

## crypto mining

In case you don't know yet, cryptocurrencies are being brought into existence through the process of [mining](#). Just like people mine for gold and African kids die in underground tunnels while mining for diamonds, a similar principle applies to crypto mining, but everything is digital, which means nobody has to risk their lives in the process.



The tools for crypto mining require various types of hardware: [CPU](#), [GPU](#), [FPGA](#), [ASIC](#). The first two can be found in any computer, so they are readily available. The FPGA was an advancement of CPU and GPU, in the sense that it had more processing power. It could mine faster, and did not require have a computer, they were stand alone devices. ASIC are the fastest mining devices so far.

In the early days of Bitcoin, you could easily mine a bunch of them simply by using your home PC or laptop. That changed according to mining difficulty, which varies for each coin, but it usually follows similar paths. It's rather easy to mine a coin in its genesis stages, but it gets increasingly harder as time goes by in order to maintain a balance with the new hardware advancements.

Since Bitcoin is designed to be actively mined until the year 2140, it makes sense to create a mining algorithm in such a way that it would increase its mining difficulty as new and improved hardware becomes available.

So what you could mine in 2009 with an average desktop PC, it now requires at least a mining rig composed of dozens of GPUs or ASICs. At the time of writing this, mining bitcoins with normal computers is simply out of the question, as the difficulty has increased to such a degree, that it's impossible for you to actually mine a whole Bitcoin using your average PC.

Over time, less and less people were able to keep up with the Bitcoin mining and new players stepped in, mostly people with vast amounts of money or big companies who can afford to invest in huge mining rigs like [this one](#), thus taking the mining power out of the hands of average people and moving it to a selected few wealthy investors, who now control a considerable percentage of the Bitcoin mining and hashing power.

This is not good, as it could lead to a [51% attack](#), where a few big miners could overcome more than 51% of the total hashing power and compromising the Bitcoin protocol if they would so desire.

There are also [mining pools](#), where many regular miners join their processing power and together contribute to block generation, but those can also create problems if they reach most of the hashing power. In order to join a mining pool you need to download a mining software, create an account on a mining pool, configure the account with the mining software and run it. More details [here](#) and [here](#).

Many people have complained about some altcoins being either premined or instamined (mined in a very short period of time by their creators). This prompted some developers to setup new coins with an improved algorithm, which would attempt to put an end to that.

[Vertcoin](#) has something called [Adaptive N-factor](#), which was created in such a way that it would be ASIC-resistant, thus discouraging big miners from taking control of the hashing power. Vertcoin is being mined with CPU and GPU, so the better your computer, the more profitable the mining. GPU mining rigs also work pretty well.

[Darkcoin](#) pushed something new with its [X11 Algorithm](#) and I'm going to guess that newer altcoins

might show up with better algorithms that would keep the mining process in the hands of the majority of miners, as opposed to the centralized bitcoin mining.

While mining a coin, you will notice that each of them has a certain point when the [reward halves](#), meaning that it becomes less profitable to mine with the current equipment and that's when some miners move their hashing power to other altcoins which will give them a better ROI (return on investment). This will reflect a sudden price change of the coin itself.

## Wrap-up

I need to underline the fact that I am NOT a miner, I only have a laptop at my disposal and do not intend to melt it down with any mining activity. The things I'm talking about here are the result of close study, endless forum discussions and online articles, but I did not actually mine cryptos myself, so keep that in mind and definitely do more research on your own before deciding to start mining.

If you're thinking to mine cryptos with your regular computer hoping to get rich overnight, forget it, it's way too late for that. But if you have a pretty good PC or you're willing to invest in some mining equipment, you will need to do a bit of research and I suggest starting with Vertcoin Reddit page for miners [here](#) and [here](#) and an overall altcoin mining guide [here](#).