

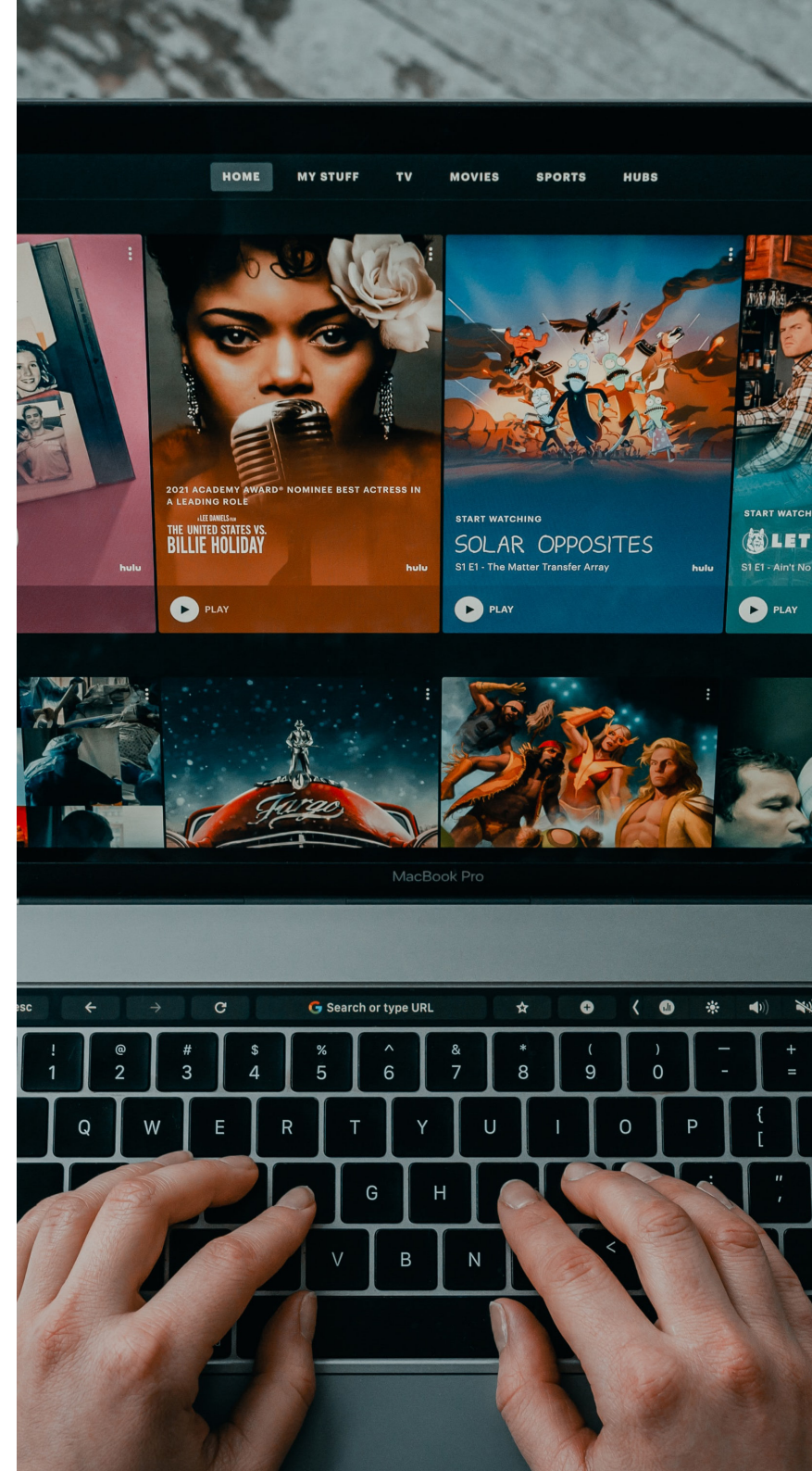


The Film and TV Piracy Report 2022

Unlocking the value of digital piracy data for the film & TV industries

FEBRUARY 2023

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This report has been prepared using data collected by MUSO. MUSO is a technology and data company that provides the most complete view of global digital piracy and unlicensed media consumption.

MUSO helps thousands of rights-holders, trade bodies and governments to understand the true picture of digital piracy. MUSO technology can help companies protect content, measure and monetise the piracy audience.

This document focuses on the film and TV sectors and piracy trends measured across 2022.

Introduction

Digital piracy of film and TV content has grown rapidly since 2020. Over the past decade, as technology has developed there has been a steady move away from torrents and downloads towards unlicensed streaming websites. These illegal streaming sites often have user interfaces to rival those of legitimate platforms, and offer both new releases and back catalogue titles for free globally.

Unsurprisingly, piracy has resulted in immeasurable damage and loss to the entertainment industries. However, while piracy represents a major threat to revenue, piracy data presents a wealth of opportunities for broadcasters and rights-holders alike.

As piracy increases, so too does the amount of data which can be used to better understand and exploit marked trends and patterns of consumption. Leveraging this data can provide a unique vantage point which in turn can enable the production or acquisition of content that captures the attention of the target market even more powerfully than before.

When viewed as a whole, it could be argued that the piracy ecosystem is the largest video-on-demand platform in the world. Piracy data offers the entertainment sector a more holistic view of market demand to help drive more value for their content.

Historically this audience has been dismissed as niche but to ignore this audience would be to miss out on an opportunity to understand true demand and to benefit from hitherto untapped potential customer conversion. Piracy audiences are high intent and highly engaged and measuring their demand uncovers emerging trends and new markets, both globally and regionally.

Section 1 presents an overview of the piracy landscape, measuring visits to film and TV piracy websites and highlighting significant year-on-year growth.

Section 2 takes a granular look at popular film and TV content, analysing some of the trends observed in 2022 and revealing some of the ways the entertainment industry is using this data to increase the value of their intellectual property.

