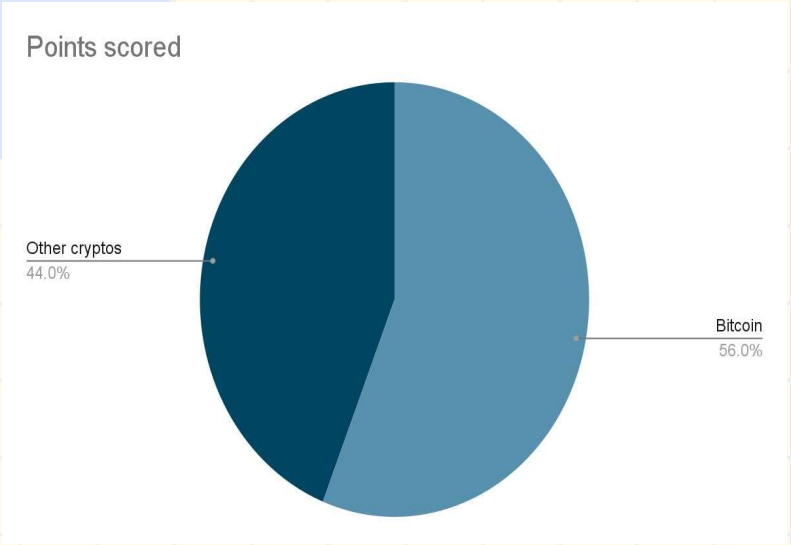
Cryptocurrency Statistics



1 10,000 types of cryptocurrencies have been traded worldwide (Statista, 2024).

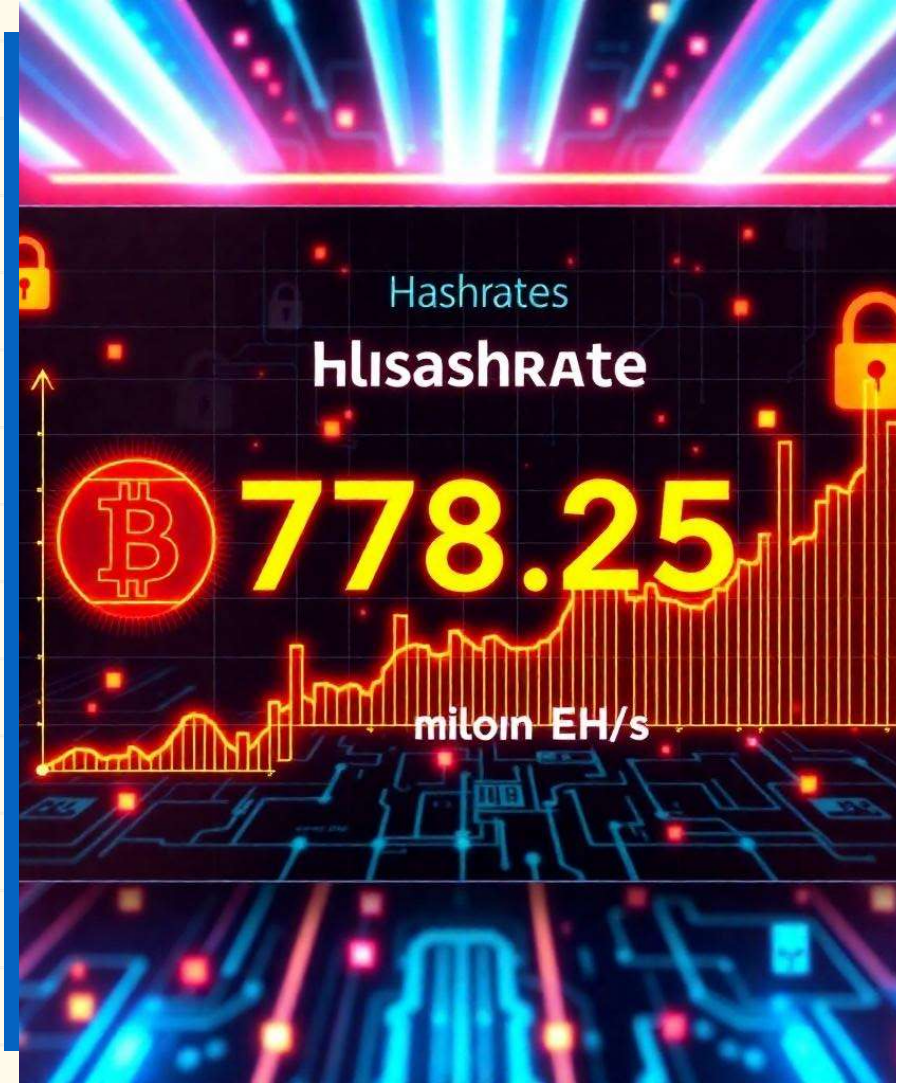
2 Total crypto market cap is currently about $2.15 trillion (CoinMarketCap, 2024)

