



# Avalon Marketplace

A Blockchain-Based Receivables Marketplace

August 2022

Version 1.0



## Executive Summary

The receivables factoring industry is a USD 3.5 trillion dollar market with a forecasted Compound Annual Growth Rate (CAGR) of 8.8% between 2022 - 2030<sup>1</sup>. Alternate sources of funding to Small & Medium Enterprises (SMEs) is expected to drive this growth. SMEs have a particular need to improve cash flow and drive growth. Unlike the consumer finance industry, the business finance sector has not seen significant technological innovation. Legacy technology and processes are hindering efficient access to capital. The ecosystem remains opaque, centralized, slow, and error-prone. Large financial institutions – such as hedge funds and investment banks – rely on distributors to source the receivables and assess risk. Ultimately, the impact is felt by SMEs who wear the costs through slow access to expensive capital.

This whitepaper will showcase how CrowdZ plans to address and revolutionize the SME receivables finance industry by launching a blockchain-based invoice receivables marketplace called Avalon Marketplace.

CrowdZ will tokenize real-world receivables into Non-Fungible Tokens (NFT), offering them for sale at a risk-scored discount on the decentralized **Avalon Marketplace**. These **Non-Fungible Tokens for receivables (NFT<sub>r</sub>)** will represent the terms of individual receivables and ensure the automated flow of funds to the owner of the NFT<sub>r</sub> using smart contracts. Each receivable, by means of its NFT<sub>r</sub>, may subsequently be offered for sale on the Avalon Marketplace, and on other marketplaces in subsequent releases.

Avalon Marketplace will also operate a native ecosystem token called **CrowdZ Token (CRZ)** which is designed to promote growth, reward active contributors, allow collateralization of receivables and drive protocol governance. The CRZ token will be released post NFT<sub>r</sub> launch, as direct rewards on Avalon Marketplace as well as through on Decentralized/Centralized exchanges.

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<sup>1</sup> Factoring Services Market - [Grandview Research](#)

As Avalon Marketplace grows, we believe that we can drive broader efficiencies in the receivables finance industry by automating and streamlining data and finance flows. In particular, complex transactions such as secondary markets or syndication are well suited for the benefits brought by the underlying technology of Avalon Marketplace and its token systems.

Crowdz has several pilots with large corporations in its pipeline and a clear roadmap to deliver its vision (see chapter 8). The intent is to deliver KPIs on a regular basis to present tangible benefits of Avalon Marketplace to encourage the industry to embrace this platform.

# Contents

<b>Executive Summary</b>	<b>1</b>
<b>1.0 Introduction</b>	<b>4</b>
1.1 What is a receivable?	5
1.2 Supply Chain Finance (SCF) market overview	5
1.3 Receivable factoring challenges	7
1.4 Vision	8
1.5 Mission	9
<b>2. What is Crowdz?</b>	<b>10</b>
<b>3. What is Avalon Marketplace?</b>	<b>12</b>
3.1 Avalon at a glance	12
3.2 Ethereum and Polygon	16
3.3 Stablecoins and fiat considerations	17
3.4 Benefits	17
<b>4. Avalon Marketplace - Tokenized Receivables &amp; Tokenomics</b>	<b>18</b>
4.1 Non-Fungible Tokens for receivables - NFTr	18
4.1.1 Onboarding and minting process	18
Seller Onboarding	18
Approval and Tokenization	19
Purchaser Onboarding	19
4.1.2 Funding and repayment process	20
Purchase	20
Repayment	20
Exception Handling	20
4.1.3 Metadata structure	20
4.2 Avalon Marketplace ecosystem token – Crowdz Token	21
4.2.1 CRZ token mechanisms	21
a. Funding Rewards	22
b. Repayment Rewards	23
c. Voting	24
d. Buyer Rewards	25
e. Collateralization of Receivables and Liquidation	25
4.2.2 CRZ token issuing and distribution	29
Team	30
Strategic Partnership & Early Liquidity Providers	30
	3

DEX / CEX	30
Community	31
Treasury	31
4.3 Future changes on smart contract	33
<b>5. Receivable sourcing, underwriting, and pricing</b>	<b>34</b>
5.1 Risk-rating & underwriting	34
5.1.1 Risk of delinquent payment	34
5.1.2 Risk of receivables fraud	34
5.2 Mitigating risk & SuRF Score	36
5.2.1 KYC and KYB	36
5.2.2 SuRF Score	36
5.2.3 Accounting Software and Banking	37
5.3 Pricing	37
<b>6. Exception handling</b>	<b>38</b>
6.1 Insurance	38
6.2 Recovering unpaid sums	38
6.3 Liquidation of staked collateral	38
<b>7. Legal and market considerations</b>	<b>40</b>
<b>8. Roadmap</b>	<b>42</b>
8.1 NFTr	42
8.2 Stablecoin	42
8.3 Secondary market	42
8.4 CRZ Token	43
8.5 Liquidity pools	43
<b>9. Glossary of ecosystem</b>	<b>44</b>
9.1 Ethereum 2.0	44
9.2 IPFS	44
9.3 Non-Fungible Token	44
9.4 Stablecoins	44
9.5 DeFi	45
<b>10. Glossary of terms</b>	<b>46</b>

## 1.0 Introduction

This whitepaper describes Avalon, the CrowdZ NFT Receivables Marketplace, that addresses the working capital gap in the B2B supply chain by bringing together investors and SMEs. Avalon is a decentralized marketplace that tracks receivables by means of Non-Fungible Token (NFT) and bridges existing receivables systems to the Decentralized Finance (DeFi) world.

This whitepaper describes the problems Avalon Marketplace is designed to address, the technology stack, tokenomics, and the roadmap.

### 1.1 What is a receivable?

A receivable, owned as an asset, is the right to receive the money owed by a Buyer in exchange for products or services sold to that Buyer by a Seller. The payment terms and information about the goods and services the Seller business provided to its Buyer customer are captured in a Seller-issued invoice. It is a basic premise of the model expressed in this paper that a receivable may be treated as an asset, and either encumbered or freely sold as such. With respect to this asset, the Buyer is the Obligor, and upon its sale by the Seller in exchange for funds, the funder is the Purchaser. Upon this sale the Obligor owes money to the Purchaser.

### 1.2 Supply Chain Finance (SCF) market overview

Small and medium-sized businesses (SMEs) constitute approximately 90% of all businesses and are responsible for more than 50% of all employment worldwide. SMEs contribute up to 40% of GDP in emerging economies, a percentage that is consistently growing<sup>2</sup>.

The global market for receivable factoring in 2021 is estimated to be approximately USD 3,393.90 billion, expecting it to expand at a compound annual growth rate (CAGR) of 8.8% from 2022 to 2030<sup>3</sup>.

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<sup>2</sup> Small and Medium Enterprises (SMEs) Finance - [The World Bank](#)

<sup>3</sup> Factoring Services Market - [Grandview Research](#)

The market is expected to continue growing, as SMEs commonly depend on trade with larger companies, exposing themselves to unfavorable payment terms. Typically, SMEs endure 60-day, 90-day, and even 120+ day terms, and in doing so, experience constrained cash flows that can stunt their growth.

Protraction of receivables payment terms has been exacerbated in recent years due to the COVID-19 pandemic and other global supply chain disruptions. As enterprise groups increase their Days Payable Outstanding (DPO), SMEs are left more vulnerable than ever.

To rectify cash shortages, SMEs typically leverage a working capital solution like supply-chain finance (SCF), a form of Trade Finance (TF) that includes loans, purchase order finance, factoring, and invoice discounting.

Under a factoring arrangement, an SME sells its receivables at a discount to the face value in exchange for immediate cash flow. This transaction transfers the collection obligation over to the receivables Buyer, who will receive a return on their investment upon collecting the full-face value of the receivable. Standard invoice factoring discount rates range from 3-15% with terms of 30-120 days.

A traditional receivable factoring ecosystem has four main participants:

- **Obligor (colloquially the Buyer):** The company that buys goods or services from a Seller, resulting in a receivable they are obliged to pay where their obligation to pay is the asset owned by whomever they are obligated to pay;
- **Seller:** The supplier of goods or services, issuing receivables to the Obligor. They seek working capital by selling the receivable obligation as an asset;
- **Distributor:** Institutions that perform Seller onboarding, receivable verification, risk assessment, KYC & KYB of Sellers; and
- **Purchaser:** Institutions and high net-worth individuals who provide working capital by purchasing receivable obligations as assets at a discounted value.