Section 1:

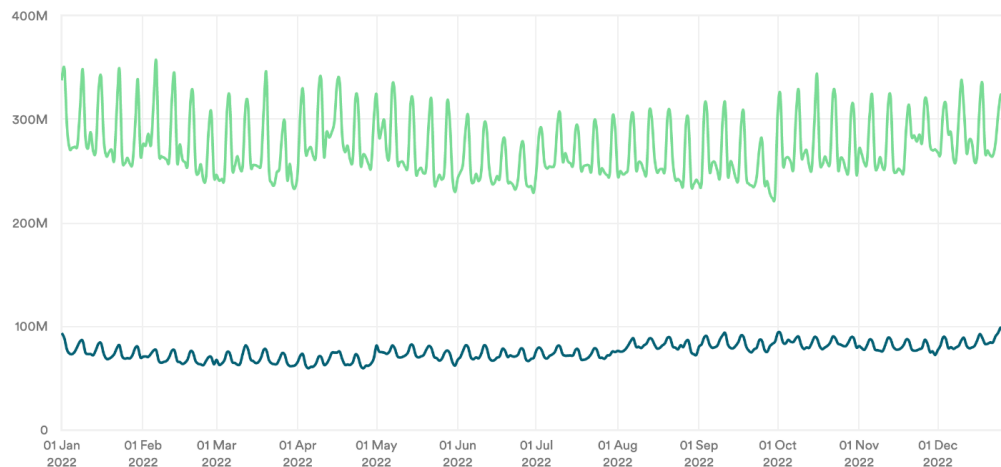
The rise of pirated content in the Film and TV industry

Visits to Film and TV piracy websites

The data highlighted in this section is taken from MUSO's Piracy by Industry dataset from its Discover product, which measures visits to piracy websites, including streaming, torrent, web download and stream-ripping sites.

MUSO measured 215 billion visits to piracy websites in 2022 for all media sectors, an increase of 18% compared to 2021 across all media industries.

VISITS TO PIRACY WEBSITES FOR TV AND FILM ACROSS 2022



Rank	Industry	Visits
1.	TV	99,620,293,999
2.	Film	27,804,402,043

Visits to piracy websites for film content have grown by

36.4%

in 2022 vs. 2021

MUSO DATA REVEALED THAT:

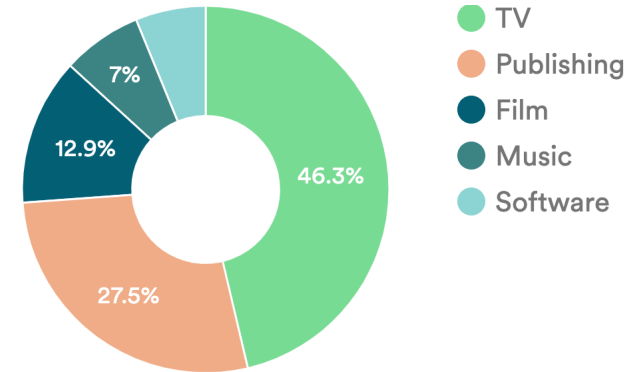
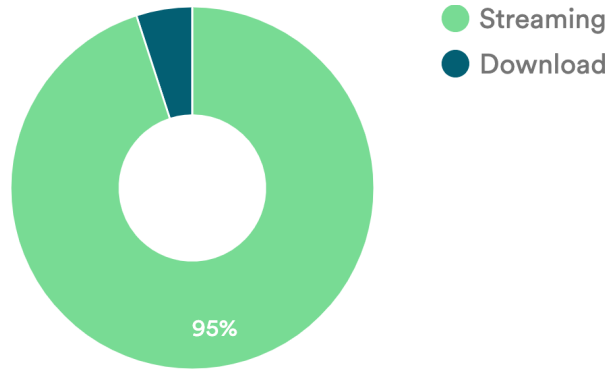
- Visits to piracy websites for film content have grown by 36.4% in 2022 vs 2021
- Visits to piracy websites for TV content have grown by 8.8% in 2022 vs 2021
- Visits to film piracy website accounted for 13% of demand in 2022 (27.8 billion visits)
- Visits to TV piracy website accounted for 46% of demand in 2022 (99.6 billion visits)

HOW PIRATED CONTENT IS BEING CONSUMED

Over the past decade there has been a gradual shift away from torrents - the poster child of online piracy - to unlicensed streaming, in much the same way as legal consumption has gone from downloads to video on demand.

In 2022, 95% of TV content and 57.1% of film content were accessed via unlicensed streaming websites globally.

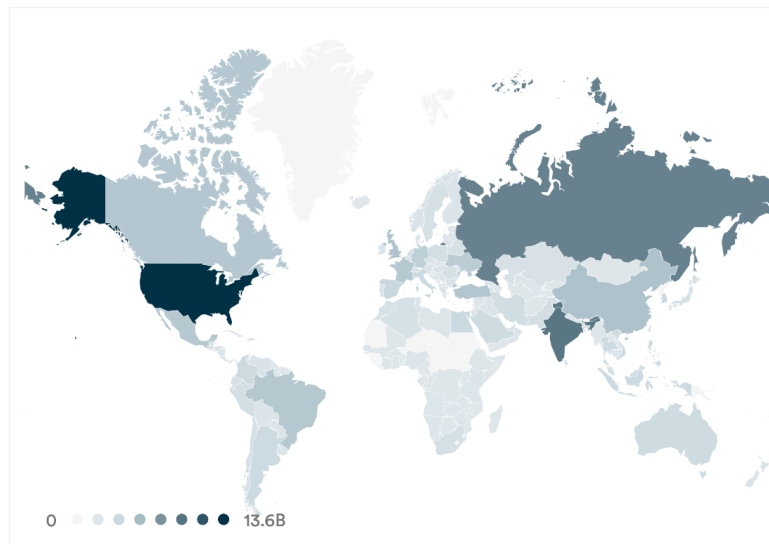
PERCENTAGE SPLIT BY DELIVERY METHOD FOR TV CONTENT 2022



VISITS TO FILM AND TV PIRACY WEBSITES BY GEOGRAPHY

MUSO's Piracy by Industry dataset tracks the geographical distribution of visits to piracy websites. The chart below illustrates how the USA is the biggest market for both film and TV content. This may indicate that piracy is driven as much by marketing as it is by access, cost or local legislation for IP protection.

