a completely new liquidity dynamic, allowing market participants to trade record volumes in March.

Some quoting highlights:

- OESX order books had **0 percent downtime in March 2026**, with more than **4,000 quoted strikes** available for trading daily in all expiries until March 2028. More strikes were firmly quoted on the least liquid days in March 2026 than on the best days in April 2025.
- OEXP saw close to **0 percent downtime**, with more than **2,400 quoted strikes**. Considerable improvement year-on-year, with April 2025 having multiple incidents of empty order book screens (such as 07.04.2025)
- OESX at-the-money spreads were **25 percent – 35 percent tighter across the curve** than they were 12 months earlier. While spreads were tighter across all volatility buckets, quoted size was unchanged on average and robust over volatility buckets.
- At-the-money quoted spreads of 0DTE OEXP **were quoted on average 35 percent tighter** compared to April 2025, a clear sign of the growing demand and importance of this product, and an especially impressive improvement considering the gamma profile of short-dated options.

How did this new quoting dynamic, in combination with higher realized volatility, impact trading during March 2026?

- OESX monthly volumes were the **highest since February 2020 with 31.5 million contracts traded**, up **11 percent year-on-year** compared to April 2025 (Liberation Day month). **Eleven million contracts** traded on-screen, up **17 percent up compared to April 2025**.
- OEXP monthly volumes were the **highest since launch at almost 1.7 million contracts traded, with 83 percent trading happening in the order book**. ADV **doubled month-on-month (March 2026 vs. March 2025)** and is **up approximately 60 percent compared with Q4 2025**.

- OEXP had a post-launch record day on 6 March 2026, with more than **215,000 contracts traded** (two times the previous record day). End clients drove the record demand, accounting for **nearly 40 percent of the market volume** on that day.
- Market participants placing orders within the spread in OESX executed at, on average, a **20 percent price improvement over the quoted best bid- offer**, with **5 percent of volume (and 9 percent of trades)** even **executed at the midpoint**.
- Volume **executed on touch in OESX** (against best bid and offer (BBO) levels) **is up 10 percent year-on-year**, a testament to more competitive pricing, even during periods of high volatility.

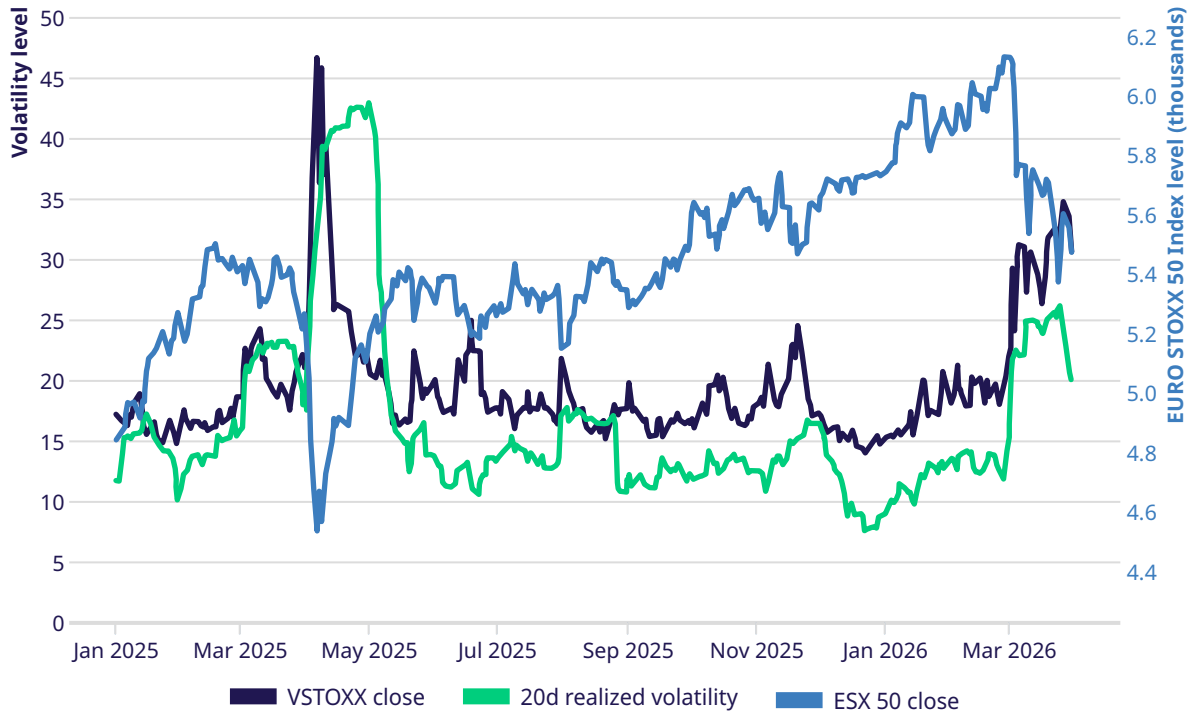
Periods of high volatility (both implied volatility in options prices and realized volatility in the price fluctuation of the underlying asset) are exactly the moments when clients need consistent, reliable order books. The performance and success of any liquidity provider framework must be analyzed across periods of market stress. March 2026 was therefore a great month to measure the reliability of the new framework in practice and sample KPIs.

The plot below outlines the movement of VSTOXX, 20-day close-to-close realized volatility of the EURO STOXX 50 Index Futures (FESX) as well as the index close itself.

To illustrate the extent of the moves in March, **VSTOXX closed above 20 points on 22 out of the 22 trading days and above 30 points on 13 out of 22 trading days in March 2026**.

For comparison, April 2025 recorded 20 out of 20 closes above 20 points, but only six closes above 30 points. Since the launch of the new OESX framework, there have been only 14 VSTOXX closes above 20 points, and none above 30 points (between July 1, 2025 and February 28, 2026). **Twenty-day realized close-to-close volatility averaged approximately 23 points** by month-end, another record since April 2025 (which averaged 36 points mostly due to the extreme volatility concentration between April 4, 2025, and April 10, 2025).

VSTOXX, realized volatility, and EURO STOXX 50® over time



Quoting coverage

The tables and plots below highlight the number of instruments quoted and their distribution across expiries and moneyness levels for the two products for which our new liquidity provider framework is currently in place (OESX and OEXP).

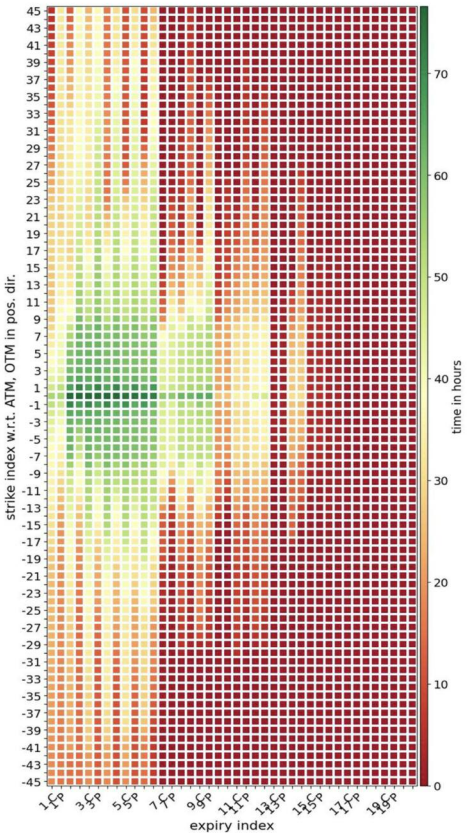
Table 1 – Quoted Instrument Count OEXP and OESX

