

DLT-enabled Platforms: Distribution and Management of Media Content

OverTheBlock – IPR Management Chapter

Roberto Moncada (LINKS Foundation)

Alfredo Favenza (LINKS Foundation)

Enrico Ferro (LINKS Foundation)



MediaVerse

A universe of media assets
and co-creation opportunities

Key issues in the Digital Media Industry



Single point of failure

- Due to centralization.

Low profit for creators

- Too many intermediaries;
- Monopolistic pricing models.

Lack of transparency

- Centralization of power causes opaque and complex management of copyrights and licensing contracts.

Piracy and infringement

- Right owners cannot effectively manage their works on the internet.

Limited consumption of pay-per-use content

- Access from other country/territory can be prohibited by the license;
- Limitations of DRM technologies (e.g., different countries or file format).

Copyright ownership

- Absence of a global and verified register for IP. Records are stored in diverse systems across the media value chain.

Potential blockchain-based solutions



Decentralized digital content ecosystem

- Redundant and resilient architecture: no single point of failure;
- Power and ownership return to creators: enhanced redistribution of value.

New pricing options

- Micropayments and micrometering: new options for creators to earn by selling piece of content or single content payments.

Monetization of content

- Blockchain facilitates customer relationship;
- Content creators can establish direct relationship with customers: no third parties are needed to perform transactions.

Distribution of royalty payments

- Near real time and exact allocation and distribution of royalty payments, based on smart contract.

From DRM to Smart Contract

- Transparent and “self-execute” rights management thanks to underlying smart contract;
- DRM technologies not necessary: no limitations for pay-per-use content.

Attribution

- Blockchain increases the visibility and availability of the information regarding copyright ownership: open and secure register for IP.

Copyright management

- Blockchain enables content owners to directly manage their works: more visibility on the usage of works.

MediaVerse market observatory



Unit of analysis

DLT-enabled **platforms** for the **distribution and management** of media content



Research questions

- What is the **maturity level**?
- In which ways does blockchain contribute to the **generation of value**?
- What is the **differential value proposition** with respect to incumbents?



Methodological underpinnings

- **Case study** research
- Review of **platform white papers**
- Analysis of **grey literature** (e.g., industry reports, trend reports)
- Access to **company databases** (e.g., CB Insights, Crunchbase, CoinMarketCap)

Market Overview





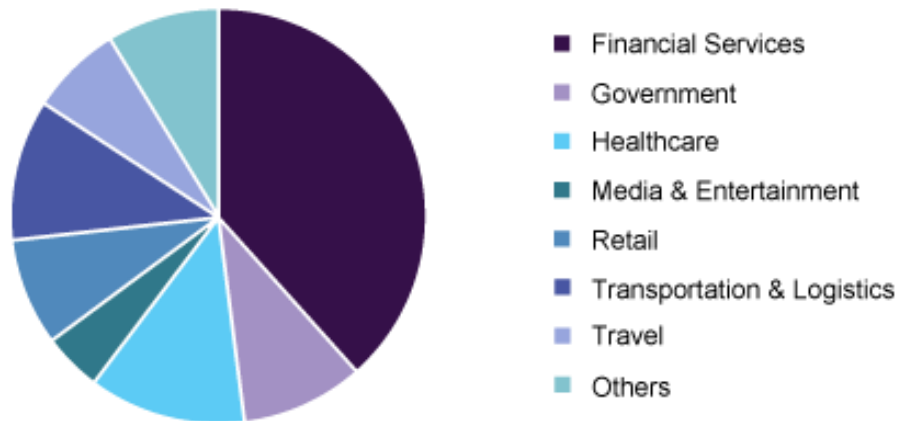
Blockchain market overview

- Blockchain is a type of Distributed Ledger Technology (DLT) providing enhanced security to the real time digital economic transactions.
- The global blockchain technology market size, in 2020, was valued at \$ 3.67 Bn (*Grand View Research*).
- According to the *Grand View Research* the global blockchain technology market is expected to expand at a compound annual growth rate (CAGR) of 82.4% from 2021 to 2028.
- The global media and entertainment industry has been **substantially transformed by digital technologies**, especially in the areas of content production and distribution.
- The blockchain technology is the **most prominent technological disruptor** in this context.



Blockchain in the Media Industry

Europe blockchain technology market share, by end-use, 2020 (%)

