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In this issue:

Sea change

Harry Hamburg, Editor

Over the last seven months we've covered many of the areas crypto is having an impact in.

From advertising to finance to privacy and cybersecurity.

But there is one major area we haven't really touched on yet, and that is the supply chain.

Over the last year or so, major players in shipping and supply have been trialling blockchain and other crypto technologies in an attempt to modernise their industry.

So, how is it going, and who is involved?

Well, as you have probably guessed by now, that is the subject of this month's Crypto Wire.

However, before we get started, I'd be remiss if I didn't mention the sudden drop we've seen in crypto prices since Wednesday.

For the last couple of months prices had been very flat. In fact, bitcoin had less volatility than the stockmarket.

However, as my colleague Eoin Treacy is always pointing out, "ranges are explosions waiting to happen". And happen an explosion did... on the downside.

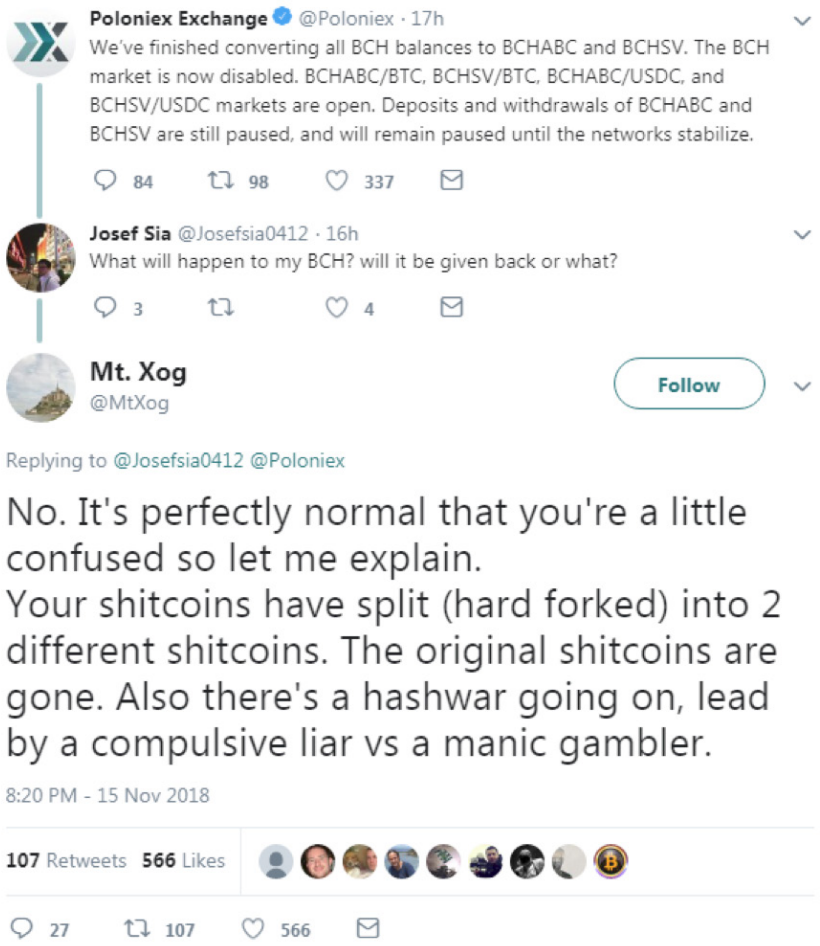
On Wednesday afternoon, the crypto market dropped by around 15% – or $33 billion – in a matter of hours.

What was the reason?

Well, as I write this, on Thursday afternoon, most people are blaming the Bitcoin Cash fork.

Remember, Bitcoin Cash was the result of a hard fork of bitcoin. And now Bitcoin Cash is hard forking itself... and no one is sure which fork will win.

The ridiculousness of the situation was well summed up in this Twitter thread:



A fork of a fork shouldn't really have that much impact on the overall market price. Sure, if it was bitcoin itself in turmoil, we could expect this kind of reaction.

But Bitcoin Cash is just another fork. And now that fork is forking again. With every fork it becomes less and less relevant to the wider crypto market.

So, although many are blaming this market crash on the Bitcoin Cash shenanigans, it feels more like people are just searching for a reason any reason for the price action they're seeing.

