

# SELF CONTAINED DATA CENTER Business Organisation Scheme

9.2020

## EXECUTIVE SUMMARY

- Subject plan proposes a replicable business model for the (i) corporate structure, (ii) data and reporting infrastructure, (iii) risk management and hedging policy, (iv) treasury function and (v) staffing of a company owning and operating containerized mobile data center units. The server capacity is to be used to mine cryptocurrency in this plan.
- Proposed is a mix of four daily and weekly reports (API and manually-driven)
- In terms of corporate organisation, the plan proposes to divide the Business into a “technical track” and a “financial track”
  - The technical track is programming-driven and addresses management/investor/client daily but possibly live information requirements like management PnL, Company risk positions, relevant market information
  - The financial track is manual-data-driven given the complexities of corporate structuring and addresses auditor and accounting requirements as well as management cash forecasting

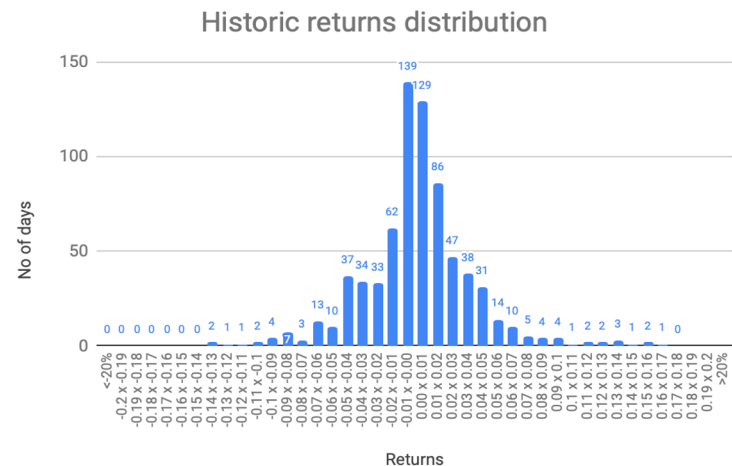
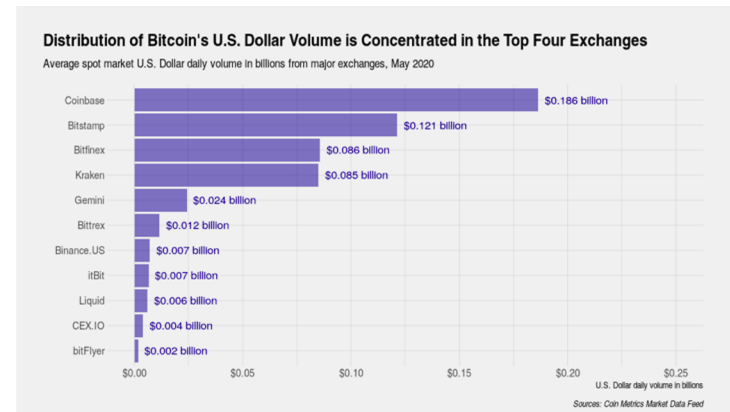
# About crypto markets

1. Among cryptocurrencies, Bitcoin (BTC) is has the largest capitalisation as well as liquidity on traded exchanges, both on spot and derivatives markets
2. Returns on BTC over a 2-year period generally follow the standard normal distribution, bearing similarities to most major asset classes
3. Major exchanges make up a combined **USD0.5bn** of daily traded volume (May 2020)
4. The accounting treatment of Bitcoin is crystallised over a number of jurisdictions. It can be classed as intangibles or inventory, IAS 2 treatment for commodity broker-traders can be applied, allowing inventory price changes to go through the income statement in each direction
5. According to a Fidelity survey of 774 firms, **36%** of large institutional investors have cryptocurrency (mainly Bitcoin) exposure as of Q1 2020 in Europe and the United States.
6. The largest BTC Investment Fund, the Grayscale Investment Trust has a total AUM of **\$4.4bn** as of August 2020.
7. In 2019 and 2020, VISA has partnered up with two cryptocurrency-based services to issue crypto debit cards.
8. According to a recent State Street study, the top 5 institutional concerns about cryptocurrencies are:
  1. Cybersecurity
  2. Volatility
  3. Sufficient regulatory oversight
  4. Reliable pricing
  5. the availability of trusted and reliable asset servicing partners and solutions