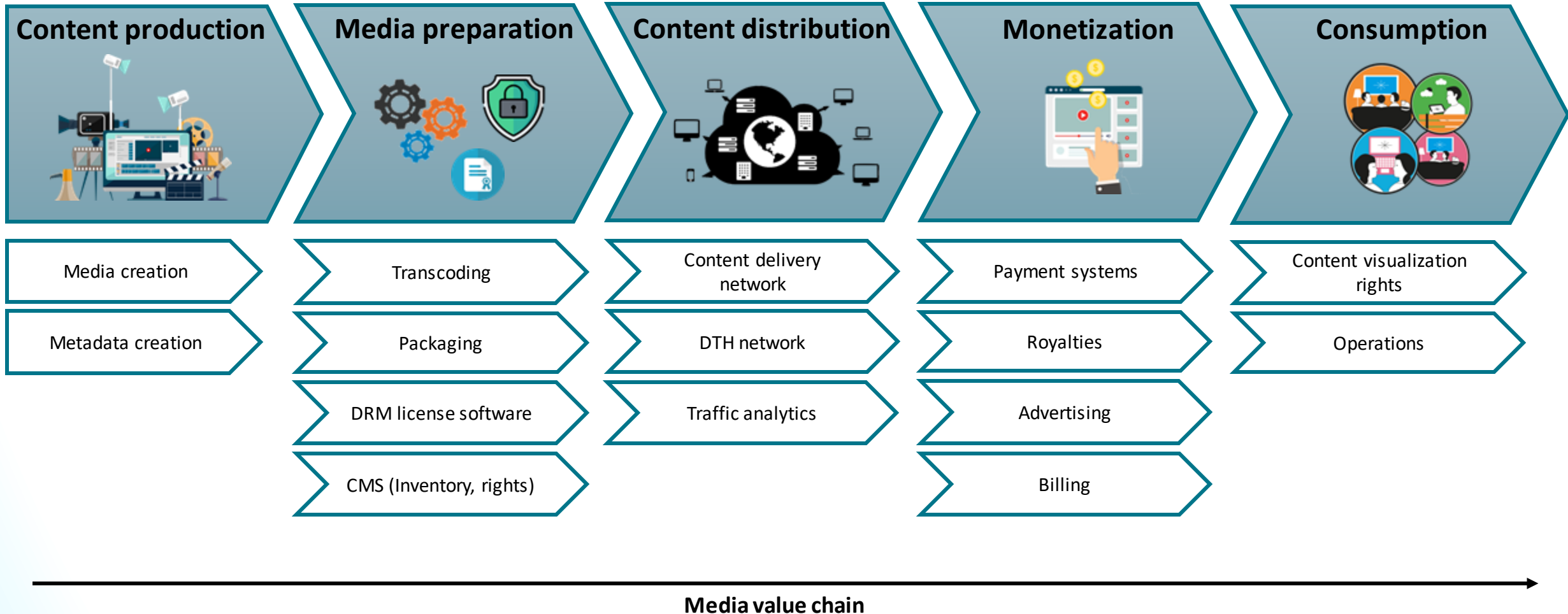


Source: www.grandviewresearch.com

- According to *Business Wire*, the blockchain in media, advertising, and entertainment industry was valued at \$ 166.6M in 2020.
- The chart on the left-hand side of the slide shows the European blockchain market break down by industry, highlighting the Media & Entertainment industry.

- The blockchain market in the Media and Entertainment industry is expected to reach \$ 4.4Bn by 2026 at a CAGR of 71.4% during the forecast period 2021-2026 (Source: *Business Wire*).
- Blockchain is a disruptive technology that is enabling the development of new business models, especially in the Media Industry.

Digital Media Value Chain



Methodology



Case Studies methodology



The complex nature of the Blockchain requires an approach to **exploratory case studies**, due to the absence of established and consolidated theories on the subject.

Each unit of analysis examined through the **case study methodology** is a company whose main activity is focused on the creation of a new typology of Media Platform that uses **blockchain technology** and falls within one the **three categories of players** taken into consideration:

Content distribution: platforms that allow distribution of digital contents protecting the IP of their creators.

Content communities: platform sharing media content with features to realize a network between users.

IP Management: blockchain platforms for registration of creative works that aim to protect their intellectual property and control use in the network.

The case design is oriented towards heterogeneity of the case studies to map a very faceted context and a **holistic approach** is adopted so there is a single unit of analysis for each case.



Case Studies methodology (cont'd)

The process of analysis is made up of 3 steps:

- 1** Identification of a long-list of cases for the analysis
- 2** Selection of a short-list of cases through objective criteria
- 3** Analysis of the case studies with a predefined template



Long-list – 30 case studies

30 DLT-enabled platforms

Distribution and management of media content



Content Distribution	Content Communities	IP Management
Ujo Music	Audius	Authpaper
Musicoïn	Flixxo	Bernstein
OurBeat	Theta.tv	Creativity safe
Breaker	Dlive	Superrare
Aurovine	Dtube	Ara network
Peertracks	Cos.tv	LBRY
TvTwo	3Speack	Mintbase
Vuulr	Bittube	InfiniVerse
You42		OpenSea
PictionNetwork		Verisart
		KnownOrigin
		Custos