DEMAND SPLIT BY COUNTRY FOR FILM AND TV CONTENT



Rank	Country	Visits
1.	The United States of America	13,562,990,874
2.	India	8,834,045,537
3.	The Russian Federation	7,971,058,115
4.	China	4,149,583,093
5.	The United Kingdom	4,040,972,798
6.	Turkey	3,771,859,652
7.	Canada	3,688,766,112
8.	Brazil	3,631,745,885
9.	Mexico	3,556,385,077
10.	France	3,527,452,374
11.	Ukraine	3,316,080,742
12.	Germany	3,017,634,920
13.	Spain	2,327,538,734
14.	Italy	2,127,081,841
15.	South Korea	2,123,553,984

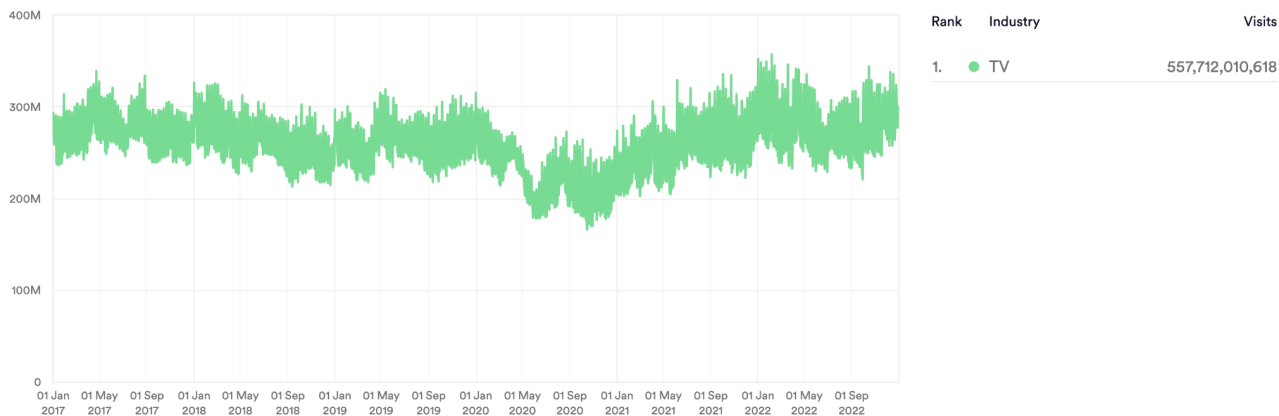
MUSO's Piracy by Industry data set has been measuring visits to piracy websites since January 2017. The chart to the right highlights that TV piracy was at a consistent level until a marked dip during the first Covid lockdown. This decline in visits was largely driven by the lack of live sport in this period. Since then, MUSO has measured a consistent increase in visits.

This growth since 2020 has in part resulted from the proliferation of myriad subscription platforms and the resultant rise of exclusive content. This bewildering array of offerings and subscription costs - especially during times of economic hardship - fuels digital piracy as more users become unwilling to spend on subscriptions.

The demand for pirated film content is largely influenced by the release of blockbuster movies, and with the lack of big new releases during the pandemic, film piracy reduced significantly through the second half of 2020.

However, since 2021 piracy has increased as new titles finally became available after their releases had been postponed. With a 36.4% increase in 2022 compared to 2021, MUSO data signals a continued upward trend through 2023 and beyond.

THE DEMAND FOR TV CONTENT FROM JAN 2017

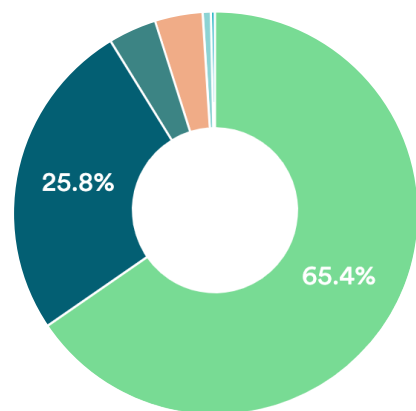


THE DEMAND FOR FILM CONTENT FROM JAN 2019



Only 25.8% of film and TV piracy traffic comes from search engines, with 66.4% being direct traffic, indicating that a significant proportion of users have established preferred piracy sites for content.

TRAFFIC SOURCE FOR FILM AND TV CONTENT PIRACY IN 2022



- Direct: 65.4%
- Search: 25.8%
- Referrals: 4.6%
- Social: 3.8%
- Mail: 0.6%
- Display Ads: 1.2%

Section 1: Summary

Piracy saw a significant surge in 2022, with a 36.4% increase in visits to film piracy websites and an 8.8% rise in visits to TV content piracy websites.

MUSO data indicates that piracy demand will increase across 2023. This stems from the convergence of two factors:

- 1) **ECONOMIC PRESSURES:** The economic landscape remains volatile and the cost of living crisis is real. While entertainment traditionally booms during a recession, the current conditions of price and platform exclusivity makes it increasingly unaffordable.
- 2) **SUBSCRIPTION ONLY CONTENT:** The proliferation of subscription streaming platforms, with each having their own exclusive content, licensing agreements, and distribution methods, is forcing more people to turn to piracy to illegally stream or download their favourite shows or movies. To keep up with all the latest watercooler titles involves multiple subscriptions, something that is both time and money consuming.

For many, piracy is a key to remove the padlock on gated film and TV content, and with more content available on more platforms than ever before, piracy is growing. With this growth comes an unprecedented opportunity to learn more about this vast audience and their consumption demand. This insight is being used by entertainment companies to increase the value of their intellectual property.

Section 2:

Piracy by Title in the Film and TV industry

Piracy by Title in the Film and TV industry

Section 2 looks at audience preferences by examining consumption patterns of the most popular pirated films and TV shows viewed in 2022.

The data shared in this section is from the MUSO Discover Piracy by Title dataset, which measures piracy audience demand for over 450,000 films, TV seasons and episodes. The data is collected by measuring piracy activity across illegal streaming websites and the BitTorrent P2P network.

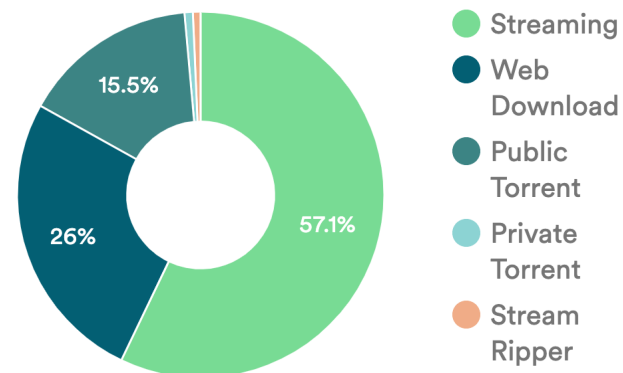
Providing deep insights and understanding of a vast and previously hidden audience helps rights-holders make data-driven decisions to increase value from their content.

