dBounce

Intelligent, autonomous audio post-production for content creators, music, TV & radio

White Paper

Contributors:
Anssi Uimonen
Dr Michael Terrell
Pekka Jääskeläinen
Fabien Schivre

EXECUTIVE SUMMARY

The Problem

Audio production is an integral stage in content creation because it ensures that videos, podcasts and general audio content sound professional and provides the best possible listening experience to the audience. However, audio production requires a special toolkit of audio processors and the skill-set to drive them – ultimately resulting in over 80% of content published online not being produced in any way (YouTube, Facebook, Instagram, Soundcloud). Subsequently this content is often sub-par in quality.

With over 600 million videos published per year on YouTube alone *(500 hours of content uploaded every minute, average video length estimated to be 15 minutes),* the problem with low audio quality is big, and growing fast *(est. market size $100 Bn by 2021).*

Audio quality has a direct impact on the end user experience of the listener or viewer, and as the quality of majority of videos online today is lacking, platforms and content creators are missing out on engagement from viewers.

Solution: dBounce

A distributed AI audio producer, who makes your audio content sound professional and streaming-optimized instantly. By utilizing a community-driven ecosystem, we are able to build the most comprehensive set of AI audio producers in the world.

Together with the community, we can build the best Audio AI and toolset to help millions of Content Creators achieve professional sound for their video and audio content.

Background
Founded in 2015 by a group of serial entrepreneurs, and backed by Abbey Road Studios' Red music tech incubator, private angel investors and early-stage VCs, and Tekes, the Finnish government funding agency for technology innovation. The CloudBounce service is currently available to musicians and bands, and we are soon launching our audio processing engine for podcasters, video creators and broadcasting companies.

The service is directly available through the centralized web service at www.cloudbounce.com, and via a REST API for partners and enterprise-grade customers.

CloudBounce is generating in excess of $120,000 in ARR from its music mastering service. During the last 2 months, our engine usage has grown from 95,000 to 150,000 total processed audio files.

Current investors and advisors include: Dr Michael Terrell (Ph.D Music Technology, Centre of Digital Music at Queen Mary University, London), Dave Hodder (head of product innovation at Focusrite Audio Engineering), Dr Ismo Kauppinen (Founder at Noveltech Audio), Olli-Pekka Kallasvuo (Ex Nokia CEO), Henry Nilert (co-founder at Iobox), Abbey Road Studios.

With our tokenization, we will rebrand our service into **dBounce**, to reflect the new decentralized path we are taking.
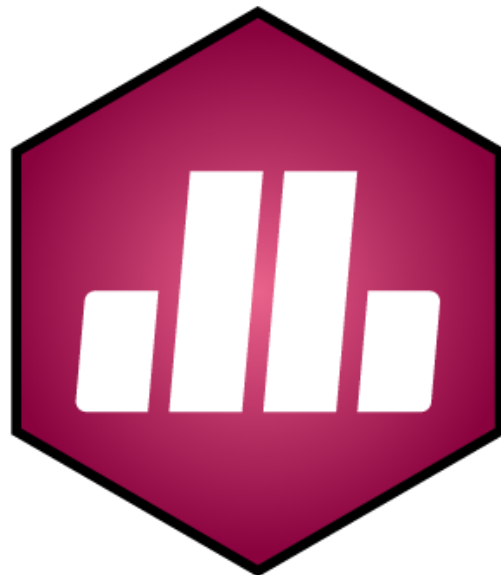
TABLE OF CONTENTS

1   LONG TERM VISION

Together with the community, we aim to make dBounce the leading solution for consumers, video and audio streaming services, broadcasting and production companies.

This can be done by building a self-sustaining, tokenized ecosystem, where everyone benefits from contributing to the project.

Enter **dBounce**.

2 Mission

Our goal is to build a robust, open network for AI audio production, enabling all content creators to make their videos, music and speech content sound the best it possibly can, automatically.

"We firmly believe that high quality audio should be affordable to everyone.
I want to invite you to join our journey in helping every content creator in the world make their creations sound better."

Anssi Uimonen, Co-founder & CEO

CloudBounce is a proud **Abbey Road Red** alumni company.

3 PROBLEM

On its journey from capture to consumption almost all audio, whether music or speech, will have undergone some sort of processing – which we refer to as audio production. The audio production process includes all stages from conception, composition and arrangement, to recording and mixing, mastering and streaming optimisation. The complexity can vary widely from one project to another, depending on both the type of audio and the budget available; but the tools used and expertise applied will have a huge impact on the ultimate quality of the audio content.

The problems faced will vary depending upon the content owner's specific role in the audio life-cycle. Many content creators, particularly amateurs, lack the tools and expertise to perform even the more basic production tasks, and professional services are prohibitively expensive. Professionals have the tools and expertise, but the process of producing audio is time consuming, and many more functional aspects are laborious and repetitive. Institutional owners, such as record labels, copyright owners, broadcasting companies and social media platforms have vast catalogues of audio content. The sheer scale of this content means that it is impractical to even consider a manual path to re-process, e.g. for re-mastering or stream optimisation.

Here we consider a few concrete examples:

- *An amateur musician* records a video of herself using her iPhone, but the level is low and there is some room reverberation. She would like to publish this recording but is unhappy with the audio quality. It needs some additional audio production but she lacks the skills to do this herself, and does not have the money to pay for a professional.

- *A professional audio producer* has an extended album to produce to a tight deadline. Much of the preliminary work to set up the mixes is repetitive across tracks due to their similarities. Rather than focussing on the creative elements in the mixing stage, she has to spend a disproportionate amount of time on these functional tasks.

- *A broadcasting company* has a back catalogue containing thousands of hours of television shows for which the audio was produced to an earlier broadcast standard. The cost of re-mastering and optimising for current streaming standards is far beyond the budget. The only alternative is to release the content with sub-optimal audio quality.

- *A social media platform* has millions of videos on its website. The majority of these have had no audio production, and the range in quality is vast. Irrespective of cost, there simply aren't enough audio

producers on the planet to keep on top of this amount of content. The result is generally poor and inconsistent quality.

4 SOLUTION

CloudBounce has built an AI audio production system that is capable of mastering music autonomously. It is currently used by recording studios, bands, producers and DJs in over 70 countries, and ranging from hobbyists to more established professionals.

STATE OF THE ART

Fig 1 illustrates the existing setup. The AI production system, which consists of an AI mastering engineer and an audio processing engine is deployed in the cloud, and the user is able to upload audio via a REST API (1). This audio is sent to the processing engine, which in turn communicates with the AI mastering engineer (2) to identify how the audio should be processed, i.e. what audio processing tools should be used, and how should we set their parameters. Once these parameters are identified, the engine processes the audio and returns it to the user (3).

In this configuration the AI mastering engineer (4) is built outside of the cloud infrastructure. It is our intention to build a far more inclusive, borderless, decentralised network in which our users can contribute to, and benefit from the most advanced AI for audio production, built together by our community.
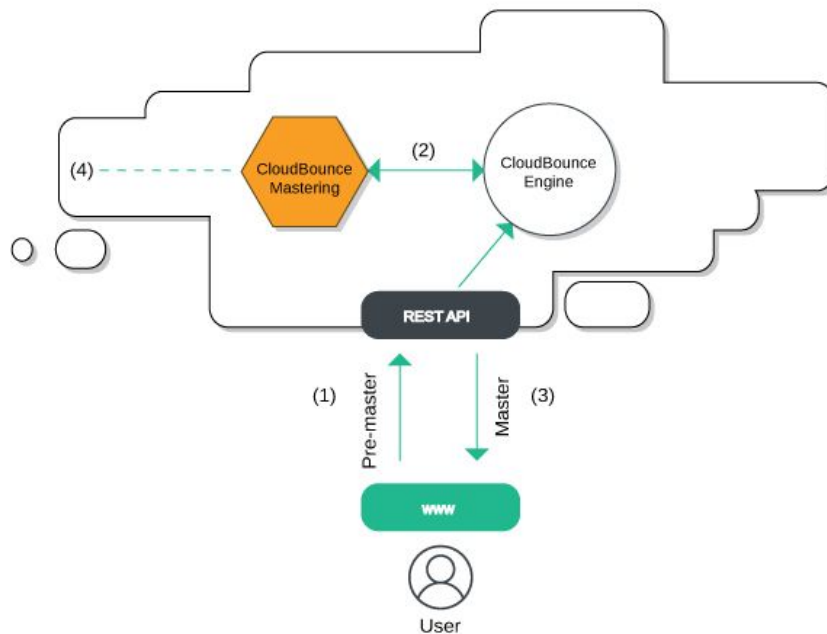
Fig 1: CloudBounce State of the Art

9

Building AI Audio Producers

Fig 2. illustrates how AI audio producers are built. We start with:

- A definition of a production task that we want to control, e.g. we want to control an equalizer.