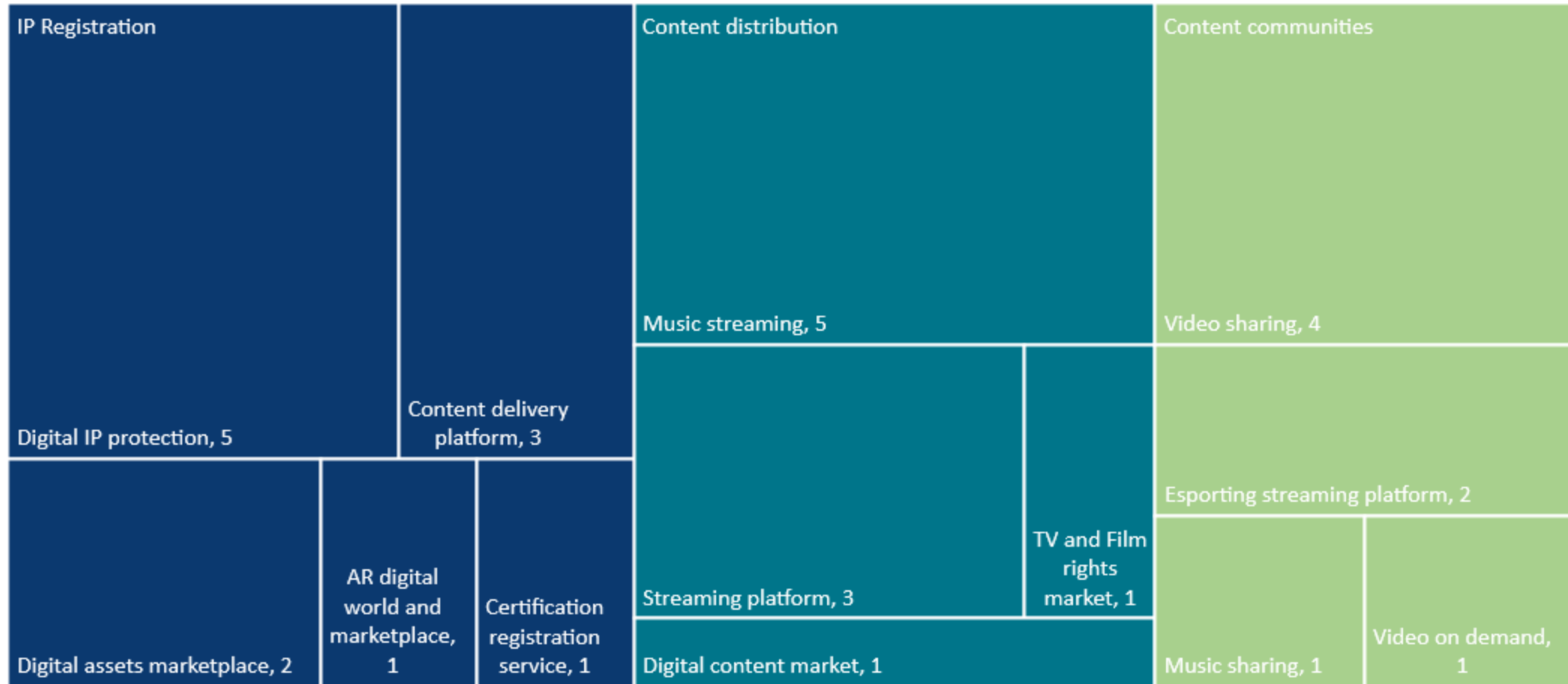
Tot: 10

Tot: 8

Tot: 12



Long-list platforms offering

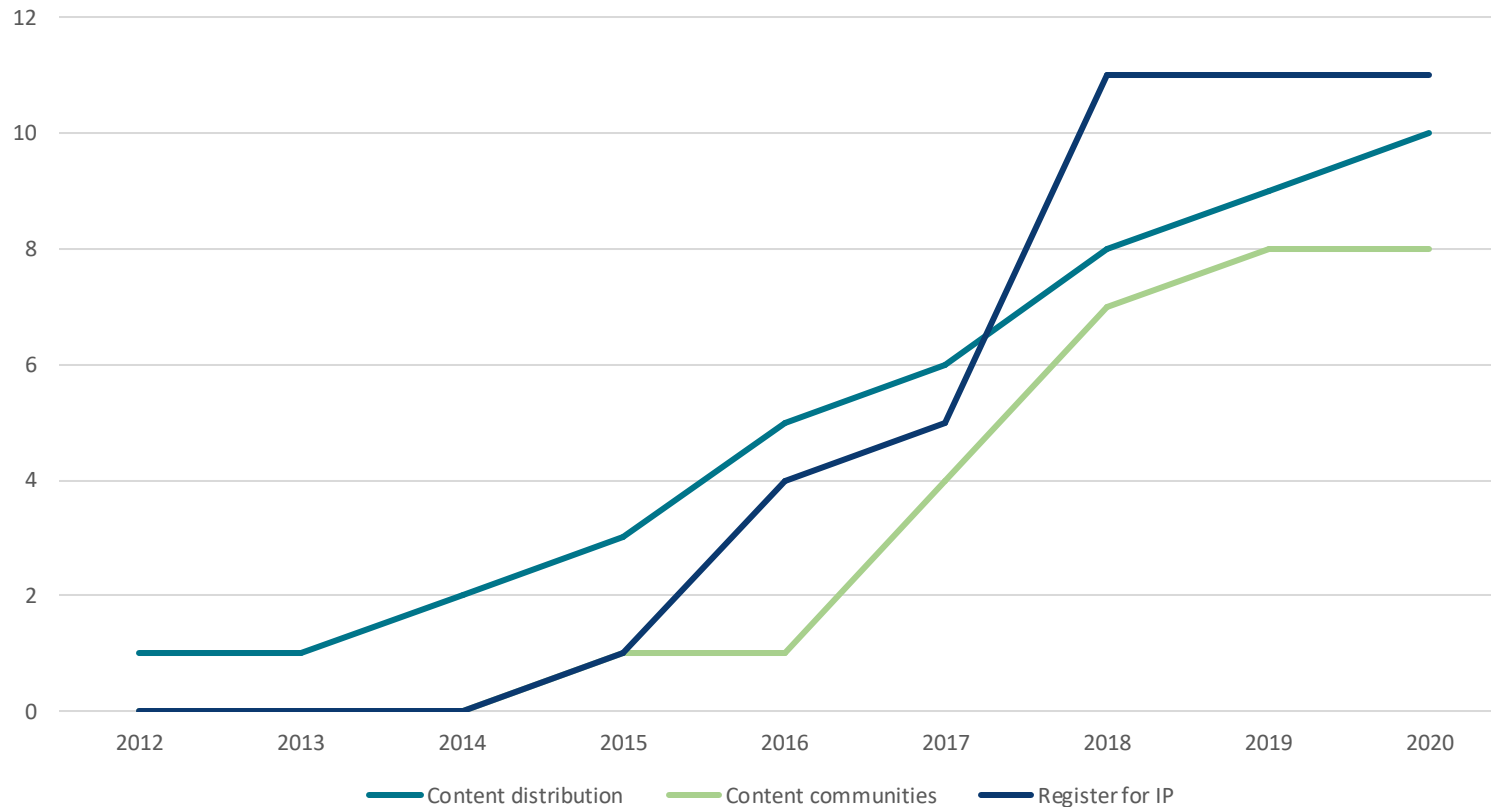


Tot: 10 Content distribution

Tot: 8 Content communities