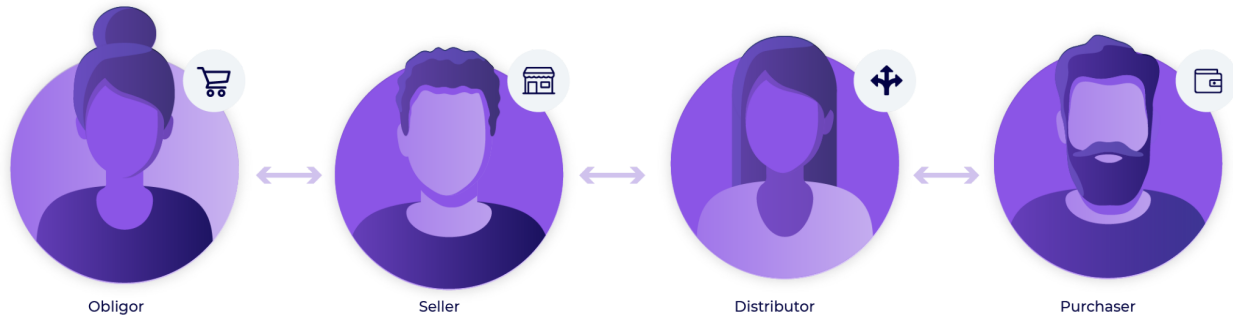


Figure 1: Basic receivable factoring supply chain

The following formula determines the purchase price a Seller receives:

$$\text{Early Payment Discount} = \text{Receivable Face Value} \times (1 - \text{Disc})$$

Where *Disc* is the discount rate applied by the Purchaser.

For an example:

- A Seller wants to sell a receivable of \$1,000
- The Purchaser decides to buy it at a discount rate of 10%
- The Seller will receive \$900 = \$1,000 x (1 - 10%)

### 1.3 Receivable factoring challenges

Presently, legacy technology and processes are hindering the receivables factoring industry. Large financial institutions, such as hedge funds and investment banks, rely on distributors to source the receivables and assess risk. Collectively, the system is centralized, opaque, slow, and error-prone. The lack of a unique format for receivables also makes straight-through processes difficult. Lastly, demand dramatically outstrips the supply available through the current market's inefficient, costly, and manual reconciliation methods, and so these organizations achieve a high risk-adjusted return between 20-50% APY<sup>4</sup>.

<sup>4</sup> Typical Factoring Rates - [Commercial Capital LLC](#)



Moreover, the current financial downturn coupled with high inflation exacerbates SMEs' poor access to working capital at fair rates, with capital becoming scarcer and more costly in the 2020s<sup>5</sup>. Economic crises often trigger a “flight to quality” as lenders and investors seek less-risky investments. This flight frequently comes at the expense of the SMEs who struggle to access working capital because standardized SME risk-rating mechanisms are unestablished.

## 1.4 Vision

At the time of this writing, banks are paying negligible interest rates on savings. The equities market is in bear territory over fear of recessions and geopolitical conflict, and bonds are trading at unsustainable premiums. By contrast, receivables finance presents an opportunity for investors to earn an annualized risk-adjusted return between 10-20%. We believe that access to such alternative assets is socially and economically important, and through the advent of platform marketplaces, such assets can be made available at rates that are fair to the SME. We also believe that SMEs should get paid sooner without overpaying for access to working capital.

Furthermore, we are staunch advocates for industry technological advancements that will create a market cost-savings windfall via three missions: eradicate inefficiencies, destroy information silos, and create transparency. These cost changes can lead to greater access, and fairly priced funding for SMEs, with corresponding enhanced returns for investors. To achieve this, we conclude that a system built on a public Distributed Ledger Technology (DLT) that hosts tokenized assets (digitally registered and tracked receivables) is the way forward. The fundamental traits of blockchain —immutability, transparency, and decentralization — will allow for a reasonable system for all. DLT would increase speed and certainty while lowering risks and cost of capital for SMEs, as well as making receivables purchasing much more widely accessible.

Finally, the flourishing blockchain ecosystem is seeing ground-breaking innovation within the decentralized finance (DeFi) sector, as applications disrupt traditional finance markets (TradFi)

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<sup>5</sup> Why capital will become scarcer in the 2020s - [The Economist](#)

through transparent peer-to-peer solutions. In July 2022, the Total Value Locked (TVL) in DeFi was approximately \$40bn<sup>6</sup>. This vast amount of liquidity now available on DeFi could be distributed into the traditional economy to fund SME receivables and boost the global economy.

## 1.5 Mission

Successful SMEs are vital to inclusive growth, new jobs, and skill development. Born of this truth, the Avalon Marketplace empowers a thriving future for SMEs through affordable, fair, and transparent capital.

Underpinning the Avalon Marketplace mission is a deep focus on social and economic impact and a motivation to facilitate the small companies that play a vital role in local and global economies. Focused research on supply chain ethics, and environmental and social impact, drive our initiatives.

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<sup>6</sup> [DeFi Pulse](#)

## 2. What is CrowdZ?

CrowdZ is a FinTech company that operates a successful business capital platform that offers alternative finance for SMEs through a global exchange for receivables. In 2021, through a strategic partnership with Meta (formerly Facebook), CrowdZ launched the [Invoice Fast Track program](#), a Meta-funded receivables finance program that focuses on businesses run by entrepreneurs from minority backgrounds. To date, the program has financed \$70M+ of invoices, and will soon expand beyond minority business owners, with Meta committing to expand the program.

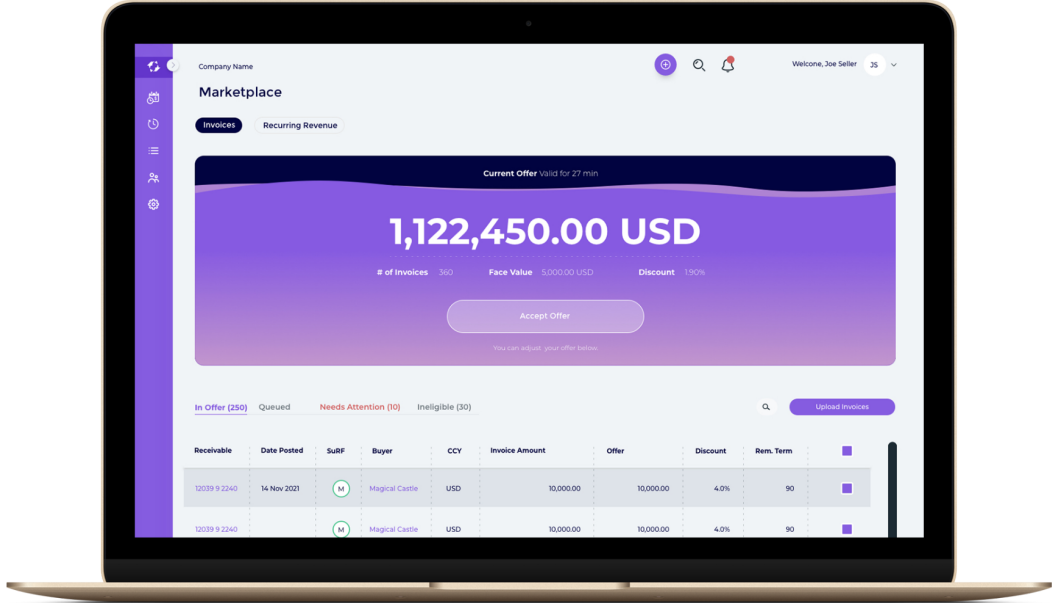


Figure 2: CrowdZ Marketplace

Beyond the Meta program, CrowdZ has recently signed partnership agreements with EG Funds Management, Citi, and ProFinCo (a venture that will work with the City of Detroit), all of which will contribute significantly to the origination of receivables. Through these partnerships, CrowdZ will expand its geographical footprint from the USA and Europe to Australia, Japan, Singapore, the UAE, and South Africa, with solutions in these regions expected to go live in 2022/23.

Technological innovation has always been at the heart of CrowdZ, and in 2017, the group started experimenting with and utilizing an Ethereum private node in preparation for, one day, leveraging the Ethereum blockchain to better serve SMEs through a transparent, efficient, and secure marketplace. Fast-forward to 2022, and the group is now preparing to launch Avalon Marketplace, built on [Polygon](#) to enable near-instant, on-chain settlement of all transactions.

As it pertains to the marketplace, CrowdZ will act as the main distributor, allowing Sellers to upload and subsequently finance their receivables. This process will also see CrowdZ assess the creditworthiness of the Seller, Buyer, and Receivable through an AI-enhanced risk scoring mechanism called SuRF Score (Sustainability, Risk, & Financial Score)<sup>7</sup>. Receivables CrowdZ determines are worthy of sale will be minted as tokens on the blockchain and added to the marketplace.

CrowdZ is backed by organizations such as Citi, Barclays, BOLD Capital Partners, Global Cleantech Capital, and Augment Ventures.

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<sup>7</sup> For more details about SuRF score, please refer to chapter Mitigating risk & SuRF score

## 3. What is Avalon Marketplace?

### 3.1 Avalon at a glance

**Avalon is Crowdz's decentralized marketplace that bridges existing receivables systems with the Decentralized Finance (DeFi) world.** Avalon Marketplace aims to tap into the nearly twelve-digit DeFi liquidity channel for the purchase and sale of receivables by introducing operational efficiency, creative system rewards, and smart AI-enhanced scoring for the benefit of SMEs around the world.

Built on an Ethereum sidechain, [Polygon](#), Avalon Marketplace allows Sellers or Originators to tokenize their receivables into Non-Fungible Tokens (NFTs) and subsequently offer these assets to Purchasers in exchange for finance in the form of a purchase price for the invoices.