- A dataset of audio features, e.g. from the Music Information Retrieval community.

- A set of perceptual data derived from audio evaluations or psychoacoustic experiments (optional). These provide subjective assessments of qualitative aspects of the audio signals being evaluated, and add significant value when building this kind of AI. Collecting these data is time consuming.

These three components are combined (1) and using machine learning techniques to build a machine learning model, which has a direct association with a specific production task, i.e. "this model knows how to apply EQ". A set of such models and task associations form the basis of an AI audio producer, in conjunction with some further definitions on how the individual ML models interact.

Our existing product contains an AI producer built as described above to perform mastering tasks for music, but work is ongoing to develop comparable AI to perform a vast array of audio production tasks.
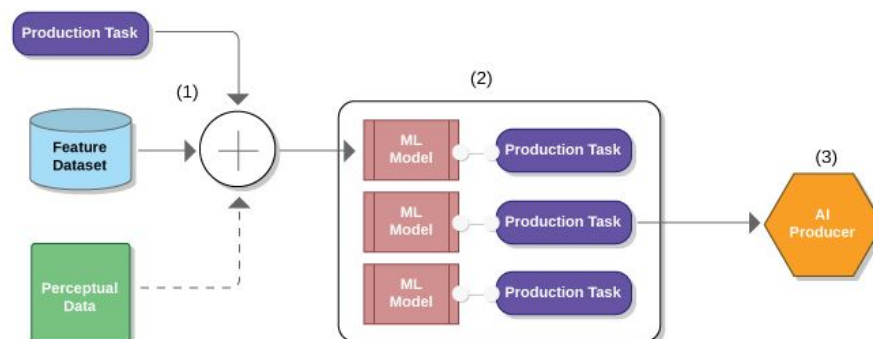
Fig 2: Building AI Audio Producers

10

Decoupling AI from Processing

All existing AI audio production systems, including ours, have a strong coupling between the AI and the processing engine. In other words, they live side by side in the cloud. It is our intention to break this linkage (Fig 3), so that our AI exists independently from the processing engine, which allows for many more options in how the AI is used.

For example, we will still maintain a cloud based processing engine, but we will also develop a standalone client version when the need arises, e.g. for a broadcasting company whose catalogue is so big as to prohibit efficient internet transfer. We will also open access to the dBounce Audio AI to other partners in the audio production field, to enable them to build their own tools using this AI. This will provide us with far greater reach within the community, and would allow us to focus on our core business: the AI.

Fig 3. Decoupling the AI for the benefit of a larger ecosystem.
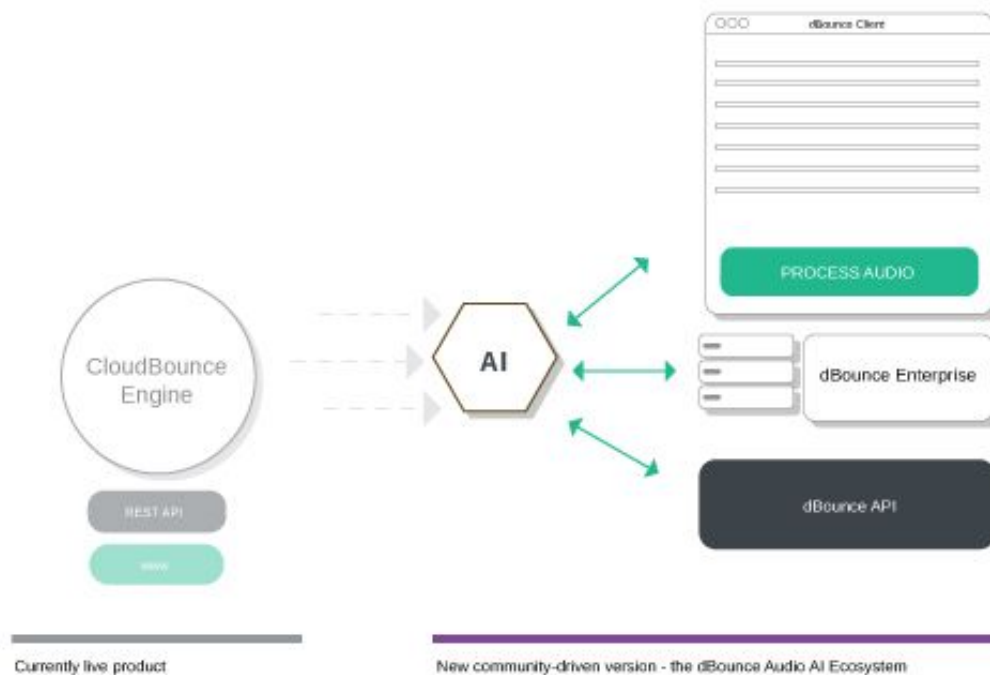
BUILDING THE COMMUNITY

We illustrated above how a single AI audio producer is built, and our existing system contains one such instance that is focused on performing mastering tasks. Our aim is to embed the building of AI audio producers into a decentralised network where the community has control. Fig 4 illustrates our concept.
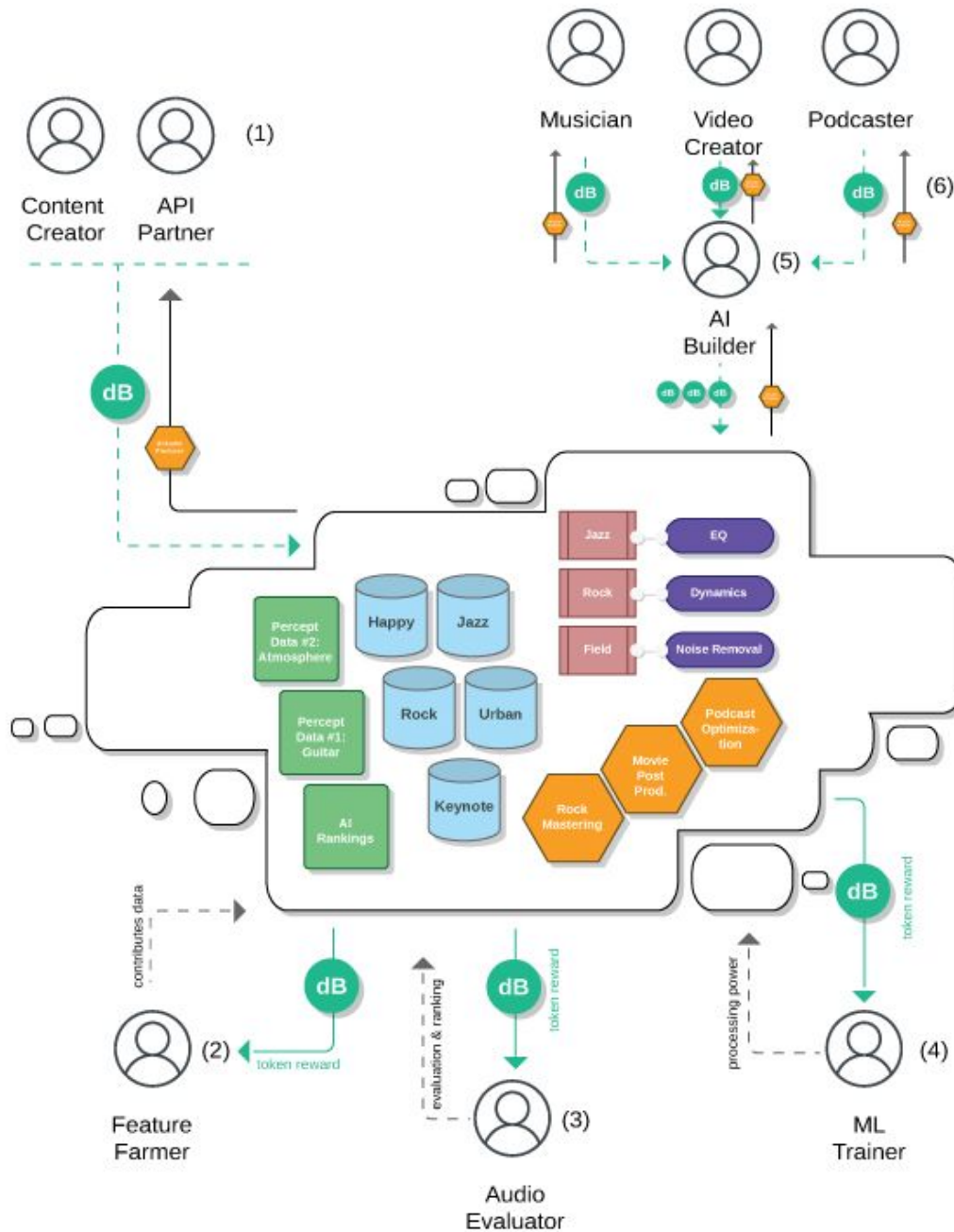

Fig 4. dBounce Audio AI Ecosystem.

