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### **Summery:**

The provided study has highlighted the points that for an average miner, mining pools are recommended as they show predictable rewards, and miners can transition from one mining pool to another easily. So, finding a good mining pool is important to save your money. There are about 20 major mining pools worldwide (many based in China). To join a mining pool, you'll need a Bitcoin wallet as pools will need your address to send your mining rewards and payouts.

Mining hardware is application-specific integrated computers, created solely for mining bitcoins, as powerful and energy-efficient hardware will be more profitable in mining bitcoins. Mining pools are for people who have mining hardware to split profits. People find cloud mining hard to grasp. It is where you pay a service provider to mine for you and get the rewards. An ASIC miner is preferred, as GPU mining will not be profitable.

It is observed that 10-15 mining companies control a majority of the network's hash power, with China being home to the top Bitcoin mining pool companies, approximately owning 60% of Bitcoin's hash power (they mine 60% of all new bitcoins).

Most Bitcoin users don't mine, only miners handle the creation of all new bitcoins.

Mining, which was once done on the average home computer, is now mostly done in large, specialized warehouses with massive amounts of mining hardware. These warehouses direct their hashing power towards mining pools. Payment is paid from the pool's existing balance and the amount of payment is determined based on your number of shares. Because payment is guaranteed, more of the risk is on the mining pool operator. Payouts to the pool members are therefore smaller than in Pay Per Last N Share.

Bitmain Technologies Ltd. (the world's largest Bitcoin mining hardware manufacturer) run Antpool. Much of their pool is run on Bitmain's mining rigs. Antpool supports p2pool and stratum mining modes with nodes spread worldwide. Antpool's payout structure and percentages vary broadly depending on the coin you are mining in the pool. They will charge you a PPS+ at 4% plus a 2% transaction fee or you can choose PPLNs at 0% or SOLO at 1%. Antpool does not disclose the Bitcoin transaction fees that are collected.

Currently, every Bitcoin block has a 12.5 BTC reward, which Antpool splits with its users when mining a block. The undisclosed fees cause the users on [bitcointalk.org](http://bitcointalk.org) to discourage the use of this service.

Slush Pool was the very first mining pool and is one of the top mining pools on the Bitcoin network. Its users have mined over 1 million Bitcoins. In the last 6 months, Slush Pool collected over 9% of all Bitcoins on the market, making it one of the five biggest Bitcoin mining pools. The platform charges miners a 2% fee, which they share with other miners. There's a score-based method of payments, which allows the awards to be fairly distributed among miners. Slush Pool is the world's longest-running bitcoin mining pool. The company only uses highly secured servers, guaranteeing your Bitcoin wallets' safety. It's great for first-time users because of its simplicity and easy-to-use interface.

In a nutshell, we observe that with appropriate equipment and software, mining can be beneficial. smaller operators 'pool' together making it a little easier to compete, however, it's still very difficult (if not impossible) to make money on a small-budget mining operation.