The marketplace is described as follows:

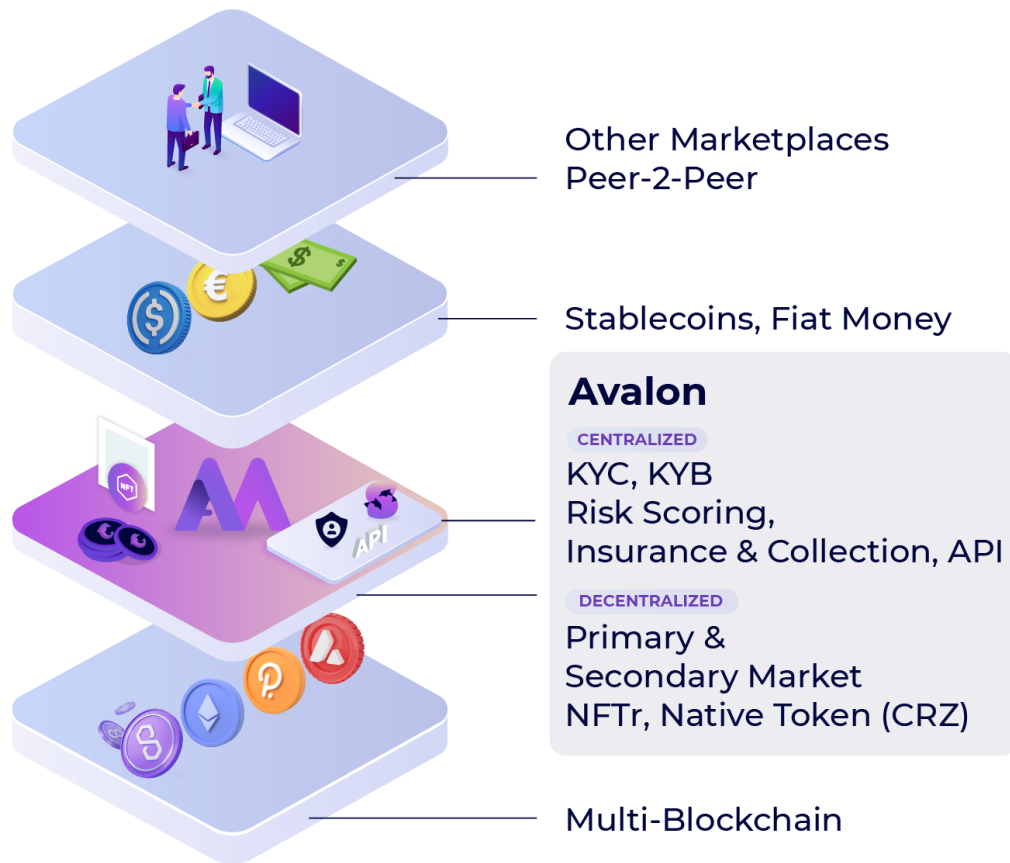


Figure 3: Crowdz blockchain ecosystem

1. The marketplace will eventually run on several different blockchains, though the project will initially only utilize an Ethereum sidechain.
2. Three technical streams will be at the core of the Crowdz ecosystem:
  - a. Crowdz will originate, and subsequently mint, receivables as NFTs along with smart contracts that emulate the entire receivable lifecycle;
  - b. The NFTr (NFT receivable) will be available on primary and secondary marketplaces; and
  - c. A Native DAO (Decentralized Autonomous Organization) token will be used to govern the platform, and reward active contributors.
3. Receivables NFTs (or NFTr) will permit receivables to be purchased in a DeFi environment using either fiat money or stablecoins.

4. By means of NFT<sub>r</sub>, receivables can even be traded outside the Avalon Marketplace either on a Peer-to-Peer model (P2P) or into other NFT marketplaces.

In addition to the DeFi stack, Avalon Marketplace offers the following features for sellers/originators and Purchasers:

- KYC/KYB
- Risk assessment and risk scoring (SuRF Score)
- Insurance
- Collections
- APIs

These features of Avalon Marketplace will be provided by CrowdZ, whilst the Avalon platform will otherwise operate in a fully decentralized manner. This allows CrowdZ to reap the benefits that DeFi brings, such as security, transparency, efficiency, and automation, whilst being an accountable provider of features driven by the needs of regulatory compliance and risk management.

	Centralized	Decentralized
Blockchain		✓
Onboarding	✓	
Currencies	✓	✓
Funding		✓
Rewards		✓
Collection and Insurance	✓	

*Table 1: Centralized vs. Decentralized activities*

The figure hereafter provides a simple illustration of how Avalon participants interact on the marketplace. For a more detailed view of the process, refer to section **Avalon Marketplace – Tokenized Receivables**.

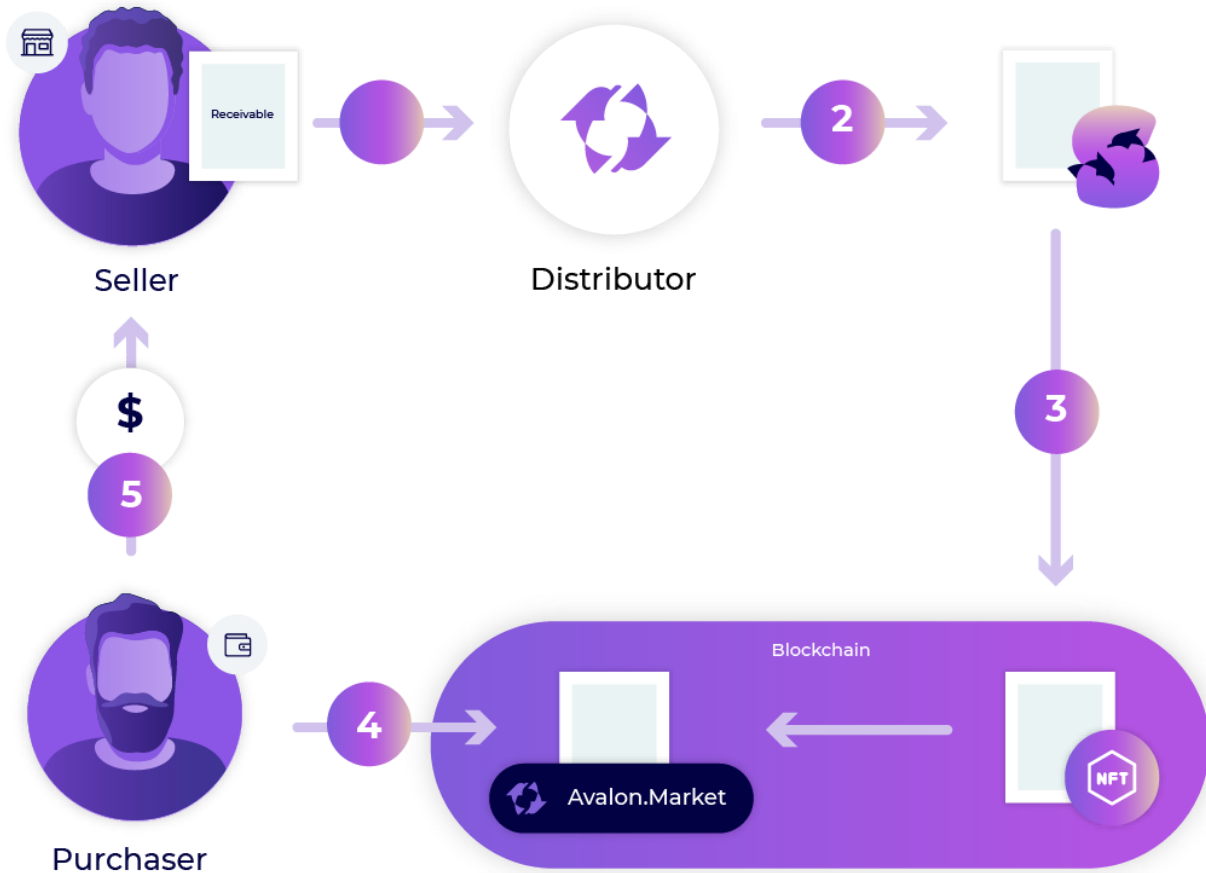


Figure 4: Simple description of the funding process

For funding to be satisfied, the:

1. Seller issues a receivable and uploads it on CrowdZ (CrowdZ is the Distributor);
2. Validity of the receivable is assessed by CrowdZ and a SuRF Score (see section Mitigating Risk & SuRF Score) is attached to it;
3. Receivable described by the invoice details is minted as an NFT and made available on Avalon Marketplace;
4. Receivable is purchased by a Purchaser with either fiat money or stablecoins;
5. NFT, signifying the receivable's ownership, is transferred from the wallet of the Seller to the wallet of the Funder.

For repayment to be satisfied, the:

1. Obligor fulfills the initial obligations and pays the Seller;



2. Seller repays the Purchaser either with fiat or with stablecoins;
3. NFTr is burnt.



Figure 5: Simple description of the repayment process

## 3.2 Ethereum and Polygon

We are choosing to build on the Ethereum sidechain Polygon because the Ethereum mainnet has proven to be the blockchain of choice for financial innovation and active development. At present, Ethereum hosts 3,000+ Decentralized Applications (dApps) and captures most of the value in the ecosystem. As such, we are confident that Ethereum will remain secure, and continue to see innovative applications built on top of it that we can leverage. Polygon enables CrowdZ to utilize those strengths, whilst also providing near-instant transaction speeds at a nominal cost, even at times of high demand.

