

CipherMine business plan

Industrial cryptocurrency mining and high-performance computing.

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Date: 30th June 2013

Version: 1.06

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1 Executive summary

CipherMine is a virtual cryptocurrency mining business. All shares are listed on the LTC Global exchange.

1.1 Goals

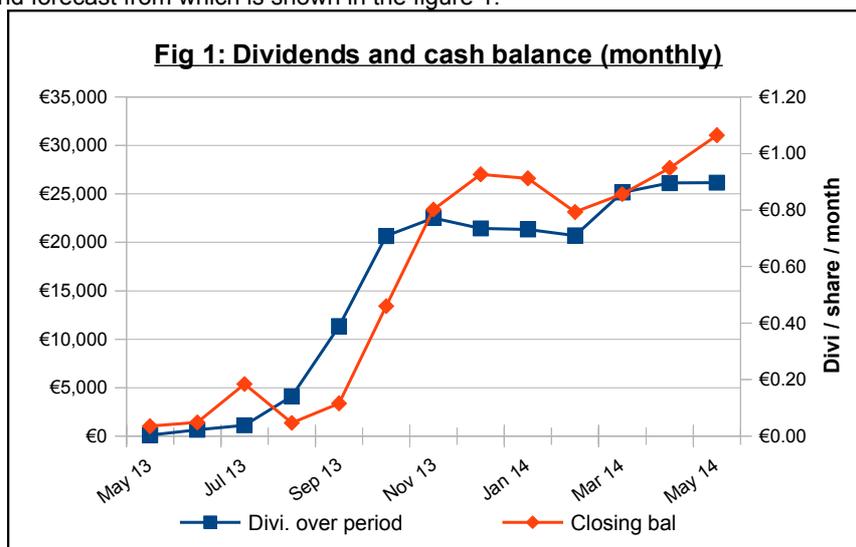
1. To provide a vehicle through which Litecoin (ŁTC) can be invested in mining cryptocurrencies.
2. To give shareholders a high, reliable, long-term return on investment via regular dividends and equity growth.
3. To aggressively invest in ASIC mining hardware to maximise early-mover advantage.
4. To promote ŁTC and the LTC Global exchange as a good alternate to Bitcoin (฿TC) and associated crypto-exchanges by being successful, and in doing so encourage a growth in value of ŁTC similar to ฿TC's.
5. To operate in a sustainable and environmentally-friendly manner.

1.2 Strategy summary

CipherMine is already in operation, at present mining ŁTC with a combination of heavily discounted CPU resources and wholly owned GPU rigs. We wish to diversify into ฿TC mining and have an aggressive strategy of reinvestment in hardware. Although our models and discussion herein focus on ฿TC and ŁTC, we intend to apply our script and SHA256 clusters to whichever coins are most profitable at any given time.

We have chosen LTC- Global since there is currently a dearth of mining companies on that exchange and because we believe that by being successful we can encourage ŁTC and LTC Global to become a main stream cryptocurrency and exchange with similar value explosions to that witnessed with ฿TC and shares on the ฿TC Trading Co exchange.

We shall invest 50% of profits back into hardware, as well as a 3-year straight-line amortisation / depreciation of existing hardware, and pay our 50% of profits as dividends. We have a detailed business model and forecast (available on request), the dividend forecast from which is shown in the figure 1.



The assumptions used (see detail below) are conservative. Most importantly, we assume that ฿TC mining productivity will decrease significantly due to difficulty increasing, and have based our difficulty forecast on the last two months trend. We also assume a fixed price for both ฿TC and ŁTC. Should they appreciate, as we expect, then our profitability will rise significantly. We shall be doing our accounting in Euros, not cryptocurrencies, though dividends will be in ŁTC.

1.3 Key strengths / differentiators and assets

1. An outstanding, publicly visible principal with a wealth of technical and business expertise, backed up by a superb team of professionals with demonstrable experience.
2. A carefully considered, detailed and realistic business plan and model showing the growth potential.
3. 750 Avalon SHA256/฿TC-mining ASICs on order (~230 GH/sec, delivery late July - early August).
4. 100 SHA256/฿TC-mining FPGAs on order (~24GH/sec, delivery late June).
5. We have the following arrangements with Memset Ltd:
 1. Use of their ultra-efficient, high-security (to British government standards) data centre for which CipherMine will only be charged power at cost (and there is a lot of spare space).
 2. Use of the spare compute in their virtual machine estate with a minimal at-cost charge.
 3. The expectation that they will purchase end of life GPU rigs from CipherMine for use in their GPU cloud.
6. Four quad-AMD 7950 GPU ŁTC mining rigs deployed (one mid-build)
7. Cluster of 40 VMs ŁTC mining with Memset's spare compute (expandable).
8. A proprietary, scalable software suite for the automation of mining workers as well as auto-selection of best value cryptocurrency to mine and automatic conversion of alternate cryptocurrencies into ŁTC.

2 **Glossary**

- ₿TC: Bitcoin
- ŁTC: Litecoin
- cryptocoin: Any peer-to-peer cryptographic currency which we deem appropriate (see “Choosing cryptocurrencies”).
- BTC TC: The ₿TC Trading Company, a ₿TC-based virtual stock exchange game (<http://btct.co>)
- LTC Global: Litecoin Global, the ŁTC-based virtual stock exchange game on which CipherMine is listed (<http://litecoinglobal.com>)
- ASIC: Application-Specific Integrated Circuits for SHA256 mining.
- FPGA: Field Programmable Gate Array for SHA256 mining.
- SFPGA: A FPGA for Scrypt mining.
- SHA256: A 32 bit hashing function. Mining SHA256 cryptocurrencies like ₿TC involves SHA256(SHA256(x)).
- Scrypt: An alternate hashing mechanism used by ŁTC and others designed to make GPU mining less effective.
- IPO: “Initial Public Offering” on our virtual cryptocurrency stock exchange game of choice.
- The company: Refers to CipherMine, the virtual business that this document is about.
- VM: Virtual machine.
- Wood Tech: Wood Technology LLP, Kate Craig-Wood's R&D company.
- R&D: Research and development, in this context in computing especially HPC.
- HPC: High performance computing (supercomputing clusters).
- DC: Data centre.
- HW: Hardware.
- P/E ratio: Pay-earnings ratio (see “IPO valuation discussion”)
- Alt coins: Herein “alt coins” refers to coins other than ŁTC or ₿TC, such as Feathercoin and Worldcoin (Scrypt ŁTC alternatives) or PPcoin and Terracoin (SHA256 ₿TC).

3 **Warning**

CipherMine is a virtual company whose shares and dividends are to be quoted and distributed in a virtual cryptocurrency commodity which is not recognised as a legal security in any jurisdiction. It is our intention to provide our shareholders with an excellent return on investment (as described herein) but we, Kate Craig-Wood, Wood Technology LLP, Giles Russell, Ross Martyn and Simon Weald, are in no way liable for any losses you may incur in connection with CipherMine.

DO NOT INVEST MORE THAN YOU CAN AFFORD TO LOSE!

4 Administrative details

4.1 Key personnel

Principal (CEO): Kate Craig-Wood
Address: C/O Wood Technology LLP
25 Frederick Sanger Road
Guildford
Surrey, GU2 7YD
United Kingdom
Email: kate@ciphermine.com
CV: <http://kate.craig-wood.com/cv.pdf>

Kate is (aka. woodrake on bitcointalk.org, woodtech on all other cryptocurrency sites) the principal founder of CipherMine. She is a highly successful and well-known British entrepreneur with deep expertise in cloud computing, hosting, data centre energy efficiency and cyber security. She is also in the final year of a part-time PhD with the local university's computing department. Her principal responsibilities in CipherMine are business administration, finance, purchasing and software development. Kate's shares will actually be owned by her personal consultancy/R&D business, Wood Tech (see below).