Tot: 12 IP Registration

Long list projects – growth over time

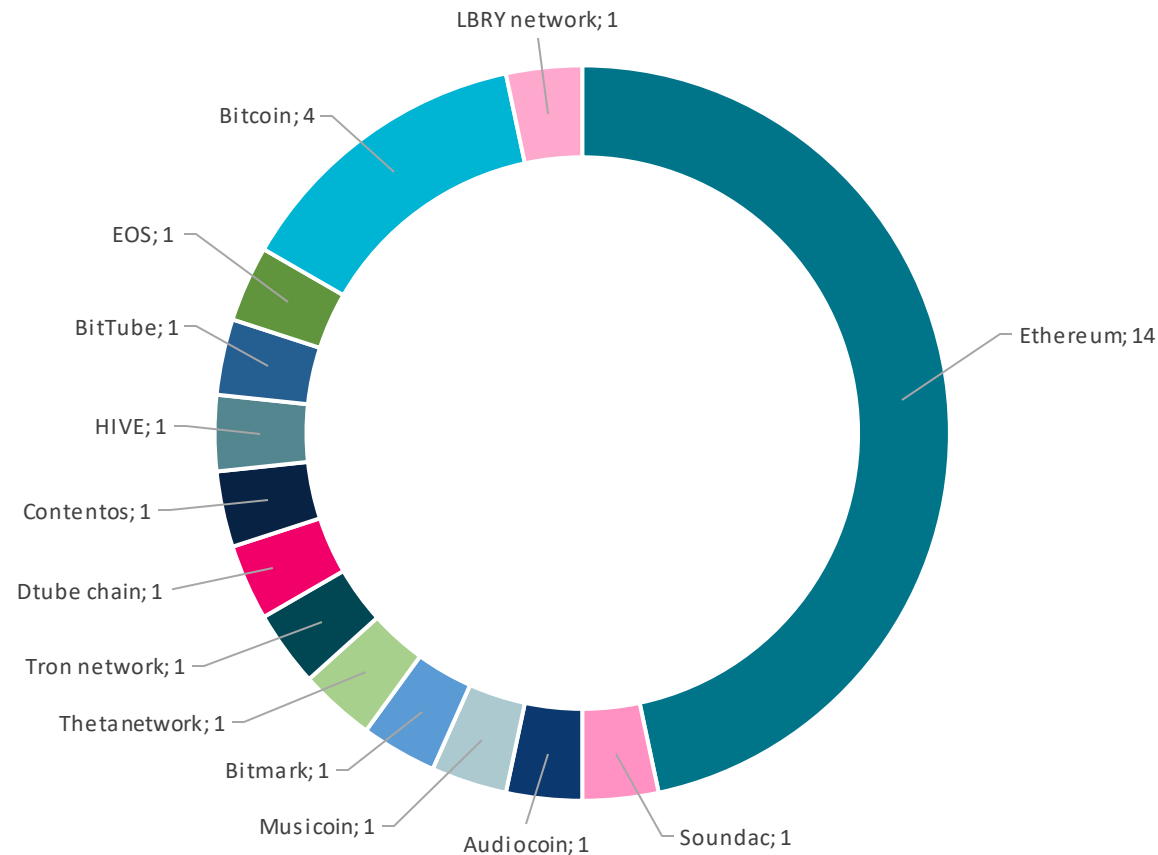


The figure shows the aggregated evolution over time of the three macro-categories.