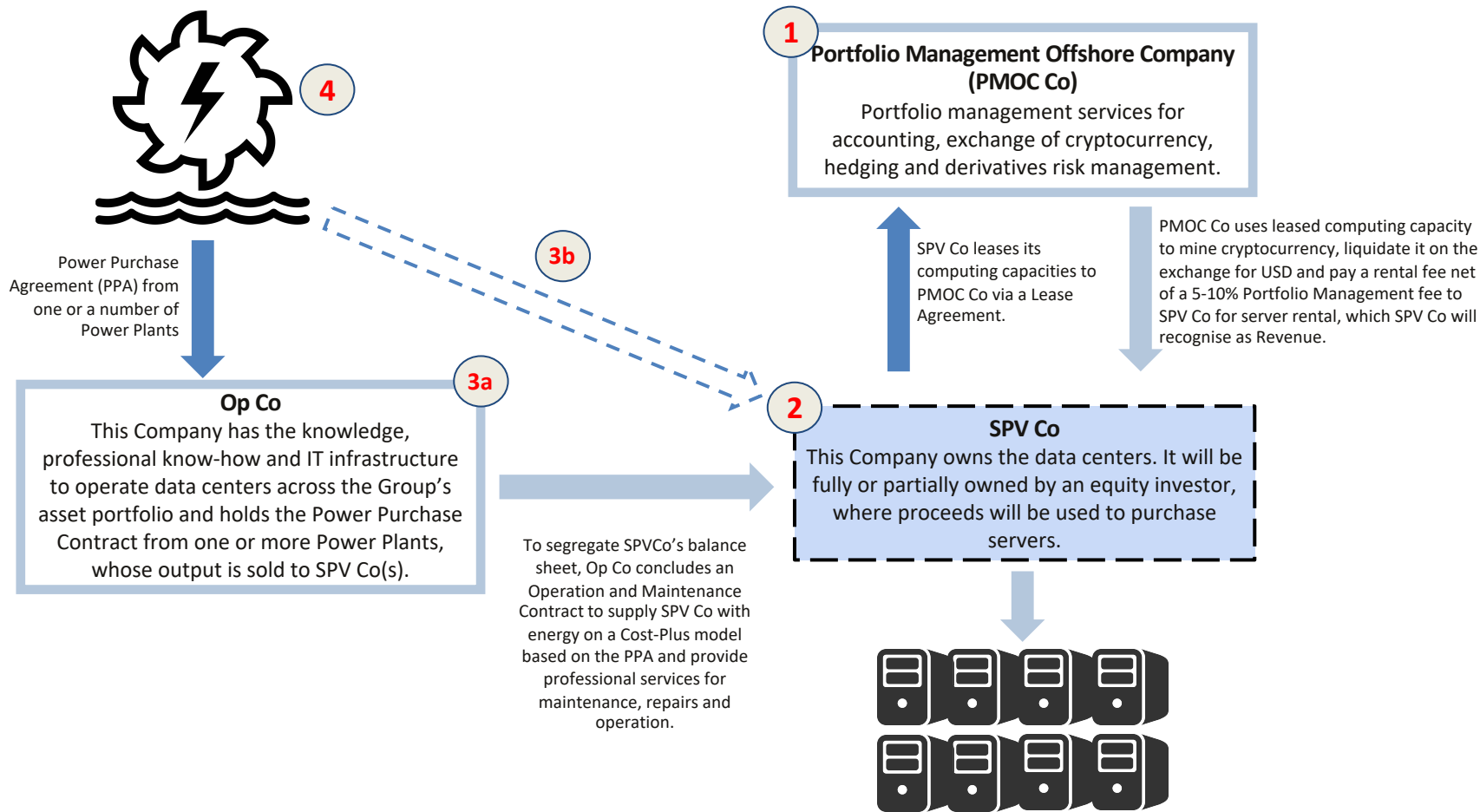
Bitcoin is mined using a special algorithm that requires computers to perform complex calculations to obtain the asset. Once the cryptocurrency is mined, it is made available in “wallets” and can be liquidated on exchanges for money.