3 BTC being the main shareholder with about $1.2 trillion

BTC Hashrate

BTC Hashrate in 24 Hours: The BTC hashrate is a crucial measure of the network's processing power. As of November 8, 2024, the hashrate stands at 788.25 million EH/s (exahashes per second) (https://www.coinwarz.com/mining/bitcoin/hashrate-chart as of 8th nov).

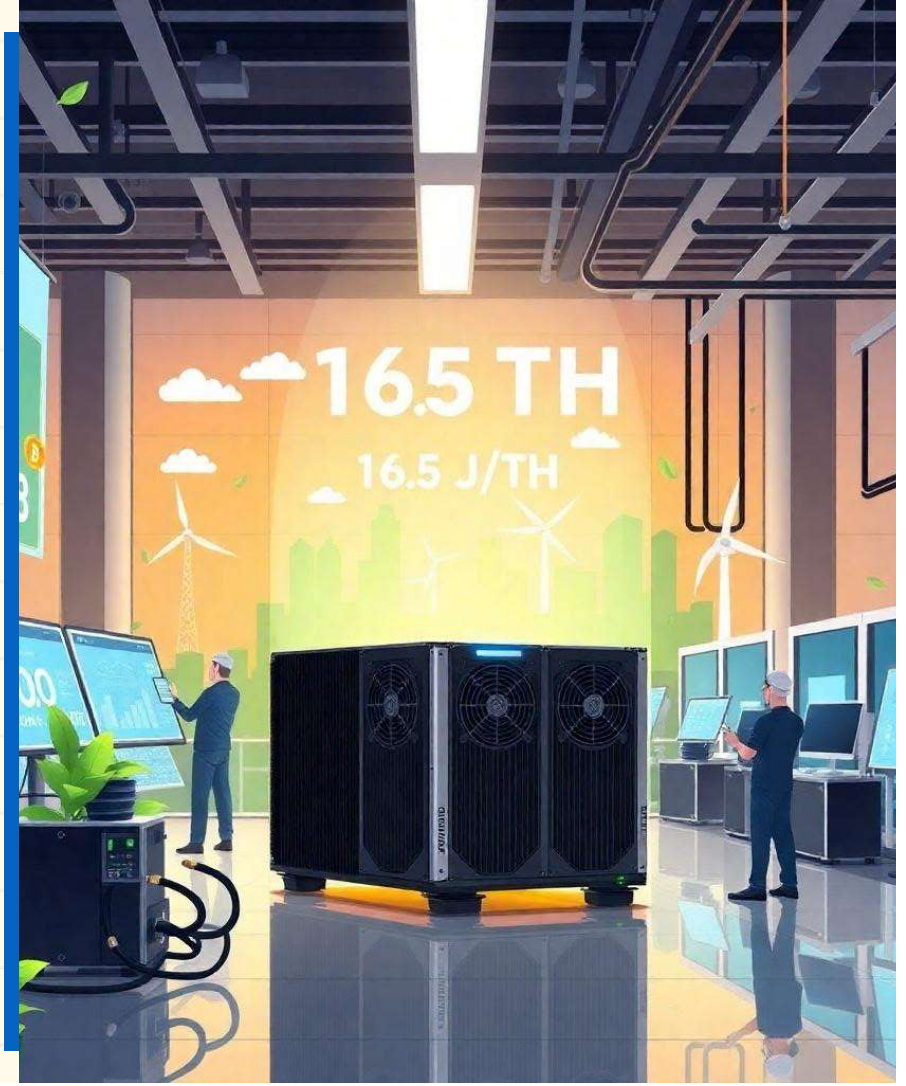
This metric is vital as it reflects the security and efficiency of the Bitcoin network, with higher hashrates indicating a more robust and secure blockchain environment.



Power Efficiency of Bitmain Antminer S21

Power Efficiency: The Bitmain Antminer S21 boasts being the most popular miner with an impressive power efficiency of 16.5 J/TH (joules per terahash) (https://m.bitmain.com/product/detail?pid=000202410291655191411lBFc0bx8068E).

