What Is So Smart About Smart Contract Platforms?

A Primer on Indexing the Smart Contract Platform Sector

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In December 2021, CoinDesk Indices launched its Digital Asset Classification Standard (DACS) to set the standard for defining the industries of digital assets. Every one of the top 500 digital assets by market capitalization is assigned to an industry, defined by DACS, then at least one industry is assigned to an industry group, and finally, at least one industry group is assigned to a sector.

Currently, there are six sectors defined by DACS including Currency, Computing, DeFi (Decentralized Finance), Digitization, Entertainment, and Smart Contract Platform. The Smart Contract Platform sector is the second largest sector in DACS with 88 assets representing nearly 35% of the digital asset market worth approximately $750 billion in market capitalization as of March 31, 2022.

In this paper, we describe the Smart Contract Platform sector in further detail by discussing its definition, constituents and significance in the broader digital asset space.

Exhibit 1
CoinDesk Indices DACS

CoinDesk Indices Digital Asset Classification Standard Sector Breakdown
April 2022

<table>
<thead>
<tr>
<th>Sector</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currency</td>
<td>56.87%</td>
</tr>
<tr>
<td>Smart Contract Platform</td>
<td>35.22%</td>
</tr>
<tr>
<td>DeFi</td>
<td>3.61%</td>
</tr>
<tr>
<td>Computing</td>
<td>2.15%</td>
</tr>
<tr>
<td>Entertainment</td>
<td>2.07%</td>
</tr>
<tr>
<td>Digitization</td>
<td>0.08%</td>
</tr>
</tbody>
</table>

Defining the Smart Contract Platform Sector

A smart contract platform is a blockchain that provides the fundamental backbone for building decentralized applications (dApps). These dApps are paramount to the operation and flourishing of Decentralized Finance (DeFi) and other blockchain applications.

There are two important features that enable a Smart Contract Platform: first, compatibility with developer-friendly programming languages so that they can build custom smart contracts and dApps. Second, an open and permissionless blockchain, whose network is secured by a decentralized consensus mechanism.

The DACS Glossary defines the Smart Contract Platform sector as follows:

Smart contracts are computerized blockchain protocols that execute terms of a contract. Smart contracts represent computer codes that ensure when both parties meet the terms of the contract, it will execute automatically, allowing for trustless peer-to-peer transactions. Smart Contract Platform assets are designed for the building of decentralized applications, layer 2 scaling solutions, DAO's, and other custom protocols. Every platform has a unique open-source user and miner incentive structure that utilizes BFT consensus mechanism. Every platform utilizes a native token for the payment towards building on the platform, providing liquidity and allowing interoperability between the native token and the newly created tokens built on the platform.

Industries inside the Smart Contract Platform sector

The industry assignment of a digital asset in the Smart Contract Platform sector depends on whether the asset offers built-in interoperability. There are two single-industry, industry groups, Multi-Chain / Parachain and Single Chain, included in the Smart Contract Platform sector.

The Multi-Chain / Parachain industry includes smart contract platform assets that enable multiple parallel blockchains and cross-chain interoperability. It can be structured with a relay chain that allows slots for external parallel chains or parachains. The relay chain allows for pooled security and pooled block execution, making it possible for each parachain to be an isolated, independently validated blockchain that can achieve its own levels of scalability.

The Single Chain industry includes Layer 1 blockchains in which all transactions are recorded on the primary distributed ledger. Single chain allows for layer 2 scaling solutions that remain tied to the primary blockchain for transactional competency.

Within the Smart Contract Platform sector, Single Chain is the more developed industry group comprising nearly 90% of the market capitalization, given the dominance of ether. However, there are 31 digital assets in the Multi-Chain / Parachain industry group, and there is rising demand for interoperability.
Exhibit 2
Industry Groups under Smart Contract Platform Sector

Exhibit 3
Top Ten Assets Inside the DACS Smart Contract Platform Sector

<table>
<thead>
<tr>
<th>Industry Group</th>
<th>Market Cap ($M)</th>
<th>No. Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-Chain / Parachain</td>
<td>82,982,410,158</td>
<td>31</td>
</tr>
<tr>
<td>Single Chain</td>
<td>666,521,022,723</td>
<td>57</td>
</tr>
</tbody>
</table>


Major assets inside the Smart Contract Platform sector

While there are 88 digital assets inside the Smart Contract Platform sector, the sector is highly concentrated with ETH\(^1\) representing over half the sector, and the top ten assets representing 88% of the sector. Within the Single Chain industry, significant assets beyond ETH include ADA and SOL\(^2\), each with its own blockchain and dApp ecosystem. DOT\(^3\), a layer zero relay chain that serves as a hub for other parachains, and AVAX\(^4\), the primary network for a series of subnetworks, are other key assets in the sector included in the Multi-Chain / Parachain industry.