	OESX			OEXP		
Month	Average #	Min #	Max #	Average #	Min #	Max #
202501	2,808	2,447	3,032	1,277	1,057	1,475
202502	3,283	2,911	3,437	1,367	978	1,527
202503	3,103	2,587	3,421	1,476	1,152	1,641
202504	2,905	1,500	3,651	**944**	**8**	1,856
202505	3,415	2,846	3,920	1,638	1,403	1,775
202506	3,614	3,055	3,953	1,624	1,021	1,910
202507	**4,368**	3,871	4,618	1,660	1,518	1,888
202508	**4,168**	3,873	4,492	1,654	1,416	1,814
202509	**4,064**	3,518	4,341	1,688	1,549	1,886
202510	**4,035**	3,428	4,563	1,743	1,311	1,947
202511	**3,990**	3,574	4,237	1,806	1,350	2,024
202512	**4,080**	3,639	4,500	1,542	861	1,861
202601	**4,220**	3,751	4,490	**2,118**	1,472	2,318
202602	**4,338**	3,970	4,628	**2,290**	2,145	2,394
202603	**4,213**	3,326	4,894	**2,406**	1,399	2,797

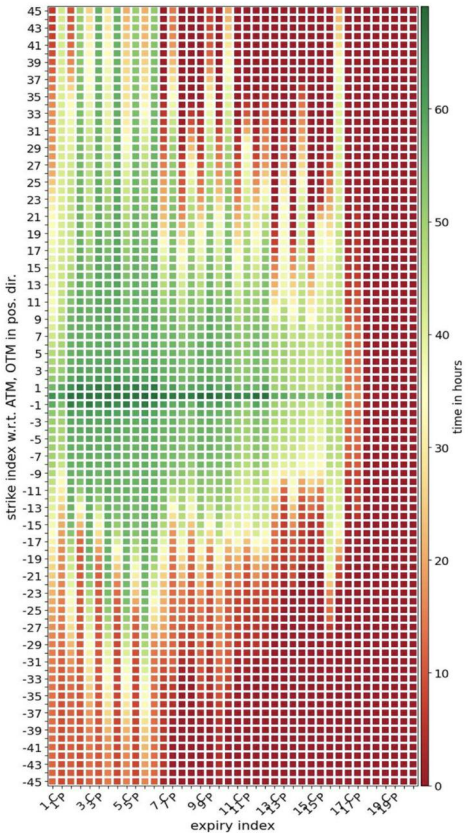
The market-maker footprints below (page 5, 6) depict a coordinate space of option instruments, where each strike is presented along the expiry cycle (x-axis) and relative moneyness (y-axis).

The four panels on the following pages compare April 2025 behavior with March 2026 behavior, highlighting quoted hours by liquidity providers as well as total traded screen volumes in the market. The greener the heatmap, the higher the activity.