All the categories experienced an increasing pattern during the period 2012-2020.

The period 2016-2018 is characterized by the most significant number of new projects across categories.

Underlying blockchain architectures



Most of the platforms use the **Ethereum Blockchain** protocol, given the wide degree of freedom in the management and creation of the operating logic that the Ethereum protocol offers.

The Bitcoin blockchain is the **second most used blockchain architecture** with 4 projects.

The remaining projects under analysis are based on a **vast variety (i.e., 13) of blockchain infrastructures**.



Tech infrastructure

Long -list

All the blockchain infrastructures involved are *permissionless* (only Dtube chain is *permissioned*, even if *public*).

As far as consensus mechanism is concerned, 6 out of 14 blockchain platforms are based on **PoW protocols**, while 7 case studies implement **PoS or DPOS mechanisms**. Only Contentos uses a **self-adaptive Byzantine Fault Tolerance** consensus protocol.



Short-listed platforms





The 10 short-listed platforms

UJO MUSIC musicoin

PEERTRACKS vuulr
Branded Sales Platform

Content distribution

IP Management

INFINIVERSE Mintbase

LBRY OpenSea

COS.TV

AUDIUS

Content communities



Short-list selection criteria

The short-list selection is based on 3 objective criteria:

- 1 Heterogeneity criterion:** it is selected at least one project per macro-category (i.e., content distribution, content communities and IP management).
- 2 Similarity criterion:** only projects close to the MediaVerse project are selected.
- 3 Success criterion:** the short-list only contains successful projects, identified with respect to the number of users and/or the numbers of registered content.



Use case Card explained

Short-list

In the following, each short-listed case study is described by means of a **Use case Card**, that presents a summary of the relevant information of the platform, both technical and business-related.

A **guide** to the reading of the token card is here reported on the right.

LOGO	Name	Last update: dd/mm/yyyy	
Year in which the underlying company was founded. Founded in	Brief description of the platform.	Number of users / Number of content recorded Users / Records	Tokens involved in the platform. Tokens
Market capitalization of the token associated to the platform. Source: CoinMarketCap.com Market Cap		Main service offered by the platform. Main service	
Blockchain infrastructure on which the platform runs. Underlying blockchain	Consensus protocol adopted by the blockchain to validate new blocks. Consensus protocol	Development status (e.g., Beta, Permanent Beta). Development status	Service category (CD, CC, IP)*. Service category

* **CD**: Content Distribution; **CC**: Content Communities; **IP**: IP Management



Last update: 03/09/2021





Last update: 03/09/2021

<p>2016</p> <p>Founded in</p>	<p>Musicoin is a global music platform that provides fair remuneration, distribution and visibility for independent musicians. Blockchain is used to allow musicians to take full ownership of their content and finances. Main goal is to eliminate all middlemen and bridge the gap between musicians and listeners.</p>	<p>20K +</p> <p>Users</p>	<p>MUSIC</p> <p>Tokens</p>
<p>N/A</p> <p>Market Cap</p>		<p>Music streaming</p> <p>Main service</p>	
<p>Musicoin</p> <p>Underlying blockchain</p>		<p>PoW</p> <p>Consensus protocol</p>	
		<p>Permanent Beta</p> <p>Maturity level</p>	<p>CD</p> <p>Service category</p>



PEERTRACKS



Last update: 03/09/2021

2014

Founded in

Peertracks is a music streaming platform that offers artists a music ecosystem, based on SoundDAC blockchain technology, providing them with 3 main functions: 1) Source of truth about who has ownership and property rights to a song; 2) Efficient, fair and direct royalty payment system to all rights holders; 3) Real-time tracking of songs being listened to that serves as a source for automatic royalty payments.

