VEKTOR

BY

INVESTPUPPY

VEKTOR RESEARCH SERIES · 2026

Risk & Limitation Disclosure

For DPMs, family office principals, and prospective partners

IP-WP-RISK-260501-1.0

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InvestPuppy

IP-WP-RISK-260501-1.0 · RISK & LIMITATION DISCLOSURE

Regulatory and risk information in this document reflects InvestPuppy's knowledge as of 4 August 2026.

ABSTRACT

This paper does not exist to satisfy a legal requirement. It exists because institutional investors conducting due diligence should have a single, structured document that addresses platform risk directly — not distributed across white papers or buried in product documentation. The tone is the same as the rest of the Vektor research series: specific, honest, and free of hedging language that obscures rather than informs. Where a risk is real, this paper says so. Where a mitigation is partial, this paper says that too.

KEY TAKEAWAYS

— Four risk categories are addressed: model risk, execution risk, data risk, and operational risk. Each is assessed with mitigations in place and those still on the roadmap.

— The most significant risk at the current stage is model risk — specifically, the gap between backtest performance and live performance. This risk is acknowledged directly, with the structural mitigations the platform provides.

— Human approval gates at every capital-at-risk stage are the primary operational risk mitigation. These gates are structural — they cannot be bypassed in configuration.

— Several mitigations are on the roadmap rather than live today. This paper states which are complete and which are pending, with defined trigger conditions.

— Proof Partners are invited to raise any risk not addressed here. The Proof Partners is a partnership in which both parties are building toward the same outcome.

HOW TO READ THIS DOCUMENT

This document is a practitioner's risk analysis — structured in the same format as any internal risk assessment a portfolio manager or compliance officer would produce when evaluating a new system. It identifies risks, assesses likelihood and impact, states mitigations in place, and is honest about where mitigations are still on the roadmap.

It is not a legal disclaimer. It does not attempt to limit liability through exhaustive caveats. Readers seeking a legal risk disclosure should request the separate legal documentation available to Proof Partners.

RISK SUMMARY

Fourteen identified risks across four categories. Read across: risk area, likelihood, impact, mitigation in place.

RISK AREA	LIKELIHOOD	IMPACT	MITIGATION IN PLACE
Backtest vs live performance gap	High	High	XGBoost validation on live signals. PM approval gate before any position. Signal robustness architecture (orthogonal validation) on the near-term roadmap. See WP-11.
Overfitting (signal parameters)	Medium	Medium	Three-year look-back. Six-indicator grid limits parameter space. Sharpe as objective function.
Signal decay	Medium	Medium	Indicators re-optimised per strategy build. PM reviews signal performance at each approval.
XGBoost model drift	Medium	Medium	Manual review when results appear anomalous. Automated drift detection on near-term roadmap.
Concentration risk	Medium	High	Correlation matrix verification at optimisation stage. Sector screening in universe reduction.
IBKR connectivity failure	Low	Medium	SQS queue buffers orders — they queue, not fail. SNS notification on completion.
Paper trading vs live execution gap	Medium	High	Full order flow tested in paper trading. Live execution before first Proof Partner client onboards.
Lot rounding / mandate size	Low	Low–Med	Cash buffer absorbs rounding residual. Minimum mandate SGD 100,000+ recommended.
Market liquidity at execution	Low	High	Minimum ADV threshold in universe screening. PM reviews current liquidity at approval.
Market data outage	Low	Medium	Three years of history in RDS unaffected. Slack alert on download failure.
Data quality (Yahoo Finance)	Low	Medium	Quality checks on ingestion. Corporate action adjustments applied. Bloomberg substitution available.
FX rate accuracy	Low	Low	Daily FX rates fetched and stored. Position-level conversion. FX source configurable.
Unauthorised action	Low	High	Three-role model enforced at application layer. Full audit trail. Infrastructure RBAC on roadmap.
Platform unavailability	Low	High	ECS on Fargate auto-restarts. RDS automated backups. SQS persists orders. Observability alerting on roadmap.

MODEL RISK

The risk that model-generated signals do not perform in live conditions as they did in backtests.

THE BACKTEST TO LIVE GAP

The most significant risk in any systematic strategy is the gap between backtest performance and live performance. Backtests are optimised on historical data. Live markets introduce conditions historical data may not have captured: regime changes, liquidity shifts, correlation breakdowns, and the market impact of the strategy itself.