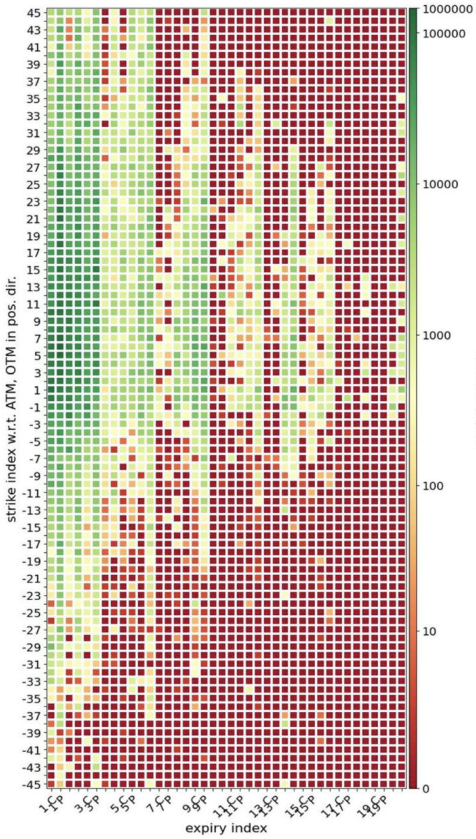
OESX covered time – April 2025



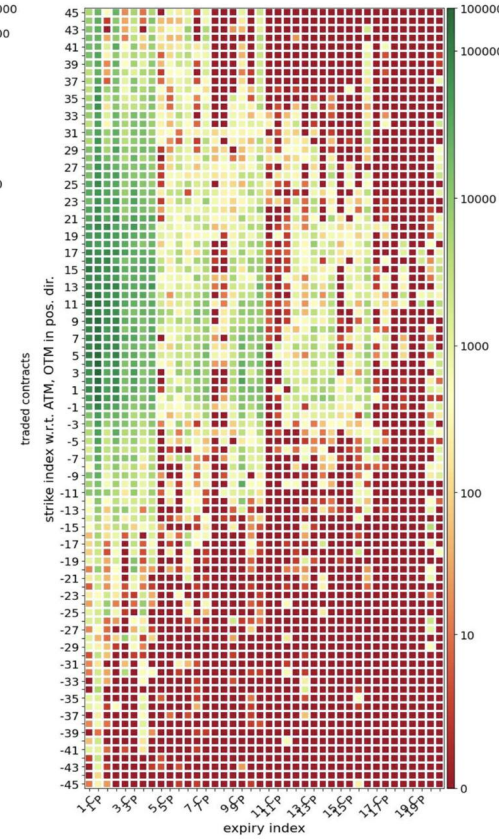
OESX covered time – March 2026



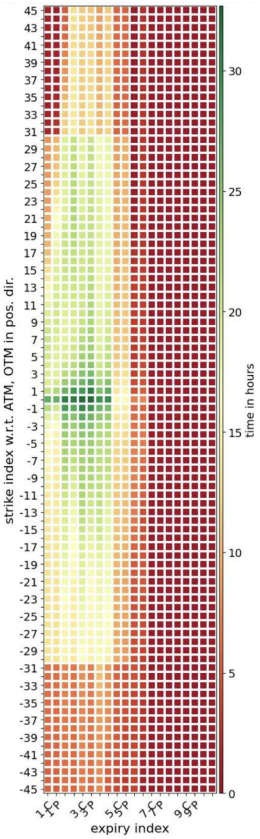
OESX traded contracts – April 2025



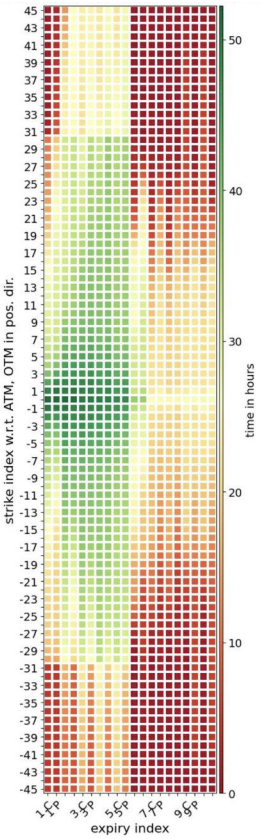
OESX traded contracts – March 2026



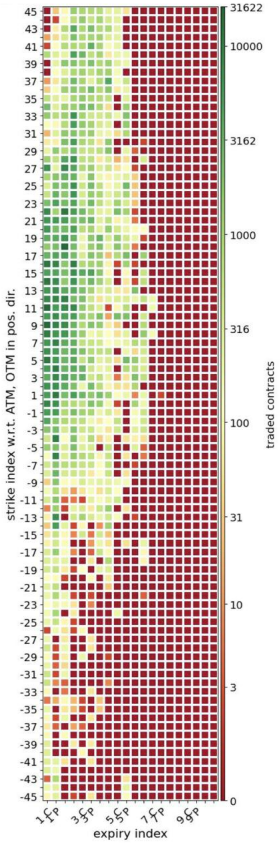
OEXP covered time – April 2025



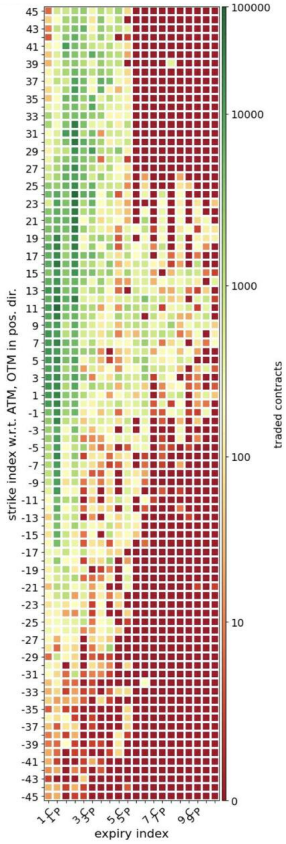
OEXP covered time – March 2026



OEXP traded contracts – April 2025



OEXP traded contracts – March 2026



Using the data in these plots and table, one can clearly see the following:

1) On average, there are over 1,100 additional strikes available for trading in OESX and 1,400 additional strikes in OEXP in the new program compared to the old (Table 1).

2) Coverage is less volatile (the difference between maximum number and minimum number in Table 1 is reduced), while the average has increased, providing a more stable and continuously priced curve for traders.

3) Coverage gaps in expiries and concentration in around-the-money strikes have been removed. This has resulted in a more evenly quoted surface achieved, with a skew towards lower delta options where a large portion of overall volume is traded.

4) There is considerably more volume traded in far-out expiries and delta combinations in March 2026 compared to April 2025 in both products.

Ultimately, the average liquidity provider in OESX delivered a **stunning 350,000 hours of coverage in March 2026**, with all liquidity providers present across the entire curve. This has been recognized by end clients who traded an **additional 500,000 contracts year-on-year on-screen** in the newly quoted areas of the surface (such as second-month weeklies and second-year maturities). Second-week OEXP maturities listed in January 2026 are **already accounting for approximately 7 percent of total volume**, as can be deduced from the OEXP volume footprint above.

Quoted bid-offer Spread and Quoted Size Developments

Tables 2–5 compare quoted spreads and sizes between similar instrument profiles in the old and new frameworks.

Table 2 – Average BBO Spread/Notional (in bps) OESX

Month	Call in Scope	Put in Scope
2025-02	15.2	10.4
2025-03	19.1	19.5
2025-04	31.3	34.5
2025-05	16.5	17.6
2025-06	12.6	13.8
2025-07	7.8	7.5
2025-08	7.3	7.6
2025-09	7.1	7.7
2025-10	9.8	9.3
2025-11	10.6	10.9
2025-12	9.2	8.4
2026-01	10.3	10.1
2026-02	10.0	9.8
2026-03	16.2	17.4

Table 3 – Average BBO Size (Bid+Ask)/2 OESX

Month	Call in Scope	Put in Scope	VSTOXX
2025-02	287	282	16.9
2025-03	260	254	20.6
2025-04	197	187	28.9
2025-05	216	206	18.8
2025-06	237	223	19.6
2025-07	260	261	17.6
2025-08	253	255	17.5
2025-09	282	264	16.8
2025-10	282	272	17.8
2025-11	289	279	19.7
2025-12	302	303	15.6
2026-01	253	250	17.2
2026-02	255	241	19.1
2026-03	217	217	29.6

Table 4 – Average BBO Spread/Notional (in bps) OEXP 0DTE

Month	Call in Scope	Put in Scope
2025-02	6.2	5.2
2025-03	7.2	6.8
2025-04	8.7	8.2
2025-05	5.9	4.7
2025-06	3.9	3.8
2025-07	4.0	3.8
2025-08	4.9	4.0
2025-09	4.1	3.6
2025-10	3.8	3.4
2025-11	3.5	3.3
2025-12	3.4	2.9
2026-01	3.6	3.5
2026-02	3.8	4.4
2026-03	5.4	6.5

Table 5 – Average BBO Size (Bid+Ask)/2 OEXP

Month	Call in Scope	Put in Scope	VSTOXX
2025-02	145	144	16.9
2025-03	171	178	20.6
2025-04	121	121	28.9
2025-05	118	114	18.8
2025-06	145	139	19.6
2025-07	176	185	17.6
2025-08	162	168	17.5
2025-09	166	171	16.8
2025-10	147	154	17.8
2025-11	145	146	19.7
2025-12	161	164	15.6
2026-01	144	127	17.2
2026-02	134	127	19.1
2026-03	101	109	29.6

"In-scope" here are the contracts 200 points around-the-money for OESX across the first 10 expiries in terms of time to maturity, and 100 points for OEXP, focusing on the most traded maturities. As can be seen in this data, spreads have improved under the new framework by 25 – 40 percent across the board. Most importantly, improvements remain reliable and consistent across volatility phases.

Size quoted in OESX remained stable even as spreads tightened and even increased slightly in lower volatility months year on year. The March 2026 to April 2026 comparison comes at around 10 percent more size quoted in March 2026. OEXP experienced a reduction of 25 percent on the top-of-book quoted size. However, this is by scheme design, which favors spread quality considerably over size quality. This is consistent with the needs of our market, in which it is infrequent for the entire size on the best bid-offer to be executed against, and a lot of the agency flow is executed passively within the spread.

The following plot outlines how spreads and quoted sizes are distributed across key expiries, comparing April 2025 and March 2026 (using the same moneyness levels). For each strike quoted in the respective period, size-weighted spread is presented as a heatmap, and a trend line is superimposed on the plot.

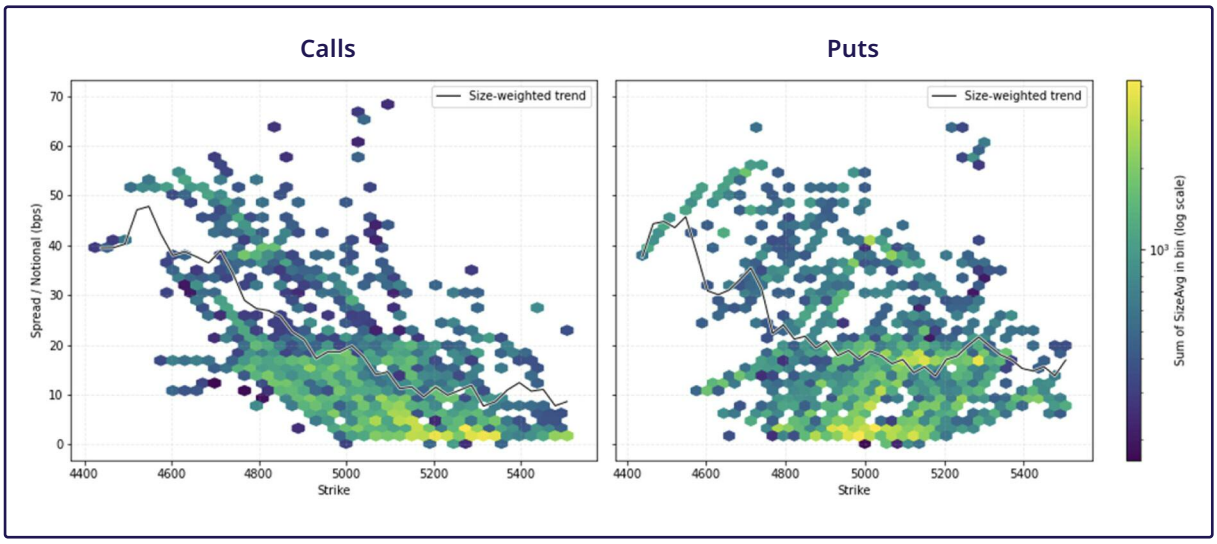
As can be seen from the plots:

1) Spreads are considerably tighter in March 2026 compared to April 2025 across the sample of strikes, with more size quoted overall in around-the-money contracts (for both calls and puts).

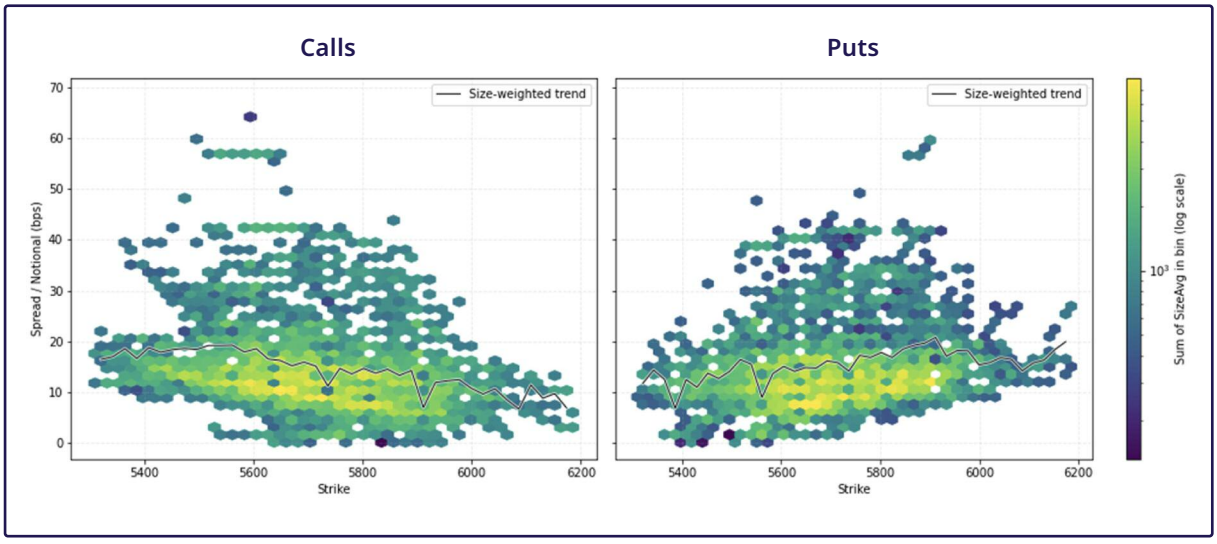
2) Spreads are less volatile, with a consistent quality of best bid-offer quoted in March 2026, observable by the tighter distribution of strikes, and fewer outliers.

3) Areas of the tightest spreads in March 2026 follow demand, with low-delta calls and puts quoted the tightest. In contrast, in April 2025 in-the-money puts were quoted considerably tighter than out-of-the-money instruments (though this was not necessarily where there was demand by end clients).

Spread/Notional vs Strike – OESX Options (April 2025)
strikes ±200 around ATM, EXPIRY = APR25 | JUN25 | SEP25 | DEC25



Spread/Notional vs Strike – OESX Options (March 2026)
strikes ±200 around ATM, EXPIRY = MAR26 | APR26 | JUN26 | SEP26 | DEC26

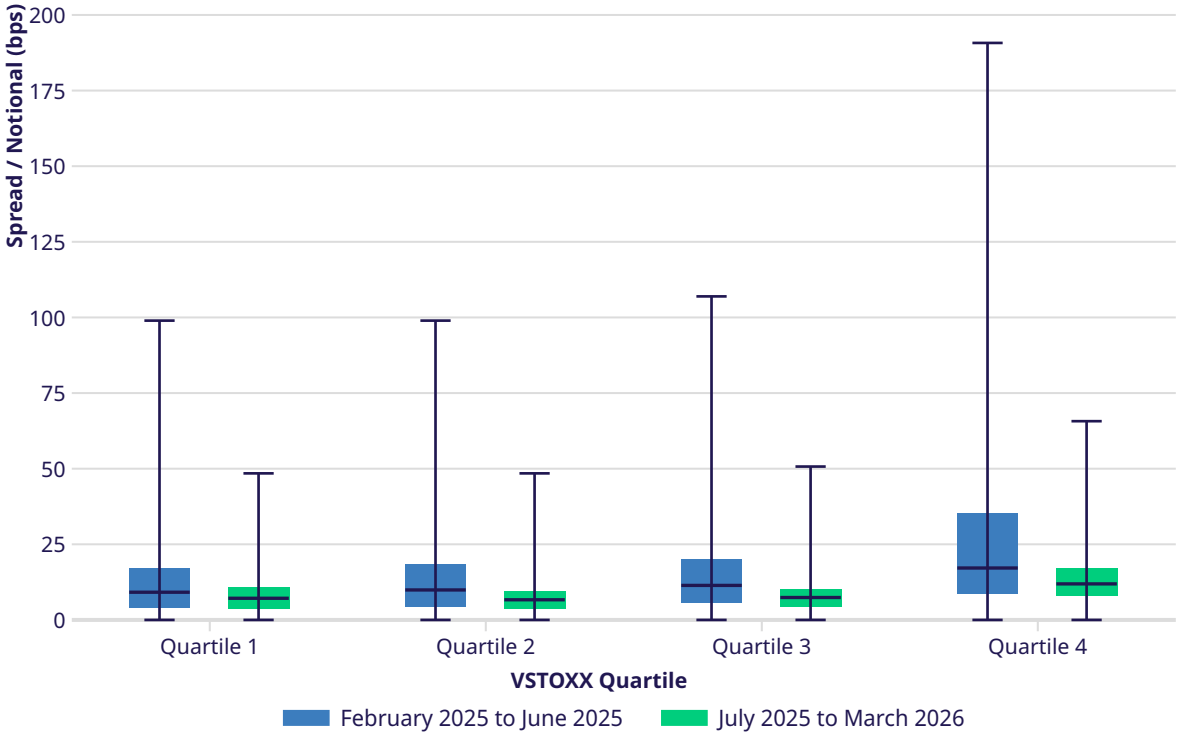


Another way to look at the quoted spread and volatility relationship is shown in the plot below, where days are bucketed into volatility quartiles based on VSTOXX close prices. Each bucket presents a volatility regime, Quartile 1 being the lowest 25% of the volatility distribution, and Quartile 4 the highest 25%. Days are separated based on old and new liquidity frameworks that were in effect for that measurement. Spreads are visualized as boxplots so that both the median spread and its variability can be observed on the same plot.