The total estimated computing power required to mine 900 BTC (this is produced in a day usually) has risen by more than 770 per cent since beginning 2018. Even accounting for gains in efficiency, this computing power requires a lot of competitively priced electricity. Nowadays, only industrial-scale operations are able to economically produce Bitcoin.

The system is self-supporting. It becomes easier to obtain cryptocurrency the less computing power is connected to the network. The correlation, however, is not constant over time and causality between the two cannot be clearly established.



ENTERPRISE CORPORATE  
INFRASTRUCTURE MODEL



1 Proposed jurisdictions include: Switzerland, Singapore, Malta, Hong Kong and Estonia.

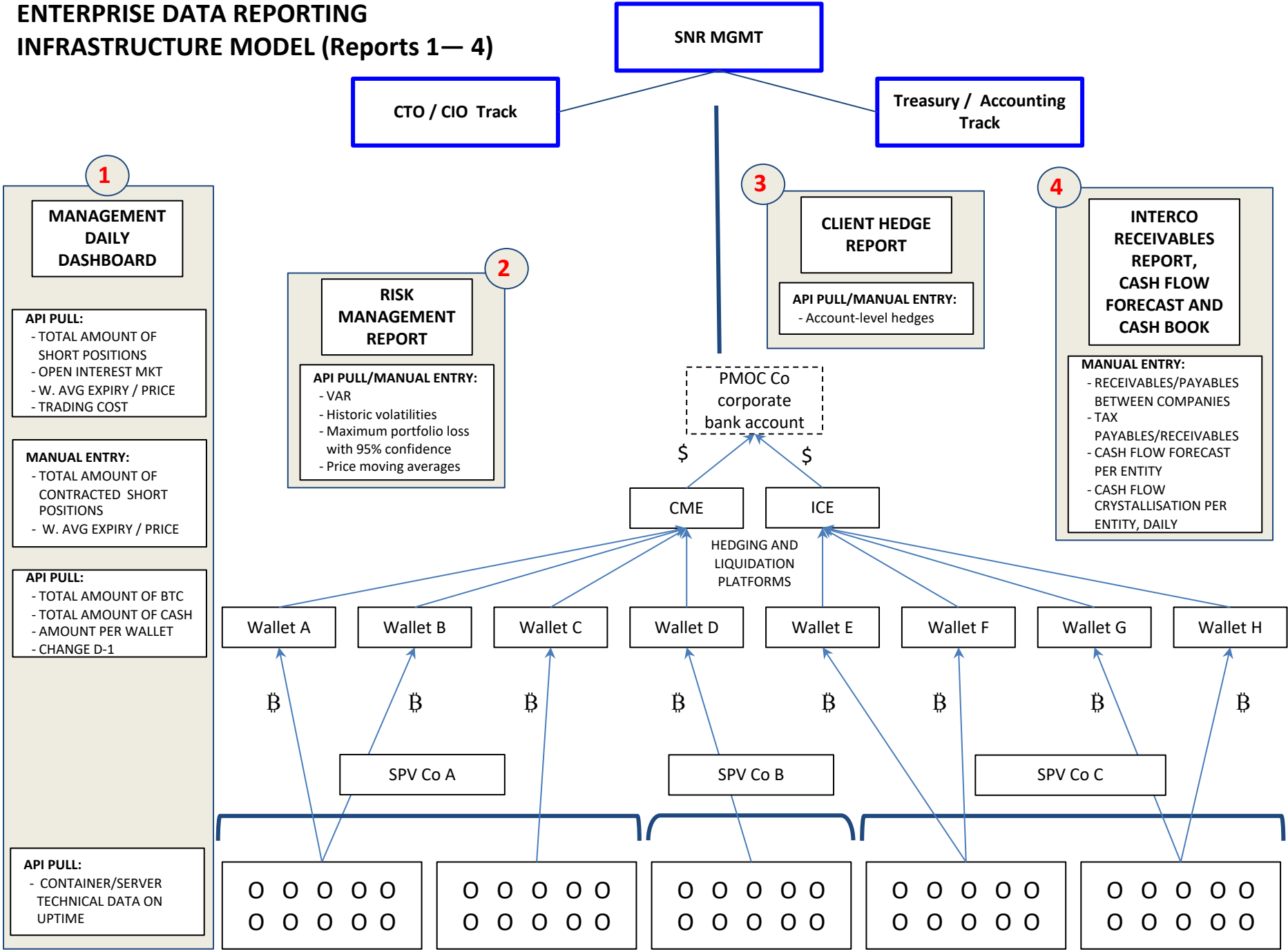
2 It is suggested for the SPV Co to be incorporated in the country of the power plant client company. The SPV Co can keep issuing shares for new equipment as an open-ended investment vehicle or new SPV Cos may be incorporated to accommodate more available electricity and new investments. The Business Activity of the SPV Co is the "ownership and leasing of computing capacity and/or servers for the purposes of cloud hosting, virtualization or "bare-metal" server leasing". Separate ownership of container / server assets can be examined to obtain the most favorable depreciation and book value treatment.