Using the service with dB Tokens
Users are still able to access pre-built AI using their dB tokens (1), but rather than being limited to only use our cloud based processing engine, we will open up access to allow both local and third party systems to interact and make use of our AI (Fig 5).
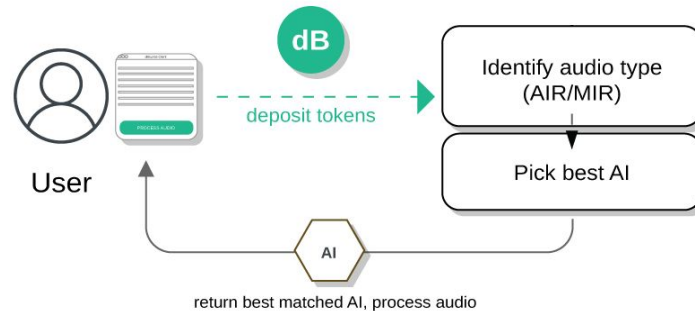

Fig 5. Users and partners can utilize the dBounce Audio AI from their clients, via an API or via a server-side installation.

Community generated datasets
Users will be able to help generate datasets by using our feature extraction tools on their personal audio collections (Fig 4 - 2), and by doing so can earn tokens as a reward for their contribution. These datasets will be tagged with metadata or additional user classifications, providing a range of data options when building new AI.

For example, dBounce are keen to develop a new AI that is tailored toward more niche genre of music, e.g. Scandinavian Folk. Their current dataset provides limited coverage, so they release a call-to-arms from the community to help fill this gap. Those users who have the requisite content can earn tokens by running our feature extraction tools (locally) on their catalogue and uploading the data to the ecosystem.

Checks would be put in place to prevent abuse or misuse of the system. For example, we would include metadata in the data extraction in order to detect (and prevent) duplicates from being uploaded. This would also be incorporated in the call-to-arms so that only tracks that were not already part of the dBounce datasets would be analysed. In addition, we would implement a user rating and strike-out system for serial abusers.

One of the key benefits here is that we are collecting data from the user's audio catalogue, rather than collecting the audio itself. This avoids copyright issues associated with uploading content, but still gives dBounce access to a vast array of material.

Token reward: Audio evaluation tasks
Users will be incentivised through token rewards to undertake audio evaluation tasks (Fig 4 - 3), whether to rate existing AI (to produce a league table of AI quality), or to help improve our understanding of other qualitative data needed to further improve our AI. For example, we conduct a psychoacoustic experiment to identify the optimal trade-off between noise reduction and unwanted artefacts when processing speech in video clips. The ability to generate vast quantities of this type of data via a reward system would provide *the most comprehensive database on subjective audio in the world.*

Token reward: Machine Learning model processing Nodes
Training machine learning models requires substantial processing time. To assist in this, users will be able to offer up their machines as processing nodes (Fig 4 - 4) for token rewards. This parallelisation would speed up model training, give dBounce exceptional scale.

Community-driven custom AI
Users would also be able to use their tokens to generate custom AI (Fig 4 - 5), by selecting to combine the various building blocks in a configuration of their choice, e.g. they choose rock and jazz datasets, and a model configuration that includes EQ and dynamics, to build their own AI producer for drum mixing tasks. The process of actually building this AI can be farmed out for ML training (Fig 4 - 4), can request from evaluation (Fig 4 - 2), and can eventually even be passed on to other users for token exchange (Fig 4 - 6). Eventually there will be multiple user made AI producers available on the platform, all ranked via audio evaluation (Fig 4 - 3), producing a vibrant marketplace for our community.

Industry Users
We expect our ecosystem to be used by industrial partners as well as by individual content creators. This is particularly relevant as a larger portion of the industry seeks to enter the AI audio domain. For example, if an established audio company such as Native Instruments were keen to add some AI mastering to their products they could either (a) use an existing AI, or (b) create their own. This could then be used in conjunction with an audio processing system native to their software.

Summary
We envisage a self-sustaining ecosystem in which the community members work together, collaborate and exchange data, ideas and experience to help build the best AI audio producers. dBounce will provide the framework and the technical know-how, but it is the dBounce community who will take on the mantle and push the boundaries of what AI audio production can do.

5 MARKET OPPORTUNITY

Audio is an attractive and growing segment of digital content on the Internet. It is a prevalent element in music, video and podcasts. Artists, DJs, producers, and even consumers want to create and share content that has compelling and high quality sound that makes an impact. dBounce addresses this need by providing content providers an easy and cost effective way to improve the audio of digital content.

dBounce targets at two main segments. Our current core use-case is serving the audio mastering market for amateur musicians, DJs, and mainstream sound engineers (i.e., excluding the high-end productions where manual mastering is still preferred).

This market has an estimated total size of over $600M annually at the moment: SoundCloud, Mixcloud, and YouTube alone receive ca. 120 million sound containing submissions a year[1] and assuming a $4.90 mastering fee, the serviceable available market (SAM) is $588 M. dBounce has established itself as an emerging player in this market with partnerships with several notable audio and music tech companies, and steadily growing revenue.

Now that we have established a solid base, and proven the need for autonomous audio post production in the music vertical, we are going to expand into a much larger and wider market which is audio processing for video content. By 2019, *over 80% of all content on Facebook will be video based*, and currently over 500 hours of video content is uploaded to YouTube *every single minute*.

An emerging opportunity for the dBounce network is the growing video content market. Audio is an essential part of the video experience, often a low-quality element in video content due to microphone placement, and improving the audio element in video has a growing demand on the market.

The total available video streaming market size is currently over $30 billion, and it is expected to grow to $70 billion by 2021[2]. The dBounce network aims to achieve a key position in this market by providing automated audio enhancement and post processing to both consumers and enterprise grade customers. This can be accomplished by establishing partnerships with the

---

[1] http://techcrunch.com/2014/08/21/soundcloud-launches-ad-platform-and-preps-ad-free-subscription-service/
http://www.rockol.com/uk/news-640566/mixcloud-now-seeing-12-million-monthly-active-users
http://www.reelseo.com/hours-minute-uploaded-youtube/
[2] "Video Streaming Market Worth 70.05 Billion USD by 2021"
http://www.marketsandmarkets.com/PressReleases/video-streaming.asp

leading important video and live streaming services, such as YouTube, Facebook, Vimeo and others. The dBounce network will enable every content creator and consumer to enjoy high quality audio across the globe.

