# BTC NEGATIVE GAMMA STRATEGY

August 2023

Founded in 2019, Liberty Road Capital is a world class digital asset manager, specialising in yield enhancement strategies for digital currencies, especially Bitcoin and Ethereum. The team has decades of experience in asset management, investment banking and digital and blockchain business. Liberty Road offers three strategies; 1. A Covered Call strategy that uses zero leverage. 2. A Negative Gamma Strategy that utilises up to 3x leverage, trading the ethereum volatility surface with a directional bias depending on fundamental blockchain analysis and 3. A full volatility trading program that buys and sells ethereum calls and puts, arbitrages the volatility surface and arbitrages across products.

LRC is an approved investment manager in the Virgin Islands by the BVI Financial Services Commission ("the Commission"), under the Securities and Investment Business Act, 2010 ("SIBA")

# **Background and Investment Strategy**

The Liberty Road Negative Gamma strategy utilises world class quantitative methods to map a live volatility surface from individual exchanges, and produces both individual exchange and combined volatility surfaces. A proprietary Artificial Intelligence programme then analyses the volatility surface and maximizes the risk premium obtained by selling puts and calls at the peaks and troughs on the volatility surface. Strikes and maturity are laddered to minimize concentration.

The AI Machine Learning algorithm incorporates various factors to determine a "probability of success" for each trade, therefore the absolute level of risk premium is not deterministic.

The algorithm evaluates the medium-term trend using a combination of fundamental blockchain analysis and technical indicators.

It assigns a higher threshold for success for puts or calls that are against the trend, and a lower threshold for those that are with the trend. This allows the portfolio to gradually be positioned with the underlying trend, while still generating significant alpha from trading the volatility.

The portfolio is monitored 24 hours a day 7 days a week, and trades are always evaluated and executed by an experienced portfolio manager.

#### Risk Oversight

Risk is actively managed, and delta hedging is employed. The portfolio adopts forward looking EVaR limits, proprietary risk evaluation addressing left hand tail risk and incorporates Extreme Value Theory.

BTC Negative Gamma Strategy			
Annualised Return	74.1%	Annualised Risk	40.0%
6 Month Rolling Return	-6.31%	Sharpe Ratio	1.80
3 Month Rolling Return	-2.39%	Skewness	1.4
Year to date	-9.01%	Kurtosis	2.2
% Months Positive	68%	Max Drawdown	-13.47%



#### Overview

The strategy is managed with a Leverage limit of 3 and Extreme Value at Risk (EVaR) of a daily 8% limit to two Standard Deviations. Live volatility surfaces on separate and combined exchanges are evaluated and a AI Machine Learning program continually monitors the surface for the next successful trade based on an multi factor model after analysing for the medium-term trend.

### Monthly Gross Performance Data\* - BTC %

	Jan	Feb	Mar	Арг	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
2019				-0.50	-1.68	1.36	20.78	8.80	2.38	4.22	-7.20	-6.00	22.16
2020	22.52	4.92	-6.36	42.24	4.58	6.34	6.72	8.62	-0.50	9.24	15.90	33.82	148.04
2021	-7.72	20.70	5.80	15.68	4.08	15.98	-6.06	-6.22	10.76	38.93	24.54	8.46	124.93
2022	0.80	3.50	0.21	2.37	-2.37	4.96	1.11	-7.85	0.49	3.39	-1.20	2.86	8.28
2023	-2.70	0	-2.84	-7.81	6.72	3.79	7.29	-13.47					-9.01

<sup>\*</sup> Calculated as simple returns

## **Key Information**

Launch date	1 Apr 2019	Average Duration	0.25-12 months		
Investment vehicle	Cold Wallet	Max Leverage	3x		
Liquidity	Daily/Weekly/Monthly	Currency Exposures	BTC/USD		
No. of holdings	15-25	Asset Classes	BTC		
Daily EVaR Limit	6%	Minimum Investment			

# Liberty Road Capital

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<sup>\*\*</sup> Data indicated in the table starting 12 Nov 2021 represents real-live trading returns, previous returns are Machine Learning simulated