3a Should a number of SPVs be located in the same jurisdiction, economies of scale can be achieved via an Op Co concluding Operation and Maintenance Contracts for on-site administration.

3b If 3a is not the case, the PPA can be concluded directly between the powerplant and the SPV. On-site administration and maintenance would need to be contracted.

4 The cost of electricity is by far the most PnL sensitive cost item. Negotiating long fixed-tariff electricity purchases enables more robust modeling and predictable returns.

ENTERPRISE DATA REPORTING  
INFRASTRUCTURE MODEL (Reports 1— 4)



# HEDGING POLICY (CTO / CIO Track)

- The Firm should maintain a max. 1-5-30-360-day 95% VaR figure that moves in conjunction with the equity position at HoldCo level. Periodical hedges should be executed to adhere to this figure. Hedging fixes the spread between the obtainable cryptocurrency market price on the exchange (length for PMOC Co), the electricity price (short for SPV Co) and the rental fee (short for PMOC Co, length for SPV Co)
- The Cryptocurrency can be hedged in two ways:
  - i) monthly expiry hedges similar to commodity hedges (all-in cost indicatively 3-5% of hedging position at 40% Cost of Funds) where physical delivery (i.e. BTC) should move in lockstep with lifting of hedges;
  - ii) perpetual hedges which have to be rolled continuously and can be maintained indefinitely.
- As the risk book will grow, a dedicated Market Risk Analyst position will be required who will be progressed to Head of Market Risk.
- As systems complexity grows, a programming-track Chief Technical Officer will be required who will at that point have sufficient logs and data on the business to create a programming-driven environment around the deal flow; as deal volume grows, a Data Audit and Controlling Analyst position will be required to be progressed to Chief Information Officer.