Not only are spread medians tighter in the new framework across all volatility buckets by around 20 percent, but they are more consistent and tightly distributed. Further, we can see that outliers (strikes quoted wider than the respective median) are far closer to the median in the new framework in all four buckets, which speaks to the lower volatility of the spread. Finally, the improvement is most obvious in the highest-volatility days, where the width of outlier quoted strikes is improved by more than 50 percent.

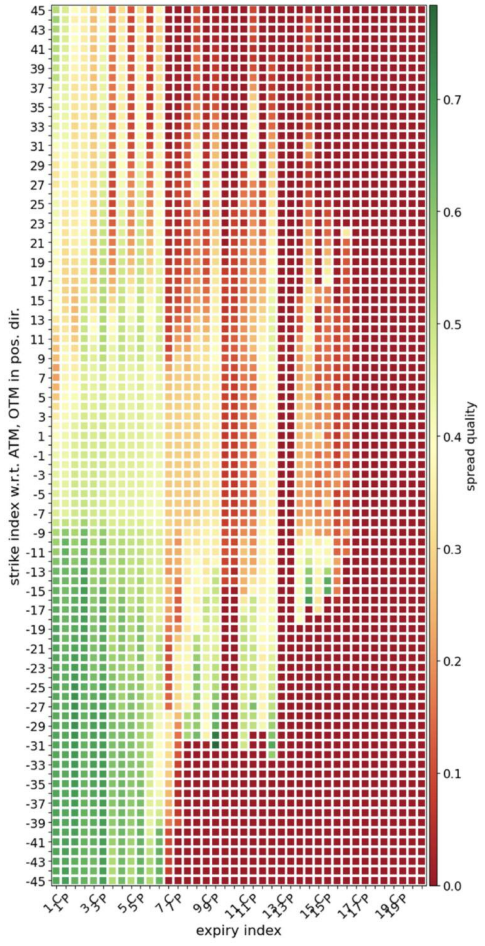
Finally, we compare spread quality between April 2025 and March 2026. Spread quality is a proprietary metric used at Eurex to measure how well liquidity providers are quoting across moneyness ranges, market phases (normal, fast or stressed markets) and vis-à-vis the market-maker requirements. A spread quality of 1 corresponds to a tick-wide spread quoted on a time-weighted basis, while 0 corresponds to quotation exactly at the liquidity provider requirement for that moneyness and volatility level. The following plots show just how much spread quality has improved.

Spread/Notional per VSTOXX quartile, OESX First 10 expiries, 200 points around ATM

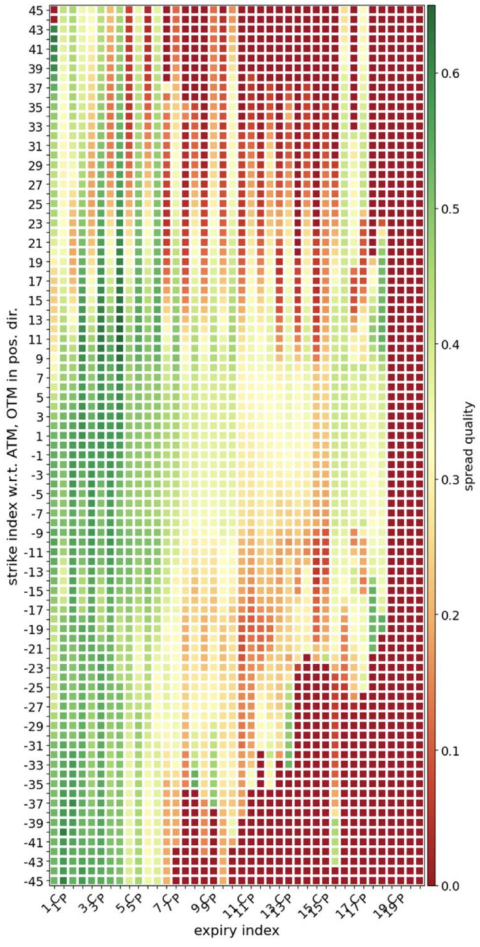


To summarize this visualization, we see more vibrant spread quality quoted not only at-the-money, but across low delta options where there is a heavy demand skew coming from the market. Further-out expiries are improved with more liquidity providers participating in improving the spread down the curve. Spread quality in-the-money remains relatively stable, as it is not a topic of focus for the new program, based on client demand.

OESX spread quality – April 2025



OESX spread quality – March 2026



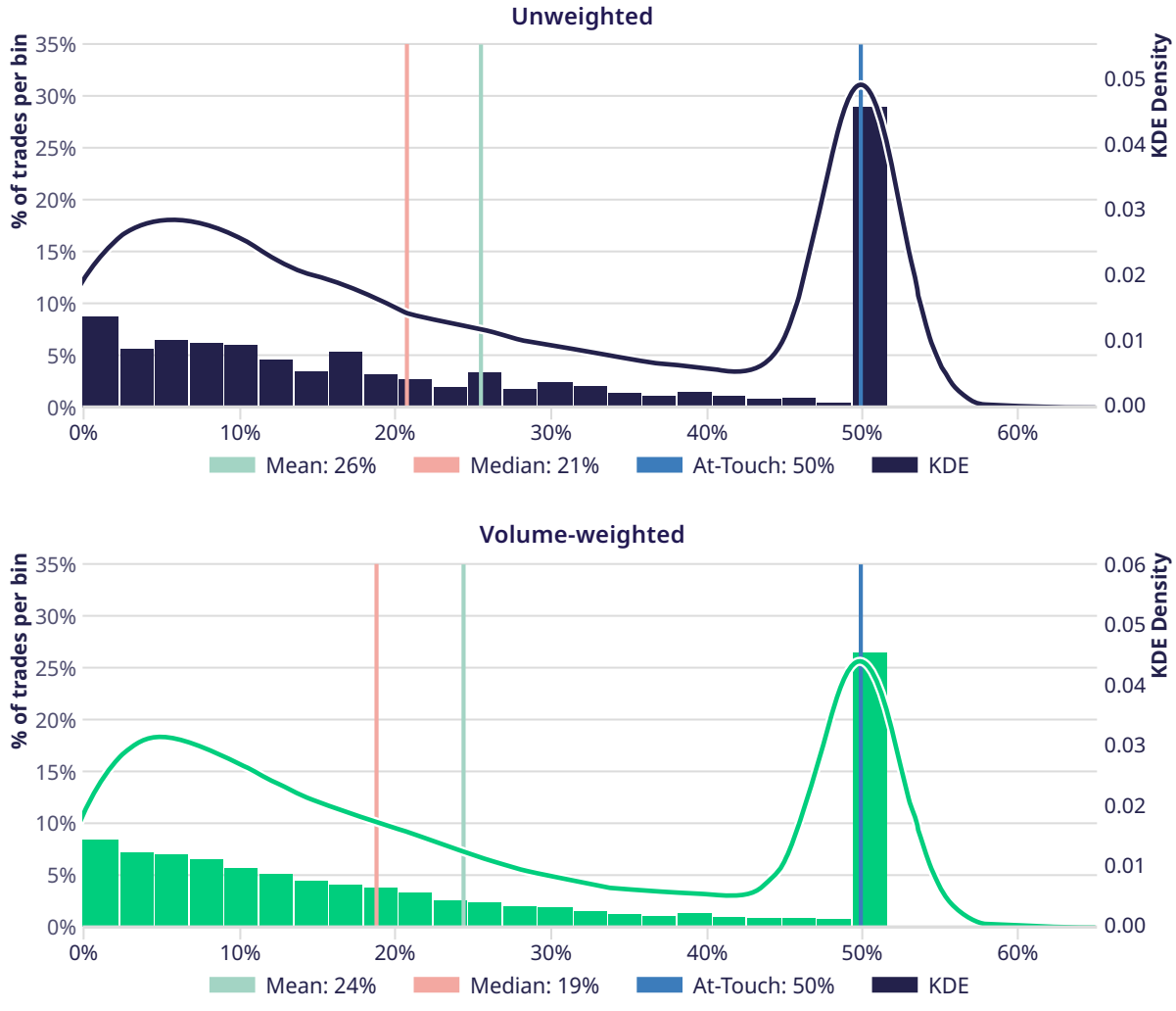
Execution and trading dynamics

Due to the small tick size (0.1 point) there is considerable granularity to be achieved in execution within the spread in EURO STOXX 50® Options. True liquidity is obvious not only in the quoted market, but also in actual execution dynamics within the best-bid offer.

