



## A Decentralized Peer-to-Peer Media Editing, Transcoding & Distribution Platform

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### ABSTRACT

Transcodium aims to provide the first peer-to-peer blockchain based and decentralized media transcoding, editing and distribution platform with high quality and reliable computational power at a very affordable price. This will create a global market for users, willing to rent their idle machines to be used as workers (miners) . Further, at the end of the transcoding process, the worker (processor) will be rewarded with the TNS token which can be exchanged into any currency or can be sold to customers (initiators) who need these tokens for use on our platform.

Transcodium started as medianap in 2015 with a visual cloud transcoding and media editing platform, but went out of business due to the high cost of cloud servers, we could not compete with the existing platforms and had to switch to another business, In 2016, our team decided to look into the project again but this time using the blockchain and decentralization technology. Unlike the previous platform, Transcodium's network will be fully autonomous without human intervention. [Click here to try our product](#) or [Click here to track our existence since 2015](#)

Transcoding is the process of converting from one file format to another desirable and compatible format. Before your favourite social media

platform or streaming site such as Youtube or Netflix makes a video available to you, they need to convert this video into multiple formats in order to support different devices such as smartphones, laptop and desktop computers, TVs and more, since each of them have different capabilities. Some videos might even fail to play over a slow internet connection, these type of videos will also need to be converted into a lighter format for a smooth streaming.

Workers are idle devices on the network waiting to process a transcoding request.

Initiators are customers or users who needs their files to be transcoded or converted into another format.

Processors, this is a collective term denoting master nodes and workers.

**The global video streaming software market size is expected to grow from USD 3.25 Billion in 2017 to USD 7.50 Billion by 2022**

Transcodium will tackle all the 3P's ( Privacy, Pricing, and Processing Power) in an instance, there will be no limit on how much processing power Transcodium will be able to generate from its network. Transcodium network will be available to its target customers in a more cheaper price than the current market price.

Transcodium's unique algorithm will enable the conversion of media files in a supersonic speed by splitting large media files into very tiny chunks and thereafter will be encrypted, compressed and sent to workers (idle devices) to process. Due to the lightweight of each chunk, these tasks will be transferred and processed at a very fast speed, even smartphones will be capable of processing them. Tokens will be rewarded to any worker who completes its task before the allocated timeout.

# Do You Know: 87% of online marketers use video content

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## INTRODUCTION

Recently, the world has seen a remarkable improvement in the media industry, i.e. from video advertising to media streaming, however, due to the high cost of cloud transcoding services, it has been very challenging for startups and companies on a low budget who needs these services.

Since the emergence of cloud technology, the transcoding industry has grown at a very large scale. We are well known to companies like Netflix, Amazon Prime, Vimeo, Youtube, and e.t.c, who transcodes terabytes of data on daily basis, investing a large amount of their revenue on media file conversion. The current report also predicts that, by the year 2019, the transcoding market will grow by **15 percent CAGR globally**, which reflects a huge scope to flourish.

The concept of transcoding has always been limited to the conversion of video and audio files, however, it has the larger extent to take any type of file like PDF, HTML, Word Document and converts it into any possible preferred format.

Transcodium will provide APIs, Console and GUI Applications for customers to aid in a rapid transcoding process. Before processing starts for each transcoding request, the initiator (customer) will be provided with the estimated cost for approval, once approved, the initiator's wallet will be debited for the processing to commence.

The file transcoding process includes two parties, master nodes, and workers. Master nodes receive the transcoding request, they then split large media files into chunks when necessary, encrypts these chunks and forward them to workers.

Workers, on the other hand, are responsible for converting the file into the new format. Any device can be a worker, but not a master node. A master node must have a faster processing power and a strong internet connection. A master node can also serve as a worker simultaneously. Master nodes are rewarded with 20% of the transcoding cost whilst 80% is shared amongst the workers. The master nodes are also responsible for joining the chunks when needed.

Multiple master nodes may process the same request for the sake of data loss. Master nodes have another opportunity to earn from the distribution of the final output to multiple social media or storage platforms which the initiator (customer) will be charged for.