Giles Russell (aka. evilscoop on bitcointalk.org) is our ASIC rig builder and we have set aside shares for him which will be released as the business relationship is proven. A part of that deal is where we hope to trade his skills to bolster our ASIC supply. Giles owns 3,000 shares from the outset and CipherMine has a further 8,000 set aside for him which he will receive in tranches of 2,000/month over the coming 4 months (or sooner) provided that he fulfills his side of our agreements.

Jan Heinicke-Clemm (aka. JohnDorien on bitcointalk.org) is a new addition to our team. He is building our private mining pools (see section 5.1.8) and will be assisting Kate with software development projects, including our initial diversifications into industrial-computing.com (see section 5.2.2). Since Jan is a new member of the team we have not given him share yet but have agreed to give him 500 on completion of the pool project and a further 500 on or before August 15th once he has demonstrated his merit. Since we did not make an allowance for additional share issues in the original contract and it is rather early to be asking for another share issue (which would dilute shareholders) Kate is giving Jan these shares out of her own portion.

Ross Martyn and Simon Weald are systems administrators at Memset. They are providing maintenance support of the mining equipment. It is necessary that the people providing that are Memset employees since we will be using their data centre (see sections 5.1.10 and 5.1.11). Ross and Simon have 2,000 shares each in CipherMine.

We also have additional software developers on-hand if necessary as well as a potential hardware developer interested in the project. Finally, we are also hoping to secure a more formal relationship with the ASIC supplier known as Steamboat. Negotiations are ongoing, and for now it will remain a simple customer-supplier relationship.

The team named above will be remunerated in the same way as investors; through dividends share value increase.

4.2 Tangible assets and real-world finance

The tangible assets (mining hardware) are owned by Wood Technology LLP. CipherMine is a virtual company. CipherMine shares convey no ownership, voting rights or any other rights in Wood Technology LLP. CipherMine's staff, partners, customers, employees, suppliers, shareholders and associates shall be held in no way liable for any losses associated with CipherMine. CipherMine has zero legal tender exposure in any jurisdiction.

Wood Technology LLP is a British limited liability partnership of which Kate Craig-Wood owns 99%. It is VAT registered (registration number GB138215131) allowing CipherMine to acquire physical assets without incurring VAT (sales tax). CipherMine's activities will be accounted for as part of Wood Technology's accounts, however this will only apply to cryptocurrencies when converted into real currencies (eg. when purchasing hardware). Wood Technology will also be the principal shareholder in CipherMine (see below). Should there be any legal challenge to Wood Technology LLP then it shall be addressed in the courts of England and Wales. There can be no legal challenge to CipherMine.

At this time it is our expectation that cryptocurrencies generated will continue to be regarded as commodities rather than cash and as such will not attract tax. However, at the point where they are converted into real currency that could be deemed a profit. We shall properly account for all real currency movements, though we expect that we will be able to operate the business at a loss for some time (since our "profits" are principally cryptocurrency commodities). We plan to build cash reserves in case there is a tax implication in future, as shown in figure 1.

4.3 CipherMine ownership

All CipherMine shares, including those belonging to the founders, shall be listed on the LTC Global virtual stock exchange game (<https://www.litecoinglobal.com>). This should give prospective investors great confidence in the business since in order for the founders to benefit we must maximise shareholder value for everyone (including us).

At our initial public offering (IPO) on LTC global we intend to create 100,000 shares in total, with 80% representing the founders' holdings and the remaining 20% being dilution capital the proceeds from which will go into the business. We hope to raise circa €30,000 EUR capital for investment in additional mining hardware.

4.4 Currency/cryptocoin risk spreading

We shall avoid keeping significant quantities of any cryptocoin. Only that which shall be distributed as dividends will be kept as such with the rest (the reinvestment fund) being converted to fiat (GBP or Euros) at the current exchange rate and kept in Wood Tech's bank accounts (with Coutts & Co).

4.5 Marketing and press relations

4.5.1 Marketing the CIPHERMINE security

We believe it is in shareholders' interests for us to expend a little effort and a small amount of BTC and LTC promoting CipherMine to generally raise awareness of it. The longer-term aim with this is that we may at some point in the not-to-distant future wish to have another round of funding in order to fund additional diversification projects, and that would likely involve some dilution. However, we are keen to minimise that while maximising the capital raised. Further we shall take no such action until after consulting our shareholders. We do not wish to commit at this stage but our objective is to sell no more than an additional 5% at the next round.

To that end Kate is working to promote the security, which in the short term should improve the share price if nothing else. We have taken out an advert on forum.litecoin.org and will do the same on bitcointalk.org. However, most importantly Kate is currently working with her PR agent, Katie Olver, in an attempt to get a story on CipherMine into the British national press. Kate has been featured in the national news many times so this is entirely realistic. Should this succeed it *might* make sense to capitalise on it while the going is good.

To all shareholders: please keep a very close eye on our announcements and vote requests in the next few days!

4.5.2 Service marketing

In order to make best use of our planned diversification projects (see section 5.2.1) we will likely need to advertise them to some extent. Again, this is an area with which Kate is very familiar. As with the costs of running the mining rigs, the costs of marketing these services will be regarded as a cost of sale for CipherMine. We shall of course ensure that the business case stacks up, though it is likely that we will have to "suck it and see" in many cases - especially with the ideas which are truly novel.

5 Business plan

In order to reach our goals, as described in the executive summary, we have a carefully considered plan including a detailed and realistic business model, both described herein.

5.1 Cryptocurrency mining

Initially our sole business activity shall be mining cryptocurrencies. We already have operational mining equipment as well as a large amount on order (see above), and in our IPO the capital raised will be used to purchase additional GPU rig hardware to add to the CipherMine estate. The rigs will be operated in an ultra-high efficiency, renewables-powered data centre in Surrey in the United Kingdom (operated by Memset Ltd, of which Kate Craig-Wood is the Managing Director and founder).

5.1.1 Choosing cryptocurrencies

As a preamble, we initially intend to mine LTC (script) and BTC (SHA256). We shall regularly consider the profitability of our rigs and divert our script and SHA256 clusters to other cryptocurrencies should it be more profitable. All dividends will be paid in LTC (see "Why LTC global", below). In order to minimise risks we shall convert the dividend element of profits into LTC at least weekly if not more frequently when mining alternative cryptocurrencies. Further, the reinvestment element of profits into cash (£GBP and/or €EUR) as often as practical at the current exchange rate. We are not in the business of cryptocurrency speculation.

However, we are also risk-averse as far as is practical. The recent 51% attacks on Feathercoin (FTC) are a good example of the risks of blindly chasing the most profitable coin to mine at any point (it resulted in many orphaned blocks and miners being short-changed). We shall be cautious in our explorations of cryptocurrencies other than BTC and LTC, and should we diversify into others we will only deploy a part of our mining estate until we are satisfied that it is sufficiently stable. We will also evaluate cryptocurrencies based on historical exchange stability and historical difficulty stability.

5.1.2 GPU script ("G-rigs") mining plan

In the near-term (1-3 months) the plan is to principally mine LTC (or other script-based cryptocurrencies) using GPU-based mining rigs. This has a fairly clear rate of return on investment in the short term. GPU mining does not have as bright a future as FPGA and ASIC mining however so this is mainly a bootstrap activity and we will only be spending 5% of our hardware fund on new GPU rigs.