Market Growth 2018-2021 (Bn USD)
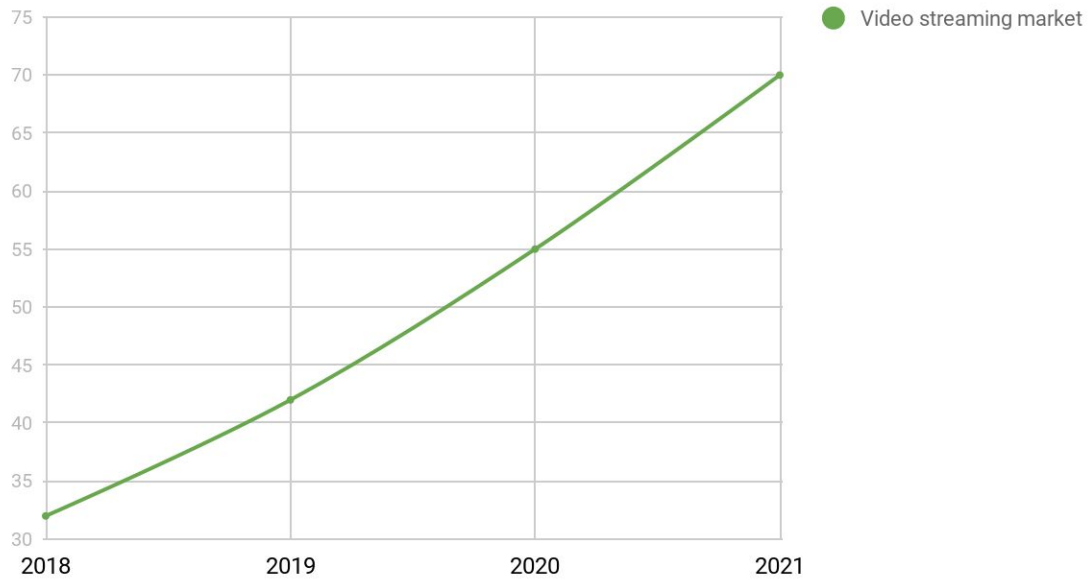
Audio Content Quality (published online daily)
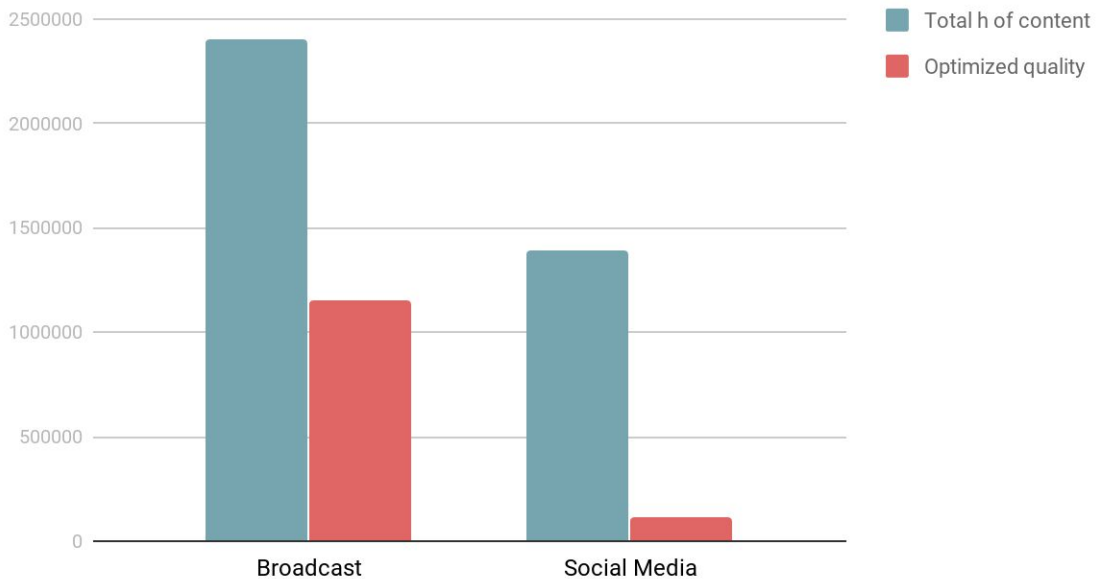
The vast majority of video and audio content published online daily isn't professionally produced to meet modern day streaming standards, and quality, and yet the amount of video content put is rapidly rising within the next 4 years.

6 Token ecosystem and mechanics

The dB Token (symbol: **dB**) will be used as a currency to fuel the growth of the platform, as a means of payment for audio processing tasks, to pay for service providers who lend their computing power to accomplish Audio AI machine learning tasks, and to drive user and enterprise-grade customer acquisition.

Utilizing the Ethereum blockchain enables our community to be paid securely, without the need to forgo slow and inefficient process of transferring fiat currencies, while at the same time providing an automated, trustless solution via Ethereum smart contracts to a global user base.

Engaging the community on every level is very important for the long-term success of the dBounce ecosystem. We will allocate 60% of our marketing budget to drive community growth, and utilize the Community (13%) and Contributor (15%) token pools to grow the community. Here is an overview of efforts included in community growth (ongoing):

- Telegram community building (Token Airdrops)
- User invite user - campaigns
- Calls-to-action: a) AI building, b) Feature Farming, c) ML model training
- Community Content: copywriting, explainer videos, podcasts, music
- Partnerships & events: participate and contribute to industry events, tours, via sponsorships, presence, co-organizing

Community contributor rewards

In order to drive platform adoption, we are going to implement a smart contract to reward new users for a) signing up to the service, b) inviting more users onto the platform, and c) creation of various content (blogs, reviews, videos).

Partner adoption rewards

dBounce will also reserve a portion of all circulating tokens to drive platform adoption. I.e. when a music distribution service decides to implement our audio processing API, we can assign n amount of tokens for the partner to hand out to their user base, which the users can use to request audio processing jobs from the dBounce network. Tokens for partners will be distributed primarily from the Community Reserve pool.

AI Ecosystem contributor rewards

Building the dBounce Audio AI Ecosystem is designed to incentivize community members to help build the AI. Members who successfully contribute audio files into the feature extraction funnel, members who evaluate and rank the quality of AI, and members who lend their GPU processing power to teach the models are rewarded for their contributions.

Audio AI Ecosystem token reward distribution

AI Builder
9.0%

Platform Operation Fee
8.0%

AI Evaluator
34.0%

ML Trainer
20.0%

Feature Farmer
29.0%
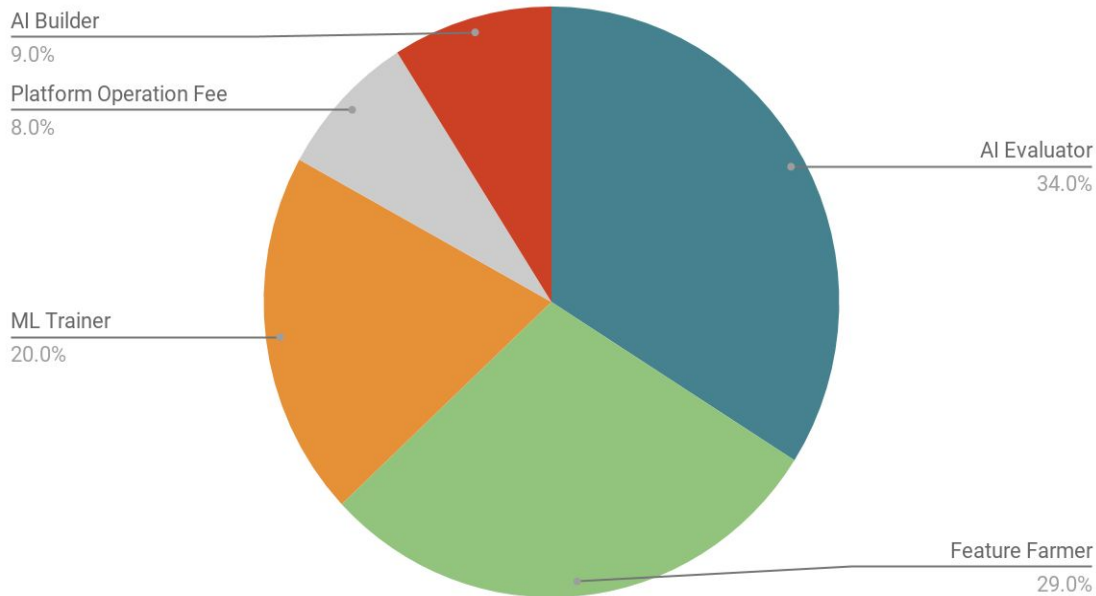
Token buybacks

The core dBounce team can, at its sole discretion, from time to time, offer to purchase tokens back from current token holders. This kind of event can occur in a situation where there is a large, enterprise-grade partner deal taking place, or in a situation where the project reserve requires so in order to drive user growth and keep the ecosystem healthy in a fair manner. In the event of a token buyback, all tokens will be deposited into the Community Reserve, from which they will be redistributed.

Governance of the token

The token ecosystem will be designed to be as fair as possible, with the goal of tokens being constantly circulated among customers, partners and service providers. The core dBounce team shall govern the economic mechanics of the token together with the token holder community to ensure ecosystem functionality. We plan to invite select, trusted community members into decision making regarding new product features and initiatives.

7 SMART CONTRACTS

We utilize Ethereum smart contracts to handle all micropayments and verifications within the dBounce ecosystem. Here are illustrations on how the smart contracts will work.

1. Feature Farmer: Audio file submission smart contract
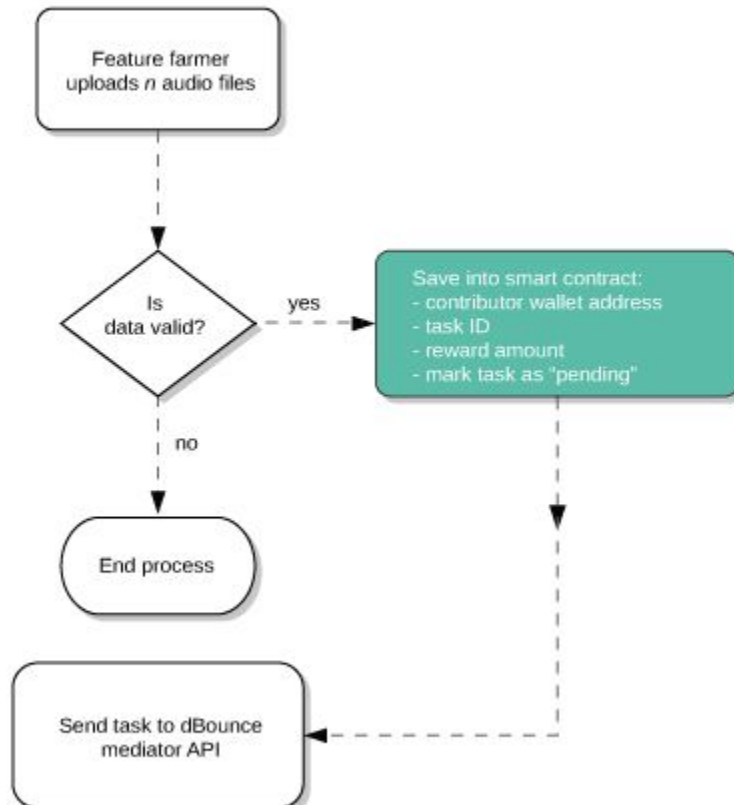
Once the feature farming task is complete, the Feature Farmer will receive the allocated token reward. If there is an open call for specific type of audio, the Feature Farmer will receive a bonus allocation of dB Tokens.