**Did You Know: One-third of online activity is spent watching a video.**

## IDENTIFIED PROBLEMS

With the current cloud transcoding platforms, the following problems and limitations were identified:

- Cloud transcoding platforms are too expensive and are scaring away startups, who require their services. Existing companies have to spend more than half of their income just for processing these media files, which is not encouraging.
- Long processing time due to limited hardware. Cloud transcoding platforms has a hard limit on hardware, therefore, all the files to be processed are queued, until their time is due for processing, which causes frustrations on the customer's side waiting for processing.
- Due to the centralized nature of the platform, a server outage or downtime can cause failure of the whole transcoding process wasting time, money and resources.

- Most transcoding platforms are limited to only media file formats, making it very difficult to convert other formats such as images and documents formats.

## OUTLINED SOLUTIONS TO THE PROBLEMS

Here are the proposed solutions to the problems above:

- The blockchain and decentralized technology model enables the provision of a cheaper and reliable alternative to cloud transcoding.
- Due to the unlimited processing power, all thanks to the workers, files will be transcoded in a very fast speed, eliminating long queues and waiting time.
- A single transcoding request will be processed by multiple nodes and workers, so the outage of one node or worker will have no effect on the process, making it more efficient and time-saving.
- Transcoding will not be limited to audio and videos only, but also other file formats such as images and documents.

**Did You Know: By 2019, internet video traffic will account for 80% of all consumer Internet traffic**

## GENERAL STRUCTURE

The integrity will be maintained by the proof of conversion. To get the reward, the peer has to submit a proof of conversion before the assigned timeout else the network will mark the task as aborted. Human interaction is not required for completion of the entire transaction.

The transcoding process starts when a master node receives a request from the initiator, the master node will then analyze the file, split large media files into smaller chunks, encrypt them and distribute them to idle workers with instructions.

These chunks will be so small that they will be transferred to the worker in a little amount of time even on a slow internet connection. Due to the little size of this chunk, smartphones will be capable of processing them.

Data transfer between the master node and a worker will have an end to end encryption for maximum privacy and security.

The workers will process the file based on the instruction attached to the file or chunk. After the processing is done, the worker will send the processed file or chunk to the master node to join if required.

The master node will then execute its final task by exporting the output to its destination. Multiple destinations are supported. The first destination will always be free, but an additional destination will attract a fee which will be rewarded to the master node.

The pricing system on the Transcodium network is maintained by the TNS regulation. The TNS regulation is an autonomous algorithm which brings balance between processors and initiators thereby making both parties happy.

Workers periodically send updates to the master nodes about their status, this information sent includes their processing power, internet speed, conversion time and device information. The TNS regulator uses this information together with proof of stake and other factors to randomly select idle workers for processing data. This also enables the network to group workers based on their performance.

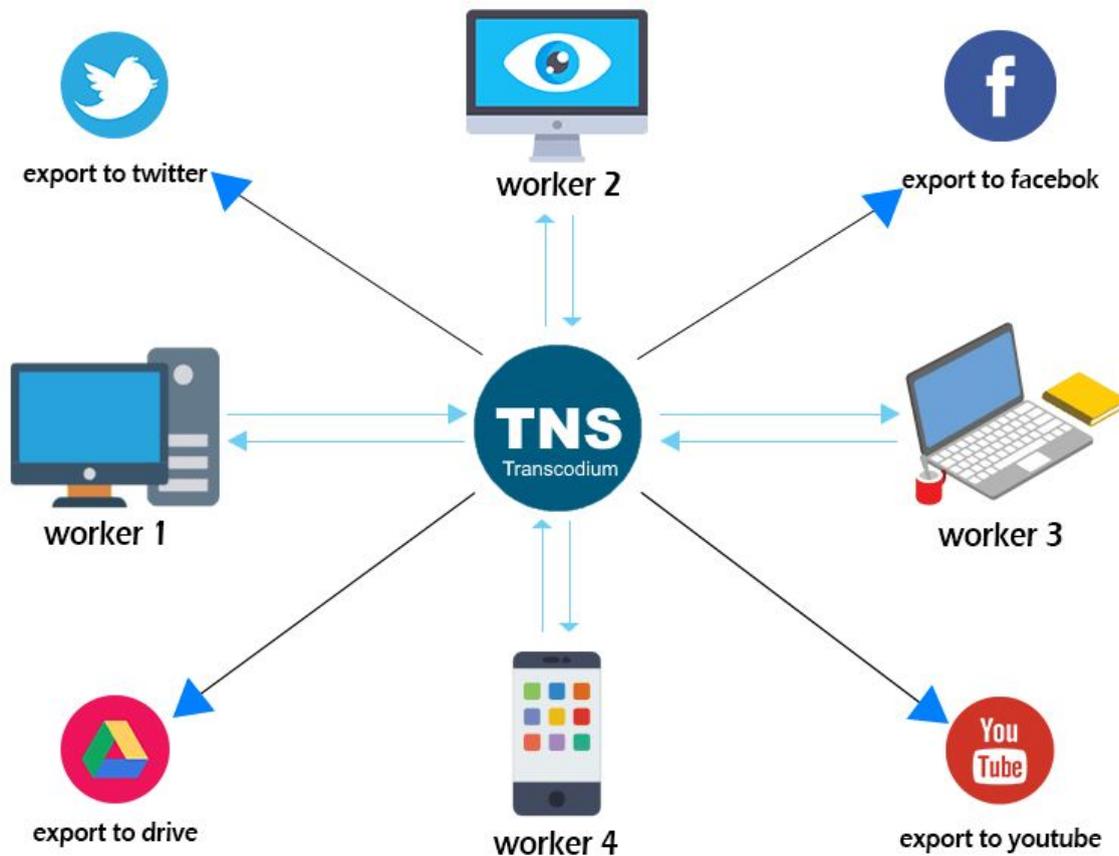
Initiators have the free will to select from a price range of \$0.006 to \$0.01 per minute for an SD quality video output and \$0.008 to \$0.020 per minute for an HD video quality output.