It's worth noting that the current Proof-of-Work (PoW) consensus mechanism used by Ethereum offers low throughput, is expensive (high gas fees), and requires a significant amount of energy to validate transactions. However, the mainnet is the most secure of all the programmable blockchains. Furthermore, building on a sidechain will provide us with scalability, low transaction costs, fast transactions, and low energy consumption while leveraging Ethereum's core security features and compatibility with the Ethereum Virtual Machine (EVM).

Furthermore, the impending release of ETH2 Proof-of-Stake (PoS) will address the current challenges faced on Ethereum's mainnet, making it a safe and sound future-ready choice for Avalon Marketplace.

### 3.3 Stablecoins and fiat considerations

We believe that cryptocurrencies will become ubiquitous and widely accepted, however, it will be a gradual process, and Sellers are unlikely to accept cryptocurrencies in the short term. Should we want to scale the marketplace and offer the benefits of blockchain, we will have to offer fiat currencies. As a result, Avalon will not force Sellers and Purchasers to transact in stablecoins, but rather provide them with an option to decide which currency they use.

Avalon will provide an on/off-ramp mechanism to ensure that transactions can occur on fiat or stablecoins transparently to the Purchasers or Sellers and to provide an *any-to-any* marketplace.

### 3.4 Benefits

We believe that by migrating receivables and trades to a blockchain ecosystem, we can modernize an old-fashioned industry and generate the following benefits:









 <p><b>Increase liquidity</b></p> <p>Access new pool of liquidity and investor types</p>	 <p><b>Syndication - Securitization</b></p> <p>Fragmentation of receivables and keeping track of ledger is digitized and simplified</p>	 <p><b>Marketing</b></p> <p>Defi projects capture attention of industry heavyweights and broader public</p>	 <p><b>Reward</b></p> <p>Create the right incentive system for a safer ecosystem</p>
 <p><b>Secondary trade</b></p> <p>Simplify and streamline secondary trade as well as extend reach of CrowdZ to other marketplace</p>	 <p><b>Efficiencies</b></p> <p>Streamline all processes leading to reduced costs and increased speed of execution</p>	 <p><b>Interoperability</b></p> <p>Allow different systems to communicate and operate</p>	 <p><b>CBDC</b></p> <p>Prepare CrowdZ for the future of money</p>

Figure 6: Benefits of Avalon being on the blockchain

## 4. Avalon Marketplace - Tokenized Receivables & Tokenomics

Avalon Marketplace operates around two key tokens:

- **Non-Fungible Token for *receivables* (NFTr)** that represents the terms and ownership of a receivable and ensures the automated flow of funds using smart contracts; and
- **A native ecosystem token called Crowd Token (CRZ)** designed to promote growth, reward active contributors, and drive protocol governance.

We describe how each of these tokens works with Avalon in more detail below.

### 4.1 Non-Fungible Tokens for receivables - NFTr

NFTs for receivable or NFTr are based on the [ERC-721](#) standard and include a smart contract that encapsulates information pertaining to the receivable factoring lifecycle. For public data, Avalon Marketplace supports the storage of receivable metadata in a decentralized file network, InterPlanetary File System (IPFS), to reduce storage costs on-chain and to prevent data from being blocked, censored, or changed by a central entity such as a traditional storage solution. Private data is stored in a secure, non-public database, as it isn't relevant for making investment decisions. It will be stored according to the domestic legal requirements for auditing.

The NFT minting and funding processes are part of a larger onboarding process that Sellers and Purchasers must undertake to interact with Avalon. This is described in greater detail below. In this case the term “minting” should not be taken to mean a new digital asset is created; rather, the technical term “minting” only refers to the creation of an NFT that represents an already existing asset, in this case the receivable.

#### 4.1.1 Onboarding and minting process

##### Seller Onboarding

Sellers apply to Avalon and undergo strict KYC/KYB procedures, sanctions, PEP (Politically Exposed Persons), and credit checks. They cannot sell receivables until they've completed this

anti-money-laundering process. Once a seller is on-boarded, Avalon creates and provides a custodial wallet to the seller where the NFTr will be attached.

### Approval and Tokenization

Upon being approved, Sellers can upload their unpaid receivables to Avalon. Once submitted, receivables go through an invoice validation tool and are risk-assessed using Crowd's proprietary algorithm called the SuRF Score (see chapter Mitigating risk & SuRF score), which is associated with the invoice. Then all data about the receivable is tokenized as an NFTr. The tokenization process writes the invoice to a smart contract that reflects the entire receivable factoring lifecycle. Metadata associated with the receivable will be hosted on the IPFS and Central Database (see chapter Metadata structure). Crowd doesn't store sensitive data on-chain for privacy, scalability, and cost (gas fee) reasons.

### Purchaser Onboarding

Purchasers will undergo KYC Accredited Investor checks. Upon approval, they can connect and fund their wallet using their existing cryptocurrency holdings or convert fiat into stablecoins through a fiat on/off ramp. Purchasers will also receive the option to personalize and automate their investment experience by selecting a funding limit and risk profile.

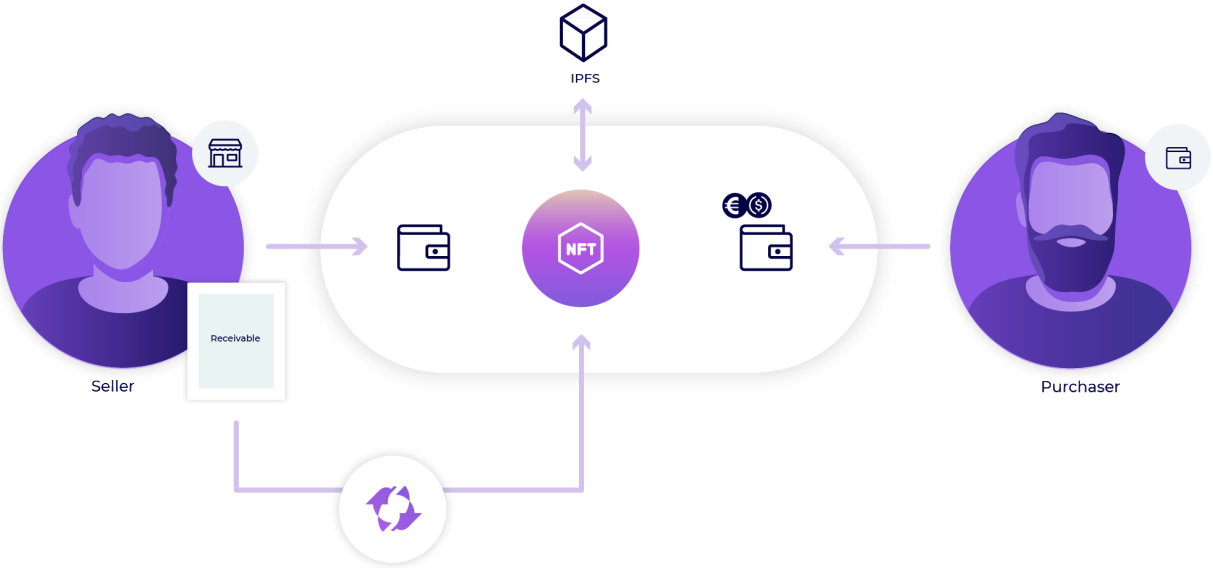


Figure 7: Onboarding process and assets origination

## 4.1.2 Funding and repayment process

### Purchase

Receivables will be automatically selected by the auto-bidding engine and priced based on the Purchaser's expected Annual Percentage Rate (APR). Once a transaction is finalized, the NFTr automatically moves from the Seller's address to the Purchaser's address, representing on the ledger the change of ownership of the receivable from Seller to Purchaser.

Note: Future iterations of Avalon will allow Purchasers to re-sell their receivables, by means of NFTr, on a secondary market prior to receiving repayment.

### Repayment

Upon receipt of the receivable payment from the Obligor, the final step will see the Seller repay the Purchaser by transferring funds to their wallet via the Avalon platform. Should the Seller receive their payment in fiat but the Purchaser purchased using stablecoins, the Seller will repay in the same fiat currency they received and this sum will then be converted into the stablecoin originally used for payment by the Purchaser using the fiat on/off ramp, allowing the repayment to be made directly into the Purchaser's wallet.

### Exception Handling

While the marketplace takes reasonable steps to limit repayment delinquency through checks and the SuRF score assessment, there will always be cases where receivables are unpaid, paid late, or only partially paid. Avalon will undertake several actions to address these issues as fully described in chapter 6.

## 4.1.3 Metadata structure

The diagram hereafter describes the architecture of receivables data. To protect the privacy and commercial confidentiality of the parties to the contract underlying a receivable (the Sellers and the Buyers), its NFTr will only store minimal information on-chain, with most of the metadata being stored on the IPFS network and private databases. Avalon will use private data as part of the onboarding process and for collection and auditing purposes.

Given that information will exist off-chain, Avalon will use Merkle Proofs as a certificate to ensure the authenticity of these data. Purchasers will use the information available to the public to help make investment decisions.