All feature farming tasks will be sent for evaluation, and if evaluator finds the dataset to be good, shall the Feature Farmer receive his token reward. In the event the dataset is found to be bad, the user will be flagged and his trust ranking reduced. Users with low trust ranking will not be eligible to participate in dataset Farming.

2. ML Trainer processing token reward
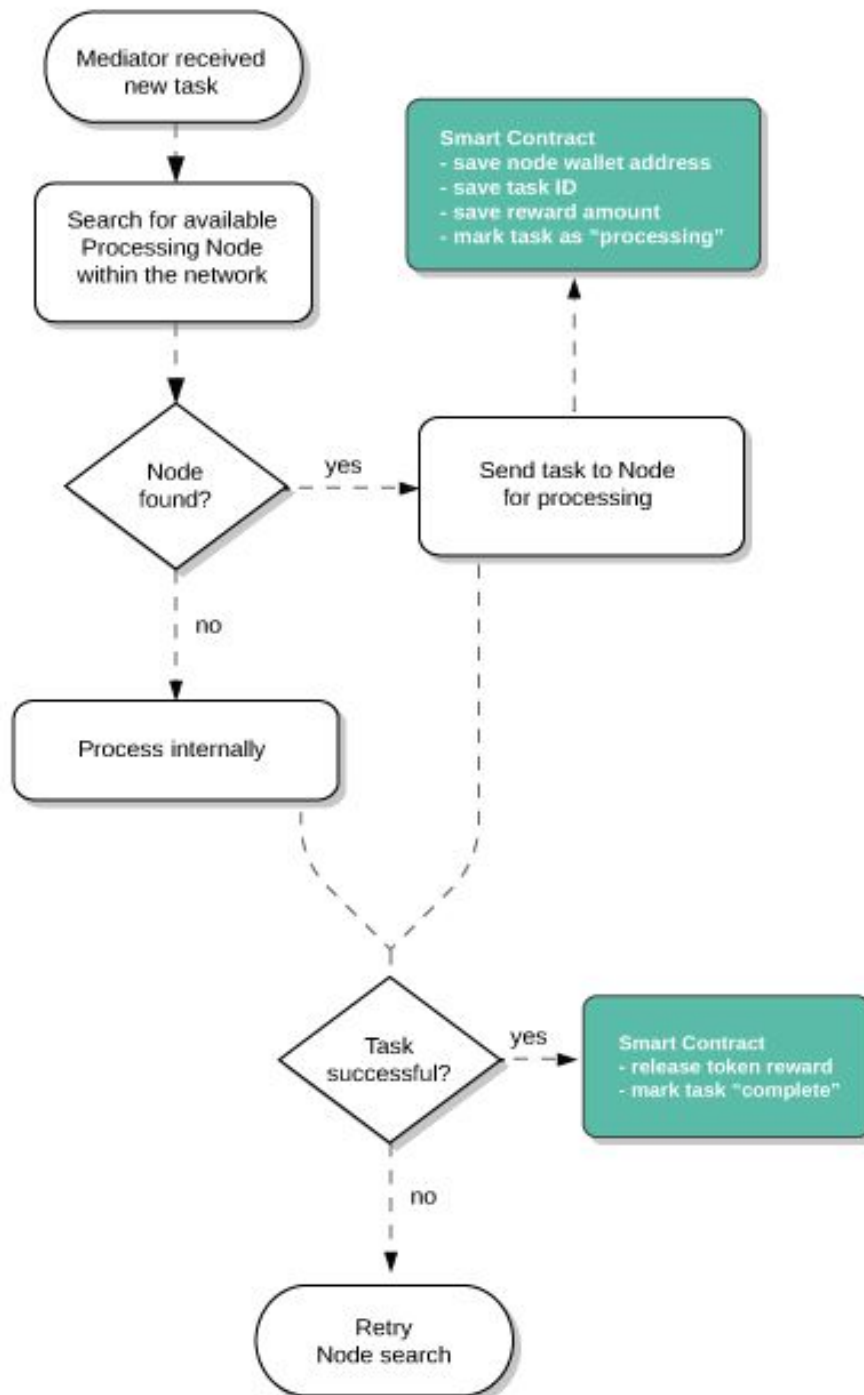
The dBounce network will consist of both internal (centralised) and community-driven pool of processing Nodes, which handle complex machine learning tasks. Our mediator automatically assigns new ML tasks to the next available Node. Should there be no available community Nodes, we revert to use our own infrastructure to ensure seamless end user experience.

3. AI Evaluator smart contract
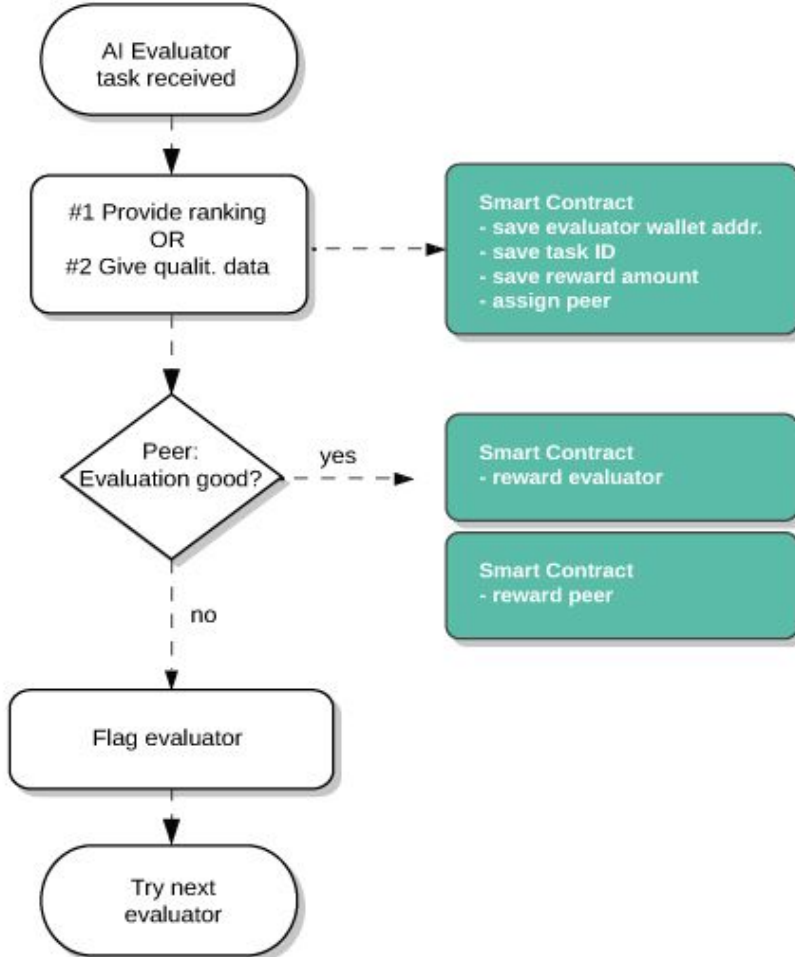
All audio evaluation tasks that go through the dBounce ecosystem will be conducted via peer reviews. Once the evaluator has accepted and done the given task, it is then sent to a second evaluator for confirmation. In the event the review is considered bad/faulty, will the evaluator lose their reward and flagged, and their trust ranking reduced.

These mechanisms are designed to promote good behaviour, and ensure a high quality of data.

8 TOKEN SALE

The purpose for the token generation event, and the token sale is to start building the community around this project, support the further development of the technology for the benefit of content creators. Participants will receive a bonus token allocation based on contributed amount.

Symbol	DB
Role	A utility token used to purchase service access on the live CloudBounce platform, API usage and other services.
Accepted Payments	ETH
Total Supply	4,000,000,000 DB
Presale	TBD
Public Token Sale	TBD
Tokens Available	Presale: 1,200,000,000 Public Token Sale: 800,000,000
ICO Price	€0.028 / DB
Minimum Contribution	TBD TBD
Soft Cap	€4,500,000
Hard Cap	€28,500,000

Our smart contracts will handle token distribution within 30 days of the end of the public sale period. This includes any token airdrop campaign that might occur before the public token sale. Presale participants: 50% of tokens are released immediately after token sale, 50% are subject to a 6 month lockup period. Any unsold tokens will be subject to a lockup period of 18 months, after which they will be released into circulation in 10% batches every quarter.