This efficiency is essential for miners, as it directly impacts the cost of mining Bitcoin and the overall sustainability of the mining process. Efficient mining hardware is crucial for maintaining profitability in a competitive market.



Daily BTC Transactions

Daily BTC Transactions: The Bitcoin network processes approximately 1.1 billion transactions daily(https://ycharts.com/indicators/bitcoin_total_transactions#:~:text=Bitcoin%20Total%20Transactions%20is%20at,21.48%25%20from%20one%20year%20ago).This staggering number highlights the widespread use of Bitcoin as a medium of exchange and a store of value. The increasing transaction volume reflects the growing acceptance of cryptocurrencies in everyday financial transactions.

Total Energy Consumption

Total Energy Consumption per Second: The total energy consumption per second for Bitcoin mining is calculated as follows: Total Energy Consumption per Second =

788,250,000 TH/s × 16.5 J/TH = 13,006,125 kW. This figure is significant as it illustrates the energy demands of maintaining the Bitcoin network.

Total Energy Consumption

Total Energy Consumption per Day and Year: The total energy consumption can also be expressed on a larger scale: Total Energy Consumption per Day = 13,006,125 kW × 24 hours = 312,147,000 kWh. Total Energy Consumption per Year = 312,147,000 kWh/day × 365 days = 113,933,655,000 kWh/year. These statistics raise important questions about the environmental impact of cryptocurrency mining.

Total Energy Consumption

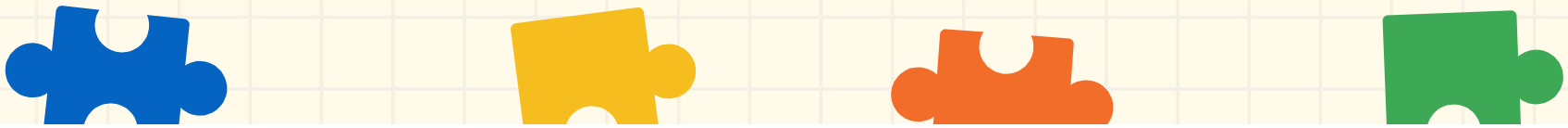
Total Energy Consumption per Transaction: Lastly, the total energy consumption per transaction is approximately 0.284 kWh. This metric provides insight into the energy efficiency of Bitcoin transactions and is crucial for evaluating the sustainability of cryptocurrency practices in a world increasingly focused on energy consumption and environmental impact.

Comparison with India's Energy Consumption Sectors

In India, the **average household** uses about **110 kWh per month**, which translates to: 110 kWh/month×12 ≈ 1,320 kWh anually

Comparison:

- **Bitcoin's Annual Consumption** (113.9 TWh) is roughly equivalent to the annual energy use of **about 86 million households** in India.

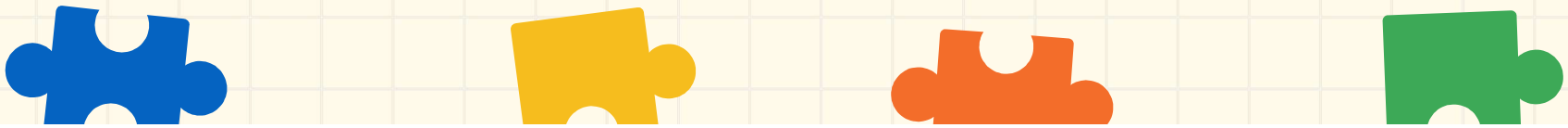


Comparison with India's Energy Consumption Sectors

Delhi is capital of India, with an estimated annual energy consumption of around **13 TWh .** (https://www.business-standard.com/india-news/power-use-in-delhi-rises-37-total-consumers-up-52-in-last-10-yrs-report-124030101086_1.html)

Comparison:

- **Bitcoin's Annual Consumption** (113.9 TWh) is comparable to the annual energy needs of **8.7 times the city of Delhi.**



Comparison with India's Energy Consumption Sectors

Power Plant Output

- **Sabarmati thermal power station** in Ahemdabad produces around **362 MW** of power(https://www.torrentpower.com/index.php/site/info/sabarmatitps).
- If it operates continuously, this would generate approximately:
  362 MW×24 hours/day×365 days=3.17 TWh annually.
- **Comparison**:
  - **Bitcoin's Annual Consumption** (113.9 TWh) would require about **36 power plants** of this size operating year-round.