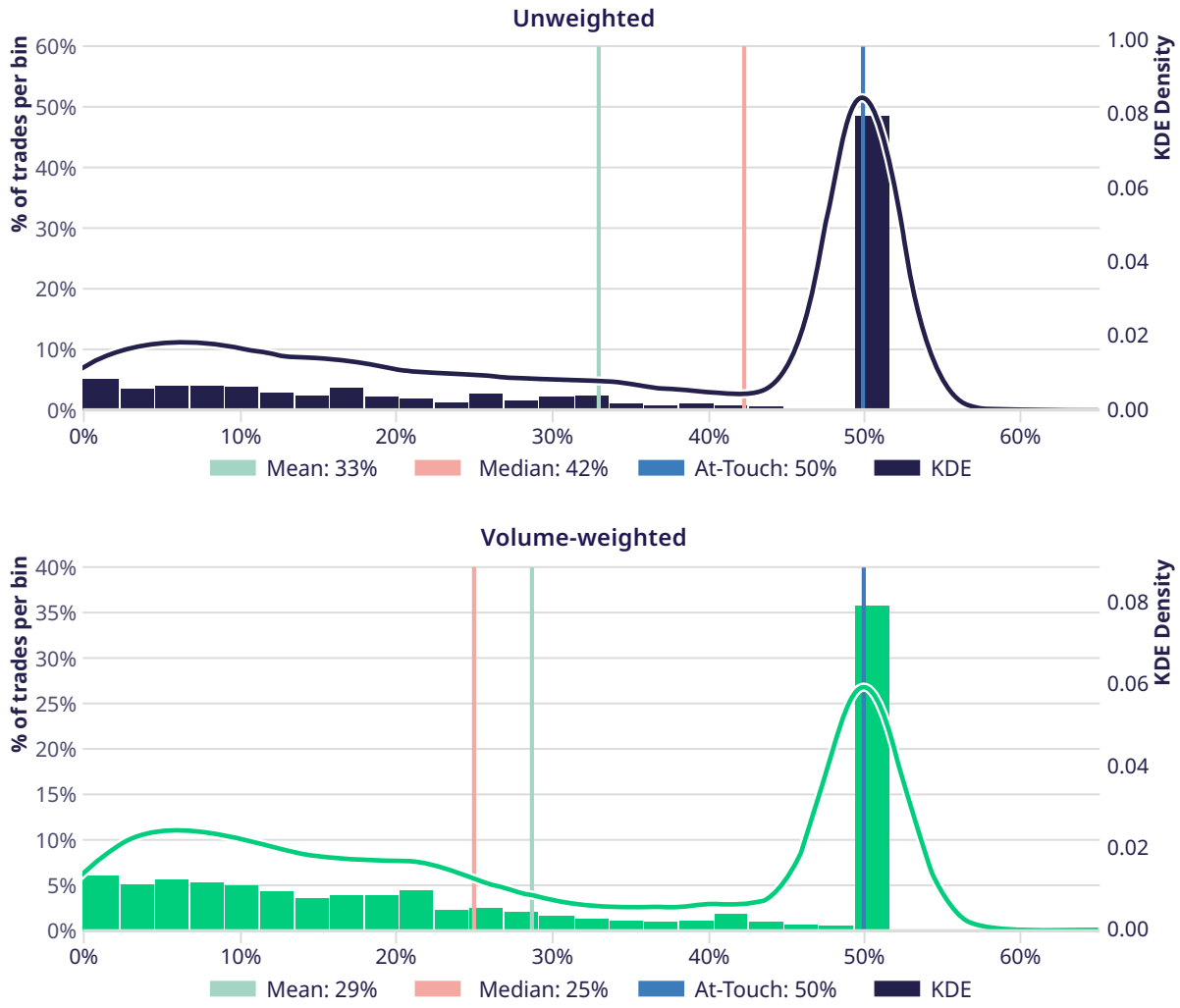
The plots below show the distance of each execution price to the quoted best-bid offer midpoint (proxy for fair value) as a percentage of the quoted spread. This is aggregated using trade count (top panel) and total contracts traded (bottom panel).

The x-axis goes from 0 percent (distance to mid-point from the midpoint is 0 percent of the spread) to 50 percent representing the distance from the midpoint to the quoted bid or offer (half of the spread). The KDE, or kernel density estimation, is a smooth and continuous curve, which maps the probability density function of the execution distribution.

OESX – Distance to BBO Mid as % of Spread (1 to 30 April 2025)



OESX – Distance to BBO Mid as % of Spread (2 to 31 March 2026)