9 Full token distribution

Token distribution is designed to maximize benefits for the community, and to ensure long-term incentives to drive platform growth and adoption.
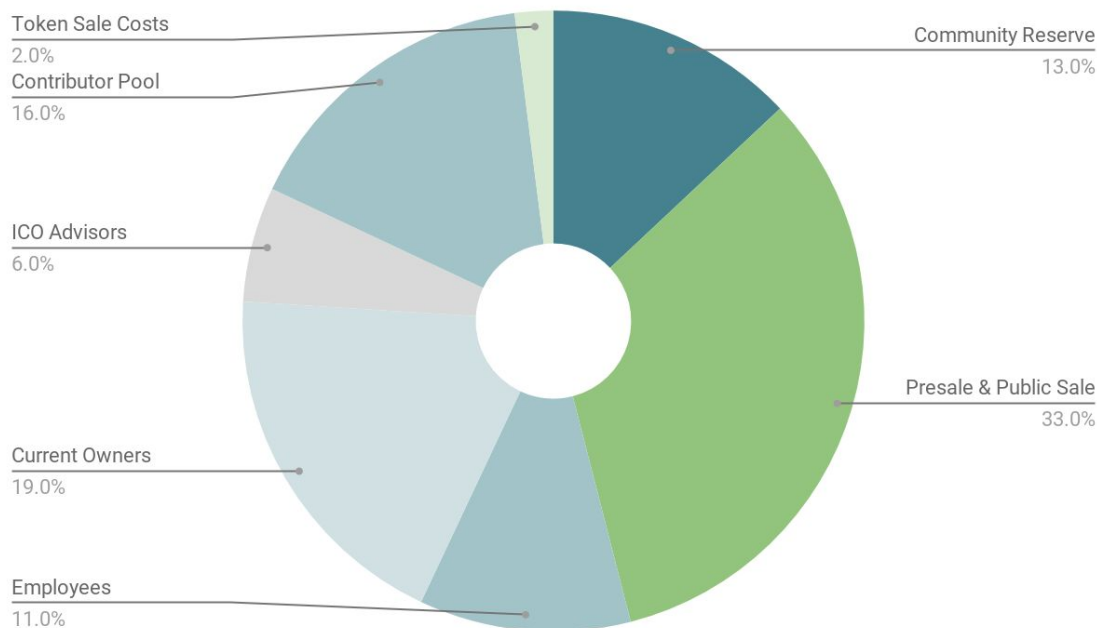
Figure: Full dB token distribution.

Community Reserve & Contributor Pool - The main growth and adoption driver to incentivise new community members and partners to adopt the dBounce AI Audio Ecosystem.

Presale & Public Sale - In order to build a strong network of early backers, it makes sense to release a large portion of the tokens for sale.

Employees & Current Owners - We will reserve 11% of all tokens to attract new talent for the project. Employee tokens are subject to 48 month vesting, with a 6 month cliff to ensure commitment. Owner tokens will be distributed to current investors and founders of the company. Tokens owned by our early investors are released immediately, and tokens owned by the full-time team members are subject to 36 month vesting, with a 6 month cliff. We believe this is the most fair and transparent way to ensure the commitment of the core team, but also reward our existing investors who have taken the biggest risk.

ICO Advisors & Token Sale Costs - In order to build a successful token sale, we have reserved a total of 8% of tokens for token sale advisors and related costs.

10 FUNDING ROUND PROCEEDS

Below is a breakdown on how the funds will be allocated after a successful token sale event. In the event that hard cap is not reached, product development and marketing efforts will be done on a smaller scale, and prioritized accordingly.
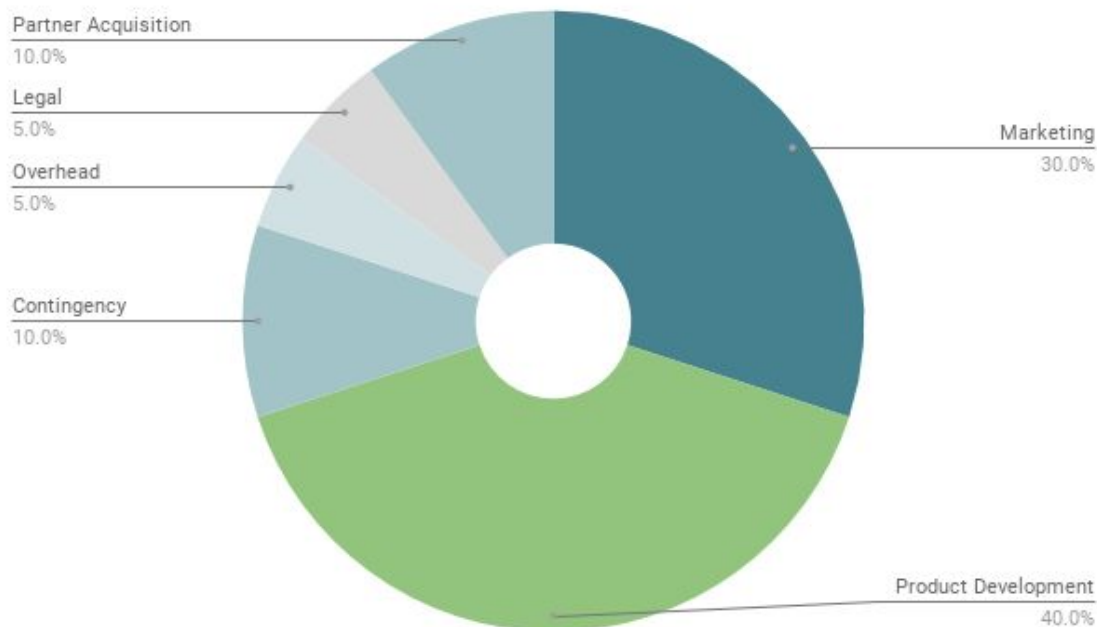
Product Development - All costs are allocated to full-time salaries, contractors, R&D, hosting fees and 3rd party licenses. Largest part in the development will be the AI Ecosystem, which consists of multiple interfaces, deep technology R&D and building a solid, scalable infrastructure.

Marketing - Project marketing budget will be allocated for 1-5 years to drive user acquisition, community building and brand awareness.

Partner Acquisition - Partner up with key players; customers and distribution partners within the next 1-5 years (broadcasting, streaming, content distribution platforms, retailers).

Legal, overhead & contingency - We will allocate a part of the funds raised into legal, administrative, and to unexpected costs. The funds allocated here ensure that we are able to build an enduring company.

11 PROJECT ROADMAP

2015
Company founded
Pre-seed funding from prominent Angel Investors
TEKES Innovation grant #1
Prototype development started

2016
Q1: Product 1.0 released
Q1: TEKES Innovation R&D grant #2
Q1: Abbey Road Red music tech incubator
Q2: Business development
Q3: Product 1.1 update
Q3: Partner integrations and pilots (DAW, API)
Q4: Seed round from UK-based early stage VC + angels

2017
Q1: TEKES R&D Project #2
Q1: Product development & research (ML, DSP, QA)
Q2: Product 2.0 released
Q2: Start blockchain research
Q3: Business development, enterprise partners
Q3: Product line development (Video, Podcast Audio)
Q4: Business development, Broadcasting & Streaming

Revenue growth 432%
Cross $100,000 in ARR milestone

2018

BUSINESS	R&D

Q1 - Grow user base to 60,000
    Token Airdrop to community
    Token pre-sale
	Q1 - Create ERC20 Token
	    Adaptive audio processing v2.1
	    Create business critical smart contracts

Q2 - Public Token Sale
    Grow user base to 100,000
	Q2 - Start R&D for AI framework
	    Ecosystem compatibility of existing services
	    Set up infrastructure

Q3 - Partnerships: Streaming
    Grow user base to 150,000
	Q3 - Develop AI Ecosystem parts (ML, API, UI)
	    Test AI Ecosystem in staging

Q4 - Launch community beta Grow user base to 200,000	Q4 - Deploy Beta version of AI Ecosystem

2019

BUSINESS	R&D

Q1 - Grow user base to 300,000
    Launch first partnerships
	Q1 - Deploy standalone clients (Win/Mac)
	    Launch AI Ecosystem 1.0

Q2 - Grow user base to 500,000
    Launch 5-10 partnerships
	Q2 - Improve AI Ecosystem
	    AI evaluation framework, conduct perceptual studies

Q3 - Grow user base to 800,000
    Launch 5-10 partnerships
	Q3 - Launch ecosystem supporting applications
	    Improve scalability

Q4 - Grow user base to 1,300,000 Launch 5 partnerships	Q4 - Start R&D on community-driven ML processing

2020

BUSINESS	R&D

Q1-4 Grow user base to 3,000,000
    Move to full reward-based
    model
	Q1-4 Open up community-driven ML training program
	    User-generated AI platform and marketplace
	    Increase range of specialized AI tasks

Items and schedule are subject to change, based the success of the token sale, on market needs and other, unforeseen factors.