Non-video files such as audio will have the price range of \$0.006 to \$0.001 per minute of output.

Files such as images and documents (PDF, word and etc) cannot be measured in time (minute), so they will be measured according to their size

in megabyte. A megabyte of a file will have the price range of \$0.006 to \$0.01 per output unit.

To enable fairness on the network, the highest paid task will be assigned to the best performing workers to help provide the initiator value for the money paid.



The image above explains the operation of a master node and workers on the Transcodium network

**Did You Know: 100 Million Hours Of Facebook Videos Are Watched Every Day**

## TRANSPARENCY

The use of smart contract will enable transparency on the network, vital information such the file duration, the amount the initiator was charged and the amount paid to workers will all be on the public ledger. Customers and workers can always check how much they have been charged or paid respectfully for a specific task on the network.

## PROOF OF STAKE

To achieve a better-decentralized consensus, the Transcodium network employs the proof-of-stake type of algorithm where workers are randomly selected based on their wealth and age of account. This helps in selecting workers with quality processing power thereby saving time and money.

## PROOF OF CONVERSION

The proof of conversion agreement between the master node and a worker states that, a worker has to complete its task within the given time range to receive the reward, during processing of data, the worker sends progress update to the master node, the worker must complete processing the data before the assigned timeout else the network will mark the task as aborted or inactive and will award that same task to the next available idle worker.

A dynamic timeout is set on all transcoding activities based on the performance of the worker and the size of data to be processed. The contract pays a worker after a successful transcoding and submission of file. A task is deemed completed after the processed file is uploaded and verified by the master node. The proof of conversion will be backed by a smart contract. The proof of conversion together with the proof of stake makes the TNS regulation which is responsible for making a smart random selection of workers and bringing balance between initiators and processors.

## Did You Know: Per day users spend 100M Hours watching Netflix.

### WORKERS

Workers are idle devices responsible for processing data on the network. Any device with an internet connection and capable of installing our application can be a worker. A worker can earn more rewards if it has higher specifications such as a multi-core device or GPU based devices.

Once a device installs the Transcodium app, it becomes part of the Transcodium network, an initial device assessment will be made to help rank the device as part of the TNS regulations.

After a successful task, workers are rewarded with 80% of the total amount paid in TNS token whilst 20% goes to the master nodes responsible for processing the final output and distribution.

## Did You Know: Every minute 12 Hours of music uploaded to SoundCloud.

### CUSTOMERS

Transcodium network will enables customers to avail unlimited processing power in a very cheap compensation for the task. Customers will be able to select a price from the range of prices provided by the TNS regulation, the higher the price the faster the file conversion and vice versa.