500 +

Users

XSD, RYLT

Tokens

N/A

Market Cap

Music streaming

Main service

Soundac

Underlying blockchain

DPoS

Consensus protocol

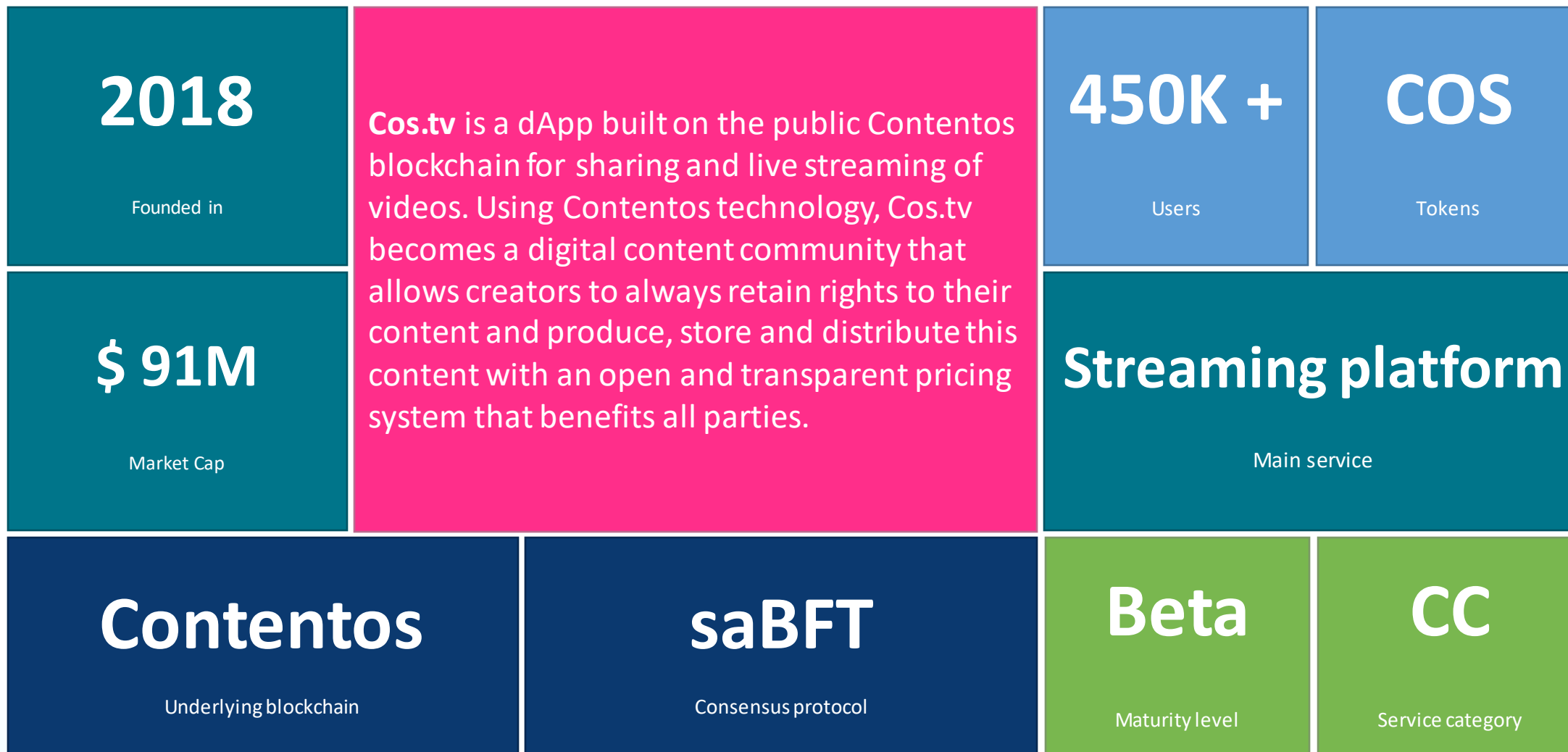
Beta

Maturity level

CD

Service category

<p>2018</p> <p>Founded in</p>	<p>Vuulr is a B2B marketplace for film and digital TV contents, where it is possible to search for contents and acquire the rights of the latter in a few days instead of months, without intermediaries and with the security that the transactions are executed on the Ethereum blockchain.</p>	<p>N/A</p> <p>Users / Records</p>	<p>VUU</p> <p>Tokens</p>
<p>N/A</p> <p>Market Cap</p>		<p>TV & Film rights market</p> <p>Main service</p>	
<p>Ethereum</p> <p>Underlying blockchain</p>	<p>PoW</p> <p>Consensus protocol</p>	<p>Permanent Beta</p> <p>Maturity level</p>	<p>CD</p> <p>Service category</p>





Last update: 03/09/2021

2018

Founded in

Audius is a music streaming platform that connects fans directly with artists, thanks in part to social networking features. Using a decentralized protocol, based on a public blockchain, Audius provides artists with a service that allows them to distribute works and get paid directly by their fans.

1M +

Users

Audio

Tokens

\$ 1.2Bn

Market Cap

Music sharing

Main service

Ethereum

Underlying blockchain

PoW

Consensus protocol

Beta

Maturity level

CC

Service category



Last update: 03/09/2021

2018

Founded in

Mintbase is a decentralized virtual economy platform that provides users with a marketplace where anyone can "mine" their own digital tokens using NFTs and manage the sale, license and use of these tokens using Ethereum smart contracts. With Mintbase it is possible to exploit the concepts of digital ownership and digital scarcity introduced by the blockchain.

