



For Alpha

Ai-Powered Investment Replication

Strategy Spotlight:

CTA Execution Timing: Turning the Clock into Alpha

November 2025, Ai For Alpha Team

Abstract

Backtests across 26 markets show that **execution timing** materially affects CTA performance. Moving from next-day to same-day close, or blending fills across the two, adds roughly **+1–1.5% annual return** with little change in volatility. The effect is stable across horizons, consistent with reduced signal decay and lower slippage variance.



1 Why Timing Matters

Signals decay intraday. Executing at the same-day close captures more of the signal's information content; a blended schedule smooths microstructure noise without diluting exposure. In our stack, both modes are available per instrument and are selected by model rules that weigh signal age, liquidity, and venue constraints.

2 Results: Execution Modes and Performance

Table 1: Backtest across 26 markets over the last 5 years. Annualized metrics; Max DD is peak-to-trough; Return/MaxDD is annual return divided by Max DD.

Execution Mode	Logic	Annual Return	Vol	Sharpe	Max DD	Return/MaxDD
Next-Day Close (Standard)	Trade at next close after signal	9.4%	11.6%	0.52	18.5%	0.51
Same-Day Close (Instantaneous)	Trade at same close after signal	10.9%	11.5%	0.65	17.1%	0.64
Smoothed $\alpha = 0.75$	75% now / 25% next close	10.5%	11.5%	0.62	17.4%	0.60
Smoothed $\alpha = 0.5$	50% now / 50% next close	10.4%	11.6%	0.60	17.8%	0.58

Takeaways.

- **Return lift.** Same-day close adds about **+1.5%/yr** vs. next-day; smoothed schedules recover most of the gain.
- **Risk unchanged.** Volatility remains essentially flat (11.5–11.6%), drawdowns improve slightly, and the correlation across strategies stays near 100%.
- **5Y windows.** Disjoint 5-year windows confirm persistence: 2005–2009 (+1.5%/yr), 2010–2014 (+1.0%/yr), 2015–2019 (+0.8%/yr), and 2020–2025 to 30 Sep (+1.5%/yr) relative CAGR vs. next-day.

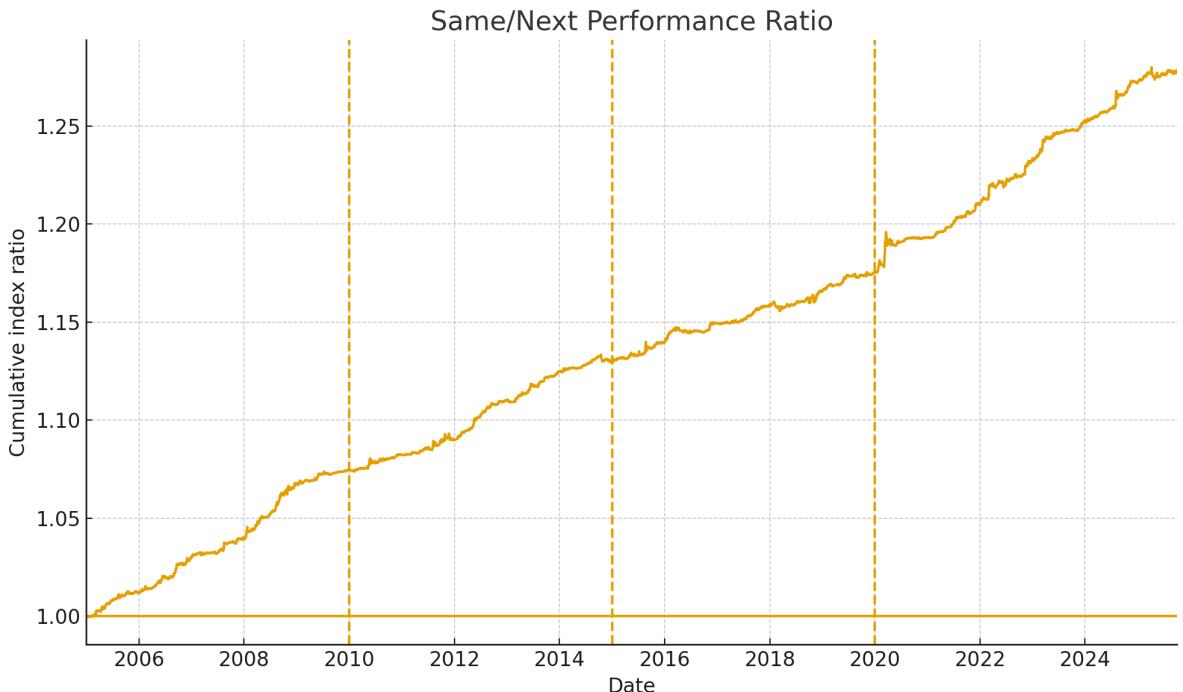


Figure 1: Same/Next Performance Ratio (to 30 Sep 2025).

Table 2: Same-Day vs. Next-Day — disjoint 5Y windows.

Period	Relative CAGR (Same/Next)
2005–2009	+1.5%
2010–2014	+1.0%
2015–2019	+0.8%
2020–2025 (to 30 Sep)	+1.5%

Ratio overview. The Same/Next ratio rises steadily and steepens again in 2020–2025 (to 30 Sep). From 2005 to 30 Sep 2025, Same-Day outperforms Next-Day by **+27.8%** cumulatively, i.e., about **+1.19% per year** in relative CAGR.

3 Execution Day and Implementation

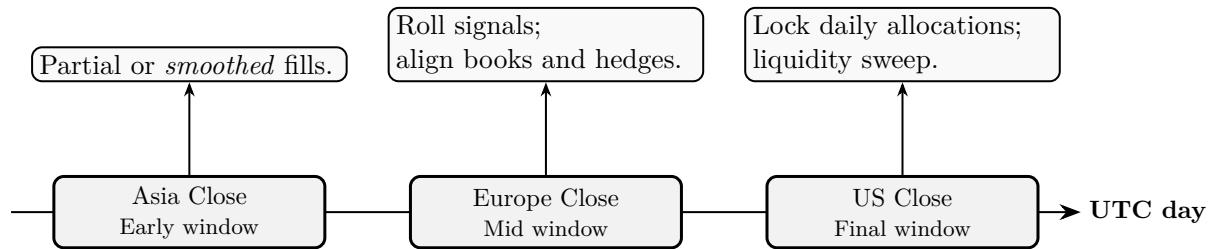


Figure 2: Region-aware schedule used in production: early partials, mid-session alignment, final consolidation.

The OMS/EMS stack runs across three decision windows (Asia, Europe, US). Venue calendars and cut-offs are fully encoded; orders are staged and netted into a single instrument ticket. Real-time monitoring and TCA track slippage by venue and schedule, informing routing logic and the smoothing parameter $\alpha \in \{0.5, 0.75\}$. The setup delivers consistent timing quality and controlled turnover across multiple execution windows.

4 Disclaimer

The analyses and results are based on historical data and simulations and do not constitute investment advice. Past performance is not indicative of future results. Implementation outcomes depend on market liquidity, calendars, and operational constraints; realized results may differ.