Vektor's structural response is the XGBoost signal validation layer: every signal is evaluated against current market conditions before it is presented to the portfolio manager. A signal that performed well in backtests but is assessed as low-confidence against current conditions is filtered before PM review.

OVERFITTING

The grid search optimises technical indicator parameters against a three-year historical window. Optimised parameters may reflect historical noise rather than genuine signal. Mitigations: Sharpe ratio as objective function, six-indicator universe limiting parameter space, three-year window covering multiple market regimes. A second mitigation layer — XGBoost signal confidence filtering — validates every signal against current market conditions before PM review. A third layer — news sentiment analysis over a rolling window — is on the near-term roadmap, providing orthogonal signal confirmation from a data source independent of price history. See WP-11: Signal Robustness Architecture.

SIGNAL DECAY

Technical indicators lose predictive power as market conditions change. Vektor's response: parameters are re-optimised at each strategy build, not fixed at initial setup. Rebalancing trigger detection is on the roadmap. Current practice: PM reviews signal performance against current market conditions at each strategy approval.

Current as of 4 August 2026.

CONCENTRATION RISK

Efficient frontier optimisation may produce concentrated allocations in instruments with correlated historical performance. Mitigation: correlation matrix verification is a required optimisation step, flagging high pairwise correlation before PM approval. Sector diversification screening applied in universe reduction.

EXECUTION RISK

The risk that approved positions are not executed as intended.

PAPER TRADING VS LIVE GAP

The IBKR Gateway is currently connected to the IBKR paper trading account. Paper trading does not fully replicate live execution: fills are assumed at the requested price without market impact, partial fills do not occur, and liquidity is not modelled. Live execution will be activated before the first Proof Partner client is onboarded — this is a defined trigger condition, not an open-ended roadmap item.

IBKR CONNECTIVITY FAILURE

If the IBKR Gateway loses connectivity, the SQS queue buffers orders rather than failing them. Orders are processed when connectivity is restored. Slack notification on order completion means a failure to complete is visible immediately.

LOT ROUNDING AND MINIMUM MANDATE SIZE

Share quantities must be whole numbers. The allocation calculation rounds down to the nearest lot size, producing a residual cash balance. At 98.94% efficiency in the SGX reference mandate (100-share board lots); single-share lot markets consistently exceed 99.94%, this residual is immaterial for typical mandate sizes. The practical minimum recommended mandate size for a ten-instrument SGX portfolio is SGD 100,000.

DATA RISK

The risk that market data used for optimisation or execution is inaccurate, unavailable, or unrepresentative.

MARKET DATA SOURCE DEPENDENCY

Equity price history and live prices are currently sourced from Yahoo Finance — a widely used, generally reliable source for listed equity data, but a free provider without an enterprise SLA. Data quality issues do occur occasionally. Quality checks run on ingestion. A Bloomberg or institutional market data feed can be substituted without architectural changes — available as a Proof Partners configuration option.

MARKET DATA OUTAGE

If the daily price download fails, existing three years of historical data in RDS is unaffected. New strategy builds or signal re-optimisations would be deferred until the feed is restored. Slack notification on download completion means failure is visible immediately.

CORPORATE ACTION HANDLING

Yahoo Finance applies adjusted close prices that account for most corporate actions. Edge cases may affect signal quality for affected instruments. The PM review is the appropriate point to assess any known corporate action effects.

OPERATIONAL RISK

The risk that platform operations introduce errors or failures that affect client outcomes.

HUMAN ERROR AT APPROVAL GATES

Every capital-affecting action requires explicit human approval — which is the primary operational risk mitigation and also the source of a residual risk: human error at the gate itself. Mitigations: the complete strategy breakdown is visible at the approval screen, reducing undetected errors. The audit trail records every approval with PM identity and timestamp.

ROLE SEPARATION

The three-role model separates research (Analyst), investment decisions (PM), and cash operations (Operations). An Analyst cannot approve strategies. Operations cannot initiate allocations. Infrastructure-level RBAC — enforcing this at the AWS IAM layer — is planned for the next development phase.

PLATFORM UNAVAILABILITY

ECS microservices on Fargate restart automatically on failure. RDS has automated daily backups. The SQS queue persists market orders through application restarts. No formal SLA is committed at the current stage. Production observability alerting is on the near-term roadmap.

RISK MITIGATION ROADMAP

Mitigations on the roadmap but not yet live — with defined trigger or condition for each.

