

# ALGO FACTORY - FUTURES

In addition to smart DMA order types, we have created a highly customizable suite of complex algorithms based on the deep quantitative, technological and market-microstructure expertise of our Algo Factory.

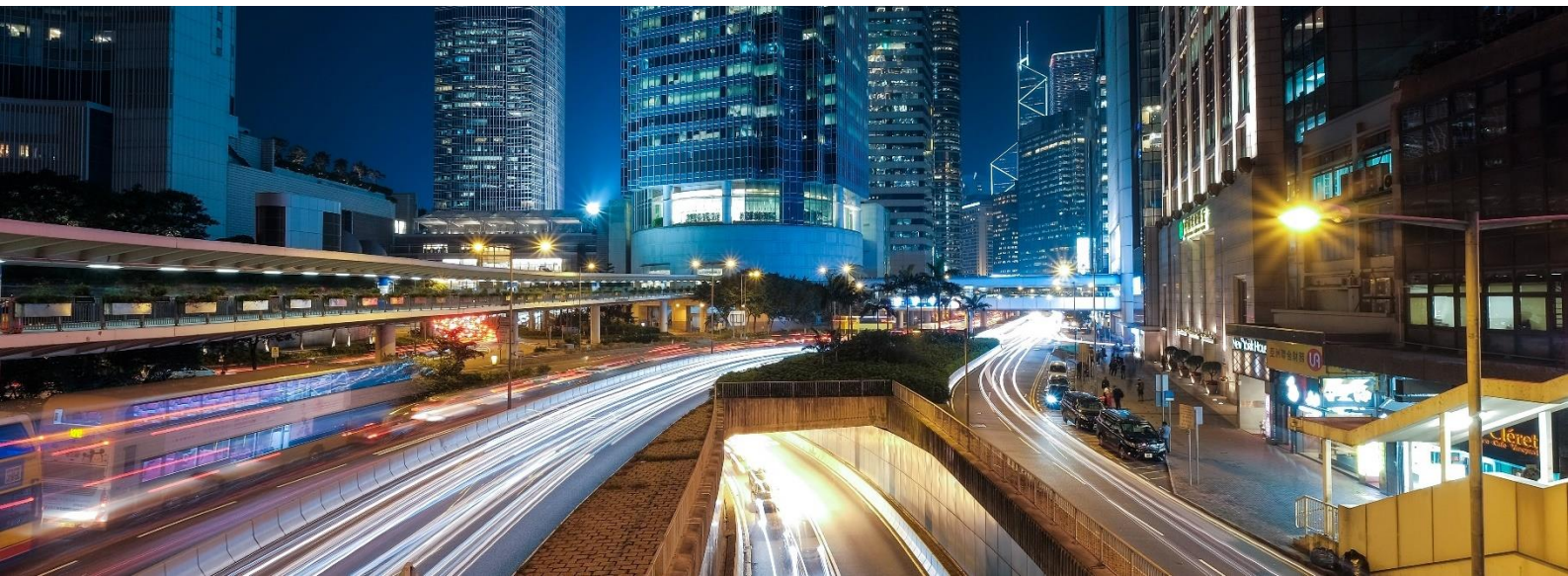
## FUTURES ALGORITHM STRATEGIES

SCHEDULE-BASED STRATEGIES	VWAP		TWAP	
	Targets Volume-Weighted Average Price utilizing projected volume profiles over a specified time period		Spreads orders out evenly over a specified time period	
LIQUIDITY-SEEKING STRATEGIES	WITH VOLUME (POV)	SHORTFALL	DESTINATION	
	Works order by actively participating using a target % of the volume	Aims to minimize slippage between the arrival price and the actual average execution price	Seeks to minimize slippage relative to a future benchmark time	

## FUTURES EXECUTION TACTICS: URGENCY

Applied to the above strategies, the urgency provides a high degree of control over the behaviour of each child slice based on objectives of the trade, market structure and desired levels of aggression/passivity

HIGH: AGGRESSIVE	MEDIUM: BOOKPRIORITY	LOW: SLIDINGPEG
<ul style="list-style-type: none"><li>• Deploys marketable limit order to achieve immediate fills</li><li>• Most efficient way to execute an order when primary goal is speed of execution</li></ul>	<ul style="list-style-type: none"><li>• Pegs limit orders “n” ticks above the best bid / below the ask (“n” is determined by our analysis)</li><li>• Speed of execution remains important but want to avoid paying the spread</li></ul>	<ul style="list-style-type: none"><li>• Dynamically pegs the bid/ask and rejoins until the child order is filled</li><li>• Desires to provide liquidity (not pay bid/ask) but assumes the risk of the market moving away</li></ul>