In the medium-term (3+ months) we intend to exploit the fact that there will likely be many ex-BTC miners with GPU rigs which are no longer providing a good return on investment who wish to instead upgrade to Application-Specific Integrate Circuit (ASIC) hardware by attempting to purchase pre-built GPU rigs second hand at reduced prices. These will then be added to our estate and should provide an improved return on investment (ROI).

The model at present assumes we will be paying current market rate for new GPUs however, so if this second-hand purchasing plan works it should free up significant capital with which we will be able to accelerate our hardware expansion rate. GPU purchases are a relatively low risk investment since they have excellent re-sale value and we have a ready buyer in the form of Memset who are building out their GPU cloud.

5.1.3 VM host CPU script ("V-rigs") mining plan

We have also secured a deal with Memset Ltd. to use their spare virtual machine host compute for script mining solely in exchange for the dedicated hardware element (0.5GB of 32GB on the host) and power (approx 20 Watts) used in this activity. This activity at present generates roughly 1,000 KH/sec of LTC mining across 40 VMs, but is power-intensive.

At present a significant portion of the LTC generated go towards covering the power and cooling costs thus the net gain is only about £1.0/day at present. We intend to scale this up while it is profitable and have the necessary automation tools to do so.

However, if LTC mining difficulty does increase at the predicted rate this activity will no longer be profitable by October. It is therefore merely a bootstrap activity (ie. we will stop when it is no longer profitable).

Note that Memset Ltd. are in no way contractually bound to make their infrastructure and services available for these purposes (colocation/hosting and spare VM host compute), nor to purchase GPUs from CipherMine, and may revoke the arrangement at any time. However, this is unlikely given that Kate Craig-Wood is the company's managing director (CEO equivalent).

5.1.4 Script FPGA (SFPGA / "S-rigs") mining plan

We are actively monitoring the development of script mining field programmable gate arrays (FPGAs) and when they become available we intend to switch our purchases of script mining hardware from GPU to FPGAs. As per our research and development plan we may also explore developing script ASICs based on the FPGA designs.

We are hopeful that either blockburner.net or enterpoint.co.uk will bring out suitable FPGAs within 6 months, and that is what our plan assumes (that we will be deploying such devices in 6 months time). At that time we shall move away from buying any new GPU hardware, though our models suggest they will be significantly less profitable by that point regardless. Once script FPGAs are available we will put the 30% of the hardware investment fund initially allocated to SHA256 FPGAs towards them.

5.1.5 SHA256 ASIC (“A-rigs”) mining plan

We have ordered 750 Avalon ASIC chips which we shall be integrating ourselves into SHA256 (฿TC initially) mining rigs. Our intention is to build as many rigs as we can in as short a time as possible in order to exploit the leading edge of the ASIC mining revolution. Our orders are placed with Steamboat and we expect first deliveries in mid-late July.

We estimate that each rig consisting of 16 ASICs will yield roughly 4.8 GH/sec. Our supplier (Steamboat) has told us that our batches should start shipping late July. Giles (aka. evilscoop), one of our founding partners, is our hardware builder and will be integrating the chips into functional rigs. They will then be shipped to Kate for hosting in Memset's data centre in Surrey. All costs associated with their build is included in the estimated €100/rig build cost. This is a high estimate and we hope to reduce it.

Giles can build about 10 16-ASIC rigs per day, or roughly 200 per month. When we exceed that (or rather, 3,200 ASIC deliveries per month), we shall hire a full time systems integrator to build and also maintain the rigs.

5.1.6 SHA256 FPGA (FPGAs / “F-rigs”) mining plan

Until script FPGAs become available, or we develop them, shall be putting the 30% reinvestment spend on FPGAs towards SHA256 mining FPGA rigs. Although not as cost effective in capital terms as ASICs they do have the potential for resale, which is valuable, and are more immediately available. Further, Memset are investigating the potential market for offering a FPGA cloud infrastructure service so once they do become unprofitable for mining we can potentially sell them to Memset. A number of FPGA rigs are becoming available in the ฿TC community (eg. bitcointalk.org) and Kate is actively acquiring ones which represent good value for money.

5.1.7 Mining hardware acquisition

A key element of the business plan is to acquire ASICs as rapidly as possible. Our business model suggests that by the end of our first year of trading we could have as many as 14,000 ASICs on order. While this would not eliminate the supply it would be likely to somewhat hamper new entrants and other competitors.

While it is true that they could do the same, we have specifically constructed our business model to be very hardware-investment intensive. We shall re-invest 50% of profits in new mining hardware and shall also be operating a programme of hardware depreciation (ie. deducting amortised hardware costs from profits and adding that to the new hardware fund).

Having carefully modelled lower investment percentages such as the 30% offered by our competitors, we do not believe that their business models are sustainable in the face of the current rise in difficulty. An aggressive hardware investment plan is necessary to stay ahead of the curve. Also, once difficulty settles down to the amortised cost of hardware plus power for ASICs (which it will undoubtedly trend towards) it will pay big dividends (literally) to have acquired lots of kit.

Our UK builder can build up to 10 16-ASIC ฿TC mining rigs per day, which we won't be using in the near-term. In the short term while we are waiting for our early ASIC orders to arrive we intend to supplement our supply by offering a build service to others in exchange for ASICs. We will build a rig in exchange for 2-4 ASIC chips. As part of this arrangement CipherMine will cover the supplier's costs in building the rigs in exchange for ownership of the traded chips.

At present we intend to split our reinvestment fund (50% of net profits plus depreciation) between as 65% ASICs, 30% FPGA and 5% GPU post-IPO. We will adapt this ratio based on our model which allows us to forecast a number of scenarios. For instance, if LTC/script difficulty rises more slowly and ฿TC/SHA256 more swiftly then combined with the good resale value GPUs might become more attractive. Equally, if (as we expect) faster, more efficient SHA260 ASICs become available we would likely focus on them (we also intend to put R&D efforts into such).

5.1.8 Software and mining pools

We already have a suite of software tools - scripts written in bash and Python - which allow us to automate the business operations. This will be increasingly important as we grow and acquire large numbers of mining rigs. The software is proprietary, ie. we do not intend to open source it. At present it performs the following functions:

- Automated setup of new mining rigs (which are all Xubuntu, headless builds)
- Automated remote management of mining rigs (changing between cryptocurrencies, restarts, etc)
- Automatic scraping of a number of data sources for programmatic auto-selection of best cryptocurrency to mine.
- API integration with BTC-E.com, Cryptsy and VirCurEx (latter still in testing) for automated selling of alt coins.

At present we choose which coin to mine based on a number of factors, including current profitability (difficulty vs. market price including stales ratio), exchange stability (if highly unstable we down-score), and historical profitability (mainly a function of price volatility, which again we down-score). We avoid coins which require a significant amount of mining time to yield one unit such as BitBar (BTB). We also avoid coins which we deem are currently vulnerable or experiencing 51% attacks. Despite the highly automated nature of our systems there is careful daily monitoring in addition to cater to such scenarios.