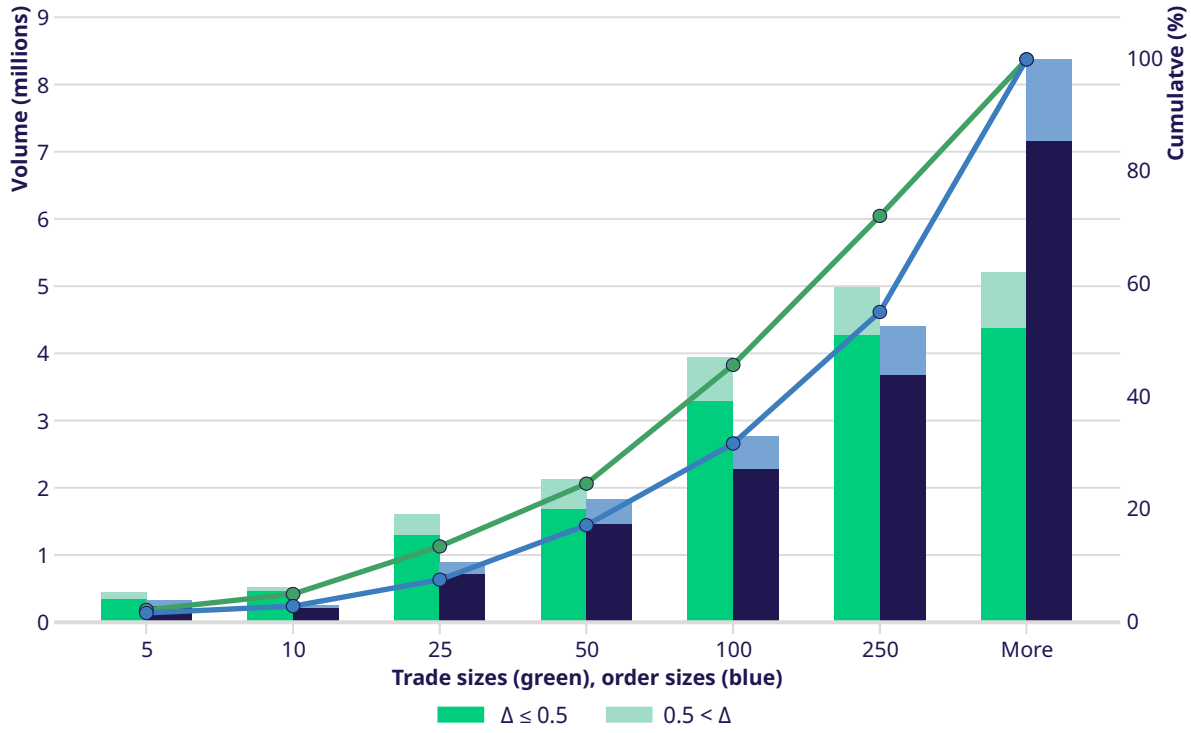


Execution "at-touch", or against the prevailing best-bid and offer (BBO) before the aggressive order resulting in the trade landed into the book, has increased by 10 percent in March 2026 compared to April 2025, up to 35 percent of all volume, a testament to the spread quality. The logic being that, if the spread quoted was not appropriate, traders would instead prefer to trade between the spread, if at all.

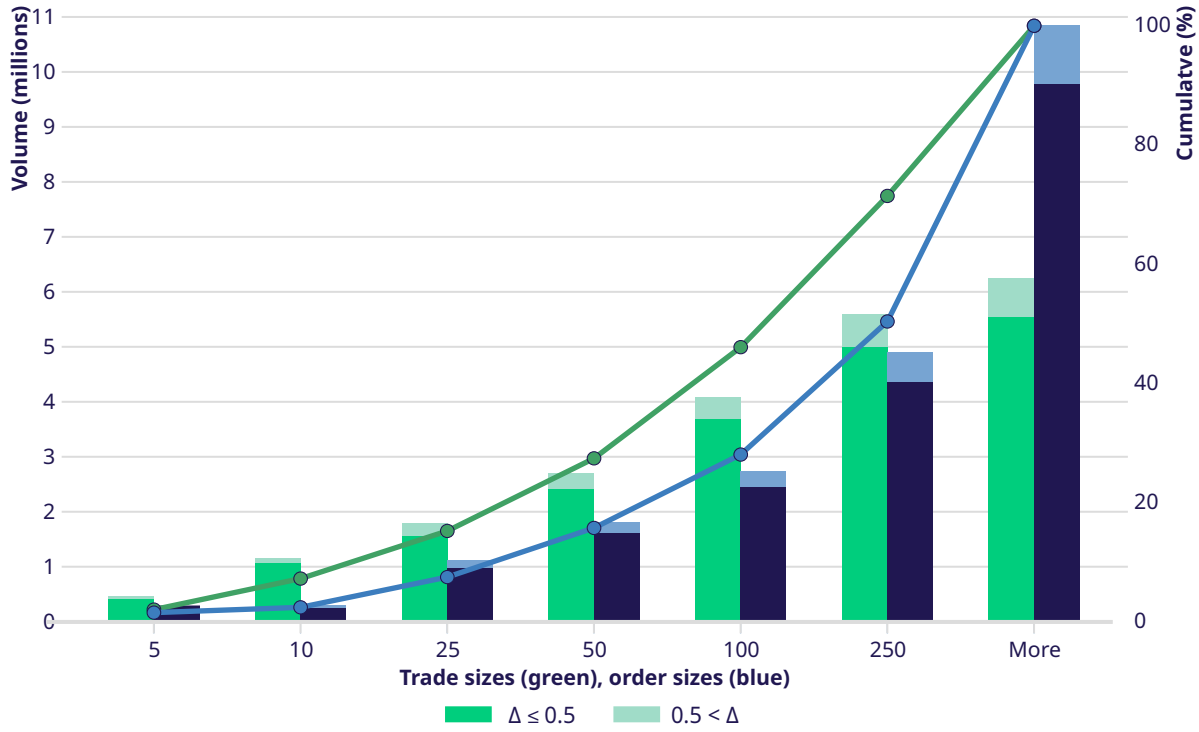
Five percent of all volume (and 8 percent of transactions) traded against the midpoint itself, showing considerable appetite from liquidity providers to facilitate trades even at theoretical fair value. The average trade measured by the mean of traded volume achieved an improvement of 21 percent compared to the BBO quoted. This is an impressive result considering the overall tightening of the spread itself between April 2025 and March 2026.

Next, OESX traded and order sizes in March 2026 are depicted, showing orders (blue) and trades (green). Only screen volume is considered, and only orders that resulted in a trade. If the entire size of an order is satisfied at once, traded and order sizes are equal, otherwise the original order size can be executed from multiple trades. The delta of the given trade or order is imposed on the histogram via shading. Buy-and-sell orders are accounted for separately to properly deduce size that executed on either side via one or multiple executions.

OESX, 1 April 2025 to 30 April 2025, $\tau \leq 720$ d



OESX, 1 March 2026 to 31 March 2026, $\tau \leq 720$ d



What can be observed is:

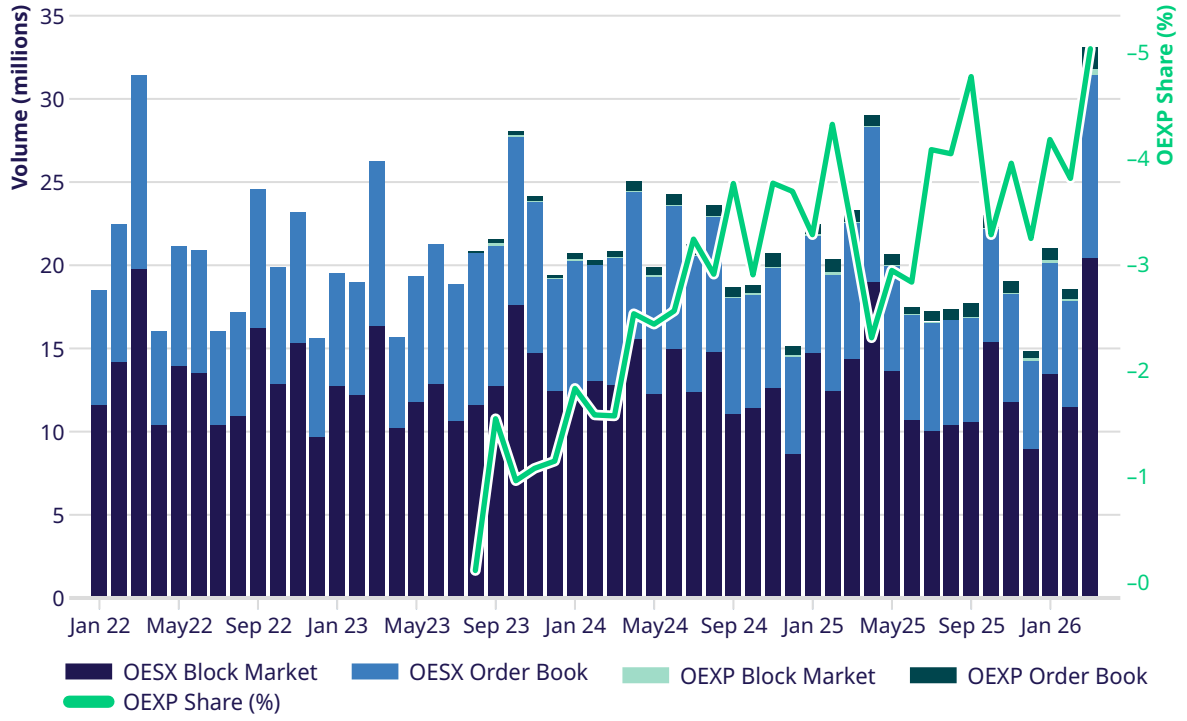
1) Most of the volume is in the OTM-to-ATM delta area, as can be expected.