44K +

Records

ETH

Tokens

\$465 Bn

Market Cap

Digital assets marketplace

Main service

Ethereum

Underlying blockchain

PoW

Consensus protocol

Beta

Maturity level

IP

Service category



Last update: 03/09/2021

2017

Founded in

OpenSea is a marketplace for digital assets, including collectibles, gaming items, digital art and other digital assets supported by a blockchain such as Ethereum. OpenSea is also a decentralized marketplace. Trading on OpenSea is done through smart contracts, which means no central authority holds custody of individual items.

4M +

Records

ETH

Tokens

\$465 Bn

Market Cap

Digital assets marketplace

Main service

Ethereum

Underlying blockchain

PoW

Consensus protocol

Permanent Beta

Maturity level

IP

Service category

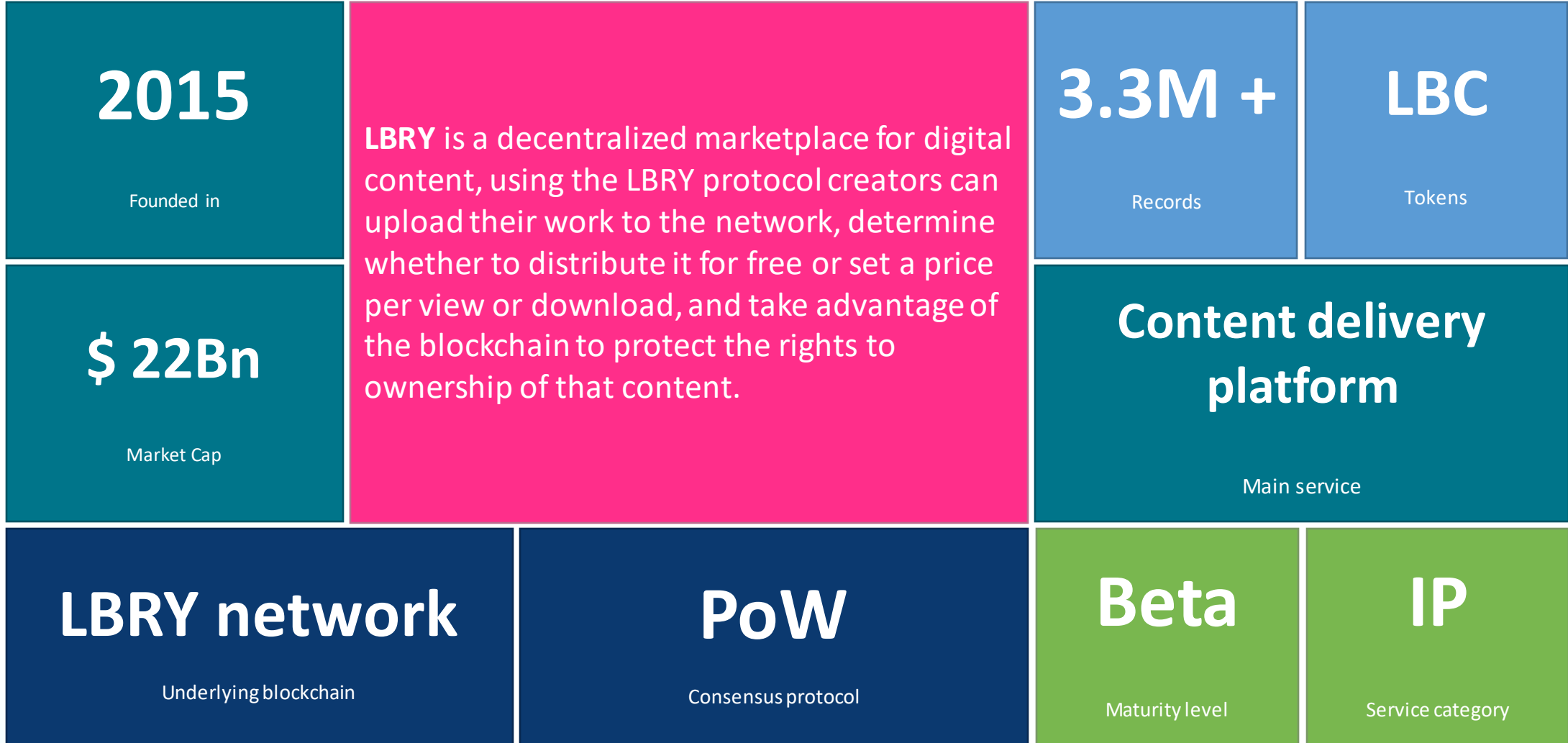


Last update: 03/09/2021

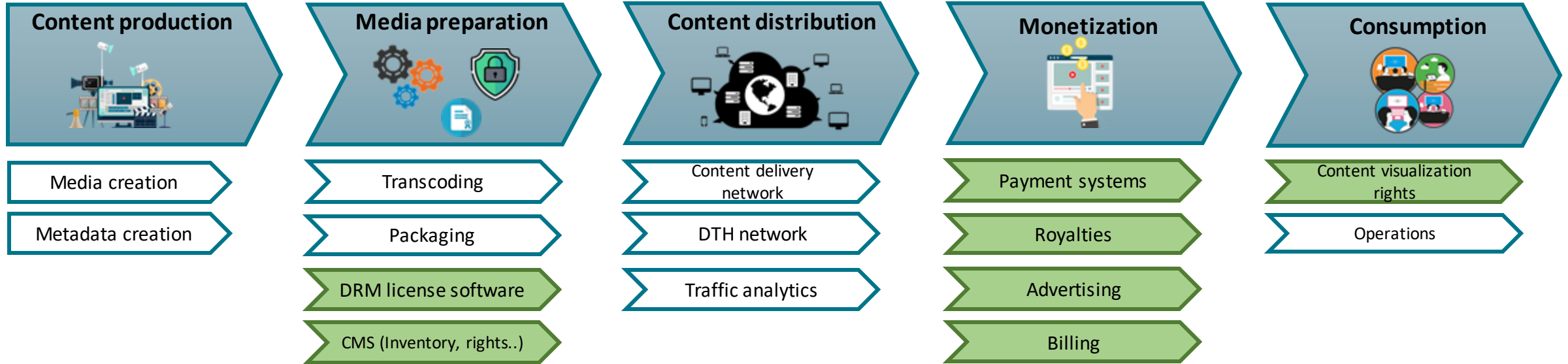
<p>2018</p> <p>Founded in</p>	<p>Infiniverse is an augmented reality “land” registry, content distribution platform and marketplace. It combines the entire world's digital space into a unique, persistent and interactive virtual world where digital content is overlaid on top of the real world in AR using a smartphone or smart glasses.</p>	<p>4K +</p> <p>Records</p>	<p>Inifinicoins</p> <p>Tokens</p>
<p>N/A</p> <p>Market Cap</p>		<p>AR digital world & marketplace</p> <p>Main service</p>	
<p>EOS</p> <p>Underlying blockchain</p>	<p>DPoS</p> <p>Consensus protocol</p>	<p>Beta</p> <p>Maturity level</p>	<p>IP</p> <p>Service category</p>