Our system currently re-evaluates and switches (if appropriate) every 20 minutes. Presently the system is giving us a 10-20% yield boost by selectively mining the most profitable coin in any particular 20 minute window. In general mining profitability is affected more by the total network hashrate than the price of a coin, so even though some of the "very" alt coins take 100+ confirms, and thus take a while, this is still a profitable activity. We do not intend to open source the software at present since the only alternative available, CryptoSwitcher, is very poor by comparison so our application (CipherMiner, screen shot to the right or [here](#)) is a competitive advantage.

```

CipherMiner auto miner version 0.1 - Started: [2013-06-25 10:51:32]
Options (key): autoSell (s)  autoBuyLtc (b)  coinLock (l)  autoMine (m)
Status: Sleeping for 1188 more seconds          Best coins BTC or LTC

frig1: 1.38 GH/s U: 16.00/m | BTC |           | So far this session:
grig1: 2.32 MH/s U: 64.23/m | BTC |           | Balance:    0.058 BTC
grig2: 2.08 MH/s U: 61.26/m | BTC |           | Balance:    0.000 LTC
grig3: 3.06 GH/s U: 35.26/m | BTC |           | Bought:     0.052 BTC
grig4: 1.87 MH/s U: 54.48/m | BTC |           | Bought:     0.000 LTC

[2013-06-25 13:40:47] Not buying LTC.
[2013-06-25 13:40:54] Going to sleep for 20 minutes
[2013-06-25 13:58:56] Going to next round
[2013-06-25 13:58:56] Starting round 1
[2013-06-25 13:58:56] Stat: Gathering coins profitability data
[2013-06-25 13:58:57] Analysing for best coins
[2013-06-25 13:58:57] Best coin: ftc (scrypt, 139.1%), alternate btc (97.8%)
[2013-06-25 13:58:58] Auto-mine disabled, leaving miners alone.
[2013-06-25 13:58:59] Selling alt coins to BTC
[2013-06-25 13:59:07] Sold 0.020 BTC-worth of ftc on BTCE
[2013-06-25 13:59:19] Not buying LTC.
[2013-06-25 13:59:23] Going to sleep for 20 minutes
[2013-06-25 13:59:24] Auto-mine enabled
[2013-06-25 13:59:24] Auto-mine disabled
[2013-06-25 13:59:38] Auto-mine enabled
[2013-06-25 14:01:17] Going to next round
[2013-06-25 14:01:17] Starting round 1
[2013-06-25 14:01:17] Stat: Gathering coins profitability data
[2013-06-25 14:01:20] Analysing for best coins
[2013-06-25 14:01:20] Best coin: ftc (scrypt, 139.1%), alternate btc (97.8%)
[2013-06-25 14:01:21] Stat: Reloading miners
[2013-06-25 14:01:22] - grig4 relaunched.
[2013-06-25 14:01:23] - frig1 relaunched.
[2013-06-25 14:01:24] - grig1 relaunched.
[2013-06-25 14:01:25] - grig2 relaunched.
[2013-06-25 14:01:26] - grig3 relaunched.
[2013-06-25 14:01:26] Selling alt coins to BTC
[2013-06-25 14:01:30] Sold 0.001 BTC-worth of arg on Cryptsy
[2013-06-25 14:01:48] Not buying LTC.
[2013-06-25 14:01:50] Going to sleep for 20 minutes

```

We use pooled mining for the most part at present. This makes it much more convenient to automate our estate and quickly integrate new cryptocurrencies as necessary. Generally we opt for reward mechanisms such as Round-Based Pay Per Share (RBPPS), Pay Per Last N Shares (PPLNS) or proportional since this gives us the best combination of low fees with returns as occasional, but loyal, miners. Note that we do not "pool hop" in the sense of joining a pool when a block is found. However, if a pool offers Pay Per Share (PPS) with a low fee then we would select that (but there are few such pools). We endeavour to always have two pools with different providers (ie. not different servers with the same pool) for each coin for resilience, making use of cgminer's and bfgminer's built-in auto-failover systems. However, we do consistently use the same pool for each cryptocurrency if they are available.

However, now that we have Jan on board we are building our own set of private pools. This immediately makes sense for most scrypt coins (other than LTC) since blocks are found quickly. We can save the 2-3% fees, operate Pay-Per Share (PPS) and not be subject to the unreliabilities and dodgy practices that we have come across in some pools. Within a few months we should have enough SHA256 and scrypt capacity to dispense with third party pools altogether.

5.1.9 Mining models

For the purpose of forecasting and testing our business case we have built a business model in the form of a complex spread sheet. For the purpose of this model we are only using LTC mining as our scrypt coin and BTC as our SHA256 coin, but as mentioned above we shall diversify into other coins as profitability dictates; our estate is highly automated so it is easy for us to switch between coins. This model attempts to do the following:

1. Model our operational costs
2. Forecast the rate of difficulty increase (ie. reduction in mining productivity) over time based on recent historical data.
3. Based on the above, forecast our mining productivity (ie. BTC/LTC acquired per day).
4. Model our cash flow.
5. Based on the above, forecast our rate of mining hardware acquisition and subsequent growth.

Wherever possible we have erred on the side of caution and been pessimistic. For example, we do not assume to predict that the value of BTC or LTC in real world currencies like USD will go up over time (though it is certainly our hope that they shall). For the purposes of the model we have used fixed prices of €90.00/BTC and €2.25/LTC (based on recent averages)

Mining difficulty of both BTC and LTC has been increasing dramatically in recent months. We believe that this is in large part the result of BTC-mining ASICs starting to be deployed in significant numbers combined with LTC recently (for a time at least) being more profitable to mine with GPUs than BTC. The network hashrate for BTC appears to now be rising in a linear manner. This would fit if one assumes that there are a small number of individuals or organisations deploying ASICs as fast as they can (ie. the limit is a human factor).