Customers or initiators will have three types of interface to ease the conversion process:

1. An API interface to help developers integrate into their projects or apps,
2. The command line interface will be for basic functionality and

3. The advanced visual studio media editing app for complex media editing needs.

The customer can select where to export the file after processing, destinations such as facebook, youtube, twitter, SFTP, Amazon AWS, Google Drive and etc will be supported. Multiple destinations are supported. The first destination is always free, other subsequent destinations will attract a fee which will be rewarded to the master node processing it.

Before processing of any file commence, the application will compute the total cost for the initiator to approve, once approved, the initiator's wallet will be debited. The debited amount will be refunded if processing fails.

Customers will need the TNS token in order to pay for any transaction on the network.

**Did You Know: Average number of monthly Dailymotion video views is 3.5 Billion**

## DEVELOPERS

Transcodium will provide SDKs & APIs for using or accessing data on the network. Developers can build their own software or service around it.

Use Case 1: Developers building media conversion software can take a great advantage of services on the network such as providing their software's users with the ability to export their output to multiple destinations such as youtube, facebook, Dailymotion and etc.

Use Case 2: Using the Transcodium network, developers can build a complex video and audio editing tools with advanced features which in most cases will take forever to be processed on user's computer or smartphone.

Use Case 3: Using the Transcodium master node, developers can build their own exchange market to assist in trading the TNS token easily, developers can add their own fees to make a profit.

## OPEN SOURCE

At Transcodium we believe in openness and transparency, we support the open source idea, all of our developments will be made available to everyone on our GitHub repository ( <https://github.com/transcodium> ).

Open sourcing our project will help promote innovation. We will welcome contributions from anyone who wishes to improve the project. To show how serious we care about this, we recently open sourced the cloud version which was a proprietary project.

## TRANSCODIUM ( TNS ) TOKEN

TNS token is an ERC-20 compliant ethereum based token which is designed to work on Transcodium network. The token will be the official currency to be used on the network.

The total supply of the TNS token is 120 million and has a maximum of 18 decimal places. This is a fixed supply and will not decrease or increase, the decision of the total supply was made by the Transcodium team and founders. The limited supply will help improve the quality of the coin.

The transcoding industry has a huge market, so the limited coin supply is a great advantage for both investors and marketers in the near future.

## PLANNED ADD ONS

### BUILT IN LIVE EXCHANGE

All Transcodium's wallet applications will have an inbuilt live exchange to enable users to convert their coins to other currencies. The live exchange will connect to some of the popular existing exchange platforms available. This will help ease the token acquisition process to customers or anyone who will need them.

### TOKEN LENDING FEATURE

With the adoption of proof of stake concept, one important factor in the selection of a worker involves their wealth, but not everyone can meet that requirement, so we decided to employ a lending feature into the platform, where token holders or investors can lend their tokens to workers who need them. The borrowed tokens cannot be spent, it will be backed by a smart contract, a worker can borrow tokens with a specified time period. The longer the time, the higher the interest to be paid on the loan.

Only workers are eligible to borrow. Before any worker is credited with the principal, the interest is auto-calculated and debited from his/her account based on the duration. The interest will be added to the principal, this means a worker needs some amount in his/her wallet before applying for a loan. The principal plus interest will be locked using a smart contract until time is due for release to the lender.

### CROWD FUNDING

Transcodium will raise funds for development of the project, payment of salaries and future expenses using crowdfunding. This will help accelerate development and also enable the team to work full time with total commitment.

During crowdfunding, Participants will be given the TNS token after they have made payment. Payment method will be in Bitcoin, Ethereum or Litecoin.

The TNS token can be used on our platform once the project is ready and in production mode. Also, holders of TNS tokens can sell it to users who need the token for file processing on our platform.