It's true this could, and probably has, become a self-fulfilling prophesy. But as Eoin has pointed out a number of times over the last few weeks, a breakout – either up or down – was inevitable.

Personally, as I've written before, the price crypto in the short term isn't something I put too much weight in.

I've seen my portfolio worth less than half of what I put into it. I've seen it worth 10 times what I put in, and I've seen it worth just about every value in between.

In 2017 three of my Ethereum buys were within 24 hours of 2017's three biggest crashes. I literally bought the day before Ethereum crashed 40%+ on three separate occasions.

Then by January I was over 950% up overall.

The price crashes never bothered me because I never put in more money than I okay with losing. And that's a strategy that I stress to anyone who asks about putting money into crypto.

What will happen after the Bitcoin Cash fork is over, will prices bounce back, or will they fall still further?

The answer is, nobody knows.

That's why I don't write too much about price action in crypto wire. I write to show how blockchain and crypto technology is changing the way the world works.

Because it really is changing the way many of our most important and established industries work.

And I think finding out how and why that's happening could be much more valuable in the long run than following the latest short-term price swings.

To find out why, please go back and read the first couple of pages from Crypto Wire issue #3 – owning the future.

But at the same time, I realise it would be ridiculous of me to not acknowledge when a major price event happens in the markets. So with that out of the way, let's get on with the issue.

Maersk + IBM = smooth sailing

In January, I attended London Blockchain Week, along with my publisher, Paolo Cabrelli and college Sam Volkering – of Crypto Revolution fame.

Without doubt, the best presentation I saw there was from IBM's general manager of blockchain, Jason Kelley.

He talked about how blockchain can be used to solve real-world supply chain problems.

He said the traditional supply (or value) chain is owned by intermediaries. This is the process the supply chain takes.

Production > distribution > processing > regulations and compliance > manufacturing > point of sale.

At every step of the way there is an intermediary taking a cut. IBM's vision is that the blockchain will eliminate these intermediaries.

He showed us the partnerships it is forming with Walmart and Maersk. Maersk is the world's largest shipping company. If any industry can benefit from blockchain technology, it is Maersk. And it knows it.

In fact, as Kelley showed, it projects that the savings and efficiency gains the blockchain will provide will lead to a 5% increase in world GDP and a 15% in world trade volume.

Kelley's take on blockchain was that it's not about the tech, it's about the outcome. Blockchain technology is the best way to produce that outcome and so IBM is jumping on it.

Maersk + IBM = ~~smooth sailing~~ trouble at sea?

As I said, that was back in January. So, 11 months on, what's happened?

Well, TradeLens (the name of the blockchain platform Maersk and IBM have created) has signed up one other carrier. Pacific International Lines (PIL), the 17th biggest in the world.

And TradeLens doesn't really work unless it has many major carriers on board.

From CoinDesk on 2 November:

> *In a nutshell, the IBM-Maersk joint collaboration needs more carriers. The platform is designed such that Maersk's rivals will act as "trust anchors" and run full blockchain nodes on the network. Moreover, large shippers of goods use multiple carriers and freight-forwarders, and the value proposition involves managing cargo and inventory across all of them.*
>
> *Not to put too fine a point on it, onboarding other large carriers is an absolutely necessary condition for TradeLens – as Marvin Erdly, head of TradeLens at IBM Blockchain, acknowledged.*
>
> *"I won't mince words here – we do need to get the other carriers on the platform. Without that network, we don't have a product. That is the reality of the situation." he told CoinDesk.*
>
> *The problem is that Maersk's rival shipping carriers are concerned about joining the platform on a less than equal footing. Indeed, the chiefs of two rival shipping carriers, CMA CGM (third largest by ship fleets and containers) and Hapag-Lloyd (No. 5), have publicly dismissed the Maersk-IBM blockchain solution as unusable.*

So, what's the problem?

Why wouldn't these carriers want to use a better, faster, and ultimately cheaper system?

You can use it, but we will own it

The reason is because IBM and Maersk hold 100% of the intellectual property (IP) rights for the system.

By using TradeLens, these other carriers would not only be helping it to grow, but they would be ensuring it actually works properly. Remember, they would function as "trust anchors" on the network.

But, as the system grew and became bigger, more popular and eventually more essential to the world of shipping, it would be Maersk and IBM reaping the benefits.

If TradeLens was more open, and its IP was shared, other carriers would be more likely to join and lend a hand. After all, everyone would be winning.