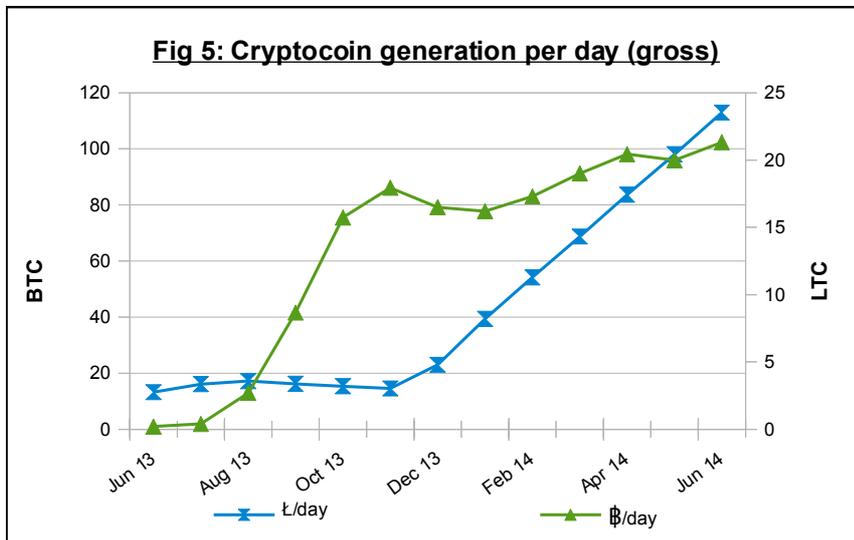
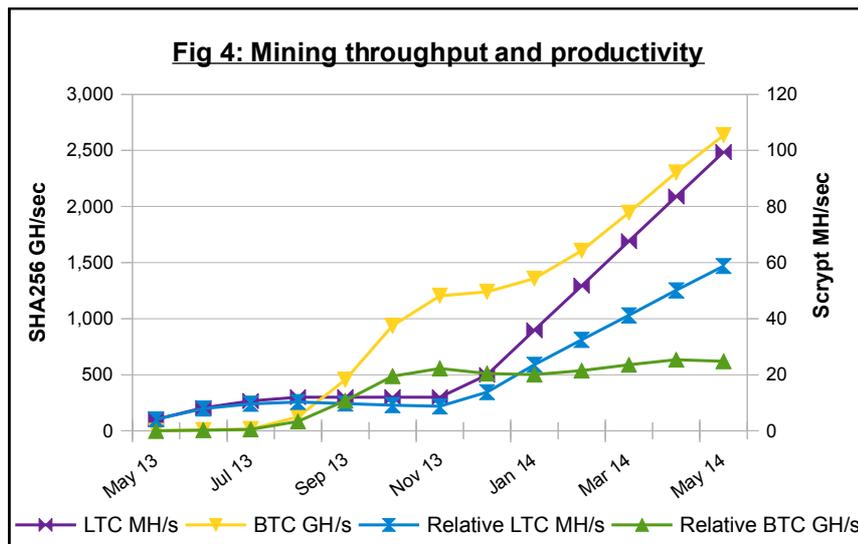
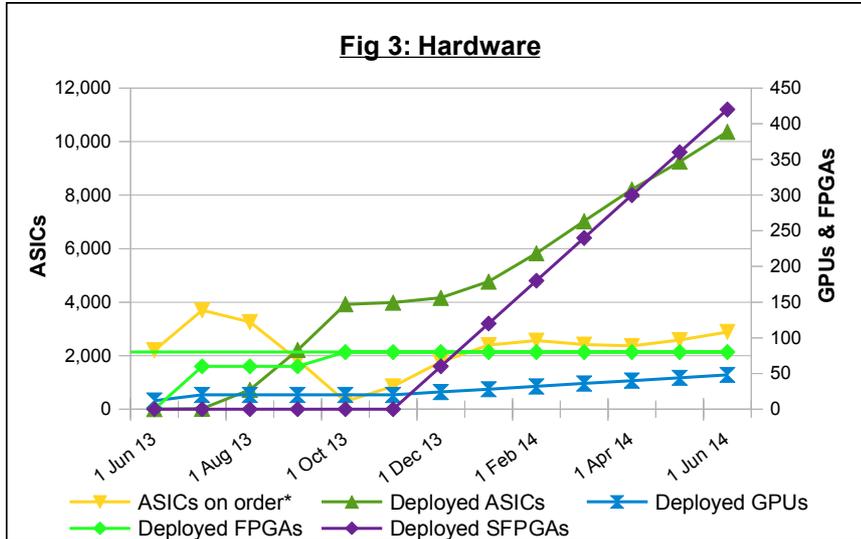
However, to err on the side of caution for our BTC difficulty predictions we have assumed that a portion of recent growth is of a compound nature with the other being linear, based on the last two months. That predicts a difficulty of ~75m by June 2014 which we feel is reasonable and hopefully pessimistic.

LTC difficulty is harder to predict at present. If we use the above approach it becomes ineffective to mine LTC within a matter of months (based on recent difficulty). That would be unlikely to happen though since miners would not be wasting the power should the mining return not be profitable.

At difficulties above 1,000 the return on investment on rigs like our quad 7950s would be ~€1,080/year after power. The

rigs cost ~€1,500 and we do not believe that at that rate of return miners are likely to be adding significant hashing power to the network once the return on investment for hardware goes beyond 18 months.

The exception to this would be if the value of LTC increased of course (which we expect), but then our LTC mining profits would also increase. It seems reasonable to assume that the profitability will max out at around this level, and that is the assumption in our model (continuing recent growth trends approaching that level, slower thereafter). Once FPGA script mining is available this will of course change the dynamic significantly. We are expecting to be able to deploy our script FPGA rigs towards the end of this year. See figures 3, 4 and 5 below.



5.1.10 The data centre advantage

One of our key differentiators is that we have a real, high-efficiency, high-security data centre to operate our mining rigs from. While in the short term this does add a small additional cost because we are having to pay an additional 10-20% for cooling, for anyone attempting to do mining at an industrial scale this will be necessary. Further, we have a very large amount of space available to us at no cost due to the special relationship with Memset.

For miners operating out of personal residences both space and cooling will rapidly become an issue, as will availability of power supply. With the Memset data centre we are not restricted on either. We have also allowed for some overheads in the maintenance and support of the mining rigs. If CipherMine's mining estate becomes large enough as to have an impact on Memset's business activities and resources Kate's plan is to give a significant proportion of her equity in CipherMine to Memset in order to provide a strong business case for Memset's continuing support.

Memset also has highly resilience network connectivity with multiple 10Gbps backhaul uplinks. Few things harm mining productivity more than network failures and given that many miners are operating out of private residences with the associated unreliable network connectivity (and reliance on one) this is an important factor. The same can be applied to power resilience; Memset's data centre is tier 3, N+1, and is resilient against mains power failures (UPSes and on-site diesel generators).

Security should also be a concern. Mining rigs represent a very significant capital investment. It is likely only a matter of time before some nefarious individuals cotton on to the fact that many miners have highly-thievable (ie. portable but expensive in the case of GPUs) equipment in their homes. Memset has ISO27001 accreditation as well as British government security accreditations.

5.1.11 Operations staffing

In the near-term we do not expect to need a dedicated operations team, but we have allowed for the maintenance of the mining estate by giving an equity stake to two of Memset's operations staff. Both are competent, experienced systems administrators.

Further, Kate has developed a suite of rudimentary software tools which CipherMine is using to manage their existing infrastructure. The tools are highly scalable, and combined with the use of Memset's monitoring and power management systems we anticipate that the maintenance overhead will be minimal.

Regardless, we have made a small allowance in the cost of each rig for operations staff. Once we achieve significant scale this will be enough to pay for someone full time.

5.2 Research and development

5.2.1 Improved cryptocurrency mining

In the medium-term (3+ months) we intend to start research and development efforts investigating LTC-hashing specific FPGA hardware, with our sights on developing an ASIC script solution. We will most likely do this in partnership with established custom electronics vendors in the UK. Giles has connections with such a firm.

We also intend to explore research and development opportunities in the field of hardware optimised for BTC mining. At present the prices charged by Avalon for their chips are actually very high (circa \$10 each). If we were to go direct to a manufacturer we could likely secure a much better deal, and downstream we will be purchasing chips in quantities to warrant that.

For these activities we intend to recruit an appropriately-skilled hardware developer. Our hope is that we will be able to employ him or her full time from October this year. Their wages are factored into the plan and deducted from the profits.

5.2.2 Diversification R&D

A key part of CipherMine's future is undoubtedly diversification into other markets. The most obvious of these would be real-world commercial application-specific high-performance computing (ASHPC). We intend to accumulate ASHPC Intellectual Property (IP) and in-house expertise along the way as we develop improved cryptocurrency mining equipment. We also intend to explore more general HPC opportunities. We will have a substantial GPU and FPGA estate which is repurposable for many computationally intensive activities such as big data analytics (a field Kate is expert in), sonic seismic oil exploration, protein modelling, etc.

In the near term, once he has finished setting up our shared mining pools, Jan will be building an e-commerce site at industrial-computing.com (a domain we own) from which intend to offer some or all of the following services (the profits from which shall go through CipherMine with the usual rules applied re. dividends):

- Self-managed virtual machines (re-sold Memset Miniserver VMs) in exchange for LTC and BTC.
 - BitVPS, the competition, is very comparatively expensive.
- Rental of our GPU and FPGA rigs for LTC, BTC or cash for commercial use (PayPal)
 - We shall be offering this at more than we would gain by using the kit for mining.
- ASIC mining hardware
 - We are not committed to this, but it has occurred to us that often the real way to make money in a "gold rush" is to be the people selling the shovels rather than the prospectors themselves. Once we have built our first hundred or so ASIC mining rigs we will explore this possibility.
- GPU/FPGA "mini supercomputers"
 - We have recently in-effect been building small supercomputers by integrating GPUs and FPGAs with computers and providing a convenient front-end for their management. As well as renting these out we intend to explore the business case for selling them as complete devices.