Figure 8: Data architecture

## 4.2 Avalon Marketplace ecosystem token – Crowd Token

Crowd Token (CRZ) is the native [ERC-20](#) token on the Avalon platform serving utility for the following:

- a) Governance;
- b) Reward mechanisms for all parties; and
- c) Collateral against outstanding receivables

### 4.2.1 CRZ token mechanisms

The CRZ token serves several purposes and operates as follows:

- a. **Funding rewards:** CRZ tokens will be distributed from the Community token pool (see 4.2.2) to Purchasers of tokenized receivables, as a reward for being participants in our ecosystem.
- b. **Repayment rewards:** CRZ tokens will be given from Community token pool (see 4.2.2) to Sellers as a reward when their receivables are paid on time in full.
- c. **Voting:** Entitles the holder to vote on certain Avalon ecosystem governance topics and receive rewards for doing so.
- d. **Oracle participant rewards:** Reward other participants such as Buyers to be active in the ecosystem by offering them CRZ tokens.

- e. **Collateralization of receivables:** Sellers will be able to use CRZ tokens as collateral against the risks of receivables they sell as NFT<sub>r</sub>, and in doing so, will improve the risk rating of their assets, and reduce the discount cost at sale.

To expand further on each of these points:

a. Funding Rewards

Purchasers of receivables using NFT<sub>r</sub> will be rewarded with CRZ tokens by supplying liquidity to the ecosystem, and for every NFT<sub>r</sub> receivable they purchase, a share of CRZ tokens will be issued to their wallet as a reward. The share of tokens they receive will be based on a weighted monthly average of the value of the receivables, represented by NFT<sub>r</sub>, bought in each month.

- Rewards are capped to 1% of the amount funded, as based on the CRZ market price determined at the time; and
- Any surplus of CRZ tokens over the 1% threshold will be used to replenish the community reserve pool.

The following formula will determine purchaser rewards:

$$CRZ = \min\left(\frac{Amount\ invested}{\Sigma(Receivables\ funded)} \times \#Community(Purchaser), 1\% \times Amount\ invested\right)$$

<b>Variables</b>	<b>Descriptions</b>
CRZ	The native token of Avalon Marketplace
Amount funded	The total amount a Purchaser has funded during the month
Receivables funded	The total amount of all receivables funded during the month
#Community (Purchaser)	The total amount of CRZ tokens to be released to Purchasers during a month

### **Use case**

For a specific month:

- 1M tokens are reserved for rewarding Purchasers at a value of \$0.02. The total value of tokens released is \$20k.
- 2 Purchasers fund receivables for the respective sums of \$30k and \$470k, for a total funding of \$500k.
- They should receive the following rewards:
  - Purchaser 1:  $CRZ = \min\left(\frac{\$30k}{\$500k} \times \$20k, 1\% \times \$30k\right) = \$300$
  - Purchaser 2:  $CRZ = \min\left(\frac{\$470k}{\$500k} \times \$20k, 1\% \times \$470k\right) = \$4.7k$
- In this example both Purchasers had their rewards capped to 1% and the surplus sent back to the reward pool.
- These rewards are paid in addition to the margin they earn from purchasing the receivable, via NFT<sub>r</sub>, at a discount to the total receivable due.

### b. Repayment Rewards

For each NFT<sub>r</sub> that is sold and fully repaid on time, a portion of CRZ tokens will be issued to the Seller in accordance with the same distribution formula that applies to Purchasers.

These rewards will also be capped to 2% of the amount repaid. Any surplus tokens over the 2% threshold will be re-provisioned to the community reserve pool.

The funding reward observes the following formula:

$$CRZ = \left( \frac{\text{Amount repaid}}{\Sigma(\text{Receivables repaid})} \times \#Community(\text{Seller}), 2\% \times \text{Amount repaid} \right)$$



<b>Variables</b>	<b>Descriptions</b>
CRZ	The native token of Avalon
Amount repaid	The total amount a Seller has repaid during the month
Receivables repaid	The total amount of all receivables repaid during the month
#Community (Seller)	The total amount of CRZ tokens to be released to Sellers during the month

### **Use case**

For a specific month:

- 6.5M tokens are reserved for rewarding Sellers at a value of \$0.01 for a total value of \$65k.
- 4 Sellers repay several receivables for the respective sums of \$50k, \$200k, \$250k, and \$500k for a total of \$1m.
  - Seller 1:  $CRZ = \min\left(\frac{\$50k}{\$1m} \times \$65k, 2\% \times \$50k\right) = \$1k$
  - Seller 2:  $CRZ = \min\left(\frac{\$200k}{\$1m} \times \$65k, 2\% \times \$200k\right) = \$4k$
  - Seller 3:  $CRZ = \min\left(\frac{\$250k}{\$1m} \times \$65k, 2\% \times \$250k\right) = \$5k$
  - Seller 4:  $CRZ = \min\left(\frac{\$500k}{\$1m} \times \$65k, 2\% \times \$500k\right) = \$10k$
- In this example Purchasers had their rewards capped to 2% and the surplus sent back to the reward pool.

### c. Voting

Holders of CRZ tokens will be entitled to vote on important changes or additions to the Avalon Marketplace ecosystem, such as adding a new receivable source or underwriter. For a proposal to be accepted, 51% of tokens voting must vote in favor, and 4% of all tokens in circulation need to be cast. For being active participants, voters will be rewarded with CRZ from the Community token pool (see 4.2.2).

#### d. Buyer Rewards

We strive to create a virtuous ecosystem where the Buyer of goods can become an on-chain *Oracle* by providing information such as *Proof of Delivery*, which would create a more robust marketplace and increase the predictability of the supply chain. Buyers who choose to participate will be rewarded with CRZ, noting that the rewards will follow the same logic as the Seller and Purchaser rewards, i.e. Buyers receive a share of the community token (see 4.2.2) issued monthly based on the level of involvement on Avalon.

We plan to reserve 7% of the community token for Buyers. However, implementing this entails a higher level of complexity, and so would be launched in subsequent versions of Avalon once fully assessed:

$$CRZ = \frac{Nb\ of\ inputs}{\Sigma Inputs} \times \#Community(Buyer)$$

<b>Variables</b>	<b>Descriptions</b>
CRZ	Avalon tokens to be received
Nb of inputs	The total number of information provided as an Oracle on chain
#Community (Buyer)	The total Avalon Community token to be released for this month for the Buyer

#### e. Collateralization of Receivables and Liquidation

Sellers will be able to pledge their CRZ tokens as collateral for the asset value risk, against the Obligor's payment obligation and likelihood to dilute the asset value, when applying to sell receivables. This value will be considered when Avalon determines the receivables's SuRF score and discount rate. When tokens are pledged as collateral, they are custodied, a process that is powered by our smart contract, where they will remain until the Purchaser is repaid. If a Seller fails to repay a Purchaser in whole or part, a formal recovery process commences as detailed in

section 6.2: Recovering Unpaid Sums. The term collateral is typically used in the context of a loan: a Seller’s asset or amount strictly encumbered to offset one metric—the risk that a borrower will not repay. The term is here used for ease of explanation, but is technically value in CRZ offered by the Seller in exchange for a better discount rate in a fiat currency, provided certain conditions are met. We anticipate this will be a more efficient exchange of CRZ for fiat currency. Whether the sale goes depends on a network of risk attributes of the Obligor, Seller performance, dilution risk, and other attributes of the receivable.

A liquidation threshold is also in place to mitigate the risk of CRZ market fluctuations and ensure the collateral value is properly covered. This happens when the collateral decreases in value.

Avalon will use the following parameters when determining the CRZ Seller discount:

- **Price to Value (PTV):** 50%
- **Liquidation threshold (max Price to Value):** 70%

Variables	Descriptions
PTV	The Price to Value (PTV) is expressed in percentage and defines the amount of purchase price discount (in currency) that can be reduced with collateral. In this case, every two CRZ tokens provided as collateral will reduce the discount rate by \$1
Liquidation threshold	The liquidation threshold is represented as a percentage of a max PTV (Price to Value), beyond this value the position is considered as under-collateralized.

The delta between the PTV and the Liquidation Threshold is a safety cushion. In case the PTV goes beyond the 50% threshold, Avalon will send a margin call to invite the seller to further collateralize the asset risk with a top-up of CRZ tokens.

We provided hereafter a possible scenario with CRZ tokens used as collateral compared to a scenario with no collateral.

### ***Use cases***

Parameters:

- The Seller uploads an invoice of \$100k
- Avalon applies a 6% discount to the receivable
- The minimum discount Avalon applies, regardless of how much collateral, is 2%
- **Collateralization ratio** is 50%
- **Liquidation threshold** is 70%

#### *Use case 1 - No collateral provided*

A Seller lists a receivable for sale via NFT<sub>r</sub> at a price of \$100k, and a Purchaser purchases this with a discount rate of 6%. Assuming the Seller doesn't post any collateral, they would receive \$94k and are obligated to pay back \$100k.

#### *Use case 2 - Collateral provided*

A Seller lists a receivable NFT for sale via NFT<sub>r</sub> for sale at a price of \$100k, along with 5k CRZ tokens which are transferred to a smart contract as collateral.

Assuming the current market rate of CRZ tokens is 1 CRZ = \$3, the collateral provided equals 5k CRZ x 3 = \$15,000.00.

