

TAO Research

Intro

Bittensor falls into the AI & DePIN narrative and is an open-source protocol that utilises blockchain technology to create a decentralised machine learning network. This network enables machine learning models to train collaboratively and be rewarded in TAO according to the value they offer the collective.

Bittensor's TAO grants external access to users, allowing them to extract information from the network, while tuning its activities to meet their needs.

The ultimate vision for Bittensor is to create a market especially for artificial intelligence, allowing producers and consumers to interact in a trustless, open and transparent context.

Reading and hearing a lot about them, you will realise the company often compares themselves to Bitcoin. So why are they doing this? - In a nutshell BTC was invented for the concept of digital trust and computers to reach consensus over money. Through this ability it was possible to create new markets by decentralised participation and maintenance of the network. With BTC there came the concept of 'Proof of Work', which involves miners solving some sort of task for rewards.

Rather than use Proof of Work to generate the correct nonce and earn a block reward, Bittensor relies on "Proof of Intelligence," requiring miners to run models that produce outputs in response to inference requests.

There are two primary actors in the Bittensor network: validators and miners. Validators are tasked with sending inference requests to miners, reviewing their outputs, and ranking them based on the quality of their responses. To ensure their rankings are reliable, validators are given "vtrust" scores based on how well their rankings align with the rankings of other validators. The higher a validator's vtrust score, the more TAO emissions they earn. This is meant to incentivize validators to reach consensus on model rankings over time, as the more validators that reach agreement on rankings the higher their individual vtrust scores.

Instead of solving these machine learning problems with centralised data centres and supercomputers by the biggest companies on the planet, Bittensor leverages every available computer on the internet in a decentralised manner. That's what BTC basically showed us already, as the computing power of the BTC network is bigger than the top 500 supercomputers combined. Through this advantage the company aims to have a lot more availability to train much larger data sets.

Token Utility

TAO is a multi utility token with functions such as governance, staking, incentives, and payments.

Demand Drivers

Bittensor is establishing an ecosystem of subnets, which give the ability to launch various foundational AI models and also provide AI researchers with the opportunity to create their own open-source foundational models, which can be then deployed as subnetworks on Bittensor. Developers can build various applications on these subnets, and end-users will likely pay in TAO to use applications built using the shared and open-sourced foundational models powered by Bittensor's network's subnets. Bittensor has 32 subnets, and each subnet is designed to build a foundation for different use cases in AI. Their subnet ecosystem has become increasingly competitive recently as the need for AI/ machine learning training has grown.

Value Capture

Token holders can easily delegate their tokens to validators to receive staking rewards. Validators share 82% of the block rewards with delegators. Each day, 7200 TAO are emitted to subnets, miners and validators. 18% are given to the subnet owner, 42% to miners, and 42% to validators.

Business Model

Bittensor is currently bootstrapping the network by distributing block reward incentives equally between miners and validators. Miners and validators need to register, deregister, and re-register themselves to participate in mining and validating different subnets. There is a cost involved, which they need to pay in TAO. The TAO used for these registration payments are removed from circulation and recycled for future epoch rewards. Recycling means in Bittensor's sense the token burning back into the unissued supply. So their lengthening halvening data however is calculated at the current block/ issuance and will update automatically over time.