But, as it stands, if these carriers join, they are simply helping IBM and Maersk to control even more of shipping industry. It's easy to see why other players aren't so enthusiastic.

Again, from CoinDesk:

> *Jensen told CoinDesk he spoke to a group of large carriers about Maersk and IBM's blockchain proposition at a shipping conference in April, three months after the venture was announced.*
>
> *According to Jensen, "The other carriers basically said, 'sure, maybe – tell us a bit about it. And by the way, if we do this then who owns the IP rights?' Whereupon they were given the answer that the IP rights would be for Maersk and IBM."*
>
> *He added: "It's not rocket science to guess what all Maersk's competitors said about joining this initiative."*
>
> *In a word: no.*

However, it's not all bad news for TradeLens. It may not have signed up many other carriers, but it has got many other areas of the shipping industry on board.

"We have had positive engagement with companies across all sectors of our industry thus far, and we're pleased to note that this constructive dialogue has resulted in more than 100 ecosystem participants actively involved or piloting the solution," says Michael White, Maersk's TradeLens leader.

Fixing the supply chain

As with online advertising, which I wrote about in issue 5, supply chain management is a genuine problem that crypto is ideally suited to solve.

As EY's Paul Brody writes:

> *Two big transformations have swept through global supply chains recently. First, supply chains are no longer traditional networks of OEMs [original equipment manufacturers] and suppliers. Now they are vast ecosystems, with many product variants moving through multiple parties, all trying to coordinate work together. It's not uncommon for a single company to have multiple contract manufacturers, all drawing upon a similar supplier network and feeding a range of distribution models, from traditional retail stores to online consignment services.*
>
> *Secondly, supply chains and operations have become increasingly dynamic. Product lifecycles are shorter, and ramp-up and ramp-down periods are more intense.*
>
> *Even as supply chains have transformed, companies have not updated the underlying technology for managing them in decades. With blockchain technology, companies can rebuild their approach to supply chain management at the ecosystem level and go from islands of insight to an integrated global view.*

Why is blockchain so suited to supply chain?

The three main reasons are:

It is tamper proof.

No one entity can change an entry on the blockchain without all the other participants agreeing with the change.

So, let's say a factory sends out 5,000 microchips. Once that first entry is in the blockchain, no one can go back and change the number at a later date.

It is accountable.

All parties have access to it at any time. Want to know where your shipment is? That's easy, every new point on the product's journey is logged and entered into the blockchain.

When it enters a port, when it goes through a security check, when it switches carriers, when it gets loaded and unloaded – every part of the journey is logged as it happens and is available forever.

It is efficient.

As Brody notes of the current system:

> *Most companies have only limited visibility and insight into where all their products are at any given moment.*
>
> *The culprit, in most cases, is the analog gaps that exist between systems within enterprises and across enterprise boundaries. Production may be recorded digitally, but the moment it moves to shipping, a PDF document is created for the shipping label that is little more than a software copy of a printout. The shipment may have its own digital number, but that number tells you where the box is and who signed for it, not what is actually in the box. And*

so on down the road: oceans of digital data but only islands of useful information.

Blockchain allows companies to get rid of these "analog gaps". All the information related to the product and its shipping is available on the blockchain.

And over the course of the last year, more and more major suppliers are seeing the benefits.

From Forbes:

*Diamond-giant **De Beers** uses blockchain technology to track stones from the point they are minded right up to the point when they are sold to consumers. This ensures the company avoids 'conflict' or 'blood diamonds' and assures the consumers that they are buying the genuine article.*

The Tracr blockchain that De Beers created has worked so well it is now opening it up to other diamond producers.

In October, Alrosa, the world's second biggest diamond maker, announced it was joining De Beers' Tracr.

And while IBM's TradeLens may be struggling to get other carriers to join, its food supply blockchain partnership with Walmart is going strong.

From Zdnet:

Walmart has worked with IBM since 2016 to apply new levels of traceability based on blockchain technology across the food supply chain. Walmart said the plan now is to extend the technology in order to help reduce the spread of food-borne illnesses by pinpointing issues in the food chain, while at the same time avoiding massive losses for retailers and suppliers during a recall.

Crypto's major players in supply chain

As you may have guessed, many of the big players in crypto supply chain are custom built and privately owned.