# Hedging example

DATE:	6/20/2020	Counterparty/ No	GDF										
PERPETUAL HEDGE CALCULATOR													
Hedge	Value	Hedge Duration	Stdev (choose)	/USD Cost	Total Premium	% of value	IM/VM TVM	% of value	Market Taker Fee	% of value	Peak Liquidity Req.		
Hedge 1	250,000.00	179	22.91%		401,636.43	160.65%	4,718.58	1.89%	187.50	0.08%	23,724.69		
Hedge 2	1,500,000.00	7	8.64%		94,238.71	6.28%	10,746.97	0.72%	1,125.00	0.08%	100,409.10		
Hedge 3	500,000.00	178	22.91%		798,785.29	159.76%	13,924.19	2.78%	375.00	0.08%	47,449.38		
Hedge 4					0.00	#DIV/0!	0.00	#DIV/0!	0.00	#DIV/0!	0.00		
Hedge 5					0.00	#DIV/0!	0.00	#DIV/0!	0.00	#DIV/0!	0.00		
Hedge 6					0.00	#DIV/0!	0.00	#DIV/0!	0.00	#DIV/0!	0.00		
TOTAL	2,250,000.00	364.00		0.000	1,294,660.43	#DIV/0!	29,389.75	#DIV/0!	1,687.50	#DIV/0!	171,583.17		
FRONTLOAD FACTOR													
MONTH	Hedge 1	TOTAL H1	Hedge 2	TOTAL H2	Hedge 3	TOTAL H3	Hedge 4	TOTAL H4					
1	\$ 240,981.86	\$ 2,831.15	\$ 243,813.00	\$ 94,238.71	\$ 10,746.97	\$ 104,985.69	\$ 798,785.29	\$ 13,924.19	\$ 812,709.49	\$ -	\$ -	\$ -	
2	\$ 96,392.74	\$ 1,132.46	\$ 97,525.20	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
3	\$ 38,557.10	\$ 452.98	\$ 39,010.08	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
4	\$ 15,422.84	\$ 181.19	\$ 15,604.03	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
5	\$ 6,169.14	\$ 72.48	\$ 6,241.61	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
6	\$ 2,467.65	\$ 28.99	\$ 2,496.65	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
7	\$ 987.06	\$ 11.60	\$ 998.66	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
8	\$ 394.82	\$ 4.64	\$ 399.46	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
9	\$ 157.93	\$ 1.86	\$ 159.79	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
10	\$ 63.17	\$ 0.74	\$ 63.91	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
11	\$ 25.27	\$ 0.30	\$ 25.57	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
12	\$ 10.11	\$ 0.12	\$ 10.23	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Residual Payment	\$ 6.74	\$ 0.08	\$ 6.82	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Check	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	
TOTAL COST PEAK:	1,325,737.68												
PEAK LIQUIDITY REQ:	171,583.17												

Example: GDF chose to hedge USD2.3mm worth of electricity production for 179, 7 and 178 days, respectively.

# **CASH MANAGEMENT AND FORECASTING (Treasury / Accounting Track)**

- The proposal is to maintain a shared-access excel cash book that will be used to manually record inflows/outflows every day both between entities in the Firm and external counterparties
- An example is provided with a hedge trade that has both PnL and Non-PnL elements
- As the Firm grows, a dedicated Head of Treasury position will be required who will then recommend a dedicated treasury software solution to administer the Firm's cash
- As audit requirements and corporate structuring complexity grows, a Head of Accounting and Tax position will be required

# Cash hedging and forecasting example

CASH FLOW FORECAST AND CASH BOOK - NO SPEECHMARKS (Entry format: "Name", "CodeNo", "Counterpart", "PNL/NPNL")														
FORECAST														
HoldCo														
ITEM	6/21/20	6/22/20	6/23/20	6/24/20	6/25/20	6/26/20	6/27/20	6/28/20	N	9/20/20	9/21/20			
CME Hedge M0 frontload, EM30585, GDF, PNL			33,563.00											
CME Hedge M2 frontload, EM30585, GDF, PNL										33,563.00				
CME Hedge IM, EM30585, CME, NPNL			-200,000.00							200,000.00				
CME Hedge IM/VM TVM, EM30585, CME, PNL			-297.00	-297.00	-297.00	-297.00	-297.00	-297.00	-24,400.00	-297.00				
CME Hedge, Market Taker Fee, EM30585, Kraken, PNL										-3,000.00				
CME Hedge, Premium, EM30585, Kraken, PNL			-460.00	-460.00	-460.00	-460.00	-460.00	-460.00	-37,500.00	-460.00				

Example: GDF admin of trade-related costs for a hedge put on 23.6.2020 expiring 21.9.2020. For \$2mm. The cash book balances net of a Market Taking Fee paid to the exchange.