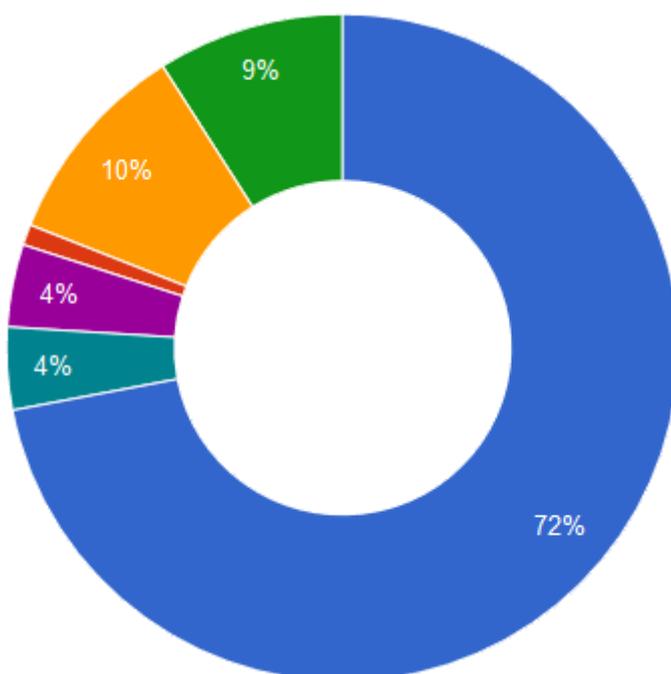
The presale starts on January 7th, 2018 and ends on February 31st, 2018. During this period early investors will be given a discount of 30% for the first 5,710,000 tokens to be sold.

Any unsold tokens after pre sale will be moved to the main ICO sale and will have the same bonus terms as the main ICO. Moreover, all unsold tokens after the main ICO sale will be reserved to help support the company in the long run.

Participants or Investors will be refunded if the softcap is not reached after the main ICO. The smart contract will handle all refund operations to participants who contributed using ethereum, for non ethereum contributors, we will manually send the refunds to the addresses from which we received the funds.

Tokens reserved for team members will be locked until 3 months after main ICO sale. Also, team members will receive only 25% of their tokens after every 3 months interval.

## TOKEN DISTRIBUTION



TOTAL SUPPLY: 120,000,000

- ❖ Token Sales (72%)
- ❖ Bonuses, Discounts and ICO expenses (4%)
- ❖ Advisors & Partners (4%)
- ❖ Bounty (1%)
- ❖ Team Members (10%)
- ❖ Marketing (Present & Future), Provision of trial accounts for customers and platform testers.

Token Type : Ethereum ERC-20 Compliant

Price Per Token : \$0.376

Minimum Purchase : 10 TNS - \$3.76

## BONUS & DISCOUNTS

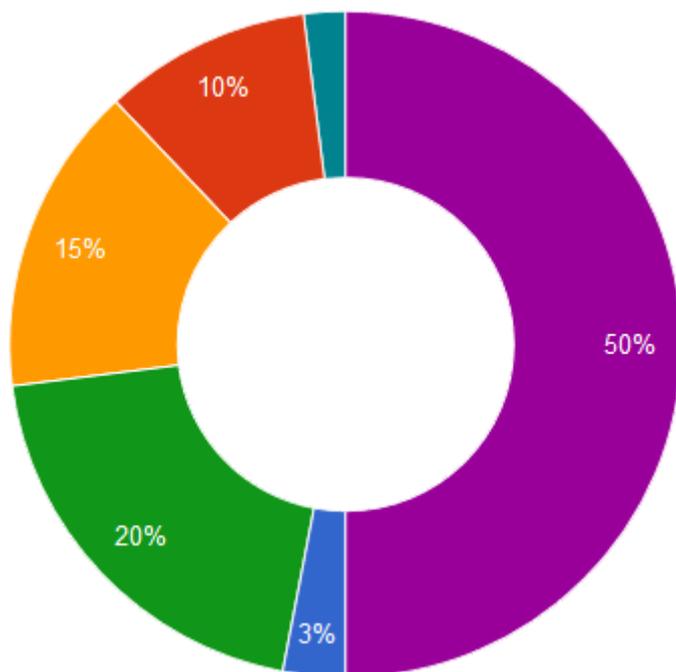
Pre-ICO

| No. of token sales | Offer      | Price       |
|--------------------|------------|-------------|
| 5,710,000          | <b>30%</b> | \$0.263 USD |

ICO

| No. of token sales | Offer      | Price       |
|--------------------|------------|-------------|
| 6,680,000          | <b>20%</b> | \$0.300 USD |
| 22,190,000         | <b>10%</b> | \$0.338 USD |
| 25,220,000         | <b>5%</b>  | \$0.357 USD |
| 26,600,000         | <b>0%</b>  | \$0.376 USD |