MUSO Discover provides customers with daily data insights to optimise release strategies and maximise revenues and influence windowing and geographic release strategies, licensing and distribution.

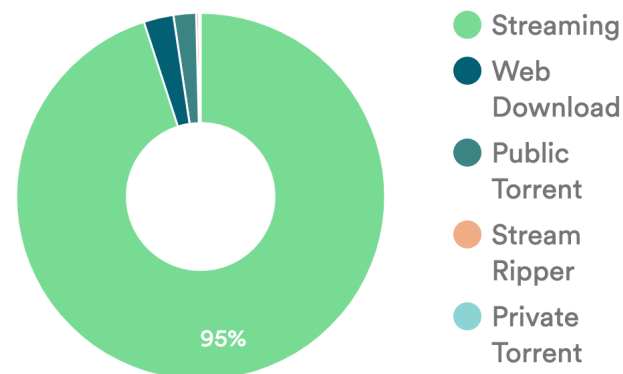
METHOD OF DELIVERY: TORRENT VS STREAMING TECHNOLOGY

The torrent network enables file sharing through decentralised computer networks, but has declined in use due to the emergence of better alternatives like unlicensed streaming sites. Torrenting now accounts for only 16.5% of film piracy and 2% of TV piracy, although this varies on a title by title basis. Unlicensed streaming sites mimics the technology of legitimate streaming services and provide a HD, one-click access to the latest movies to consumers.

PERCENTAGE SPLIT BY DELIVERY METHOD FOR FILM CONTENT 2022



PERCENTAGE SPLIT BY DELIVERY METHOD FOR TV CONTENT 2022

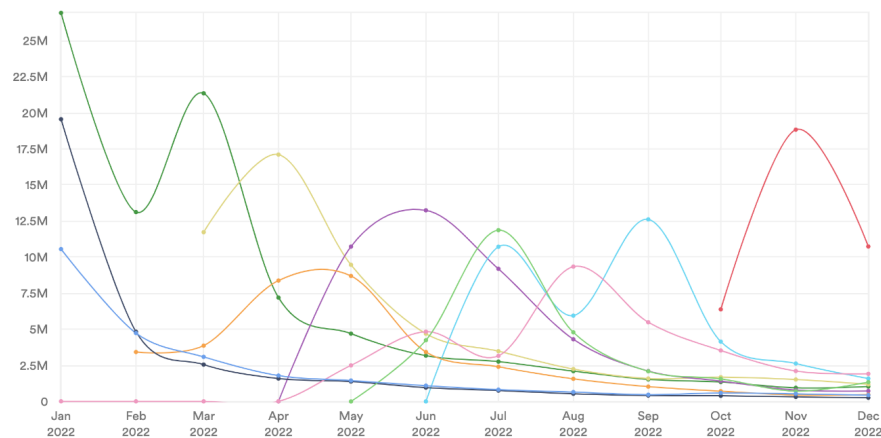


Film piracy analysis

MUSO tracks daily piracy demand for over 100,000 film titles from every country and region in the world. This section of the report reveals trends observed across 2022 and focuses on the top ten titles, which constitutes only a fraction of the titles available in the MUSO Discover platform.

Globally, the most popular films of 2022 were *Spider-man: No Way Home*, *The Batman*, and *Doctor Strange in the Multiverse of Madness*.

MOST POPULAR FILM PIRACY TITLES ACROSS 2022, GLOBAL VIEW



TOP TITLES

Rank	Title
1.	Spider-Man: No Way Home 2021
2.	The Batman 2022
3.	Doctor Strange in the Multiv... 2022
4.	Thor: Love and Thunder 2022
5.	Black Adam 2022
6.	Uncharted 2022
7.	Eternals 2021
8.	Top Gun: Maverick 2022
9.	Jurassic World Dominion 2022
10.	Encanto 2021

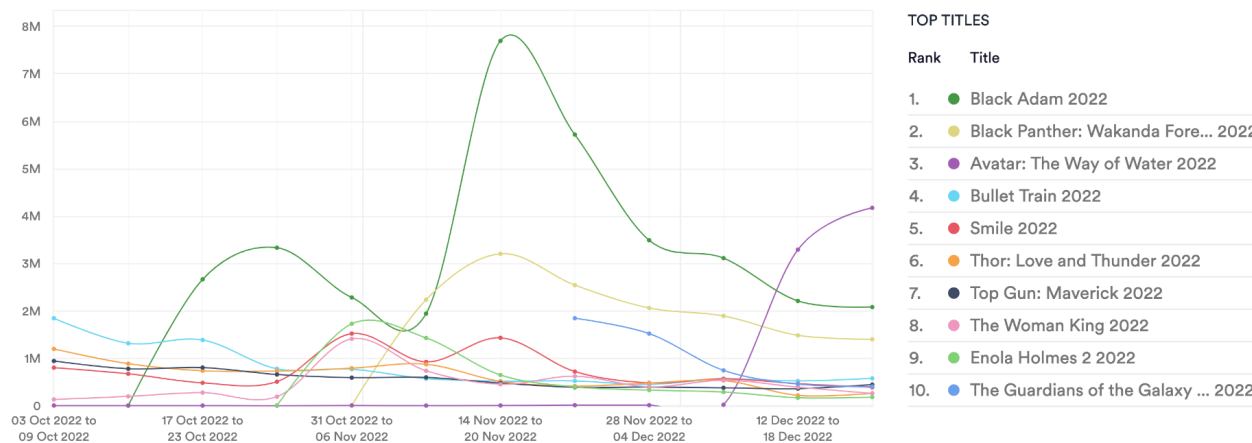
MARKET SHARE OF PIRACY AUDIENCE DEMAND AMONGST THE TOP 10 FILM TITLES

Spider-Man: No Way Home 2021.....	21%
The Batman 2022	13%
Doctor Strange in the Multiverse of Madness 2022	10%
Thor: Love and Thunder 2022	9%
Black Adam 2022	9%
Uncharted 2022	8%
Eternals 2021	8%
Top Gun: Maverick 2022	8%
Jurassic World Dominion 2022	7%
Encanto 2021	6%

Black Adam accounted for 9% of piracy (within these top ten titles) across the whole year despite only being released in October 2022 and was the most in-demand title among global piracy audiences in Q4 2022, garnering twice as many illegal downloads and streams as *Black Panther: Wakanda Forever*, accounting for 31% of the top ten titles' piracy demand.