# Report Templates

(refer to numbers 1-4 on the Enterprise Infrastructure Model)

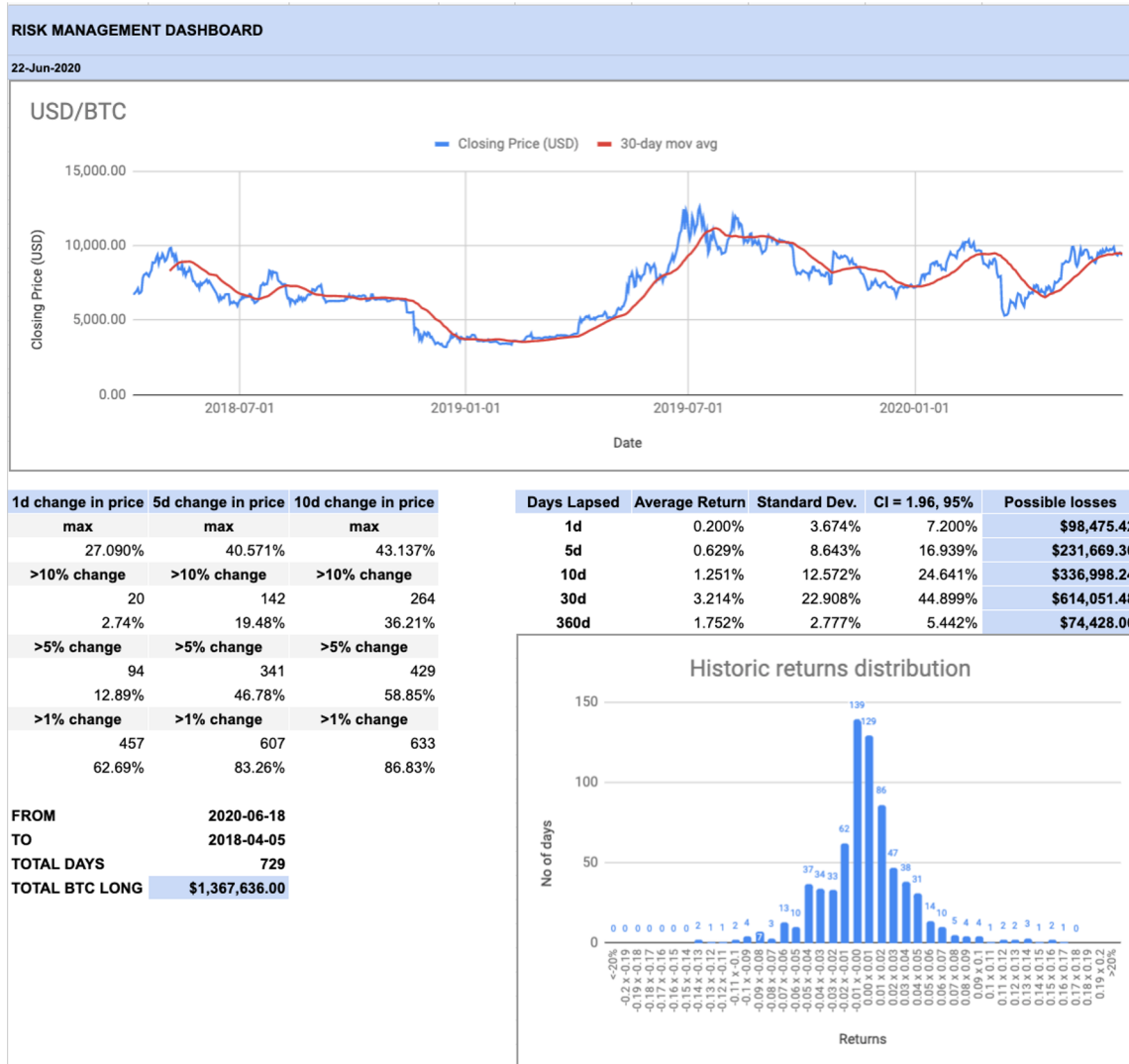
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MANAGEMENT DASHBOARD			
Timestamp	Thu, 3:50pm, 18/6/2020	d-o-d	Thu, 3:50pm, 17/6/2020
BTC/USD Rate	7,556.00	-1.41%	7,664.00
EUR/USD Rate	1.12	-1.75%	1.14
RUB/USD Rate	69.67	-1.87%	71
HUF/USD Rate	308.85	-0.05%	309
Total BTC across all accounts	181.00	7.74%	168.00
Total USD across all accounts	234,575.00	-3.86%	244,000.00
<b>TOTAL VALUE IN USD</b>	<b>1,602,211.00</b>	<b>4.61%</b>	<b>1,531,552.00</b>
Total Market Open Interest USD	30,000,000.00	7.14%	28,000,000.00
Total Short Positions on Books USD	-150,000.00	25.00%	-120,000.00
Weighted Average Expiry	9/15/2020	-5.00	9/20/2020
Weighted Average Short Price	7,200.00	0.00%	7,200.00
Portfolio TH/s	3.50	0.29%	3.49
Server Idle Ratio	0.60%	-62.50%	1.60%
BTC			
Wallet 1	3	-1	4
Wallet 2	56	11	45
Wallet 3	7	1	6
Wallet 4	78	1	77
Wallet 5	34	0	34
Wallet 6	23	2	21
TOTAL	181.00	13.00	168.00