## FUNDS ALLOCATION



SOFT CAP: \$500,000

HARD CAP : \$30,000,000

- ❖ Project Development (50%)
- ❖ Company Expansion To Other Countries (3%)
- ❖ Marketing & Brand Awareness (20%)
- ❖ Operational Expenses (15%)
- ❖ Legal & Insurance
- ❖ Miscellaneous Budget

## TEAM



CEO / CO-FOUNDER

### **Jeetendra Kumar**

A cryptocurrency investor & enthusiast, as an angel investor, Jeetendra has helped many startups such as medianap from an idea stage to production stage, He knows when to invest and also works hand in hand with team members to achieve the goal.

**Profiles:**

[Linkedin](#)



CTO / CO-FOUNDER

### **Razak Zakari**

With his vast knowledge in programming languages such as Java, Kotlin, Python, PHP, Javascript & Nosql Databases, Razak has worked on projects ranging from small to large scale in size such as geetmp3.com, medianap.com & playslack.com. He also designed the architecture for the cloud version of this product.

**Profiles:**

[Linkedin](#)

[Stackoverflow](#)

[Github](#)



BLOCKCHAIN EXPERT /  
CO-FOUNDER

### **Abhishek Tiwari**

Abhishek has 9 years experience as a backend developer, frontend designer & a blockchain expert. As a blockchain enthusiast, He helped built the blockchain based Dapp for a global rewards network called ALLOY at Codemojo Limited

**Profiles:**

[Linkedin](#)



BACKEND DEVELOPER /  
BLOCKCHAIN EXPERT

### **Rushio Billings**

Rushio has 10+ years experience in scaling web architectures and building stable web systems. Building the first Caribbean bitcoin mobile ecosystem, Rushio has immense knowledge in the blockchain space.

**Profiles:**

[Linkedin](#)

[Stackoverflow](#)



SECURITY ANALYST & SERVER  
ADMIN

### **Parvez Alam**

Recognized in the Microsoft Security Response Center (MSRC) Bounty Program Top 100 list of 2016 & 2017. He has also been acknowledged by Google, Sony, Microsoft, Yahoo, Alibaba, PayPal, Adobe, e.t.c. Parvez has trained more than 5000+ students by organizing seminars & workshops.

**Profiles:**

[Linkedin](#)



MARKETING MANAGER

### **Imran Khan**

Imran Khan (MBA) has 5+ Years of experience in sales & marketing both online & offline. He has mostly worked with Multinational companies which helped him gain a lot of international exposure.

**Profiles:**

[Linkedin](#)



ENGAGEMENT  
COORDINATOR

**Rupsa Sheal**

With her love for social media & public interactions, Rupsa is responsible for Transcodium's social media & public communications.

## ROADMAP

### 2015

|       |   |
|-------|---|
| March | First Cloud version of platform created |
|-------|---|

### 2016

|          |  |
|----------|--|
| January  | Decision to adopt blockchain & Decentralized technology over centralized cloud |
| April    | Research & Analysis into the blockchain & Decentralization technology          |
| November | Drafting of white paper  |

## 2017

|      |   |
|------|---|
| July | Company Registration & Legal Processing Commenced in UK |
|------|---|

## 2018

|          |   |
|----------|---|
| January  | Token Pre Sale  |
| February | Public ICO starts   |
| May      | Listing TNS token into public exchanges   |
| July     | Development of wallet (with built in exchange and miner) for major platforms (Android, Windows & Linux) |
| December | Development of master node application for major platforms  |

## 2019

|          |  |
|----------|--|
| July     | First beta testing of platform & the provision of fully paid premium accounts for investors, token holders, brands, startup to try the platform for 1 month. |
| November | Production commence for the platform   |

## Contacts & Resources

Email - [support@transcodium.com](mailto:support@transcodium.com)

Website - <https://transcodium.com>

Blog - <https://blog.transcodium.com>

Facebook - <https://facebook.com/transcodium>

Twitter - <https://twitter.com/transcodium>

Medium - <https://medium.com/@transcodium>

Reddit - <https://reddit.com/r/transcodium>

Telegram - <https://t.me/transcodium>

Github - <https://github.com/transcodium>