Under this scenario, upon a purchaser buying the a receivable for sale via NFT<sub>r</sub>, the Seller would receive:

$$\$1k \times \min(100 \times (1 - 2\%), 94 + 15 \times 50\%) = \$1k \times \min(98, 101.5) = \$98k$$

Note: At this point, the Seller only needs to have deposited the following amount:

$$\$4k \div 50\% \div 3 = 2.66k \text{ CRZ}$$

The Seller would therefore be able to freely withdraw up to  $5 - 2.66 = 2.34k$  worth of CRZ tokens. Alternatively, they can leave the collateral position as is, making the discount margin over-collateralized.

#### Use case 3 - Token appreciation scenario

Assuming in the above scenario that the token value of CRZ appreciates to 1 CRZ = \$4.

The Seller withdraws 2k worth of CRZ tokens, leaving collateral of 3k CRZ.

Given the value appreciation of CRZ, the withdrawal doesn't impact the collateralization ratio, with the amount still sitting below the collateralization ratio of 50%:

$$PTV = \frac{\$4k}{3k \times \$4} = 33\% < 50\%$$

#### Use case 4 - Token depreciation scenario

Assuming in the above scenario that the value of CRZ depreciates to 1 CRZ = \$2.

Given the depreciation, the collateral is now valued at \$6k ( $3k \text{ CRZ} \times \$2 = \$6k$ ). As such, the Seller cannot withdraw any collateral as the market value of the position is above the collateralization ratio of 50%:

$$PTV = \frac{\$4k}{3k \times \$2} = 66\% < 70\%$$

Liquidation is not triggered, as PTV is still below the liquidation threshold of 70%. Rather, a margin call is sent to the Seller, warning them to either top up their collateral.

#### Use case 5 - Token depreciation and liquidation scenario

Assuming in the above scenario that the value of CRZ token depreciates further to 1 CRZ = \$1.2.

The drop in value reduces the collateral position to \$3.6k (3k CRZ x \$1.2 = \$3.6k), which triggers a liquidation event as PTV is above the liquidation threshold of 70%:

$$PTV = \frac{\$4k}{3k \times \$1.2} = 111\% > 70\%$$

When liquidation is triggered, the smart contract holding the collateral automatically sends the collateral to the Purchaser address. Under this scenario, the Seller loses their collateral but is still obliged to repay the full \$100k.

#### 4.2.2 CRZ token issuing and distribution

A maximum of [200,000,000] CRZ tokens will be minted at genesis. Tokens will be released at a declining rate over time to enable the tokens to establish a market value without inflationary pressures. Also, to demonstrate sustained incentive alignment for token beneficiaries at genesis (team, investors, advisors), their tokens received will be vested over three years.

The diagrams hereafter display the token distribution at perpetuity and the release schedule over the next five years.

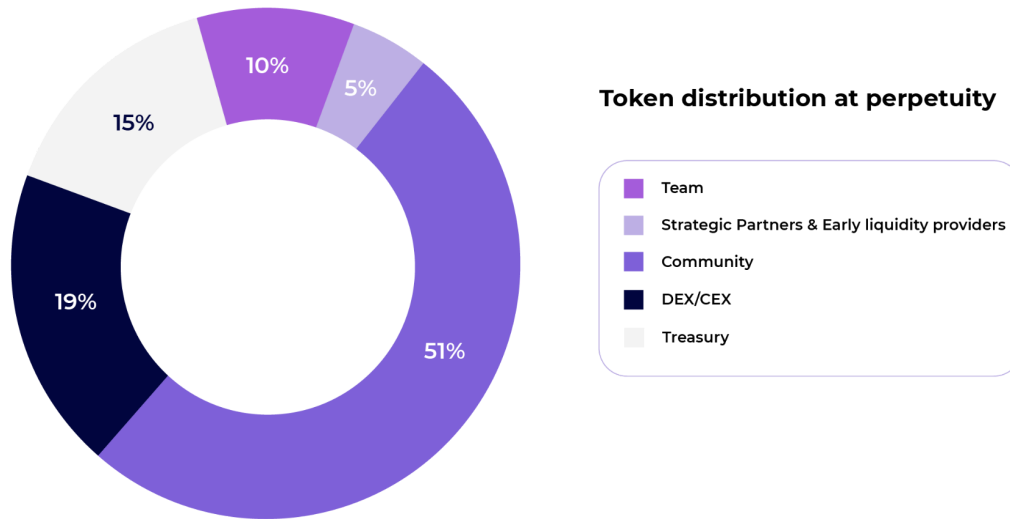


Figure 9: Token distribution at perpetuity

#### Team

The CrowdZ team will receive tokens as an incentive tool and will be serving a three years vesting period.

#### Strategic Partnership & Early Liquidity Providers

Key partners and liquidity providers will receive CRZ tokens. CRZ token reserve will vest these tokens over a period of two years.

CrowdZ early investors (Pre-seed, Series A, and Series B) and advisors who have contributed to the project in its early days, will vest over three years.

#### DEX / CEX

Following genesis, 3% of CRZ tokens will be issued to DEX exchanges to enable price discovery. The right bonding curve will be assessed, as a 50/50 automated market maker (AMM) pool would require a significant amount of liquidity. Avalon will take an average of market prices

from a set selection of exchanges to determine the price applied to CRZ tokens to calculate the number to which ecosystem participants are entitled from time to time.

Crowdz also expects to provide further CRZ tokens to be released on key central exchanges (CEX).

#### Community

The community will be the prime beneficiary of the CRZ token. It will be used as a liquidity incentive to drive beneficial engagement with the platform, i.e., voting, paying on time, providing information, and providing liquidity.

The reserve vesting period for tokens in circulation follows an infinite geometric series:

$$\text{Tokens in circulation } (n) = \text{Tokens} \sum_1^n \frac{1}{2^n} \text{ where } n \text{ is the number of years.}$$

#### Treasury

Avalon is planning to keep [30] million tokens in its treasury for future projects such as (but not limited to):

- 1) Investment cost: Funding new projects
- 2) Development expense: Adjusting strategy if necessary
- 3) Operational overhead: such as buying banking and asset management licenses



CRZ Community tokens will be rewarded and distributed to participants on a monthly cycle as follows:

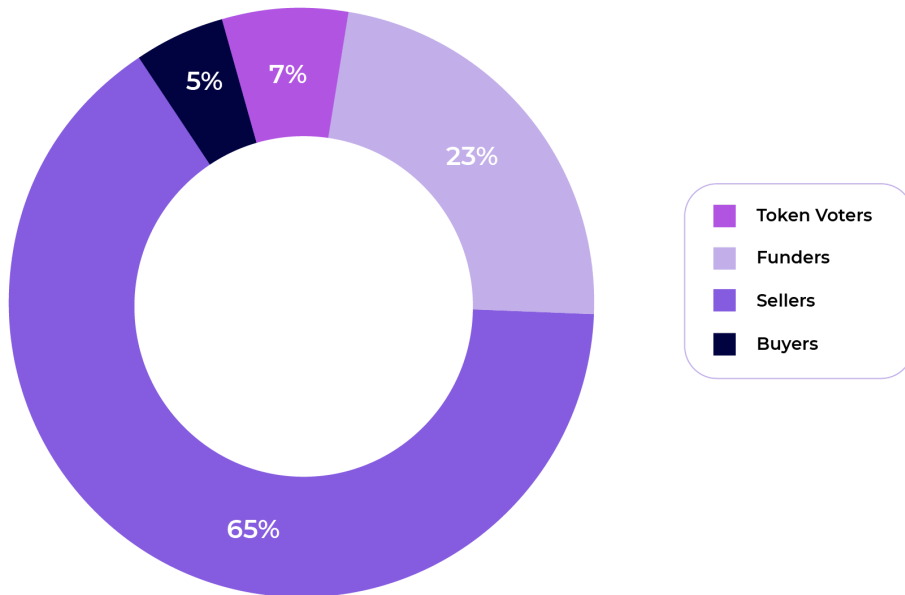


Figure 10: Community token reward

The CRZ tokens are released on a monthly cycle and the schedule is determined as follows:

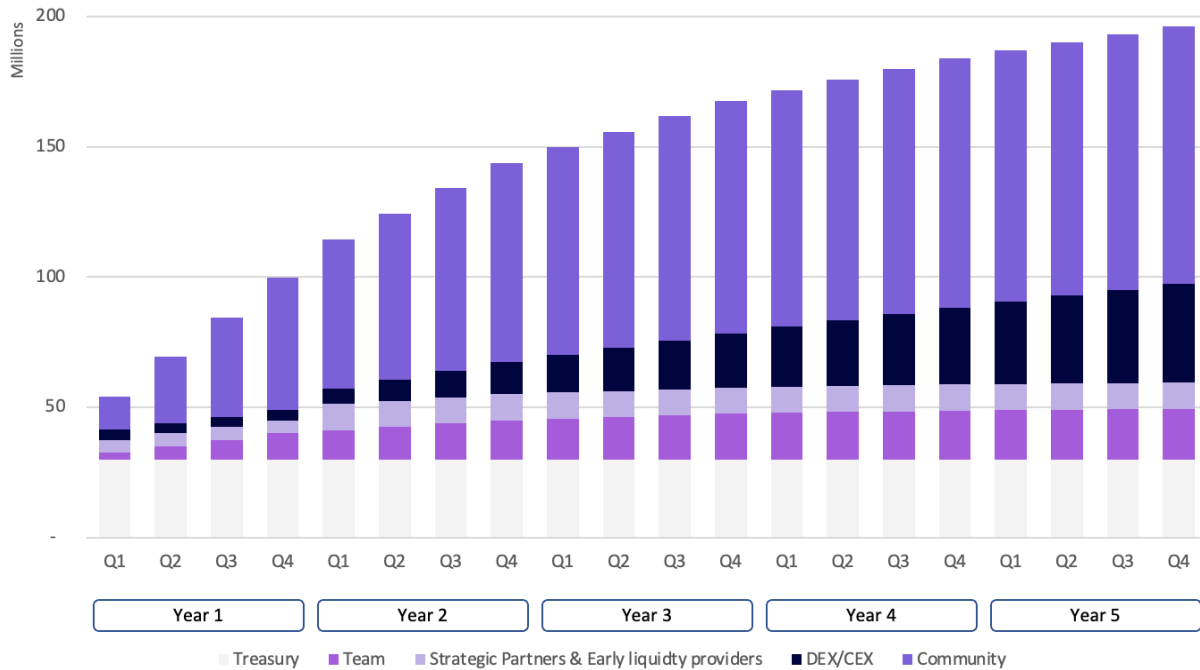


Figure 11: Release of the token over time

### 4.3 Future changes on smart contract

As Avalon will require several upgrades over time to the smart contracts and reward model, the Avalon core team reserves the right to update the smart contracts using proxy contracts to address challenges or better reflect the needs of Avalon. Several parameters will be coded as changeable variables to avoid contract re-deployment.

## 5. Receivable sourcing, underwriting, and pricing

### 5.1 Risk-rating & underwriting

As with any finance arrangement that involves a repayment obligation, it is important to assess the risk of non-payment. With respect to receivables finance, it's also essential to consider the additional risk of fraud. We have identified the following risks in receivables finance, though there may be others.

#### 5.1.1 Risk of delinquent payment

A risk that neither the Obligor nor the Seller repays the principal in full, or on time.

#### 5.1.2 Risk of receivables fraud

A potential risk in receivables finance is fraud. Fraud in the receivables finance sector is low<sup>8</sup>; however, it's a risk that Avalon will proactively address to minimize risk and maintain a healthy marketplace.

Typical fraud in the receivables finance sector takes place in a variety of ways, namely:

- i. **Fictitious Receivables:** A fraudulent Seller posts fictitious receivables with the intention of receiving funding and leaving the platform without repaying the Purchaser. There is no real buyer or assignment of goods in this scenario, and such situations are typical of money laundering activities.
- ii. **Duplicate Receivables:** A fraudulent Seller posts duplicate receivables. Under such an arrangement, the Seller will likely use several platforms to balance finance across multiple purchasers and/or lenders. For instance, a fraudulent Seller might borrow financing that places a lien on a receivable, and then also sell that receivable on another platform as though it were free of any lien or other encumbrance.

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<sup>8</sup> Receivables Finance – Fraud Risk and How to Deal with it Effectively - [Clyde & Co](#)

- iii. **Over-Invoicing:** A fraudulent Seller overcharges a Buyer and posts these purposely inaccurate receivables. Using credit notes, the Seller will display different information to the Buyer to successfully receive the extra finance.
- iv. **Collusion:** A fraudulent Seller colludes with their Buyer to raise fictitious or overcharged receivables.
- v. **Settlement Diversion:** At the time of settlement, a fraudulent Seller diverts payments made by their Buyer to an alternative account, i.e. a different account to that which was provided to the platform.
- vi. **Contract Set-Off Arrangements:** A fraudulent Seller doesn't disclose existing contractual set-off arrangements, which may undermine the recoverability of the financed receivables. When this happens, a receivable Seller typically hopes that these set-off requirements reduce to nothing over the term they've financed their receivables.
- vii. **Disputes:** The fraudulent Seller fails to disclose ongoing disputes with their Buyer in relation to the receivables they have posted.
- viii. **Re-using Aged Receivables:** The fraudulent Seller re-uses aged/problematic receivables and posts these to Avalon under the guise they are new.

Of the types of fraudulent acts performed by Sellers listed above, there's a common element to nearly all of them: The opportunity to defraud a financier typically stems from the trust financiers place in Sellers. Under the scenarios listed above, a Seller has devised a plan that allows them to exploit loopholes in the financing arrangement and/or the lack of connectivity between their financier and Buyer.

Avalon continues to ensure the appropriate systems are in place to catch fraud early. This will include rigorous vetting of CrowdZ' origination, underwriting processes, and methodology pertaining to data collection, analysis, and scoring.

## 5.2 Mitigating risk & SuRF Score

Avalon uses several methods to mitigate risk as it pertains to fraud and non-repayment.

### 5.2.1 KYC and KYB

Through CrowdZ, all Avalon participants will undergo strict KYC and KYB processes before they are approved to use the platform. With respect to Sellers, their information will be cross-checked against data providers like Equifax, Experian, or Dun & Bradstreet, ensuring they are clear of default. CrowdZ will also prompt Sellers to connect their accounting software and bank accounts to their software, so historical information can be used in the risk-scoring process.

Purchasers will also undergo KYC/KYB processes before they can transact on the platform.

### 5.2.2 SuRF Score

CrowdZ has developed and extensively tested its SuRF Score (Sustainability, Risk, & Financial Score). The score predicts the likelihood a company will pay its obligations on time or before the obligation becomes delinquent. A companion metric called the DBT Score (Days Beyond Term) also contributes to the SuRF Score. The DBT score predicts how late (how many days beyond term) the Seller may be paying its obligations.

Several factors are used to determine the SuRF Score:

1. An assessment of the company's external credit ratings;
2. Basic and advanced analysis of its financial metrics;
3. Their historical likelihood and timeliness of paying their external debts (debts not related to CrowdZ or Avalon); and

4. Their historical record of repaying receivables financing within the CrowdZ and Avalon ecosystem.

The respective role and contribution of these factors is refined over time using AI based on their historical predictive accuracy. Ultimately, separate scoring protocols will be established depending on a company's industry, geography, size, and structure.

### 5.2.3 Accounting Software and Banking

CrowdZ connects to most accounting software and, when possible, banking platforms using open banking or screen scraping. These allow the collection of critical information that helps to de-risk transactions.

## 5.3 Pricing

The pricing (discount rate) a Seller receives on their receivables will be determined by the Automated CrowdZ Discount Rate Assignment Model. This stems from the Seller's SuRF score and other factors to dynamically calculate and assign, in real-time, a risk-rated discount rate.

The calculated discount rate accounts for various financially-relevant possibilities, such as non-payment and late payment. The discount rate can also be parameterized on a company, industry, geographical, or individual receivable basis. Lastly, other variables are considered, including insurance costs, UCC filings and fraud prevention costs, maximum APR to the receivable Seller, and the return to the receivable purchaser and CrowdZ.

These complex calculations result in a score for each receivable and the company selling them, creating a risk grade and corresponding discount rate; the lower the risk, the lesser the discount, and vice versa.

In addition, a Seller can reduce the discount rate applied by staking CRZ tokens and using them as collateral against the receivable posted, as described in the Token Mechanisms section above. By engaging in this activity, a Seller can positively impact their discount rate.

## 6. Exception handling

### 6.1 Insurance

Purchasers can protect their capital by taking out insurance when they buy receivables. The insurance premium varies based on the risk associated with the Seller and the amount of capital they've outlaid.

Note: Insurance payouts are only triggered after the formal collections process is finalized. At this stage funds have been recovered, or funds have not been recovered (or partially recovered). If it's the latter, the funds will be recorded as a write-off, and the insurance company will commence its process to settle the payout directly into the purchaser's wallet.

### 6.2 Recovering unpaid sums

When a receivable is not paid in full or when payment is late, Avalon will undertake the following actions:

- a) The Seller is reminded of the outstanding payment via our first party collection partner who will send several reminders (emails, phone calls)
- b) If full repayment still hasn't occurred, Avalon will commence a formal collections process with a debt collection agency, typically to collect from the Obligor.

### 6.3 Liquidation of staked collateral

If a Seller pledges collateral, the smart contract will execute recovery actions under the following scenarios:

<b>Days past due</b>	<b>Actions</b>
30	Liquidation of 10% of the collateral to signal that the Seller needs to act. The smart contract will execute this on the 30th day.
60	Liquidation of the collateral to an amount that recovers the price advantage (the discount reduction on the face value of the receivable) the Seller received. The smart contract will execute this on the 60th day after their receivable was due to be paid. This time buffer is permitted to not punish short-term delays beyond the Seller's control (such as Buyer non-payment).
90 (expected write-off)	Liquidation of all remaining collateral.

CRZ tokens will automatically be sent to the wallet of the respective Purchaser and the value upon transfer will be deducted from the overall sum outstanding on the contract.

As further sums are recovered from the Seller, they will be paid to the wallet of the respective Purchaser per the usual distribution metrics.



## 7. Legal and market considerations

A key principle of Avalon is compliance with any relevant domestic regulation in each jurisdiction in which it is used, and minimizing regulatory requirements to ensure timely deployment of Avalon.