# Report Templates

(refer to numbers 1-4 on the Enterprise Infrastructure Model

2





# Report Templates

(refer to numbers 1-4 on the Enterprise Infrastructure Model

4

CASH FLOW FORECAST AND CASH BOOK - NO SPEECHMARKS (Entry format: "Name", "CodeNo", "Counterpart", "PNL/NPNL")											
<b>FORECAST</b>											
<b>HoldCo</b>											
<b>ITEM</b>	<b>6/21/2020</b>	<b>6/22/2020</b>	<b>6/23/2020</b>	<b>6/24/2020</b>	<b>6/25/2020</b>	<b>6/26/2020</b>	<b>6/27/2020</b>	<b>6/28/2020</b>	<b>N</b>	<b>9/20/2020</b>	<b>9/21/2020</b>
Kraken Hedge M0 frontload, EM30585, ELMU, PNL			33,563.00							33,563.00	
Kraken Hedge M2 frontload, EM30585, ELMU, PNL										200,000.00	
Kraken Hedge IM, EM30585, Kraken, NPNL			-200,000.00							-297.00	
Kraken Hedge IM/VM TVM, EM30585, Kraken, PNL			-297.00	-297.00	-297.00	-297.00	-297.00	-297.00	-24,400.00	-3,000.00	
Kraken Hedge, Market Taker Fee, EM30585, Kraken, PNL										-460.00	
Kraken Hedge, Premium, EM30585, Kraken, PNL			-460.00	-460.00	-460.00	-460.00	-460.00	-460.00	-37,500.00		
<b>TOTAL</b>	0.00	0.00	-167,194.00	-757.00	-757.00	-757.00	-757.00	-757.00	-61,900.00	229,806.00	0
<b>Project Co 1</b>											
<b>ITEM</b>	<b>6/21/2020</b>	<b>6/22/2020</b>	<b>6/23/2020</b>	<b>6/24/2020</b>	<b>6/25/2020</b>	<b>6/26/2020</b>	<b>6/27/2020</b>	<b>6/28/2020</b>	<b>N</b>	<b>9/20/2020</b>	<b>9/21/2020</b>