Supply Distribution

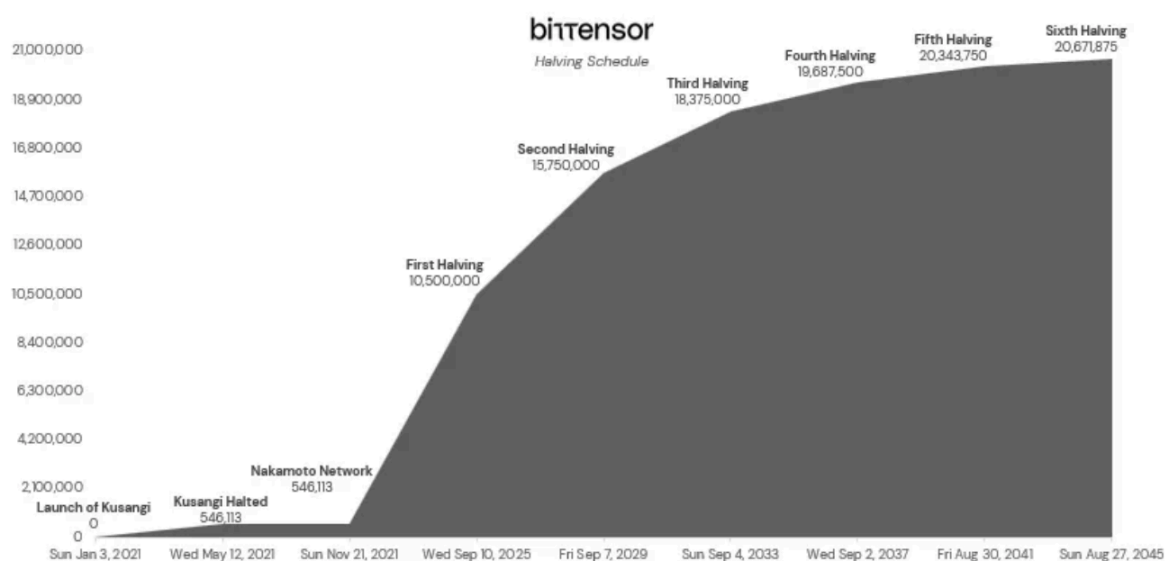
TAO is a pre-mined token with a fixed supply of 21 million like our favourite coin of all, Bitcoin. It follows a 4-years halving period, with the current block reward set at 1 TAO. Daily epoch rewards are currently at 7200 TAO, which is scheduled by the end of 2025, following the supply halving schedule. Currently, 30.94% of the total supply is in circulation. Over the next 2-3 years, 50% of the supply is expected to enter the circulation, and within the next 6-7 years, approximately 80% of the TAO supply is projected to become available in circulation. 88.34%

of the current circulating supply is delegated/ staked and only 11.66% are actually free circulating.

Supply Inflation

The annual emission for Bittensor will decrease every 4 years, following the Bitcoin halving model. The current annual supply emission is at around 50%, which is expected to reduce to 25% after the next halving event on the 27th of September 2025.

Foundation



There was an initial iteration of the network named Kusangi, which was started on the 3rd January 2021 and then halted in the middle of May so that some issues could be addressed. The blockchain and all previously mined TAO were migrated to Nakamoto, which was started on 21st November 2021 from block 0. The current Finney network was officially launched on the 20th March 2023. Early VCs of Bittensor are DCG, Polychain Capital, FirstMark Capital and GSR and are partnering up with Bittensor before the launch of the Finney network. This implies that probably all of them had their share of tokens already allocated and not that much accumulation of new TAO tokens was necessary.

Price Action



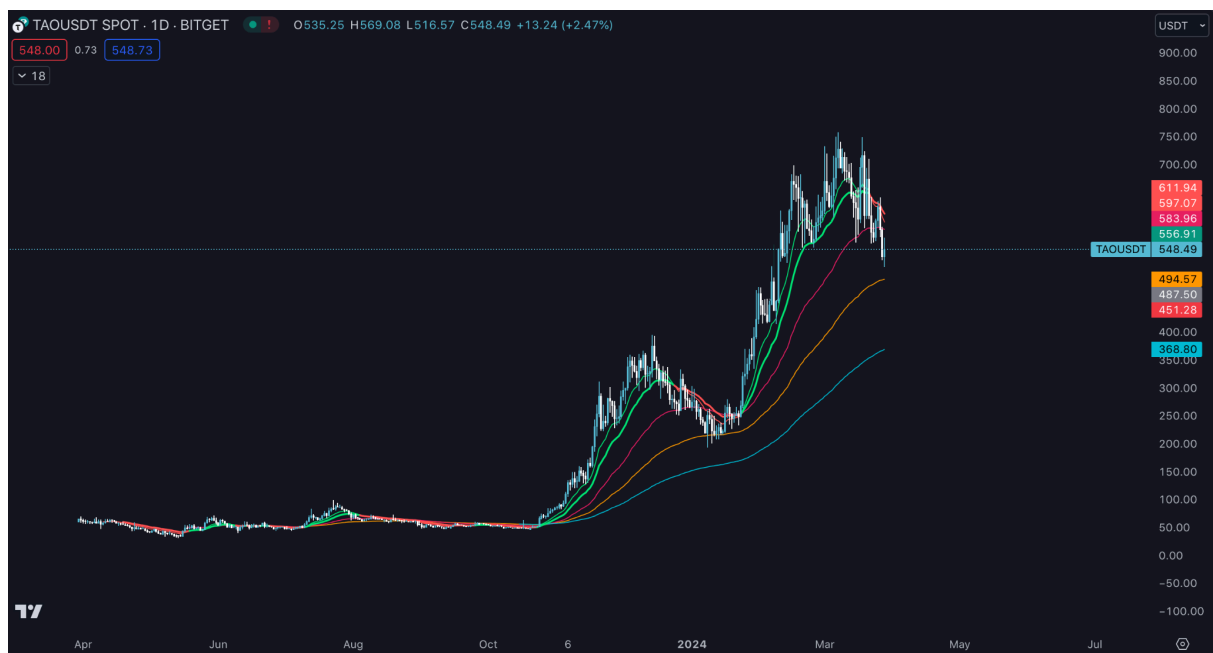
For now TAO is the biggest crypto AI coin leading the sector market cap. Pairing it against BTC we can clearly see that it was outperforming BTC, but currently falling off a cliff.