When looking at Q4 2022 in isolation *Avatar: The Way Of Water 2022* is the third most popular title despite being released in the middle of December.

MOST POPULAR FILM PIRACY TITLES IN OCTOBER, NOVEMBER AND DECEMBER 2022

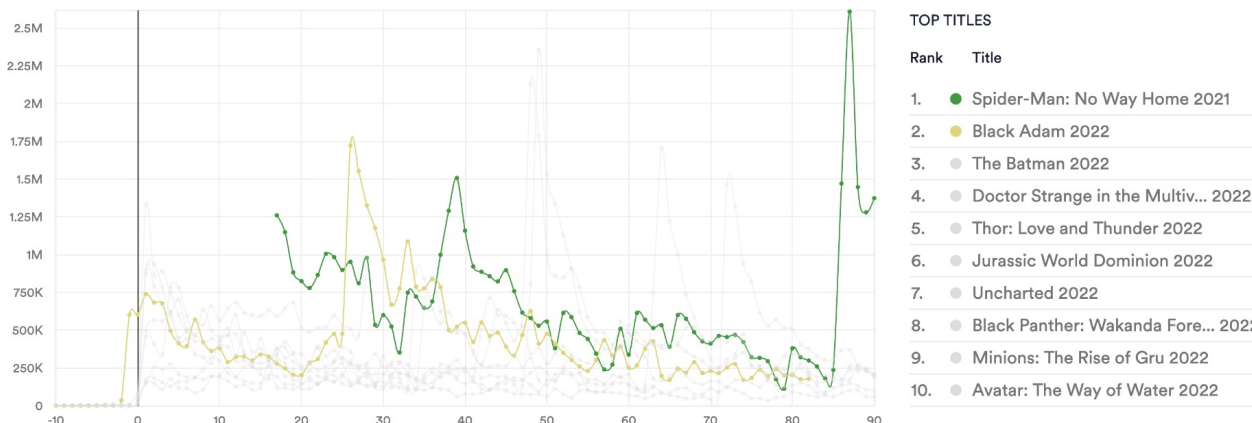


THE IMPACT OF WINDOWING STRATEGIES ON PIRACY AND REVENUE

The MUSO Discover dashboard allows for the analysis of piracy trends over a chosen time period, starting from the theatrical release date of film titles. This aids the impact of adaptive windowing strategies on piracy and how this can be leveraged to optimise revenue opportunities.

To the right is a chart that illustrates the piracy profile across 90 days of a title's first theatrical/digital release, providing a detailed day-by-day measurement of piracy in relation to a release strategy.

THE FIRST 90 DAYS AFTER THEATRICAL RELEASE, PIRACY DEMAND PROFILE



Black Adam and *Spider-Man: No Way Home*, which are highlighted above in yellow and green, were both produced for a budget of around \$200 million.

The large green spike above for *Spider-Man* shows the piracy demand on 12th March 2022, three days before its home digital release and after an 80+ day theatrical window.

Although piracy was high prior to its digital release on March 12th, mainly low-quality cam-rip versions appear to have been available. This is a problem for many users because cam-rips offer the user a bad viewing experience, creating more of an incentive for frustrated consumers to pay to watch these films in the cinema.

In the case of *Spider-Man*, which achieved almost \$2 billion at the box office, the piracy spike on 12th March indicates that the demand for *Spider-Man* was still extremely strong even after a long window and record-breaking box-office taking. In short, this long theatrical window nullified the impact of piracy, thereby generating more revenue.

Conversely, *Black Adam*, which only reportedly grossed \$393 million at the box office, had a much shorter window. It was released on October 3rd and became available on HBO Max on November 22nd. The highest piracy spike was recorded on November 16th nearly a week before its home digital release.

But even more significantly - piracy demand for this title still remains strong (at the time of writing). This suggests that a longer theatrical window may have converted piracy audiences to cinema-goers, as cam-rip quality is inferior to digital quality piracy. In other words, *Black Adam* may have missed out on greater revenue due to its limited theatrical window.

What's more is that *Black Adam* suffered a significant blow to its potential revenue due to the high-quality leak prior to its home digital release. This allowed the piracy audience to watch it for free in high-quality a week before its official home digital release.

The data emphasises the importance of utilising both box office and piracy data to devise a strategic release schedule that suppresses piracy to protect profit.

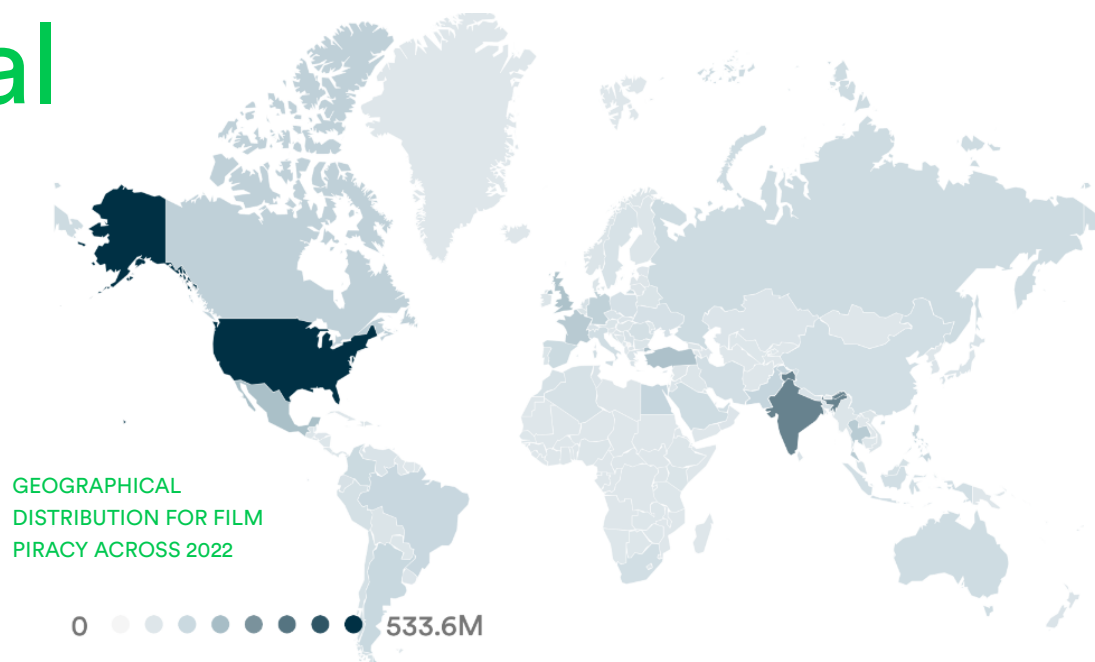
“The data emphasises the importance of utilising both box office and piracy data to devise a strategic release schedule that suppresses piracy to protect profit”

The geographical distribution of film piracy

Identifying which country piracy demand is coming from allows film companies to adjust their distribution and marketing strategies.