Whether this will work well for them in the long term, time will tell. It seems to be working okay for De Beers and IBM/Walmart, but not so well for IBM/Maersk.

However, that doesn't mean all the major players are going the private route.

In September Fujitsu announced IOTA will be the "new protocol standard" in its supply chain and audit trails.

If you remember how IOTA works from Crypto Wire Issue 1, the more people that use the IOTA tangle, the faster it gets.

So this gives a great incentive for companies to use the main IOTA tangle and not try to create their own. By sticking to IOTA's main tangle they will have faster, more secure transactions.

And the data these companies are putting on IOTA's tangle can be encrypted. So although it is on the public ledger, it is still secure.

Given that Fujitsu is "the wold's fifth largest IT services provider", it should mean many, many more transactions taking place on IOTA's tangle, which will make it run even faster.

But, perhaps the biggest name in crypto supply chain is VeChain (VET).

I've been trying to find a simple explanation of what VeChain is and what it's setting out to do, but it has proven very difficult.

The wording on its official site is, well, horrible.

Here's how VeChain describes itself on its .org website:

VeChain is a leading global enterprise level public blockchain platform.

VeChain aims to connect blockchain technology to the real world by providing a comprehensive governance structure, a robust economic model as well as advanced IoT integration, and pioneers in real world applications.

And here's how it describes itself on its .com website:

VeChain is the world's leading blockchain platform offering Blockchain-as-a-Service to enterprises for products and information By leveraging on blockchain technology, VeChain strives to build a trust-free and distributed business ecosystem, which is self-circulating and scalable. Through effective collaborations, enterprises can enjoy the benefits of transparency and value flows

> *at high-speed rates VeChain has evolved with multiple technical iterations and have amassed significant industrial experience in rolling out real-world applications since 2015.*

Are you still here?

Good. Sorry about that.

Given that VeChain's official literature is so bad, I'm instead going to quote a pretty good summary I found by Kevin Ting "Cryptocurrency Entrepreneur" on Quora.

> *VeChain is a really interesting project that started off as a supply chain management platform and then recently rebranded to VeChain Thor - an enterprise-focused dApp platform similar to Ethereum or NEO. They are based in Singapore but the team is mostly from China.*

I have had my eye on VeChain for some time. But there have been a number of things that put me off getting too involved with it.

It is, from what I've seen, the most brigaded crypto online. What that means is that it has a lot of followers who really believe in the project and hype it up at any given opportunity.

So, if you spend a lot of time following crypto, you can't really avoid people continually telling you how great VeChain.

However, just because it has a big army of shills, doesn't mean it is a bad project. A lot of the time, hyped projects are simply hyped because they are good projects.

Others are simply hyped because a lot of people put a money into them and they are doing their best to create a buzz and get more people to invest to push up the price.

Which category does VeChain fall into? It's hard to tell.

But it does have some big partners. In May PwC announced it had bought a minority stake in VeChain. They don't get much bigger than PwC.

Given all this, I've been on the fence about doing a deep dive into VeChain and ranking it for *Crypto Wire*.

However, if that's something you'd like me to do, I'll do it in next month's issue.

I've set up a simple yes/no survey to find out. Just click here and then click yes or no depending on if you'd like me to rank VeChain for next month's issue.

As with the other surveys I've done. You don't need to submit any personal information, or even email address.

If I get more yeses than noes, I'll rank it.

You can finally store your IOTA on your Ledger wallet

The day has finally arrived that IOTA can be stored on your Ledger wallet.

Simply add the IOTA app to your Ledger in your Ledger manager software. Instructions here: https://support.ledgerwallet.com/hc/en-us/articles/360011633353-IOTA-MIOTA-

Then go to IOTA's official Trinity wallet site: https://trinity.iota.org/ and download the Trinity wallet.

Then open the IOTA app on your Ledger and follow the instructions in the Trinity wallet program.

No more keeping it on exchanges. No more relying on a mobile wallet or paper wallet. You can finally put it on your Ledger and keep it secure.

BAT has come to Coinbase

Just as it was predicted, BAT has come to Coinbase.

If you log on to Coinbase you'll now see that you have a BAT wallet on there.

At time of writing, you can't yet buy BAT on Coinbase in the UK, but I expect you will be able to before next month's issue of *Crypto Wire* is out.

That's all for this month.

Until next time,

Harry Hamburg

Editor, *Crypto Wire*