We also have expertise in darknets (I2P and Tor hidden services) and another possible avenue for CipherMine's diversification is into darknet services. For example, exchanges are repeatedly targets for distributed denial of service attacks (DDoS). Exchanges remain the one significant weakness of P2P cryptocurrencies since they present a centralised point in the otherwise decentralised system. While peer-to-peer exchanges are being discussed we feel that exchanges do, unfortunately, really need to be centralised. So, we feel that the right solution is a darknet hosted exchange. While not impervious to DDoS it would make them much harder. A standard botnet operating on compromised PCs would not have the facility to launch an attack via the darknet. A geographically hidden exchange could have other advantages too.

Another diversification idea is to build a better cryptocurrency payment service that e-commerce sites can more easily integrate than alternatives; we strongly believe that there is a gap in the market here despite there being some available. Within the team we have significant experience in e-commerce development, and through Kate's connection with Memset a potential source of customers (a significant proportion of Memset ~3,000 customers are e-commerce businesses).

We have a number of other well-developed ideas but we think they might be so good that we don't want to release them into the public domain just yet!

At present the model does not make any assumptions about these additional projects, so if they are successful they will add to our bottom line and boost dividends. Since Jan like the rest of the team is being compensated through shareholdings there are no costs at this stage.

5.3 Hardware end of life

It is our expectation that after a time all our mining hardware will have become unprofitable to operate in terms of the yield per unit power. At such a time we shall endeavour to recover any remaining value from the hardware. In the case of GPU rigs the process will be to:

- 1) Sell the rigs, whole, to Memset Ltd for use in their GPU compute cloud. For such transactions the value will be determined by a straight-line three year depreciation (33.3%/year), with the hardware being deemed to have zero value after three years. Memset Ltd are not obliged to purchase the hardware, but it will almost certainly be in the interests of both companies (Memset Ltd and CryptoMine).
- 2) Should Memset be unwilling to purchase the GPU hardware at that time it will be placed for sale on eBay or similar.

If possible we shall also endeavour to sell the ASIC hardware though given the application-specific nature we do not anticipate that this will be practical.

Unless our hardware is no longer cost-effective to run (ie. it is generating more value than the electricity cost) then we shall not sell it. We do not intend to offer a hardware mining product for sale. Any funds released by the sale of hardware shall under normal operation be re-invested in new, more efficient hardware.

Should such a time arise that it is no longer possible to cost-effectively mine cryptocurrencies then CryptoMine shall either liquidate, selling all hardware (see below), or attempt to diversify into new areas where the hardware estate can be profitably employed. Should we sell hardware as part of a liquidation the proceeds would be distributed to the shareholders less outstanding costs.

6 Initial Public Offering (IPO) and shareholder contract

It is our intention to list all CipherMine shares on the LTC global virtual stock exchange game.

Note: Both rounds of the IPO have been completed. We raised 15,667 LTC, the entire amount of which has been converted into BTC for either direct investment in ASICs or transfer to Bitstamp.net (our preferred BTC exchange) for conversion into fiat and investment into FPGAs and GPUs.

As a result of wonderful speed with which the IPO was taken up we are now well-ahead of schedule in terms of ASIC purchases. We have already ordered and paid for our fifth next batch of Avalon ASICs, 2,500 in total, with Steamboat and have managed to catch the tail end of (coincidentally) his fifth batch we expect delivery mid-August. We have requested that he publicly confirm our current orders of 2,751 ASICs (in batches 3-5) on his thread [here](#).

6.1 Why LTC Global?

First, LTC had the potential to have a rapid value rise similar to that seen with BTC in the early part of 2013. Second, LTC also has the potential to become a very widely-traded commodity, like BTC. Thirdly, LTC's exchanges such as LTC Global also have the potential to become increasingly "main stream" and, like BTC-TC, the potential to attract ever-increasing numbers of investors. All these scenarios are tightly linked and together I shall refer to them as "LTC mainstreaming".

Should LTC mainstreaming arise then the value of CipherMine's shares would also increase in real terms. The liquidity and demand for our shares would also likely increase. Further, we fully expect (though cannot of course guarantee) that our post-IPO LTC/share value will also be increasing swiftly. These three effects would therefore compound, giving a potentially very large yield on investment.

We believe that by creating a solid company in CipherMine, with known, visible, reputable backers and a clearly articulated plan of action, that we can further improve the likelihood of the desired LTC mainstreaming scenario. Many other events are also in motion which should dramatically increase LTC's value, including the confirmed plan by MtGox to offer LTC on their exchange ([ref](#)) and the much-anticipated release of LCTPP (a LTC payments processing service, [ref](#)).

There is also a dearth of mining companies listed on LTC global at this time, or companies with what we would consider to be particularly solid business plans. We suspect that we would likely attract investment on that exchange purely by being a well-presented, solid business - especially with our comparable competitors on BTC-TC doing so well. The fact that LTC Global itself (ie. the exchanges own stock, ticket LTC-GLOBAL) is currently at ~£140 and a market capitalisation of ~£1,340,000 (approx USD \$4m) suggests that there is plenty of cash looking for a good home on that exchange.

However, we are also pragmatic. We will offer the IPO shares for sale in blocks and should we find that take up on LTC global is slow or reaches a limit within the first few weeks then we reserve the right to offer the further batches on BTC-TC instead. In that circumstance it would be in everyone's interests for the founding shareholders' equity to also be split between the exchanges. Therefore we shall be listing our shares

This strategy is of course not without risk. There is a very real possibility that the opposite will occur; that LTC will collapse and BTC will dominate, becoming the only cryptocurrency in common usage. Equally, all cryptocurrencies could become worthless. However, the founders believe that there is room for an alternate cryptocurrency and that LTC is that alternate. We believe that its difference to BTC (the fact that it is designed to be less GPU-intensive to compute) is its strength. We have also planned for these scenarios (see "Failure scenarios").

6.2 Pre-IPO assets

Pre-IPO CipherMine's assets consist of:

Asset	Value (approx)	Quantity	Total
Quad-AMD 7950 mining rigs	€1,440.00	4	€5,760
SHA256 ASICs on order	€7.75	750	€5,812
SHA256 FPGAs	€104.00	80 (in hand) + 20 (on order)	€10,400
Litecoins	€2.25	200	€450
Total in EUR			€22,422
Total in LTC			£9,965

The total value of equipment pre-IPO is shown in the table above. Note that in the above table and all calculations herein we are using our average LTC and BTC values of €2.25/LTC and €90/BTC respectively (our models assume that this is static). It should be noted that one of the GPU rigs' components have not yet been delivered also but are on order,

expected within the week. The three operational rigs and our VM cluster are currently generating ~£10/day.

At IPO we wish to raise additional capital in order to fund the purchase of more mining equipment (see mining plans, above). To that end we shall offer some of additional virtual shares in CryptoCoin via the LTC Global exchange game.

All shares (including founders') shall be listed on and managed via LTC Global. No share certificates or other instruments of proof of ownership shall be issued. Evidence of ownership and related voting rights shall be exclusively provided by the exchange.

6.3 Revenue generation capacity and potential equity valuations

Our business model predicts first year (1st June '13 - 1st June '14) profits of €228,000. On an annualised basis compared with the total current assets (see above) that would be a 1,000% annual yield.