In many instances, piracy data is available before any legal consumption data, enabling a more agile response with distribution and marketing strategies. Piracy data often uncovers unseen markets and previously overlooked territories. For example, a film that is having a limited North American theatrical release might show very high piracy demand in Sweden or Latvia, which arms marketeers with additional data to reach these audiences.

Across the top ten films most pirated globally, the United States has the largest piracy audience - an audience that is over 70% bigger than India in second place. Despite various factors affecting piracy - such as marketing, access, price, culture, release strategies and legislation - the US remains consistently high in piracy across all media sectors.



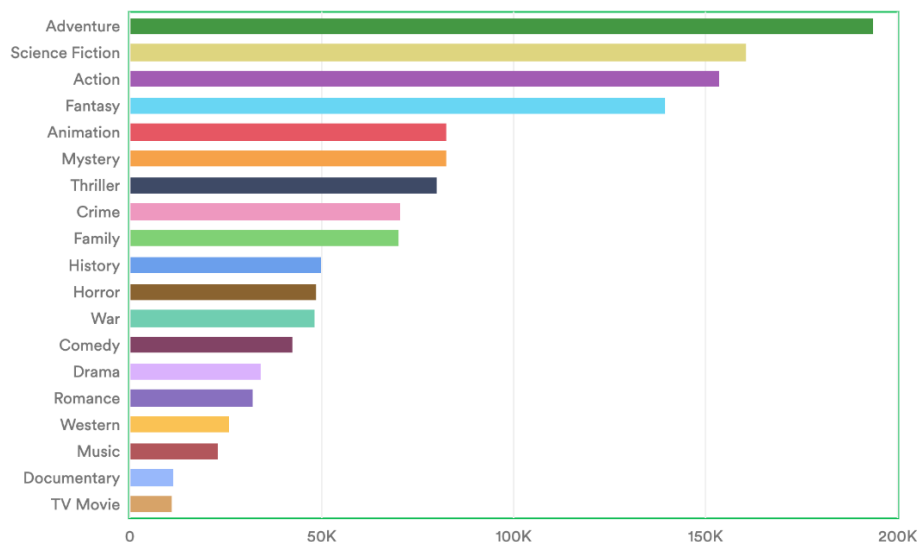
TOP COUNTRIES

Rank	Country	No. of titles
1.	The United States of America	95,440
2.	India	85,547
3.	Mexico	80,194
4.	Turkey	84,814
5.	The United Kingdom	93,798
6.	France	93,482
7.	Thailand	79,051
8.	Canada	93,241
9.	Germany	94,245
10.	Egypt	80,693

The genre popularity of film piracy in 2022

Understanding genre demand with piracy audiences provides more nuanced and detailed insight. Certain genres are more popular on illegal streaming services - kids and family movies, and rom-coms for example. Torrents and downloads, on the

other hand, may be more popular in certain territories for action adventure blockbusters, perhaps driven by the need for ownership of a title. As demonstrated in the graph below, from a global perspective adventure was the most popular genre in 2022.



Drama, which is not in the top ten genres listed above, has the most film titles of all the genres in MUSO's piracy data with 40,936 titles, but with comparatively less piracy demand than other genres.

TOP GENRES

Rank	Genre	No. of titles
1.	Adventure	6,145
2.	Science Fiction	5,030
3.	Action	11,966
4.	Fantasy	4,967
5.	Animation	5,065
6.	Mystery	4,704
7.	Thriller	14,537
8.	Crime	8,124
9.	Family	5,761
10.	History	3,061

NUMBER OF TITLES IN THE DRAMA GENRE

14.	Drama	40,936
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The second most popular TV show was *Chainsaw Man*, Series 1 - an Anime television series based on the manga series of the same name. MUSO's data shows popularity of anime and manga has skyrocketed globally with piracy audiences.

Demand for *Chainsaw Man* accounts for 13% of TV piracy within the top ten titles across 2022 in the USA.

When looking at Q4 in isolation, *Chainsaw Man* is the most popular title in the US and the second most popular title globally.

Long-running anime titles with hundreds of episodes, combined with continued increased cultural demand for anime, is resulting in six out of

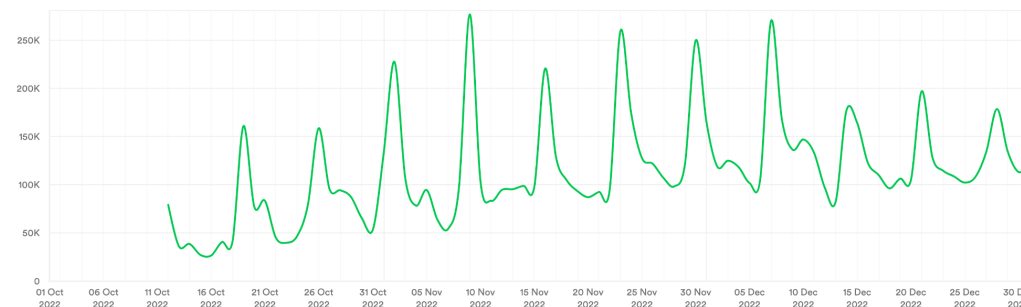
the top ten titles with US piracy audience in 2022 being Japanese or South Korean productions.

Running Man, Series 1, a South Korean variety show, continues to see growing demand among US piracy audiences, making it the third most popular title in 2022 with 637 episodes to date.

This is powerful. Piracy data is uncovering fast emerging cultural trends that are not as evident from other data sources. Happening both globally and regionally, it presents very tangible data for fast channel and platform programming, giving regional audiences content they want to watch.