2) For order sizes in all buckets below 250 contracts only one execution is needed to satisfy the full order size, while for orders above 250 contracts multiple executions are often needed.

3) Traded volume in the buckets above 100 contracts increased by almost 1 million contracts between April 2025 and March 2026 contracts. This once again highlights the strong order book absorption of higher volume buckets.

To complete the picture of this update, we would like to share some general volume developments in the two products analyzed from a liquidity standpoint in this paper.

Traded Volume Development EURO STOXX 50® Index Option Complex



As can be observed, the improved liquidity dynamics in combination with the volatility profile are driving **multi-year record monthly volumes** in both products. OEXP share is growing consistently, mirroring the trends observed in the U.S. options market structure regarding shorter-time-to-maturity contracts growth. We have even seen on five trading days in March 2026 more trading in OEXP on-screen than OESX weeklies, an important indicator of growth.

Further testament to a growing market can be observed in the usage of strategy instruments in trading of this product described in the table below. We present the three instrument types most traded, simple (outright) instruments, standard option strategies (vertical spreads, calendar spreads etc.) and option volatility strategies (instruments traded with the appropriate delta hedge on execution).

Table 6 – OEXP Traded Volume per Instrument

Period/ Instr. Type	Option Volatility Strategy		Simple Instrument		Standard Option Strategy		Grand Total	
2025	634,587	(7.55%)	5,206,646	(61.95%)	2,563,674	(30.50%)	8,404,907	(100.00%)
Qtr1	195,325	(8.14%)	1,521,085	(63.41%)	682,426	(28.45%)	2,398,836	(100.00%)
Qtr2	123,782	(6.97%)	1,174,641	(66.18%)	476,561	(26.85%)	1,774,984	(100.00%)
Qtr3	133,180	(5.93%)	1,304,095	(58.04%)	809,702	(36.04%)	2,246,977	(100.00%)
Qtr4	182,300	(9.19%)	1,206,825	(60.82%)	594,985	(29.99%)	1,984,110	(100.00%)
2026	373,600	(11.52%)	1,636,657	(50.48%)	1,231,840	(38.00%)	3,242,097	(100.00%)
Qtr1	**373,600**	**(11.52%)**	**1,636,657**	**(50.48%)**	**1,231,840**	**(38.00%)**	3,242,097	(100.00%)
Grand Total	**1,008,187**	**(8.66%)**	**6,843,303**	**(58.76%)**	**3,795,514**	**(32.59%)**	**11,647,004**	**(100.00%)**

We have seen a considerable uptick in vertical spread trading (in particular put spreads) during Q1 2026 in the product with more volume trading during the quarter than in Q1 2025. The usage of a wide variety of trading strategies across the expiration curve demonstrates a maturing use case and a variety of trading interest.

Finally, we share the added activity of end-clients (agent-cleared volume) in OEXP, our end-of-day settled contract. The table shows buy and sell sides of each trade separately, double counting traded volume to show granularity between clearing accounts.

Table 7 – OEXP Cleared Volume per Account

Period/Account	Agent		Market Maker		Proprietary	
2025	**3,315,089**	**(19.66%)**	**9,778,672**	**(57.98%)**	**3,772,337**	**(22.37%)**
Qtr1	**794,688**	**(16.53%)**	2,814,141	(58.54%)	1,198,769	(24.93%)
Jan	**222,335**	**(14.99%)**	847,304	(57.12%)	413,771	(27.89%)
Feb	**324,565**	**(18.39%)**	1,028,965	(58.30%)	411,470	(23.31%)
Mar	**247,788**	**(15.89%)**	937,872	(60.15%)	373,528	(23.96%)
Qtr2	596,877	(16.75%)	2,131,306	(59.82%)	834,971	(23.43%)
Qtr3	1,033,025	(22.91%)	2,525,067	(56.01%)	950,102	(21.08%)
Qtr4	890,499	(22.33%)	2,308,158	(57.89%)	788,495	(19.78%)
2026	1,478,451	(22.58%)	3,581,841	(54.71%)	1,486,496	(22.71%)
Qtr1	1,478,451	(22.58%)	3,581,841	(54.71%)	1,486,496	(22.71%)
Jan	336,018	(19.11%)	993,676	(56.51%)	428,662	(24.38%)
Feb	212,983	(15.00%)	781,639	(55.04%)	425,410	(29.96%)
Mar	**929,450**	**(27.59%)**	1,806,526	(53.63%)	632,424	(18.78%)
Grand Total	**4,793,540**	**(20.47%)**	**13,360,513**	**(57.06%)**	**5,258,833**	**(22.46%)**

As can be seen in the data, the total traded volume by agents in March 2026 is larger than the entire first quarter of 2025. Furthermore, March 2026 saw the highest overall end-customer engagement with the product. This is driven by increased retail participation, as well as more agency trading by the main bank flow providers.

As OEXP and its order books continue to mature, Eurex has seen rapid adoption from the likes of QIS desks and other systematic players. While OEXP currently only accounts for approximately 5 percent of all EURO STOXX 50® index options volumes today, Eurex expects more consistent and tightly priced order books to continue to attract new players (and volumes) into this contract.

What is next in store for EURO STOXX 50® Index Options?

Eurex is continuously engaged in a creative process and an active dialogue with stakeholders to enhance its benchmark products. Below is a preview of the upcoming roadmap of improvements and developments by the Eurex Equity Index team:

1. **Strategy Request-for-Quote (RFQ) Liquidity**
   Approximately 20 percent of OESX volumes – and a growing share of OEXP – are traded via strategy order books. A robust and well-serviced request-for-quote (RFQ) functionality, leveraging the competitive strengths of individual liquidity providers and ensuring high response standards, is a critical component of the overall liquidity ecosystem. Together with our liquidity provider partners, Eurex is designing an optimized request-to-response workflow to further benefit end clients and users.

2. **Minimum Block Trade Size in FLEX Options**
   Lowering barriers to entry for the EURO STOXX 50® index options market remains a key priority. In response to increasing demand for flexible contract specifications, Eurex is committed to broadening access to this important segment of market infrastructure. This includes enabling participation by ETF issuers and other buy-side stakeholders at trade sizes that better align with their specific needs and use cases.

3. **OEXP H1 2026 Review**
   Enhancing liquidity in options markets is an ongoing, iterative process. Building on the strong trading and quoting performance outlined in this white paper, Eurex – together with its liquidity providers – is reassessing parameterization and incorporating lessons learned from Q1 2026 to support an even stronger outlook for the remainder of the year.

4. **Tick Size Ladder for OEXP**
   Execution granularity is particularly critical in 0DTE options, given their relatively low absolute premium levels. Introducing a finer tick size of 0.05 index points for low-premium options is expected to improve pricing precision and better support end-customer demand along this segment of the curve.

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