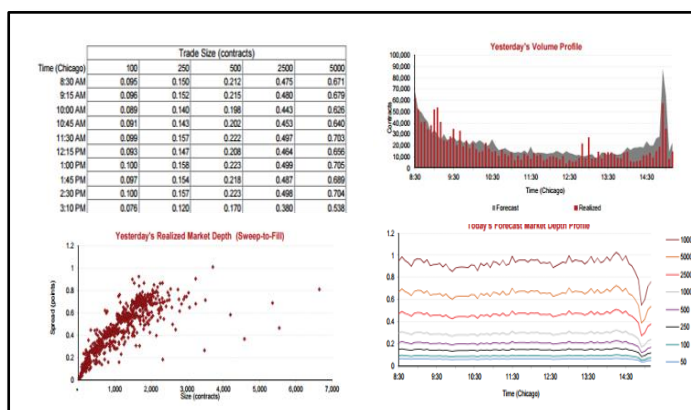


# ALGO FACTORY - TCA

Backed by an extensive quantitative database, SG offers a full suite of pre- and post-trade analytical tools to assist traders in making decisions on order placement and timing

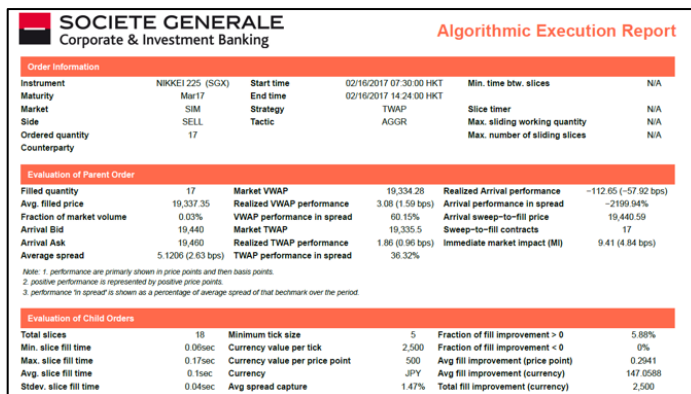
## PRE-TRADE LIQUIDITY FORECASTING

- Forecasts possible outcomes of an order → Choose the most appropriate algo for a specific market and trading objective
- Simulated back-testing of algo orders utilizing our proprietary historical tick database → Estimate expected performances
- Reports include volume and volatility forecasts, market impact estimates, and estimated market depth profiles

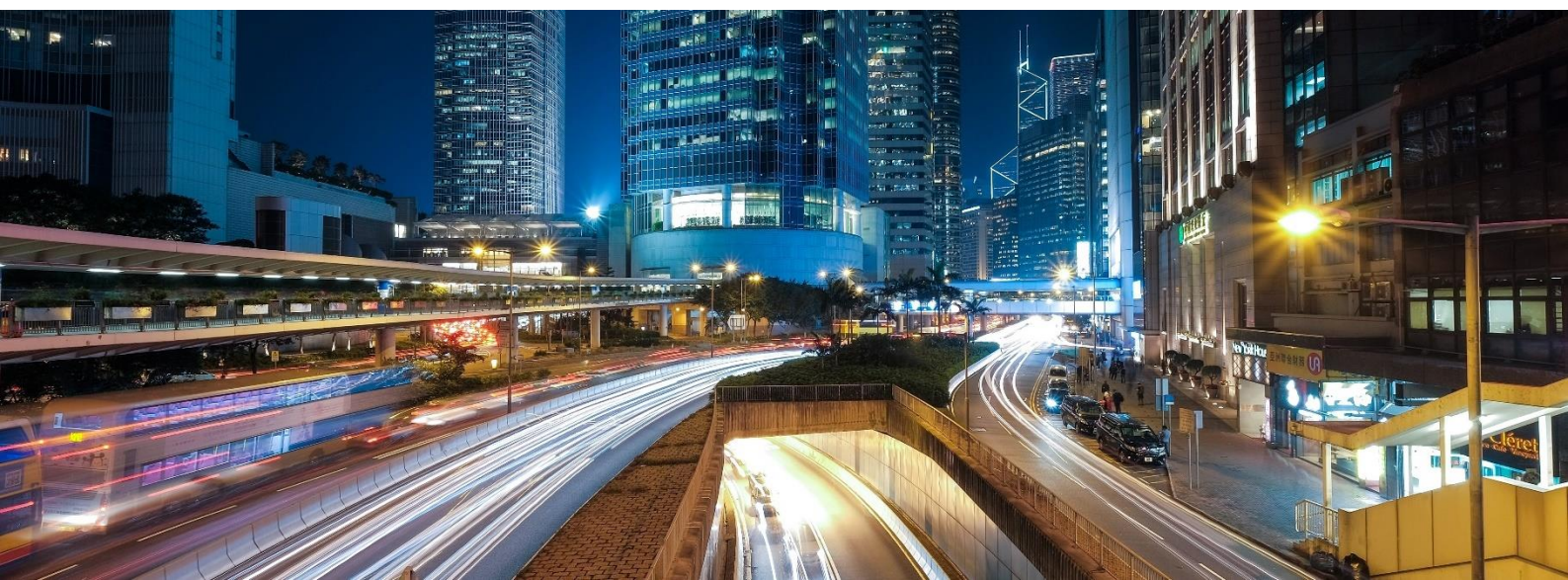


## POST-TRADE ANALYSIS

- Transaction Cost Analysis (TCA) reports for each order executed algorithmically
- Aggregate reports are available to help review historical algo performance patterns by product
- Analysis on both the parent and child order level
- Evaluation of tracking error vs. a benchmark (i.e. slippage) and fill improvement measures



Note: the above data is for illustrative purpose only





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