This is powerful. Piracy data is uncovering fast emerging cultural trends that are not as evident from other data sources.

EPISODICAL DEMAND FOR *CHAINSAW MAN* OCT-DEC 2022



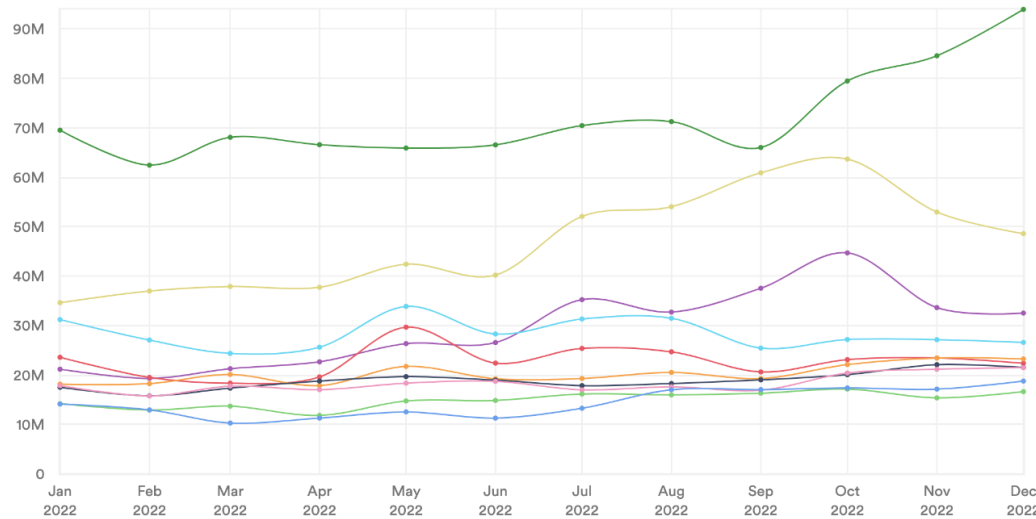
PRODUCTION INFORMATION FOR THE TOP TEN TV SHOWS BY PIRACY DEMAND 2022

Rank	Title	Genres	Networks	Creators
1.	House of the Dragon S1 2022	Action, Adventure, Drama, Fantasy, Science Fiction	HBO	George R. R. Martin, Ryan Condal
2.	Chainsaw Man S1 2022	Action, Adventure, Animation, Comedy, Fantasy, Science Fiction	TV Tokyo, TV Aichi, TVQ, TV Osaka, TVh	N/A
3.	Running Man S1 2010	Comedy, Reality	SBS	Jo Hyo-jin, Kim Joo-hyung, Lim Hyung-taek
4.	Rick and Morty S6 2022	Action, Adventure, Animation, Comedy, Fantasy, Science Fiction	Adult Swim	Dan Harmon, Justin Roiland
5.	Moon Knight S1 2022	Action, Adventure, Fantasy, Mystery, Science Fiction	Disney+	Jeremy Slater
6.	Bleach S1 2004	Action, Adventure, Animation, Fantasy, Science Fiction	TV Tokyo, BS TV Tokyo	N/A
7.	The Eminence in Shadow S1 2022	Animation, Comedy, Fantasy, Science Fiction	AT-X, YouTube	N/A
8.	The Lord of the Rings: The Rings of Pow S1 2022	Action, Adventure, Drama, Fantasy, Science Fiction	Amazon	John D. Payne, Patrick McKay
9.	SPY x FAMILY S1 2022	Action, Adventure, Animation, Comedy	TV Tokyo, TV Aichi, TVQ, TV Osaka, TVh	N/A
10.	The Rising of the Shield Hero S2 2022	Action, Adventure, Animation, Drama, Fantasy, Science Fiction	AT-X	N/A

Global geographical distribution

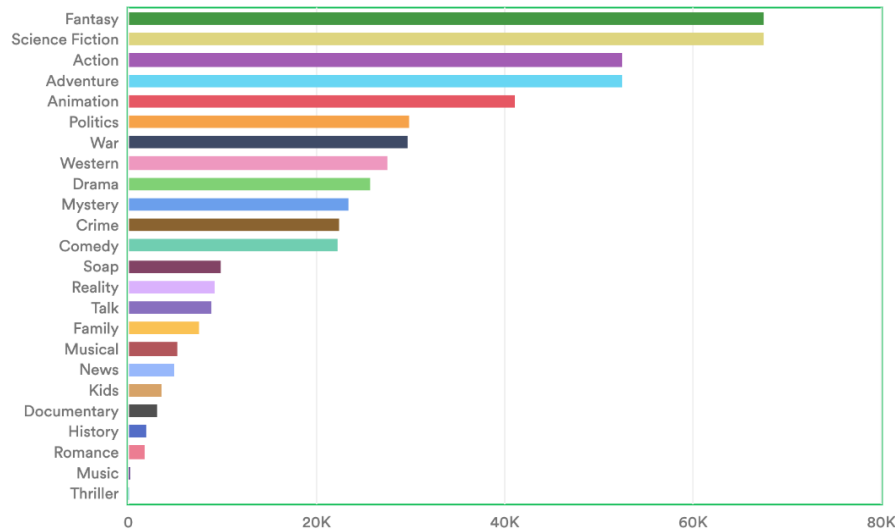
Within MUSO's Piracy by Title dataset of all TV titles, the United States accounted for 13% of all TV piracy demand and had 54% more demand than Turkey in second place.