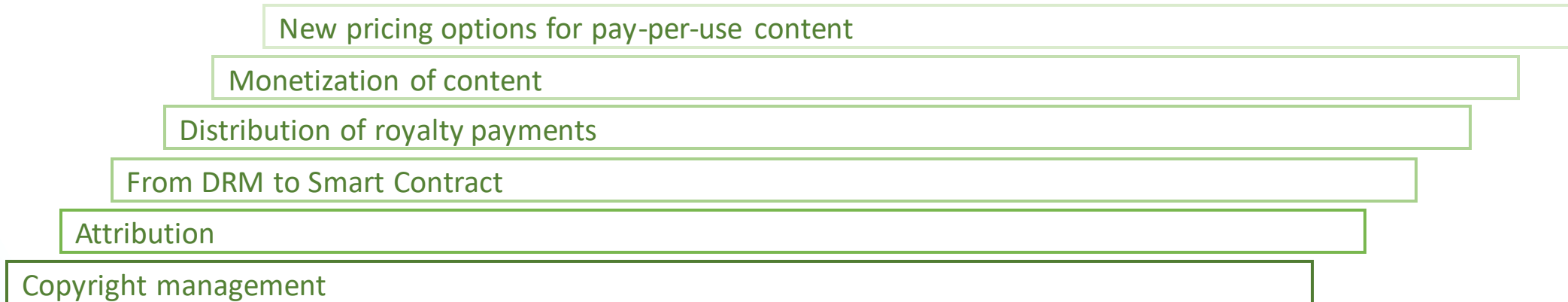
Last update: 03/09/2021



Overview of Companies' Positioning



Blockchain impact





Key take-aways

- Global blockchain market size is rapidly expanding, with an expected CAGR of 82.4% from 2021 and 2028 (*Grand View Research*).
- The blockchain market in the Media and Entertainment industry is expected to reach \$ 4.4Bn by 2026 (*Business Wire*).
- The Market Observatory practice highlighted a **wide variety of blockchain-based players and service offerings** in the three market segments analyzed.
- Blockchain markedly impacts three crucial stages of the media value chain (i.e., **media preparation, monetization** and **consumption**) through *transparency, decentralization* and *redistribution of value*.
- The **MediaVerse project** is well equipped and coherently positioned to seize the opportunities offered by the application of blockchain in the media industry.

Roberto Moncada, Alfredo Favenza, Enrico Ferro

LINKS Foundation



roberto.moncada@linksfoundation.com - alfredo.favenza@linksfoundation.com - enrico.ferro@linksfoundation.com

Consortium Partners



CERTH
CENTRE FOR
RESEARCH & TECHNOLOGY
HELLAS



ATHENS TECHNOLOGY CENTER

Atos



UAB
Universitat Autònoma
de Barcelona

SWISS TXT



T I M E L E X

artshare

<https://mediaverse-project.eu/>

MediaVerse: A universe of media assets and
co-creation opportunities at your fingertips

Co-financed by the EC
under Grant agreement
ID: 957252