12 Existing partnerships

During our 2.5 year existence, we've already established our position in the professional audio market by partnering up with notable audio and music tech companies.

Abbey Road Studios
After completing the Abbey Road Red music tech incubation program in 2016, both companies have continued the partnership via a mastering integration that enables access to the studio's legendary mastering engineers inside the CloudBounce platform. This has provided CloudBounce the ability to offer the best of both worlds; intelligent AI based mastering and the pinnacle of traditional engineering.

Focusrite
Currently a well respected marketing and promotion partner. The first global collaboration campaign was executed during Q4/2017 through company's Plugin Collective program. Focusrite / Novation is a global music and audio equipment manufacturer, serving both amateur and professional customers with their hardware and software products. A well established industry giant, originally founded by Rupert Neve.

ReverbNation
Company's user friendly platform, homogenous user base and wide global reach has already enabled many successful collaboration campaigns, offering CloudBounce mastering for ReverbNation artists. Reverbnation is an online platform providing innovative tools and exposure for artists seeking to grow a career in the music industry. Current user base is over 3.8M users in over 190 countries.

Tracktion Corporation
The first partner to provide an integrated mastering capability within their T7 digital audio workstation (DAW) with direct in-app access to CloudBounce AI based mastering. Tracktion Corp. provides innovative software production tools for musicians, composers and songwriters.

Soundtools & DLX-Music
First two notable music retail companies in Finland to utilise the CloudBounce affiliate partnership program to bring AI based mastering tools to the music shop and retail store environment. Both stores have proved this concept works well providing yet another scalable sales funnel to a digital product.

13 RISK MITIGATION

When developing with new emerging technologies - especially with blockchain - there will be risks involved. Our team has carefully analysed potential pitfalls, and have made plans to mitigate these risks.

Data quality - As with any open, community-driven project, the quality of contributions are of critical importance. During the first phases, we will open up the AI evaluation and feature farming programs to select, qualified contributors to ensure the level of quality of the AI is professional. Afterwards, we will gradually open up the contributor programs to a wider audience.

Ecosystem fairness - To ensure every participant within the community is treated fairly, we plan to implement various processes to identify abuse and gaming the system, and create an effective penalty mechanism to prevent bad behaviour.

Product pricing - During the first years of the project, the pricing within the ecosystem will be pegged to fiat currency. This is because we need to rely on traditional vendors and service providers to ensure that the product can scale and stay operational during peak times, and thus need to model the price accordingly.

Ethereum network scalability - At its current state, the Ethereum network cannot provide sufficient scale to run large operations in the network. This is why we've decided to run most service layers on a centralized infrastructure, and plan to gradually move into a decentralised infrastructure.

KYC and AML - we are going to utilize a 3rd party service to handle investor verification, to ensure a fair, transparent process for all token sale participants. Due to security reasons, we will not publish the service provider beforehand.

Code audits - During the development of the dBounce network the core dBounce team will use a 3rd party service provider to do extensive audits to all smart contracts, before they are deployed on the Ethereum mainnet.

Volatility - After the public token sale is over we plan to convert part of the Ethereum contributed into fiat, in order to ensure sufficient runway for the next 24 months, taking into account the need for new hires and efforts needed in order to be able to execute our project plan efficiently. We will convert the funds gradually during a 90-day period, to ensure not affecting the markets.

14 TRACTION

The existing service has been live for 2 years now, and we've successfully proven the need for AI audio production. Here is an open snapshot of our traction.
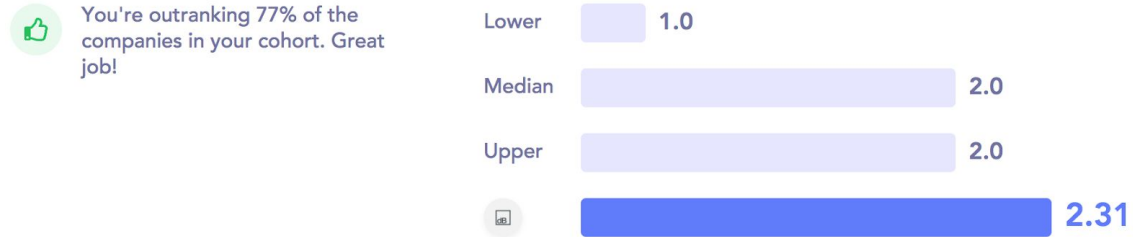
Net Revenue (USD)
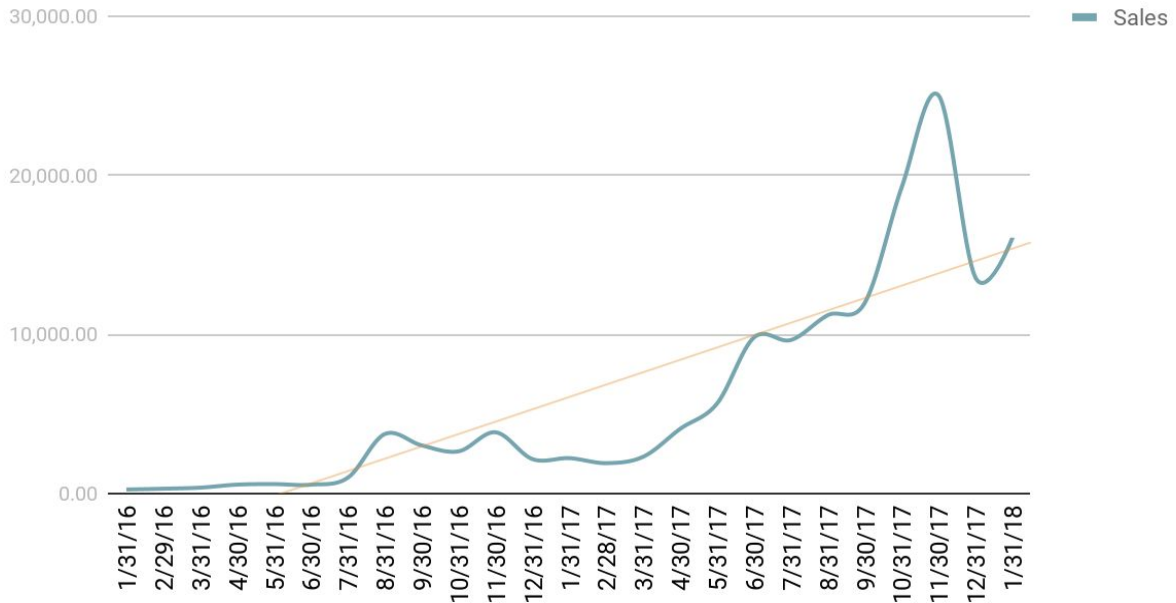
Subscription		Months since account creation										
		0	1	2	3	4	5	6	7	8	9	10
February 2017	24	100%	71%	50%	38%	33%	25%	21%	21%	17%	17%	13%
March 2017	24	88%	67%	58%	42%	33%	29%	29%	29%	17%	13%	13%
April 2017	35	94%	89%	86%	63%	51%	49%	43%	40%	40%	34%	
May 2017	60	92%	70%	55%	45%	40%	38%	40%	37%	35%		
June 2017	73	97%	81%	74%	63%	58%	58%	53%	49%			
July 2017	89	98%	84%	78%	64%	60%	52%	52%				
August 2017	105	93%	79%	74%	58%	48%	47%					
September 2017	87	94%	80%	78%	68%	66%						
October 2017	171	95%	83%	78%	73%							
November 2017	201	97%	90%	88%								
December 2017	96	98%	86%									
January 2018	133	97%										

In 2017, we focused on improving the user experience and audio quality with the release of engine 2.0. These efforts have resulted in improved retention and incoming revenue.