Avalon is domiciled in Switzerland and operates under the Swiss Anti-Money Laundering Act, however, it is exempt from the following Swiss laws:

- Banking Act;
- Collective Investment Scheme Act;
- Financial Services Act; and
- Financial Institutions Act.

**Collective Investment Scheme Act:** Each user purchases a specific receivable (true sale). The act prevents receivables from being part-purchased by multiple Purchasers through pooled funding (the usual model used in DeFi protocols). Accordingly, none of the planned activities by Avalon are subject to the Collective Investment Scheme Act.

Avalon will likely evolve towards a liquidity pool model in subsequent iterations, particularly to facilitate the retail market to invest in receivables, subject to first receiving necessary regulatory approvals.

**Financial Services Act:** An individual receivable represented by an NFTr qualifies as a debt of the Obligor that is not standardized. Accordingly, the NFTr are neither securities (debt instruments are only securities if they are standard and mass tradeable) nor financial instruments under the Financial Services Act. The Financial Services Act does not apply to the launch of the Avalon platform.

**Financial Institutions Act:** Avalon does not engage in any activity that qualifies as portfolio management of financial instruments, collective investment or fund management, or

professional trading with securities (for its account, the account of clients, or as a market maker). The launch of the Avalon platform is thus not subject to the Financial Institutions Act.

**Anti-Money Laundering Act:** The business relationship between users on the Avalon platform, and the corresponding peer-to-peer payments on the Polygon layer 2 distributed ledger network, which occur via connected third-party, non-custodial web-wallet solutions, is deemed as assistance transferring virtual currencies to a third party, and will result in qualification as services related to payments that is subject to the Anti-Money Laundering Act.

## 8. Roadmap

This whitepaper describes v1 of Avalon; however, as the world continues to embrace the tokenization of assets and the use of distributed financial systems, we envisage an environment that's conducive to further iterations of Avalon.

The first iteration of Avalon will be released in 2022, commencing our feature roadmap as follows.



Figure 12:Project roadmap

### 8.1 NFTTr

Stage 1 of Avalon is to deliver an NFTTr Marketplace that allows Sellers and Purchasers to conduct business through the buying and selling of receivables tokenized according to the NFTTr standard, utilizing fiat currencies.

### 8.2 Stablecoin

Ability for Purchasers to use a USD stablecoin to purchase a receivable by NFTTr. Further opportunities to do on-/off-ramp transactions

### 8.3 Secondary market

Allow receivables, via NFTTr, to be sold on a secondary market before the receivable payment date.

## 8.4 CRZ Token

Based on the ERC-20 token standard, CRZ is the native token of Avalon that will be minted and used to drive the decentralized marketplace described in this whitepaper.

## 8.5 Liquidity pools

Future versions of Avalon will, subject to prior regulatory authorization, offer Purchasers Liquidity Pools collateralized by receivable NFTs. Presently, DeFi liquidity pools are crowdsourced pools of crypto tokens locked in a smart contract to facilitate trading between asset pairs on a decentralized exchange. These pools are operated by Automated Market Makers (AMMs), which facilitate peer-to-peer trading in an automated and permissionless manner. By collateralizing Liquidity Pools with receivable NFTs, Avalon aims to bring the industry a different type of investment opportunity, one backed by Real World Assets.

Avalon also aims to facilitate more complex transactions such as syndication for large receivables.

## 9. Glossary of ecosystem

### 9.1 Ethereum 2.0

Ethereum 2.0 offers several upgrades to its mainnet, seeking to address current shortcomings around scalability. Expecting to go live sometime in 2022/23, the upgrade will make the Ethereum blockchain more secure and scalable (supporting thousands of transactions per second). To achieve these objectives, Ethereum will use blockchain sharding and move from a Proof-of-Work (PoW) consensus algorithm to Proof-of-Stake (PoS), allowing validators to propose and validate blocks without using the energy currently required to mine these blocks under a PoW algorithm.

### 9.2 IPFS

IPFS is a peer-to-peer hypermedia protocol that is upgradeable, resilient, and more open than traditional databases. It efficiently distributes high volumes of data without duplication and powers the creation of diversely resilient networks that enable persistent availability. IPFS enables an efficient transition to a decentralized version of the web for developers and users. It has been the standard for respected platforms to store non-fungible tokens metadata.

### 9.3 Non-Fungible Token

Unlike fungible tokens (ERC-20), a non-fungible token (ERC-721), is a unique and non-interchangeable unit of data stored on a blockchain. Lately, NFTs have been heavily associated with digital art or game artifacts, which use NFTs as a certificate of ownership. However, with respect to Avalon, Real-World Receivables are tokenized as NFTs and provide a representation of these assets on the blockchain.

### 9.4 Stablecoins

Stablecoins are a class of cryptocurrencies that draw their stability from being pegged to physical or digital assets, like fiat, or cryptocurrencies, and sometimes, through algorithms that regulate supply and demand to achieve price stability. Typically based on the ERC-20 token

standard, stablecoins have proved to be a powerful tool in the cryptocurrency ecosystem. They provide instant on-chain settlement, do not fluctuate in value, and can be adapted to incorporate privacy features. Central Banks across the world are piloting their own versions of stablecoins, known as 'central bank digital currencies' or CBDC, noting that these assets would exist on permissioned blockchains and be guaranteed by the government where the central bank operates.

Presently, the three main Stablecoins are DAI, USDC, and USDT, with USDC being collateralized by USD Fiat at a 1:1 ratio. While DAI also has a substantial portion of its collateral being made up of USD Fiat, the decentralized stablecoin also includes other cryptocurrencies in its collateral pool, such as Ether.

## 9.5 DeFi

Powered by smart contracts, the Ethereum blockchain has given rise to a new financial vertical known as decentralized finance (DeFi). This new vertical is booming, with 3,000+ decentralized applications (dApps) offering disruptive solutions for lending and deposits, stablecoins, derivatives, and more. While other blockchains also offer DeFi products, Ethereum boasts 100 billion in total value locked (TVL), a metric used to measure the amount of liquidity locked in decentralized protocols, making it the biggest and most used blockchain for these financial products.

## 10. Glossary of terms

**Avalon Marketplace:** Avalon is the decentralized marketplace of CrowdZ on the blockchain. It encompasses the entire marketplace infrastructure as well as supporting features such as on-boarding, risk scoring, collection or insurance

**Altcoin:** Altcoin is any cryptocurrency than Bitcoin, e.g. Ether

**Bitcoin:** Bitcoin is the first cryptocurrency that came into existence in 2009 by Satoshi Nakamoto

**CeFi:** CeFi stands for Centralized Finance as opposed to DeFi for Decentralized Finance

**CrowdZ Token (or CRZ):** CRZ is a DAO token that is here to incentivize the right behavior on Avalon Marketplace

**CBDC:** CBDC stands for Central Bank Digital Currency (CBDC), is the virtual form of a fiat currency issued by Central Banks

**CEX:** Refers to Centralized Exchange, e.g. Coinbase

**dApp:** dApp stands for decentralized applications that run without control of a central authority

**DAO:** DAO stands for the decentralized autonomous organization. Usually based on ERC-20 standard

**DBT:** Days Beyond Term

**DeFi:** DeFi stands for Decentralized Finance, is an umbrella term for financial services on public blockchains, primarily Ethereum

**DEX:** Refers to Decentralized Exchange, a peer-to-peer marketplace, e.g. Aave or Compound

**DLT:** DLT stands for Distributed Ledger Technology (DLT) meaning that a ledger is distributed in multiple places

**Ethereum:** Ethereum is a decentralized blockchain with smart contract functionality

**Ether:** Ether is the fuel that powers distributed Ethereum blockchain

**ERC-20:** ERC-20 is a technical standard for issuing fungible tokens on Ethereum blockchain

**ERC-721:** ERC-721 is a technical standard for issuing non-fungible tokens on Ethereum blockchain

**Fiat:** Fiat is the government-controlled currency and is declared as legal tender

**ICO:** ICO stands for Initial Coin Offering that is issued by startups to raise funds by selling tokens

**KYB:** Know Your Business is the process to assess and understand one's business

**KYC:** Know Your Customer is the process to assess and understand one's individual

**Mainnet:** Mainnet is a working blockchain product that also provides the ability to transfer digital currencies or assets between users in a blockchain environment

**Margin call:** A margin call is an indicator that the value of a security or asset held has decreased in value below a defined threshold. Margin calls require additional capital to bring an account up to the minimum maintenance margin

**NFT (or ERC721):** NFT stands for Non-Fungible token, which is a non-interchangeable unit of data stored on a blockchain, a form of digital ledger, that can be logged or moved on the blockchain to symbolize the ownership and sale or trade of the asset it represents

**NFTr:** a subtype of NFT, used as a digital representation of an asset (a receivable) on the blockchain as a Non-Fungible token. The NFTr is the token that represents the receivable being traded on the platform

**PTV:** Loan To Value is a financial term used by lenders to express the ratio of a loan to the value of an asset purchased. In this case there is no loan, but the calculation is the same, to permit tokens to be reserved in exchange for purchase price discount reductions. Thus the term: Price To Value

**SCF:** Supply chain finance where suppliers can receive early payment by selling their receivables

**Stablecoins:** A stablecoin is a class of cryptocurrencies that attempt to offer price stability and are backed by a reserve asset