Current as of 4 August 2026.

MITIGATION	RISK CATEGORY ADDRESSED	TRIGGER / CONDITION
Live IBKR execution	Execution — paper trading vs live gap	Before first Proof Partner client onboards
Signal robustness architecture	Model — overfitting and backtest-to-live gap	Near-term roadmap — news sentiment layer provides orthogonal signal confirmation independent of price history.
Automated drift detection	Model — XGBoost model drift	As part of production observability implementation
CloudWatch alerting	Operational — platform unavailability, data outage	Before production environment promotion
Infrastructure-level RBAC	Operational — role separation	Next development phase
Bloomberg / institutional data feed	Data — market data source reliability	Available as configuration for Proof Partners

CONCLUSION

The risks described in this paper are real. Some are inherent to systematic portfolio management regardless of platform. Some are specific to the current stage of Vektor's development. The mitigations described are genuine — either structurally enforced by the platform architecture or explicitly on the roadmap with defined trigger conditions.

The Proof Partners is a partnership in which both parties are building toward the same outcome — a platform that performs as described, with the governance and controls that institutional management requires. Proof Partners are invited to raise any risk they do not see addressed in this document. That conversation is part of the partnership.

For compliance and audit trail architecture, see WP-06. For AI and ML governance, see WP-08. For technical infrastructure, see WP-07. All documents at investpuppy.com.

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The Full Document Suite

Organised by access tier — not a catalogue, a map.
Full reading-order guidance in the Due Diligence Navigation Guide.

UNGATED — 29 DOCUMENTS

VEKTOR COMMERCIAL

– Vektor At a Glance

– Vektor Brand Story

– Vektor Platform Brochure

– Due Diligence Navigation Guide

– What Vektor Is Not

– Why Not the Incumbents?

– Why Vektor

– Reference Output — SGX Equity Mandate

VEKTOR RESEARCH PAPERS

● **WP-09: Risk and Limitation Disclosure (you are here)**

– WP-10: Evaluating Performance

OUR BETTER WAY

– BW-01: Technical Debt

– BW-02: Vektor House Implementation

– BW-03: The Configurability Gap

– BW-04: AI as Instrument

UNVARNISHED

– UNV-01: Why Implementations Fail

– UNV-02: Nobody Owns It

– UNV-03: Complexity as Cover

– UNV-04: Plan Last

– UNV-05: The Change Request Trap

– UNV-06: Invisible Stakeholders

– UNV-07: The Hammer, the Tool, and the Methodology

– UNV-08: Life After Live

– UNV-09: The U in UAT

– UNV-10: Nine Women

– UNV-11: The AI Revolution — Automating Bad Practice at Scale

– UNV-12: Model Bank — the perfect solution for banks that don't exist

– UNV-13: The parameter that broke the camel's back

WHITE PAPERS

– WP-12: Rebalancing: Drift Thresholds and Disclosure

– WP-13: Portfolio Valuation Methodology

investpuppy.com/documents

REGISTRATION REQUIRED — 13 DOCUMENTS

VEKTOR COMMERCIAL

– Vektor FAQ

– One Platform, Three Delivery Models

– Reference Output — SGX · NASDAQ · LSE · 21 May 2026

VEKTOR RESEARCH PAPERS

– WP-Index · Research Series Index

– WP-01: Quantitative Portfolio Construction

– WP-02: Signal Optimisation

– WP-03: Capital Allocation

– WP-04: Indicator Selection

– WP-05: Multi-Currency

– WP-06: Audit and Compliance

– WP-07: Technical Architecture

– WP-08: AI and ML Philosophy

WHITE PAPERS

– WP-11: Signal Robustness Architecture — Why walk-forward validation was considered and discarded

How to register: <link href="https://investpuppy.com/research">investpuppy.com/research</link>

NDA REQUIRED — 8 DOCUMENTS

VEKTOR COMMERCIAL

– First 90 Days

– Mutual Non-Disclosure Agreement

– Proof Partners Programme

– Workflow Integration Guide

– Vektor Operational Walkthrough — Client to Portfolio Valuation

– Proof Partners Agreement

INVESTPUPPY

– Alloy Partners Programme

OTHER

– Vektor OpenWealth Integration — Commercial Overview

Available once a Proof Partners conversation begins. Start at <link href="https://investpuppy.com/proof-partners">investpuppy.com/proof-partners</link>