

PoS vs PoW and Why it Matters When it Comes to ASIC and GPU mining

*Review of the Innosilicon A11 Pro vs
Nvidia CMP 170HX*

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EINPresswire.com/ -- Proof of Stake and Proof of Work are systems deployed by digital currency networks that allow transactions to be recorded. They have slight variations that change the way cryptocurrencies are viewed but they both have the same agenda, to create a more sustainable and secure future for crypto.

Proof of Work is the process in which an individual with computing equipment processes calculations to confirm a transaction inside the blockchain and store its information on a so-called digital "Ledger" so that the community can hold a record and understand the legitimacy of each transaction. This process is called mining and it is the process that [Bitcoin](#) deploys today. The reward for completing these calculations and confirming their legitimacy in the blockchain is digital currency, i.e Bitcoin. Anyone with enough computing power can essentially "mine" bitcoin, the benefit being that miners make money as they mine. The issue is that it takes a lot of computing power to mine bitcoin and that is because it is essentially a race amongst all the miners to see who can complete the calculation the fastest. The more computing power the quicker one can complete the calculations. This system creates inequality amongst miners, simply put, the more money an individual has to invest in ASIC miners and specified computing



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CMP 170HX white background

solutions, the higher the chances are of completing the calculations and grabbing that reward before other miners get the chance. It's a good system that is difficult to cheat, to do so a single miner would need to have 51% or higher computing power than the rest of the miners, and that is an extremely costly affair in today's market.

This is where Proof of Stake comes in. Proof of Stake is essentially the same system with a few tweaks, instead of independent miners competing to be the fastest to complete the calculations, miners must first "stake" coins to become a "validator" and then will be chosen at random to complete the transaction process. The process of staking coins is essentially like investing in a business to see rewards over time. Validators are given a transaction fee "reward" after completing their assigned task. This means that miners, called

"forgers" in PoS, do not have to have insane computing power to be able to play a role in the transaction process. They will have to have enough coins in the first place though because they need to "stake" those coins in order to be given validator status.

One of the reasons cryptocurrency companies want to move towards PoS is that PoW is extremely energy-consuming. In 2018 the entire world's bitcoin mining operation used more energy than the entire country of Sweden. This kind of energy consumption creates negative attention in the press and as public pressure builds the crypto industry seeks out alternative methods. PoS might be the alternate method the cryptocurrency companies are looking for.

PoS does not need insanely high computing power because forgers are not competing with each other to secure a transaction the quickest. This means that energy consumption for PoS can be considerably lower than PoW systems. Subsequently, because computing power does not need to be as high, there will be more opportunities for beginners looking to get into the crypto industry.

This is exactly the change that will take place when [Ethereum](#) upgrades in early 2022. Ethereum plans on increasing scalability, security and sustainability with these changes and one of the ways they intend on doing so is by swapping to PoS.

Moving on to ASICs and GPUs.



Innosilicon A11

ASIC vs GPU - Pros & Cons

As I mentioned earlier, mining is all about computing power. Not just any computing power but the type that allows for lots of calculations to be made at the same time. The two ways to do this is with a GPU or an ASIC. Both have pros and cons, both should be implemented for different reasons based on the requirements.

ASIC Pros

- Significantly higher hashrate
- Extremely easy to set up and use
- Energy Efficient

ASIC Cons

- Expensive
- Low resale value
- Low availability
- Limited coin flexibility

ASICs range greatly in price, if investors are lucky to find one under \$3,000 (USD) with a good hashrate and low energy consumption then often it can be a good investment. However, prices can soar into the \$50,000 (USD) territory. One of the reasons costs can be so high is market value and low stock quantities, but the other reason is ASIC's can achieve much higher hashrates than GPUs. This usually means that ASICs can deliver higher profits and a quicker ROI, but it is dependent on electrical costs and cryptocurrency market value. The downsides to ASICs are a lack of flexibility for which coin is mined, ASICs need to be built to hash a certain algorithm that represents the coin of its choice, this cannot be changed so if a coin's price fluctuates so does the profit margin. Another issue is that they keep coming out with better versions which in turn make the previous version a bit redundant because ASIC miners cannot be upgraded like a GPU can.

GPU Pros

- Flexibility of use and coin choice
- Resale Value stays high as graphic processors are always a hot item
- Availability is high, lots of products on the market
- Easy entry-level price

GPU Cons

- Low hashrate
- Technical set up
- Use more space

GPUs are extremely flexible, not only can they be used for mining crypto but they are also applicable as their primary use, a graphics card. This means they have a good resale value. There

are lots of GPU's on the market and miners can be personalized with their setups, adding and removing pieces as they change their focus or as the market demands. Unfortunately, GPU's can't perform as well as ASIC's can and because hashrates are lower, so too are the profit margins. A big positive for GPU's though is miners ability to change which coin they are mining based on how profitable a coin is, this is a very good thing in a market as volatile as crypto.

Innosilicon A11Pro - ASIC

This is a long-awaited piece of hardware from Innosilicon. Capable of mining the Ethash algorithm for coins like Ethereum, Metaverse, Etho, Halo and many more. The A11Pro is a huge step up from its previous generation, the A10Pro, with a 150% increase in hashrate, up from just 750MH/s to an impressive 2GH/s. The A11Pro will be able to mine up to \$150 (USD) a day based on current coin estimations which puts ROI at around 12 months with \$50,000 (USD) profit in the second year of operation. Obviously, market value has a large role in these numbers and fluctuations will occur from time to time. The A11Pro has a noise level of 75db which is similar to a vacuum cleaner and is powered at 2500 Watts.

Nvidia's CMP 170hx - GPU

The 170HX is the 5th in a line of cryptocurrency mining processors from Nvidia focusing on the crypto industry. Nvidia has boosted their hashrate performance significantly with the 170HX and have managed to reach an increase of around 30% from their previous models. This unit is set to mine at 164MH/s with daily profits just shy of \$15 (USD). It has a power usage of 250 Watts and an ROI in around 12 months with a profit margin of \$4,500 (USD) in the second year.

Bottomline

Both of these options are good choices for people looking to get into mining and make some profit. Both have ROI within the first year and decent profits in the second year. The difference is all in the investment and the risk associated. The more an individual invests, the higher the chance at profit, but obviously that comes with higher risks. Most people would agree that crypto isn't going anywhere and that it is going to continue to increase in usability and popularity over the next few years, therefore making mining investments more lucrative over time, but no one can actually tell where the market will go and whether or not things will look the same in a years time.

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