CoinDesk Indices DACS Smart Contract Platform Sector Top 10 Assets
April 2022

- ETH: 52.62%
- BNB: 9.45%
- SOL: 5.32%
- ADA: 5.14%
- LUNA: 4.87%
- AVAX: 3.46%
- DOT: 2.81%
- MATIC: 1.66%
- NEAR: 1.17%
- ATOM: 1.10%
- Other: 12.39%

The Smart Contract Platform Index (SCPX) aims to represent a diversified basket of digital assets in the sector. ETH is by far the largest token by market cap, representing 73.44% of the portfolio. Investors may potentially use products tracking the Smart Contract Platform ex-ETH Index (SCPXX) to complement an existing position in ETH, or simply use the tracking products to access baskets with bigger weights in assets smaller than ETH in the Smart Contract Platforms sector.

See Exhibit 4 for a sample portfolio as of 4/15/2022.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Name</th>
<th>Industry</th>
<th>Market Cap Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETH</td>
<td>Ethereum</td>
<td>Single Chain</td>
<td>71.7%</td>
</tr>
<tr>
<td>SOL</td>
<td>Solana</td>
<td>Single Chain</td>
<td>7.4%</td>
</tr>
<tr>
<td>ADA</td>
<td>Cardano</td>
<td>Single Chain</td>
<td>6.9%</td>
</tr>
<tr>
<td>AVAX</td>
<td>Avalanche</td>
<td>Multi-Chain/Parachain</td>
<td>4.4%</td>
</tr>
<tr>
<td>DOT</td>
<td>Polkadot</td>
<td>Multi-Chain/Parachain</td>
<td>3.8%</td>
</tr>
<tr>
<td>MATIC</td>
<td>Polygon</td>
<td>Single Chain</td>
<td>2.2%</td>
</tr>
<tr>
<td>ATOM</td>
<td>Cosmos</td>
<td>Multi-Chain/Parachain</td>
<td>1.5%</td>
</tr>
<tr>
<td>ALGO</td>
<td>Algorand</td>
<td>Single Chain</td>
<td>1.0%</td>
</tr>
<tr>
<td>XLM</td>
<td>Stellar</td>
<td>Single Chain</td>
<td>1.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>100.00%</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: CoinDesk Indices 4/15/2022.

The Smart Contract Platform Select ex-ETH index is a market-cap based index that invests in a diversified basket of large and liquid tokens in the Smart Contract Platform sector, excluding Ethereum. Exhibit 5 shows a snapshot of the portfolio as of 4/15/2022. Without the dominance of ETH, the largest token (SOL) makes up 26.2% of the portfolio with (XLM) as the smallest token making up 3.5% of the portfolio.

The index is designed with the investability in mind, specifically multiple liquidity and eligibility criteria are applied to digital assets in the Smart Contract Platform sector. First, the digital assets in the Smart Contract Platform sector need to meet the following eligibility requirements:

1. Ranked in the top 200 of the DACS universe
2. Listed on eligible exchanges for at least 30 days
3. Supported by an eligible custodian (Coinbase)

Second, the eligible digital assets need to satisfy the following liquidity requirements:

1. Market cap is higher than the median of the top 20 eligible assets
2. Median daily trading volume over the past 30 days is higher than the median of the top 20 eligible assets
### Exhibit 5