A more risk-averse valuation might be to take the expected production from all current assets, including our 700 ASICs and 100 FPGAs on order, but allowing for productivity reduction (difficulty increase) between now and delivery. On that basis (ie. with no other mining hardware than we have deployed or on order now) we expect to be generating ~€10,000 per month by September. This assumes that our batches of 700 ASICs are delivered to us no later than the end of August (schedule is currently; some late July, the rest early-mid August).

On that basis, and assuming a continuing difficulty increase for both cryptocurrencies (see "Mining models" section), our first year's mining profit from just the pre-IPO hardware would be ~£815 and ~£1,130. In such a scenario we would discount the reinvestment plan, so total profits (ie. dividends) would be ~€75,800 for the period. This would be a yield of ~400% on the current assets. We therefore believe that it is entirely reasonable to expect an IPO valuation well in excess of the monetary value of the assets themselves.

However, since we are actually proposing that investors buy into us so that we raise capital and increase our yields it makes more sense to look at the total yield based on existing hardware plus their investment. With the planned initial €30,000 capital injection spent on additional mining hardware, combined with the existing estate, our first year profits would be a little over €300,000.

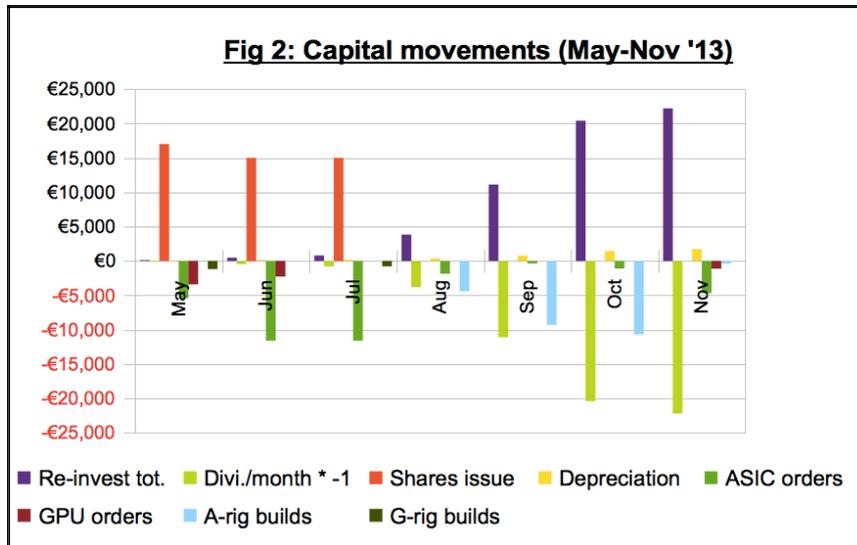
Please see "IPO valuation discussion" for more detail and a market comparison, but in summary we believe it appropriate to use a pay-earnings ratio (P/E ratio) 0.5 applied to our first year's forecast profit based on solely the existing hardware orders and our spending the raised the €30,000 IPO funding on additional hardware (~€300,000, rounded down). We have therefore chosen €150,000 (£66,700) for our IPO valuation. In other words, if we do nothing else but deploy the hardware we have and that which we will purchase with the investors' funds they investors will get their money back in about 6 months.

This IPO valuation seems very reasonable given BASIC-MINING's current valuation (see discussion). Note that we will be using the exchange rate in our model (€2.25/£TC) for the IPO valuation of shares, which is in the investors' favour at present given that £TC is slightly lower than that.

For reference, our model predicts dividends of €27,000 in June 2014 (see figure 1). If we apply a more realistic P/E ratio of 2.0 (ASICminer's is 2.14) to that dividend's annualised run-rate our market capitalisation will be circa €648,000 this time next year; a more than 4-fold increase in value for the IPO investors.

6.4 IPO plan and share structure

In order to maximise the accessibility of our shares we have divided the value of CryptoCoin into 100,000 shares. The large number of shares is to exploit the fact that at present the minimum investment in a mining company on BTC-TC is circa \$60; well beyond what many people might want to gamble. We hope to attract the “long tail” of speculators, and Kate intends to use her journalistic and social media connections to encourage such investors.



During the IPO period we shall create a total of 100,000 shares on the exchange divided as follows:

Who / What	Shares	Percentage
Kate	64,000	64.0%
Giles	3,000	3.0%
CipherMine: Giles' reserve	8,000	8.0%
Simon	2,000	2.0%
Ross	2,000	2.0%
CipherMine: Jan's reserve	1,000	1.0%
<i>CipherMine: funding reserve - SOLD @ 0.90 LTC/share</i>	<i>10,000</i>	<i>10.0%</i>
<i>CipherMine: IPO - SOLD @ 0.667 LTC/share</i>	<i>10,000</i>	<i>10.0%</i>
Total	100,000	100.0%

“CipherMine: Giles' reserve” refers to shares which shall remain held in CipherMine's account, to be released to Giles in stages once he has proved himself (we have not previously done significant business). “CipherMine: General reserve” are shares to be held back for a second-stage of IPO which may be done via a pass-thru fund on BTC Trading Co if LTC Global proves inadequate for our funding needs. The purpose of that reserve is to assure investors that their future dilution will be minimal while allowing us to maximise our IPO capital injection. We will not issue additional shares without a vote from the existing shareholders to approve it (see “Voting” below).

The initial 10,000 shares shall be sold on the exchange at a price of £0.667 each (£6,667 or €15,000 in total) in order to raise capital for the purchase and construction of additional mining rigs. If that issue goes well (ie. it is taken up promptly, within a few weeks) we shall issue the next 10,000 shares. We may issue those shares at a different price to the first round, depending on market sentiment and appetite. Should the LTC Global IPO play poorly (eg. we fail to sell the first 10,000 shares within 6 weeks or so) we will offer them either at a lower price or via a pass-thru fund on BTC Trading Co. See “Why LTC Global” for further discussion on our choice of exchanges.

The focus in the near-term shall be on buying ASICs since there is a relatively narrow window of opportunity for that hardware. However we will also make some investments in SHA256 FPGA mining equipment from the outset to bolster our hashing power as well as a small additional investment in GPU rigs for script mining. The ASIC vs. FPGA vs GPU hardware investment ratio is currently set at 65%/30%/5%. Capital movements are shown in figure 2 below.

6.5 Dividends

Dividends shall be calculated as the 50% of the mining revenue after costs (hardware depreciation, power, etc). We shall pay dividends at least once per month, though in the early stages we intend to pay dividends weekly. Dividends shall all be paid in LTC via the mechanism provided by the LTC global virtual stock exchange.

The founder(s) will also be being paid via this same mechanism, giving investors surety in their returns. The team is not taking any wages or other remuneration from CipherMine other than the dividends on their shares and the potential share value growth.

Shares held by CipherMine itself (see above; those not yet sold) shall be exempt from receiving dividends until such a time as their ownership passes to another person or business entity. For the purpose of calculating dividends, the dividend payments will be distributed in proportion to the shares currently held by others than CipherMine itself.

6.6 Voting

All shares listed on LTC Global shall have one vote and we shall use the mechanisms it provides to poll our shareholders. Any shares listed on BTC Trading Co via a pass-thru shall also get one vote per share. Motions may be called by and shareholder or group of shareholders with more than 25% of the total share capital (>25,000 shares). A motion shall be considered approved on a majority of more than 50% of the shares (50,000 shares).