Pairing it against AKT we can see that TAO is not necessarily the strongest AI coin either. In this context one has to consider the marketing Bittensor enjoyed on twitter comparing it to Akash, which is still flying under the radar in some sense.



Currently TAO is retracing the second leg of its trend. With the first pullback of around 50% price moved towards the 12 & 21 weekly EMA bands, closed there a weekly doji and since then produced a new leg. Here I am watching how this weekly is closing and if we go lower into the weekly 12 & 21 EMA bands.



On the daily price went way down to the 50D EMA and did not respected it. So here I am watching price to come down into the 100D or 200D EMA and look out for reactions as the bands are still in order.

On the bigger picture, as we already had a big correction to the downside, I don't expect lower lows for TAO if bullish. As the chart is pretty new we don't have s/r levels to the upside and have a bit less to work with. To the downside, we can draw a pivot around \$360 which as well is marking the last broken BOS level. Price closing and staying below this level would also invalidate a bullish uptrend and means it may need more time to accumulate here. Most important thing price has to offer is the momentum to the upside driven especially through the AI hype. So as long as this narrative goes on, TAO should do well in some sense, but with the NVDA conference and main attention being on AI, I think the sector needs some time to cool off a bit and build a new cause to move further.



In the end I layed out different paths to visualise the most probable outcomes. The timing and detail of these are not perfect, as they simply should show my ideas around possible scenarios:

The orange path would be a consolidation at current levels around \$500-\$700 to go higher from here after some time of underperformance.

The green path would be quicker recovery more or less repeating the scenario after the first leg.

The red path would be more of a price and time based capitulation with price cooling off and retracing further for some time to form a higher low at some point.

Also it could retrace the whole move until \$200 levels or bear market territory and, but this would be an invalidation of bullish momentum and with AI being hot and Bittensor being keen on making partnerships I think that's a more unlikely outcome.

Conclusion

Looking at the project TAO has some connection to BTC, but in my opinion you could compare it as well to the Ethereum network, as Bittensor is building their own network for AI companies to be built on. It could provide some good risk reward opportunities, as it was one of the best performing coins in the whole market, has a very strong community behind it and a good looking promise of future value in the AI context, as most do not really know what Bittensor is doing, which is bullish in some sense. But one has to consider the potential risks here. TAO is already heavily shilled on twitter/ X and you might have to consider VCs and early investors already have their bags since months allocated at very low prices. Further it might be one of the early runners of the cycle, meaning it could have made some substantial part of its whole move already, though currently it has been lagging behind other projects in the sector. I think it could be a good one for trading swings or position trades, IF relative strength is coming to Bittensor at some point, but until then not really worth a trade as the whole AI sector might need a bit of a cool off and you have to play it as it comes. Different fields to look into might be projects built on Bittensor, as you might assume they could do well, but chasing higher beta may also result in underperformance of TAO itself.