Constituents of CoinDesk Smart Contract Platform Select Ex ETH as of inception date (3/15/2022)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Name</th>
<th>Industry</th>
<th>Market Cap Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOL</td>
<td>Solana</td>
<td>Single Chain</td>
<td>26.2%</td>
</tr>
<tr>
<td>ADA</td>
<td>Cardano</td>
<td>Single Chain</td>
<td>24.6%</td>
</tr>
<tr>
<td>AVAX</td>
<td>Avalanche</td>
<td>Multi-Chain/Parachain</td>
<td>15.4%</td>
</tr>
<tr>
<td>DOT</td>
<td>Polkadot</td>
<td>Multi-Chain/Parachain</td>
<td>13.5%</td>
</tr>
<tr>
<td>MATIC</td>
<td>Polygon</td>
<td>Single Chain</td>
<td>7.7%</td>
</tr>
<tr>
<td>ATOM</td>
<td>Cosmos</td>
<td>Multi-Chain/Parachain</td>
<td>5.4%</td>
</tr>
<tr>
<td>ALGO</td>
<td>Algorand</td>
<td>Single Chain</td>
<td>3.6%</td>
</tr>
<tr>
<td>XLM</td>
<td>Stellar</td>
<td>Single Chain</td>
<td>3.5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>Total</strong></td>
<td><strong>Total</strong></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>

Source: CoinDesk Indices 4/15/2022.

### Conclusion

The Smart Contract Platform sector fosters a rich environment for innovation that attracts a high level of development and resources. These platforms leverage network effects, decentralized consensus mechanisms, and compatibility with various programming languages; thus allowing creative and innovative developers to build protocols for a wide range of purposes such as decentralized exchanges, lending platforms, and NFT marketplaces.

Smart Contract Platforms serve as a foundation for the digital economy as the dApps built on these platforms attract millions of users, empowering individuals to take greater ownership over their finances and transactions, creating a burgeoning economy with a wide range of opportunities. They also facilitate a positive reinforcement cycle through the network effect. As more dApps are built on the various smart contract platforms, the platform, acting as the transactional base settlement layer for each protocol running on its blockchain, they benefit from increased revenue and demand, as new users purchase and spend its native token to gain access to the network.

The Smart Contract Platform Index and Smart Contract Platform ex-ETH Index offer investors greater transparency into the sector, providing the essential intelligence needed to allow them to express their views by making decisions and executing more efficiently.

### Relevant Indices

- Smart Contract Platform Index (SCPX)
- Smart Contract Platform ex-ETH Index (SCPXX)

### Index-Linked Products

Smart Contract Platform ex-ETH Index (SCPXX) underlies the Grayscale® Smart Contract Platform Ex-Ethereum Fund
Ethereum (Single Chain) – The largest smart contract platform, Ethereum has been fundamental to the enormous growth in the DeFi space over the past few years. Ethereum’s extensive developer resources, and its native programming language, Solidity, have enabled developers to build a massively successful ecosystem of dApps such as Aave, Uniswap, and OpenSea. These dApps leverage the security of Ethereum’s decentralized Proof of Work blockchain, as well as the network effect it has cultivated since its launch in 2015. Ethereum plans to switch to a Proof of Stake blockchain sometime in 2022.

Solana (Single Chain) – The self-proclaimed “fastest blockchain in the world”, Solana boasts sub-$0.01 transaction fees and 400-millisecond block times. With extensive smart contract capabilities, Solana has become arguably the second most popular platform for dApp developers and retail users. Solana uses a combination of delegator & validator-backed Proof of Stake consensus, with a novel Proof of History mechanism to process transactions quickly and with high throughput, while simultaneously securing and decentralizing the network. Solana’s network sports its own rich ecosystem of dApps, including lending protocols, exchanges, and a budding NFT community.

Polkadot (Parachain) – Polkadot is the central “hub” of a multi-chain network of heterogeneous blockchains, interconnected via the Polkadot Relay Chain. The key function of Polkadot is to provide interoperability between these blockchains, while ensuring they all benefit from the same security offered by Polkadot’s Proof of Stake consensus mechanism. Polkadot’s Relay Chain also allows transactions on each chain to process in parallel, rather than in sequence, as is the case with typical single chain smart contract platforms.

Avalanche (Multi-chain) – Avalanche is a fast and low-fee smart contract platform that combines a rich ecosystem of dApps, with the capacity to build and support custom blockchains via subnets. Avalanche employs a validator/delegator Proof of Stake consensus mechanism, which is used to secure and validate all subnets on the network. Avalanche’s Primary Network is a special subnet, which is broken into three separate chains: Exchange (X-Chain), Platform (P-Chain), and Contract (C-Chain).
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