GEOGRAPHICAL DEMAND FOR TV PIRACY JAN-DEC 2022 GLOBALLY



TOP COUNTRIES

Rank	Country
1.	The United States of America
2.	Turkey
3.	France
4.	Brazil
5.	Mexico
6.	India
7.	Canada
8.	The United Kingdom
9.	Germany
10.	The Russian Federation



TOP GENRES

Rank	Genre
1.	Fantasy
2.	Science Fiction
3.	Action
4.	Adventure
5.	Animation
6.	Politics
7.	War
8.	Western
9.	Drama
10.	Mystery

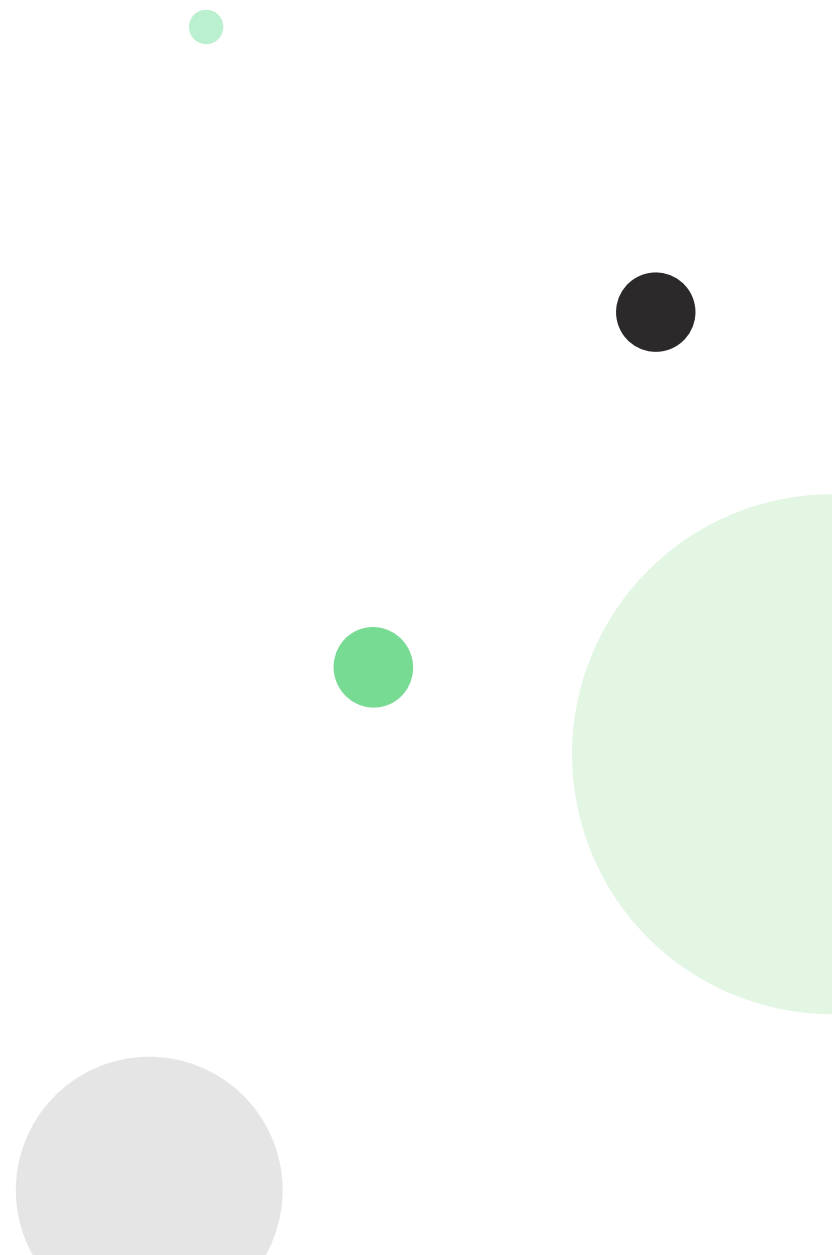
Genre demand

Within the United States, fantasy and science fiction genres are the most popular and dominate the genre for TV content.

Use cases

MUSO's piracy data is being widely used across the film and TV industries, across multiple companies like studios, cinema's, broadcasters, platforms, agents and distributors and across multiple teams like marketing, insights, communications, commissioning, business affairs, acquisitions and content protection. The data is nuanced and comprehensive, here are a few use case examples:

- **GATHERING AUDIENCE DATA:**
 Insights into piracy audience demand inform the commissioning, acquisition and distribution of content that meets the actual demands of the market.
- **OFFERING COMPETITIVE AND ACCESSIBLE LEGAL STREAMING OPTIONS:**
 One of the drivers of piracy is the lack of availability. Regional rightsholder can use unlicensed demand data to reveal in-demand titles for acquisition to improve legal service and aid subscriber acquisitions.
- **FAST CHANNEL PROGRAMMING:**
 Piracy demand data provides a rich source of hidden global and regional trends that can inform fast channel programming.
- **INCREASING VALUE:**
 Using piracy demand data reveals actual demand for a movie or genre and can be used to leverage increased piracy for licensing and distribution negotiations.
- **AUDIENCE AFFINITY:**
 Piracy data provides rich affinity between titles, enabling marketers new audience segments to target in marketing campaigns.
- **OPTIMISED DISTRIBUTION STRATEGY:**
 Piracy data can inform distribution strategies, such as localising content and adjusting pricing.
- **IMPLEMENTING ANTI-PIRACY MEASURES:**
 The shift towards streaming provides an opportunity for companies to implement anti-piracy measures to better protect their content and ensure that it is being distributed and monetized effectively.
- **TARGETED ENFORCEMENT:**
 Clearly identifying piracy hotspots allows the more effective focus of anti-piracy efforts and enforcement activities.
- **INCREASED REVENUE:**
 Unlicensed demand data reveals key levers that can be adjusted to maximise revenues in both the theatrical window and home digital release.



Conclusion

When viewed as a whole, it could be argued that the piracy ecosystem is the largest video-on-demand platform in the world. Piracy data offers the entertainment sector a more holistic view of market demand to help drive more value for their content. MUSO's data is being used across many areas of the film and TV industries, such as content protection, programming, acquisition, marketing, management and distribution.

Additionally, this data provides an opportunity for rights-holders to give the audience what they actually want to see, through data-driven content scheduling, acquisition and commissioning. In comparison, traditional demand datasets provide a limited and at times biased view of audience demand.

Piracy has grown over the last year, and is likely to continue to do so due to economic pressures and the proliferation of platforms that make content less accessible. Armed with more comprehensive audience demand insight, traditional marketing approaches and territory specific distribution can be more effective and allow resources to be directed more intelligently, to maximise income and stem potential losses.



ABOUT MUSO

MUSO is a data company that provides the most complete and trusted view of unlicensed media consumption and global piracy demand. MUSO's unrivalled dataset measures a vast high intent audience that is not influenced by licensing restriction or platform bias. Whether protecting IP or building winning content strategies, MUSO helps companies make better decisions that drive performance, ROI and value. MUSO technology helps rights-owners measure and protect their content from piracy.

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