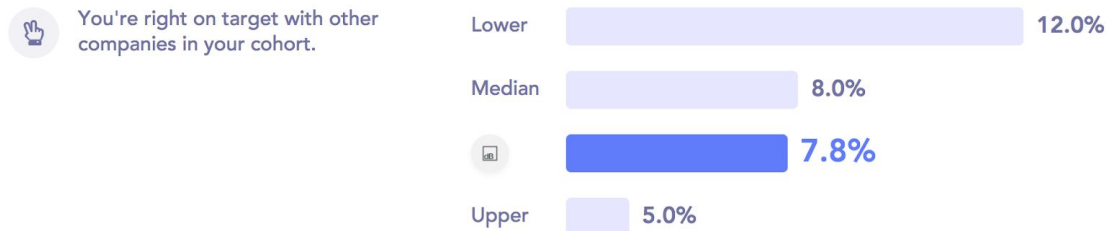How do we compare to other startups in the same cohort?

Quick Ratio   ⓘ Learn how to improve

👍 You're outranking 77% of the companies in your cohort. Great job!

Lower	1.0
Median	2.0
Upper	2.0
🖼	**2.31**

According to benchmark data provided by Baremetrics, our new user acquisition rate is healthy compared to churn, resulting in a higher Quick Ratio. Anything below 1.0 is considered bad, and mean ratio for a similar startup is 2.0.

User Churn   ⓘ Learn how to improve

✌ You're right on target with other companies in your cohort.

Lower	12.0%
Median	8.0%
🖼	**7.8%**
Upper	5.0%

User and revenue churn are one of the most important factors when measuring the quality of your product. We've spent tremendous amount of effort to drive down churn rate, and according to benchmark data we are on the right path. Ideal situation would be to drive the churn rate below 5%.

15 TEAM

Our core team is a multi-disciplinary mixture of experienced software industry professionals, audio engineers and serial entrepreneurs from Finland, Germany, and United Kingdom.

Anssi Uimonen, co-founder & CEO
Serial entrepreneur; done 3 startups, worked with +1M user platforms, 12 years of experience in various internet businesses. Responsible for innovation, design, running the business. Full stack web development, growth marketing, music and blockchain. Grown CloudBounce frugally from 0 to 6 figure revenues.

Active in the blockchain space, first introduced to Bitcoin in 2013. Ambassador at BTCP, investor in multiple blockchain projects. [LinkedIn](#)

Pekka Jääskeläinen, co-founder & CTO
Serial entrepreneur, professional software engineer for over 15 years. Holistic understanding of Machine Learning, Signal Processing and business development. Proficient in multiple programming languages, architectural and design patterns, SQL and document databases, virtualization and system administration. Actively into Ethereum since 2016.

Kristian Haapasalo, Operations & Partners
Handles partnerships with established audio manufacturers (Focusrite), platforms (ReverbNation), retailers and studios (Abbey Road Studios). Kristian is also responsible for handling the UK operations. [LinkedIn](#)

Juha Sirniö, Audio Engineering & QA
BA in Information Studies. Worked at YLE, the Finnish national broadcasting corporation with 33 radio stations and 2 TV channels. Over 10 years of experience in sound design and music for TV commercials, radio and animation films. At dBounce Juha is responsible for quality assurance, R&D of audio tools.

Fabien Schivre, Audio Software Engineering & Innovation
Serial entrepreneur, co-founded TokyoDawn Records. Built award-winning VST plugins for mixing and mastering. In charge of creating robust, state-of-the-art analyzers and audio processing tools.

Vladislav Goncharov, DSP & Algorithms
Founder at Vladg Sound. Hardcore signal processing, and analysis algorithms. Vladislav has previously built comprehensive mixing & mastering tools for the audio community.

16 ADVISORY BOARD

World-class advisory team within AI, audio, technology and blockchain spaces.

ADVISORS

Dr Michael Terrell, Machine Learning & Data Science
Ph.D in Music Technology at Queen Mary University, London. Mike is one of the leading AI audio production researchers, having spent 7 years in academia defining the field. Now working as a data scientist, Mike has extensive experience in both Machine Learning and AI, and in developing data related systems and processes in a startup environment. [LinkedIn](#)

Juho-Pekka Virolainen, Technology & Architecture
Serial entrepreneur, built and sold several tech companies in Finland and in Silicon Valley. Advising on technology infrastructure and scalability. Founded HD Messaging (Exit to IDT Corp). [LinkedIn](#)

Oskari Hakkinen, Product
Oskari has a long career in digital entertainment, Co-founder at Futurefly. Worked at Remedy Entertainment, EA Games, Microsoft. [LinkedIn](#)

ICO ADVISORS

Mathias Goldmann, The Bureau
Mathias has extensive experience in the blockchain and ecommerce space, having successfully bootstrapped his own startup up to a profitable exit. He is an investor, advisor and executive coach to several startups. Mathias is a polycontextual and systemic thinker who aligns investment returns with a sustainable long term vision of a post-scarcity world. Mathias serves as a partner at The Bureau, a blockchain investment fund, incubator and growth accelerator. [LinkedIn](#)

17 CURRENT INVESTORS

The project has raised seed financing from prominent angel investors, early stage VCs and TEKES - the Finnish government funding agency for technology innovation.

Ascension Ventures (UK)
A seed and series A stage venture capital fund focusing on media and technology startups. Ascension Ventures lead the last financing round of CloudBounce in 2016.

Pontus Stråhlman
Active angel investor and Chairman of the Board at CloudBounce. Former Vice-Chairman at Finnish Business Angels network, managing director at Spinnaker Ventures. Pontus has extensive experience in the professional audio industry.

Niko Punin
Head of product development at Bitfury, Niko joined CloudBounce in 2015 among the first pre-seed investors.

Dave Hodder
Head of product innovation at Focusrite Audio Engineering & Novation, Dave is at the forefront of new audio technologies, machine learning and innovative audio applications. Dave is also an early Ethereum enthusiast.

+15 Prominent angel investors from Finland and United Kingdom.

Join the **dBounce Token** Telegram channel to discuss more:

Connect with us also on:
Twitter | Facebook | Reddit

DISCLAIMER

This White Paper is intended for distribution solely on information purposes. CloudBounce (also referred to as 'dBounce') does not guarantee the accuracy of the conclusions and statements reached in this white paper. Moreover, this white paper is provided "as is" with no representations and warranties, express or implied, whatsoever, including, but not limited to: (i) warranties of merchantability, fitness for a particular purpose, title or non-infringement; (ii) that the contents of this white paper are free from error or suitable for any purpose; and (iii) that such contents will not infringe third-party rights. All warranties are expressly disclaimed. CloudBounce and its affiliates expressly disclaim all liability for and damages of any kind (direct or indirect, including loss of profit) arising out of the use, reference to, or reliance on any information contained in this white paper, even if advised of the possibility of such damages. Under no circumstances CloudBounce or its affiliates will be liable to any person, entity, partners, partner's customer or end-users for any consequential, incidental, direct, indirect, special or punitive damages, including without limitation damages for lost profits, revenues, lost business or loss of use of products whether or not CloudBounce advised in this white paper or any of the content contained herein, that such damages will or may occur, and whether such damages are claimed based on breach of contract, negligence, strict liability in tort or any other legal or equitable theory. No action regardless of form, arising out of this white paper may be brought against CloudBounce.

THIS DOCUMENT AND ANY OTHER DOCUMENTS PUBLISHED IN ASSOCIATION WITH THIS WHITE PAPER RELATE TO A POTENTIAL TOKEN OFFERING TO PERSONS (CONTRIBUTORS) IN RESPECT OF THE INTENDED DEVELOPMENT AND USE OF THE NETWORK BY VARIOUS PARTICIPANTS. THIS DOCUMENT DOES NOT CONSTITUTE AN OFFER OF SECURITIES OR A PROMOTION, INVITATION OR SOLICITATION FOR INVESTMENT PURPOSES. THE TERMS OF THE CONTRIBUTION ARE NOT THEREFORE INTENDED TO BE A FINANCIAL SERVICES OFFERING DOCUMENT OR A PROSPECTUS. THE TOKEN OFFERING INVOLVES AND RELATES TO THE DEVELOPMENT AND USE OF EXPERIMENTAL SOFTWARE AND TECHNOLOGIES THAT MAY NOT COME TO FRUITION OR ACHIEVE THE OBJECTIVES SPECIFIED IN THE WHITE PAPER. THE PURCHASE OF TOKENS REPRESENTS A HIGH RISK TO ALL CONTRIBUTORS. TOKENS DO NOT REPRESENT EQUITY, SHARES, UNITS, ROYALTIES OR RIGHTS TO CAPITAL, PROFIT OR INCOME IN THE NETWORK OR SOFTWARE OR IN THE ENTITY THAT ISSUES TOKENS OR ANY OTHER COMPANY OR INTELLECTUAL PROPERTY ASSOCIATED WITH THE NETWORK OR ANY OTHER PUBLIC OR PRIVATE ENTERPRISE, CORPORATION, FOUNDATION OR OTHER ENTITY IN ANY JURISDICTION. THE TOKEN IS NOT THEREFORE INTENDED TO REPRESENT A SECURITY INTEREST.