In the near-term this does mean that Kate has absolute control of CipherMine. However, this is in the investors' interests since she will be less likely to sell much of her 64% stake for fear of losing that control. Further, this should assure investors that she is unlikely to pass a motion resulting in significant dilution for the same reason. In practice Kate will heed the wishes of her investors unless there is good reason not to. If a motion achieves a narrow majority (less than 60%) the matter will be discussed with the CipherMine team before action is taken, and further input may be requested from the shareholders.

6.7 Changes to the business plan or shareholder contract

Minor changes may be made to the business plan without consultation of shareholders. This includes but is not limited to: adjusting the ratio of ASIC vs. FPGA vs. GPU investment in order to maximise and/or sustain profitability; ~~issuing the second tranche of CipherMine's own 10,000 shares either on LTC Global or BTC TC.~~ - **Already done.**

Substantive changes to the business plan, such as major diversifications away from core activities, or substantive changes to the shareholder contract, such as a new share issue resulting in existing shareholder dilution or amendments to how dividends are paid, shall be decided based on a vote.

6.8 IPO valuation discussion

6.8.1 Pay-earning ratios

Estimating an appropriate IPO share valuation is difficult. As the old adage goes (with regards to real shares on real-world exchanges), shares are essentially valued on three factors:

- Past price-earning ratio
- Present price-earning ratio
- Future price-earning ratio

A price-earning ratio, or P/E ratio, "is an equity valuation multiple. It is defined as market price per share divided by annual earnings per share."

We believe that it is sensible to apply a similar approach here, although the P/E ratio-based valuations would be significantly lower for cryptocommodities; a hot, hip, high-tech company on NASDAQ might achieve 5-10 times their revenue, and large multiples of annual profit (usually based on perception of future potential than track record in such cases), with P/E ratios easily in excess of 100. A stable, low-growth blue-chip corporate like a utility company would typically achieve a P/E ratio similar to what you can get by investing in a long term bank account (eg. 5% annual yield or a P/E ratio of 20). However, one must remember that here in virtual crypto-stocks the risks are much higher therefore one would expect P/E ratios and thus share prices to be commensurately lower.

6.8.2 Comparable quoted crypto-stocks

The only operating, comparable virtual company to CryptoMine is ASICMINER, quoted on BTC TC. Their estimated ₿TC/share/year according to BTC-TC based on the last 90 days is 1.02 ₿TC/share/year, with a share valuation of ~2.50 ₿TC. This is a P/E ratio of about 2.45 (2.50/1.02), or put another way you have to pay 2.45 ₿TC for every 1 ₿TC of annual earnings, so it would take their investors about 2.5 years to get their money back (a 41% yield). This would be considered extremely good return on a real world exchange, but one must remember that there are huge risks with the sort of game crypto-exchange investors are playing.

Another comparable company is BASIC-MINING (also on BTC-TC), though they are not yet fully operational. Their daily dividends (also based on 90 days) are running at ~0.02 ₿TC/share/year. Their share price is ~0.68 ₿TC/share, so a P/E ratio of 34. That obviously represents terribly ROI for investors if purely looking at track record of dividends (compared with ASICMINER), thus we can conclude that in this case most of the value is derived from investors' future expectations (which makes sense since they have presumably not yet had delivery of the bulk of their ASICs). However, their current market cap is ₿3,030 ₿TC - roughly €272,000. That is for a company with just 8 (mostly old/slow) GPUs (2,100 ₿TC MH/sec so ~ = 2,100 ₿TC KH/sec) and some pre-orders of ASIC chips (153 ₿TC GH/sec apparently, so I'd guess about ~500 chips, worth ₿TC 43 in total) to their name. We have a much more robust plan and larger pre-orders but are asking less than half that in terms of initial valuation.

We therefore believe that it is reasonable to base our IPO valuation on the expected yield of our current hardware plus that which we are buying with investors' funds (a reasonably guaranteed return, especially with our hopefully-pessimistic model of difficulty increase), with a P/E ratio of just 0.5 - outstandingly good from an investor's perspective. This gives an IPO valuation of €150,000. The reason we have chosen such a low P/E ratio is that we are a new company and relatively unknown. The valuation should reflect that. This means that we are in-effect offering at least a 200% yield on initial investment. It is important to note that the €150,000 valuation assumes that we deploy the hardware then stop, and we then pay out all profits as dividends. In reality we will stick to our plan and reinvest half the profits then our first year's dividend payout (the actual share yield) will be more like

While this valuation is more than our total assets pre-IPO it is important to remember that company valuations are not based on tangible assets but rather the expected dividends, as described above. Initial shareholders will be investing in us and our plan rather than merely a share of mining hardware per-se. Further, we are aiming at considerably lower multiples of assets than our competitors so represent excellent value for investors.

6.8.3 Why depreciate the hardware?

We are using depreciation of the fixed assets (the mining rigs) in line with proper accounting processes. This makes sense for a variety of reasons, mainly: it is a method of diverting an amount of the revenue stream proportional to the value of current hardware into hardware refresh; and it allows us to assess a realistic value of the company's assets on the balance sheet.

However, this does have the effect on the GPU ₿TC mining rigs of significantly curtailing our profits, if our forecast of difficulty doubling in ~8 months is correct and EUR per ₿TC remains at about €2.25. Should that scenario arise we would only invest in new ASICs/FPGAs and either sweat the remaining ₿TC GPU hardware, putting back depreciation into dividends, until the power cost was higher than ₿TC generation or sell the GPUs.

7 Failure scenarios and our mitigation plans

Any prospective investor must be aware that CipherMine is an extremely high-risk investment. It is entirely possible that you will lose your entire investment, though obviously that is something we will strive to avoid. There are some scenarios for which we can plan, addressed below. However, *do not invest more than you can afford to lose*.

7.1 LTC collapse

Should LTC collapse then we will do the following:

1. If GPU mining is no longer cost effective we shall end of life our GPU mining rigs (sell them)
2. Work with LTC global to migrate CipherMine's shares across to its sister exchange, BTC Trading Co.
 1. In this scenario it is our hope that all shareholdings can be reconstituted; we keep backups of the shareholder reports we get from LTC Global which will assist with this.

7.2 BTC collapse (or general cryptocurrency failure)

If BTC alone collapses then in the short term we would move our focus to LTC mining. However, such an event would almost certainly trigger a collapse across all cryptocurrencies. If that disaster scenario came about then, depending on how far developed our R&D plans are, we would do one of two things:

1. If still at an early stage we would wind up CipherMine, sell all assets and distribute the remaining capital to shareholders in proportion to their shares.
2. If we have already started down the R&D path and there is a good business case for diversifying into one of our chosen fields (see "Research and development" section) then we would do so.

We shall involve the shareholders in such a decision.

7.3 Mining becoming unprofitable

A disaster scenario like the above notwithstanding, it is likely that at some point cryptocurrencies will become unprofitable to mine. There are, after all, a limited number of BTC and LTC, and there is also likely to be a limit to the size of the cryptocurrency economies in the near-term (this latter point being the more pertinent).

We expect that we will have plenty of warning of this scenario, and thus time to react. Further, we already have a diversification plan away from cryptocurrency mining (see "Research and development" section).

7.4 A principal's untimely demise

If something were to happen to Giles it will be relatively straight forwards to find a alternative builder.

If something were to happen to Kate her shareholding, which is within Wood Technology LLP, would pass with Wood Technology to its other partner, Nick Craig-Wood. Nick is Kate's brother and business partner in Memset Ltd. Kate has full documentation on CipherMine in her personal files and as part of Memset's plans she already has a mechanism in place so that Nick can access her encrypted filestores in the event of her death and carry on any important activities.